Ionization Potential and Appearance Potential Measurements, 1971-1981

Rhoda D. Levin and Sharon G. Lias

Ion Kinetics and Energetics Data Center
National Measurement Laboratory
National Bureau of Standards
Washington, DC 20234

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Foreword

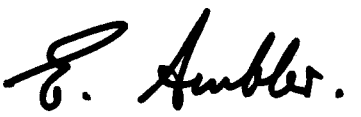
The National Standard Reference Data System provides access to the quantitative data of physical science, critically evaluated and compiled for convenience and readily accessible through a variety of distribution channels. The System was established in 1963 by action of the President's Office of Science and Technology and the Federal Council for Science and Technology, and responsibility to administer it was assigned to the National Bureau of Standards.

NSRDS receives advice and planning assistance from a Review Committee of the National Research Council of the National Academy of Sciences-National Academy of Engineering. A number of Advisory Panels, each concerned with a single technical area, meet regularly to examine major portions of the program, assign relative priorities, and identify specific key problems in need of further attention. For selected specific topics, the Advisory Panels sponsor subpanels which make detailed studies of users' needs, the present state of knowledge, and existing data resources as a basis for recommending one or more data compilation activities. This assembly of advisory services contributes greatly to the guidance of NSRDS activities.

The System now includes a complex of data centers and other activities in academic institutions and other laboratories. Components of the NSRDS produce compilations of critically evaluated data, reviews of the state of quantitative knowledge in specialized areas, and computations of useful functions derived from standard reference data. The centers and projects also establish criteria for evaluation and compilation of data and recommend improvements in experimental techniques. They are normally associated with research in the relevant field.

The technical scope of NSRDS is indicated by the categories of projects active or being planned: nuclear properties, atomic and molecular properties, solid state properties, thermodynamic and transport properties, chemical kinetics, and colloid and surface properties.

Reliable data on the properties of matter and materials are a major foundation of scientific and technical progress. Such important activities as basic scientific research, industrial quality control, development of new materials for building and other technologies, measuring and correcting environmental pollution depend on quality reference data. In NSRDS, the Bureau's responsibility to support American science, industry, and commerce is vitally fulfilled.



ERNEST AMBLER, *Director*

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Rhoda D. Levin and Sharon G. Lias

Ion Kinetics and Energetics Data Center, National Measurement Laboratory, National Bureau of Standards, Washington, DC 20234

A compilation is presented of the ionization potential and appearance potential measurements which appeared in the refereed literature in the time period 1971–1981. The data are sorted according to the identity of the ionic species formed in the ionization process. Precursor molecules or radicals are identified by a structural formula and, in the case of compounds containing rings, by name according to the Chemical Abstracts system of nomenclature. Chemical Abstracts Registry Numbers are provided where available. A complete bibliography and author index are provided.

Key words: appearance potential; charge transfer spectrum; electron impact ionization; ionization potential; photoelectron spectroscopy; photoionization; spectroscopy.

Introduction

In 1969, the NBS Ion Energetics Data Center, under the direction of Dr. Henry M. Rosenstock, published a compilation of ionization potential and appearance potential measurements covering the literature through mid-1967 [1][1]. This was followed in 1977 by an update covering the literature through 1971 [2]. Both these volumes contained, wherever possible, critical evaluations of the data in which the ionization threshold measurements were paired with thermochemical data on corresponding neutral species to generate values for the heats of formation of ions in the gas phase. The current publication, which consists of a listing of ionization and appearance potential measurements which appeared in the literature between 1971 and 1981 (plus a few older measurements not included in the earlier volumes), is the first step toward a new update.

The 1977 compilation [2] is 10 years out of date at this writing, and the collection given here contains data from approximately 2000 papers which have appeared in the intervening years. The early publication of this encyclopedic list of measurements without an accompanying evaluation serves several purposes. Especially for that body of users whose interest lies in the ionization potentials themselves, or for those who require a bibliographic guide to mass spectrometric and photoelectron spectroscopic measurements, the present volume as it is will serve the need. For those users whose primary interest is in evaluated heats of formation of ions, this volume will best be used as an adjunct to the 1977 compilation, to call attention to newer measurements, until the appearance of an updated critical evaluation.

[1] Figures in brackets indicate literature references.

Data listed in the compilation "Ion Energetics Measurements, 1971–1973" by H. M. Rosenstock, D. Sims, S. S. Shroyer, and W. J. Webb [3] have been included as an integral part of the present book.

This compilation is restricted to processes involving positive ion formation. Data concerned with the energetics of negative ions are being compiled by Dr. John Bartmess of Indiana University, to be published separately in the Journal of Physical and Chemical Reference Data. That publication will list the heats of formation and, where available, entropies of negative ions, along with the electron affinities of corresponding neutral species and, where available, the acidities of the corresponding conjugate acids.

Literature Coverage

The literature for the period 1971–1981 was covered initially by an issue-by-issue search of the following journals: Canadian Journal of Chemistry, Canadian Journal of Physics, Chemical Communications, Chemical Physics, Chemical Physics Letters, Chemische Berichte, Faraday Transactions II, Helvetica Chimica Acta, High Temperature, International Journal of Mass Spectrometry and Ion Physics, Journal of the American Chemical Society, Journal of Chemical Physics, Journal of Electron Spectroscopy and Related Phenomena, Journal of Inorganic and Nuclear Chemistry, Journal of the Optical Society of America, Journal of Organometallic Chemistry, Journal of Physical Chemistry, Organic Mass Spectrometry, Tetrahedron, and Tetrahedron Letters. This search was supplemented by a systematic use of standard abstracting services such as Chemical Abstracts and the Mass Spectrometry Bulletin (of the Mass Spectrometry Data Centre, The University of Nottingham, U.K.). Papers listed

in review articles describing relevant measurements were also checked against the bibliography as a monitor of the completeness of coverage. With the exception of certain journals published in the Soviet Union to which we did not have ready access, the literature coverage is estimated to be better than 95% complete. Only data appearing in refereed journals are included. The cut-off date is approximately March 1981.

Description of the Compilation

The table of ionization and appearance potential measurements follows a format similar to that used in the earlier volumes [1,2,3]. That is, one will find data for a particular system listed under the empirical formula for the ion that is generated in the ionization process of interest. For example, in order to find the ionization potential of acetone, one finds the empirical formula of the acetone ion, $C_3H_6O^+$ (boldface), then identifies those measurements involving acetone precursor molecules by looking in the first column of the table. For the appearance potential of a fragmentation process of the acetone ion (e.g., $CH_3COCH_3 \rightarrow CH_3CO^+ + CH_3 + e^-$), one would locate the empirical formula of the product ion, $C_2H_3O^+$, and identify those measurements involving acetone precursors in the first column. The neutral precursor species are identified by a semi-structural formula, and for compounds containing rings, the compound name according to the system of nomenclature used by the Chemical Abstracts Services. The Chemical Abstracts Registry Number is given for all compounds, when available. For a very few papers which appeared late in 1980, it was necessary if the data were to be included, to use the nomenclature used by the original authors and to omit the Registry Numbers. In some cases, comments about the experimental observation are also given.

The column of the table, labelled "Other Products," contains an indication of the identity of neutral or negative ion fragment species when these are known (e.g., CH_3 in the fragmentation process: $CH_3COCH_3 \rightarrow CH_3CO^+ + CH_3 + e^-$). When the process described is just the removal of an electron, this column contains two asterisks. A word of caution is in order here—some techniques (particularly photoelectron spectroscopy) measure the energy required to remove an electron from a molecule, but do not identify the resulting ionic species. Certain molecular ions (e.g., neo-$C_5H_{12}^+$, CCl_4^+) are formed on a dissociative potential surface, and cannot be said to exist in the gas phase. Therefore, it must be stated that the listing of the empirical formula of a particular ion does not necessarily imply that the ion exists in the gas phase.

The fourth column of the table gives the measured energy required to form the listed ion from the neutral molecule or radical in the second column. All values are given in electron volts. When the original data have been reported in units other than electron volts, conversion to electron volts has been made using the following conversion factors: 1 eV = 8065.479 cm^{-1} = 96.48456 kJ mol^{-1} = 23.06036 kcal mol^{-1}. Error limits, when cited, are those given by the original authors.

Ionization potentials given are adiabatic values unless the designation (V) appears after the value, in which case the vertical ionization potential has been given. Photoelectron spectroscopy papers often report only vertical ionization potentials. Although in many cases, these probably coincide with the adiabatic values, we have followed the policy of labelling such ionization potentials "vertical" unless the original authors specifically report the measurement of an adiabatic ionization potential. Because of the original emphasis of this compilation effort on deriving heats of formation of ions, it was initially assumed that the users of this volume would find only adiabatic values useful, and therefore, vertical values were included only when adiabatic values were not given in a particular paper. This same emphasis, as well as space considerations, has deemed that only the lowest ionization potential be included here, except for monatomic, diatomic, and triatomic species, for which transitions leading to higher electronic states are also included. Users whose interests are in vertical ionization potentials or excited states of polyatomic ions will find this volume useful as a bibliographic guide to the literature of photoelectron spectroscopy.

Where available, the ionization potentials corresponding to the formation of doubly-charged ions have been included. Data for ionization processes leading to ions having three or more positive charges are not included.

The fifth column of the table gives an indication of the experimental technique used in the measurement. The abbreviations are as follows:

Abbreviation	Technique
S	Spectroscopy
PI	Photoionization
PE	Photoelectron Spectroscopy
AUG	Auger Electron Spectroscopy
PEN	Penning Ionization
EI	Electron Impact
CTS	Charge Transfer Spectrum
OTH	Other

For detailed descriptions of these various techniques, the reader is referred to the chapter appearing at the beginning of the 1977 compilation [2].

The final column of the table lists the number of the reference in the bibliography at the end of the table. An author index is also provided.

The index lists the empirical formulas of the ionic species, ordered according to an alphabetical sorting scheme. The empirical formulas are written with the atoms given in increasing order of atomic number, with the exception of hydrogen which appears after carbon in carbon-containing ions. The alphabetization is carried out on these formulas as written. For example, the ions CHF_3^+, $CHCl_3^+$, $CFCl_3^+$, and CCl_3I^+ would be alphabetized first according to the atom which appears immediately after the C in the empirical formula, then according to the following atom: CCl_3I^+, $CFCl_3^+$, $CHCl_3^+$, CHF_3^+.

As in the earlier volumes [1,2,3], the actual ordering of the ionic species in the compilation is determined by the atom in the molecule which has the highest atomic number, with the overall ordering following the periodic chart in increasing order. To find an ion whose highest atomic number atom is X, find that portion of the compilation devoted to species having X as the highest atomic number atom. In this portion, the sort will first list species containing only X (X^+, X_2^+, X_3^+, etc.), then ions compounded of X and one other element, these other atoms appearing in increasing order of atomic number. Within the set of ions $A_nX_m^+$, all ions with m equal to 1 will appear first while n advances from $n=1$ to the maximum value; then m will be advanced to 2, and so on. When all $A_nX_m^+$ ions (where A has an atomic number lower than that of X) have been listed, $A_nB_pX_m^+$ ions appear (ordering of atomic numbers: A<B<X). The indexes are advanced in the order n, p, m. The sort then proceeds to species containing four different atoms, etc.

Acknowledgments

Mrs. Kathy Maugh, Mr. José Portal, and Dr. Pierre Ausloos have all contributed greatly to this work by participating in the abstracting of data from the literature. The authors would also like to acknowledge Dr. Henry M. Rosenstock and the former staff of the NBS Ion Energetics Data Center for the development of the computer processing procedures used in the production of this book, and the technical assistance of Mr. Robert Thompson, Mrs. Carla Messina, and Mr. George Dines in using those techniques. We would particularly like to thank Ms. Carol Martin for her careful proofreading of the final tables, and Mr. David Stier for writing programs which simplified the final editing process and improved the format of the book. This project was supported by the Office of Standard Reference Data of the National Bureau of Standards and the U.S. Department of Energy Pollutant Characterization and Safety Research Division. That portion of the compilation originally published in reference [3] was supported in part by the National Institute of General Medical Sciences, National Institutes of Health (NIGMS). The advice and encouragement of Dr. L. H. Gevantman is gratefully acknowledged.

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[1] Franklin, J. L., Dillard, J. G., Rosenstock, H. M., Herron, J. T., Draxl, K., and Field, F. H., "Ionization Potentials, Appearance Potentials, and Heats of Formation of Gaseous Positive Ions," Nat. Stand. Ref. Data Ser., Nat. Bur. Stand. (U.S.), 26 (1969).

[2] Rosenstock, H. M., Draxl, K., Steiner, B. W., and Herron, J. T., "Energetics of Gaseous Ions," J. Phys. Chem. Ref. Data **6**, Suppl. 1 (1977).

[3] Rosenstock, H. M., Sims, D., Shroyer, S. S., and Webb, W. J., "Ion Energetics Measurements. Part I. 1971-1973," Nat. Stand. Ref. Data Ser., Nat. Bur. Stand. (U.S.), 66 (1980).

[4] Bartmess, J. E., to be published.

Index of Ions

Ac^+ 552
Ag^+ 492
$AgEu^+$ 527
$AgHo^+$ 529
AgI^+ 518
AgI_3^+ 518
Ag_2^+ 493
Ag_2I^+ 518
Ag_3^+ 493
$Ag_3I_2^+$ 518
$Ag_3I_3^+$ 518
Al^+ 290
$AlAg^+$ 493
$AlAu^+$ 544
$AlAu_2^+$ 545
$AlBr^+$ 475
$AlBr_3^+$ 475
$AlCl^+$ 393
$AlCl_3^+$ 393
$AlCl_4Cs^+$ 521
$AlCl_4K^+$ 405
$AlCl_4Rb^+$ 482
AlI^+ 514
AlI_3^+ 514
$AlSi^+$ 309
Al_2^+ 291
Al^{2+} 291
Al_2Au^+ 545
$Al_2Br_6^+$ 475
$Al_2Cl_6^+$ 393
Am^+ 555
Ar^+ 402
Ar^{+2} 403
$ArKr^+$ 482
$ArXe^+$ 520
Ar_2^+ 403
As^+ 454
$AsBr^+$ 481
$AsBr_2^+$ 481
$AsBr_3^+$ 481
AsI_3^+ 517
$AsTl^+$ 549
As_2^+ 454
As_4^+ 454
Au^+ 544
$AuEu^+$ 545
Au_2^+ 544
Au_2Eu^+ 545
B^+ 43
BAu^+ 544
$BCH_3Br_2^+$ 467
$BCH_3Cl_2^+$ 377
$BCH_3F_2^+$ 278
BCH_3O^+ 224
BCH_8N^+ 167
$BC_2H_6Br^+$ 467
$BC_2H_6Cl^+$ 377
$BC_2H_6F^+$ 278
$BC_2H_6I^+$ 511
$BC_2H_6NBr_2^+$ 470
$BC_2H_6NCl_2^+$ 381
$BC_2H_6NF_2^+$ 283
$BC_2H_6NI_2^+$ 512
$BC_2H_8N^+$ 167
$BC_2H_9N^+$ 167
$BC_2H_9NF_2P^+$ 323
$BC_3H_7^+$ 122
$BC_3H_9O^+$ 224
$BC_3H_9O_2^+$ 224
$BC_3H_9O_3^+$ 224
$BC_3H_9S^+$ 342
$BC_3H_9S_2^+$ 342
$BC_3H_9S_3^+$ 342
$BC_3H_{12}N^+$ 167
$BC_4H_{11}N_2^+$ 168
$BC_4H_{12}N^+$ 167
$BC_4H_{12}N_2Br^+$ 470
$BC_4H_{12}N_2Cl^+$ 381
$BC_4H_{12}N_2F^+$ 283
$BC_4H_{12}N_2I^+$ 512
$BC_4H_{13}N_2^+$ 168
$BC_5H_7NBr^+$ 469
$BC_5H_7NCl^+$ 381
$BC_5H_7N_2O_2^+$ 268
$BC_5H_8N^+$ 168
$BC_5H_{15}N_2^+$ 168
$BC_6H_5Cl_2^+$ 377
$BC_6H_5F_2^+$ 278
$BC_6H_7NF_3^+$ 283
$BC_6H_{10}N^+$ 168
$BC_6H_{10}NO^+$ 267
$BC_6H_{12}N^+$ 168
$BC_6H_{12}NO_3^+$ 268
$BC_6H_{14}N_3^+$ 169
$BC_6H_{18}N_3^+$ 169
$BC_8H_{11}O_2^+$ 224
$BC_8H_{17}N_2^+$ 168
$BC_8H_{19}N_2^+$ 168
$BC_9H_{11}N_2^+$ 168
$BC_9H_{13}N_2^+$ 168
$BC_9H_{16}N^+$ 168
$BC_{10}H_{13}N_2^+$ 168
$BC_{10}H_{15}N_2^+$ 169
$BC_{10}H_{20}N^+$ 168
$BC_{11}H_{13}Co^+$ 437
$BC_{12}H_{10}^+$ 122
$BC_{12}H_{18}SBr^+$ 478
$BC_{12}H_{18}SCl^+$ 400
$BC_{12}H_{19}S^+$ 342
$BC_{13}H_{21}OS^+$ 360
$BC_{13}H_{21}S^+$ 342
$BC_{14}H_{19}^+$ 122
$BC_{16}H_{15}Co^+$ 437
$BC_{16}H_{28}N^+$ 168
$BC_{18}H_{15}^+$ 122
$BC_{18}H_{25}U^+$ 554
$BC_{21}H_{15}F_4^+$ 278
BCl^+ 371
BCl_2^+ 371
BCl_3^+ 371
BF^+ 269
$BFCl^+$ 389
$BFCl_2^+$ 389
BF_2^+ 269
BF_2Cl^+ 389
BF_3^+ 269
BO^+ 172
$BOAu^+$ 544
BOF^+ 283
BOF_2^+ 284
BO_2^+ 172
BO_2Ba^+ 521
BO_2In^+ 496
BO_2K^+ 404

$BO_2K_2^+$ 404
BO_2Na^+ 290
$BO_2Na_2^+$ 290
BO_2Tl^+ 548
$BO_2Tl_2^+$ 548
BO_4W^+ 533
$BO_7W_2^+$ 534
$BO_{10}W_3^+$ 534
$BO_{13}W_4^+$ 534
BP^+ 310
$BSCl^+$ 399
$B_2C_2H_6S_3^+$ 342
$B_2C_2H_7NS_2^+$ 350
$B_2C_3H_9NOS^+$ 364
$B_2C_3H_9NS_2^+$ 351
$B_2C_3H_9N_3Br_2^+$ 470
$B_2C_3H_9N_3Cl_2^+$ 381
$B_2C_3H_{10}N_2S^+$ 350
$B_2C_3H_{11}N_3^+$ 169
$B_2C_4H_{12}N_2Br_2^+$ 470
$B_2C_4H_{12}N_2Cl_2^+$ 381
$B_2C_4H_{12}N_2F_2^+$ 283
$B_2C_4H_{12}N_2O^+$ 267
$B_2C_4H_{12}N_2S^+$ 350
$B_2C_4H_{12}N_4Cl_2^+$ 381
$B_2C_4H_{13}N_3^+$ 169
$B_2C_5H_{15}N_3^+$ 169
$B_2C_5H_{15}N_3O_2^+$ 268
$B_2C_5H_{15}N_3S_2^+$ 351
$B_2C_5H_{16}N_2SiS^+$ 368
$B_2C_6H_{18}N_2^+$ 168
$B_2C_6H_{18}N_3As^+$ 455
$B_2C_6H_{18}N_3P^+$ 316
$B_2C_6H_{18}N_4^+$ 169
$B_2C_6H_{18}N_4O_2^+$ 268
$B_2C_6H_{18}N_4S_2^+$ 351
$B_2C_7H_{21}N_3Si^+$ 304
$B_2C_7H_{21}N_3Sn^+$ 500
$B_2C_7H_{21}N_5^+$ 169
$B_2C_8H_{21}N_3^+$ 169
$B_2C_8H_{24}N_4^+$ 169
$B_2C_8H_{24}N_3P^+$ 316
$B_2C_8H_{24}N_6^+$ 170
$B_2C_{12}H_{16}Co^+$ 437
$B_2C_{12}H_{16}O_2Co^+$ 439
$B_2C_{22}H_{20}Co^+$ 437
$B_2Cl_4^+$ 371
$B_2F_4^+$ 269
$B_2O_6W^+$ 534
$B_2O_{12}W_3^+$ 534
$B_3C_2H_5^+$ 121
$B_3C_2H_{11}NF_2P^+$ 323
$B_3C_2H_{12}NF_2P^+$ 323
$B_3C_3H_9N_3Cl_3^+$ 381
$B_3C_3H_9N_3F_3^+$ 283
$B_3C_3H_{12}N_3^+$ 169
$B_3C_5H_5O_3Fe^+$ 433
$B_3C_5H_7O_3Fe^+$ 433
$B_3C_6H_{18}N_3^+$ 169
$B_3C_8H_{24}N_5^+$ 169
$B_4C_2H_4Br_2^+$ 468
$B_4C_2H_4Cl_2^+$ 377
$B_4C_2H_4I_2^+$ 512
$B_4C_2H_5Br^+$ 467
$B_4C_2H_5Cl^+$ 377
$B_4C_2H_5I^+$ 511
$B_4C_2H_6^+$ 121
$B_4C_2H_8^+$ 121
$B_4C_2H_{12}NF_2P^+$ 323
$B_4C_2H_{14}NF_2P^+$ 324
$B_4C_3H_8O_3Fe^+$ 432
$B_5CH_9^+$ 121
$B_5CH_{11}^+$ 121
$B_5C_2H_7^+$ 121
$B_5C_3H_9O_3Fe^+$ 432
$B_5C_5H_3O_5Fe^+$ 433
$B_8C_2H_{10}^+$ 122
$B_9CH_{11}S^+$ 342
$B_{10}C_2H_{12}^+$ 122
Ba^+ 521
Ba^{+2} 521
BaI^+ 522
Be^+ 43
$BeC_5H_5Br^+$ 467
$BeC_5H_5Cl^+$ 377
$BeC_6H_5^+$ 121
$BeC_6H_8^+$ 121
$BeC_7H_6^+$ 121
$BeC_8H_8^+$ 121
$BeC_{10}H_2O_4F_{12}^+$ 287
$BeC_{10}H_{10}^+$ 121
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Bi_2^+ 551
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$BrAg_2^+$ 494
$BrBa^+$ 522
$BrCs^+$ 521
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$BrIn^+$ 496
$BrRb^+$ 483
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BrW^+ 539
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Br_2Sn^+ 503
Br_2Tm^+ 530
Br_2W^+ 539
Br_2Yb^+ 530
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Br_4Hf^+ 531
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Br_4Zr^+ 484
Br_5W^+ 539
$Br_5W_2^+$ 539
$Br_6W_2^+$ 540
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$CFCl_3^+$ 390
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$CFSCl^+$ 401
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CH_2FCl^+ 391
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CH_3Cl^+ 372
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$CH_3Cl_3Ti^+$ 407
CH_3D^+ 46
CH_3DO^+ 175
CH_3DSi^+ 293
$CH_3D_2Si^+$ 294
$CH_3F_2P^+$ 321
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$CH_3F_3Si^+$ 308
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CH_3I^+ 509
CH_3N^+ 126
$CH_3NBr_2^+$ 469
$CH_3NCl_2^+$ 381
$CH_3NF_4P_2^+$ 323
CH_3NO^+ 226
CH_3NOGe^+ 451
CH_3NOSi^+ 306
$CH_3NO_2^+$ 246
CH_3NS^+ 343
CH_3NSGe^+ 453
CH_3NSiS^+ 368
$CH_3N_2^+$ 146
$CH_3N_3^+$ 162
CH_3O^+ 175
CH_3OAs^+ 455
$CH_3OPCl_2^+$ 397
$CH_3OPSCl_2^+$ 402
CH_3OS^+ 352
$CH_3O_2^+$ 204
$CH_3O_2FS^+$ 367
$CH_3O_2F_2P^+$ 324
$CH_3O_2PBr_2^+$ 477
$CH_3O_2PCl_2^+$ 398
$CH_3O_2SCl^+$ 401
$CH_3PCl_2^+$ 396
$CH_3PCl_2Se^+$ 462

$CH_3PSBr_2^+$ 479
$CH_3PSCl_2^+$ 402
CH_3S^+ 329
CH_3Si^+ 293
CH_4^+ 46
CH_4N^+ 126
CH_4NBr^+ 468
CH_4NCl^+ 378
$CH_4N_2^+$ 146
$CH_4N_2O^+$ 240
$CH_4N_2S^+$ 346
CH_4O^+ 175
CH_4OAs^+ 455
CH_4OP^+ 317
CH_4OS^+ 352
CH_4O^{2+} 175
$CH_4O_2P^+$ 317
$CH_4O_3P^+$ 318
CH_4S^+ 329
$CH_4S_2^+$ 337
CH_4Si^+ 293
$CH_4SiCl_2^+$ 395
CH_5N^+ 126
CH_5NO^+ 227
$CH_5O_2P^+$ 318
CH_5P^+ 310
CH_5Si^+ 293
$CH_6N_2^+$ 146
CH_6OSi^+ 305
CH_6Si^+ 294
CH_6SiS^+ 367
$CH_9NSi_2^+$ 304
CLa^+ 522
CN^+ 124
$CNEu^+$ 527
CNF^+ 279
$CNFP^+$ 322
CNF_2P^+ 322
CNF_2PS^+ 370
$CNGa^+$ 448
CNK^+ 404
CNK_2^+ 404
$CNOBr^+$ 472
$CNOBr_3^+$ 472
$CNOCl^+$ 385
$CNOClBr_2^+$ 479
$CNOCl_2Br^+$ 479
$CNOCl_3^+$ 385
$CNOFCl_2^+$ 393
$CNOF_2Cl^+$ 393
$CNOF_2P^+$ 324
$CNOF_3^+$ 287
$CNOI^+$ 513
CNO_2^+ 226
$CNO_3F_3Hg^+$ 547
$CNPr^+$ 525
$CN_2F_2^+$ 280
$CN_3F_3Hg^+$ 547
CN_4^+ 125
CO^+ 173
CO^{+2} 173
$COBr_2^+$ 470
$COCl^+$ 382
$COCl_2^+$ 382
$COCo^+$ 438
$COCr^+$ 410
COF^+ 284
COF_2^+ 284
$COF_3SiPCl_3Co^+$ 441
COF_4^+ 284
$COF_6SiP_2Cl_3Co^+$ 441
$COF_{12}P_4Fe^+$ 434
$COFe^+$ 430
$COMn^+$ 422
$COMo^+$ 486
$CONi^+$ 443
COS^+ 352
$COSe^+$ 460
$COSiCl_3Co^+$ 441
COW^+ 534
$CO_3K_2^+$ 404
CP^+ 310
$CPCl_5^+$ 396
CP_2^+ 310
CRh^+ 491
$CRhCe^+$ 524
$CRuCe^+$ 524
CS^+ 327
$CSCl_2^+$ 399
$CSCr^+$ 418
$CSFe^+$ 434
$CSFe_2^+$ 434
$CSMn^+$ 425
$CSMnI^+$ 516
$CSMo^+$ 489
$CSSe^+$ 461
CSW^+ 538
CS_2^+ 328
CSe^+ 458
CSe_2^+ 458
$CSiCe^+$ 524
$CSiP^+$ 325
CSi_2^+ 293
CTh^+ 552
CU^+ 554
C_2^+ 44
C_2Al^+ 291
$C_2Al_2^+$ 291
C_2Ce^+ 523
$C_2Cl_6^+$ 371
C_2D^+ 46
$C_2D_2^+$ 47
$C_2D_3^+$ 48
$C_2D_3O^+$ 178
$C_2D_4^+$ 49
$C_2D_4O^+$ 179
C_2Eu^+ 527
$C_2FCl_2^+$ 390
$C_2F_2^+$ 270
$C_2F_2Cl^+$ 390
$C_2F_2Cl_2^+$ 390
$C_2F_3^+$ 271
$C_2F_3Br^+$ 473
$C_2F_3Cl^+$ 390
$C_2F_3Cl_3^+$ 391
$C_2F_3S_2Cl^+$ 401
$C_2F_4^+$ 272
$C_2F_4Br_2^+$ 474
$C_2F_4Cl_2^+$ 390
$C_2F_4I_2^+$ 514
$C_2F_4S_2^+$ 365
$C_2F_5^+$ 272
$C_2F_5Cl^+$ 390
$C_2F_5I^+$ 514
$C_2F_6^+$ 272
$C_2F_6PCl^+$ 398
$C_2F_6S_2Hg^+$ 547
C_2Fe^+ 429

C_2H^+ 46
C_2HBr^+ 464
C_2HCl^+ 372
$C_2HCl_5^+$ 377
C_2HD^+ 47
$C_2HD_2^+$ 48
$C_2HD_3^+$ 49
$C_2HD_3O^+$ 179
C_2HF^+ 274
C_2HFCl^+ 391
$C_2HF_2^+$ 276
$C_2HF_2Cl^+$ 391
$C_2HF_3^+$ 277
$C_2HF_3Cl_2^+$ 392
$C_2HF_6P^+$ 322
C_2HI^+ 509
C_2HOCl^+ 382
$C_2HOCl_3^+$ 385
$C_2HO_2F_3^+$ 286
$C_2HO_2Mn^+$ 422
$C_2H_2^+$ 47
$C_2H_2Br_2^+$ 466
$C_2H_2Cl^+$ 372
$C_2H_2Cl_2^+$ 375
$C_2H_2Cl_4^+$ 377
$C_2H_2Co_2^+$ 437
$C_2H_2D_2^+$ 48
$C_2H_2D_3^+$ 49
$C_2H_2D_3O^+$ 179
$C_2H_2F^+$ 274
$C_2H_2FBr^+$ 474
$C_2H_2FCl^+$ 391
$C_2H_2F_2^+$ 276
$C_2H_2F_2Br_2^+$ 475
$C_2H_2F_3I^+$ 514
$C_2H_2I_2^+$ 511
$C_2H_2N^+$ 126
$C_2H_2NBr^+$ 468
$C_2H_2NCl^+$ 378
$C_2H_2NF^+$ 281
$C_2H_2NOCl_3^+$ 389
$C_2H_2N_2Se^+$ 460
$C_2H_2N_3Br^+$ 469
$C_2H_2N_3Cl^+$ 380
$C_2H_2N_4^+$ 164
$C_2H_2O^+$ 175
$C_2H_2OCl_2^+$ 384
$C_2H_2O_2^+$ 204
$C_2H_2O_4^+$ 222
$C_2H_2S^+$ 329
$C_2H_2S_3^+$ 339
$C_2H_2Se^+$ 459
$C_2H_3^+$ 47
$C_2H_3Br^+$ 464
$C_2H_3Cl^+$ 372
$C_2H_3Cl_3^+$ 377
$C_2H_3D^+$ 48
$C_2H_3DO^+$ 178
$C_2H_3D_2^+$ 49
$C_2H_3D_2O^+$ 179
$C_2H_3D_3^+$ 49
$C_2H_3D_3O^+$ 180
$C_2H_3F^+$ 274
$C_2H_3F_2^+$ 276
$C_2H_3F_2Cl^+$ 391
$C_2H_3F_3^+$ 277
$C_2H_3Ga^+$ 447
$C_2H_3I^+$ 509
$C_2H_3N^+$ 126
$C_2H_3NF^+$ 281
$C_2H_3NO^+$ 227
$C_2H_3NO_3^+$ 261
$C_2H_3NS^+$ 343
$C_2H_3N_3^+$ 162
$C_2H_3N_3O^+$ 245
$C_2H_3O^+$ 176
$C_2H_3OBr^+$ 470
$C_2H_3OCl^+$ 382
$C_2H_3OF^+$ 284
$C_2H_3OF_3^+$ 286
$C_2H_3OPCl_2^+$ 398
$C_2H_3O_2^+$ 204
$C_2H_3O_2Br^+$ 471
$C_2H_3O_2Cl^+$ 384
$C_2H_3O_2I^+$ 513
$C_2H_3P^+$ 311
$C_2H_3S^+$ 329
$C_2H_4^+$ 48
$C_2H_4Br^+$ 464
$C_2H_4Br_2^+$ 466
$C_2H_4Cl^+$ 372
$C_2H_4ClBr^+$ 479
$C_2H_4Cl_2^+$ 375
$C_2H_4DO^+$ 179
$C_2H_4F^+$ 274
$C_2H_4FBr^+$ 474
$C_2H_4F_2^+$ 276
$C_2H_4Ga^+$ 448
$C_2H_4I_2^+$ 511
$C_2H_4N^+$ 126
$C_2H_4NO^+$ 227
$C_2H_4NS^+$ 343
$C_2H_4N_2^+$ 146
$C_2H_4N_2O_2^+$ 254
$C_2H_4N_4^+$ 164
$C_2H_4O^+$ 178
$C_2H_4OAs^+$ 455
$C_2H_4OPCl_3^+$ 398
$C_2H_4OS^+$ 352
$C_2H_4O_2^+$ 205
$C_2H_4O_2S^+$ 357
$C_2H_4O_3^+$ 219
$C_2H_4O_3S^+$ 359
$C_2H_4O_4^+$ 222
$C_2H_4PCl_3^+$ 397
$C_2H_4PSCl_3^+$ 402
$C_2H_4S^+$ 329
$C_2H_4S_3^+$ 339
$C_2H_4Si^+$ 294
$C_2H_5^+$ 49
$C_2H_5Br^+$ 464
$C_2H_5Cl^+$ 372
$C_2H_5F^+$ 274
$C_2H_5I^+$ 509
$C_2H_5N^+$ 126
$C_2H_5NO^+$ 227
$C_2H_5NO_2^+$ 246
$C_2H_5NS^+$ 343
$C_2H_5O^+$ 179
$C_2H_5OAs^+$ 455
$C_2H_5OBr^+$ 470
$C_2H_5OCl^+$ 383
$C_2H_5OF^+$ 284
$C_2H_5OI^+$ 512
$C_2H_5OPSCl_2^+$ 402
$C_2H_5OSiCl_3^+$ 395
$C_2H_5O_2^+$ 205
$C_2H_5O_2As^+$ 455
$C_2H_5O_2PCl_2^+$ 398
$C_2H_5P^+$ 311

$C_2H_5PCl_2^+$ 396
$C_2H_5S^+$ 330
$C_2H_5SCl^+$ 399
$C_2H_5Se^+$ 459
$C_2H_6^+$ 49
$C_2H_6AlBr^+$ 476
$C_2H_6AlCl^+$ 393
$C_2H_6AlI^+$ 514
$C_2H_6Cd^+$ 495
$C_2H_6ClGe^+$ 453
$C_2H_6ClSn^+$ 503
$C_2H_6Cl_2Ge^+$ 453
$C_2H_6Cl_2Sn^+$ 503
$C_2H_6FP^+$ 321
$C_2H_6FSi^+$ 308
$C_2H_6F_2Ge^+$ 452
$C_2H_6F_2Si^+$ 308
$C_2H_6F_3SiAs^+$ 456
$C_2H_6Ga^+$ 448
$C_2H_6Hg^+$ 546
$C_2H_6N^+$ 126
$C_2H_6NBr^+$ 468
$C_2H_6NCl^+$ 378
$C_2H_6NF_2^+$ 282
$C_2H_6NF_2P^+$ 322
$C_2H_6NF_3Si^+$ 309
$C_2H_6NF_4P^+$ 323
$C_2H_6NOPCl_2^+$ 398
$C_2H_6NPCl_2^+$ 397
$C_2H_6NPSCl_2^+$ 402
$C_2H_6NSiCl_3^+$ 395
$C_2H_6N_2^+$ 146
$C_2H_6N_2O^+$ 240
$C_2H_6N_2O_2^+$ 254
$C_2H_6N_2P_2F_6^+$ 323
$C_2H_6N_2S_2^+$ 350
$C_2H_6O^+$ 179
$C_2H_6OAs^+$ 455
$C_2H_6OPCl^+$ 397
$C_2H_6OPS^+$ 369
$C_2H_6OPS_2^+$ 369
$C_2H_6OS^+$ 352
$C_2H_6O_2^+$ 205
$C_2H_6O_2As^+$ 455
$C_2H_6O_2P^+$ 318
$C_2H_6O_2PS^+$ 369
$C_2H_6O_2PS_2^+$ 369
$C_2H_6O_2S^+$ 357
$C_2H_6O_3P^+$ 318
$C_2H_6O_3PS^+$ 369
$C_2H_6O_3S^+$ 359
$C_2H_6PCl^+$ 396
$C_2H_6PClSe^+$ 462
$C_2H_6PSBr^+$ 479
$C_2H_6PSCl^+$ 402
$C_2H_6S^+$ 330
$C_2H_6S_2^+$ 337
$C_2H_6Se^+$ 459
$C_2H_6Si^+$ 294
$C_2H_6SiCl^+$ 394
$C_2H_6SiCl_2^+$ 395
$C_2H_6SiCl_3As^+$ 457
$C_2H_6SiPCl_3^+$ 399
$C_2H_6Si_2^+$ 299
$C_2H_6Te^+$ 506
$C_2H_6Zn^+$ 446
$C_2H_7As^+$ 454
$C_2H_7N^+$ 127
$C_2H_7NO^+$ 227
$C_2H_7NOS^+$ 360
$C_2H_7OCl^+$ 383
$C_2H_7OP^+$ 317
$C_2H_7OPS_2^+$ 369
$C_2H_7O_2As^+$ 455
$C_2H_7O_2PS^+$ 369
$C_2H_7O_3P^+$ 318
$C_2H_7P^+$ 311
$C_2H_7PS^+$ 369
$C_2H_7Si^+$ 294
$C_2H_8Ge^+$ 449
$C_2H_8N_2^+$ 146
$C_2H_8N_2O_2P^+$ 320
$C_2H_8N_2S^+$ 346
$C_2H_8Si^+$ 294
$C_2H_9NSi^+$ 303
$C_2H_{10}N_3OP^+$ 319
C_2La^+ 522
C_2Lu^+ 531
$C_2NOF_3Hg^+$ 547
$C_2NOF_6^+$ 287
$C_2N_2^+$ 125
C_2N^{2+} 124
$C_2N_2F_6^+$ 280
$C_2N_2K_3^+$ 404
$C_2N_2O^+$ 226
$C_2N_2O_4Fe^+$ 433
$C_2N_2S^+$ 343
$C_2N_2S_2^+$ 343
$C_2OCl_2^+$ 382
$C_2OCl_3^+$ 382
$C_2OCl_4^+$ 382
$C_2OF_3^+$ 284
C_2OFe^+ 430
C_2OSCr^+ 418
C_2OSMo^+ 489
C_2OSW^+ 538
$C_2O_2Br_2^+$ 470
$C_2O_2Cl_2^+$ 382
$C_2O_2Co^+$ 438
$C_2O_2Cr^+$ 411
$C_2O_2F_2^+$ 284
$C_2O_2F_6SiP_2Cl_3Co^+$ 441
$C_2O_2F_9P_3Fe^+$ 434
$C_2O_2Fe^+$ 430
$C_2O_2Mn^+$ 422
$C_2O_2Mo^+$ 486
$C_2O_2Ni^+$ 443
$C_2O_2SiCl_3Co^+$ 441
$C_2O_2W^+$ 534
C_2P^+ 310
C_2Rh^+ 491
C_2RhCe^+ 524
C_2RuCe^+ 524
$C_2S_2Cl_4^+$ 399
$C_2S_2Fe_2^+$ 434
$C_2S_2Mn_2^+$ 425
$C_2S_4^+$ 328
C_2Sc^+ 405
C_2Si^+ 293
C_2Th^+ 552
C_2Ti^+ 406
C_2U^+ 554
C_2Y^+ 483
C_2Zr^+ 483
C_3^+ 44
$C_3D_6^+$ 53
$C_3D_6O^+$ 181
C_3F^+ 270
$C_3F_2^+$ 270
$C_3F_3^+$ 271

$C_3F_3Br^+$ 473
$C_3F_3Cl^+$ 390
$C_3F_3I^+$ 514
$C_3F_4^+$ 272
$C_3F_6^+$ 272
$C_3F_6S_3^+$ 365
$C_3F_9P^+$ 321
C_3H^+ 49
$C_3HD_3^+$ 53
$C_3HD_6^+$ 53
C_3HF^+ 274
$C_3HF_2^+$ 276
$C_3HF_3^+$ 277
C_3HN^+ 127
$C_3HNF_6^+$ 283
C_3HO^+ 180
$C_3HOF_4Cl^+$ 393
$C_3HO_3Mn^+$ 422
C_3HS^+ 330
$C_3H_2^+$ 49
$C_3H_2D_6^+$ 53
$C_3H_2F^+$ 274
$C_3H_2F_2^+$ 276
$C_3H_2N^+$ 127
$C_3H_2NCl^+$ 378
$C_3H_2NO^+$ 227
$C_3H_2N^{2+}$ 128
$C_3H_2N_2^+$ 147
$C_3H_2N_2O_2S^+$ 364
$C_3H_2N_2O_3^+$ 263
$C_3H_2O^+$ 180
$C_3H_2OCo_2^+$ 438
$C_3H_2OF_3Br^+$ 475
$C_3H_2OF_4^+$ 286
$C_3H_2OF_6^+$ 286
$C_3H_2O_2S^+$ 357
$C_3H_2O_3^+$ 219
$C_3H_2S_3^+$ 340
$C_3H_3^+$ 50
$C_3H_3Br^+$ 464
$C_3H_3Cl^+$ 372
$C_3H_3Co^+$ 437
$C_3H_3D_3^+$ 53
$C_3H_3F^+$ 274
$C_3H_3Fe^+$ 429
$C_3H_3I^+$ 509
$C_3H_3N^+$ 128
$C_3H_3NO^+$ 227
$C_3H_3NS^+$ 343
$C_3H_3NS_2^+$ 349
$C_3H_3N_2^+$ 147
$C_3H_3N_3^+$ 162
$C_3H_3Ni^+$ 441
$C_3H_3O^+$ 180
$C_3H_3OF_3^+$ 286
$C_3H_3OF_5^+$ 286
$C_3H_3O_2F_3^+$ 286
$C_3H_3Ru^+$ 490
$C_3H_3W^+$ 532
$C_3H_4^+$ 50
$C_3H_4D_2^+$ 53
$C_3H_4D_3^+$ 53
$C_3H_4D_3O^+$ 181
$C_3H_4F^+$ 274
$C_3H_4N_2^+$ 147
$C_3H_4N_2O^+$ 240
$C_3H_4N_2O_2^+$ 254
$C_3H_4N_2S_2^+$ 350
$C_3H_4N_3Br^+$ 469
$C_3H_4N_3Cl^+$ 380
$C_3H_4O^+$ 180
$C_3H_4OS_2^+$ 360
$C_3H_4O_2^+$ 205
$C_3H_4O_2S^+$ 357
$C_3H_4O_3^+$ 219
$C_3H_4O_4^+$ 222
$C_3H_4S_3^+$ 340
$C_3H_5^+$ 51
$C_3H_5Br^+$ 464
$C_3H_5Cl^+$ 372
$C_3H_5ClHg^+$ 547
$C_3H_5D^+$ 53
$C_3H_5D_3O^+$ 181
$C_3H_5F^+$ 275
$C_3H_5I^+$ 509
$C_3H_5N^+$ 128
$C_3H_5NO^+$ 227
$C_3H_5NOS^+$ 360
$C_3H_5NO_2^+$ 247
$C_3H_5NS^+$ 343
$C_3H_5NS_2^+$ 349
$C_3H_5N_3O^+$ 245
$C_3H_5O^+$ 180
$C_3H_5OCl^+$ 383
$C_3H_5OF^+$ 284
$C_3H_5OPCl_2^+$ 398
$C_3H_5OS^+$ 353
$C_3H_5S^+$ 330
$C_3H_5S_2^+$ 337
$C_3H_6^+$ 52
$C_3H_6Br^+$ 464
$C_3H_6Br_2^+$ 466
$C_3H_6Cl^+$ 373
$C_3H_6D^+$ 53
$C_3H_6F^+$ 275
$C_3H_6FBr^+$ 474
$C_3H_6F_2^+$ 277
$C_3H_6N^+$ 128
$C_3H_6NF^+$ 281
$C_3H_6NF_3PCl^+$ 399
$C_3H_6NO^+$ 227
$C_3H_6NOCl^+$ 385
$C_3H_6NS^+$ 344
$C_3H_6NSe^+$ 459
$C_3H_6N_2^+$ 147
$C_3H_6N_2OF_3P^+$ 324
$C_3H_6N_2OPCl_3^+$ 398
$C_3H_6N_2O_2^+$ 255
$C_3H_6N_2O_3^+$ 263
$C_3H_6N_2S^+$ 346
$C_3H_6O^+$ 180
$C_3H_6OS^+$ 353
$C_3H_6OS_2^+$ 360
$C_3H_6O_2^+$ 205
$C_3H_6O_2S^+$ 357
$C_3H_6O_3^+$ 220
$C_3H_6O_3^+$ 220
$C_3H_6S^+$ 330
$C_3H_6S_2^+$ 337
$C_3H_6S_3^+$ 340
$C_3H_6SiCl_2^+$ 395
$C_3H_7^+$ 53
$C_3H_7Br^+$ 464
$C_3H_7Cl^+$ 373
$C_3H_7F^+$ 275
$C_3H_7I^+$ 510
$C_3H_7N^+$ 128
$C_3H_7NO^+$ 227
$C_3H_7NO_2^+$ 247
$C_3H_7NO_2S^+$ 363

$C_3H_7NS^+$ 344
$C_3H_7O^+$ 181
$C_3H_7OBr^+$ 470
$C_3H_7OCl^+$ 383
$C_3H_7OF^+$ 284
$C_3H_7OI^+$ 512
$C_3H_7O_3P^+$ 318
$C_3H_7S^+$ 330
$C_3H_7Se^+$ 459
$C_3H_8^+$ 53
$C_3H_8Hg^+$ 546
$C_3H_8N^+$ 128
$C_3H_8N_2^+$ 147
$C_3H_8N_2O^+$ 240
$C_3H_8N_2O_2^+$ 255
$C_3H_8N_2S^+$ 346
$C_3H_8N_2S_2^+$ 350
$C_3H_8O^+$ 181
$C_3H_8OS^+$ 353
$C_3H_8O_4P^+$ 319
$C_3H_8S^+$ 330
$C_3H_8S_2^+$ 337
$C_3H_8Si^+$ 294
$C_3H_9Al^+$ 291
$C_3H_9As^+$ 454
$C_3H_9BrPb^+$ 551
$C_3H_9BrSn^+$ 504
$C_3H_9ClGe^+$ 453
$C_3H_9ClPb^+$ 551
$C_3H_9ClSn^+$ 503
$C_3H_9FSi^+$ 308
$C_3H_9Ga^+$ 448
$C_3H_9Ge^+$ 449
$C_3H_9N^+$ 128
$C_3H_9NO^+$ 228
$C_3H_9N_3F_{12}P_6Cr^+$ 418
$C_3H_9N_3F_{12}P_6Mo^+$ 489
$C_3H_9N_3F_{12}P_6W^+$ 538
$C_3H_9N_3Si^+$ 304
$C_3H_9OAs^+$ 455
$C_3H_9OP^+$ 317
$C_3H_9OSi^+$ 305
$C_3H_9O_2PS_2^+$ 369
$C_3H_9O_3As^+$ 456
$C_3H_9O_3P^+$ 318
$C_3H_9O_3PCr^+$ 416
$C_3H_9O_3PS^+$ 369
$C_3H_9O_3PSe^+$ 461
$C_3H_9O_3PW^+$ 536
$C_3H_9O_4P^+$ 319
$C_3H_9P^+$ 311
$C_3H_9PS^+$ 369
$C_3H_9Pb^+$ 550
$C_3H_9Sb^+$ 505
$C_3H_9Si^+$ 294
$C_3H_9SiBr^+$ 476
$C_3H_9SiCl^+$ 394
$C_3H_9SiMn^+$ 424
$C_3H_9Sn^+$ 497
$C_3H_{10}NP^+$ 315
$C_3H_{10}N_2^+$ 147
$C_3H_{10}Si^+$ 295
$C_3H_{10}Sn^+$ 497
$C_3H_{12}N_3OP^+$ 319
$C_3H_{16}Ge^+$ 449
C_3La^+ 522
C_3NBr^+ 468
C_3NCl^+ 378
C_3NF^+ 279
C_3NI^+ 512
$C_3NO_4Co^+$ 439
$C_3N_2O^+$ 226
$C_3N_3F_3^+$ 280
$C_3OF_3Cl_3^+$ 393
$C_3OF_5^+$ 284
$C_3OF_5Cl^+$ 393
$C_3OF_6^+$ 284
$C_3O_2^+$ 174
$C_3O_2Fe^+$ 430
$C_3O_2SCr^+$ 418
$C_3O_2SMo^+$ 489
$C_3O_2SW^+$ 538
$C_3O_3Cr^+$ 411
$C_3O_3F_3SiPCl_2Co^+$ 441
$C_3O_3F_3SiPCl_3Co^+$ 441
$C_3O_3F_6P_2Fe^+$ 434
$C_3O_3F_9P_3Cr^+$ 418
$C_3O_3Fe^+$ 430
$C_3O_3Fe^{+2}$ 430
$C_3O_3Mn^+$ 422
$C_3O_3Mo^+$ 486
$C_3O_3Ni^+$ 443
$C_3O_3SiCl_3Co^+$ 441
$C_3O_3W^+$ 534
$C_3S_6^+$ 328
C_3Th^+ 552
C_3U^+ 554
$C_4Br_2^+$ 463
$C_4Cl_2^+$ 371
$C_4D_4^+$ 54
$C_4D_4S^+$ 331
$C_4D_6^+$ 55
$C_4F_2^+$ 270
$C_4F_3^+$ 271
$C_4F_4^+$ 272
$C_4F_6^+$ 272
$C_4F_6Co_2^+$ 439
$C_4F_8^+$ 273
$C_4F_{12}As_2^+$ 456
$C_4F_{12}P_2^+$ 321
$C_4F_{12}P_4^+$ 321
C_4HBr^+ 464
C_4HCl^+ 373
C_4HF^+ 275
C_4HI^+ 510
$C_4HN_2F_3^+$ 282
$C_4HO_4Co^+$ 438
$C_4HO_4Mn^+$ 423
$C_4H_2^+$ 53
$C_4H_2D_4^+$ 55
$C_4H_2F_3^+$ 277
$C_4H_2F_4^+$ 278
$C_4H_2N_2^+$ 147
$C_4H_2N_2F_2^+$ 282
$C_4H_2N_2S^+$ 346
$C_4H_2O_2^+$ 206
$C_4H_2O_2Cl_2^+$ 384
$C_4H_2O_2Co_2^+$ 438
$C_4H_2O_3^+$ 220
$C_4H_2O_4Fe^+$ 432
$C_4H_2SBr_2^+$ 478
$C_4H_2SI_2^+$ 515
$C_4H_3^+$ 54
$C_4H_3BrTe^+$ 508
$C_4H_3ClSe^+$ 462
$C_4H_3ClTe^+$ 508
$C_4H_3I^+$ 510
$C_4H_3N^+$ 129

$C_4H_3NOS^+$ 361
$C_4H_3NO_2S^+$ 363
$C_4H_3NO_2Se^+$ 461
$C_4H_3NO_3^+$ 261
$C_4H_3N_2F^+$ 281
$C_4H_3N_2OBr^+$ 472
$C_4H_3N_2OCl^+$ 386
$C_4H_3N_2OF^+$ 287
$C_4H_3OBr^+$ 470
$C_4H_3OClHg^+$ 547
$C_4H_3O_4CoGe^+$ 454
$C_4H_3O_4SiCo^+$ 440
$C_4H_3S^+$ 331
$C_4H_3SBr^+$ 477
$C_4H_3SCl^+$ 399
$C_4H_3SClHg^+$ 547
$C_4H_3SI^+$ 515
$C_4H_3TeI^+$ 519
$C_4H_4^+$ 54
$C_4H_4F_3^+$ 277
$C_4H_4N^+$ 129
$C_4H_4NO_2Br^+$ 473
$C_4H_4NO_2Cl^+$ 387
$C_4H_4N_2^+$ 147
$C_4H_4N_2O^+$ 240
$C_4H_4N_2O_2^+$ 255
$C_4H_4N_2O_3^+$ 263
$C_4H_4O^+$ 181
$C_4H_4OS^+$ 353
$C_4H_4O_2^+$ 206
$C_4H_4O_3^+$ 220
$C_4H_4O_4^+$ 222
$C_4H_4O_8Mo_2^+$ 487
$C_4H_4S^+$ 331
$C_4H_4SSe^+$ 461
$C_4H_4STe^+$ 507
$C_4H_4S_2^+$ 337
$C_4H_4S_3^+$ 340
$C_4H_4Se^+$ 459
$C_4H_4Te^+$ 506
$C_4H_5^+$ 54
$C_4H_5N^+$ 129
$C_4H_5NO_2^+$ 247
$C_4H_5NS^+$ 344
$C_4H_5NS_2^+$ 349
$C_4H_5N_3^+$ 162
$C_4H_5N_3O^+$ 245
$C_4H_5O^+$ 182
$C_4H_5O_2F_3^+$ 286
$C_4H_5O_3Cl^+$ 384
$C_4H_6^+$ 54
$C_4H_6Co_2^+$ 437
$C_4H_6F_2Si^+$ 308
$C_4H_6F_6P_2^+$ 322
$C_4H_6Ga^+$ 448
$C_4H_6N^+$ 129
$C_4H_6NF_6P^+$ 323
$C_4H_6NOSe^+$ 461
$C_4H_6N_2^+$ 148
$C_4H_6N_2O^+$ 241
$C_4H_6N_2O_2^+$ 255
$C_4H_6N_2S^+$ 346
$C_4H_6N_2S_2^+$ 350
$C_4H_6N_3Br^+$ 469
$C_4H_6N_3Cl^+$ 380
$C_4H_6N_4^+$ 164
$C_4H_6O^+$ 182
$C_4H_6O_2^+$ 206
$C_4H_6O_2S^+$ 357
$C_4H_6O_3^+$ 220
$C_4H_6O_4^+$ 222
$C_4H_6S^+$ 331
$C_4H_6S_3^+$ 340
$C_4H_6SiCl_2^+$ 395
$C_4H_7^+$ 55
$C_4H_7Br^+$ 465
$C_4H_7Ge^+$ 449
$C_4H_7N^+$ 129
$C_4H_7NO^+$ 228
$C_4H_7NO_2^+$ 247
$C_4H_7NO_3^+$ 261
$C_4H_7NS_2^+$ 349
$C_4H_7N_3O^+$ 245
$C_4H_7N_3S^+$ 348
$C_4H_7O^+$ 182
$C_4H_7O_3P^+$ 318
$C_4H_7O_4PCl_2^+$ 398
$C_4H_7Si^+$ 295
$C_4H_7Sn^+$ 497
$C_4H_8^+$ 55
$C_4H_8Br_2^+$ 466
$C_4H_8FBr^+$ 474
$C_4H_8N^+$ 129
$C_4H_8NO^+$ 228
$C_4H_8NOCl^+$ 385
$C_4H_8NO_2Se^+$ 461
$C_4H_8N_2^+$ 148
$C_4H_8N_2O_2^+$ 255
$C_4H_8N_2S^+$ 346
$C_4H_8N_4^+$ 164
$C_4H_8O^+$ 182
$C_4H_8OPCl^+$ 397
$C_4H_8OS^+$ 353
$C_4H_8O_2^+$ 206
$C_4H_8O_2S^+$ 358
$C_4H_8O_4^+$ 222
$C_4H_8S^+$ 331
$C_4H_8S_2^+$ 337
$C_4H_8S_4Sn^+$ 502
$C_4H_8Se^+$ 459
$C_4H_8Si^+$ 295
$C_4H_8Te^+$ 506
$C_4H_9^+$ 56
$C_4H_9As^+$ 454
$C_4H_9Br^+$ 465
$C_4H_9Cl^+$ 373
$C_4H_9F_2P^+$ 321
$C_4H_9I^+$ 510
$C_4H_9N^+$ 129
$C_4H_9NO^+$ 228
$C_4H_9NOS^+$ 361
$C_4H_9NOSi^+$ 306
$C_4H_9NO_2^+$ 247
$C_4H_9NS^+$ 344
$C_4H_9NS_2^+$ 349
$C_4H_9NSiS^+$ 368
$C_4H_9N_2OF_2P^+$ 324
$C_4H_9O^+$ 183
$C_4H_9OSiMn^+$ 424
$C_4H_9O_2As^+$ 456
$C_4H_9O_2PCl_2^+$ 398
$C_4H_9O_3P^+$ 318
$C_4H_9O_4PCr^+$ 416
$C_4H_9O_4PW^+$ 536
$C_4H_9PCl_2^+$ 396
$C_4H_9S^+$ 331
$C_4H_9Si^+$ 295
$C_4H_9SiCl^+$ 394
$C_4H_{10}^+$ 56
$C_4H_{10}Cd^+$ 495

$C_4H_{10}F_2Si^+$ 308
$C_4H_{10}Hg^+$ 546
$C_4H_{10}N^+$ 129
$C_4H_{10}NF_2P^+$ 323
$C_4H_{10}NSe^+$ 459
$C_4H_{10}N_2^+$ 148
$C_4H_{10}N_2O^+$ 241
$C_4H_{10}N_2OS^+$ 362
$C_4H_{10}N_2S_2^+$ 350
$C_4H_{10}N_4^+$ 164
$C_4H_{10}O^+$ 183
$C_4H_{10}OS^+$ 353
$C_4H_{10}O_2^+$ 207
$C_4H_{10}O_2As^+$ 456
$C_4H_{10}O_2PSCl^+$ 402
$C_4H_{10}O_2S^+$ 358
$C_4H_{10}O_2SiCl_2^+$ 395
$C_4H_{10}O_3^+$ 220
$C_4H_{10}O_3PCl^+$ 397
$C_4H_{10}S^+$ 331
$C_4H_{10}S_2^+$ 337
$C_4H_{10}S_2Sn^+$ 502
$C_4H_{10}Si^+$ 295
$C_4H_{10}Zn^+$ 446
$C_4H_{11}As^+$ 454
$C_4H_{11}N^+$ 130
$C_4H_{11}NO^+$ 228
$C_4H_{11}NO_2^+$ 247
$C_4H_{11}O_2As^+$ 456
$C_4H_{11}O_2PS_2^+$ 370
$C_4H_{11}O_3P^+$ 318
$C_4H_{11}P^+$ 311
$C_4H_{11}SiCl^+$ 394
$C_4H_{12}Al_2Br_2^+$ 476
$C_4H_{12}Al_2Cl_2^+$ 393
$C_4H_{12}Al_2I_2^+$ 514
$C_4H_{12}As_2^+$ 455
$C_4H_{12}Ge^+$ 449
$C_4H_{12}NP^+$ 315
$C_4H_{12}N_2^+$ 148
$C_4H_{12}N_2FP^+$ 322
$C_4H_{12}N_2F_3P^+$ 323
$C_4H_{12}N_2OPCl^+$ 398
$C_4H_{12}N_2OS^+$ 362
$C_4H_{12}N_2PCl^+$ 397
$C_4H_{12}N_2PSCl^+$ 402
$C_4H_{12}N_2SiCl_2^+$ 395
$C_4H_{12}N_4^+$ 164
$C_4H_{12}N_6^+$ 167
$C_4H_{12}ORe^+$ 541
$C_4H_{12}PAu^+$ 545
$C_4H_{12}P_2^+$ 314
$C_4H_{12}Pb^+$ 550
$C_4H_{12}SGe^+$ 452
$C_4H_{12}SPb^+$ 551
$C_4H_{12}SSn^+$ 501
$C_4H_{12}Si^+$ 295
$C_4H_{12}SiS^+$ 367
$C_4H_{12}Sn^+$ 497
$C_4H_{13}NSi^+$ 303
$C_4H_{13}N_2O_3P^+$ 320
$C_4H_{14}N_3OP^+$ 319
$C_4I_2^+$ 509
C_4La^+ 522
C_4Lu^+ 531
$C_4NF_3^+$ 280
$C_4N_2^+$ 125
$C_4N_2F_4^+$ 280
$C_4O_2Cl_2^+$ 382
$C_4O_3SCr^+$ 419
$C_4O_3SMo^+$ 489
$C_4O_3SW^+$ 538
$C_4O_4Cl_2Rh_2^+$ 492
$C_4O_4Cr^+$ 411
$C_4O_4F_3PFe^+$ 434
$C_4O_4F_6P_2Cr^+$ 418
$C_4O_4Fe^+$ 430
$C_4O_4FeBr_2^+$ 480
$C_4O_4FeI_2^+$ 516
$C_4O_4Mn^+$ 422
$C_4O_4Mo^+$ 486
$C_4O_4Ni^+$ 443
$C_4O_4W^+$ 534
$C_4SBr_4^+$ 477
$C_4SI_4^+$ 515
$C_4S_8^+$ 328
C_4Th^+ 553
C_4Ti^+ 406
C_4U^+ 554
C_5F^+ 270
$C_5F_2^+$ 270
$C_5F_3^+$ 271
$C_5F_4^+$ 272
$C_5F_5^+$ 272
$C_5F_{15}P_5^+$ 321
$C_5HN_3^+$ 162
$C_5HOF_{11}^+$ 287
$C_5HO_5Mn^+$ 423
$C_5HO_5Re^+$ 541
$C_5H_2^+$ 57
$C_5H_2N_3SCl^+$ 401
$C_5H_2O_2F_6^+$ 286
$C_5H_2O_3Co_2^+$ 438
$C_5H_3^+$ 57
$C_5H_3Br^+$ 465
$C_5H_3Cl^+$ 373
$C_5H_3D_4^+$ 60
$C_5H_3I^+$ 510
$C_5H_3NCl_2^+$ 381
$C_5H_3NO^+$ 228
$C_5H_3NO_5Cr^+$ 414
$C_5H_3NO_5W^+$ 535
$C_5H_3NS^+$ 344
$C_5H_3NS_3^+$ 350
$C_5H_3N_2OF_3^+$ 288
$C_5H_3N_3O^+$ 245
$C_5H_3OS^+$ 353
$C_5H_3O_2^+$ 207
$C_5H_3O_5GeRe^+$ 542
$C_5H_3O_5MnGe^+$ 454
$C_5H_3O_5PCr^+$ 416
$C_5H_3O_5SiMn^+$ 424
$C_5H_3O_5SiRe^+$ 541
$C_5H_4^+$ 57
$C_5H_4D_3^+$ 60
$C_5H_4N^+$ 130
$C_5H_4NBr^+$ 468
$C_5H_4NCl^+$ 378
$C_5H_4NOBr^+$ 472
$C_5H_4NOCl^+$ 385
$C_5H_4N_2^+$ 149
$C_5H_4N_2O_2^+$ 255
$C_5H_4N_2O_3^+$ 263
$C_5H_4N_4^+$ 164
$C_5H_4N_4O^+$ 246
$C_5H_4N_4O_2^+$ 260
$C_5H_4N_4O_3^+$ 265
$C_5H_4O^+$ 183
$C_5H_4OS^+$ 353
$C_5H_4OSe^+$ 460

$C_5H_4OTe^+$ 507
$C_5H_4O_2^+$ 207
$C_5H_4O_2S^+$ 358
$C_5H_4O_2Se^+$ 461
$C_5H_4O_2Te^+$ 507
$C_5H_4O_3^+$ 220
$C_5H_4S_2^+$ 337
$C_5H_4S_3^+$ 340
$C_5H_5^+$ 57
$C_5H_5As^+$ 454
$C_5H_5Bi^+$ 552
$C_5H_5Co^+$ 437
$C_5H_5Cr^+$ 409
$C_5H_5F_2P^+$ 321
$C_5H_5F_3Si^+$ 308
$C_5H_5Fe^+$ 429
$C_5H_5Ge^+$ 449
$C_5H_5In^+$ 496
$C_5H_5La^+$ 522
$C_5H_5Mg^+$ 290
$C_5H_5Mn^+$ 421
$C_5H_5MnI^+$ 516
$C_5H_5N^+$ 130
$C_5H_5NO^+$ 228
$C_5H_5NOCr^+$ 413
$C_5H_5NONi^+$ 443
$C_5H_5NO_2^+$ 247
$C_5H_5NS^+$ 344
$C_5H_5NSCr^+$ 418
$C_5H_5N_2OBr^+$ 472
$C_5H_5N_2OCl^+$ 387
$C_5H_5N_2OF^+$ 287
$C_5H_5N_5^+$ 167
$C_5H_5N_5O^+$ 246
$C_5H_5Nd^+$ 525
$C_5H_5Ni^+$ 442
$C_5H_5OClHg^+$ 547
$C_5H_5O_2F_3^+$ 286
$C_5H_5P^+$ 311
$C_5H_5Pr^+$ 524
$C_5H_5Ru^+$ 490
$C_5H_5SCl^+$ 399
$C_5H_5SClHg^+$ 548
$C_5H_5Sb^+$ 505
$C_5H_5Si^+$ 295
$C_5H_5SiCl_3^+$ 395
$C_5H_5Tl^+$ 548
$C_5H_5W^+$ 532
$C_5H_6^+$ 58
$C_5H_6Cl_2^+$ 375
$C_5H_6D^+$ 60
$C_5H_6N^+$ 130
$C_5H_6N_2^+$ 149
$C_5H_6N_2O^+$ 241
$C_5H_6N_2O_2^+$ 255
$C_5H_6N_2O_3^+$ 263
$C_5H_6O^+$ 183
$C_5H_6OCo_2^+$ 438
$C_5H_6OS^+$ 353
$C_5H_6OSe^+$ 460
$C_5H_6O_2^+$ 207
$C_5H_6O_2S^+$ 358
$C_5H_6O_3^+$ 220
$C_5H_6S^+$ 331
$C_5H_6SSe^+$ 462
$C_5H_6STe^+$ 508
$C_5H_6S_2^+$ 338
$C_5H_6Se^+$ 459
$C_5H_6Si^+$ 295
$C_5H_6Te^+$ 507
$C_5H_7^+$ 58
$C_5H_7N^+$ 130
$C_5H_7NOS^+$ 361
$C_5H_7NO_2^+$ 247
$C_5H_7NO_3^+$ 261
$C_5H_7NS_2^+$ 349
$C_5H_7N_3^+$ 162
$C_5H_7N_3O^+$ 246
$C_5H_8^+$ 60
$C_5H_8Br_2^+$ 466
$C_5H_8ClBr^+$ 479
$C_5H_8FBr^+$ 474
$C_5H_8Ge^+$ 449
$C_5H_8N^+$ 130
$C_5H_8NO^+$ 229
$C_5H_8NO_2Br^+$ 473
$C_5H_8NO_2Cl^+$ 387
$C_5H_8N_2^+$ 149
$C_5H_8N_2O^+$ 241
$C_5H_8N_2S^+$ 346
$C_5H_8O^+$ 184
$C_5H_8OS^+$ 354
$C_5H_8O_2^+$ 207
$C_5H_8O_3^+$ 220
$C_5H_8SCl_2^+$ 400
$C_5H_8S_4^+$ 341
$C_5H_8Si^+$ 295
$C_5H_9^+$ 61
$C_5H_9Br^+$ 465
$C_5H_9FSi^+$ 308
$C_5H_9I^+$ 510
$C_5H_9N^+$ 130
$C_5H_9NO^+$ 229
$C_5H_9NOSe^+$ 461
$C_5H_9NO_2^+$ 247
$C_5H_9NO_3^+$ 261
$C_5H_9NS^+$ 344
$C_5H_9NS_2^+$ 349
$C_5H_9N_3O^+$ 246
$C_5H_9N_3S^+$ 348
$C_5H_9O^+$ 184
$C_5H_9OBr^+$ 470
$C_5H_9O_2^+$ 207
$C_5H_9O_2F_9SiP_3Mn^+$ 425
$C_5H_9O_2SiMn^+$ 424
$C_5H_9O_5PCr^+$ 416
$C_5H_9O_5PW^+$ 536
$C_5H_9SiBr^+$ 476
$C_5H_9SiCl^+$ 394
$C_5H_9SiI^+$ 514
$C_5H_{10}^+$ 61
$C_5H_{10}Br_2^+$ 467
$C_5H_{10}Ge^+$ 449
$C_5H_{10}N^+$ 130
$C_5H_{10}NBr^+$ 468
$C_5H_{10}NCl^+$ 378
$C_5H_{10}N_2^+$ 149
$C_5H_{10}N_2O^+$ 241
$C_5H_{10}N_2S^+$ 346
$C_5H_{10}N_4^+$ 165
$C_5H_{10}O^+$ 184
$C_5H_{10}O_2^+$ 208
$C_5H_{10}S^+$ 332
$C_5H_{10}Si^+$ 295
$C_5H_{11}^+$ 62
$C_5H_{11}As^+$ 454
$C_5H_{11}Br^+$ 465
$C_5H_{11}I^+$ 510
$C_5H_{11}N^+$ 131
$C_5H_{11}NO^+$ 229

$C_5H_{11}NO_2^+$ 247
$C_5H_{11}NO_2S^+$ 363
$C_5H_{11}NO_2Se^+$ 461
$C_5H_{11}NS^+$ 344
$C_5H_{11}N_2OF_2P^+$ 324
$C_5H_{11}O^+$ 185
$C_5H_{11}O_3P^+$ 319
$C_5H_{12}^+$ 62
$C_5H_{12}Hg^+$ 546
$C_5H_{12}N^+$ 131
$C_5H_{12}N_2^+$ 149
$C_5H_{12}N_2O^+$ 241
$C_5H_{12}N_2OFP^+$ 324
$C_5H_{12}N_2S^+$ 346
$C_5H_{12}O^+$ 185
$C_5H_{12}OGe^+$ 451
$C_5H_{12}OS^+$ 354
$C_5H_{12}OSi^+$ 305
$C_5H_{12}O_2Si^+$ 306
$C_5H_{12}S^+$ 332
$C_5H_{12}S_2^+$ 338
$C_5H_{12}S_2Sn^+$ 502
$C_5H_{12}S_4^+$ 341
$C_5H_{12}Si^+$ 295
$C_5H_{12}Sn^+$ 498
$C_5H_{13}N^+$ 131
$C_5H_{13}NBr_2^+$ 469
$C_5H_{13}NO^+$ 229
$C_5H_{13}NO_2^+$ 248
$C_5H_{13}N_2OP^+$ 319
$C_5H_{14}N_2^+$ 150
$C_5H_{14}Si^+$ 296
$C_5H_{14}Sn^+$ 498
$C_5H_{15}NSi^+$ 303
$C_5H_{15}PS_2Sn^+$ 502
$C_5H_{15}P_5^+$ 315
$C_5H_{15}Ta^+$ 532
$C_5H_{16}N_3OP^+$ 320
$C_5NCl_5^+$ 378
$C_5NF_5^+$ 280
$C_5NOCl_7^+$ 385
$C_5N_4^+$ 125
$C_5OF_6Co_2^+$ 440
$C_5O_4SCr^+$ 419
$C_5O_4SMo^+$ 489
$C_5O_4SW^+$ 538
$C_5O_5BrRe^+$ 542
$C_5O_5ClMn^+$ 428
$C_5O_5ClRe^+$ 542
$C_5O_5Cr^+$ 411
$C_5O_5F_3PCr^+$ 418
$C_5O_5F_3PMo^+$ 489
$C_5O_5F_3PW^+$ 538
$C_5O_5Fe^+$ 430
$C_5O_5IRe^+$ 542
$C_5O_5MnBr^+$ 480
$C_5O_5MnI^+$ 516
$C_5O_5Mo^+$ 486
$C_5O_5PBr_3Mo^+$ 490
$C_5O_5PCl_3Cr^+$ 420
$C_5O_5PCl_3Mo^+$ 489
$C_5O_5PCl_3W^+$ 538
$C_5O_5PCrBr_3^+$ 480
$C_5O_5SiCl_3Mn^+$ 428
$C_5O_5W^+$ 534
$C_5S_{10}^+$ 328
$C_6Cl_4^+$ 371
$C_6Cl_6^+$ 371
$C_6D_{12}^+$ 69
$C_6D_{12}O_2^+$ 210
$C_6F_3Br_3^+$ 474
$C_6F_3Cl_3^+$ 391
$C_6F_4^+$ 272
$C_6F_4Br_2^+$ 474
$C_6F_5^+$ 272
$C_6F_5Br^+$ 473
$C_6F_5Cl^+$ 390
$C_6F_5I^+$ 514
$C_6F_6^+$ 273
$C_6F_6N_2^+$ 280
$C_6F_{12}^+$ 273
$C_6F_{12}P_2^+$ 321
$C_6F_{15}P_3^+$ 321
$C_6HCl_5^+$ 377
$C_6HFCl_4^+$ 392
$C_6HF_3Cl_2^+$ 392
$C_6HF_4Br^+$ 475
$C_6HF_4Cl^+$ 392
$C_6HF_5^+$ 278
$C_6HOF_5^+$ 286
$C_6HS_2Br_3^+$ 478
$C_6H_2^+$ 62
$C_6H_2Cl_2^+$ 375
$C_6H_2Cl_4^+$ 377
$C_6H_2FCl_3^+$ 392
$C_6H_2F_2Br_2^+$ 475
$C_6H_2F_2Cl_2^+$ 392
$C_6H_2F_3Br^+$ 475
$C_6H_2F_3Cl^+$ 391
$C_6H_2F_4^+$ 278
$C_6H_2NF_3^+$ 283
$C_6H_2OF_4^+$ 286
$C_6H_2O_2Cl_4^+$ 385
$C_6H_2O_4Cl_2Fe^+$ 436
$C_6H_2O_4Co_2^+$ 438
$C_6H_2O_4FeBr_2^+$ 480
$C_6H_2S_2Br_2^+$ 478
$C_6H_3Br_3^+$ 467
$C_6H_3Cl_3^+$ 377
$C_6H_3D_2^+$ 64
$C_6H_3FBr_2^+$ 475
$C_6H_3FCl_2^+$ 392
$C_6H_3F_2Br^+$ 475
$C_6H_3F_2Cl^+$ 391
$C_6H_3F_3^+$ 277
$C_6H_3Ge^+$ 449
$C_6H_3NO_4MnBr^+$ 480
$C_6H_3N_3^+$ 162
$C_6H_3N_3O_6^+$ 267
$C_6H_3N_5^+$ 167
$C_6H_3OF_3^+$ 286
$C_6H_3OF_3S^+$ 367
$C_6H_3OF_3Se^+$ 461
$C_6H_3O_2F_3^+$ 286
$C_6H_3O_5Mn^+$ 423
$C_6H_3O_5Re^+$ 541
$C_6H_3S_2Br^+$ 478
$C_6H_3S_2I^+$ 515
$C_6H_3Si^+$ 296
$C_6H_4^+$ 62
$C_6H_4Br^+$ 465
$C_6H_4BrI^+$ 517
$C_6H_4Br_2^+$ 467
$C_6H_4Cl^+$ 373
$C_6H_4Cl_2^+$ 376
$C_6H_4D_2^+$ 65
$C_6H_4F^+$ 275
$C_6H_4FBr^+$ 474
$C_6H_4FCl^+$ 391
$C_6H_4F_2^+$ 277

$C_6H_{18}Si_2^+$ 299
$C_6H_{18}Si_2S^+$ 368
$C_6H_{18}Sn_2^+$ 500
$C_6H_{18}W^+$ 532
$C_6H_{19}NSi_2^+$ 304
$C_6N_2^+$ 125
$C_6N_4^+$ 125
$C_6O_2Cl_4^+$ 382
$C_6O_2F_4^+$ 284
$C_6O_2F_6Co_2^+$ 440
$C_6O_5CrSe^+$ 462
$C_6O_5F_3Mn^+$ 423
$C_6O_5SCr^+$ 419
$C_6O_5SMo^+$ 489
$C_6O_5SW^+$ 538
$C_6O_6Cr^+$ 411
$C_6O_6Mo^+$ 486
$C_6O_6S_2Fe_2^+$ 435
$C_6O_6W^+$ 534
$C_6S_2Br_4^+$ 477
$C_7F_8^+$ 273
$C_7HO_4F_6Ir^+$ 543
$C_7HO_4F_6Rh^+$ 491
$C_7H_2O_5Co_2^+$ 439
$C_7H_3F_5^+$ 278
$C_7H_3NO_2S^+$ 363
$C_7H_3NO_3^+$ 262
$C_7H_3NO_4Fe^+$ 433
$C_7H_3NO_5Cr^+$ 414
$C_7H_3OF_5^+$ 286
$C_7H_3O_6Fe^+$ 432
$C_7H_4F_3Br^+$ 475
$C_7H_4F_3Cl^+$ 391
$C_7H_4F_4^+$ 278
$C_7H_4N^+$ 133
$C_7H_4NF^+$ 281
$C_7H_4NI^+$ 512
$C_7H_4NO^+$ 230
$C_7H_4NOCl^+$ 385
$C_7H_4NO_2^+$ 248
$C_7H_4NO_3^+$ 262
$C_7H_4N_2O_2^+$ 256
$C_7H_4N_2O_3^+$ 263
$C_7H_4OBr^+$ 471
$C_7H_4OCl^+$ 383
$C_7H_4OF^+$ 285
$C_7H_4O_3Fe^+$ 431
$C_7H_4O_3PMn^+$ 424
$C_7H_4O_4F_3Rh^+$ 491
$C_7H_4O_5Fe^+$ 432
$C_7H_4O_6SCr^+$ 419
$C_7H_4S_2Mn^+$ 426
$C_7H_4S_2Mn_2^+$ 426
$C_7H_4S_3^+$ 340
$C_7H_5D_2^+$ 72
$C_7H_5F_3^+$ 277
$C_7H_5N^+$ 133
$C_7H_5NO^+$ 231
$C_7H_5NOS^+$ 361
$C_7H_5NOS_2Mn^+$ 428
$C_7H_5NOS_2Mn_2^+$ 428
$C_7H_5NO_2S^+$ 363
$C_7H_5NO_2SCr^+$ 419
$C_7H_5NO_3Cr^+$ 414
$C_7H_5NO_4^+$ 265
$C_7H_5NO_5Cr^+$ 414
$C_7H_5NS^+$ 344
$C_7H_5NS_2^+$ 349
$C_7H_5N_2Cl^+$ 379
$C_7H_5N_2O_3^+$ 263
$C_7H_5N_2O_3Cl^+$ 388
$C_7H_5N_3O_6^+$ 267
$C_7H_5O^+$ 187
$C_7H_5OCl^+$ 383
$C_7H_5OClCr^+$ 420
$C_7H_5OSFe^+$ 435
$C_7H_5OSMn^+$ 426
$C_7H_5O_2^+$ 210
$C_7H_5O_2Br^+$ 471
$C_7H_5O_2ClFe^+$ 436
$C_7H_5O_2F^+$ 285
$C_7H_5O_2F_3PMn^+$ 425
$C_7H_5O_2FeBr^+$ 480
$C_7H_5O_2FeI^+$ 516
$C_7H_5O_2Mn^+$ 422
$C_7H_5O_2PCl_3Mn^+$ 428
$C_7H_5O_2PMnBr_3^+$ 480
$C_7H_5O_2W^+$ 534
$C_7H_5S_2Fe_2^+$ 435
$C_7H_5S_2Mn^+$ 426
$C_7H_5S_2Mn_2^+$ 426
$C_7H_6^+$ 70
$C_7H_6Cl^+$ 373
$C_7H_6Cl_2^+$ 376
$C_7H_6F^+$ 275
$C_7H_6NO^+$ 231
$C_7H_6NOCl^+$ 386
$C_7H_6NOF^+$ 287
$C_7H_6NO_2^+$ 248
$C_7H_6N_2^+$ 152
$C_7H_6N_2O_3^+$ 264
$C_7H_6N_2O_5^+$ 267
$C_7H_6O^+$ 188
$C_7H_6OCr^+$ 411
$C_7H_6O_2^+$ 210
$C_7H_6O_3^+$ 220
$C_7H_6O_3Co_2^+$ 438
$C_7H_6O_3Fe^+$ 431
$C_7H_6O_5ClMnSn^+$ 503
$C_7H_6O_6SCr^+$ 419
$C_7H_6O_7PCr^+$ 417
$C_7H_6O_7PW^+$ 537
$C_7H_6S_2^+$ 338
$C_7H_6Si^+$ 296
$C_7H_7^+$ 70
$C_7H_7Br^+$ 465
$C_7H_7Cl^+$ 373
$C_7H_7ClHg^+$ 547
$C_7H_7F^+$ 275
$C_7H_7FSiBr^+$ 476
$C_7H_7FSiCl^+$ 396
$C_7H_7I^+$ 511
$C_7H_7NO^+$ 231
$C_7H_7NOCr^+$ 413
$C_7H_7NOS^+$ 361
$C_7H_7NOSMn^+$ 427
$C_7H_7NOSMnI^+$ 516
$C_7H_7NO_2^+$ 249
$C_7H_7NO_2FSi^+$ 309
$C_7H_7NO_2S^+$ 363
$C_7H_7NO_3^+$ 262
$C_7H_7NO_5W^+$ 535
$C_7H_7N_2FS^+$ 366
$C_7H_7N_2O^+$ 242
$C_7H_7N_2OBr^+$ 473
$C_7H_7N_2OCl^+$ 387
$C_7H_7N_2OF^+$ 287
$C_7H_7N_2OI^+$ 513
$C_7H_7N_2S^+$ 347
$C_7H_7N_2SBr^+$ 478

$C_7H_7N_2SCl^+$ 400
$C_7H_7N_2SI^+$ 515
$C_7H_7N_3O_2S^+$ 364
$C_7H_7O^+$ 189
$C_7H_7OBr^+$ 471
$C_7H_7OCl^+$ 383
$C_7H_7OF^+$ 285
$C_7H_7OI^+$ 513
$C_7H_7OMn^+$ 422
$C_7H_7O_2^+$ 210
$C_7H_7O_4^+$ 223
$C_7H_7O_4Ir^+$ 543
$C_7H_7O_4Rh^+$ 491
$C_7H_7SBr^+$ 478
$C_7H_7SMn^+$ 425
$C_7H_7SMnI^+$ 516
$C_7H_8^+$ 72
$C_7H_8^{+2}$ 73
$C_7H_8Cr^+$ 409
$C_7H_8FSi^+$ 308
$C_7H_8N^+$ 134
$C_7H_8N_2^+$ 152
$C_7H_8N_2O^+$ 242
$C_7H_8N_2OS^+$ 362
$C_7H_8N_2O_2^+$ 256
$C_7H_8N_2S^+$ 347
$C_7H_8O^+$ 189
$C_7H_8OCr^+$ 411
$C_7H_8OS^+$ 355
$C_7H_8OS_2^+$ 360
$C_7H_8O_2^+$ 210
$C_7H_8O_2PMn^+$ 424
$C_7H_8O_2S^+$ 358
$C_7H_8S^+$ 333
$C_7H_8S_3^+$ 340
$C_7H_8SiCl^+$ 394
$C_7H_8Te^+$ 507
$C_7H_9^+$ 73
$C_7H_9Br^+$ 465
$C_7H_9N^+$ 134
$C_7H_9NO^+$ 231
$C_7H_9NOS^+$ 361
$C_7H_9NOSe^+$ 461
$C_7H_9NOTe^+$ 507
$C_7H_9NO_2^+$ 249
$C_7H_9NS^+$ 345
$C_7H_9NSe^+$ 460
$C_7H_9N_3S^+$ 348
$C_7H_9N_5^+$ 167
$C_7H_9O_4CoSn^+$ 503
$C_7H_9O_4F_3SiPMn^+$ 425
$C_7H_9O_4PFe^+$ 433
$C_7H_9O_4SiMn^+$ 424
$C_7H_9O_7PCr^+$ 417
$C_7H_9O_7PW^+$ 537
$C_7H_9Si^+$ 296
$C_7H_{10}^+$ 73
$C_7H_{10}F_6Si^+$ 308
$C_7H_{10}N^+$ 135
$C_7H_{10}NO^+$ 231
$C_7H_{10}NO_2^+$ 249
$C_7H_{10}N_2^+$ 152
$C_7H_{10}N_2O^+$ 242
$C_7H_{10}N_2O_2^+$ 256
$C_7H_{10}O^+$ 190
$C_7H_{10}OS^+$ 355
$C_7H_{10}OSe^+$ 460
$C_7H_{10}O_2^+$ 211
$C_7H_{10}S^+$ 333
$C_7H_{10}SSe^+$ 462
$C_7H_{10}S_2^+$ 338
$C_7H_{10}S_3^+$ 340
$C_7H_{11}^+$ 74
$C_7H_{11}N^+$ 135
$C_7H_{11}NO^+$ 231
$C_7H_{11}NO_2^+$ 249
$C_7H_{11}N_3O^+$ 246
$C_7H_{11}OCl^+$ 384
$C_7H_{11}O_2Br^+$ 471
$C_7H_{11}P^+$ 311
$C_7H_{12}^+$ 74
$C_7H_{12}NBr^+$ 468
$C_7H_{12}NCl^+$ 379
$C_7H_{12}NI^+$ 512
$C_7H_{12}NO_2^+$ 249
$C_7H_{12}N_2^+$ 152
$C_7H_{12}N_2O^+$ 242
$C_7H_{12}N_2O_2^+$ 256
$C_7H_{12}O^+$ 191
$C_7H_{12}O_2^+$ 211
$C_7H_{12}O_4^+$ 223
$C_7H_{12}S^+$ 333
$C_7H_{12}S_4^+$ 342
$C_7H_{13}^+$ 74
$C_7H_{13}N^+$ 135
$C_7H_{13}NO^+$ 232
$C_7H_{13}OS^+$ 355
$C_7H_{13}O_2^+$ 211
$C_7H_{14}^+$ 74
$C_7H_{14}N_2^+$ 153
$C_7H_{14}N_2O^+$ 242
$C_7H_{14}O^+$ 191
$C_7H_{14}OS^+$ 355
$C_7H_{14}O_2^+$ 211
$C_7H_{15}^+$ 75
$C_7H_{15}N^+$ 135
$C_7H_{15}NO^+$ 232
$C_7H_{15}NO_3Si^+$ 307
$C_7H_{15}O_2P^+$ 318
$C_7H_{15}O_4PCr^+$ 416
$C_7H_{15}O_4PW^+$ 536
$C_7H_{15}P^+$ 311
$C_7H_{16}Hg^+$ 546
$C_7H_{16}N_2^+$ 153
$C_7H_{16}N_3OF_2P^+$ 324
$C_7H_{16}N_4^+$ 165
$C_7H_{16}S_2Sn^+$ 502
$C_7H_{16}Sn^+$ 498
$C_7H_{17}NO^+$ 232
$C_7H_{17}OPS^+$ 369
$C_7H_{18}Ge^+$ 450
$C_7H_{18}NP^+$ 315
$C_7H_{18}N_2^+$ 153
$C_7H_{18}N_2Si^+$ 303
$C_7H_{18}N_3OPCr^+$ 418
$C_7H_{18}N_3OPFe^+$ 433
$C_7H_{18}N_3OPMo^+$ 488
$C_7H_{18}Pb^+$ 550
$C_7H_{18}Sn^+$ 498
$C_7H_{19}NSi^+$ 303
$C_7H_{19}O_2Si_2^+$ 306
$C_7H_{19}SiAs^+$ 456
$C_7H_{19}SiP^+$ 325
$C_7H_{20}Si_2^+$ 299
$C_7H_{21}P_2ClPt^+$ 543
$C_7H_{21}P_2IPt^+$ 544
$C_7NF_5^+$ 280
$C_7O_3F_6Co_2^+$ 440

$C_7O_6F_3Re^+$ 541
$C_8F_{10}^+$ 273
$C_8F_{20}P_4^+$ 321
$C_8HO_2F_{17}^+$ 287
$C_8H_2^+$ 75
$C_8H_2N_2F_4^+$ 283
$C_8H_2O_6Co_2^+$ 439
$C_8H_3F_5^+$ 278
$C_8H_3NF_4^+$ 282
$C_8H_3NO_5SCr^+$ 419
$C_8H_3NO_6Cr^+$ 415
$C_8H_4Ge^+$ 450
$C_8H_4NO^+$ 232
$C_8H_4N_2^+$ 153
$C_8H_4N_2F_2^+$ 282
$C_8H_4N_2O_5Cr^+$ 415
$C_8H_4O^+$ 191
$C_8H_4O_2^+$ 211
$C_8H_4O_2S^+$ 358
$C_8H_4O_2S_3^+$ 360
$C_8H_4O_3^+$ 221
$C_8H_4S_3^+$ 340
$C_8H_4S_3Br_2^+$ 478
$C_8H_4Si^+$ 296
$C_8H_5Br^+$ 466
$C_8H_5Cl^+$ 374
$C_8H_5I^+$ 511
$C_8H_5NO_2^+$ 249
$C_8H_5N_2F^+$ 281
$C_8H_5N_2OCl^+$ 387
$C_8H_5N_3O_3^+$ 265
$C_8H_5O_2ClCr^+$ 420
$C_8H_5O_2SMn^+$ 427
$C_8H_5O_3^+$ 221
$C_8H_5O_3Mn^+$ 422
$C_8H_5O_3Re^+$ 541
$C_8H_5O_3W^+$ 534
$C_8H_6^+$ 75
$C_8H_6Cl_2^+$ 376
$C_8H_6D_2O^+$ 192
$C_8H_6N^+$ 135
$C_8H_6NOF_3^+$ 288
$C_8H_6NSBr^+$ 478
$C_8H_6NSCl^+$ 400
$C_8H_6N_2^+$ 154
$C_8H_6N_2O^+$ 242
$C_8H_6N_2O_2^+$ 256
$C_8H_6N_2O_2S^+$ 364
$C_8H_6N_2O_4Cl_2^+$ 389
$C_8H_6N_2S_2^+$ 350
$C_8H_6O^+$ 191
$C_8H_6O_2Br_2^+$ 472
$C_8H_6O_2Cl_2^+$ 385
$C_8H_6O_2Cr^+$ 411
$C_8H_6O_2F_2^+$ 285
$C_8H_6O_2Hg^+$ 547
$C_8H_6O_2I_2^+$ 513
$C_8H_6O_4^+$ 223
$C_8H_6O_4Co_2^+$ 439
$C_8H_6O_5Fe^+$ 432
$C_8H_6O_5SCr^+$ 419
$C_8H_6O_6Cr^+$ 413
$C_8H_6O_6Fe^+$ 432
$C_8H_6S^+$ 333
$C_8H_6S_2^+$ 338
$C_8H_6S_2Hg^+$ 547
$C_8H_6S_3^+$ 341
$C_8H_6Se^+$ 459
$C_8H_6Te^+$ 507
$C_8H_7Cl^+$ 374
$C_8H_7D_2NO_2^+$ 250
$C_8H_7N^+$ 135
$C_8H_7NO^+$ 232
$C_8H_7NOBr^+$ 472
$C_8H_7NOBr_2^+$ 473
$C_8H_7NOCl^+$ 386
$C_8H_7NOCl_2^+$ 388
$C_8H_7NOF_2^+$ 288
$C_8H_7NOS^+$ 361
$C_8H_7NO_2^+$ 250
$C_8H_7NO_2Cr^+$ 414
$C_8H_7NO_2S^+$ 363
$C_8H_7NO_3^+$ 262
$C_8H_7NO_4^+$ 265
$C_8H_7NS^+$ 345
$C_8H_7NS_2^+$ 349
$C_8H_7O^+$ 191
$C_8H_7OBr^+$ 471
$C_8H_7OCl^+$ 384
$C_8H_7OSMn^+$ 426
$C_8H_7O_2^+$ 212
$C_8H_7O_2Br^+$ 471
$C_8H_7O_2Cl^+$ 384
$C_8H_7O_2F^+$ 285
$C_8H_7O_2I^+$ 513
$C_8H_7O_2Mn^+$ 422
$C_8H_8^+$ 75
$C_8H_8Cl_2^+$ 376
$C_8H_8La^+$ 522
$C_8H_8NFS^+$ 366
$C_8H_8NO^+$ 232
$C_8H_8NOBr^+$ 472
$C_8H_8NOCl^+$ 386
$C_8H_8NOF^+$ 287
$C_8H_8NOI^+$ 513
$C_8H_8NO_2^+$ 250
$C_8H_8NO_2Cl^+$ 388
$C_8H_8NS^+$ 345
$C_8H_8NSBr^+$ 478
$C_8H_8NSCl^+$ 400
$C_8H_8NSI^+$ 515
$C_8H_8N_2^+$ 154
$C_8H_8N_2O_2Cl_2^+$ 388
$C_8H_8N_2O_3^+$ 264
$C_8H_8N_2S^+$ 347
$C_8H_8Nd^+$ 525
$C_8H_8Ni^+$ 442
$C_8H_8O^+$ 191
$C_8H_8OCr^+$ 411
$C_8H_8O_2^+$ 212
$C_8H_8O_2Cr^+$ 411
$C_8H_8O_2Fe^+$ 431
$C_8H_8O_3^+$ 221
$C_8H_8O_3Fe^+$ 431
$C_8H_8Pr^+$ 524
$C_8H_8Ru^+$ 490
$C_8H_8S^+$ 333
$C_8H_8S_2^+$ 338
$C_8H_8W_2^+$ 533
$C_8H_9^+$ 76
$C_8H_9Cl^+$ 374
$C_8H_9N^+$ 136
$C_8H_9NO^+$ 233
$C_8H_9NOS^+$ 361
$C_8H_9NO_2^+$ 250
$C_8H_9NO_2S^+$ 363
$C_8H_9NO_5Cr^+$ 414
$C_8H_9NO_5W^+$ 535
$C_8H_9NS^+$ 345
$C_8H_9N_2O^+$ 243

$C_8H_9N_2OCl^+$ 387
$C_8H_9N_2S^+$ 347
$C_8H_9N_2SCl^+$ 400
$C_8H_9O^+$ 192
$C_8H_9OBr^+$ 471
$C_8H_9OCl^+$ 384
$C_8H_9OF^+$ 285
$C_8H_9O_5MnSn^+$ 503
$C_8H_9O_5PCr^+$ 416
$C_8H_9O_5PMo^+$ 488
$C_8H_9O_5PW^+$ 536
$C_8H_9O_5SiMn^+$ 424
$C_8H_9O_5SnRe^+$ 542
$C_8H_9O_8PCr^+$ 417
$C_8H_9O_8PMo^+$ 488
$C_8H_9O_8PW^+$ 537
$C_8H_{10}^+$ 77
$C_8H_{10}Cr^+$ 409
$C_8H_{10}FSi^+$ 308
$C_8H_{10}FSiBr^+$ 476
$C_8H_{10}FSiCl^+$ 396
$C_8H_{10}N^+$ 136
$C_8H_{10}NCl^+$ 379
$C_8H_{10}NO_2FSi^+$ 309
$C_8H_{10}N_2Cl_2^+$ 381
$C_8H_{10}N_2O^+$ 243
$C_8H_{10}N_2OS^+$ 362
$C_8H_{10}N_2O_2^+$ 256
$C_8H_{10}N_2S^+$ 347
$C_8H_{10}N_2S_2^+$ 350
$C_8H_{10}N_4F_5P_3^+$ 323
$C_8H_{10}N_4O_2^+$ 261
$C_8H_{10}O^+$ 192
$C_8H_{10}OFSi^+$ 309
$C_8H_{10}OS^+$ 355
$C_8H_{10}OSe^+$ 460
$C_8H_{10}O_2^+$ 212
$C_8H_{10}O_6PW^+$ 537
$C_8H_{10}S^+$ 333
$C_8H_{10}SSe^+$ 462
$C_8H_{10}S_2^+$ 338
$C_8H_{10}Se_2^+$ 459
$C_8H_{11}^+$ 78
$C_8H_{11}As^+$ 454
$C_8H_{11}FSi^+$ 308
$C_8H_{11}F_3Si_2^+$ 309
$C_8H_{11}F_6As^+$ 456
$C_8H_{11}N^+$ 136
$C_8H_{11}NO^+$ 233
$C_8H_{11}NOS^+$ 362
$C_8H_{11}NS_2^+$ 349
$C_8H_{11}OSi^+$ 305
$C_8H_{11}O_2F_3^+$ 286
$C_8H_{11}O_3SMn^+$ 427
$C_8H_{11}P^+$ 311
$C_8H_{11}SGe^+$ 452
$C_8H_{11}SPb^+$ 551
$C_8H_{11}SSn^+$ 501
$C_8H_{11}Si^+$ 296
$C_8H_{11}SiS^+$ 367
$C_8H_{11}SiSCl^+$ 402
$C_8H_{11}Si_2Cl_3^+$ 395
$C_8H_{12}^+$ 78
$C_8H_{12}N^+$ 137
$C_8H_{12}NO^+$ 233
$C_8H_{12}NO_2^+$ 250
$C_8H_{12}N_2^+$ 154
$C_8H_{12}N_2O^+$ 243
$C_8H_{12}N_2O_2S_4Fe^+$ 436
$C_8H_{12}N_4^+$ 165
$C_8H_{12}O^+$ 193
$C_8H_{12}OS^+$ 355
$C_8H_{12}O_2^+$ 212
$C_8H_{12}O_8CrMo^+$ 489
$C_8H_{12}O_8Cr_2^+$ 413
$C_8H_{12}O_8Mo_2^+$ 487
$C_8H_{12}S^+$ 334
$C_8H_{12}S_2^+$ 339
$C_8H_{12}Si^+$ 297
$C_8H_{13}^+$ 79
$C_8H_{13}N^+$ 137
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$C_8H_{13}NOGe^+$ 451
$C_8H_{13}NOSi^+$ 307
$C_8H_{13}NOSn^+$ 501
$C_8H_{13}NO_2^+$ 250
$C_8H_{13}NSi^+$ 303
$C_8H_{13}OSMn^+$ 426
$C_8H_{13}P^+$ 312
$C_8H_{14}^+$ 80
$C_8H_{14}CrGe^+$ 453
$C_8H_{14}N^+$ 137
$C_8H_{14}NBr^+$ 468
$C_8H_{14}NCl^+$ 379
$C_8H_{14}N_2^+$ 154
$C_8H_{14}N_2O^+$ 243
$C_8H_{14}N_2O_2^+$ 257
$C_8H_{14}Ni^+$ 442
$C_8H_{14}O^+$ 194
$C_8H_{14}O_2^+$ 213
$C_8H_{14}O_2S_2^+$ 360
$C_8H_{14}O_5PCl_3^+$ 398
$C_8H_{14}Pd^+$ 492
$C_8H_{14}Pt^+$ 543
$C_8H_{14}S^+$ 334
$C_8H_{14}Si^+$ 297
$C_8H_{15}N^+$ 138
$C_8H_{15}NO^+$ 233
$C_8H_{15}NO_2Cl_2^+$ 388
$C_8H_{15}N_3^+$ 163
$C_8H_{15}O_5PCr^+$ 417
$C_8H_{15}O_5PW^+$ 536
$C_8H_{16}^+$ 80
$C_8H_{16}NO_2Cl^+$ 388
$C_8H_{16}N_2^+$ 154
$C_8H_{16}N_2O^+$ 243
$C_8H_{16}N_2O_2^+$ 257
$C_8H_{16}N_4^+$ 165
$C_8H_{16}O^+$ 194
$C_8H_{16}OS^+$ 355
$C_8H_{16}O_2^+$ 213
$C_8H_{16}O_4^+$ 223
$C_8H_{17}N^+$ 138
$C_8H_{17}NO^+$ 233
$C_8H_{17}NO_4Si^+$ 307
$C_8H_{18}FP^+$ 321
$C_8H_{18}Ge^+$ 450
$C_8H_{18}Hg^+$ 546
$C_8H_{18}NO^+$ 234
$C_8H_{18}N_2^+$ 155
$C_8H_{18}N_2O_2^+$ 257
$C_8H_{18}N_2S^+$ 347
$C_8H_{18}N_3O_2PFe^+$ 433
$C_8H_{18}N_3O_2PMo^+$ 488
$C_8H_{18}N_3P^+$ 316
$C_8H_{18}N_4^+$ 165
$C_8H_{18}N_4S_4Ni^+$ 444
$C_8H_{18}O^+$ 194
$C_8H_{18}OS^+$ 355
$C_8H_{18}O_2^+$ 213

$C_8H_{18}O_2S^+$ 358
$C_8H_{18}PCl^+$ 396
$C_8H_{18}S^+$ 334
$C_8H_{18}S_2^+$ 339
$C_8H_{18}Si_2Br_2^+$ 476
$C_8H_{18}Si_2Cl_2^+$ 395
$C_8H_{18}Sn^+$ 498
$C_8H_{19}O_2PS_3^+$ 370
$C_8H_{19}P^+$ 312
$C_8H_{20}Ge^+$ 450
$C_8H_{20}NO_3P^+$ 320
$C_8H_{20}N_2^+$ 155
$C_8H_{20}N_3P^+$ 316
$C_8H_{20}N_4^+$ 165
$C_8H_{20}O_4P_2S_4Ni^+$ 444
$C_8H_{20}O_4P_2S_4Pd^+$ 492
$C_8H_{20}O_4P_2S_4Pt^+$ 543
$C_8H_{20}O_4Si^+$ 306
$C_8H_{20}Si^+$ 297
$C_8H_{20}Si_2^+$ 299
$C_8H_{20}Sn^+$ 498
$C_8H_{21}NSi^+$ 303
$C_8H_{21}NSi_2^+$ 304
$C_8H_{21}O_2Si_2^+$ 306
$C_8H_{22}Si_2^+$ 299
$C_8H_{22}Si_2Cd^+$ 495
$C_8H_{22}Sn_2^+$ 500
$C_8H_{23}NSi_2^+$ 304
$C_8H_{24}N_4Ge^+$ 451
$C_8H_{24}N_4Hf^+$ 531
$C_8H_{24}N_4Mo^+$ 486
$C_8H_{24}N_4Si^+$ 304
$C_8H_{24}N_4Si_2^+$ 304
$C_8H_{24}N_4Sn^+$ 500
$C_8H_{24}N_4Ti^+$ 406
$C_8H_{24}N_4V^+$ 408
$C_8H_{24}N_4Zr^+$ 484
$C_8H_{24}P_2Pt^+$ 543
$C_8H_{25}Si_3^+$ 301
$C_8N_2F_4^+$ 280
$C_8N_2F_6^+$ 280
$C_8N_2O_2Cl_2^+$ 385
$C_8O_3Cl_4^+$ 382
$C_8O_4F_6Co_2^+$ 440
$C_8O_8F_{12}Mo_2^+$ 487
$C_9H_4O_3^+$ 221
$C_9H_5FS_3^+$ 366
$C_9H_5NO_4Fe^+$ 433
$C_9H_5O_3ClCr^+$ 420
$C_9H_5S_3Cl^+$ 399
$C_9H_6N_2^+$ 155
$C_9H_6N_2S^+$ 347
$C_9H_6N_3F_5^+$ 283
$C_9H_6OS^+$ 355
$C_9H_6O_2^+$ 213
$C_9H_6O_2S^+$ 358
$C_9H_6O_3Cr^+$ 412
$C_9H_6O_3S^+$ 359
$C_9H_6O_5Co_2^+$ 439
$C_9H_6S_3^+$ 341
$C_9H_7^+$ 81
$C_9H_7N^+$ 138
$C_9H_7NO^+$ 234
$C_9H_7NO_2^+$ 250
$C_9H_7NO_3Cr^+$ 414
$C_9H_7N_2O_3^+$ 264
$C_9H_7O_2SMn^+$ 427
$C_9H_7O_3^+$ 221
$C_9H_7O_3Mn^+$ 423
$C_9H_7P^+$ 312
$C_9H_8^+$ 82
$C_9H_8Cl_2^+$ 376
$C_9H_8DO^+$ 195
$C_9H_8NO^+$ 234
$C_9H_8NOF_3^+$ 288
$C_9H_8N_2O^+$ 243
$C_9H_8N_2S_2^+$ 350
$C_9H_8O^+$ 194
$C_9H_8OS^+$ 356
$C_9H_8O_2^+$ 213
$C_9H_8O_2Cr^+$ 412
$C_9H_8O_2SCr^+$ 419
$C_9H_8O_3Cr^+$ 412
$C_9H_8O_3Fe^+$ 431
$C_9H_8O_3PMn^+$ 424
$C_9H_8O_3Ru^+$ 490
$C_9H_8O_4^+$ 223
$C_9H_8O_5SCr^+$ 419
$C_9H_9^+$ 82
$C_9H_9Cl^+$ 374
$C_9H_9F_3^+$ 278
$C_9H_9N^+$ 138
$C_9H_9NO^+$ 234
$C_9H_9NOS^+$ 362
$C_9H_9NO_3Cr^+$ 414
$C_9H_9N_3Cl_2^+$ 381
$C_9H_9N_3F_2^+$ 282
$C_9H_9N_3S^+$ 348
$C_9H_9O^+$ 195
$C_9H_9O_5^+$ 223
$C_9H_{10}^+$ 82
$C_9H_{10}NO^+$ 234
$C_9H_{10}NOCl^+$ 386
$C_9H_{10}N_2Br^+$ 469
$C_9H_{10}N_2Cl^+$ 380
$C_9H_{10}N_2F^+$ 281
$C_9H_{10}N_2I^+$ 512
$C_9H_{10}N_2S^+$ 347
$C_9H_{10}N_3Cl^+$ 380
$C_9H_{10}N_3O_2^+$ 260
$C_9H_{10}N_3O_2Cl^+$ 388
$C_9H_{10}O^+$ 195
$C_9H_{10}OCr^+$ 411
$C_9H_{10}O_2^+$ 213
$C_9H_{10}O_3^+$ 221
$C_9H_{10}O_3Fe^+$ 431
$C_9H_{10}O_7PCr^+$ 417
$C_9H_{10}O_7PW^+$ 537
$C_9H_{10}S^+$ 334
$C_9H_{11}Cl^+$ 374
$C_9H_{11}N^+$ 139
$C_9H_{11}NO^+$ 234
$C_9H_{11}NO_2^+$ 250
$C_9H_{11}NO_3^+$ 262
$C_9H_{11}N_2^+$ 155
$C_9H_{11}N_2Br^+$ 469
$C_9H_{11}N_2Cl^+$ 380
$C_9H_{11}N_2F^+$ 281
$C_9H_{11}N_2I^+$ 512
$C_9H_{11}N_2O^+$ 243
$C_9H_{11}N_2OCl^+$ 387
$C_9H_{11}N_2OF_2P^+$ 324
$C_9H_{11}N_2S^+$ 347
$C_9H_{11}N_2SCl^+$ 400
$C_9H_{11}N_3^+$ 163
$C_9H_{11}N_3O_2^+$ 260
$C_9H_{11}O_6^+$ 224
$C_9H_{11}S^+$ 334
$C_9H_{12}^+$ 83
$C_9H_{12}Cr^+$ 410

$C_9H_{12}N_2^+$ 156
$C_9H_{12}N_2O^+$ 243
$C_9H_{12}N_2O_2^+$ 257
$C_9H_{12}N_2S^+$ 347
$C_9H_{12}O^+$ 195
$C_9H_{12}OBr^+$ 471
$C_9H_{12}O_2^+$ 214
$C_9H_{12}O_2S^+$ 358
$C_9H_{12}O_3^+$ 221
$C_9H_{12}S^+$ 334
$C_9H_{13}^+$ 85
$C_9H_{13}As^+$ 454
$C_9H_{13}ClGe^+$ 453
$C_9H_{13}ClSn^+$ 503
$C_9H_{13}FSi^+$ 308
$C_9H_{13}N^+$ 139
$C_9H_{13}NFSi^+$ 309
$C_9H_{13}NO^+$ 234
$C_9H_{13}NO_2^+$ 251
$C_9H_{13}NO_2Si^+$ 307
$C_9H_{13}NO_3Si^+$ 307
$C_9H_{13}NS^+$ 345
$C_9H_{13}OFSi^+$ 309
$C_9H_{13}OSiBr^+$ 476
$C_9H_{13}OSiCl^+$ 395
$C_9H_{13}P^+$ 312
$C_9H_{13}SiBr^+$ 476
$C_9H_{13}SiCl^+$ 394
$C_9H_{14}^+$ 85
$C_9H_{14}F_2Si_2^+$ 309
$C_9H_{14}Ge^+$ 450
$C_9H_{14}NO_2^+$ 251
$C_9H_{14}NP^+$ 315
$C_9H_{14}NSi^+$ 303
$C_9H_{14}N_2^+$ 156
$C_9H_{14}N_2Ge^+$ 451
$C_9H_{14}N_2O^+$ 243
$C_9H_{14}N_2O_3^+$ 264
$C_9H_{14}N_2S^+$ 348
$C_9H_{14}N_2Si^+$ 304
$C_9H_{14}O^+$ 195
$C_9H_{14}OCrGe^+$ 453
$C_9H_{14}OS^+$ 356
$C_9H_{14}OSi^+$ 305
$C_9H_{14}O_2^+$ 214
$C_9H_{14}Pb^+$ 550
$C_9H_{14}SGe^+$ 452
$C_9H_{14}SPb^+$ 551
$C_9H_{14}SSn^+$ 501
$C_9H_{14}Si^+$ 297
$C_9H_{14}SiS^+$ 367
$C_9H_{14}Si_2Cl_2^+$ 395
$C_9H_{14}Sn^+$ 498
$C_9H_{15}N^+$ 139
$C_9H_{15}NO^+$ 234
$C_9H_{15}NO_2^+$ 251
$C_9H_{15}N_2O_2^+$ 257
$C_9H_{15}O_6PCr^+$ 417
$C_9H_{15}O_6PW^+$ 537
$C_9H_{16}^+$ 85
$C_9H_{16}NOCl^+$ 386
$C_9H_{16}NO_2^+$ 251
$C_9H_{16}N_2^+$ 156
$C_9H_{16}O^+$ 196
$C_9H_{17}N^+$ 140
$C_9H_{17}NO^+$ 235
$C_9H_{17}NO_2^+$ 251
$C_9H_{17}NO_2Cl_2^+$ 388
$C_9H_{17}NO_3S^+$ 364
$C_9H_{17}N_2O_2^+$ 257
$C_9H_{18}^+$ 86
$C_9H_{18}NCl^+$ 379
$C_9H_{18}NO^+$ 235
$C_9H_{18}NO_2^+$ 251
$C_9H_{18}NO_2Cl^+$ 388
$C_9H_{18}N_2^+$ 156
$C_9H_{18}N_3O_3PCr^+$ 418
$C_9H_{18}N_3O_3PFe^+$ 433
$C_9H_{18}N_3O_3PMo^+$ 488
$C_9H_{18}N_3S_6Fe^+$ 435
$C_9H_{18}O^+$ 196
$C_9H_{18}O_3^+$ 221
$C_9H_{18}S_3^+$ 341
$C_9H_{19}N^+$ 140
$C_9H_{20}Ge^+$ 450
$C_9H_{20}Hg^+$ 546
$C_9H_{20}N_2^+$ 156
$C_9H_{20}Sn^+$ 498
$C_9H_{21}N^+$ 140
$C_9H_{21}NBr_2^+$ 469
$C_9H_{21}NSi^+$ 303
$C_9H_{21}O_3P^+$ 319
$C_9H_{21}P^+$ 312
$C_9H_{22}Si^+$ 297
$C_9H_{22}Sn^+$ 498
$C_9H_{23}O_2Si_2^+$ 306
$C_9H_{24}N_4^+$ 165
$C_9H_{24}Si_2^+$ 299
$C_9H_{24}Sn_2^+$ 500
$C_9H_{25}NSi_2^+$ 304
$C_9H_{25}Si_2P^+$ 325
$C_9H_{27}NSi_3^+$ 304
$C_9NF_7^+$ 280
$C_9O_3F_6Co_2^+$ 440
$C_{10}Cl_8^+$ 372
$C_{10}F_8^+$ 273
$C_{10}F_{12}S_4^+$ 365
$C_{10}H_2O_4F_{12}Cu^+$ 445
$C_{10}H_2O_4F_{12}Mg^+$ 290
$C_{10}H_2O_4F_{12}Ni^+$ 444
$C_{10}H_2O_4F_{12}Zn^+$ 447
$C_{10}H_2O_6^+$ 224
$C_{10}H_2O_6F_{12}U^+$ 555
$C_{10}H_4NO_5ClCr^+$ 420
$C_{10}H_4NO_5CrBr^+$ 480
$C_{10}H_4O_6Cl_2Co_2^+$ 441
$C_{10}H_5NO_5Cr^+$ 414
$C_{10}H_5NO_5W^+$ 535
$C_{10}H_5NO_6Cr^+$ 415
$C_{10}H_6^+$ 86
$C_{10}H_6Br_2^+$ 467
$C_{10}H_6Cl_2^+$ 376
$C_{10}H_6N_2^+$ 156
$C_{10}H_6O_2^+$ 214
$C_{10}H_6O_3^+$ 221
$C_{10}H_6O_4^+$ 223
$C_{10}H_6O_6Co_2^+$ 439
$C_{10}H_6S_2^+$ 339
$C_{10}H_7N^+$ 140
$C_{10}H_7NO_2^+$ 251
$C_{10}H_7O_3Mn^+$ 423
$C_{10}H_8^+$ 86
$C_{10}H_8^{+2}$ 87
$C_{10}H_8^{+3}$ 87
$C_{10}H_8Cl_2Fe^+$ 436
$C_{10}H_8F_6S_4Ni^+$ 444
$C_{10}H_8N_2^+$ 156
$C_{10}H_8N_2O_2^+$ 257
$C_{10}H_8O^+$ 196
$C_{10}H_8OS_2^+$ 360

$C_{10}H_8OS_3^+$ 360
$C_{10}H_8O_2^+$ 214
$C_{10}H_8O_2F_6S_2Ni^+$ 444
$C_{10}H_8O_3Cr^+$ 412
$C_{10}H_8O_3Fe^+$ 431
$C_{10}H_8O_3Mo^+$ 486
$C_{10}H_8O_3W^+$ 534
$C_{10}H_8O_4Cr^+$ 413
$C_{10}H_8O_4F_6Co^+$ 440
$C_{10}H_8O_4F_6Cu^+$ 445
$C_{10}H_8O_4F_6Ni^+$ 443
$C_{10}H_8O_8Fe^+$ 432
$C_{10}H_8S^+$ 334
$C_{10}H_8S_3^+$ 341
$C_{10}H_9ClFe^+$ 436
$C_{10}H_9N^+$ 140
$C_{10}H_9NO^+$ 235
$C_{10}H_9NO_6SFe_2^+$ 436
$C_{10}H_9NS^+$ 345
$C_{10}H_9O_3Mn^+$ 423
$C_{10}H_9P^+$ 312
$C_{10}H_{10}^+$ 87
$C_{10}H_{10}Br_2Ta^+$ 532
$C_{10}H_{10}Br_2Zr^+$ 484
$C_{10}H_{10}Cl_2Hf^+$ 531
$C_{10}H_{10}Cl_2Ta^+$ 532
$C_{10}H_{10}Cl_2Ti^+$ 407
$C_{10}H_{10}Cl_2Zr^+$ 484
$C_{10}H_{10}Co^+$ 437
$C_{10}H_{10}Cr^+$ 410
$C_{10}H_{10}F_2Ti^+$ 407
$C_{10}H_{10}Fe^+$ 429
$C_{10}H_{10}Hg^+$ 547
$C_{10}H_{10}La^+$ 522
$C_{10}H_{10}Mg^+$ 290
$C_{10}H_{10}Mn^+$ 421
$C_{10}H_{10}NO^+$ 235
$C_{10}H_{10}NOF_3^+$ 288
$C_{10}H_{10}N_2^+$ 156
$C_{10}H_{10}N_2Cl_2^+$ 381
$C_{10}H_{10}N_2O_3^+$ 264
$C_{10}H_{10}Nd^+$ 525
$C_{10}H_{10}Ni^+$ 442
$C_{10}H_{10}O^+$ 196
$C_{10}H_{10}O_2^+$ 214
$C_{10}H_{10}O_2Cr^+$ 412
$C_{10}H_{10}O_2Fe^+$ 431
$C_{10}H_{10}O_3Fe^+$ 431
$C_{10}H_{10}O_3Ru^+$ 490
$C_{10}H_{10}Pb^+$ 550
$C_{10}H_{10}Pr^+$ 524
$C_{10}H_{10}Ru^+$ 490
$C_{10}H_{10}Si^+$ 297
$C_{10}H_{10}Sn^+$ 498
$C_{10}H_{10}TiBr_2^+$ 480
$C_{10}H_{10}V^+$ 407
$C_{10}H_{10}W_2^+$ 533
$C_{10}H_{10}ZrI_2^+$ 518
$C_{10}H_{11}Cl^+$ 374
$C_{10}H_{11}DO^+$ 197
$C_{10}H_{11}N^+$ 140
$C_{10}H_{11}NO^+$ 235
$C_{10}H_{11}NO_4^+$ 265
$C_{10}H_{11}NO_5Cr^+$ 414
$C_{10}H_{11}NO_5W^+$ 535
$C_{10}H_{11}N_3^+$ 163
$C_{10}H_{11}N_3S^+$ 349
$C_{10}H_{11}O^+$ 196
$C_{10}H_{11}O_5SMn^+$ 427
$C_{10}H_{11}Re^+$ 540
$C_{10}H_{12}^+$ 88
$C_{10}H_{12}Mo^+$ 485
$C_{10}H_{12}NO^+$ 235
$C_{10}H_{12}NOCl^+$ 386
$C_{10}H_{12}N_2^+$ 156
$C_{10}H_{12}O^+$ 196
$C_{10}H_{12}OCr^+$ 411
$C_{10}H_{12}O_2^+$ 214
$C_{10}H_{12}S_2^+$ 339
$C_{10}H_{12}S_3^+$ 341
$C_{10}H_{12}S_4^+$ 342
$C_{10}H_{12}Se_4^+$ 459
$C_{10}H_{12}W^+$ 533
$C_{10}H_{13}Cl^+$ 374
$C_{10}H_{13}F^+$ 275
$C_{10}H_{13}N^+$ 140
$C_{10}H_{13}NO^+$ 235
$C_{10}H_{13}NO_2^+$ 251
$C_{10}H_{13}N_2^+$ 157
$C_{10}H_{13}N_2Cl^+$ 380
$C_{10}H_{13}N_2O^+$ 243
$C_{10}H_{13}N_2OCl^+$ 387
$C_{10}H_{13}N_2OF_2P^+$ 324
$C_{10}H_{13}N_2S^+$ 348
$C_{10}H_{13}N_2SCl^+$ 400
$C_{10}H_{13}N_3^+$ 163
$C_{10}H_{13}O_3SMn^+$ 427
$C_{10}H_{13}P^+$ 312
$C_{10}H_{13}Ta^+$ 532
$C_{10}H_{14}^+$ 89
$C_{10}H_{14}Ge^+$ 450
$C_{10}H_{14}N^+$ 140
$C_{10}H_{14}NOCl^+$ 386
$C_{10}H_{14}N_2^+$ 157
$C_{10}H_{14}N_2O^+$ 244
$C_{10}H_{14}N_2S^+$ 348
$C_{10}H_{14}O^+$ 197
$C_{10}H_{14}OBr^+$ 471
$C_{10}H_{14}OSi^+$ 305
$C_{10}H_{14}O_2^+$ 214
$C_{10}H_{14}O_2CrGe^+$ 453
$C_{10}H_{14}O_2S_2Co^+$ 440
$C_{10}H_{14}O_2S_2Cu^+$ 445
$C_{10}H_{14}O_2S_2Ni^+$ 444
$C_{10}H_{14}O_3^+$ 221
$C_{10}H_{14}O_4Cl_2Sn^+$ 503
$C_{10}H_{14}O_4Co^+$ 438
$C_{10}H_{14}O_4Cu^+$ 445
$C_{10}H_{14}O_4Mg^+$ 290
$C_{10}H_{14}O_4Ni^+$ 443
$C_{10}H_{14}O_4Zn^+$ 447
$C_{10}H_{14}O_6U^+$ 554
$C_{10}H_{14}S^+$ 335
$C_{10}H_{14}S_4Co^+$ 440
$C_{10}H_{14}S_4Ni^+$ 444
$C_{10}H_{14}Si^+$ 297
$C_{10}H_{15}^+$ 90
$C_{10}H_{15}Br^+$ 466
$C_{10}H_{15}Cl^+$ 374
$C_{10}H_{15}F^+$ 276
$C_{10}H_{15}N^+$ 140
$C_{10}H_{15}NO^+$ 235
$C_{10}H_{15}NO_2^+$ 251
$C_{10}H_{15}OSMn^+$ 426
$C_{10}H_{15}O_7PCr^+$ 417
$C_{10}H_{15}O_7PW^+$ 537
$C_{10}H_{15}P^+$ 312
$C_{10}H_{15}SMn^+$ 425
$C_{10}H_{16}^+$ 90
$C_{10}H_{16}Ge^+$ 450

$C_{10}H_{16}NFSi^+$ 309
$C_{10}H_{16}NP^+$ 315
$C_{10}H_{16}N_2^+$ 157
$C_{10}H_{16}N_2O_2^+$ 257
$C_{10}H_{16}N_4^+$ 166
$C_{10}H_{16}O^+$ 197
$C_{10}H_{16}OSi^+$ 305
$C_{10}H_{16}O_2^+$ 215
$C_{10}H_{16}O_2S^+$ 358
$C_{10}H_{16}O_2Si^+$ 306
$C_{10}H_{16}O_3^+$ 222
$C_{10}H_{16}O_4Ni^+$ 443
$C_{10}H_{16}O_4Pd^+$ 492
$C_{10}H_{16}O_4Pt^+$ 543
$C_{10}H_{16}P_2^+$ 314
$C_{10}H_{16}Pb^+$ 550
$C_{10}H_{16}S^+$ 335
$C_{10}H_{16}SGe^+$ 452
$C_{10}H_{16}SPb^+$ 551
$C_{10}H_{16}SSn^+$ 501
$C_{10}H_{16}S_4^+$ 342
$C_{10}H_{16}Si^+$ 297
$C_{10}H_{16}SiS^+$ 367
$C_{10}H_{16}Sn^+$ 499
$C_{10}H_{17}^+$ 91
$C_{10}H_{17}FSi_2^+$ 309
$C_{10}H_{17}N^+$ 141
$C_{10}H_{17}NO^+$ 235
$C_{10}H_{17}NO_2^+$ 252
$C_{10}H_{17}OCl^+$ 384
$C_{10}H_{17}P^+$ 312
$C_{10}H_{17}Si_2Cl^+$ 395
$C_{10}H_{18}^+$ 91
$C_{10}H_{18}N_2^+$ 157
$C_{10}H_{18}N_2O^+$ 244
$C_{10}H_{18}N_2O_2^+$ 257
$C_{10}H_{18}N_2O_4^+$ 266
$C_{10}H_{18}N_3O_4PCr^+$ 418
$C_{10}H_{18}N_3O_4PFe^+$ 433
$C_{10}H_{18}N_3O_4PMo^+$ 488
$C_{10}H_{18}Ni^+$ 442
$C_{10}H_{18}O^+$ 197
$C_{10}H_{18}O_2^+$ 215
$C_{10}H_{18}S_6^+$ 342
$C_{10}H_{18}Si_2^+$ 299
$C_{10}H_{18}Sn^+$ 499
$C_{10}H_{19}N^+$ 141
$C_{10}H_{19}NO^+$ 236
$C_{10}H_{19}NO_2Cl_2^+$ 388
$C_{10}H_{20}^+$ 91
$C_{10}H_{20}NO_2Cl^+$ 388
$C_{10}H_{20}N_2^+$ 157
$C_{10}H_{20}N_4^+$ 166
$C_{10}H_{20}O^+$ 197
$C_{10}H_{20}O_5^+$ 224
$C_{10}H_{20}S^+$ 335
$C_{10}H_{21}P^+$ 312
$C_{10}H_{22}Hg^+$ 547
$C_{10}H_{22}N_2^+$ 157
$C_{10}H_{22}N_2O^+$ 244
$C_{10}H_{22}Si_2^+$ 299
$C_{10}H_{23}N^+$ 141
$C_{10}H_{24}N_2^+$ 157
$C_{10}H_{24}N_2S_4Sn_2^+$ 502
$C_{10}H_{24}N_3P^+$ 316
$C_{10}H_{24}N_4^+$ 166
$C_{10}H_{24}O_3Ti^+$ 406
$C_{10}H_{24}O_4Ti^+$ 406
$C_{10}H_{24}Si_2^+$ 299
$C_{10}H_{24}Si_4^+$ 302
$C_{10}H_{24}Sn^+$ 499
$C_{10}H_{25}O_2Si_2^+$ 306
$C_{10}H_{25}P_3^+$ 315
$C_{10}H_{27}NSi_2^+$ 304
$C_{10}H_{27}Si_2As^+$ 456
$C_{10}H_{27}Si_2P^+$ 325
$C_{10}H_{28}N_2Si_4^+$ 304
$C_{10}H_{30}N_5Nb^+$ 485
$C_{10}H_{30}N_5Ta^+$ 532
$C_{10}H_{30}Si_4^+$ 302
$C_{10}H_{30}Si_5^+$ 302
$C_{10}O_6F_6Co_2^+$ 440
$C_{10}O_{10}Mn_2^+$ 422
$C_{10}O_{10}Re_2^+$ 541
$C_{11}HO_3F_{23}^+$ 287
$C_{11}H_4N_2O_5W^+$ 535
$C_{11}H_5N_3^+$ 163
$C_{11}H_6O_7Cr^+$ 413
$C_{11}H_7^+$ 92
$C_{11}H_7N^+$ 141
$C_{11}H_7NO_5Cr^+$ 414
$C_{11}H_7NO_5W^+$ 535
$C_{11}H_7NO_6Cr^+$ 415
$C_{11}H_8N_2^+$ 158
$C_{11}H_8N_2O^+$ 244
$C_{11}H_8O^+$ 198
$C_{11}H_8OS^+$ 356
$C_{11}H_8O_2^+$ 215
$C_{11}H_8O_3Fe^+$ 432
$C_{11}H_8O_4Cr^+$ 413
$C_{11}H_8O_4Mo^+$ 486
$C_{11}H_8O_4SCr^+$ 419
$C_{11}H_8O_5Cr^+$ 413
$C_{11}H_9^+$ 92
$C_{11}H_9F^+$ 276
$C_{11}H_9I^+$ 511
$C_{11}H_9NO_2^+$ 252
$C_{11}H_{10}^+$ 92
$C_{11}H_{10}O^+$ 198
$C_{11}H_{10}OMo^+$ 486
$C_{11}H_{10}OW_2^+$ 535
$C_{11}H_{10}O_2^+$ 215
$C_{11}H_{10}O_2S^+$ 358
$C_{11}H_{10}O_3Cr^+$ 412
$C_{11}H_{10}O_4PMn^+$ 424
$C_{11}H_{10}S^+$ 335
$C_{11}H_{10}SFe_2^+$ 435
$C_{11}H_{10}SMn_2^+$ 426
$C_{11}H_{11}Cr^+$ 410
$C_{11}H_{11}Mn^+$ 421
$C_{11}H_{11}N^+$ 141
$C_{11}H_{11}NOS^+$ 362
$C_{11}H_{11}NO_2^+$ 252
$C_{11}H_{11}NO_3Cr^+$ 414
$C_{11}H_{12}^+$ 93
$C_{11}H_{12}N_2Cl_2^+$ 381
$C_{11}H_{12}N_2O_2^+$ 257
$C_{11}H_{12}O^+$ 198
$C_{11}H_{12}O_2^+$ 215
$C_{11}H_{12}O_2Cr^+$ 412
$C_{11}H_{12}O_3Fe^+$ 432
$C_{11}H_{12}O_3PMn^+$ 424
$C_{11}H_{12}O_4Fe^+$ 432
$C_{11}H_{12}O_5Fe^+$ 432
$C_{11}H_{13}Cl^+$ 374
$C_{11}H_{13}DO^+$ 198
$C_{11}H_{13}N^+$ 141
$C_{11}H_{13}NO^+$ 236
$C_{11}H_{13}N_3Cl_2^+$ 381
$C_{11}H_{13}O^+$ 198

$C_{11}H_{13}O_7^+$ 224
$C_{11}H_{14}^+$ 93
$C_{11}H_{14}NO^+$ 236
$C_{11}H_{14}NOCl^+$ 386
$C_{11}H_{14}N_2^+$ 158
$C_{11}H_{14}N_2O^+$ 244
$C_{11}H_{14}O^+$ 198
$C_{11}H_{14}O_2^+$ 215
$C_{11}H_{14}O_3CrGe^+$ 453
$C_{11}H_{15}Cl^+$ 374
$C_{11}H_{15}NO^+$ 236
$C_{11}H_{15}N_2O^+$ 244
$C_{11}H_{15}N_2OCl^+$ 387
$C_{11}H_{15}N_2S^+$ 348
$C_{11}H_{15}N_2SCl^+$ 400
$C_{11}H_{15}N_3^+$ 163
$C_{11}H_{15}N_5^+$ 167
$C_{11}H_{15}O_5PCr^+$ 417
$C_{11}H_{15}O_5PMo^+$ 488
$C_{11}H_{15}O_5PW^+$ 536
$C_{11}H_{15}O_8PCr^+$ 418
$C_{11}H_{15}O_8PMo^+$ 488
$C_{11}H_{15}O_8PW^+$ 537
$C_{11}H_{16}^+$ 94
$C_{11}H_{16}NO_2Br^+$ 473
$C_{11}H_{16}NO_2F_3^+$ 288
$C_{11}H_{16}N_2O^+$ 244
$C_{11}H_{16}N_2S^+$ 348
$C_{11}H_{16}N_3^+$ 163
$C_{11}H_{16}N_3Cl^+$ 380
$C_{11}H_{16}O^+$ 198
$C_{11}H_{16}OBr^+$ 471
$C_{11}H_{16}O_2^+$ 215
$C_{11}H_{16}S^+$ 335
$C_{11}H_{16}Si^+$ 297
$C_{11}H_{17}^+$ 94
$C_{11}H_{17}N^+$ 142
$C_{11}H_{17}NO_2^+$ 252
$C_{11}H_{17}NO_3^+$ 262
$C_{11}H_{17}N_3^+$ 163
$C_{11}H_{17}O_5PCr^+$ 417
$C_{11}H_{18}^+$ 94
$C_{11}H_{18}N_3O_5PCr^+$ 418
$C_{11}H_{18}N_3O_5PMo^+$ 488
$C_{11}H_{18}N_3O_5PW^+$ 537
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$C_{11}H_{18}O_2^+$ 216
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$C_{11}H_{18}SiS^+$ 367
$C_{11}H_{19}N^+$ 142
$C_{11}H_{19}NOSi^+$ 307
$C_{11}H_{20}^+$ 95
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$C_{11}H_{20}N_2O_4^+$ 266
$C_{11}H_{20}O^+$ 199
$C_{11}H_{20}OSi_2^+$ 306
$C_{11}H_{20}O_2^+$ 216
$C_{11}H_{20}O_2Si_2^+$ 306
$C_{11}H_{20}O_3Si_2^+$ 306
$C_{11}H_{20}PAu^+$ 545
$C_{11}H_{20}Si_2^+$ 299
$C_{11}H_{21}N^+$ 142
$C_{11}H_{21}NSi_2^+$ 304
$C_{11}H_{21}N_2O_2^+$ 258
$C_{11}H_{22}^+$ 95
$C_{11}H_{22}NO^+$ 236
$C_{11}H_{22}N_2^+$ 158
$C_{11}H_{22}O^+$ 199
$C_{11}H_{22}Si_2^+$ 299
$C_{11}H_{23}P^+$ 312
$C_{11}H_{24}S_2Sn^+$ 502
$C_{11}H_{25}NS_2Sn^+$ 502
$C_{11}H_{27}O_2Si_2^+$ 306
$C_{11}H_{31}NSi_2P_2^+$ 325
$C_{12}F_8^+$ 273
$C_{12}F_{10}^+$ 273
$C_{12}H_3O_{12}Re_3^+$ 541
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$C_{12}H_6N_4^+$ 166
$C_{12}H_6O_2^+$ 216
$C_{12}H_6O_3^+$ 222
$C_{12}H_7NO_2^+$ 252
$C_{12}H_7NO_5Cr^+$ 414
$C_{12}H_7NO_6Cr^+$ 415
$C_{12}H_7N_2OCl^+$ 387
$C_{12}H_7N_3^+$ 163
$C_{12}H_7N_3O_3^+$ 265
$C_{12}H_8^+$ 95
$C_{12}H_8Br_2^+$ 467
$C_{12}H_8FBr^+$ 474
$C_{12}H_8F_2^+$ 277
$C_{12}H_8NO^+$ 236
$C_{12}H_8NOBr^+$ 472
$C_{12}H_8NOCl^+$ 386
$C_{12}H_8NOF^+$ 287
$C_{12}H_8NOI^+$ 513
$C_{12}H_8N_2^+$ 158
$C_{12}H_8N_2O^+$ 244
$C_{12}H_8N_2O_3^+$ 264
$C_{12}H_8N_3^+$ 163
$C_{12}H_8N_3Cl^+$ 380
$C_{12}H_8O^+$ 199
$C_{12}H_8OS^+$ 356
$C_{12}H_8OSe^+$ 461
$C_{12}H_8OTe^+$ 507
$C_{12}H_8O_2^+$ 216
$C_{12}H_8O_2S^+$ 358
$C_{12}H_8O_2SBr_2^+$ 479
$C_{12}H_8S^+$ 335
$C_{12}H_8SCl_2^+$ 400
$C_{12}H_9^+$ 96
$C_{12}H_9Br^+$ 466
$C_{12}H_9Cl^+$ 374
$C_{12}H_9F^+$ 276
$C_{12}H_9I^+$ 511
$C_{12}H_9N^+$ 142
$C_{12}H_9NO^+$ 236
$C_{12}H_9NO_5W^+$ 535
$C_{12}H_9NS^+$ 345
$C_{12}H_9N_2Cl^+$ 380
$C_{12}H_9N_3^+$ 163
$C_{12}H_9N_3O_2^+$ 260
$C_{12}H_9N_4O_2F^+$ 288
$C_{12}H_9O_4Rh^+$ 491
$C_{12}H_9SCl^+$ 399
$C_{12}H_{10}^+$ 96
$C_{12}H_{10}^{+2}$ 96
$C_{12}H_{10}As^+$ 454
$C_{12}H_{10}Bi^+$ 552
$C_{12}H_{10}Ga^+$ 448
$C_{12}H_{10}Hg^+$ 546
$C_{12}H_{10}NOS_2Mn_2^+$ 428
$C_{12}H_{10}N_2^+$ 158
$C_{12}H_{10}N_2O^+$ 244
$C_{12}H_{10}N_2O_2^+$ 258
$C_{12}H_{10}N_2O_2S_2Mn^+$ 8
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$C_{12}H_{10}N_4O_2^+$ 261
$C_{12}H_{10}O^+$ 199
$C_{12}H_{10}OS^+$ 356

$C_{12}H_{10}OSFe_2^+$ 435
$C_{12}H_{10}O_2Fe^+$ 431
$C_{12}H_{10}O_2S^+$ 359
$C_{12}H_{10}O_2Ti^+$ 406
$C_{12}H_{10}O_2W_2^+$ 535
$C_{12}H_{10}S^+$ 335
$C_{12}H_{10}S_2Fe_2^+$ 435
$C_{12}H_{10}S_2Mn_2^+$ 426
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$C_{12}H_{11}NO_2^+$ 252
$C_{12}H_{11}N_3^+$ 163
$C_{12}H_{11}P^+$ 312
$C_{12}H_{12}^+$ 96
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$C_{12}H_{12}Fe^+$ 429
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$C_{12}H_{12}N_2O^+$ 244
$C_{12}H_{12}N_2O_2S^+$ 364
$C_{12}H_{12}N_2S^+$ 348
$C_{12}H_{12}Nb^+$ 485
$C_{12}H_{12}O^+$ 200
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$C_{12}H_{12}O_2^+$ 216
$C_{12}H_{12}O_2S^+$ 359
$C_{12}H_{12}O_3Cr^+$ 412
$C_{12}H_{12}O_3Mo^+$ 486
$C_{12}H_{12}O_3W^+$ 534
$C_{12}H_{12}S_2^+$ 339
$C_{12}H_{12}Si^+$ 297
$C_{12}H_{12}Ti^+$ 406
$C_{12}H_{12}V^+$ 407
$C_{12}H_{12}Zr^+$ 484
$C_{12}H_{13}As^+$ 455
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$C_{12}H_{13}NO_2^+$ 252
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$C_{12}H_{13}P^+$ 312
$C_{12}H_{14}^+$ 97
$C_{12}H_{14}Br_2Mo^+$ 490
$C_{12}H_{14}Cl_2Mo^+$ 489
$C_{12}H_{14}Cl_2Nb^+$ 485
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$C_{12}H_{14}Cr^+$ 410
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$C_{12}H_{14}Mn^+$ 421
$C_{12}H_{14}Mo^+$ 485
$C_{12}H_{14}MoI_2^+$ 515
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$C_{12}H_{14}N_2O_5Cr^+$ 415
$C_{12}H_{14}N_2O_5Mo^+$ 487
$C_{12}H_{14}N_2O_5W^+$ 535
$C_{12}H_{14}Ni^+$ 442
$C_{12}H_{14}O^+$ 200
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$C_{12}H_{14}O_6S_2Fe_2^+$ 436
$C_{12}H_{14}Os^+$ 542
$C_{12}H_{14}Ru^+$ 490
$C_{12}H_{14}V^+$ 407
$C_{12}H_{14}W^+$ 533
$C_{12}H_{15}Cl^+$ 375
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$C_{12}H_{15}NO^+$ 237
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$C_{12}H_{15}O_3SMn^+$ 427
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$C_{12}H_{16}Mo^+$ 485
$C_{12}H_{16}NO^+$ 237
$C_{12}H_{16}NOCl^+$ 386
$C_{12}H_{16}NS^+$ 345
$C_{12}H_{16}NSCl^+$ 400
$C_{12}H_{16}N_2^+$ 159
$C_{12}H_{16}N_2O_4S_4Fe^+$ 436
$C_{12}H_{16}O^+$ 200
$C_{12}H_{16}OS^+$ 356
$C_{12}H_{16}O_2^+$ 216
$C_{12}H_{16}O_2S^+$ 359
$C_{12}H_{16}S_3^+$ 341
$C_{12}H_{16}Si^+$ 298
$C_{12}H_{16}Sn^+$ 499
$C_{12}H_{16}W^+$ 533
$C_{12}H_{17}P^+$ 312
$C_{12}H_{18}^+$ 98
$C_{12}H_{18}Cr^+$ 410
$C_{12}H_{18}Ge^+$ 450
$C_{12}H_{18}NO^+$ 237
$C_{12}H_{18}N_2O_2Cu^+$ 445
$C_{12}H_{18}N_2O_2Ni^+$ 443
$C_{12}H_{18}N_2O_2Pd^+$ 492
$C_{12}H_{18}N_2S_2Co^+$ 440
$C_{12}H_{18}N_2S_2Cu^+$ 445
$C_{12}H_{18}N_2S_2Ni^+$ 444
$C_{12}H_{18}N_2S_2Pd^+$ 492
$C_{12}H_{18}O^+$ 200
$C_{12}H_{18}OBr^+$ 471
$C_{12}H_{18}OS^+$ 356
$C_{12}H_{18}O_2^+$ 216
$C_{12}H_{18}S^+$ 335
$C_{12}H_{18}Si^+$ 298
$C_{12}H_{18}Sn^+$ 499
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$C_{12}H_{19}NO_2S^+$ 363
$C_{12}H_{19}NO_3^+$ 262
$C_{12}H_{20}^+$ 98
$C_{12}H_{20}NO^+$ 237
$C_{12}H_{20}N_2^+$ 159
$C_{12}H_{20}N_2O_2^+$ 258
$C_{12}H_{20}N_2S^+$ 348
$C_{12}H_{20}N_2S_2^+$ 350
$C_{12}H_{20}O^+$ 200
$C_{12}H_{20}O_2S^+$ 359
$C_{12}H_{20}O_4Sn^+$ 501
$C_{12}H_{20}O_8Cr_2^+$ 413
$C_{12}H_{20}S^+$ 336
$C_{12}H_{20}S_4^+$ 342
$C_{12}H_{21}NO^+$ 237
$C_{12}H_{22}^+$ 99
$C_{12}H_{22}NO^+$ 237
$C_{12}H_{22}NO_2^+$ 252
$C_{12}H_{22}N_2^+$ 159
$C_{12}H_{22}O^+$ 200
$C_{12}H_{22}OSi_2^+$ 306
$C_{12}H_{22}O_2^+$ 216
$C_{12}H_{22}O_3^+$ 222
$C_{12}H_{22}Si_2^+$ 300
$C_{12}H_{23}N^+$ 143
$C_{12}H_{23}NO_2Cl_2^+$ 388
$C_{12}H_{24}^+$ 99
$C_{12}H_{24}NO^+$ 237
$C_{12}H_{24}O_2^+$ 216

$C_{12}H_{21}O_4^+$ 223
$C_{12}H_{21}O_6^+$ 224
$C_{12}H_{24}Si_2^+$ 300
$C_{12}H_{25}NO^+$ 238
$C_{12}H_{25}N_2^+$ 159
$C_{12}H_{26}N_4^+$ 166
$C_{12}H_{27}N^+$ 143
$C_{12}H_{27}NBr_2^+$ 469
$C_{12}H_{27}O_3PS^+$ 369
$C_{12}H_{27}P^+$ 313
$C_{12}H_{27}PCr^+$ 416
$C_{12}H_{28}N_2^+$ 159
$C_{12}H_{28}N_4^+$ 166
$C_{12}H_{28}Si_2^+$ 300
$C_{12}H_{28}Sn^+$ 499
$C_{12}H_{29}O_2Si_2^+$ 306
$C_{12}H_{30}O_6P_3S_6Co^+$ 440
$C_{12}H_{30}O_6P_3S_6Cr^+$ 419
$C_{12}H_{30}O_6P_3S_6In^+$ 496
$C_{12}H_{30}O_6P_3S_6Rh^+$ 492
$C_{12}H_{30}Si_2^+$ 300
$C_{12}H_{32}P_2S_4Sn_2^+$ 502
$C_{12}H_{33}NSi_3^+$ 304
$C_{12}H_{36}N_2Si_4^+$ 304
$C_{12}H_{36}N_2Si_4Ge^+$ 452
$C_{12}H_{36}N_2Si_4Hg^+$ 547
$C_{12}H_{36}N_2Si_4Pb^+$ 551
$C_{12}H_{36}N_2Si_4Sn^+$ 501
$C_{12}H_{36}N_2Si_4Zn^+$ 447
$C_{12}H_{36}N_6Mo_2^+$ 486
$C_{12}H_{36}N_6P_2Fe^+$ 433
$C_{12}H_{36}N_6P_2Mo^+$ 488
$C_{12}H_{36}N_6P_2W^+$ 536
$C_{12}H_{36}N_6W^+$ 533
$C_{12}H_{36}Si_5^+$ 302
$C_{12}H_{36}Si_6^+$ 302
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$C_{12}O_{12}Ru_3^+$ 490
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$C_{13}H_7N_4^+$ 166
$C_{13}H_7O_6ClCr^+$ 420
$C_{13}H_7O_6FCr^+$ 415
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$C_{13}H_8N_4^+$ 166
$C_{13}H_8O^+$ 200
$C_{13}H_8OS^+$ 356
$C_{13}H_8O_2^+$ 216
$C_{13}H_8O_6Cr^+$ 413
$C_{13}H_8S^+$ 336
$C_{13}H_9^+$ 99
$C_{13}H_9D_2^+$ 100
$C_{13}H_9N^+$ 143
$C_{13}H_9NO^+$ 238
$C_{13}H_9NOS^+$ 362
$C_{13}H_9NO_2^+$ 252
$C_{13}H_9NO_2S^+$ 363
$C_{13}H_9NO_3^+$ 263
$C_{13}H_9NO_4^+$ 265
$C_{13}H_9O^+$ 201
$C_{13}H_9OCl^+$ 384
$C_{13}H_9P^+$ 313
$C_{13}H_{10}^+$ 100
$C_{13}H_{10}D^+$ 100
$C_{13}H_{10}N^+$ 143
$C_{13}H_{10}NBr^+$ 468
$C_{13}H_{10}NCl^+$ 379
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$C_{13}H_{10}NI^+$ 512
$C_{13}H_{10}NO^+$ 238
$C_{13}H_{10}NO_2^+$ 253
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$C_{13}H_{10}N_2O^+$ 244
$C_{13}H_{10}N_2O_2^+$ 258
$C_{13}H_{10}N_2O_4^+$ 266
$C_{13}H_{10}O^+$ 201
$C_{13}H_{10}OS_2Fe_2^+$ 435
$C_{13}H_{10}O_2^+$ 216
$C_{13}H_{10}O_2SFe_2^+$ 435
$C_{13}H_{10}O_3W_2^+$ 535
$C_{13}H_{10}S^+$ 336
$C_{13}H_{11}^+$ 100
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$C_{13}H_{11}NO^+$ 238
$C_{13}H_{11}NO_2^+$ 253
$C_{13}H_{11}NS^+$ 345
$C_{13}H_{11}N_4O_2^+$ 261
$C_{13}H_{11}O^+$ 201
$C_{13}H_{11}OCl^+$ 384
$C_{13}H_{11}OSCl^+$ 401
$C_{13}H_{11}OSi^+$ 305
$C_{13}H_{11}OSn^+$ 500
$C_{13}H_{11}O_2SSn^+$ 502
$C_{13}H_{11}SGe^+$ 452
$C_{13}H_{11}SSn^+$ 501
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$C_{13}H_{12}N^+$ 144
$C_{13}H_{12}NO_2^+$ 253
$C_{13}H_{12}N_2^+$ 159
$C_{13}H_{12}N_2O^+$ 244
$C_{13}H_{12}N_2O_2^+$ 258
$C_{13}H_{12}N_4O_2^+$ 261
$C_{13}H_{12}O^+$ 201
$C_{13}H_{12}OS^+$ 356
$C_{13}H_{12}O_2^+$ 216
$C_{13}H_{12}S^+$ 336
$C_{13}H_{13}N^+$ 144
$C_{13}H_{13}NO^+$ 238
$C_{13}H_{13}NO_2S^+$ 363
$C_{13}H_{13}Si^+$ 298
$C_{13}H_{13}Ti^+$ 406
$C_{13}H_{14}^+$ 101
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$C_{13}H_{14}N_2^+$ 159
$C_{13}H_{14}N_2O^+$ 245
$C_{13}H_{14}N_2O_4^+$ 266
$C_{13}H_{14}O_2^+$ 217
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$C_{13}H_{15}Ge^+$ 450
$C_{13}H_{15}NO^+$ 238
$C_{13}H_{15}NO_2^+$ 253
$C_{13}H_{15}NO_2S^+$ 364
$C_{13}H_{15}Nb^+$ 485
$C_{13}H_{16}^+$ 101
$C_{13}H_{16}N_2^+$ 159
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$C_{13}H_{16}Sn^+$ 499
$C_{13}H_{16}W^+$ 533
$C_{13}H_{17}Cl^+$ 375
$C_{13}H_{17}N^+$ 144
$C_{13}H_{17}NO_2S^+$ 364
$C_{13}H_{17}N_3^+$ 164
$C_{13}H_{17}O_7PCr^+$ 417
$C_{13}H_{17}O_9^+$ 224
$C_{13}H_{18}^+$ 101
$C_{13}H_{18}N_2O^+$ 245
$C_{13}H_{18}O^+$ 201
$C_{13}H_{18}OCr^+$ 411
$C_{13}H_{18}OSi^+$ 305

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$C_{13}H_{19}MoSnI^+$ 519
$C_{13}H_{20}MoSn^+$ 504
$C_{13}H_{20}NO^+$ 238
$C_{13}H_{20}O^+$ 201
$C_{13}H_{20}OSi^+$ 305
$C_{13}H_{20}O_2^+$ 217
$C_{13}H_{20}SnW^+$ 540
$C_{13}H_{21}NO^+$ 238
$C_{13}H_{21}SnTa^+$ 532
$C_{13}H_{22}^+$ 101
$C_{13}H_{22}Ge^+$ 450
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$C_{13}H_{24}NO^+$ 239
$C_{13}H_{24}NO_2^+$ 253
$C_{13}H_{24}N_2^+$ 160
$C_{13}H_{24}Si_2^+$ 300
$C_{13}H_{25}NO^+$ 239
$C_{13}H_{25}N_2O_2^+$ 258
$C_{13}H_{26}^+$ 102
$C_{13}H_{27}OPCr^+$ 416
$C_{13}H_{28}Sn_2^+$ 500
$C_{13}H_{33}N_3Ti^+$ 406
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$C_{13}H_{36}N_6OP_2Mo^+$ 488
$C_{14}F_{10}^+$ 273
$C_{14}HO_4F_{20}^+$ 287
$C_{14}H_7O_6F_3Cr^+$ 415
$C_{14}H_8^+$ 102
$C_{14}H_8Br_2^+$ 467
$C_{14}H_8Cl_2^+$ 376
$C_{14}H_8NO_2Cl^+$ 388
$C_{14}H_8O_2^+$ 217
$C_{14}H_8O_3^+$ 222
$C_{14}H_8O_4^+$ 223
$C_{14}H_8O_6^+$ 224
$C_{14}H_8S_4^+$ 342
$C_{14}H_9Br^+$ 466
$C_{14}H_9Cl^+$ 375
$C_{14}H_9F^+$ 276
$C_{14}H_9N^+$ 144
$C_{14}H_9NO_2^+$ 253
$C_{14}H_9OS^+$ 356
$C_{14}H_9O_2^+$ 217
$C_{14}H_9O_2S^+$ 359
$C_{14}H_{10}^+$ 102
$C_{14}H_{10}^{+2}$ 103
$C_{14}H_{10}NF_3^+$ 282
$C_{14}H_{10}N_2O^+$ 245
$C_{14}H_{10}N_2O_2^+$ 258
$C_{14}H_{10}O^+$ 202
$C_{14}H_{10}OS^+$ 356
$C_{14}H_{10}O_2^+$ 217
$C_{14}H_{10}O_2S_2Fe_2^+$ 435
$C_{14}H_{10}O_3^+$ 222
$C_{14}H_{10}O_3S^+$ 359
$C_{14}H_{10}O_3SFe_2^+$ 435
$C_{14}H_{10}O_4Fe_2^+$ 432
$C_{14}H_{10}O_4W_2^+$ 535
$C_{14}H_{10}O_6Cr^+$ 413
$C_{14}H_{10}O_7Cr^+$ 413
$C_{14}H_{10}S^+$ 336
$C_{14}H_{11}^+$ 103
$C_{14}H_{11}N^+$ 144
$C_{14}H_{11}NO^+$ 239
$C_{14}H_{11}NO_5Cr^+$ 414
$C_{14}H_{11}NS^+$ 345
$C_{14}H_{11}OS^+$ 357
$C_{14}H_{11}P^+$ 313
$C_{14}H_{11}S^+$ 336
$C_{14}H_{12}^+$ 103
$C_{14}H_{12}N_2^+$ 160
$C_{14}H_{12}N_2O_2^+$ 258
$C_{14}H_{12}N_2O_4^+$ 266
$C_{14}H_{12}O^+$ 202
$C_{14}H_{12}O_2^+$ 217
$C_{14}H_{12}O_2S^+$ 359
$C_{14}H_{12}O_3^+$ 222
$C_{14}H_{12}S^+$ 336
$C_{14}H_{13}^+$ 104
$C_{14}H_{13}N^+$ 144
$C_{14}H_{13}NO^+$ 239
$C_{14}H_{13}NO_2^+$ 253
$C_{14}H_{13}NO_4^+$ 265
$C_{14}H_{13}NO_5Cr^+$ 414
$C_{14}H_{13}Sn^+$ 499
$C_{14}H_{14}^+$ 104
$C_{14}H_{14}N_2^+$ 160
$C_{14}H_{14}N_2O_2^+$ 258
$C_{14}H_{14}N_2O_3^+$ 264
$C_{14}H_{14}N_2S_2^+$ 350
$C_{14}H_{14}N_4O_2^+$ 261
$C_{14}H_{14}O^+$ 202
$C_{14}H_{14}OS^+$ 357
$C_{14}H_{14}OSi^+$ 305
$C_{14}H_{14}OSn^+$ 500
$C_{14}H_{14}O_2^+$ 217
$C_{14}H_{14}O_2S^+$ 359
$C_{14}H_{14}O_2SSn^+$ 502
$C_{14}H_{14}S^+$ 336
$C_{14}H_{14}SGe^+$ 453
$C_{14}H_{14}SSn^+$ 502
$C_{14}H_{14}Si^+$ 298
$C_{14}H_{14}SiS^+$ 368
$C_{14}H_{15}N^+$ 144
$C_{14}H_{15}NO^+$ 239
$C_{14}H_{15}P^+$ 313
$C_{14}H_{16}^+$ 104
$C_{14}H_{16}Cr^+$ 410
$C_{14}H_{16}Mo^+$ 486
$C_{14}H_{16}N_2^+$ 160
$C_{14}H_{16}OS_2^+$ 360
$C_{14}H_{16}O_2^+$ 217
$C_{14}H_{16}Ti^+$ 406
$C_{14}H_{18}^+$ 105
$C_{14}H_{18}Ge^+$ 450
$C_{14}H_{18}N_2^+$ 160
$C_{14}H_{18}O_2^+$ 217
$C_{14}H_{18}O_2Cr^+$ 412
$C_{14}H_{18}Si^+$ 298
$C_{14}H_{18}Sn^+$ 499
$C_{14}H_{19}NO^+$ 239
$C_{14}H_{20}N_2O_2S_4Fe^+$ 436
$C_{14}H_{20}O^+$ 202
$C_{14}H_{20}O_2^+$ 218
$C_{14}H_{20}O_{10}^+$ 224
$C_{14}H_{20}S_3^+$ 341
$C_{14}H_{21}O_8PCr^+$ 418
$C_{14}H_{21}O_8PW^+$ 537
$C_{14}H_{22}^+$ 105
$C_{14}H_{22}O^+$ 202
$C_{14}H_{22}O_2^+$ 218
$C_{14}H_{22}Si_2^+$ 300

$C_{14}H_{23}NO^+$ 239
$C_{14}H_{23}P^+$ 313
$C_{14}H_{24}^+$ 105
$C_{14}H_{24}Si_2^+$ 300
$C_{14}H_{25}NO^+$ 240
$C_{14}H_{26}^+$ 105
$C_{14}H_{26}Si_2^+$ 300
$C_{14}H_{27}NO^+$ 240
$C_{14}H_{27}O_2PCr^+$ 416
$C_{14}H_{28}^+$ 105
$C_{14}H_{30}Sn^+$ 499
$C_{14}H_{32}Si_2^+$ 300
$C_{14}H_{36}N_2Si_2Ge^+$ 452
$C_{14}H_{36}N_2Si_2Pb^+$ 550
$C_{14}H_{36}N_2Si_2Sn^+$ 501
$C_{14}H_{36}N_6O_2P_2Fe^+$ 434
$C_{14}H_{36}N_6O_2P_2Mo^+$ 488
$C_{14}H_{36}N_6O_2P_2W^+$ 537
$C_{14}H_{36}Si_3P_2^+$ 325
$C_{14}H_{38}Si_4Ge^+$ 452
$C_{14}H_{38}Si_4Hg^+$ 547
$C_{14}H_{38}Si_4Pb^+$ 550
$C_{14}H_{38}Si_4Sn^+$ 501
$C_{15}H_3O_6F_{18}Al^+$ 292
$C_{15}H_3O_6F_{18}Co^+$ 440
$C_{15}H_3O_6F_{18}Cr^+$ 415
$C_{15}H_3O_6F_{18}Fe^+$ 433
$C_{15}H_3O_6F_{18}Ga^+$ 448
$C_{15}H_3O_6F_{18}Mn^+$ 423
$C_{15}H_3O_6F_{18}Ru^+$ 490
$C_{15}H_3O_6F_{18}Sc^+$ 405
$C_{15}H_3O_6F_{18}Ti^+$ 407
$C_{15}H_3O_6F_{18}V^+$ 408
$C_{15}H_8O_6Co_2^+$ 439
$C_{15}H_9^+$ 105
$C_{15}H_9N^+$ 144
$C_{15}H_{10}Cl_2^+$ 376
$C_{15}H_{10}N_2O_3^+$ 264
$C_{15}H_{10}O^+$ 202
$C_{15}H_{10}O_2^+$ 218
$C_{15}H_{10}O_5W_2^+$ 535
$C_{15}H_{10}S^+$ 336
$C_{15}H_{11}^+$ 105
$C_{15}H_{11}N^+$ 144
$C_{15}H_{11}NO^+$ 240
$C_{15}H_{11}NO_2^+$ 253
$C_{15}H_{11}NO_3S^+$ 364
$C_{15}H_{11}O_2S^+$ 359
$C_{15}H_{11}P^+$ 313
$C_{15}H_{12}^+$ 105
$C_{15}H_{12}O^+$ 202
$C_{15}H_{12}O_2^+$ 218
$C_{15}H_{12}O_6F_9Al^+$ 292
$C_{15}H_{12}O_6F_9Cr^+$ 415
$C_{15}H_{12}O_6F_9Fe^+$ 433
$C_{15}H_{13}^+$ 106
$C_{15}H_{13}NO^+$ 240
$C_{15}H_{14}^+$ 106
$C_{15}H_{14}N_2^+$ 160
$C_{15}H_{14}N_2O_2^+$ 258
$C_{15}H_{14}N_2O_4^+$ 266
$C_{15}H_{14}S^+$ 336
$C_{15}H_{15}ClTh^+$ 553
$C_{15}H_{15}ClU^+$ 555
$C_{15}H_{15}La^+$ 522
$C_{15}H_{15}N^+$ 145
$C_{15}H_{15}NO_2^+$ 253
$C_{15}H_{15}N_3O_2^+$ 260
$C_{15}H_{15}Nd^+$ 525
$C_{15}H_{15}O^+$ 203
$C_{15}H_{15}Pr^+$ 525
$C_{15}H_{16}^+$ 107
$C_{15}H_{16}NO_2^+$ 254
$C_{15}H_{16}N_2^+$ 160
$C_{15}H_{16}OS^+$ 357
$C_{15}H_{16}O_2^+$ 218
$C_{15}H_{16}Sn^+$ 499
$C_{15}H_{18}^+$ 107
$C_{15}H_{18}NO_2^+$ 254
$C_{15}H_{18}N_3O_{12}Co^+$ 439
$C_{15}H_{18}N_3O_{12}Rh^+$ 491
$C_{15}H_{18}N_4O_2^+$ 261
$C_{15}H_{18}O_3Cr^+$ 413
$C_{15}H_{18}O_6Cl_3Co^+$ 441
$C_{15}H_{18}O_6CoBr_3^+$ 480
$C_{15}H_{19}N_2O_{10}Rh^+$ 491
$C_{15}H_{20}NO_8Rh^+$ 491
$C_{15}H_{20}N_2OS^+$ 362
$C_{15}H_{20}N_2O_2^+$ 258
$C_{15}H_{21}O_6Co^+$ 438
$C_{15}H_{21}O_6Cr^+$ 413
$C_{15}H_{21}O_6Fe^+$ 432
$C_{15}H_{21}O_6Mn^+$ 423
$C_{15}H_{21}O_6Rh^+$ 491
$C_{15}H_{22}Si_2^+$ 300
$C_{15}H_{23}Cl^+$ 375
$C_{15}H_{24}^+$ 107
$C_{15}H_{24}N_2O_3^+$ 264
$C_{15}H_{24}O_6Si_2Cr^+$ 416
$C_{15}H_{24}O_6Si_2Mo^+$ 487
$C_{15}H_{24}O_6Si_2W^+$ 536
$C_{15}H_{24}Si_2^+$ 300
$C_{15}H_{25}P^+$ 313
$C_{15}H_{27}O_3PCr^+$ 416
$C_{15}H_{28}^+$ 107
$C_{15}H_{28}NO_3^+$ 263
$C_{15}H_{28}NO_3S^+$ 364
$C_{15}H_{29}NO_3^+$ 263
$C_{15}H_{29}N_2O_2^+$ 258
$C_{15}H_{30}NO^+$ 240
$C_{15}H_{30}N_2O_2^+$ 259
$C_{15}H_{31}NO^+$ 240
$C_{15}H_{32}Sn^+$ 499
$C_{15}H_{35}P_5^+$ 315
$C_{15}H_{36}N_6O_3P_2Cr^+$ 418
$C_{15}H_{36}N_6O_3P_2Fe^+$ 434
$C_{15}H_{36}N_6O_3P_2Mo^+$ 488
$C_{15}H_{36}N_6O_3P_2W^+$ 537
$C_{16}F_{10}^+$ 273
$C_{16}H_8^+$ 107
$C_{16}H_8F_8^+$ 278
$C_{16}H_8N_2^+$ 160
$C_{16}H_{10}^+$ 107
$C_{16}H_{10}N_2O_2^+$ 259
$C_{16}H_{10}O^+$ 203
$C_{16}H_{10}O_6W_2^+$ 535
$C_{16}H_{11}^+$ 108
$C_{16}H_{11}N_3O_4^+$ 266
$C_{16}H_{12}^+$ 108
$C_{16}H_{12}NCl^+$ 379
$C_{16}H_{12}N_2O_2^+$ 259
$C_{16}H_{12}O^+$ 203
$C_{16}H_{12}O_2^+$ 218
$C_{16}H_{13}^+$ 108
$C_{16}H_{13}N^+$ 145
$C_{16}H_{13}NO^+$ 240
$C_{16}H_{13}NO_2^+$ 254
$C_{16}H_{13}NS_2^+$ 349
$C_{16}H_{14}^+$ 108
$C_{16}H_{14}N_2O_2Co^+$ 439

$C_{16}H_{14}N_2O_2Cu^+$ 445
$C_{16}H_{14}N_2O_2Mn^+$ 423
$C_{16}H_{14}N_2O_2Ni^+$ 443
$C_{16}H_{14}N_2S_2^+$ 350
$C_{16}H_{14}O_2^+$ 218
$C_{16}H_{14}O_4^+$ 223
$C_{16}H_{14}S_2^+$ 339
$C_{16}H_{15}N^+$ 145
$C_{16}H_{15}NS^+$ 345
$C_{16}H_{16}^+$ 108
$C_{16}H_{16}N_2O_2^+$ 259
$C_{16}H_{16}N_4Co^+$ 437
$C_{16}H_{16}N_4Cu^+$ 444
$C_{16}H_{16}N_4Ni^+$ 442
$C_{16}H_{16}O^+$ 203
$C_{16}H_{16}O_2^+$ 218
$C_{16}H_{16}Th^+$ 553
$C_{16}H_{16}U^+$ 554
$C_{16}H_{17}N^+$ 145
$C_{16}H_{18}^+$ 109
$C_{16}H_{18}N_2^+$ 160
$C_{16}H_{18}N_2S^+$ 348
$C_{16}H_{18}N_4^+$ 166
$C_{16}H_{18}O^+$ 203
$C_{16}H_{18}OS^+$ 357
$C_{16}H_{18}O_2^+$ 218
$C_{16}H_{18}S^+$ 336
$C_{16}H_{20}^+$ 109
$C_{16}H_{20}N_2^+$ 160
$C_{16}H_{20}N_2O_6Mo_2^+$ 487
$C_{16}H_{22}La^+$ 522
$C_{16}H_{22}Nd^+$ 525
$C_{16}H_{22}PAu^+$ 545
$C_{16}H_{22}P_2I_2Pt^+$ 544
$C_{16}H_{22}Pr^+$ 525
$C_{16}H_{22}Si_2^+$ 301
$C_{16}H_{24}N_2^+$ 160
$C_{16}H_{24}N_2O^+$ 245
$C_{16}H_{24}O_4S^+$ 359
$C_{16}H_{26}^+$ 109
$C_{16}H_{26}O_4S^+$ 360
$C_{16}H_{27}O_4PCr^+$ 416
$C_{16}H_{27}O_4PW^+$ 536
$C_{16}H_{28}NO_4^+$ 265
$C_{16}H_{28}NO_4S^+$ 364
$C_{16}H_{28}N_2^+$ 161
$C_{16}H_{28}N_4^+$ 166
$C_{16}H_{29}N_2O_3^+$ 264
$C_{16}H_{29}N_2O_4^+$ 266
$C_{16}H_{30}N_2O_3P_2Cr^+$ 418
$C_{16}H_{30}Si_2^+$ 301
$C_{16}H_{32}Si_3^+$ 301
$C_{16}H_{34}N_2^+$ 161
$C_{16}H_{36}N_6O_4P_2Cr^+$ 418
$C_{16}H_{36}N_6O_4P_2Mo^+$ 488
$C_{16}H_{36}N_6O_4P_2W^+$ 537
$C_{16}H_{36}P_4^+$ 314
$C_{16}H_{36}Si_7^+$ 303
$C_{16}H_{36}Sn^+$ 499
$C_{16}H_{40}N_4Cr^+$ 410
$C_{16}H_{40}N_4Hf^+$ 531
$C_{16}H_{40}N_4Mo^+$ 486
$C_{16}H_{40}N_4Ti^+$ 406
$C_{16}H_{40}N_4Zr^+$ 484
$C_{16}H_{44}OSi_4Re^+$ 542
$C_{16}H_{44}Si_4Cr^+$ 415
$C_{16}H_{44}Si_4Hf^+$ 531
$C_{16}H_{44}Si_4Pb^+$ 550
$C_{16}H_{44}Si_4Sn^+$ 501
$C_{16}H_{44}Si_4Ti^+$ 407
$C_{16}H_{44}Si_4Zr^+$ 484
$C_{17}H_8N_3^+$ 164
$C_{17}H_9NO_4^+$ 266
$C_{17}H_{11}O_4Rh^+$ 491
$C_{17}H_{12}^+$ 109
$C_{17}H_{12}O^+$ 203
$C_{17}H_{12}S_3^+$ 341
$C_{17}H_{13}N^+$ 145
$C_{17}H_{14}^+$ 109
$C_{17}H_{14}NOCl^+$ 386
$C_{17}H_{14}O^+$ 203
$C_{17}H_{15}^+$ 109
$C_{17}H_{15}N^+$ 145
$C_{17}H_{16}O_2^+$ 218
$C_{17}H_{17}D_3O_2^+$ 218
$C_{17}H_{17}N_2OSCl^+$ 401
$C_{17}H_{18}N_2OS^+$ 362
$C_{17}H_{18}O^+$ 203
$C_{17}H_{18}O_2^+$ 218
$C_{17}H_{18}Si^+$ 298
$C_{17}H_{19}N^+$ 145
$C_{17}H_{19}NO_3^+$ 263
$C_{17}H_{19}N_2SCl^+$ 400
$C_{17}H_{20}N_2^+$ 161
$C_{17}H_{20}N_2O^+$ 245
$C_{17}H_{20}N_2S^+$ 348
$C_{17}H_{20}O^+$ 203
$C_{17}H_{20}OS^+$ 357
$C_{17}H_{20}O_2^+$ 218
$C_{17}H_{20}Si^+$ 298
$C_{17}H_{22}N_2^+$ 161
$C_{17}H_{22}O_2^+$ 219
$C_{17}H_{25}N_2O_2^+$ 259
$C_{17}H_{25}P_2BrPt^+$ 544
$C_{17}H_{25}P_2ClPt^+$ 544
$C_{17}H_{25}P_2IPt^+$ 544
$C_{17}H_{28}Si_3^+$ 301
$C_{17}H_{29}N^+$ 145
$C_{17}H_{29}P^+$ 313
$C_{17}H_{32}N_2O_5^+$ 267
$C_{17}H_{33}N_2O_2^+$ 259
$C_{18}H_8N_4^+$ 166
$C_{18}H_{10}^+$ 109
$C_{18}H_{11}NO_2^+$ 254
$C_{18}H_{12}^+$ 109
$C_{18}H_{12}F_3P^+$ 322
$C_{18}H_{12}O^+$ 203
$C_{18}H_{12}PCl_3^+$ 397
$C_{18}H_{14}^+$ 110
$C_{18}H_{15}Al^+$ 291
$C_{18}H_{15}As^+$ 455
$C_{18}H_{15}Bi^+$ 552
$C_{18}H_{15}ClSn^+$ 503
$C_{18}H_{15}Ga^+$ 448
$C_{18}H_{15}GeBr^+$ 481
$C_{18}H_{15}N^+$ 145
$C_{18}H_{15}O_3P^+$ 319
$C_{18}H_{15}P^+$ 313
$C_{18}H_{15}PCr^+$ 416
$C_{18}H_{15}Sb^+$ 505
$C_{18}H_{15}Si^+$ 298
$C_{18}H_{15}Sn^+$ 500
$C_{18}H_{16}^+$ 110
$C_{18}H_{16}Ge^+$ 450
$C_{18}H_{16}NP^+$ 315
$C_{18}H_{16}N_2O_2^+$ 259
$C_{18}H_{16}N_2O_2S_4Fe^+$ 436
$C_{18}H_{16}O^+$ 203
$C_{18}H_{16}S^+$ 336
$C_{18}H_{16}Si^+$ 299

$C_{25}H_{22}PSMn^+$ 428
$C_{25}H_{22}SMnAs^+$ 457
$C_{25}H_{22}SMnSb^+$ 505
$C_{25}H_{23}O_2P^+$ 318
$C_{25}H_{23}P^+$ 314
$C_{25}H_{25}N_2I^+$ 512
$C_{25}H_{37}N_3O_4^+$ 267
$C_{25}H_{37}N_4O_3^+$ 265
$C_{26}H_{14}^+$ 115
$C_{26}H_{16}^+$ 115
$C_{26}H_{22}OPSMn^+$ 428
$C_{26}H_{22}OSMnAs^+$ 457
$C_{26}H_{22}OSMnSb^+$ 505
$C_{26}H_{22}O_2MnAs^+$ 457
$C_{26}H_{22}O_2MnSb^+$ 505
$C_{26}H_{22}O_2PMn^+$ 424
$C_{26}H_{23}O_3PCr^+$ 417
$C_{26}H_{24}^+$ 116
$C_{26}H_{24}N_2^+$ 161
$C_{26}H_{26}Si_2^+$ 301
$C_{26}H_{32}Si_4^+$ 302
$C_{26}H_{37}N_4O_4^+$ 267
$C_{26}H_{40}N_{2.7}S^+$ 364
$C_{26}H_{58}Si_6^+$ 302
$C_{27}H_{23}O_3PSCr^+$ 419
$C_{27}H_{27}NFP^+$ 322
$C_{27}H_{33}P^+$ 314
$C_{27}H_{39}Si_4P^+$ 325
$C_{27}H_{40}N_4O_8S^+$ 364
$C_{28}H_{14}^+$ 116
$C_{28}H_{16}^+$ 116
$C_{28}H_{20}^+$ 117
$C_{28}H_{20}N_2O_2S_4Fe^+$ 436
$C_{28}H_{23}O_6PSCr^+$ 419
$C_{28}H_{23}O_3PCr^+$ 417
$C_{28}H_{34}^+$ 117
$C_{29}H_{25}P^+$ 314
$C_{29}H_{35}N_2I^+$ 512
$C_{30}H_{14}^+$ 117
$C_{30}H_{16}^+$ 117
$C_{30}H_{18}^+$ 117
$C_{30}H_{20}S_2^+$ 339
$C_{30}H_{32}N_4^+$ 166
$C_{30}H_{39}P^+$ 314
$C_{30}H_{45}N_3O_6^+$ 267
$C_{30}H_{66}Si_6^+$ 303
$C_{31}H_{37}N_2P^+$ 316
$C_{32}H_{14}^+$ 118
$C_{32}H_{16}^+$ 118
$C_{32}H_{16}N_8Co^+$ 438
$C_{32}H_{16}N_8Cu^+$ 445
$C_{32}H_{16}N_8Fe^+$ 430
$C_{32}H_{16}N_8Mn^+$ 422
$C_{32}H_{16}N_8Ni^+$ 442
$C_{32}H_{16}N_8Zn^+$ 447
$C_{32}H_{18}^+$ 118
$C_{32}H_{18}N_8^+$ 167
$C_{32}H_{21}NCl^+$ 379
$C_{33}H_{20}N_2Cl^+$ 380
$C_{33}H_{57}O_6Fe^+$ 432
$C_{34}H_{16}^+$ 118
$C_{34}H_{18}^+$ 118
$C_{34}H_{20}^+$ 118
$C_{35}H_{27}P^+$ 314
$C_{36}H_{16}^+$ 119
$C_{36}H_{18}^+$ 119
$C_{36}H_{20}^+$ 119
$C_{36}H_{23}NCl^+$ 379
$C_{36}H_{30}Si_2^+$ 301
$C_{36}H_{44}N_4Co^+$ 437
$C_{36}H_{44}N_4Cu^+$ 445
$C_{36}H_{44}N_4Fe^+$ 430
$C_{36}H_{44}N_4Mg^+$ 290
$C_{36}H_{44}N_4Ni^+$ 442
$C_{36}H_{44}N_4Pd^+$ 492
$C_{36}H_{44}N_4Zn^+$ 446
$C_{36}H_{46}N_4^+$ 166
$C_{38}H_{16}^+$ 119
$C_{38}H_{18}^+$ 119
$C_{38}H_{20}^+$ 119
$C_{38}H_{22}^+$ 119
$C_{38}H_{56}^+$ 119
$C_{40}H_{20}^+$ 119
$C_{40}H_{30}O_4P_2Mo^+$ 488
$C_{40}H_{30}O_4P_2W^+$ 537
$C_{40}H_{56}^+$ 119
$C_{42}H_{18}^+$ 119
$C_{42}H_{20}^+$ 120
$C_{42}H_{22}^+$ 120
$C_{42}H_{24}^+$ 120
$C_{42}H_{30}^+$ 120
$C_{44}H_{20}^+$ 120
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$C_{44}H_{28}N_4ClMn^+$ 428
$C_{44}H_{28}N_4Co^+$ 438
$C_{44}H_{28}N_4Cu^+$ 445
$C_{44}H_{28}N_4Fe^+$ 430
$C_{44}H_{28}N_4Mg^+$ 290
$C_{44}H_{28}N_4Mn^+$ 422
$C_{44}H_{28}N_4Ni^+$ 442
$C_{44}H_{28}N_4Pb^+$ 550
$C_{44}H_{28}N_4Zn^+$ 447
$C_{44}H_{30}N_4^+$ 166
$C_{45}H_{41}PCl^+$ 396
$C_{46}H_{26}^+$ 120
$C_{48}H_{24}^+$ 120
$C_{50}H_{28}^+$ 120
$C_{54}H_{30}^+$ 120
$C_{55}H_{72}N_4O_5Mg^+$ 290
$C_{58}H_{32}^+$ 120
Ca^+ 405
Ca^{+2} 405
$CaBr^+$ 480
CaI^+ 515
CaI_2^+ 515
Cd^+ 495
CdI_2^+ 518
Ce^+ 523
$CeAu^+$ 545
$CeIr^+$ 543
$CePt^+$ 544
Ce_2^+ 523
Cf^+ 555
Cl^+ 370
Cl^{+2} 370
$ClAg^+$ 493
$ClAg_2^+$ 493
$ClAg_3^+$ 493
$ClAs^+$ 457
$ClBa^+$ 521
$ClBrSn^+$ 504
$ClBr_2Ag_3^+$ 494
$ClBr_3Sn^+$ 504
$ClCo^+$ 440
$ClCs^+$ 520
$ClCu^+$ 446
$ClCu_2^+$ 446
$ClGd^+$ 528
ClI^+ 515
$ClIn^+$ 496

ClK^+ 405
$ClMo^+$ 489
$ClNb^+$ 485
$ClNd^+$ 526
$ClRb^+$ 482
$ClSr^+$ 483
$ClTl^+$ 548
ClV^+ 408
ClW^+ 538
$ClYb^+$ 530
$ClZr^+$ 484
Cl_2^+ 370
$Cl_2Ag_2^+$ 493
$Cl_2Ag_3^+$ 493
Cl_2As^+ 457
Cl_2Ba^+ 522
$Cl_2BrAg_3^+$ 494
Cl_2Ca^+ 405
Cl_2Cd^+ 495
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Cl_2Cr^+ 420
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$Cl_2CuAg_2^+$ 494
$Cl_2Cu_2^+$ 446
$Cl_2Cu_2Ag^+$ 494
$Cl_2Cu_3^+$ 446
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Cl_2Gd^+ 528
Cl_2Hg^+ 547
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Cl_2Mo^+ 489
Cl_2Nb^+ 485
Cl_2Nd^+ 526
Cl_2Ni^+ 444
Cl_2Pb^+ 551
$Cl_2Rb_2^+$ 482
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$Cl_2Se_2^+$ 462
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Cl_2Sr^+ 483
Cl_2Ta^+ 532
Cl_2V^+ 408
Cl_2W^+ 538
Cl_2Yb^+ 530
Cl_2Zn^+ 447
Cl_2Zr^+ 484
$Cl_3Ag_3^+$ 494
$Cl_3Ag_4^+$ 494
Cl_3As^+ 457
$Cl_3CuAg_2^+$ 494
$Cl_3Cu_2Ag^+$ 494
$Cl_3Cu_3^+$ 446
$Cl_3Cu_4^+$ 446
Cl_3Ga^+ 448
Cl_3Ge^+ 453
Cl_3In^+ 496
Cl_3Mo^+ 489
Cl_3Nb^+ 485
Cl_3Nd^+ 526
Cl_3Sb^+ 505
Cl_3Ta^+ 532
Cl_3V^+ 408
Cl_3W^+ 538
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$Cl_4Ag_4^+$ 494
$Cl_4Cu_4^+$ 446
$Cl_4Cu_5^+$ 446
Cl_4Ge^+ 453
Cl_4Hf^+ 531
Cl_4Mo^+ 489
Cl_4Nb^+ 485
Cl_4Ta^+ 532
Cl_4Th^+ 553
Cl_4Ti^+ 407
Cl_4U^+ 555
Cl_4W^+ 538
Cl_4Zr^+ 484
$Cl_5Cu_5^+$ 446
Cl_5Mo^+ 489
Cl_5Nb^+ 485
Cl_5Re^+ 542
Cl_5Ta^+ 532
Cl_5W^+ 538
$Cl_6Ga_2^+$ 448
Cl_6W^+ 538
$Cl_9Re_3^+$ 542
Cm^+ 555
Co^+ 437
Cr^+ 409
Cs^+ 520
$CsAu^+$ 545
Cs^{2+} 520
Cs_2^+ 520
Cu^+ 444
$CuDy^+$ 529
$CuGe^+$ 454
$CuHo^+$ 529
$CuSn^+$ 503
$CuTb^+$ 528
Cu_2^+ 444
Cu_2Sn^+ 503
$Cu_3Br_4^+$ 480
$Cu_3I_3^+$ 516
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$Cu_4Br_4^+$ 480
D^+ 42
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DF^+ 269
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D_2N^+ 123
$D_2N_2^+$ 124
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D_2Si^+ 292
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D_3Si^+ 292
Dy^+ 528
Er^+ 529
Eu^+ 526
Eu^{+2} 527
Eu_2^+ 527
F^+ 268
FAg^+ 493
FAl^+ 292
FAs^+ 456
FBr^+ 473
FCe^+ 523
FCl^+ 389
FCr^+ 415
FCs^+ 520
FGa^+ 448
FGe^+ 451
FI^+ 513
FK_2^+ 404
FKr^+ 482
FLa^+ 523
FMn^+ 423

FMo^+ 487
FNa_2^+ 290
FP^+ 320
$FPSBr_2^+$ 479
FS^+ 365
FS_2^+ 365
FTl^+ 548
FTl_2^+ 548
FV^+ 408
FW^+ 536
F_2^+ 268
$F_2{}^{35}Cl^+$ 389
F_2Al^+ 292
F_2As^+ 456
F_2Cd^+ 495
F_2Ce^+ 523
F_2Cr^+ 415
F_2Ga^+ 448
F_2Ge^+ 451
F_2Kr^+ 482
F_2La^+ 523
F_2Mn^+ 423
F_2Mo^+ 487
F_2P^+ 320
F_2PBr^+ 477
F_2PCl^+ 398
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F_2PSBr^+ 479
F_2S^+ 365
F_2SW^+ 538
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$F_2S_2W^+$ 538
F_2Se^+ 461
F_2Si^+ 307
F_2Sn^+ 501
$F_2Tl_2^+$ 548
F_2V^+ 408
F_2W^+ 536
F_2Xe^+ 519
F_2Zn^+ 447
F_3As^+ 456
F_3Bi^+ 552
F_3Br^+ 473
F_3Ce^+ 523
F_3Cl^+ 389
F_3Cr^+ 415
F_3Ge^+ 451
F_3Mn^+ 423
F_3Mo^+ 487
F_3P^+ 320
F_3PCo^+ 440
F_3PS^+ 370
F_3S^+ 365
F_3SW^+ 538
F_3Sb^+ 505
F_3Si^+ 307
F_3SiBr^+ 476
F_3SiCl^+ 396
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F_3V^+ 408
F_3W^+ 536
F_4AlCs^+ 520
F_4AlK^+ 405
F_4As^+ 456
F_4Bi^+ 552
F_4Ge^+ 451
$F_4Ge_2^+$ 451
F_4Mn^+ 423
F_4Mo^+ 487
$F_4P_2^+$ 320
F_4S^+ 365
F_4SW^+ 538
F_4Si^+ 307
F_4U^+ 554
F_4W^+ 536
F_4Xe^+ 519
F_5Br^+ 473
$F_5Ce_2^+$ 524
$F_5Ga_2^+$ 448
F_5I^+ 514
$F_5La_2^+$ 523
F_5Mo^+ 487
F_5P^+ 320
F_5S^+ 365
F_5SCl^+ 401
F_5U^+ 554
F_5W^+ 536
F_6Mo^+ 487
F_6Re^+ 541
F_6S^+ 365
$F_6Si_2^+$ 307
F_6U^+ 554
F_6Xe^+ 519
F_7Re^+ 541
$F_{12}P_4Cl_2Rh_2^+$ 492
$F_{12}P_4Ni^+$ 444
$F_{12}P_4Pd^+$ 492
$F_{12}P_4Pt^+$ 543
$F_{15}P_5Fe^+$ 434
$F_{15}P_5Ru^+$ 490
$F_{18}P_6Cr^+$ 418
$F_{18}P_6Mo^+$ 488
$F_{18}P_6W^+$ 538
Fe^+ 428
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Ga^+ 447
$GaBi^+$ 552
$GaBr_3^+$ 481
GaI^+ 517
GaI_3^+ 517
$GaSb^+$ 506
Ga_2^+ 447
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Ge^+ 448
$GeAu^+$ 545
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$GeSe^+$ 462
$GeTe^+$ 508
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HF_2P^+ 320
HF_3Si^+ 307
$HF_{12}P_4Co^+$ 440
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$HF_{12}P_4Rh^+$ 491
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$HNCl_2^+$ 378
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HN_3^+ 124
HO^+ 171
$HOCl^+$ 382
HOF^+ 283
HO_2^+ 172
HP^+ 310
HS^+ 326
HSe^+ 458
HSi^+ 292
$HSiCl_3^+$ 394
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H_2^+ 42
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$H_2F_2Ge^+$ 451
$H_2F_2Si^+$ 307
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H_3NOSiS^+ 368
$H_3N_2^+$ 124
$H_3N_3Ge^+$ 451
$H_3N_3Si^+$ 303
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H_3S^+ 327
H_3Sb^+ 504
H_3Si^+ 292
H_3SiBr^+ 476
H_3SiCl^+ 394
H_3SiI^+ 514
$H_4F_3^+$ 269
H_4Ge^+ 449
H_4N^+ 123
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H_4SGe^+ 452
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$H_6Ge_2Se^+$ 462
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$H_6OGe_2^+$ 451
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$H_6SGe_2^+$ 452
$H_6Si_2^+$ 293
$H_6Si_2S^+$ 367
$H_6Si_2Se^+$ 461
$H_6Si_2Te^+$ 507
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$H_8B_5^+$ 43
$H_8B_5Br^+$ 463
$H_8B_5Cl^+$ 371
$H_8B_5I^+$ 509
$H_8B_9SBr^+$ 477
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$H_9B_9S^+$ 327
$H_9NGe_3^+$ 451
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I_3Nd^+ ... 526
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MgI_2^+ ... 514
Mn^+ ... 420
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$MnSe^+$ ... 462
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NGe_2^+ ... 451
NHf^+ ... 531
NO^+ ... 225
NO^{+2} ... 225
$NOBr^+$ ... 472
$NOCl^+$ ... 385
NOF^+ ... 287
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$NOSi_2^+$ ... 306
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$NO_3Cs_2^+$ 520
NO_3K^+ 404
NO_3Rb^+ 482
NO_3Tl^+ 548
NP^+ 315
NS^+ 343
$NSCl^+$ 400
NS_2^+ 343
$NSiGe^+$ 452
NSi_2^+ 303
NV^+ 407
N_2^+ 122
N_2F^+ 279
$N_2F_2^+$ 279
$N_2F_4^+$ 279
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$N_2O_4^+$ 226
$N_2O_5^+$ 226
$N_2O_6Cu^+$ 445
$N_2S_2^+$ 343
N_3Br^+ 468
N_3Cl^+ 377
$N_3F_6P_3^+$ 322
$N_3O_9Co^+$ 439
$N_3O_{10}V^+$ 408
$N_3P_3Cl_6^+$ 397
$N_3S_3^+$ 343
$N_3O_{12}Ti^+$ 406
$N_4S_4^+$ 343
Na^+ 289
$NaAg^+$ 493
$NaAu^+$ 544
$NaBr^+$ 475
$NaCl^+$ 393
$NaCl_3Gd^+$ 528
NaI^+ 514
NaK^+ 404
NaK_2^+ 404
Na_2^+ 289
$Na_2Cl_2^+$ 393
Na_2K^+ 404
$Na_2K_2^+$ 404
Na_3^+ 289
Na_3K^+ 404
Na_4^+ 289
Na_4K^+ 404
Na_5^+ 289
Na_5K^+ 405
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Na_7^+ 289
Na_8^+ 289
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Na_{11}^+ 289
Na_{12}^+ 289
Na_{13}^+ 289
Na_{14}^+ 289
Nb^+ 484
Nd^+ 525
Ne^+ 288
Ne^{+2} 289
Ni^+ 441
No^+ 555
Np^+ 555
O^+ 170
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$OAlCl^+$ 393
$OAlSi^+$ 309
OAl_2^+ 291
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OBr^+ 470
$OBrW^+$ 540
OBr_2W^+ 540
OBr_3W^+ 540
OBr_4W^+ 540
OCa^+ 405
OCe^+ 523
OCl^+ 382
$OClV^+$ 408
OCl_2^+ 382
OCl_2V^+ 409
OCl_3V^+ 409
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ODy^+ 529
OEr^+ 530
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OF_2Al^+ 292
OF_2Ge^+ 452
OF_2S^+ 366
OF_2V^+ 408
OF_3Mo^+ 487
OF_3P^+ 324
OF_3V^+ 408
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OF_4Xe^+ 520
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OGd^+ 527
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OGe^+ 451
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OHo^+ 529
OHo_2^+ 529
OIn_2^+ 496
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OK_2^+ 404
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OLu^+ 531
OLu_2^+ 531
ONa^+ 290
$ONaP^+$ 324
ONd^+ 526
ONp^+ 555
OP^+ 316
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$OPCl^+$ 397
$OPCl_3^+$ 397
OPb^+ 550
OPr^+ 525
ORe^+ 540
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$OSBr_2^+$ 478
$OSBr_3^+$ 479
$OSCl_2^+$ 401
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OSn^+ 500
OSr^+ 483
OTa^+ 532

OTb^+ 528
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OTe^+ 507
OTh^+ 553
OTi^+ 406
OTl^+ 548
OTl_2^+ 548
OTm^+ 530
OU^+ 554
OV^+ 408
OY^+ 483
OYb^+ 530
OZr^+ 484
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$O_2Br_2W^+$ 540
O_2Ce^+ 523
$O_2Ce_2^+$ 523
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$O_2Cl_2Cr^+$ 420
$O_2Cl_2Mo^+$ 489
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O_2FS^+ 366
$O_2F_2S^+$ 366
O_2Fe^+ 430
O_2Gd^+ 528
$O_2Gd_2^+$ 528
$O_2Ge_2^+$ 451
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O_2NaP^+ 324
O_2P^+ 317
O_2PAg^+ 493
O_2Pb^+ 550
O_2Re^+ 540
O_2S^+ 351
O_2SCl^+ 401
$O_2SCl_2^+$ 401
O_2SFCl^+ 401
O_2Se^+ 460
O_2Ta^+ 532
$O_2Tb_2^+$ 528
O_2Te^+ 507
O_2Th^+ 553
O_2Ti^+ 406
O_2U^+ 554
O_2V^+ 408
O_2W^+ 533
O_2Zr^+ 484
O_3^+ 171
O_3ClMn^+ 428
O_3FCl^+ 392
O_3FMn^+ 423
O_3FRe^+ 541
O_3FS^+ 366
O_3IRe^+ 542
$O_3MoCs_2^+$ 521
O_3NaP^+ 325
O_3PCs^+ 520
O_3PK^+ 405
O_3PRb^+ 482
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O_3Re^+ 541
O_3S^+ 351
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O_4NaRe^+ 541
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$O_6As_4^+$ 455
$O_6P_3^+$ 317
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$O_6Re_2^+$ 541
$O_6Sb_4^+$ 505
$O_6W_2^+$ 533
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$O_7Re_2^+$ 541
$O_8P_4^+$ 317
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$O_8W_3^+$ 533
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PAs^+ 456
PAs_3^+ 457
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PBr_2^+ 477
PBr_3^+ 477
PCl^+ 396
$PClBr^+$ 479
$PClBr_2^+$ 480
PCl_2^+ 396
PCl_2Br^+ 479
PCl_3^+ 396
PCl_5^+ 396
PI_3^+ 514
PS^+ 368
$PSBr_3^+$ 479
$PSCl_3^+$ 402
PSb^+ 505
PSe^+ 461
PTe^+ 507
P_2^+ 309
$P_2As_2^+$ 457
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P_3^+ 310
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$P_4S_4^+$ 368
$P_4S_5^+$ 368
$P_4S_6^+$ 368
$P_4S_7^+$ 368
$P_4S_8^+$ 368
$P_4S_9^+$ 368
$P_4S_{10}^+$ 368
$P_4Se_3^+$ 461
Pa^+ 553
Pb^+ 549
Pd^+ 492
$PdCe^+$ 524
Pm^+ 526
Pr^+ 524
Pt^+ 543
$PtTh^+$ 553
Pu^+ 555
Rb^+ 482
RbI^+ 517
Rb^{2+} 482
Rb_2I^+ 517
Re^+ 540
Rh^+ 490
$RhCe^+$ 524
$RhLa^+$ 523
Rh_2^+ 491
Ru^+ 490
$RuTh^+$ 553
RuU^+ 555
S^+ 326
SBr_2^+ 477
SCe^+ 524
SCl^+ 399
SCl_2^+ 399
SEu^+ 527
SEu_2^+ 527
SGa^+ 448
SGa_2^+ 448
SGd^+ 528
SGe^+ 452
SSe^+ 461
SSn^+ 501
STi^+ 407
SV^+ 408
SY^+ 483
S_2^+ 326
$S_2Br_2^+$ 477
S_2Ce^+ 524
S_2Cl^+ 399
$S_2Cl_2^+$ 399
S_2Eu^+ 527
$S_2Eu_2^+$ 527
$S_3As_3^+$ 457
$S_3As_4^+$ 457
$S_4As_4^+$ 457
S_8^+ 326
Sb^+ 504
SbI_3^+ 519
Sb_2^+ 504
Sb_3^+ 504
Sb_4^+ 504
Sc^+ 405
$ScRh^+$ 492
Se^+ 458
$SeBr_2^+$ 481
$SeSn^+$ 503
$SeTe^+$ 508
Se_2^+ 458
Se_3^+ 458
Se_6^+ 458
Si^+ 292
$SiBr^+$ 476
$SiBr_2^+$ 476
$SiBr_3^+$ 476
$SiBr_4^+$ 476
$SiCl^+$ 393
$SiCl_2^+$ 393
$SiCl_2Co^+$ 441
$SiCl_3^+$ 394
$SiCl_3Co^+$ 441
$SiCl_4^+$ 394
SiP^+ 325
SiP_2^+ 325
$Si_2Cl_6^+$ 394
Si_2P^+ 325
Sm^+ 526
Sn^+ 497
SnI_4^+ 519
$SnTe^+$ 508
Sr^+ 483
Sr^{+2} 483
SrI^+ 517
SrI_2^+ 517
Ta^+ 532
Tb^+ 528
$TePb^+$ 551
Te_2^+ 506
Te_3^+ 506
Te_4^+ 506
Te_5^+ 506
Te_6^+ 506
Th^+ 552
Ti^+ 405
$TiBr_4^+$ 480
TiI_4^+ 515
$TiPt^+$ 544
$TiRh^+$ 492
Ti_2Rh^+ 492
Tl^+ 548
$TlBi^+$ 552
Tl_2^+ 548
Tm^+ 530
U^+ 553
U^{+2} 553
V^+ 407
V^{+5} 407
W^+ 532
Xe^+ 519
Xe^{+2} 519
Xe_2^+ 519
Y^+ 483
YRh^+ 492
Yb^+ 530
Yb^{+2} 530
Yb_2^+ 530
Zn^+ 446
$ZnBr_2^+$ 481
ZnI_2^+ 516
Zr^+ 483
ZrI_4^+ 518

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
H^+						
	$H_2^+(^2\Sigma_g^+)$	1333-74-0	H	18.0±0.2	EI	3799
	CH_4	74-82-8	CH_3	21.3±0.3	EI	5205
				24.0±0.5	EI	3521
	C_2H_2	74-86-2		20.6±0.3	EI	4876
	C_2H_6	74-84-0		23.5±0.5	EI	4911
	H_2O	7732-18-5	OH	16.95±0.05	EI	5046
			$OH(X^2\Pi)$	18.7±0.05	EI	3906
	HCHO	50-00-0	HCO	17.41±0.07	PI	3554
	HF	7664-39-3	F	19.444	PI	3928
D^+						
	CD_4	59862-12-3	CD_3	22.17±0.1	EI	5205
	D_2O	7789-20-0	OD	18.75±0.05	PE	4247
			$OD(X^2\Pi)$	18.7±0.05	EI	3906
H_2^+						
	H_2	1333-74-0	**	15.42589±0.00005	S	3770
($^2\Sigma_g$)			**	15.4	PI	5479
			**	15.38186±0.00031	PE	3531
			**	15.43	PE	4248
			**	15.43	PE	5313
			**	15.5±1	EI	4894
	C_2H_6	74-84-0		35.0±0.5	EI	4911
	HCHO	50-00-0	CO	15.42±0.06	PI	3554
HD^+						
	HD	13983-20-5	**	15.44477±0.00007	S	3763
	CH_3CD_3	2031-95-0		38.2±0.8	EI	5128
D_2^+						
	D_2	7782-39-0	**	15.4667±0.0001	S	5140
	CH_3CD_3	2031-95-0		35.2±0.8	EI	5128
Li^+						
	Li	7439-93-2	**	5.4	EI	4912
			**	5.5±0.3	EI	5254
	LiF	7789-24-4		~12	EI	3464
	LiCl	7447-41-8	Cl	10.17	PI	5509
Li_2^+						
	Li_2	14452-59-6	**	4.96±0.1	S	3768
			**	5.174±0.013	PI	5143
			**	4.86±0.1	EI	4568
			**	4.86±0.1	EI	5164
			**	5.0±0.3	EI	5254
			**	5.0	EI	4912
Li_3^+						
	Li_3	12596-47-3	**	4.35± 0.2	EI	5164
HLi^+						
	LiH	7580-67-8	**	7.9±0.3	EI	5254
			**	4.5±0.3	EI	5254
DLi^+						
	LiD	13587-16-1	**	7.7±0.1	EI	4568
H_2Li^+						
	LiH_2	19709-52-5	**	6.14±0.2	EI	5254

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
HLi_2^+						
	Li_2H	12339-13-8	**	4.5±0.3	EI	5254
Be^+						
	Be	7440-41-7	**	9.2±1.0	EI	4113
HBe^+						
	BeH	13597-97-2	**	8.20±0.06	S	4183
			**	8.21±0.05	S	5223
B^+						
	B	7440-42-8	**	8.29808±0.00002	S	4182
			**	8.0	EI	4483
			**	8.6±0.4	EI	3468
	H_2NBH_2	14720-35-5		19.2±0.05	EI	4522
HB^+						
	H_2NBH_2	14720-35-5	NH_3	18.0±0.1	EI	4522
H_2B^+						
	H_2NBH_2	14720-35-5	NH_2	17.2±0.2	EI	4522
H_3B^+						
	BH_3	13283-31-3	**	11-12	EI	3441
$H_5B_3^+$						
	B_3H_7	12429-70-8		11.5±0.3	EI	3652
$H_6B_3^+$						
	B_3H_7	12429-70-8	H	11.2±0.3	EI	3652
$H_8B_4^+$						
	B_4H_8	12007-71-5	**	10.9±0.3	EI	3652
$H_{10}B_4^+$						
	B_4H_{10} (Tetraborane (10))	18283-93-7	**	10.76±0.04	PE	4454
$H_8B_5^+$						
	B_5H_9	19624-22-7	H	11.84±0.01	EI	3547
	$1\text{-}B_5H_8CH_3$	19495-55-7	CH_3	10.45±0.02	EI	3547
	$2\text{-}B_5H_8CH_3$	23753-74-4	CH_3	10.61±0.05	EI	3547
	$1\text{-}B_5H_8C_2H_5$	23753-61-9	C_2H_5	10.33±0.05	EI	3547
	$2\text{-}B_5H_8C_2H_5$	23753-62-0	C_2H_5	10.31±0.01	EI	3547
	$1\text{-}B_5H_8C_3H_7$	34692-67-6	C_3H_7	10.98±0.01	EI	3547
	$1\text{-}B_5H_8Cl$	19469-13-7	Cl	11.75±0.05	EI	3547
	$2\text{-}B_5H_8Cl$	19469-14-8	Cl	12.20±0.10	EI	3547
	$1\text{-}B_5H_8Br$	23753-67-5	Br	11.38±0.05	EI	3547
	$2\text{-}B_5H_8Br$	23753-64-2	Br	11.75±0.05	EI	3547
	$1\text{-}B_5H_8I$	30624-33-0	I	10.70±0.05	EI	3547
	$2\text{-}B_5H_8I$	20199-87-5	I	10.72±0.05	EI	3547
$H_9B_5^+$						
	B_5H_9	19624-22-7	**	9.90	PE	3869
			**	9.94	PE	4446
			**	9.87±0.02	PE	4454
			**	10.5 (V)	PE	4949
$H_{11}B_5$						
	B_5H_{11} (Pentaborane(11))	18433-84-6	**	10.7 (V)	PE	4949

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$H_{10}B_6^+$						
	B_6H_{10} (Hexaborane(10))	2377-80-2	**	9.4 (V)	PE	4949
$H_{12}B_6^+$						
	B_6H_{12} (Hexaborane(12))	12008-19-4	**	10.2 (V)	PE	4949
$H_{14}B_{10}^+$						
	$B_{10}H_{14}$ (Decaborane (14))	17702-41-9	**	9.88±0.03	PE	4454
			**	10.15 (V)	PE	4265
C^+						
	C	7440-44-0	**	10.5±1.0	EI	3597
			**	10.9±0.4	EI	4206
			**	10.9±0.4	EI	5635
			**	11.2±0.5	EI	4909
			**	11.2±0.5	EI	5169
			**	11.4±1.5	EI	3978
	CH_4	74-82-8		<25.2	EI	3813
	C_2H_2	74-86-2		22.5±0.3	EI	4876
	C_2H_4	74-85-1		24.4	EI	4118
	$CH_2=CD_2$	6755-54-0		24.4	EI	4197
	C_2H_6	74-84-0		29.6±0.2	EI	4911
(^2P)	CO	630-08-0	$O^-(^2P)$	20.89	EI	5126
	CO_2	124-38-9	O_2	25±2	PI	5170
			O_2	22.7±0.2	EI	4693
				24.6±1.0	EI	4129
			2O	27.8±0.1	EI	4693
	CH_3Br	74-83-9	$H+H_2+Br$	22.9±0.5	EI	4533
C^{+2}						
(^3P)	C^+	14067-05-1	**	31.0	EI	3489
(^1P)			**	37.3	EI	3489
C_2^+						
	C_2	12070-15-4	**	10.9±0.4	EI	4206
			**	11.1±0.5	EI	5169
			**	11.1±1.0	EI	3597
	C_2H_2	74-86-2		19.2±0.2	EI	4876
	C_2H_4	74-85-1		24.5	EI	4118
	$CH_2=CD_2$	6755-54-0		24.5	EI	4197
	C_2H_6	74-84-0		31.5±0.2	EI	4911
C_3^+						
	C_3	12075-35-3	**	11.1±0.5	EI	5169
CH^+						
	CH_4	74-82-8	H_2+H?	22.4	EI	3813
	C_2H_2	74-86-2		20.9±0.2	EI	4876
	C_2H_4	74-85-1		22.1	EI	4118
	$CH_2=CD_2$	6755-54-0		21.9	EI	4197
	C_2H_6	74-84-0		26.7±0.5	EI	4911
	CH_3Br	74-83-9	H_2+Br	21.7±0.3	EI	4533
CH_2^+						
	CH_2	60528-76-9	**	10.35±0.15	EI	5365
	CH_4	74-82-8	H_2	15.3	EI	3813
	C_2H_2	74-86-2		20.5±0.2	EI	4876
	C_2H_4	74-85-1	CH_2	18.04±0.04	PI	5130
				18.4	EI	4118

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
CH_2^+						
	$CH_2=CD_2$	6755-54-0		18.4	EI	4197
	C_2H_6	74-84-0		17.3±0.15	EI	4911
	CH_3OH	67-56-1	H_2O	14.05±0.05	PI	3554
	CH_3CHO	75-07-0		15.08±0.09	PI	4350
	C_2H_4O (Oxirane)	75-21-8		14.66±0.09	PI	4350
	$CH_2=CF_2$	75-38-7	CF_2	16.99±0.02	PI	3930
			CF_2	17.2±0.1	EI	3539
	CH_3Br	74-83-9	HBr	14.7±0.5	EI	4533
CHD^+						
	$CH_2=CD_2$	6755-54-0		20.0	EI	4197
CD_2^+						
	$CH_2=CD_2$	6755-54-0		18.4	EI	4197
	C_2D_4	683-73-8	CD_2	18.13±0.07	PI	5130
CH_3^+						
	CH_3	2229-07-4	**	9.81±0.02	PE	3717
			**	9.82±0.02 (V)	PE	4614
			**	9.837±0.005	PE	3942
			**	9.86±0.04 (V)	PE	3695
			**	9.86±0.04	PE	3700
			**	9.84±0.05	EI	4714
			**	9.84±0.02	PE	4899
			**	9.840±0.005 (V)	PE	4596
			**	9.6±0.3	EI	4533
	CH_4	74-82-8	H	14.4	EI	3813
	C_2H_4	74-85-1		19.3	EI	4118
	C_2H_6	74-84-0		14.1±0.1	EI	4911
	$CH_3C\equiv CH$	74-99-7	C_2H	14.6±0.1	EI	3769
			C_2H	16.0	EI	3808
	$C_2H_5C\equiv CH$	107-00-6	C_3H_3	15.1	EI	3808
	$1\text{-}C_4H_8$	106-98-9	C_3H_5	14.1	EI	3808
	iso-C_4H_8	115-11-7	C_3H_5	16.4	EI	3808
	$(CH_3)_3CC\equiv CH$	917-92-0	C_5H_7	14.7	EI	3808
	$(CH_3)_3CCH=CH_2$	558-37-2	C_5H_9	15.4	EI	3808
	CH_3NH_2	74-89-5	NH_2	14.5	EI	3808
	$C_2H_5NH_2$	75-04-7	CH_2NH_2	15.6	EI	3808
	$(CH_3)_2NH$	124-40-3	CH_3NH	14.8	EI	3808
	$(CH_3)_3N$	75-50-3	$(CH_3)_2N$	14.9	EI	3808
	$(C_2H_5)_2NH$	109-89-7	$C_2H_5NHCH_2$	15.4	EI	3808
	$(C_2H_5)_3N$	121-44-8	$(C_2H_5)_2NCH_2$	16.7	EI	3808
	trans-$CH_3N=NCH_3$	4143-41-3	CH_3+N_2	11.32±0.05	PI	4342
	CH_3OH	67-56-1	OH	13.82±0.04	PI	3554
	CH_3CHO	75-07-0	CO+H	14.08±0.05	PI	4350
				14.08	PI	5270
			CO+H	14.11±0.05	PI	4177
	C_2H_4O (Oxirane)	75-21-8	CO+H	13.06±0.05	PI	4350
	CH_3CDO	4122-13-8		14.26	PI	5270
	$(CH_3)_2CO$	67-64-1		15.61	PE	5066
				15.2	EI	3550
	$((CH_3)_2C(CN)NO)_2$	31018-29-8		14.60	EI	4809
	$((CH_3)_2C(NO)COCH_3)_2$	30442-79-6		15.70	EI	4809
	$(C_6H_{11}NO_2)_2$	68777-99-1		15.50	EI	4809
	$((CH_3)_2C(NO)COOCH_3)_2$	6144-15-6		14.20	EI	4809
	$((CH_3)_2C(NO)OOCCH_3)_2$	68777-98-0		12.80	EI	4809
	$((CH_3)_2C(NO_2)NO)_2$	5275-46-7		14.20	EI	4809
	$CH_3(NF_2)CH(NF_2)CH_3$	15403-25-5		16.4±0.4	EI	3634
	$(CH_3)_2C(NF_2)_2$	19309-63-8		14.7±0.2	EI	3634

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
CH_3^+						
	$(CH_2NF_2)_2CH_2$	21298-22-6		14.6±0.3	EI	3634
	$(CH_3O)_3PO$	512-56-1		17.90±0.40	EI	3989
	$(CH_3)_2SO$	67-68-5	CH_3SO	13.3±0.3	EI	5311
	$(CH_3O)_2P(CH_3S)O$	152-20-5		15.20±0.30	EI	3989
	$(CH_3O)_2P(CH_3S)S$	2953-29-9		14.50±0.40	EI	3989
	$(CH_3)_2CClNO$	2421-26-3		13.75	EI	4809
	CH_3Br	74-83-9	Br	12.80±0.03	PI	4640
			Br	12.8±0.3	EI	4533
	$(CH_3)_2CBrNO$	7119-91-7		11.95	EI	4809
	CH_3I	74-88-4	I	12.25±0.03	PI	4640
			I	12.260±0.013	PI	3524
			I	12.07±0.07	EI	3626
CH_2D^+						
	CH_3CDO	4122-13-8		14.18	PI	5270
CHD_2^+						
	$CH_2=CD_2$	6755-54-0		19.5	EI	4197
	CD_3CHO	19901-15-6		14.25	PI	5270
CD_3^+						
	CD_3	17030-72-7	**	9.831±0.007 (V)	PE	4596
			**	9.5±0.1	EI	4714
	CD_3OD	811-98-3	OD	14.88	PI	5174
	CD_3CHO	19901-15-6		14.15	PI	5270
CH_4^+						
	CH_4	74-82-8	**	12.6	PI	5479
			**	12.51	PE	3645
			**	~12.51	PE	3529
			**	12.6	PE	4623
			**	12.64	PE	3716
			**	13.6 (V)	PE	5084
			**	12.8	EI	3813
			**	12.82±0.02	EI	5513
			**	12.94±0.04	EI	5503
	C_2H_6	74-84-0		20.4±0.3	EI	4911
	CH_3CHO	75-07-0	CO	12.61±0.06	PI	4350
				12.61	PI	5270
	C_2H_4O (Oxirane)	75-21-8	CO	11.79±0.03	PI	4350
CH_3D^+						
	CH_3CDO	4122-13-8		12.76	PI	5270
CHD_3^+						
	CD_3CHO	19901-15-6		12.77	PI	5270
C_2H^+						
	C_2H	2122-48-7	**	11.96±0.05	OTH	3931
			**	11.96±0.05	OTH	3929
	C_2H_2	74-86-2	H	17.36±0.01	PI	3931
				17.45±0.1	EI	4876
	C_2H_4	74-85-1		18.7	EI	4118
	$CH_2=CD_2$	6755-54-0		18.9	EI	4197
	C_2H_6	74-84-0		25.6±0.2	EI	4911
	$CH{\equiv}CCN$	1070-71-9	CN	18.19±0.04	PI	3929
	$CHF_2C{\equiv}CH$	18371-25-0	CHF_2	16.19±0.02	EI	3769
C_2D^+						
	C_2D_2	1070-74-2	D	17.44±0.01	PI	3931

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_2^+$						
	C_2H_2	74-86-2	**	11.394±0.005	PI	4069
			**	11.398±0.005	PI	3921
			**	11.40	PE	4048
			**	11.40	PE	5313
			**	11.403±0.0003	PE	4575
			**	11.43 (V)	PE	4750
			**	11.49 (V)	PE	5084
			**	11.4±0.1	EI	4876
			**	~11.3	EI	4658
			**	11.37±0.05	EI	4714
			**	11.4±0.1	EI	5129
	C_2H_4	74-85-1	H_2	13.14±0.01	PI	5130
			**	13.55	PI	5018
				13.0±0.1	EI	4922
				13.13±0.04	EI	4922
			H_2	13.1	EI	4118
			H_2	13.11±0.02	EI	4320
	$CH_2=CD_2$	6755-54-0		13.1	EI	4197
	trans-CHD=CHD	1517-53-9	D_2	13.27±0.05	EI	4320
	C_2H_6	74-84-0		14.7±0.1	EI	4911
	$CH_3C\equiv CH$	74-99-7	CH_2	15.2±0.1	EI	3769
	C_3H_6	115-07-1	CH_4	12.92±0.05	PI	4350
	C_3H_6 (Cyclopropane)	75-19-4	CH_4	12.71±0.06	PI	4350
	$((CH_3)_2C(CN)NO)_2$	31018-29-8		16.50	EI	4809
	$((CH_3)_2C(NO)OOCCH_3)_2$	68777-98-0		15.90	EI	4809
	C_2H_3F	75-02-5	HF	13.51±0.02	PI	3930
				13.51	PI	5352
			HF	13.30	PE	4993
	$CH_2=CF_2$	75-38-7	2F	19.08±0.03	PI	3930
	cis-CHF=CHF	1630-77-9		18.4±0.2	PI	5241
	trans-CHF=CHF	1630-78-0		18.3±0.2	PI	5241
	C_2H_3Cl	75-01-4	HCl	12.47±0.1	PI	3930
	C_2H_3Br	593-60-2	HBr	12.5±0.2	PI	5079
C_2HD^+						
	$CH\equiv CD$	XXXXX-XX-X	**	11.25±0.1	EI	4714
	$CH_2=CD_2$	6755-54-0		13.1	EI	4197
	trans-CHD=CHD	1517-53-9	HD	13.16±0.03	EI	4320
$C_2D_2^+$						
	C_2D_2	1070-74-2	**	11.404±0.005	PI	3921
			**	11.20±0.1	EI	4714
	trans-CHD=CHD	1517-53-9	H_2	13.14±0.06	EI	4320
	C_2D_4	683-73-8	D_2	13.24±0.01	PI	5130
	C_2D_6	1632-99-1	$2D_2$	14.8	PE	3919
$C_2H_3^+$						
	C_2H_3	2669-89-8	**	8.7±0.1	OTH	3930
	C_2H_4	74-85-1	H	13.22±0.02	PI	5130
			**	13.55	PI	5018
			H	13.31±0.03	EI	4320
			H	13.52±0.04	EI	5503
			H	13.6	EI	4118
	C_2H_6	74-84-0		14.6±0.1	EI	4911
	C_3H_6	115-07-1	CH_3	13.20±0.04	PI	4350
			CH_3	13.78±0.03	EI	5244
	C_3H_6 (Cyclopropane)	75-19-4	CH_3	12.64±0.05	PI	4350
	CH_2CHCH_2CN	109-75-1		12.90	PI	5201
	C_4H_4NH	109-97-7		13.60	PI	5201

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_3^+$						
	$CH_2C(CH_3)CN$	126-98-7		13.20	PI	5201
	C_3H_5CN (Cyclopropanecarbonitrile)	5500-21-0		12.65	PI	5201
	CH_3CHO	75-07-0	OH	14.17±0.13	PI	4350
	C_2H_4O (Oxirane)	75-21-8	OH	12.92±0.08	PI	4350
	$((CH_3)_2C(NO)OOCCH_3)_2$	68777-98-0		15.30	EI	4809
	$((CH_3)_2C(NO_2)NO)_2$	5275-46-7		14.30	EI	4809
	C_2H_3F	75-02-5	F	13.84±0.04	PI	3930
			F	13.84	PI	5352
			F	13.85±0.1	PE	4993
	C_2H_3Cl	75-01-4	Cl	12.48±0.04	PI	3930
			Cl	12.56±0.09	EI	5503
	C_2H_3Br	593-60-2	Br	11.85±0.1	PI	5079
			Br	12.01±0.13	EI	5503
	$(CH_3)_2CBrNO$	7119-91-7		14.45	EI	4809
$C_2HD_2^+$						
	$CH_2=CD_2$	6755-54-0	H	13.2	EI	4197
	trans-CHD=CHD	1517-53-9	H	13.56±0.10	EI	4320
$C_2D_3^+$						
	C_2D_4	683-73-8	D	13.41±0.02	PI	5130
	C_2D_6	1632-99-1	D_2+D	14.8	PE	3919
$C_2H_4^+$						
	C_2H_4	74-85-1	**	10.50±0.02	PI	5018
			**	10.507±0.004	PI	4306
			**	10.51	PI	5479
			**	10.517±0.003	PI	5130
			**	10.5 (V)	PE	4225
			**	10.5 (V)	PE	4884
			**	10.50±0.01 (V)	PE	4939
			**	10.51	PE	3649
			**	10.51	PE	3739
			**	10.51	PE	3847
			**	10.51	PE	5408
			**	10.514±0.007	PE	4943
			**	10.515±0.003	PE	3957
			**	10.517±0.002	PE	4494
			**	10.56	PE	3533
			**	10.68 (V)	PE	5084
			**	10.5	EI	4118
			**	~10.5	EI	4671
			**	10.51±0.01	EI	4320
	C_2H_6	74-84-0		12.1±0.1	EI	4911
	C_3H_8	74-98-6	CH_4	11.52	EI	5284
			CH_4	11.55	EI	3488
			CH_4	11.9	EI	3488
	$C_3H_4(=O)$ (Cyclopropanone)	5009-27-8		10.2±0.1	EI	4689
	$C_4H_4F_4$ (Cyclobutane, 1,1,2,2-tetrafluoro-)	374-12-9	C_2F_4	13.15	EI	4553
$C_2H_3D^+$						
	C_2H_3D	XXXXX-XX-X	**	10.518±0.007	PE	4943
$C_2H_2D_2^+$						
	CH_2CD_2	6755-54-0	**	10.529±0.007	PE	4943
			**	10.5	EI	4197
	cis-CHDCHD	2813-62-9	**	10.521±0.007	PE	4943

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_2D_2^+$						
	trans-CHDCHD	1517-53-9	**	10.525±0.007	PE	4943
			**	10.56±0.03	EI	4320
$C_2HD_3^+$						
	C_2HD_3	2680-01-5	**	10.518±0.007	PE	4943
			**	10.60±0.03	EI	4320
$C_2D_4^+$						
	C_2D_4	683-73-8	**	10.528±0.003	PI	5130
			**	10.526±0.007	PE	4943
			**	10.528±0.002	PE	4494
$C_2H_5^+$						
	C_2H_5	14936-94-8	**	8.39±0.02	PE	4899
	C_2H_6	74-84-0		12.0±0.1	EI	4911
	(*tert*-C_4H_9)$_4$Li$_4$	25395-78-2		11.±0.50	PI	5455
	($C_6H_{11}NO_2$)$_2$	68777-99-1		14.95	EI	4809
	($(CH_3)_2C(NO)OOCCH_3$)$_2$	68777-98-0		14.20	EI	4809
	($(CH_3)_2C(NO_2)NO$)$_2$	5275-46-7		13.50	EI	4809
	$C_2H_5SOCH_3$	1669-98-3	CH_3SO	11.8±0.2	EI	5311
	$(C_2H_5)_2SO$	70-29-1	C_2H_5SO	11.9±0.2	EI	5311
	$(CH_3)_2CClNO$	2421-26-3		14.75	EI	4809
	C_2H_5Br	74-96-4	Br	10.72±0.08	EI	3626
	$(CH_3)_2CBrNO$	7119-91-7		13.25	EI	4809
$C_2H_3D_2^+$						
	CH_3CD_2	28882-22-6	**	8.38±0.02	PE	4899
$C_2H_2D_3^+$						
	CH_3CD_3	2031-95-0	H	12.2±0.1	EI	5128
$C_2H_6^+$						
	C_2H_6	74-84-0	**	12.0 (V)	PE	5084
			**	12.00 (V)	PE	4366
			**	11.5±0.1	EI	4911
			**	11.76±0.05	EI	3791
	$(CH_3)_2C(NF_2)_2$	19309-63-8	NF_3+CNF?	13.1±0.2	EI	3634
$C_2H_3D_3^+$						
	CH_3CD_3	2031-95-0	**	11.5±0.1	EI	5128
C_3H^+						
	$CH{\equiv}CCH_3$	74-99-7	H+H_2	17.12±0.06	PI	5009
			H+H_2	16.6±0.02	PE	5009
			H_2+H	14.0±0.1	EI	3769
	$CH_2{=}C{=}CH_2$	463-49-0	H_2+H	16.9±0.1	PI	5050
	C_3H_4 (Cyclopropene)	2781-85-3	H+H_2	16.3±0.05	PI	5014
			H+H_2	15.7±0.1	PE	5014
$C_3H_2^+$						
	$CH{\equiv}CCH_3$	74-99-7	H_2	13.68±0.04	PI	5009
			H_2	13.0±0.1	PE	5009
			H_2	13.8±0.1	EI	3769
	$CH_2{=}C{=}CH_2$	463-49-0	H_2	13.5±0.2	PI	5050
	C_3H_4 (Cyclopropene)	2781-85-3	H_2	12.51±0.04	PI	5014
			H_2	12.15±0.1	PE	5014
	$CH{\equiv}CC{\equiv}CCH_3$	4911-55-1	C_2H_2	12.3	PI	5404

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_3H_3^+$						
	$CH{\equiv}CCH_3$	74-99-7	H	11.58±0.04	PI	5009
			H	11.2±0.1	PE	5009
			H	11.9±0.1	EI	3769
	$CH_2{=}C{=}CH_2$	463-49-0		11.48±0.02	PI	5050
			H	11.595±0.01	PI	5106
	C_3H_4 (Cyclopropene)	2781-85-3	H	10.59±0.04	PI	5014
			H	10.25±0.1	PE	5014
			H	10.9±0.1	EI	4689
	C_3H_6	115-07-1	H_2+H	13.19±0.05	PI	4350
				14.21±0.09	EI	5244
	C_3H_6 (Cyclopropane)	75-19-4	H_2+H^-	12.1±0.1	PI	4350
			H_2+H	12.86±0.1	PI	4350
	$C_2H_5C{\equiv}CH$	107-00-6	CH_3	11.7	EI	3808
	C_6H_6 (Benzene)	71-43-2	C_3H_3	13.79	PI	4075
			C_3H_3	16.90	PE	4630
				15.34±0.06	EI	4534
	CH_2CHCH_2CN	109-75-1		12.10	PI	5201
	$CH_2C(CH_3)CN$	126-98-7		12.30	PI	5201
	C_3H_5CN (Cyclopropanecarbonitrile)	5500-21-0		11.80	PI	5201
	C_4H_4NH (1H-Pyrrole)	109-97-7		12.60	PI	5201
	$(CH_3)_2NCH{=}CHC{\equiv}CH$	2206-24-8		15.2	EI	3674
	$(C_2H_5)_2NCH{=}CHC{\equiv}CH$	1809-53-6		18.6	EI	3674
	$CH_3COC{\equiv}CH$	1423-60-5	CHO	11.55±0.10	PE	5289
	C_4H_4O (Furan)	110-00-9	CHO	12.10±0.10	PE	5289
	$((CH_3)_2C(CN)NO)_2$	31018-29-8		13.90	EI	4809
	$((CH_3)_2C(NO)OOCCH_3)_2$	68777-98-0		14.30	EI	4809
	$((CH_3)_2C(NO_2)NO)_2$	5275-46-7		14.05	EI	4809
	C_4H_4S (Thiophene)	110-02-1	CHS	13.06±0.05	PE	5283
	$CH_2ClC{\equiv}CH$	624-65-7	Cl	11.00	EI	5282
	$CH_3C{\equiv}CCl$	7747-84-4	Cl	10.98	EI	5282
	$(CH_3)_2CClNO$	2421-26-3		14.35	EI	4809
	$CH_2BrC{\equiv}CH$	106-96-7	Br	10.88	EI	5282
	$CH_3C{\equiv}CBr$	2003-82-9	Br	10.90	EI	5282
	$(CH_3)_2CBrNO$	7119-91-7		13.80	EI	4809
	$CH_3C{\equiv}CI$	624-66-8	I	10.70	EI	5282
	$CH_2IC{\equiv}CH$	659-86-9	I	10.50	EI	5282
$C_3H_4^+$						
	$CH_3C{\equiv}CH$	74-99-7	**	10.37±0.01	PI	5009
			**	10.36 (V)	PE	4847
			**	10.364±0.005	PE	4575
			**	10.37	PE	4048
			**	10.38±0.01	PE	5009
			**	10.54 (V)	PE	5084
			**	10.5±0.1	EI	3769
	$CH_2{=}C{=}CH_2$	463-49-0	**	10.017±0.003	S	3774
			**	9.696±0.002	PE	5050
			**	10. (V)	PE	4931
			**	10.02 (V)	PE	5105
			**	10.07 (V)	PE	4019
			**	9.691±0.004	PI	4807
	C_3H_4 (Cyclopropene)	2781-85-3	**	9.67±0.01	PI	5014
			**	9.668±0.005	PE	5014

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_3H_4^+$						
	C_3H_4	2781-85-3	**	9.67	PE	3727
			**	9.82 (V)	PE	4669
			**	9.86 (V)	PE	3505
			**	9.86 (V)	PE	4267
			**	9.7±0.1	EI	4689
	C_3H_6	115-07-1	H_2	11.91±0.03	PI	4350
	C_3H_6 (Cyclopropane)	75-19-4	H_2	11.64±0.15	PI	4350
	CH_2CHCH_2CN	109-75-1		11.50	PI	5201
	$CH_2C(CH_3)CN$	126-98-7		11.75	PI	5201
	C_4H_7CN (Cyclopropanecarbonitrile)	5500-21-0		11.20	PI	5201
	C_4H_4NH (1H-Pyrrole)	109-97-7		12.00	PI	5201
	$CH_3COC{\equiv}CH$	1423-60-5	CO	10.68±0.05	PE	5289
	C_4H_4O (Furan)	110-00-9	CO	11.60±0.10	PE	5289
	$((CH_3)_2C(CN)NO)_2$	31018-29-8		12.50	EI	4809
	$(C_6H_{11}NO_2)_2$	68777-99-1		15.55	EI	4809
	$((CH_3)_2C(NO)OOCCH_3)_2$	68777-98-0		12.00	EI	4809
	$((CH_3)_2C(NO_2)NO)_2$	5275-46-7		14.60	EI	4809
	$(CH_3)_2CClNO$	2421-26-3		11.95	EI	4809
	$(CH_3)_2CBrNO$	7119-91-7		11.80	EI	4809
$C_3H_5^+$						
	$CH_2{=}CHCH_2$	1981-80-2	**	8.13±0.02	PE	4722
			**	8.13±0.02	PE	4898
	C_3H_6	115-07-1	H	11.78	PI	4369
			H	11.88±0.03	PI	4350
			H	11.90±0.05	EI	5244
	C_3H_6 (Cyclopropane)	75-19-4	H^-	10.74±0.09	PI	4350
			H	11.44±0.05	PI	4350
			H	11.47	PI	4369
	$1\text{-}C_4H_8$	106-98-9	CH_3	11.8	EI	3808
	$iso\text{-}C_4H_8$	115-11-7	CH_3	11.8	EI	3808
	C_4H_8 (Cyclopropane, methyl-)	594-11-6	CH_3	10.9	EI	3493
	$CH{\equiv}C(CH_2)_3CH_3$	693-02-7		14.09±0.05	EI	3585
	$CH_3C{\equiv}CCH_2CH_2CH_3$	764-35-2		13.9±0.01	EI	3585
	C_6H_{10} (Cyclohexene)	110-83-8		13.68±0.05	EI	3585
	$C_5H_8{=}CH_2$ (Cyclopentane,methylene-)	1528-30-9	C_3H_5	10.2	EI	5586
				14.05±0.05	EI	3585
	$C_5H_7CH_3$ (Cyclopentene, 1-methyl-)	693-89-0		14.90±0.1	EI	3585
			C_4H_7	13.7	EI	5586
	$(CH_3)_2NCH_2CH{=}CH_2$	2155-94-4	C_2H_6N	9.55	PI	5543
	$((CH_3)_2C(CN)NO)_2$	31018-29-8		10.85	EI	4809
	$(C_6H_{11}NO_2)_2$	68777-99-1		12.95	EI	4809
	$((CH_3)_2C(NO)OOCCH_3)_2$	68777-98-0		11.80	EI	4809
	$((CH_3)_2C(NO_2)NO)_2$	5275-46-7		11.40	EI	4809
	$(C_2H_5)_2S$	352-93-2	CH_3SH+H	12.41±0.05	PI	4025
	$C_3H_6S_2$ (1,3-Dithiolane)	4829-04-3	S_2H	10.8±0.2	EI	3598
	$(iso\text{-}C_3H_7)SOCH_3$	XXXXX-XX-X		12.4±0.1	EI	5311
	$n\text{-}C_3H_7Cl$	540-54-5	H_2+Cl	12.41	PI	5069
	$iso\text{-}C_3H_7Cl$	75-29-6	H_2+Cl	12.58	PI	5069
	$(CH_3)_2CClNO$	2421-26-3		11.75	EI	4809
	$n\text{-}C_3H_7Br$	106-94-5	H_2+Br	11.86	PI	5069

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_4H_3^+$						
	C_4H_3	XXXXX-XX-X	**	8.31±0.1	EI	4714
	$CH_3C{\equiv}CC{\equiv}CCH_3$	2809-69-0	C_2H_3	14.05±0.1	PI	5370
	C_6H_6 (Benzene)	71-43-2	$H+C_2H_2$	18.48±0.07	EI	4534
	$(CH_3)_2NCH{=}CHC{\equiv}CH$	2206-24-8		14.4	EI	3674
	$C_4H_8NCH{=}CHC{\equiv}CH$ (Pyrrolidine, 1-(1-buten-3-ynyl)-)	19352-85-3		15.2	EI	3674
	$(C_2H_5)_2NCH{=}CHC{\equiv}CH$	1809-53-6		15.0	EI	3674
$C_4H_4^+$						
	$H_2C{=}C{=}C{=}CH_2$	2873-50-9	**	9.25±0.05	EI	5454
			**	9.15	PE	5034
	$CH_2{=}CHC{\equiv}CH$	689-97-4	**	9.58±0.02	PE	4374
			**	9.63	PE	3997
			**	9.64±0.03 (V)	PE	4538
			**	9.58±0.02	EI	5454
			**	9.9	EI	3767
	$HC{\equiv}CCH_2CH_2C{\equiv}CH$	628-16-0	C_2H_2	10.42±0.08	PI	5454
			C_2H_2	10.47±0.1	EI	5454
	$H_3CC{\equiv}CC{\equiv}CCH_3$	2809-69-0	C_2H_2	11.27±0.2	PI	5454
	C_6H_6 (Benzene)	71-43-2	C_2H_2	13.85	PI	4075
			C_2H_2	14.17±0.08	PI	5454
			C_2H_2	14.85	PE	4630
			C_2H_2	13.94±0.1	EI	5454
			C_2H_2	14.1	EI	3488
	C_5H_5N (Pyridine)	110-86-1	HCN	11.8-12.0	PI	5028
			HCN	12.34±0.1	EI	5454
			HCN	13.41±0.05	EI	5413
	$(CH_3)_2NCH{=}CHC{\equiv}CH$	2206-24-8	$CH_2{=}NH+CH_3$	13.4	EI	3674
	$C_4H_8NCH{=}CHC{\equiv}CH$ (Pyrrolidine, 1-(1-buten-3-ynyl)-)	19352-85-3		13.7	EI	3674
$C_4D_4^+$						
	$(CD_2{=}C)_2$	25294-38-6	**	9.20	PE	5034
$C_4H_5^+$						
	C_5H_8 (Cyclopentene)	142-29-0	CH_3	11.83	EI	4203
	C_5H_8 (Spiropentane)	157-40-4	CH_3	10.20	EI	4203
	$C_5H_8{=}CH_2$ (Cyclopentane,methylene-)	1528-30-9	C_2H_5	9.7	EI	5586
$C_4H_6^+$						
	trans-$(CH_2{=}CH)_2$	106-99-0	**	9.03	PE	5084
			**	9.0691	S	5199
			**	9.03 (V)	PE	4688
			**	9.18±0.04	EI	4274
	$C_2H_5C{\equiv}CH$	107-00-6	**	10.178±0.005	PE	4575
	$CH_3C{\equiv}CCH_3$	503-17-3	**	9.562±0.005	PE	4575
			**	9.59	PE	4048
			**	9.61	PE	4160
			**	9.79 (V)	PE	5084
	$CH_2{=}C{=}CHCH_3$	590-19-2	**	9.33 (V)	PE	4019
			**	9.0 (V)	PE	4225
			**	9.03	PE	3847
	C_4H_6 (Bicyclo[1.1.0]butane)	157-33-5	**	19.1±0.1 (V)	PE	4702
	C_4H_6 (Cyclobutene)	822-35-5	**	9.43±0.03 (V)	PE	4828

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_4H_6^+$						
	C_4H_6	822-35-5	**	9.43 (V)	PE	4267
			**	9.59 (V)	PE	4669
	$C_3H_4(=CH_2)$ (Cyclopropane, methylene-)	6142-73-0	**	9.57 (V)	PE	4669
	iso-C_4H_8	115-11-7	H_2	11.3±0.1	EI	5268
	C_4H_8 (Cyclobutane)	287-23-0	H_2	11.2±0.1	EI	5268
	$CH{\equiv}C(CH_2)_3CH_3$	693-02-7	C_2H_4	11.08±0.05	EI	3585
	$CH_3C{\equiv}CCH_2CH_2CH_3$	764-35-2	C_2H_4	11.02±0.05	EI	3585
	C_6H_{10} (Cyclohexene)	110-83-8	C_2H_4	11.91±0.05	EI	3585
	$C_5H_8{=}CH_2$ (Cyclopentane,methylene-)	1528-30-9	C_2H_4	10.2	EI	5586
			C_2H_4	12.32±0.05	EI	3585
	$C_5H_7CH_3$ (Cyclopentene, 1-methyl-)	693-89-0	C_2H_4	12.33±0.05	EI	3585
	$C_6H_{10}{=}CH_2$ (Cyclohexane,methylene-)	1192-37-6	C_3H_6	13.2	EI	5586
	$C_6H_{11}Cl$ (Cyclohexane, chloro-)	542-18-7		11.07±0.03	PI	4078
$C_4H_2D_4^+$						
	trans-$(CD_2{=}CH)_2$	10545-58-1	**	9.0695	S	5199
$C_4D_6^+$						
	trans-$(CD_2{=}CD)_2$	1441-56-1	**	9.0698	S	5199
$C_4H_7^+$						
	$(CH_3)_2C{=}CHCH_2$	513-35-9	CH_3	11.33±0.12	EI	3544
	$(CH_3)_2CHCH{=}CH_2$	563-45-1	CH_3	11.15±0.12	EI	3544
	$C_2H_5C(CH_3){=}CH_2$	563-46-2	CH_3	11.34±0.07	EI	3544
	1-C_5H_{10}	109-67-1	CH_3	11.35±0.07	EI	3544
	cis-2-C_5H_{10}	627-20-3	CH_3	11.24±0.02	EI	3544
	trans-2-C_5H_{10}	646-04-8	CH_3	11.35±0.03	EI	3544
	C_5H_{10} (Cyclopentane)	287-92-3	CH_3	11.36±0.08	EI	3544
	C_6H_{12} (Cyclohexane)	110-82-7	C_2H_5	11.21±0.04	PI	4078
	$C_6H_{10}{=}CH_2$ (Cyclohexane,methylene-)	1192-37-6	C_3H_5	13.7	EI	5586
	$C_6H_{11}Cl$ (Cyclohexane, chloro-)	542-18-7		11.52±0.05	PI	4078
	$CH_2{=}CHCH_2CH_2Br$	5162-44-7	Br	10.6	EI	5633
	$C_6H_{11}Br$ (Cyclohexane, bromo-)	108-85-0		11.54±0.02	PI	4078
$C_4H_8^+$						
	1-C_4H_8	106-98-9	**	9.59±0.02	PI	5018
			**	9.625±0.003	PE	3957
			**	9.72 (V)	PE	3950
			**	9.77±0.01 (V)	PE	4939
			**	10.0 (V)	PE	4225
	2-C_4H_8	107-01-7	**	9.13 (V)	PE	5600
	iso-C_4H_8	115-11-7	**	9.21	PE	3533
			**	9.239±0.003	PE	3957
			**	9.39 (V)	PE	4614
			**	9.41 (V)	PE	4669
			**	9.45 (V)	PE	4513
	cis-2-C_4H_8	590-18-1	**	9.11±0.03 (V)	PE	4828
			**	9.11±0.02	PI	5018
			**	9.07	PE	3533

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_4H_8^+$						
	cis-2-C_4H_8	590-18-1	**	9.124±0.005	PE	3957
			**	9.20 (V)	PE	4669
			**	9.29 (V)	PE	4084
			**	9.32±0.01 (V)	PE	4939
			**	9.36 (V)	PE	4513
			**	9.4 (V)	PE	4225
	trans-$CH_3CH=CHCH_3$	624-64-6	**	9.11 (V)	PE	3649
			**	9.10±0.02	PI	5018
			**	9.09	PE	3533
			**	9.11	PE	4267
			**	9.122±0.005	PE	3957
			**	9.32 (V)	PE	4084
			**	9.37 (V)	PE	4513
			**	9.5 (V)	PE	4225
	C_4H_8 (Cyclobutane)	287-23-0	**	9.92±0.05	PE	3757
			**	10.7±0.1 (V)	PE	4037
	C_4H_8 (Cyclopropane, methyl-)	594-11-6	**	9.9±0.2	EI	3493
	n-C_5H_{12}	109-66-0	CH_4	11.00	EI	5284
	C_6H_{12} (Cyclohexane)	110-82-7	C_2H_4	11.08±0.01	PI	4078
			C_2H_4	11.45	EI	4319
	$(CH_3)_2CHC_2H_4CHO$	1119-16-0	C_2H_4O	11.10	EI	5264
	$C_2H_5CH(CH_3)CH_2CHO$	15877-57-3	CH_3CHO	9.86	EI	4729
			C_2H_4O	11.10	EI	5264
	n-$C_5H_{11}CHO$	66-25-1	C_2H_4O	10.70	EI	5264
	n-$C_6H_{13}OH$	111-27-3		9.89	EI	4729
	$C_6H_{11}Cl$ (Cyclohexane, chloro-)	542-18-7		10.2±0.01	PI	4078
$C_4H_9^+$						
	tert-C_4H_9	1605-73-8	**	6.58±0.01	PE	4634
			**	6.70±0.03	PE	4899
			**	6.95±0.05 (V)	PE	4614
	iso-C_4H_{10}	75-28-5	H	10.68±0.02	PI	5025
			H	10.68±0.03	PI	5345
	neo-C_5H_{12}	463-82-1	CH_3	10.35	PI	5482
	(*tert*-$C_4H_9)_4Li_4$	25395-78-2		11.±0.50	PI	5455
	tert-C_4H_9NO	917-95-3		8.9±0.1	EI	3654
	C_6H_5S(*tert*-C_4H_9) (Benzene, [(1,1-dimethylethyl)thio]-)	3019-19-0		10.47±0.1	EI	4198
	tert-C_4H_9Cl	507-20-0	Cl	10.51±0.01	PI	5345
	$C_6H_{11}Cl$ (Cyclohexane, chloro-)	542-18-7		10.56±0.02	PI	4078
	tert-$C_4H_9SiCl_3$	18171-74-9	$SiCl_3$	10.7±0.1	EI	5276
	$(CH_3)_3CGe(CH_3)_3$	1184-91-4	$(CH_3)_3Ge$	10.19±0.27	EI	3548
	tert-C_4H_9Br	507-19-7	Br	9.85±0.01	PI	5345
	(*tert*-$C_4H_9)(CH_3)_3Sn$	3531-47-3	$(CH_3)_3Sn$	10.03±0.23	EI	3548
	tert-C_4H_9I	558-17-8	I	8.98±0.01	PI	5345
	(*tert*-$C_4H_9)(CH_3)_3Pb$	32997-03-8	$(CH_3)_3Pb$	9.45±0.15	EI	3548
$C_4H_{10}^+$						
	n-C_4H_{10}	106-97-8	**	10.6±0.1	PE	4702
			**	11.2 (V)	PE	5084
			**	10.87±0.05	EI	3791
			**	10.89	EI	3538
	iso-C_4H_{10}	75-28-5	**	11.4 (V)	PE	3710
			**	10.74±0.05	EI	3791

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_2^+$						
	$CH{\equiv}CC{\equiv}CCH_3$	4911-55-1	H_2	13.7	EI	5404
$C_5H_3^+$						
	$CH{\equiv}CC{\equiv}CCH_3$	4911-55-1	H	11.6±0.2	EI	5404
$C_5H_4^+$						
	$CH_3C{\equiv}CC{\equiv}CH$	4911-55-1	**	9.51	PE	4048
			**	9.51	PE	5404
	1,2,3,4-C_5H_4	21986-03-8	**	8.67	PE	4686
$C_5H_5^+$						
	C_5H_5 (Cyclopentadienyl)	XXXXX-XX-X	**	8.41	EI	4545
	$C_6H_5CH_3$ (Benzene, methyl-)	108-88-3	C_2H_2+H	16.4±0.2	EI	4331
	$C_6H_4(CH_3)_2$ (Benzene, 1,4-dimethyl-)	106-42-3	$C_2H_2+CH_3$	16.3±0.2	EI	4331
	$C_6H_5C_2H_5$ (Benzene, ethyl-)	100-41-4	$C_2H_2+CH_3$	16.2±0.2	EI	4331
	$C_6H_5C_3H_7$ (Benzene, propyl-)	103-65-1	$C_2H_5+C_2H_2$	15.5±0.2	EI	4331
	$C_6H_5NH_2$ (Benzenamine)	62-53-3	$HCN+H$	15.2±0.2	EI	4331
	C_6H_5OH (Phenol)	108-95-2	$CO+H$	14.2±0.2	EI	4331
	$C_6H_4(NO_2)CH_3$ (Benzene, 1-methyl-2-nitro-)	88-72-2	$HCN+CO+OH$	13.5±0.2	EI	4331
			$C_2H_2+NO_2$	14.8	EI	4331
	$C_6H_4(NO_2)CH_3$ (Benzene, 1-methyl-3-nitro-)	99-08-1	$C_2H_2+NO_2$	15.2±0.2	EI	4331
	$C_6H_4(NO_2)CH_3$ (Benzene, 1-methyl-4-nitro-)	99-99-0	$C_2H_2+NO_2$	14.9±0.2	EI	4331
	$C_6H_4ClCH_3$ (Benzene, 1-chloro-2-methyl-)	95-49-8		15.67±0.015	EI	3777
			C_2H_2+Cl	15.7±0.2	EI	4331
	$C_6H_4ClCH_3$ (Benzene, 1-*chloro*-3-*methyl*-)	108-41-8	C_2H_2+Cl	15.7±0.2	EI	4331
				15.71±0.15	EI	3777
	$C_6H_4ClCH_3$ (Benzene, 1-chloro-4-methyl-)	106-43-4		15.66±0.15	EI	3777
			C_2H_2+Cl	15.7±0.2	EI	4331
	$C_6H_4BrCH_3$ (Benzene, 1-bromo-2-methyl-)	95-46-5		15.19±0.15	EI	3777
			C_2H_2+Br	15.2±0.2	EI	4331
	$C_6H_4BrCH_3$ (Benzene, 1-bromo-3-methyl-)	591-17-3	C_2H_2+Br	15.2±0.2	EI	4331
				15.20±0.15	EI	3777
	$C_6H_4BrCH_3$ (Benzene, 1-bromo-4-methyl-)	106-38-7	C_2H_2+Br	15.2±0.2	EI	4331
				15.23±0.15	EI	3777
	$C_6H_4ICH_3$ (Benzene, 1-iodo-2-methyl-)	615-37-2	C_2H_2+I	14.3±0.2	EI	4331
				14.34±0.15	EI	3777
	$C_6H_4ICH_3$ (Benzene, 1-*iodo*-3-*methyl*-)	625-95-6		14.47±0.15	EI	3777
			C_2H_2+I	14.5±0.2	EI	4331
	$C_6H_4ICH_3$ (Benzene, 1-iodo-4-methyl-)	624-31-7		14.66±0.15	EI	3777
			C_2H_2+I	14.7±0.2	EI	4331

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_6^+$						
	$CH_2=C(CH_3)C\equiv CH$	78-80-8	**	9.23±0.01	PE	5407
			**	9.30±0.03 (V)	PE	4538
			**	10.1	EI	3767
	$CH_2=CHC\equiv CCH_3$	646-05-9	**	9.00±0.01	PE	5407
			**	9.06±0.03 (V)	PE	4538
			**	9.4	EI	3767
	$CH_3CH=CHC\equiv CH$	2206-23-7	**	8.5	EI	3767
	$CH_2=C=CHCH=CH_2$	10563-01-6	**	8.88 (V)	PE	4397
	cis-$CH_3CH=CHC\equiv CH$	1574-40-9	**	9.17±0.03 (V)	PE	4538
			**	9.11±0.01	OTH	5407
	trans-$CH_3CH=CHC\equiv CH$	2004-69-5	**	9.11±0.03 (V)	PE	4538
			**	9.05±0.01	OTH	5407
	C_5H_6 (Bicyclo[2.1.0]pent-2-ene)	5164-35-2	**	8.6 (V)	PE	5621
	C_5H_6 (Cyclopentadiene)	26912-33-4	**	8.56±0.01	EI	3535
	C_5H_6 (1,3-Cyclopentadiene)	542-92-7	**	8.56 (V)	PE	4179
			**	8.6 (V)	PE	4373
			**	8.61 (V)	PE	5535
			**	9.0	EI	3476
	$C_3H_5C\equiv CH$ (Cyclopropane, ethynyl-)	6746-94-7	**	9.58 (V)	PE	3997
	C_7H_{10} (Bicyclo[2.2.1]hept-2-ene)	498-66-8	C_2H_4	9.22±0.01	EI	3535
	C_7H_{10} (Tricyclo[2.2.1.$0^{2,6}$]heptane	279-19-6	C_2H_4	9.44±0.01	EI	3535
	$C_6H_5NH_2$ (Benzenamine)	62-53-3		12.04± <0.1	EI	3735
			HCN	12.13±0.06	EI	3784
			HCN	12.77±0.05	EI	5413
	C_6H_5OH (Phenol)	108-95-2	CO	12.45±0.1	EI	3817
	C_6H_5SH (Benzenethiol)	108-98-5	CS	12.18±0.1	EI	3817
	C_7H_9Br (Bicyclo[2.2.1]hept-2-ene, 5-bromo-, *endo*-)	5810-82-2	C_2H_3Br	10.0	EI	5633
	C_7H_9Br (Bicyclo[2.2.1]hept-2-ene, 5-bromo-, *exo*-)	5889-54-3	C_2H_3Br	10.0	EI	5633
$C_5H_7^+$						
	$CH_2=CHCHCH=CH_2$	XXXXX-XX-X	**	7.25	EI	4591
	$CH\equiv CC(CH_3)_2$	XXXXX-XX-X	**	7.44	EI	4591
	$CH\equiv CCHCH_2CH_3$	XXXXX-XX-X	**	7.6	OTH	4591
	$CH_2=CHC(=CH_2)CH_2$	XXXXX-XX-X	**	7.9	OTH	4591
	C_5H_7 (Cyclopentenyl)	XXXXX-XX-X	**	7.00	EI	4545
	C_5H_7 (Cyclopentenyl)	XXXXX-XX-X	**	7.00	EI	4591
	$CH_2=C(CH_3)CH=CH_2$	78-79-5	H	8.85	EI	4591
			H	10.54	EI	4203
	$CH_2=CHCH=CHCH_3$	504-60-9	H	10.52	EI	4203
	$CH_2=CHCH_2CH=CH_2$	591-93-5	H	9.46	EI	4591
			H	10.23	EI	4203
	trans-$CH_2=CHCH=CHCH_3$	2004-70-8	H	8.60	EI	4591
	C_5H_8 (Cyclopentene)	142-29-0	H	9.00	EI	4591
			H	10.98	EI	4203
	C_5H_8 (Spiropentane)	157-40-4	H	9.26	EI	4591

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_7^+$						
	C_5H_8	157-40-4	H	9.53±0.03	EI	4203
	C_5H_7D (Cyclopentene-1-*d*)	37729-44-5	D	11.03±0.03	EI	4203
	C_6H_{10}	XXXXX-XX-X	CH_3	8.45	EI	4591
	$CH_2=C(C_2H_5)CH=CH_2$	XXXXX-XX-X	CH_3	8.81	EI	4591
	C_6H_{10}	XXXXX-XX-X	CH_3	10.06±0.05	EI	5483
	$CH_2=C(C_2H_5)CH=CH_2$	XXXXX-XX-X	CH_3	10.08±0.05	EI	5483
	$CH_2=(C(CH_3))_2=CH_2$	513-81-5	CH_3	8.66	EI	4591
			CH_3	10.22±0.05	EI	5483
	$CH_2=CH(CH_2)_2CH=CH_2$	592-42-7	CH_3	9.29	EI	4591
			CH_3	9.35±0.05	EI	5483
	$CH\equiv C(CH_2)_3CH_3$	693-02-7	CH_3	10.04±0.05	EI	5483
			CH_3	10.87±0.05	EI	3585
	$CH_2=C(CH_3)CH_2CH=CH_2$	763-30-4	CH_3	9.16	EI	4591
			CH_3	9.40±0.05	EI	5483
	$CH_3C\equiv CCH_2CH_2CH_3$	764-35-2	CH_3	⩽9.93±0.05	EI	5483
			CH_3	10.63±0.05	EI	3585
	$CH\equiv CC(CH_3)_3$	917-92-0	CH_3	9.90±0.05	EI	5483
			CH_3	10.76±0.06	EI	4126
	$CH\equiv CCH(CH_3)C_2H_5$	922-59-8	CH_3	9.93±0.05	EI	5483
	C_6H_{10}	926-54-5	CH_3	10.23±0.05	EI	5483
	$CH_2=CHCH=C(CH_3)_2$	926-56-7	CH_3	10.18±0.05	EI	5483
	$C_2H_5C\equiv CC_2H_5$	928-49-4	CH_3	9.88±0.05	EI	5483
	$CH_2=CHCH(CH_3)CH=CH_2$	1115-08-8	CH_3	9.54±0.05	EI	5483
	C_6H_{10}	2787-45-3	CH_3	10.16±0.05	EI	5483
	$(CH_3)_2C=C=CHCH_3$	3043-33-2	CH_3	9.55±0.05	EI	5483
	C_6H_{10}	5194-51-4	CH_3	10.14±0.05	EI	5483
	$CH\equiv CCH_2CH(CH_3)_2$	7154-75-8	CH_3	10.03±0.05	EI	5483
	$CH_2=C=C(CH_3)C_2H_5$	7417-48-3	CH_3	9.44±0.05	EI	5483
	$CH_2=C=CHCH(CH_3)_2$	13643-05-5	CH_3	9.78±0.05	EI	5483
	$CH_3C\equiv CCH(CH_3)_2$	21020-27-9	CH_3	9.67±0.05	EI	5483
	1,2-*n*-C_6H_{10}	592-44-9	CH_3	9.12±0.05	EI	5483
	2,3-*n*-C_6H_{10}	592-49-4	CH_3	9.38±0.05	EI	5483
	cis-$CH_2=CHCH=CHC_2H_5$	XXXXX-XX-X	CH_3	8.54	EI	4591
	cis-1,4-*n*-C_6H_{10}	7318-67-4	CH_3	9.61±0.05	EI	5483
	trans-1,4-*n*-C_6H_{10}	7319-00-8	CH_3	9.60±0.05	EI	5483
	trans-1,3-*n*-C_6H_{10}	20237-34-7	CH_3	9.74±0.05	EI	5483
	trans,cis-2,4-*n*-C_6H_{10}	5194-50-3	CH_3	10.10±0.05	EI	5483
	$(C_3H_5)_2$ (1,1′-Bicyclopropyl)	5685-46-1	CH_3	9.34±0.05	EI	5483
	$C_4H_6(=CHCH_3)$ (Cyclobutane,ethenyl-)	2597-49-1	CH_3	9.88±0.05	EI	5483
	C_6H_{10} (Cyclohexene)	110-83-8	CH_3	8.95	EI	4591
			CH_3	11.22±0.05	EI	3585
	$C_5H_8=CH_2$ (Cyclopentane,methylene-)	1528-30-9	CH_3	8.2	EI	5586
			CH_3	11.71±0.05	EI	3585
	$C_5H_7CH_3$ (Cyclopentene, 1-methyl-)	693-89-0	CH_3	8.59	EI	4591
			CH_3	11.59±0.05	EI	3585
	$C_5H_7CH_3$ (Cyclopentene, 3-methyl-)	1120-62-3	CH_3	8.95	EI	4591
	$C_3H_5C(CH_3)=CH_2$ (Cyclopropane, (1-methylethenyl)-)	4663-22-3	CH_3	9.18±0.05	EI	5483
	$C_3H(CH_3)_3$ (Cyclopropene, 1,3,3-trimethyl-)	3664-56-0	CH_3	8.78±0.05	EI	5483
	$C_6H_{10}=CH_2$ (Cyclohexane,methylene-)	1192-37-6	C_2H_5	12.5	EI	5586
	$C_{10}H_{16}$ (4,7-Methano-1*H*-indene, octahydro-, (3aα,4β,7β,7aα)-)	2825-82-3		10.0±0.1	PI	3918

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_7^+$						
	$C_{10}H_{15}CH_3$	XXXXX-XX-X		$\leqslant$10.2±0.1	PI	3918
	$C_{10}H_{15}CH_3$	50745-90-9		>10.2±0.1	PI	3918
	(4,7-Methano-1*H*-indene, octahydro-2-methyl, (2α,3aβ,4α,7α,7aβ)-)					
	$C_{10}H_{15}CH_3$	50745-92-1		>10.5±0.1	PI	3918
	(4,7-Methano-1*H*-indene, octahydro-8-methyl-, stereoisomer)					
	$C_{10}H_{15}C_2H_5$	32787-97-6		>10.2±0.1	PI	3918
	(4,7-Methano-1*H*-indene, 5-ethyloctahydro-, (3aα,4β,5α,7β,7aα)-)					
	$C_5H_5N(CH_3)$	109-06-8	HCN	12.87±0.05	EI	5413
	(Pyridine,2-methyl-)					
	$C_5H_5N(CH_3)$	108-99-6	HCN	12.94±0.05	EI	5413
	(Pyridine,3-methyl-)					
	$C_5H_5N(CH_3)$	108-89-4	HCN	12.86±0.05	EI	5413
	(Pyridine,4-methyl-)					
	$C_6H_{11}Cl$	542-18-7		10.67±0.05	PI	4078
	(Cyclohexane, chloro-)					
$C_5H_6D^+$						
	C_5H_7D	37729-44-5	H	10.98±0.03	EI	4203
	(Cyclopentene-1-*d*)					
$C_5H_4D_3^+$						
	$C_5H_4D_4$	14996-50-0	D	9.72±0.03	EI	4203
	(Spiropentane-1,1,2,2-d_4)					
$C_5H_3D_4^+$						
	$C_5H_4D_4$	14996-50-0	H	9.55±0.03	EI	4203
	(Spiropentane-1,1,2,2-d_4)					
$C_5H_8^+$						
	$CH_2=C=CHCH_3$	591-95-7	**	9.25	PE	5411
			**	9.22 (V)	PE	4748
	$CH_2=C(CH_3)CH=CH_2$	78-79-5	**	8.87 (V)	PE	5010
			**	8.89	PE	3847
			**	9.04 (V)	PE	3892
	$CH_2=CHCH=CHCH_3$	504-60-9	**	8.67	PE	5411
			**	8.6	EI	5200
	$(CH_2=CH)_2CH_2$	591-93-5	**	7.97 (V)	PE	5314
			**	9.62±0.02	PE	4010
			**	9.72 (V)	PE	4211
	$CH_3CH=C=CHCH_3$	591-96-8	**	9.13 (V)	PE	4019
	$(CH_3)_2CHC\equiv CH$	598-23-2	**	10.049±0.007	PE	4575
	$(CH_3)_2C=C=CH_2$	598-25-4	**	8.95 (V)	PE	4019
			**	8.9	EI	5200
	$C_3H_7C\equiv CH$	627-19-0	**	10.098±0.005	PE	4575
	$C_2H_5C\equiv CCH_3$	627-21-4	**	9.439±0.005	PE	4575
			**	9.25±0.02	PE	4702
	1,3-*trans*-C_5H_8	2004-70-8	**	8.67±0.02	PE	4702
			**	8.61	PE	3847
	cis-$CH_3CH=CHCH=CH_2$	1574-41-0	**	8.64	PE	5202
			**	8.60 (V)	PE	5005
			**	8.60 (V)	PE	5010
	C_5H_8	185-94-4	**	8.7±0.1	PE	4702
	(Bicyclo[2.1.0]pentane)					
	(JC-Mean value of Jahn-Teller components)					
	$C_4H_6(=CH_2)$	1120-56-5	**	9.35 (V)	PE	4669
	(Cyclobutane, methylene-)					
	C_5H_8	142-29-0	**	9.02±0.01	PI	5556
	(Cyclopentene)					
			**	9.01±0.03 (V)	PE	4828
			**	9.12 (V)	PE	4285
			**	9.17 (V)	PE	4517

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_8^+$						
	C_5H_8	142-29-0	**	9.18 (V)	PE	4267
			**	9.20 (V)	PE	4189
			**	9.20 (V)	PE	4669
			**	9.00	EI	4203
			**	9.1	EI	5200
	$C_3H_5CH=CH_2$ (Cyclopropane, ethenyl-)	693-86-7	**	8.7	PE	4329
			**	9.1 (V)	PE	4034
			**	9.15 (V)	PE	4347
			**	9.2	PE	3576
	C_5H_8 (Spiropentane)	157-40-4	**	9.26	EI	4203
	$C_5H_8=CH_2$ (Cyclopentane,methylene-)	1528-30-9	CH_2	9.2	EI	5586
	$C_6H_{10}=CH_2$ (Cyclohexane,methylene-)	1192-37-6	C_2H_4	12.2	EI	5586
	$C(CH_3)(CH_2)C_6H_8CH_3$ (Cyclohexene, 1-methyl-4-(1-methylethenyl)-)	138-86-3	C_5H_8	11.6	EI	5200
	n-C_4H_9CHO	110-62-3	H_2O	9.80±0.06	EI	5267
			H_2O	10.00	EI	5264
	C_5H_9OH (Cyclopentanol)	96-41-3	H_2O	9.66±0.06	EI	5267
$C_5H_9^+$						
	$CH_3CH=CHCHCH_3$	XXXXX-XX-X	**	7.07	EI	4591
	$CH_2=C(CH_3)CHCH_3$	XXXXX-XX-X	**	7.4	OTH	4591
	$CH_2=C(C_2H_5)CH_2$	XXXXX-XX-X	**	7.9	OTH	4591
	$CH_2CH(CH_3)CH=CH_2$	XXXXX-XX-X	**	8.0	OTH	4591
	$CH_2=CHCHC_2H_5$	17829-37-7	**	7.30	EI	4591
	$CH_2=CHC(CH_3)_2$	29791-12-6	**	7.13	EI	4591
	C_5H_9 (Cyclopentyl)	3889-74-5	**	7.47	EI	4545
			**	7.47	EI	4591
	$((CH_3)_2C)_2$	563-79-1	CH_3	8.16	EI	4591
	$(CH_3)_2C=CHC_2H_5$	625-27-4	CH_3	8.58	EI	4591
	n-$C_4H_9CH=CH_2$	592-41-6	CH_3	9.44	EI	4591
	n-$C_3H_7C(CH_3)=CH_2$	763-29-1	CH_3	9.04	EI	4591
	sec-$C_4H_9CH=CH_2$	760-20-3	CH_3	9.44	EI	4591
	iso-$C_4H_9CH=CH_2$	691-37-2	CH_3	9.44	EI	4591
	iso-$C_3H_7C(CH_3)=CH_2$	27416-06-4	CH_3	9.01	EI	4591
	tert-$C_4H_9CH=CH_2$	558-37-2	CH_3	9.44	EI	4591
	cis-$CH_3CH=C(CH_3)C_2H_5$	922-62-3	CH_3	8.58	EI	4591
	trans-$(CH_3)_2CHCH=CHCH_3$	674-76-0	CH_3	8.91	EI	4591
	trans-$CH_3CH=CHC_3H_7$	4050-45-7	CH_3	8.93	EI	4591
	trans-$C_2H_5CH=CHC_2H_5$	13269-52-8	CH_3	8.97	EI	4591
	C_6H_{12} (Cyclohexane)	110-82-7	CH_3	11.07±0.04	PI	4078
			CH_3	9.88	EI	4591
			CH_3	11.15	EI	4319
	$C_5H_9CH_3$ (Cyclopentane, methyl-)	96-37-7	CH_3	10.42	EI	4591
	$C_2H_5CH(C_2H_5)=CH_2$	760-21-4	CH_3	9.01	EI	4591
	$C_{10}H_{16}$ (4,7-Methano-1*H*-indene, octahydro-, (3aα,4β,7β,7aα)-)	2825-82-3		10.5±0.1	PI	3918
	$C_6H_{11}Cl$ (Cyclohexane, chloro-)	542-18-7		11.01±0.02	PI	4078
	$CH_2=CH(CH_2)_3Br$	1119-51-3	Br	10.2	EI	5633
$C_5H_{10}^+$						
	$(CH_3)_2C=CHCH_2$	513-35-9	**	8.83±0.11	EI	3544
			**	8.682±0.003	PE	3957

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_{10}^+$						
	$(CH_3)_2C{=}CHCH_2$	513-35-9	**	8.72	PE	3533
	$(CH_3)_2CHCH{=}CH_2$	563-45-1	**	9.533±0.003	PE	3957
			**	9.60±0.03	EI	3544
	$C_2H_5C(CH_3){=}CH_2$	563-46-2	**	9.148±0.003	PE	3957
			**	9.35±0.08	EI	3544
	1-C_5H_{10}	109-67-1	**	9.42±0.02	PE	4695
			**	9.524±0.003	PE	3957
			**	9.54±0.02 (V)	PE	4010
			**	9.68±0.01 (V)	PE	4939
			**	9.82±0.06	EI	3544
	2-*cis*-C_5H_{10}	627-20-3	**	8.94±0.02	PE	4695
			**	9.22±0.01 (V)	PE	4939
			**	9.036±0.005	PE	3957
			**	9.23±0.02	EI	3544
	trans-2-C_5H_{10}	646-04-8	**	9.036±0.005	PE	3957
			**	9.23±0.01 (V)	PE	4939
			**	9.32±0.03	EI	3544
	$C_4H_7CH_3$ (Cyclobutane, methyl-)	598-61-8	**	9.60	PE	4268
	C_5H_{10} (Cyclopentane)	287-92-3	**	10.55±0.03	PI	5556
			**	10.3±0.1	PE	4702
			**	10.40	PE	4056
			**	10.48	PE	4319
			**	10.5 (V)	PE	4189
			**	10.54±0.05	EI	4319
			**	10.91±0.07	EI	3544
$C_5H_{11}^+$						
	1-C_5H_{11}	2672-01-7	**	7.94±0.06	EI	4895
	2-C_5H_{11}	2492-34-4	**	7.41	EI	4895
	tert-$C_4H_9CH_2$	3744-21-6	**	7.91	EI	4895
	tert-C_5H_{11}	4348-35-0	**	6.85	EI	4895
	tert-$C_5H_{11}NO$	34946-78-6		8.7±0.1	EI	3654
	(*iso*-C_5H_{11})$SOCH_3$	55860-10-1	CH_3SO	9.1±0.3	EI	5311
$C_5H_{12}^+$						
	n-C_5H_{12}	109-66-0	**	10.2±0.1	PE	4702
			**	10.36	PE	4056
			**	10.59±0.05	EI	3791
	iso-C_5H_{12}	78-78-4	**	10.3±0.1	PE	4702
			**	10.50±0.05	EI	3791
	neo-C_5H_{12}	463-82-1	**	10.21±0.04	PE	3880
			**	10.25±0.1	PE	3677
			**	11.3 (V)	PE	3710
			**	11.3 (V)	PE	4050
$C_6H_2^+$						
	$HC{\equiv}CC{\equiv}CC{\equiv}CH$	3161-99-7	**	9.50	PE	4048
			**	9.63 (V)	PE	5084
$C_6H_4^+$						
	cis-$CH{=}CCH{\equiv}CHC{\equiv}CH$	16668-67-0	**	9.10±0.02	PE	4374
	trans-$CH{\equiv}CCH{=}CHC{\equiv}CH$	16668-68-1	**	9.07±0.02	PE	4374
	C_6H_4 (1,3-Cyclohexadien-5-yne)	462-80-6	**	9.75±0.2	EI	3583
	C_6H_6 (Benzene)	71-43-2	H_2	12.94	PI	4075
			H_2	14.04±0.06	EI	3784
				14.14±0.08	EI	4534
	C_6H_5CN (Benzonitrile)	100-47-0	HCN	13.38±0.03	EI	5080

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_l^+$						
	C_6H_5CN	100-47-0	HCN	13.80±0.06	EI	3784
				13.92± <0.1	EI	3735
$C_6H_5^+$						
	C_6H_5 (Phenyl)	2396-01-2	**	8.1±0.1	PI	3752
	$HC{\equiv}CCH_2CH_2C{\equiv}CH$	628-16-0	H	10.16±0.08	PI	5454
			H	10.21±0.03	EI	3790
	$H_3CC{\equiv}CC{\equiv}CCH_3$	2809-69-0	H	10.55±0.09	PI	5454
	$HC{\equiv}CCH_2C{\equiv}CCH_3$	10420-91-4	H	10.21±0.1	EI	5454
	C_6H_6 (Benzene)	71-43-2	H	12.94	PI	4075
			H	13.78±0.08	PI	5454
			H	13.74±0.1	EI	5454
			H	13.97±0.06	EI	3784
			H	14.05± <0.1	EI	3735
			H	14.56±0.07	EI	4534
	$C_6H_5CH_3$ (Benzene, methyl-)	108-88-3	CH_3	13.70	EI	4115
	C_7H_8 (1,3,5-Cycloheptatriene)	544-25-2	CH_3	14.17	EI	4115
	trans-$CH_2{=}CHCH{=}CHCH{=}CHCH_3$	17679-93-5		12.3±0.15	PE	5432
	$C_6H_5CH_2CH_2N(CH_3)_2$ (Benzeneethanamine,dimethyl-)	29088-49-1	$C_4H_{10}N$	10.55	PI	5543
	C_6H_5CHO (Benzaldehyde)	100-52-7	CO+H	14.11	EI	3792
	$C_6H_5COCH_3$ (Ethanone, 1-phenyl-)	98-86-2	$CO+CH_3$	13.28	EI	3626
			$CO+CH_3$	13.97	EI	3792
	$(C_6H_5)_2CO$ (Methanone, diphenyl-)	119-61-9	C_6H_5+CO	15.67	EI	3792
	C_6H_5COOH (Benzoic acid)	65-85-0		14.3±0.07	EI	5121
			CO+OH	15.08±0.2	EI	3973
			CO+OH	15.08	EI	3792
	$C_6H_5COOCH_3$ (Benzoic acid methyl ester)	93-58-3	CH_3O+CO	13.82	EI	3626
				14.3±0.07	EI	5121
			CH_3O+CO	14.74	EI	3792
	$C_6H_5COOC_2H_5$ (Benzoic acid, ethyl ester)	93-89-0		14.5±0.03	EI	5121
	$C_6H_5COOC_3H_7$ (Benzoic acid, 1-methylethyl ester)	939-48-0		15.0±0.10	EI	5121
	$C_6H_5COOC_3H_7$ (Benzoic acid, propyl ester)	2315-68-6		14.9±0.06	EI	5121
	$C_6H_5COOC_4H_9$ (Benzoic acid, butyl ester)	136-60-7		15.0±0.03	EI	5121
	$C_6H_5COOC_4H_9$ (Benzoic acid, 2-methylpropyl ester)	120-50-3		15.0±0.04	EI	5121
	$C_6H_5COOC_5H_{11}$ (Benzoic acid, methylbutyl ester)	XXXXX-XX-X		15.2±0.10	EI	5121
	C_6H_5NO (Benzene, nitroso-)	586-96-9		11.0±0.1	EI	3654
	$C_6H_5CONH_2$ (Benzamide)	55-21-0	NH_2+CO	14.21	EI	3792
	$C_6H_5COC_6H_4NH_2$ (Methanone, (2-aminophenyl)phenyl-)	2835-77-0		15.6±0.3	EI	4358
	$C_6H_5COC_6H_4NH_2$ (Methanone, (3-aminophenyl)phenyl-)	2835-78-1		16.2±0.3	EI	4358
	$C_6H_5NO_2$ (Benzene,nitro-)	98-95-3	NO_2	9.46±0.05	PI	5437

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_5^+$						
	$C_6H_5NO_2$	98-95-3	NO_2	11.93±0.1	EI	3447
	$C_6H_5COC_6H_4NO_2$ (Methanone, (2-nitrophenyl)phenyl-)	2243-79-0		14.9±0.3	EI	4358
	$C_6H_5COC_6H_4NO_2$ (Methanone, (3-nitrophenyl)phenyl-)	2243-80-3		15.6±0.3	EI	4358
	$C_6H_5COC_6H_4NO_2$ (Methanone, (4-nitrophenyl)phenyl-)	1144-74-7		15.5±0.3	EI	4358
	C_6H_5Cl (Benzene,chloro-)	108-90-7	Cl	12.47±0.06	PI	5181
			Cl	12.81	EI	3626
	C_6H_5COCl (Benzoyl chloride)	98-88-4	Cl+CO	13.81	EI	3792
	$C_6H_5COC_6H_4Cl$ (Methanone, (2-chlorophenyl)phenyl-)	5162-03-8		15.0±0.3	EI	4358
	$C_6H_5COC_6H_4Cl$ (Methanone, (3-chlorophenyl)phenyl-)	1016-78-0		15.2±0.3	EI	4358
	$C_6H_5COC_6H_4Cl$ (Methanone, (4-chlorophenyl)phenyl-)	134-85-0		15.2±0.3	EI	4358
	C_6H_5Br (Benzene, bromo-)	108-86-1	Br	11.82	EI	3626
	C_6H_5I (Benzene, iodo-)	591-50-4	I	11.34	EI	3626
$C_6H_3D_2^+$						
	$CD{\equiv}CCH_2CH_2C{\equiv}CD$	XXXXX-XX-X	H	10.18±0.03	EI	3790
$C_6H_6^+$						
	$HC{\equiv}CCH_2CH_2C{\equiv}CH$	628-16-0	**	9.98±0.05	PI	5454
			**	10.48 (V)	PE	4397
			**	9.87±0.03	EI	3790
			**	9.93±0.05	EI	5454
	$CH_2{=}CHC{\equiv}CCH{=}CH_2$	821-08-9	**	8.50±0.02	PE	4374
	$H_3CC{\equiv}CC{\equiv}CCH_3$	2809-69-0	**	8.90±0.05	PI	5454
			**	8.91	PE	4048
			**	8.92	PE	4731
			**	9.08 (V)	PE	5084
			**	9.03±0.1	EI	4714
	$CH_2{=}C{=}(CH)_2{=}C{=}CH_2$	29776-96-3	**	8.53 (V)	PE	4397
	$CH{\equiv}CCH_2CH{=}C{=}CH_2$	33142-15-3	**	9.65 (V)	PE	4397
	C_6H_6 (Benzene)	71-43-2	**	9.2	PI	3586
			**	9.2 (V)	PE	3528
			**	9.22	PE	5408
			**	9.22 (V)	PE	5125
			**	9.23 (V)	PE	4884
			**	9.23 (V)	PE	4472
			**	9.24±0.02 (V)	PE	4913
			**	9.24	PE	4621
			**	9.24	PE	5197
			**	9.24 (V)	PE	3513
			**	9.24 (V)	PE	3673
			**	9.24 (V)	PE	4280
			**	9.24 (V)	PE	4701
			**	9.24 (V)	PE	5012
			**	9.24 (V)	PE	5378
			**	9.24 (V)	PE	5632
			**	9.25±0.03 (V)	PE	3713
			**	9.25±0.05 (V)	PE	4724
			**	9.25	PE	3520
			**	9.25	PE	5084
			**	9.25 (V)	PE	5600

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$C_6H_6^+$						
	C_6H_6	71-43-2	**	9.27	PE	3658
			**	9.3 (V)	PE	5258
			**	9.20±0.1	EI	3624
			**	9.25±0.07	EI	4534
			**	9.26±0.06	EI	5503
			**	9.70	EI	4834
			**	9.25	CTS	3922
	C_6H_6 (Bicyclo[2.2.0]hexa-2,5-diene)	5649-95-6		9.4 (V)	PE	4394
			**	9.40 (V)	PE	4453
	$C_3(=CH_2)_3$ (Cyclopropane, tris(methylene)-)	3227-90-5	**	9.0±0.1	S	4184
			**	8.94 (V)	PE	5431
	C_6H_6 (*Tricyclo*[3.1.0.0^{2,6}]hex-3-ene)	659-85-8	**	8.54±0.04 (V)	PE	4716
			**	8.55 (V)	PE	4400
	C_8H_8 (Pentacyclo[4.2.0.0^{2,5}.0^{3,8}.0^{4,7}]octane)	277-10-1		9.2± <0.1	EI	3735
	$C_6H_5OCH_3$ (Benzene, methoxy-)	100-66-3	CH_2O	11.27±0.1	EI	3446
			HCHO	11.50	EI	3845
				11.55± <0.1	EI	3735
	$(C_6H_6)(CO)_3Cr$ (Chromium, (η^6-benzene)tricarbonyl-)	12082-08-5		9.49±0.1	EI	3788
$C_6H_6^{+2}$						
	C_6H_6 (Benzene)	71-43-2	**	26.1	OTH	5141
$C_6H_4D_2^+$						
	$CD{\equiv}CCH_2CH_2C{\equiv}CD$	XXXXX-XX-X	**	9.97±0.06	EI	3790
$C_6H_7^+$						
	C_7H_{10} (Bicyclo[2.2.1]hept-2-ene)	498-66-8	CH_3	10.46±0.01	EI	3535
	C_7H_{10} (Tricyclo[2.2.1.0^{2,6}]heptane	279-19-6	CH_3	10.17±0.01	EI	3535
	$C_{10}H_{16}$ (Tricyclo[3.3.1.1^{3,7}]decane)	281-23-2		10.69	PI	4173
$C_6H_8^+$						
	$C_5H_5(CH_3)$ (1,3-Cyclopentadiene, 2-methyl-)	3727-31-9	**	8.4 (V)	PE	4373
	$C_5H_5(CH_3)$ (*1,3-Cyclopentadiene, 1-methyl-*)	96-39-9	**	8.4 (V)	PE	4373
	$CH_3C{\equiv}CC(CH_3){=}CH_2$	926-55-6	**	8.72±0.01	PE	5407
	$C_2H_5C{\equiv}CCH{=}CH_2$	13721-54-5	**	8.91±0.01	PE	5407
	$CH_2{=}C{=}CHC(CH_3){=}CH_2$	14763-81-6	**	8.54 (V)	PE	4829
	$CH_2{=}C{=}C(CH_3)CH{=}CH_2$	25054-29-9	**	8.54 (V)	PE	4829
	1,2,*trans*-4-C_6H_8	20130-95-4	**	8.32 (V)	PE	4829
	2,3,5-C_6H_8	33755-64-5	**	8.56 (V)	PE	4829
	cis-$CH_2{=}CHCH{=}CHCH{=}CH_2$	2612-46-6	**	8.3±0.1	S	4235
			**	8.31±0.02	PE	5432
			**	8.32	PE	3847
	trans-$CH_2{=}CHCH{=}CHCH{=}CH_2$	821-07-8	**	8.27	S	4235
			**	8.29	PE	3847
			**	8.30±0.02	PE	5432
	C_6H_8 (Bicyclo[2.2.0]hex-2-ene)	3097-63-0	**	9.4 (V)	PE	4453
	$C_4H_4(=CH_2)_2$ (Cyclobutane, 1,2-bis(methylene)-)	14296-80-1	**	8.66±0.03 (V)	PE	4766

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_8^+$						
	$C_4H_4(=CH_2)_2$	14296-80-1	**	8.77	PE	5265
	$C_4H_4(=CH_2)_2$ (Cyclobutane, 1,3-bis(methylene)-)	2045-78-5	**	9.08±0.03 (V)	PE	4766
	$C_4H_7C{\equiv}CH$ (Cyclobutane, ethynyl-)	50786-62-4	**	10.02 (V)	PE	3997
			**	10.02 (V)	PE	5607
	C_6H_8 (1,3-Cyclohexadiene)	592-57-4	**	8.25±0.02	PE	4702
			**	8.25±0.03 (V)	PE	4828
			**	8.25	PE	5411
			**	8.32 (V)	PE	5010
	C_6H_8 (1,4-Cyclohexadiene)	628-41-1	**	8.80 (V)	PE	5538
			**	8.82±0.02	PE	4702
			**	8.82	PE	5411
			**	8.82 (V)	PE	4531
			**	8.82 (V)	PE	5535
	$C_5H_5CH_3$ (1,3-Cyclopentadiene, methyl-)	26519-91-5	**	8.28±0.05 (V)	PE	3688
	$C_5H_5CH_3$ (1,3-Cyclopentadiene, 1-methyl-)	96-39-9	**	8.40 (V)	PE	4179
	$C_5H_5CH_3$ (1,3-Cyclopentadiene, 2-methyl-)	3727-31-9	**	8.45 (V)	PE	4179
	$C_5H_6{=}CH_2$ (Cyclopentene, 3-methylene-)	930-26-7	**	8.40	PE	4347
	C_6H_8 (Cyclopropane cyclopropylidene-)	27567-82-4	**	8.93 (V)	PE	4963
	C_6H_8 (*Tricyclo*[3.1.0.0^{2,6}]hexane)	287-12-7	**	9.43 (V)	PE	4400
	$C_5H_8{=}CH_2$ (Cyclopentane,methylene-)	1528-30-9	H_2	8.7	EI	5586
	$C_6H_{10}{=}CH_2$ (Cyclohexane,methylene-)	1192-37-6	CH_4	11.2	EI	5586
	$C_{10}H_{16}$ (4,7-Methano-1*H*-indene, octahydro-, (3aα,4β,7β,7aα)-)	2825-82-3		9.9±0.1	PI	3918
$C_6H_9^+$						
	$CH{\equiv}C(CH_2)_3CH_3$	693-02-7	H	10.75±0.05	EI	3585
	$CH_3C{\equiv}CCH_2CH_2CH_3$	764-35-2	H	10.81±0.05	EI	3585
	C_6H_{10} (Cyclohexene)	110-83-8	H	11.8±0.05	EI	3585
	$C_5H_8{=}CH_2$ (Cyclopentane, methylene-)	1528-30-9	H	12.13±0.05	EI	3585
	$C_5H_7CH_3$ (Cyclopentene, 1-methyl-)	693-89-0	H	11.97±0.05	EI	3585
	$C_{10}H_{15}CH_3$ (4,7-Methano-1*H*-indene, octahydro-8-methyl, stereoisomer)	50745-92-1		9.5±0.1	PI	3918
	$C_{10}H_{15}C_2H_5$ (4,7-Methano-1*H*-indene, 5-ethyloctahydro-, (3aα,4β,5α,7β,7aα)-)	32787-97-6		$\leqslant$10.2±0.1	PI	3918
	$C_6H_{11}Cl$ (Cyclohexane, chloro-)	542-18-7		10.40±0.02	PI	4078
$C_6H_{10}^+$						
	$C_5H_7(CH_3)$ (Cyclopentene, 3-methyl-)	1120-62-3	**	8.98±0.05 (V)	PE	4954
	trans-$CH_2{=}CHC(CH_3){=}CHCH_3$	XXXXX-XX-X	**	8.37±0.05	EI	5483
	$CH_2{=}C(C_2H_5)CH{=}CH_2$	XXXXX-XX-X	**	8.81±0.05	EI	5483
	$CH_2{=}C(CH_3)C(CH_3){=}CH_2$	513-81-5	**	8.62	PE	3847
			**	8.72 (V)	PE	5010
			**	8.76 (V)	PE	3892
			**	8.54±0.04	EI	4274

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_{10}^+$						
	$CH_2=C(CH_3)C(CH_3)=CH_2$	513-81-5	**	8.66±0.05	EI	5483
	$(CH_2=CHCH_2)_2$	592-42-7	**	9.25 (V)	PE	5314
			**	9.29±0.05	EI	5483
			**	9.59±0.02 (V)	PE	4010
	$C_4H_9C\equiv CH$	693-02-7	**	10.067±0.005	PE	4575
			**	9.95±0.05	EI	5483
			**	10.52±0.05	EI	3585
	$CH_2=C(CH_3)CH_2CH=CH_2$	763-30-4	**	9.16±0.05	EI	5483
	$C_3H_7C\equiv CCH_3$	764-35-2	**	9.366±0.005	PE	4575
			**	9.37±0.05	EI	5483
			**	9.97±0.05	EI	3585
	$CH\equiv CC(CH_3)_3$	917-92-0	**	9.80±0.05	EI	5483
			**	10.67±0.02	EI	4126
	$CH_3CH_2CH(CH_3)C\equiv CH$	922-59-8	**	9.975±0.008	PE	4575
			**	9.79±0.05	EI	5483
	trans-$CH_2=C(CH_3)CH=CHCH_3$	926-54-5	**	8.47 (V)	PE	5010
			**	8.45±0.05	EI	5483
	$(CH_3)_2C=CHCH=CH_2$	926-56-7	**	8.29	PE	5202
			**	8.26±0.05	EI	5483
	$C_2H_5C\equiv CC_2H_5$	928-49-4	**	9.323±0.005	PE	4575
			**	9.34±0.05	EI	5483
	$CH_2=CHCH(CH_3)CH=CH_2$	1115-08-8	**	9.40±0.05	EI	5483
	$CH_2=C(CH_3)CH=CHCH_3$	1118-58-7	**	8.47±0.02	PE	4702
	cis-$CH_2=CHC(CH_3)=CHCH_3$	2787-43-1	**	8.39±0.02	PE	4702
	trans-$CH_2=CHC(CH_3)=CHCH_3$	2787-45-3	**	16.6±0.1 (V)	PE	4702
			**	8.46±0.05	EI	5483
	$(CH_3)_2C=C=CHCH_3$	3043-33-2	**	8.69 (V)	PE	4019
			**	8.64±0.05	EI	5483
	$C_2H_5C(=CH_2)CH=CH_2$	3404-63-5	**	8.79±0.02	PE	4702
			**	8.79	PE	5411
	$CH_2=CHC(CH_3)=CHCH_3$	4549-74-0	**	8.39	PE	5411
	trans,trans-2,4-*n*-C_6H_{10}	5194-51-4	**	8.26±0.05	EI	5483
	$(CH_3)_2CHCH_2C\equiv CH$	7154-75-8	**	10.055±0.005	PE	4575
			**	9.83±0.05	EI	5483
	$CH_2=C=C(CH_3)C_2H_5$	7417-48-3	**	8.74±0.05	EI	5483
	$CH_2=C=CHCH(CH_3)_2$	13643-05-5	**	9.06±0.05	EI	5483
	$(CH_3)_2CHC\equiv CCH_3$	21020-27-9	**	9.346±0.007	PE	4575
			**	9.31±0.05	EI	5483
	1,2-*n*-C_6H_{10}	592-44-9	**	9.00±0.05	EI	5483
	1,3-C_6H_{10}	592-48-3	**	8.53±0.02	PE	4702
	2,3-*n*-C_6H_{10}	592-49-4	**	8.76±0.05	EI	5483
	2,4-C_6H_{10}	592-46-1	**	8.09±0.03 (V)	PE	4828
	2,4-*trans,cis*-C_6H_{10}	5194-50-3	**	8.25±0.02	PE	4702
			**	8.26	PE	5202
			**	8.24±0.05	EI	5483
	2,4-*cis,cis*-C_6H_{10}	6108-61-8	**	8.18±0.02	PE	4702
	(*tert*-C_4H_9)$C\equiv CH$	917-92-0	**	9.923±0.010	PE	4575
	cis-1,4-*n*-C_6H_{10}	7318-67-4	**	9.04±0.05	EI	5483
	trans-1,4-*n*-C_6H_{10}	7319-00-8	**	8.98±0.05	EI	5483
	trans-1,3-*n*-C_6H_{10}	20237-34-7	**	8.54±0.05	EI	5483
	trans,trans-$CH_3CH=CHCH=CHCH_3$	5194-51-4	**	8.09	PE	3847
			**	8.93 (V)	PE	3892
	C_6H_{10} (Bicyclo[2.2.0]hexane)	186-04-9	**	9.6 (V)	PE	4453
	$(C_3H_5)_2$ (1,1′-Bicyclopropyl)	5685-46-1	**	9.6 (V)	PE	5344
			**	9.12±0.05	EI	5483
	$C_4H_7CH=CH_2$ (Cyclobutane, ethenyl-)	2597-49-1	**	9.44 (V)	PE	4347
			**	9.44 (V)	PE	5607
			**	8.70±0.05	EI	5483

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_{10}^+$						
	C_6H_{10} (Cyclohexene)	110-83-8	**	8.94±0.01	PI	5556
			**	9.11 (V)	PE	4249
			**	9.12 (V)	PE	4267
			**	9.12 (V)	PE	4285
			**	9.12 (V)	PE	5538
			**	9.57±0.05	EI	3585
	$C_5H_8{=}CH_2$ (Cyclopentane, methylene-)	1528-30-9	**	8.55±0.01	PI	3585
			**	9.14 (V)	PE	4669
			**	7.2	EI	5586
			**	9.26±0.05	EI	3585
	$C_5H_7CH_3$ (Cyclopentene, 1-methyl-)	693-89-0	**	8.55±0.01	PI	3585
			**	8.60±0.01	PI	5556
			**	9.12±0.05	EI	3585
	$CH_3C_5H_7$ (Cyclopentene,3-methyl-)	1120-62-3	**	8.95±0.01	PI	5556
	$C_3H_5C(CH_3){=}CH_2$ (Cyclopropane, (1-methylethenyl)-)	4663-22-3	**	9.12	PE	4608
			**	8.66±0.05	EI	5483
	$C_3H(CH_3)_3$ (Cyclopropene, 1,3,3-trimethyl-)	3664-56-0	**	8.58±0.05	EI	5483
	C_6H_{10} (Spirohexane)	157-45-9	**	9.66 (V)	PE	5361
	$C_6H_{10}{=}CH_2$ (Cyclohexane,methylene-)	1192-37-6	CH_2	11.7	EI	5586
	$C_6H_{10}(CH_3)_2$ (Cyclohexane, 1,2-dimethyl-, *cis*-)	2207-01-4	$2CH_3$	10.46±0.1	EI	3581
	$C_6H_{10}(CH_3)_2$ (Cyclohexane, 1,2-dimethyl-, *trans*-)	6876-23-9	$2CH_3$	10.63±0.1	EI	3581
	$C_{10}H_{15}CH_3$	XXXXX-XX-X		9.8±0.1	PI	3918
	$C_{10}H_{15}CH_3$ (4,7-Methano-1*H*-indene, octahydro-2-methyl-, (2α,3aβ,4α,7α,7aβ)-)	50745-90-9		10.0±0.1	PI	3918
	$(CH_3)_2CHC_2H_4CHO$	1119-16-0	H_2O	10.00	EI	5264
	$C_2H_5CH(CH_3)CH_2CHO$	15877-57-3	H_2O	9.90	EI	5264
	n-$C_5H_{11}CHO$	66-25-1	H_2O	9.80	EI	5264
	$C_6H_{11}OH$ (Cyclohexanol)	108-93-0	H_2O	10.2±0.2	EI	4617
			H_2O	10.4±0.05	EI	4548
	$C_6H_{11}Cl$ (Cyclohexane, chloro-)	542-18-7		10.10±0.05	PI	4078
$C_6H_9D^+$						
	$C_6H_9D_2OH$ (Cyclohexanol, 3,5-d_2-)	XXXXX-XX-X	HDO	11.3±0.10	EI	4548
	$C_6H_9D_2OH$ (Cyclohexanol, 4,4-d_2-)	XXXXX-XX-X	HDO	10.5±0.06	EI	4548
$C_6H_8D_2^+$						
	$C_6H_9D_2OH$ (Cyclohexanol, 3,5-d_2-)	XXXXX-XX-X	H_2O	10.5±0.10	EI	4548
	$C_6H_9D_2OH$ (Cyclohexanol, 4,4-d_2-)	XXXXX-XX-X	H_2O	11.1±0.04	EI	4548
$C_6H_7D_3^+$						
	$C_6H_7D_4OH$ (Cyclohexan-*3,3,5,5*-d_4-ol)	XXXXX-XX-X	HDO	10.7±0.2	EI	4617
$C_6H_6D_4^+$						
	$C_6H_7D_4OH$ (Cyclohexan-*3,3,5,5*-d_4-ol)	21273-04-1	H_2O	10.2±0.2	EI	4617

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_{11}^+$						
	C_6H_{12} (Cyclohexane)	110-82-7	H	11.32±0.05	PI	4078
	$C_6H_{11}Cl$ (Cyclohexane, chloro-)	542-18-7		10.20±0.05	PI	4078
	$C_6H_{11}Br$ (Cyclohexane, bromo-)	108-85-0		9.85±0.05	PI	4078
$C_6H_{12}^+$						
	$(CH_3)_3CCH=CH_2$	558-37-2	**	9.450±0.005	PE	3957
			**	9.7 (V)	PE	3940
	$(CH_3)_4C=C$	563-78-0	**	8.41 (V)	PE	5535
			**	9.072±0.005	PE	3957
	$(CH_3)_2C=C(CH_3)_2$	563-79-1	**	8.26	PE	3533
			**	8.271±0.005	PE	3957
			**	8.30 (V)	PE	5600
			**	8.42 (V)	PE	4243
			**	8.46 (V)	PE	4459
			**	10.52 (V)	PE	4747
	$(CH_3)_2CHCH_2CH=CH_2$	691-37-2	**	9.452±0.003	PE	3957
	$(C_2H_5)_2C=CH_2$	760-21-4	**	9.061±0.005	PE	3957
	$C_2H_5CH_2C(CH_3)=CH_2$	763-29-1	**	9.076±0.005	PE	3957
	1-C_6H_{12}	592-41-6	**	9.31	PE	4033
			**	9.37±0.02	PE	4695
			**	9.478±0.003	PE	3957
			**	9.65±0.01 (V)	PE	4939
			**	9.33	EI	4033
	2-C_6H_{12}	592-43-8	**	8.88±0.02	PE	4695
	3-*trans*-C_6H_{12}	13269-52-8	**	8.83±0.02	PE	4695
			**	9.14±0.01 (V)	PE	4939
	cis-$(CH_3)_2CHCH=CHCH_3$	691-38-3	**	8.976±0.005	PE	3957
	cis-2-C_6H_{12}	7688-21-3	**	8.969±0.005	PE	3957
			**	9.15±0.01 (V)	PE	4939
	cis-3-C_6H_{12}	7642-09-3	**	8.954±0.005	PE	3957
			**	9.15±0.01 (V)	PE	4939
	trans-$(CH_3)_2CHCH=CHCH_3$	674-76-0	**	8.972±0.005	PE	3957
	trans-2-C_6H_{12}	4050-45-7	**	8.966±0.005	PE	3957
			**	9.16±0.01 (V)	PE	4939
	trans-3-C_6H_{12}	13269-52-8	**	8.965±0.005	PE	3957
	C_6H_{12} (Cyclohexane)	110-82-7	**	9.88±0.01	S	3757
			**	9.88±0.01	PI	4078
			**	9.89±0.01	PI	5556
			**	9.84	PE	4319
			**	9.87	PE	4056
			**	9.88	PE	5043
			**	10.3 (V)	PE	3997
			**	9.83±0.05	EI	4319
	$CH_3C_5H_9$ (Cyclopentane,methyl-)	96-37-7	**	10.34±0.04	PI	5556
			**	18.3±0.1	PE	4702
$C_6D_{12}^+$						
	C_6D_{12} (Cyclohexane-d_{12})	1735-17-7	**	9.91±0.01	S	3757
$C_6H_{13}^+$						
	1-C_6H_{13}	2679-29-0	**	7.92±0.06	EI	4895
	2-C_6H_{13}	2493-44-9	**	7.38	EI	4895
	n-$C_3H_7C(CH_3)_2$	21058-26-4	**	6.82	EI	4895

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_{11}^+$						
	n-C_6H_{14}	110-54-3	**	10.22	PE	4056
			**	18.7±0.1 (V)	PE	4702
	(iso-C_3H_7)$_2$	79-29-8	**	17.9±0.1 (V)	PE	4702
	tert-$C_4H_9CH_2CH_3$	75-83-2	**	17.6±0.1 (V)	PE	4702
$C_7H_6^+$						
	C_7H_6 (Bicyclo[3.2.0]hepta-1,4,6-triene)	35295-58-0	**	8.41 (V)	PE	4779
	C_7H_6 (Bicyclo[4.1.0]hepta-1,3,5-triene)	4646-69-9	**	8.82 (V)	PE	4063
	$C_5H_4(=C=CH_2)$ (1,3-Cyclopentadiene, 5-ethenylidene-)	27041-32-3	**	8.29 (V)	PE	4779
	cis-$C_3H_4(C\equiv CH)_2$ (Cyclopropane, cis-1,2-diethynyl-)	59502-33-9	**	8.90±0.02	PE	4374
	trans-$C_3H_4(C\equiv CH)_2$ (Cyclopropane, *trans*-1,2-diethynyl-)	35295-57-9	**	9.00±0.02	PE	4374
	$C_6H_5CH_2CN$ (Benzeneacetonitrile)	140-29-4	HCN	12.19	EI	4934
	$C_6H_4(CN)CH_3$ (Benzonitrile, 4-methyl-)	104-85-8	HCN	12.22	EI	4934
	C_7H_7CN (2,4,6-Cycloheptatriene-1-carbonitrile)	13612-59-4	HCN	11.19	EI	4934
$C_7H_7^+$						
	C_7H_7 (2,4,6-Cycloheptatrien-1-yl) (JC-Mean value of Jahn-Teller components)	3551-27-7	**	6.28±0.02	PE	4820
			**	6.74±0.05	EI	3789
	$C_6H_5CH_2$ (Methyl, phenyl-)	2154-56-5	**	7.20±0.02	PE	4722
			**	7.20±0.02	PE	4898
			**	7.43±0.06 (V)	PE	4609
	$C_6H_5CH_3$ (Benzene,methyl-)	108-88-3	H	10.71±0.03	PI	5120
			H	10.71	EI	5293
			H	11.8	EI	4115
	C_7H_8 (1,3,5-Cycloheptatriene)	544-25-2	H	9.36±0.02	PI	5120
			H	10.73	EI	4115
	trans-$CH_2=CHCH=CHCH=CHCH_3$	17679-93-5		12.2±0.15	PE	5432
	$C_6H_4(CH_3)_2$ (Benzene, 1-2-dimethyl-)	95-47-6	CH_3	11.80±0.2	EI	4199
	$C_6H_4(CH_3)_2$ (Benzene, 1,3-dimethyl-)	108-38-8	CH_3	11.80±0.2	EI	4199
	$C_6H_4(CH_3)_2$ (Benzene, 1,4-dimethyl-)	106-42-3		11.5±0.3	EI	4223
			CH_3	11.85±0.2	EI	4199
	$C_6H_5C_2H_5$ (Benzene,ethyl-)	100-41-4	CH_3	10.06	EI	5293
	$C_6H_5CH(CH_3)_2$ (Benzene,1-methylethyl-)	98-82-8	C_2H_5	9.91	EI	5293
	$C_6H_5CH_2CH_2CH_3$ (Benzene,propyl-)	103-65-1	C_2H_5	9.85	EI	5293
	$C_6H_5C_4H_9$ (Benzene,butyl-)	104-51-8	C_3H_7	9.93	EI	5293
	$C_6H_5CH(CH_3)C_2H_5$ (Benzene,1-methylpropyl)	135-98-8	C_3H_7	10.00	EI	5293
	$C_6H_5CH_2CH(CH_3)_2$ (Benzene,2-methylpropyl)	538-93-2	C_3H_7	9.99	EI	5293
	$(C_6H_5)_2CH_2$ (Benzene, 1,1′-methylenebis-)	101-81-5	C_6H_5	11.5±0.1	EI	3807

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_7^+$						
	$C_6H_5C_6H_4CH_3$	644-08-6		13.7±0.3	EI	4223
	(1,1′-Biphenyl, 4-methyl-)					
	$C_6H_5CH_2CH_2C_6H_4CH_3$	34403-05-9		11.2±0.3	EI	5230
	(Benzene,1-methyl-2-(2-phenylethyl)-)					
	$C_6H_5CH_2CH_2C_6H_4CH_3$	34403-06-0		11.1±0.2	EI	5230
	(Benzene,1-methyl-3-(2-phenylethyl)-)					
	$C_6H_5CH_2CH_2C_6H_4CH_3$	14310-20-4		11.3±0.4	EI	5230
	(Benzene,1-methyl-4-(2-phenylethyl)-)					
	$C_6H_5(CH_2)_3C_6H_5$	1081-75-0		11.6	EI	4925
	(Benzene, 1,1′-(1,3-propanediyl)bis-)					
				11.6	EI	5230
	$C_6H_5CH_2CH_2C_7H_7$	712-32-6		9.3±0.1	EI	5230
	(1,3,5-Cycloheptatriene,7-(2-phenylethyl)-)					
	$C_6H_5CH_2N(CH_3)_2$	28262-13-7	C_2H_6N	9.62	PI	5543
	(Benzenemethanamine,dimethyl-)					
	$C_6H_5CH_2CH_2N(CH_3)_2$	29088-49-1	C_3H_8N	10.55	PI	5543
	(Benzeneethanamine,dimethyl-)					
	$C_6H_3(CH_3)_2CHO$	15764-16-6		11.2	EI	4051
	(Benzaldehyde, 2,4-dimethyl-)					
	$C_6H_3(CH_3)_2CHO$	5779-94-2		11.2	EI	4051
	(Benzaldehyde, 2,5-dimethyl-)					
	$C_6H_3(CH_3)_2CHO$	5973-71-7		11.1	EI	4051
	(Benzaldehyde, 3,4-dimethyl-)					
	$C_6H_4(CH_3)COCH_3$	122-00-9		13.8±0.3	EI	4223
	(Ethanone, 1-(4-methylphenyl)-)					
	$C_6H_4(CH_3)COOH$	99-04-7	COOH	12.48±0.2	EI	3973
	(Benzoic acid, 3-methyl-)					
	$C_6H_4(CH_3)COOH$	99-94-5	COOH	12.55±0.2	EI	3973
	(Benzoic acid, 4-methyl-)					
	$C_6H_5CH_2CH_2OCOCH_3$	103-45-7		12.50	EI	3590
	(Acetic acid, 2-phenylethyl ester)					
	$CH_3C_6H_4NO_2$	88-72-2	NO_2	11.0±0.1	PI	5437
	(Benzene,1-methyl-2-nitro-)					
				13.1±0.3	EI	4223
	$C_6H_4(NO_2)CH_3$	99-08-1	NO_2	11.58±0.1	EI	3447
	(Benzene, 1-methyl-3-nitro-)					
				12.1±0.3	EI	4223
	$CH_3C_6H_4NO_2$	99-99-0	NO_2	11.3±0.1	PI	5437
	(Benzene,1-methyl-4-nitro-)					
			NO_2	11.80±0.1	EI	3447
				12.3±0.3	EI	4223
	$C_6H_5CH_2Cl$	25168-05-2	Cl	10.16±0.05	PI	5515
	(Benzene,chloromethyl-)					
	$C_6H_4ClCH_3$	95-49-8		11.21±0.1	EI	3777
	(Benzene, 1-chloro-2-methyl-)					
	$C_6H_4ClCH_3$	108-41-8		11.34±0.1	EI	3777
	(Benzene, 1-chloro-3-methyl-)					
	$C_6H_4ClCH_3$	106-43-4		11.42±0.1	EI	3777
	(Benzene, 1-chloro-4-methyl-)					
				11.5±0.3	EI	4223
	$C_6H_4BrCH_3$	95-46-5		11.14±0.1	EI	3777
	(Benzene, 1-bromo-2-methyl-)					
	$C_6H_4BrCH_3$	591-17-3		11.22±0.1	EI	3777
	(Benzene, 1-bromo-3-methyl-)					
	$C_6H_4BrCH_3$	106-38-7		11.1±0.3	EI	4223
	(Benzene, 1-bromo-4-methyl-)					
				11.22±0.1	EI	3777
	$C_6H_4ICH_3$	615-37-2		11.14±0.1	EI	3777
	(Benzene, 1-iodo-2-methyl-)					
	$C_6H_4ICH_3$	625-95-6		11.0±0.3	EI	4223
	(Benzene, 1-iodo-3-methyl-)					

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_7^+$						
	$C_6H_4ICH_3$	625-95-6		11.26±0.1	EI	3777
	$C_6H_4ICH_3$	624-31-7		11.15±0.1	EI	3777
	(Benzene, 1-iodo-4-methyl-)					
$C_7H_5D_2^+$						
	$C_6H_5CD_2$	2154-54-3	**	7.22±0.02	PE	4722
	(Methyl-d_2, phenyl-)					
			**	7.22±0.02	PE	4898
$C_7H_8^+$						
	$C_6H_5(n\text{-}C_4H_9)$	104-51-8	C_3H_6	9.73±0.04	PI	4928
	(Benzene, butyl-)					
	$C_6H_5(iso\text{-}C_4H_9)$	538-93-2	C_3H_6	9.76±0.04	PI	4928
	(Benzene, (2-methylpropyl)-)					
	$C_6H_5(n\text{-}C_5H_{11})$	538-68-1		9.72±0.04	PI	4928
	(Benzene, pentyl-)					
	$CH_2=C=C(CH_3)CH=C=CH_2$	57212-57-4	**	8.39 (V)	PE	4397
	$C_6H_5CH_3$	108-88-3	**	8.82	PI	3753
	(Benzene, methyl-)					
			**	8.72	PE	3955
			**	8.78±0.02	PE	3854
			**	8.80	PE	3868
			**	8.82	PE	4621
			**	8.82 (V)	PE	4280
			**	8.84	PE	5574
			**	8.85±0.015 (V)	PE	4107
			**	8.85 (V)	PE	4884
				8.900±0.03 (V)	PE	4340
			**	9.0±0.03 (V)	PE	3713
			**	9.00 (V)	PE	5258
			**	8.67	EI	3845
			**	8.80±0.1	EI	3788
			**	8.81	EI	4115
			**	8.82	EI	5293
			**	8.89±0.03	EI	3626
			**	8.71	CTS	3546
			**	8.91	CTS	4029
	C_7H_8	121-46-0	**	8.6 (V)	PE	3724
	(Bicyclo[2.2.1]hepta-2,5-diene)					
			**	8.69 (V)	PE	3687
			**	8.69 (V)	PE	5538
			**	8.70 (V)	PE	3509
			**	8.73 (V)	PE	5010
			**	8.73 (V)	PE	5367
			**	8.69 (V)	PE	3824
	C_7H_8	544-25-2	**	8.50 (V)	PE	5444
	(1,3,5-Cycloheptatriene)					
			**	8.52	EI	4115
	C_7H_8	765-46-8	**	8.14	PE	3576
	(Spiro[2.4]hepta-4,6-diene)					
	C_7H_8	XXXXX-XX-X	**	8.33 (V)	PE	4142
	(Tetracyclo[3.2.0.0^{2,7}.0^{4,6}]heptane)					
	C_7H_8	35618-58-7	**	8.82 (V)	PE	5441
	(Tricyclo[4.1.0.0^{2,7}]hept-3-ene)					
	trans-$CH_2=CHCH=CHCH=CHCH_3$	17679-93-5		12.4±0.15	PE	5432
	$C_6H_5C_4H_9$	104-51-8	$CH_2=CHCH_3$	10.10±0.1	EI	3629
	(Benzene, butyl-)					
	$C_6H_5(CH_2)_3C_6H_5$	1081-75-0		9.7±0.1	EI	4925
	(Benzene, 1,1'-(1,3-propanediyl)bis-)					
				10.0±0.1	EI	5230
	$C_6H_5CH_2CH_2C_7H_7$	712-32-6		9.0±0.1	EI	5230
	(1,3,5-Cycloheptatriene,7-(2-phenylethyl)-)					

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_8^+$						
	$C_6H_4(OCH_3)CH_3$ (Benzene, 1-methoxy-3-methyl-)	100-84-5	CH_2O	11.22±0.1	EI	3446
	$C_6H_4(OCH_3)CH_3$ (Benzene, 1-methoxy-4-methyl-)	104-93-8	CH_2O	11.11±0.1	EI	3446
			HCHO	11.23	EI	3845
	$(C_6H_5CH_3)(CO)_3Cr$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-methylbenzene]-)	12083-24-8		8.31±0.1	EI	3788
$C_7H_8^{+2}$						
	$C_6H_5CH_3$ (Benzene, methyl-)	108-88-3	**	24.2	OTH	5141
$C_7H_9^+$						
	C_7H_{10} (Bicyclo[2.2.1]hept-2-ene)	498-66-8	H	11.0±0.01	EI	3535
	C_7H_{10} (Tricyclo[2.2.1.$0^{2,6}$]heptane	279-19-6	H	11.3±0.01	EI	3535
	$C_{10}H_{16}$ (Tricyclo[3.3.1.$1^{3,7}$]decane)	281-23-2		10.69	PI	4173
	C_7H_9Br (Bicyclo[2.2.1]hept-2-ene, 5-bromo-, *endo*-)	5810-82-2	Br	10.1	EI	5633
	C_7H_9Br (Bicyclo[2.2.1]hept-2-ene, 5-bromo-, *exo*-)	5889-54-3	Br	10.2	EI	5633
$C_7H_{10}^+$						
	$CH{\equiv}CC(C_2H_5){=}CHCH_3$	14272-82-3	**	8.70±0.01	PE	5407
	$C_2H_5C{\equiv}CC(CH_3){=}CH_2$	23056-94-2	**	8.66±0.01	PE	5407
	$CH_2{=}CHC(CH_3){=}CHCH{=}CH_2$-E	24587-26-6		8.28 (V)	PE	4380
	$CH_2{=}C{=}C(CH_3)C(CH_3){=}CH_2$	39968-66-6	**	8.10 (V)	PE	4829
	$CH_2{=}C(CH_3)CH{=}CHCH{=}CH_2$-E	41233-72-1		8.31 (V)	PE	4380
	trans-$CH_2{=}CHCH{=}CHCH{=}CHCH_3$	17679-93-5	**	7.96±0.02	PE	5432
			**	8.07	PE	3847
	C_7H_{10} (Bicyclo[2.2.1]hept-2-ene)	498-66-8	**	8.95	PE	5481
			**	8.95 (V)	PE	3509
			**	8.97 (V)	PE	3687
			**	8.97 (V)	PE	4249
			**	8.97 (V)	PE	4285
			**	8.97 (V)	PE	5538
			**	8.80±0.01	EI	3535
	C_7H_{10} (Bicyclo[4.1.0]hept-2-ene)	2566-57-6	**	8.69 (V)	PE	3849
	C_7H_{10} (1,3-Cycloheptadiene)	4054-38-0	**	8.31±0.03 (V)	PE	4828
	$C_6H_8{=}CH_2$ (Cyclohexene, 4-methylene-)	13407-18-6	**	9.27 (V)	PE	4249
	$C_5H_6(=CH_2)_2$ (Cyclopentane,1,2-bis(methylene)-)	20968-70-1	**	8.58	PE	5265
	$C_3H_5C(CH_3){=}C{=}CH_2$ (Cyclopropane, (1-methyl-1,2-propadienyl)-)	51549-86-1	**	8.83	PE	4608
	C_7H_{10} (Spiro[2.4]hept-4-ene)	52708-23-3	**	8.48 (V)	PE	4347
	C_7H_{10} (Tricyclo[2.2.1.$0^{2,6}$]heptane)	279-19-6	**	9.40 (V)	PE	3741
			**	8.92±0.01	EI	3535
	C_7H_{10} (Tricyclo[4.1.0.$0^{2,7}$]heptane)	287-13-8	**	8.72 (V)	PE	4400
			**	8.72 (V)	PE	5441
	$C_{10}H_{15}CH_3$ (4,7-Methano-1*H*-indene, octahydro-8-methyl-, stereoisomer)	50745-92-1		9.5±0.1	PI	3918

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_{11}^+$						
	$C_{10}H_{16}$ (4,7-Methano-1*H*-indene, octahydro-, (3aα,4β,7β,7aα)-)	2825-82-3		9.9±0.1	PI	3918
	$C_{10}H_{15}CH_3$ (2-Methyl-exo-tricyclo[5.2.1.$0^{2,6}$]decane)	XXXXX-XX-X		⩽10.2±0.1	PI	3918
	$C_{10}H_{15}CH_3$ (4,7-Methano-1*H*-indene, octahydro-2-methyl-, (2α,3aβ,4α,7α,7aβ)-)	50745-90-9		10.0±0.1	PI	3918
	$C_{10}H_{15}C_2H_5$ (4,7-Methano-1*H*-indene, 5-ethyloctahydro-, (3aα,4β,5α,7β,7aα)-)	32787-97-6		⩽10.2±0.1	PI	3918
$C_7H_{12}^+$						
	$C_5H_7(C_2H_5)$ (Cyclopentene, 3-ethyl-)	694-35-9	**	8.91±0.05 (V)	PE	4954
			**	8.88±0.01	PI	5556
	$C_5H_{11}C{\equiv}CH$	628-71-7	**	10.044±0.005	PE	4575
	$CH_2{=}CHCH_2CH{=}C(CH_3)_2$	763-88-2	**	8.70 (V)	PE	4211
	$(CH_3)_2C{=}C{=}C(CH_3)_2$	1000-87-9	**	8.47 (V)	PE	4019
			**	8.53 (V)	PE	5362
	$(C_2H_3)_2C(CH_3)_2$	1112-35-2	**	9.55 (V)	PE	3994
	$C_4H_9C{\equiv}CCH_3$	1119-65-9	**	9.326±0.005	PE	4575
	$(CH_3)_2CH(CH_2)_2C{\equiv}CH$	2203-80-7	**	10.015±0.005	PE	4575
	$C_2H_5C{\equiv}CC_3H_7$	2586-89-2	**	9.260±0.005	PE	4575
	$CH_2{=}CH(CH_2)_3CH{=}CH_2$	3070-53-9	**	9.52±0.02 (V)	PE	4010
	$(CH_3)_2CHCH_2C{\equiv}CCH_3$	53566-37-3	**	9.320±0.005	PE	4575
	(*tert*-C_4H_9)$C{\equiv}CCH_3$	999-78-0	**	9.276±0.010	PE	4575
	C_7H_{12} (Bicyclo[2.2.1]heptane)	279-23-2	**	10.15 (V)	PE	3509
			**	10.2 (V)	PE	3687
	C_7H_{12} (Bicyclo[4.1.0]heptane)	286-08-8	**	9.46 (V)	PE	3849
	C_7H_{12} (Cycloheptene(Z))	628-92-2	**	9.05±0.15	EI	5532
			**	9.12 (V)	PE	4285
	$C_6H_{10}{=}CH_2$ (Cyclohexane, methylene-)	1192-37-6	**	9.12±0.02 (V)	PE	4338
			**	9.13 (V)	PE	4249
			**	9.7	EI	5586
	$CH_3C_6H_9$ (Cyclohexene,1-methyl-)	591-49-1	**	8.67±0.02	PI	5556
	$CH_3C_6H_9$ (Cyclohexene,3-methyl-)	591-48-0	**	8.89±0.01	PI	5556
	$CH_3C_6H_9$ (Cyclohexene,4-methyl-)	591-47-9	**	8.91±0.01	PI	5556
	$C_2H_5C_5H_7$ (Cyclopentene,1-ethyl-) (Cyclopentene,3-ethyl-)	2146-38-5	**	8.53±0.01	PI	5556
	C_7H_{12} (Cyclopropene,tetramethyl)	26385-95-5	**	8.52 (V)	PE	5480
$C_7H_{13}^+$						
	$C_6H_{10}(CH_3)_2$ (Cyclohexane, 1,2-dimethyl-, *cis*-)	2207-01-4	CH_3	10.55±0.05	EI	3581
	$C_6H_{10}(CH_3)_2$ (Cyclohexane, 1,2-dimethyl-, *trans*-)	6876-23-9	CH_3	10.73±0.05	EI	3581
$C_7H_{14}^+$						
	trans-$(CH_3)_3CCH{=}CHCH_2$	690-08-4	**	8.908±0.008	PE	3957
	$(CH_3)_3CC(CH_3){=}CH_2$	594-56-9	**	9.016±0.007	PE	3957
	$(CH_3)_3CCH_2CH{=}CH_2$	762-62-9	**	9.399±0.003	PE	3957
			**	9.6 (V)	PE	3940
	$(CH_3)_2CHCH_2C(CH_3){=}CH_2$	2213-32-3	**	9.025±0.005	PE	3957
	$CH_3(CH_2)_3C(CH_3){=}CH_2$	6094-02-6	**	9.039±0.005	PE	3957

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_{14}^+$						
	$C_2H_5C(CH_3)=C(CH_3)_2$	10574-37-5	**	8.213±0.005	PE	3957
	1-C_7H_{14}	592-76-7	**	9.27±0.02	PE	4695
			**	9.442±0.003	PE	3957
	2-C_7H_{14}	592-77-8	**	8.84±0.02	PE	4695
	3-C_7H_{14}	592-78-9	**	8.77±0.02	PE	4695
	cis-$(CH_3)_3CCH=CHCH_3$	762-63-0	**	8.922±0.008	PE	3957
	cis-$(CH_3)_2CHCH_2CH=CHCH_3$	13151-17-2	**	8.917±0.005	PE	3957
	trans-$CH_3CH_2C(CH_3)HCH=CHCH_3$	3683-22-5	**	8.912±0.005	PE	3957
	trans-$(CH_3)_2CHCH_2CH=CHCH_3$	7385-82-2	**	8.919±0.005	PE	3957
	C_7H_{14} (Cycloheptane)	291-64-5	**	9.97	PE	4319
			**	9.88±0.05	EI	4319
	$CH_3C_6H_{11}$ (Cyclohexane,methyl-)	108-87-2	**	9.76±0.03	PI	5556
	$C_2H_5C_5H_9$ (Cyclopentane,ethyl-)	1640-89-7	**	10.12±0.02	PI	5556
$C_7H_{15}^+$						
	1-C_7H_{15}	3356-67-0	**	7.90±0.06	EI	4895
	2-C_7H_{15}	3474-30-4	**	7.35±0.06	EI	4895
	n-$C_4H_9C(CH_3)_2$	40626-78-6	**	6.79	EI	4895
$C_8H_2^+$						
	$CH{\equiv}CC{\equiv}CC{\equiv}CC{\equiv}CH$	XXXXX-XX-X	**	9.09±0.02	PE	4460
$C_8H_6^+$						
	C_8H_6	XXXXX-XX-X	**	8.95±0.1	EI	4714
	$CH_3C{\equiv}CC{\equiv}CC{\equiv}CCH_3$	1072-20-4	**	8.60	PE	4048
	$C_6H_5C{\equiv}CH$ (Benzene, ethynyl-)	536-74-3	**	8.75	PE	3938
			**	8.78 (V)	PE	4334
			**	8.78 (V)	PE	5259
			**	8.82±0.02 (V)	PE	5409
			**	8.88±0.02 (V)	PE	3854
	C_8H_6 (Bicyclo[4.2.0]octa-1,3,5,7-tetraene)	4026-23-7	**	7.87±0.02 (V)	PE	4945
$C_8H_8^+$						
	$C_6H_5CH=CH_2$ (Benzene, ethenyl-)	100-42-5	**	8.40±0.02	PE	3854
			**	8.42	PE	3938
			**	8.48 (V)	PE	4884
			**	8.49 (V)	PE	3964
			**	8.50 (V)	PE	4347
			**	8.55 (V)	PE	3781
			**	8.55 (V)	PE	5632
			**	8.23±0.1	EI	4714
			**	8.28±0.04	EI	4097
	C_8H_8 (Bicyclo[2.2.1]hepta-2,5-diene, 7-methylene-)	37846-63-2	**	8.50 (V)	PE	3933
	C_8H_8 (Bicyclo[4.2.0]octa-1,3,5-triene)	694-87-1	**	8.66±0.03 (V)	PE	4828
			**	8.66 (V)	PE	4063
	$C_4(=CH_2)_4$ (Cyclobutane, tetrakis(methylene)-)	3227-91-6	**	8.35	PE	4728
	$C_6H_4(=CH_2)_2$ (1,4-Cyclohexadiene,3,6-bis(methylene)-)	502-86-3	**	7.87±0.05 (V)	PE	4510
	C_8H_8 (1,5-Cyclooctadiyne)	49852-40-6	**	8.9	PE	4180
	C_8H_8 (1,3,5,7-Cyclooctatetraene)	629-20-9	**	8.0	PE	3999

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_8^+$						
	C_8H_8 (Pentacyclo[3.3.0.0^{2,4}.0^{3,7}.0^{6,8}] octane)	20656-23-9	**	8.18	PE	4955
	C_8H_8 (Pentacyclo[4.2.0.0^{2,5}.0^{3,8}.0^{4,7}]octane)	277-10-1	**	8.46	PE	4955
			**	8.4± <0.1	EI	3735
			**	9.6	PE	4726
	C_8H_8 (Tetracyclo[3.2.0.0^{2,7}.0^{4,6}]heptane, 3-methylene-)	38898-42-9	**	8.48 (V)	PE	4142
	C_8H_8 (Tricyclo[3.2.1.0^{2,8}]octa-2,6-diene)	XXXXX-XX-X	**	8.5 (V)	PE	4034
	C_8H_8 (Tricyclo[4.2.0.0^{2,5}]octa-3,7-diene, *syn*-)	20380-30-7	**	9.08 (V)	PE	4045
			**	9.08 (V)	PE	4258
	C_8H_8 (Tricyclo[4.2.0.0^{2,5}]octa-3,7-diene, *anti*-)	20380-31-8	**	8.90 (V)	PE	4258
			**	8.96 (V)	PE	4045
	$C_6H_5CH_2CH_2C_6H_4CH_3$ (Benzene,1-methyl-2-(2-phenylethyl)-)	34403-05-9		10.0±0.2	EI	5230
	$C_6H_5CH_2CH_2C_6H_4CH_3$ (Benzene,1-methyl-3-(2-phenylethyl)-)	34403-06-0		10.1±0.2	EI	5230
	$C_6H_5CH_2CH_2C_6H_4CH_3$ (Benzene,1-methyl-4-(2-phenylethyl)-)	14310-20-4		10.6±0.5	EI	5230
	$C_6H_5CH_2CH_2CH_2C_6H_5$ (Benzene,1,1′-(1,3-propanediyl)bis-)	1081-75-0		10.0±0.2	EI	5230
	$C_6H_5CH_2CH_2C_7H_7$ (1,3,5-Cycloheptatriene,7-(2-phenylethyl)-)	712-32-6		9.3±0.2	EI	5230
	$C_{10}H_{11}OH$ (2-Naphthalenol, 1,2,3,4-tetrahydro-)	530-91-6	C_2H_4O	11.68±0.04	EI	4960
	$C_6H_5CH_2CH_2OCOCH_3$ (Acetic acid, 2-phenylethyl ester)	103-45-7		8.90	EI	3590
$C_8H_9^+$						
	$C_6H_4(CH_3)_2$ (Benzene, 1-2-dimethyl-)	95-47-6	H	12.10±0.2	EI	4199
	$C_6H_4(CH_3)_2$ (Benzene, 1,3-dimethyl-)	108-38-8	H	12.25±0.2	EI	4199
	$C_6H_4(CH_3)_2$ (Benzene, 1,4-dimethyl-)	106-42-3	H	12.10±0.2	EI	4199
	$C_6H_5C_2H_5$ (Benzene,ethyl-)	100-41-4	H	10.60	EI	5293
	$C_6H_5CH(CH_3)_2$ (Benzene,1-methylethyl-)	98-82-8	CH_3	10.02	EI	5293
	$C_6H_5CH_2CH_2CH_3$ (Benzene,propyl-)	103-65-1	CH_3	9.98	EI	5293
	$C_6H_5C_4H_9$ (Benzene,butyl-)	104-51-8	C_2H_5	9.98	EI	5293
	$C_6H_5CH(CH_3)C_2H_5$ (Benzene,1-methylpropyl)	135-98-8	C_2H_5	9.93	EI	5293
	$C_6H_4(CH_3)C_4H_9$ (Benzene, 1-butyl-3-methyl-)	1595-04-6		11.43±0.1	EI	3629
	$C_6H_4(CH_3)C_4H_9$ (Benzene, 1-butyl-4-methyl-)	1595-05-7		11.03±0.1	EI	3629
	$C_6H_5CH_2CH_2C_6H_4CH_3$ (Benzene,1-methyl-2-(2-phenylethyl)-)	34403-05-9		10.15±0.1	EI	5230
	$C_6H_5CH_2CH_2C_6H_4CH_3$ (Benzene,1-methyl-3-(2-phenylethyl)-)	34403-06-0		10.35±0.1	EI	5230
	$C_6H_5CH_2CH_2C_6H_4CH_3$ (Benzene,1-methyl-4-(2-phenylethyl)-)	14310-20-4		10.0±0.1	EI	5230
	$C_6H_5CH_2CH_2CH_2C_6H_5$ (Benzene,1,1′-(1,3-propanediyl)bis-)	1081-75-0		10.4±0.2	EI	5230
	$C_6H_5CH_2CH_2C_7H_7$ (1,3,5-Cycloheptatriene,7-(2-phenylethyl)-)	712-32-6		8.95±0.05	EI	5230

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_9^+$						
	$CH_3C_6H_4CH_2N(CH_3)_2$ (Benzenemethanamine,N,N,*ar*-trimethyl-)	56927-89-0	C_2H_6N	10.92	PI	5543
	$C_6H_4(CH_3)CH_2CH_2OCOCH_3$ (Phenethyl alcohol, *m*-methyl-, acetate)	33709-40-9		12.30	EI	3590
	$C_6H_4(CH_3)CH_2CH_2OCOCH_3$ (Phenethyl alcohol, *p*-methyl-, acetate)	22532-47-4		11.80	EI	3590
$C_8H_{10}^+$						
	$C_7H_7(CH_3)$ (Tricyclo[4.1.0.0^{2,7}]hept-3-ene,1-methyl-)	61772-33-6	**	8.45 (V)	PE	5441
	$C_7H_7(CH_3)$ (Tricyclo[4.1.0.0^{2,7}]hept-3-ene,6-methyl-)	61772-31-4	**	8.64 (V)	PE	5441
	$(C_2H_5C{\equiv}C)_2$	16387-70-5	**	8.78	PE	4731
	trans-1,3,5,7-C_8H_{10}	3725-31-3	**	7.79±0.02	PE	4846
	$C_6H_4(CH_3)_2$ (Benzene, 1,2-dimethyl-)	95-47-6	**	8.45±0.02	PE	3854
			**	8.57±0.03 (V)	PE	4828
			**	8.57 (V)	PE	4063
			**	8.75±0.03 (V)	PE	3713
			**	8.55±0.1	EI	3788
			**	8.85±0.05	EI	4199
			**	8.61	CTS	3546
			**	8.70	CTS	4029
	$C_6H_4(CH_3)_2$ (Benzene, 1,3-dimethyl-)	108-38-3	**	8.50±0.02	PE	3854
			**	8.55 (V)	PE	4231
			**	8.71±0.015 (V)	PE	4107
			**	8.75±0.03 (V)	PE	3713
	$C_6H_4(CH_3)_2$ (Benzene, 1,3-dimethyl-)	108-38-8	**	8.90±0.05	EI	4199
	$C_6H_4(CH_3)_2$ (Benzene, 1,4-dimethyl-)	106-42-3	**	8.37±0.02	PE	3854
			**	8.43 (V)	PE	4231
			**	8.44	PE	5574
			**	8.6±0.03 (V)	PE	3713
			**	8.80±0.05	EI	4199
	$C_6H_5C_2H_5$ (Benzene,ethyl-)	100-41-4	**	8.76	EI	5293
	C_8H_{10} (Bicyclo[2.2.1]hept-2-ene, 5-methylene-)	694-91-7	**	8.93 (V)	PE	3824
			**	9.01 (V)	PE	4249
	C_8H_{10} (Bicyclo[4.1.1]octa-2,4-diene)	61885-53-8	**	8.11 (V)	PE	4723
	$C_6H_6(=CH_2)_2$ (Cyclohexene, 4,5-bis(methylene)-)	54290-41-4	**	9.00 (V)	PE	4249
	$CH{\equiv}CC_6H_9$ (Cyclohexene,1-ethynyl-)	931-49-7	**	8.61±0.01	PE	5407
	C_8H_{10} (1,3,5-Cyclooctatriene)	1871-52-9	**	7.9	PE	3999
	C_8H_{10} (1,3,6-Cyclooctatriene)	3725-30-2	**	8.5	PE	3999
	C_8H_{10} (1-Cycloocten-5-yne)	68177-00-4	**	8.90	PE	5053
	$C_5H_4{=}C(CH_3)_2$ (1,3-Cyclopentadiene, 5-(1-methylethylidene)-)	2175-91-9	**	8.03 (V)	PE	4357
	C_8H_{10} (Dicyclopropa[*cd*,*gh*]pentalene, octahydro-)	765-72-0	**	9.12±0.02 (V)	PE	4338
	C_8H_{10} (Spiro[2.5]octa-4,6-diene)	53143-64-9	**	7.89 (V)	PE	5359
	C_8H_{10} (Spiro[3.4]octa-5,7-diene)	15439-15-3	**	8.20	PE	4268

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_{10}^+$						
	C_8H_{10} (Tricyclo[3.2.1.0^{2,4}]oct-6-ene, (1α,2α,4α,5α)-)	3635-94-7	**	9.05 (V)	PE	3509
	C_8H_{10} (Tricyclo[3.2.1.0^{2,4}]oct-6-ene, (1α,2β,4β,5α)-)	3635-95-8	**	8.90 (V)	PE	3509
	C_8H_{10} (Tricyclo[3.2.1.0^{2,8}]oct-6-ene)	XXXXX-XX-X	**	8.5 (V)	PE	4034
	C_8H_{10} (Tricyclo[3.3.0.0^{2,6}]octene)	53754-35-1	**	8.63 (V)	PE	4259
	C_8H_{10} (Tricyclo[4.2.0.0^{2,5}]oct-3-ene, (1α,2β,5β,6α)-)	39781-76-5	**	9.25 (V)	PE	4045
	$C_6H_4(CH_3)C_4H_9$ (Benzene, 1-butyl-3-methyl-)	1595-04-6	$CH_2=CHCH_3$	10.33±0.1	EI	3629
	$C_6H_4(CH_3)C_4H_9$ (Benzene, 1-butyl-4-methyl-)	1595-05-7	$CH_2=CHCH_3$	10.14±0.1	EI	3629
	$CH_3C_6H_4CH_2N(CH_3)_2$ (Benzenemethanamine,N,N,*ar*-trimethyl-)	56927-89-0	C_2H_5N	9.6	PI	5543
	$(C_6H_4(CH_3)_2)(CO)_3Cr$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-1,2-dimethylbenzene]-)	12129-29-2		8.51±0.1	EI	3788
$C_8H_{11}^+$						
	$C_{10}H_{15}C_2H_5$ (4,7-Methano-1*H*-indene, 5-ethyloctahydro-, (3aα,4β,5α,7β,7aα)-)	32787-97-6		9.9±0.1	PI	3918
$C_8H_{12}^+$						
	$((CH_3)_2C=C)_2$	2431-31-4	**	7.70	PE	5034
	$(C_2H_5)_2C=CHC\equiv CH$	2750-71-2	**	8.54±0.01	PE	5407
	$CH_3CH=CHCH=CHCH=CHCH_3$-E,E,E	15192-80-0		7.95 (V)	PE	4380
	$(CH_3)_2C=CHCH=CHCH=CH_2$-E,E	16895-46-8		7.88 (V)	PE	4380
	$C_3H_7C\equiv CC(CH_3)=CH_2$	17669-40-8	**	8.62±0.01	PE	5407
	$C_4H_9C\equiv CCH=CH_2$	17679-92-4	**	8.83±0.01	PE	5407
	$CH_3CH=C(CH_3)CH=CHCH=CH_2$-E,E	58434-77-8		8.01 (V)	PE	4380
	cis-$CH\equiv CCH=CH(CH_2)_3CH_3$	42091-89-4	**	8.91±0.01	PE	5407
	cis-$CH_3C\equiv CC(C_2H_5)=CHCH_3$	70058-02-5	**	8.28±0.01	PE	5407
	trans-$CH\equiv CCH=CH(CH_2)_3CH_3$	42104-42-7	**	8.87±0.01	PE	5407
	trans-$CH_3C\equiv CC(C_2H_5)=CHCH_3$	70058-03-6	**	8.23±0.01	PE	5407
	C_8H_{12} (Bicyclo[2.2.1]heptane, 2-methylene-)	497-35-8	**	9.02 (V)	PE	3824
			**	9.04 (V)	PE	4249
	C_8H_{12} (Bicyclo[2.2.1]heptane, 7-methylene-)	31463-35-1	**	9.40 (V)	PE	3933
	C_8H_{12} (Bicyclo[2.2.2]oct-2-ene)	931-64-6	**	9.03 (V)	PE	4285
			**	9.05±0.02 (V)	PE	4842
			**	9.07 (V)	PE	4249
	C_8H_{12} (Bicyclo[4.1.1]oct-3-ene)	61885-54-9	**	8.90 (V)	PE	4723
	$C_4H_5(CH_3)_2C\equiv CH$ (Cyclobutane,3-ethynyl-1,1-dimethyl)	66438-88-8	**	9.78 (V)	PE	5607
	$C_6H_8(=CH_2)_2$ (Cyclohexane,1,2-bis(methylene)-)	2819-48-9	**	8.90	PE	5265
			**	8.92 (V)	PE	4249
	$C_6H_{10}=C=CH_2$ (Cyclohexane,ethenylidene-)	5664-20-0	**	8.69	PE	5625
	$C_6H_{11}C\equiv CH$ (Cyclohexane, ethynyl-)	931-48-6	**	9.92 (V)	PE	3997
	C_8H_{12} (1,5-Cyclooctadiene-(E,Z)-)	5259-71-2	**	8.7 (V)	PE	5372
	C_8H_{12} (1,3-Cyclooctadiene)	1700-10-3	**	8.4	PE	3999
	C_8H_{12} (1,4-Cyclooctadiene)	1073-07-0	**	8.5	PE	3999

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_{12}^+$						
	C_8H_{12} (1,5-Cyclooctadiene)	111-78-4	**	8.9	PE	3999
	C_8H_{12} (Cyclooctyne)	1781-78-8	**	8.9	PE	4180
			**	9.10 (V)	PE	4362
	$CH_2=CHCH_2C_5H_7$ (Cyclopentene,1-(2-propenyl)-)	37689-19-3	**	8.60±0.01	PI	5556
	$CH_2=CHCH_2C_5H_7$ (Cyclopentene,3-(2-propenyl)-)	14564-97-7	**	8.89±0.02	PI	5556
	$C_3H_4CH_3(CH=C=CHCH_3)$ (Cyclopropane, 1-(1,2-butadienyl)-2-methyl-*cis*-)	60166-71-4	**	8.96	PE	4608
	$C_3H_5CH=CHC_3H_5$ (Cyclopropane, 1,1′-(1,2-ethenediyl)bis- (*E*))	10359-44-1	**	7.72	PI	3759
	$C_3H_5CH=CHC_3H_5$ (Cyclopropane, 1,1′-(1,2-ethenediyl)bis- (*Z*))	23510-65-6	**	7.70	PI	3759
	$(C_3H_5)_2C=CH_2$ (Cyclopropane, 1,1′-ethenylidenebis-)	822-93-5	**	8.08	PI	3759
			**	8.87	PE	4608
	$C_3H_5CH=C=C(CH_3)_2$ (Cyclopropane, (3-methyl-1,2-butadienyl)-)	60166-72-5	**	8.78	PE	4608
	C_8H_{12} (Cyclopropane, 1-methyl-1-(1-methyl-1,2-propadienyl)-)	60166-69-0	**	8.81	PE	4608
	C_8H_{12} (Dispiro[2.0.2.2]octane)	21426-37-9	**	9.02 (V)	PE	5361
	C_8H_{12} (Dispiro[2.1.2.1]octane)	25399-32-0	**	9.21 (V)	PE	5361
	C_8H_{12} (Spiro[2.5]oct-4-ene)	7647-57-6	**	8.44 (V)	PE	5359
	C_8H_{12} (Spiro[3.4]oct-5-ene)	14783-50-7	**	8.65	PE	4268
			**	8.89 (V)	PE	4347
	$C_7H_9CH_3$ (Tricyclo[4.1.0.$0^{2,7}$]heptane,1-methyl-)	32348-63-3	**	8.20 (V)	PE	5441
	$C_7H_9CH_3$ (Tricyclo[4.1.0.$0^{2,7}$]heptane,2-methyl-)	40391-49-9	**	8.42 (V)	PE	5441
	C_8H_{12} (Tricyclo[3.2.1.$0^{2,4}$]octane, (1α,2α,4α,5α)-)	22389-16-8	**	9.40 (V)	PE	3509
			**	8.8±0.1	EI	3492
	C_8H_{12} (Tricyclo[3.2.1.$0^{2,4}$]octane, (1α,2β,4β,5α)-)	13377-46-3	**	9.40 (V)	PE	3509
			**	9.1±0.1	EI	3492
	C_8H_{12} (Tricyclo[3.3.0.$0^{2,6}$]octane)	250-21-5	**	9.78 (V)	PE	4259
	C_8H_{12} (Tricyclo[4.2.0.$0^{2,5}$]octane, *syn*-)	28636-10-4	**	9.18 (V)	PE	4045
	C_8H_{12} (Tricyclo[4.2.0.$0^{2,5}$]octane, *anti*-)	13027-75-3	**	9.23 (V)	PE	4045
	C_8H_{12} (Tricyclo[5.1.0.$0^{2,4}$]octane, (1α,2α,4α,7α)-)	50695-42-6	**	8.95 (V)	PE	3849
	C_8H_{12} (Tricyclo[5.1.0.$0^{2,4}$]octane, (1α,2β,4β,7α)-)	50895-58-4	**	9.39 (V)	PE	3849
	$C_{10}H_{16}$ (4,7-Methano-1*H*-indene, octahydro-, (3aα,4β,7β,7aα)-)	2825-82-3		10.5±0.1	PI	3918
	$C_{10}H_{15}CH_3$	XXXXX-XX-X		10.0±0.1	PI	3918
$C_9H_{13}^+$						
	$C_{10}H_{15}CH_3$ (4,7-Methano-1*H*-indene, octahydro-2-methyl, (2α,3aβ,4α,7α,7aβ)-)	50745-90-9		10.1±0.1	PI	3918
	$C_{10}H_{15}CH_3$ (4,7-Methano-1*H*-indene, octahydro-8-methyl-, stereoisomer)	50745-92-1		9.5±0.1	PI	3918

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_{14}^+$						
	$C_5H_7((CH_2)_2CH_3)$ (Cyclopentene, 3-(1-methylethyl)-)	4276-45-3	**	8.85±0.05 (V)	PE	4954
			**	8.81±0.02	PI	5556
	(*tert*-C_4H_9)$CH_2C{\equiv}CH_3$	56617-18-6	**	9.284±0.007	PE	4575
	$(CH_3)_2C{=}CHCH{=}C(CH_3)_2$	764-13-6	**	7.65	PE	3847
	$(CH_3)_2CHC{\equiv}CCH(CH_3)_2$	927-99-1	**	9.171±0.008	PE	4575
	$C_3H_7C{\equiv}CC_3H_7$	1942-45-6	**	9.196±0.005	PE	4575
			**	9.20±0.02	PI	5583
	$C_5H_{11}C{\equiv}CCH_3$	2809-67-8	**	9.302±0.005	PE	4575
			**	9.31±0.02	PI	5583
	$CH_2{=}CH(CH_2)_4CH{=}CH_2$	3710-30-3	**	9.52±0.02 (V)	PE	4010
	$C_2H_5C{\equiv}CC_4H_9$	15232-76-5	**	9.222±0.005	PE	4575
			**	9.22±0.02	PI	5583
	1-C_8H_{14}	629-05-0	**	9.95±0.02	PI	5583
	(*tert*-C_4H_9)$C{\equiv}CC_2H_5$	4911-60-8	**	9.180±0.010	PE	4575
	C_8H_{14} (Bicyclo[2.2.2]octane)	280-33-1	**	9.43	S	3757
			**	9.45±0.02	PE	3757
	C_8H_{14} (Bicyclo[4.1.1]octane)	7078-34-4	**	10.0 (V)	PE	4723
	$C_4H_5(CH_3)_2CH{=}CH_2$ (Cyclobutane, 3-ethenyl-1,1-dimethyl-)	52708-22-2	**	9.40 (V)	PE	4347
			**	9.40 (V)	PE	5607
	$C_6H_{11}CH{=}CH_2$ (Cyclohexane, ethenyl-)	695-12-5	**	9.51	PE	4347
	$C_2H_5C_6H_9$ (Cyclohexene,1-ethyl-)	1453-24-3	**	8.48±0.01	PI	5556
	$C_2H_5C_6H_9$ (Cyclohexene,3-ethyl-)	2808-71-1	**	8.83±0.01	PI	5556
	$C_2H_5C_6H_9$ (Cyclohexene,4-ethyl-)	3742-42-5	**	8.88±0.01	PI	5556
	C_8H_{14} (Cyclooctene)	931-88-4	**	8.8	PE	3999
			**	9.02 (V)	PE	4285
	n-$C_3H_7C_5H_7$ (Cyclopentene,1-propyl)	3074-61-1	**	8.48±0.01	PI	5556
	n-$C_3H_7C_5H_7$ (Cyclopentene,3-propyl-)	34067-75-9	**	8.84±0.02	PI	5556
	C_8H_{14} (Spiro[2.5]octane)	185-65-9	**	9.46 (V)	PE	5359
	C_8H_{14} (Spiro[3.4]octane)	175-56-4	**	9.45	PE	4268
$C_8H_{16}^+$						
	$(CH_3)_3CCH_2C(CH_3){=}CH_2$	107-39-1	**	8.909±0.005	PE	3957
	$(CH_3)_2CHC(CH_3){=}C(CH_3)_2$	565-77-5	**	8.165±0.005	PE	3957
	$C_2H_5CH_2C(CH_3){=}C(CH_3)_2$	7145-20-2	**	8.186±0.005	PE	3957
	$(C_2H_5)_2C{=}CHC_2H_5$	16789-51-8	**	8.480±0.004	PE	3957
	$(C_2H_5)_2C{=}C(CH_3)_2$	19780-67-7	**	8.170±0.003	PE	3957
	1-C_8H_{16}	111-66-0	**	9.427±0.006	PI	5584
			**	9.60±0.01 (V)	PE	4939
	cis-$(CH_3)_2CHCH{=}CHCH(CH_3)_2$	10557-44-5	**	8.846±0.005	PE	3957
	cis-$C_2H_5C(CH_3){=}C(CH_3)C_2H_5$	19550-87-9	**	8.172±0.003	PE	3957
	cis-2-C_8H_{16}	7642-04-8	**	8.913±0.009	PI	5584
			**	9.10±0.01 (V)	PE	4939
	cis-3-C_8H_{16}	14850-22-7	**	8.859±0.008	PI	5584
			**	8.849±0.005	PE	3957
			**	9.05±0.01 (V)	PE	4939
	cis-4-C_8H_{16}	7642-15-1	**	8.836±0.006	PI	5584
			**	8.841±0.005	PE	3957
			**	9.03±0.01 (V)	PE	4939

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_{16}^+$						
	trans-$(CH_3)_2CHCH=CHCH(CH_3)_2$	692-70-6	**	8.838±0.005	PE	3957
	trans-$C_2H_5C(CH_3)=C(CH_3)C_2H_5$	19550-88-0	**	8.156±0.003	PE	3957
	trans-2-C_8H_{16}	13389-42-9	**	8.913±0.006	PI	5584
			**	9.09±0.01 (V)	PE	4939
	trans-3-C_8H_{16}	14919-01-8	**	8.854±0.006	PI	5584
			**	9.03±0.01 (V)	PE	4939
	trans-4-C_8H_{16}	14850-23-8	**	8.836±0.006	PI	5584
			**	8.830±0.005	PE	3957
			**	9.01±0.01 (V)	PE	4939
	$C_6H_{10}(CH_3)_2$ (Cyclohexane, 1,2-dimethyl-, *cis*-)	2207-01-4	**	9.90±0.07	EI	3581
	$C_6H_{10}(CH_3)_2$ (Cyclohexane, 1,2-dimethyl-, *trans*-)	6876-23-9	**	10.03±0.05	EI	3581
	$C_2H_5C_6H_{11}$ (Cyclohexane,ethyl-)	1678-91-7	**	9.67±0.02	PI	5556
	C_8H_{16} (Cyclooctane)	292-64-8	**	9.7	PE	3999
			**	9.80	PE	4319
			**	10.08±0.05	EI	4319
	n-$C_3H_7C_5H_9$ (Cyclopentane,propyl-)	2040-96-2	**	10.00±0.04	PI	5556
$C_9H_7^+$						
	$C_6H_5C{\equiv}CCH_3$ (Benzene, 1-propynyl-)	673-32-5		11.42±0.05	EI	4044
	C_9H_8 (1*H*-Indene)	95-13-6	H	12.62±0.05	EI	4044
	$C_6H_8(C_6H_5)_2$ (Benzene, 1,1′-(2-cyclohexen-1-ylidene)bis-)	31158-25-5		13.6±0.4	EI	4018
	$C_6H_{10}(C_6H_5)_2$ (Benzene, 1,1′-cyclohexylidenebis-)	21113-55-3		13.3±0.4	EI	4018
	$C_6H_9(CH_3)(C_6H_5)_2$ (Benzene, 1,1′-(4-methylcyclohexylidene)bis-)	32812-65-0		13.7±0.4	EI	4018
	$C_{10}H_{13}(CH_3)(C_6H_5)_2$ (Naphthalene, 1,2,3,4,4a,5,6,7-octahydro-4a-methyl-2,2-diphenyl-)	50592-50-2		13.2±0.4	EI	4018
	$C_6H_5C{\equiv}CCH=CHCH_2OH$ (2-Penten-4-yn-1-ol, 5-phenyl-, (*E*)-)	40317-08-6		11.43±0.05	EI	4044
	$C_6H_8(=O)(C_6H_5)_2$ (Cyclohexanone, 2,2-diphenyl-)	22612-62-0		14.1±0.4	EI	4018
	$C_6H_8(=O)(C_6H_5)_2$ (Cyclohexanone, 4,4-diphenyl-)	4528-68-1		13.5±0.4	EI	4018
	$C_6H_7(=O)(CH_3)(C_6H_5)_2$ (Cyclohexanone, 2-methyl-5,5-diphenyl-)	50592-49-9		13.5±0.4	EI	4018
	$C_6H_7(=O)(CH_3)(C_6H_5)_2$ (Cyclohexanone, 6-methyl-2,2-diphenyl-)	50592-52-4		13.7±0.4	EI	4018
	$C_6H_8(OH)(CH_3)(C_6H_5)_2$ (Cyclohexanol, 1-methyl-4,4-diphenyl-)	50592-47-7		13.7±0.4	EI	4018
	$C_6H_6(=O)(CH_3)_2(C_6H_5)_2$ (Cyclohexanone, 2,2-dimethyl-6,6-diphenyl-)	50592-53-5		13.8±0.4	EI	4018
	$C_{10}H_{11}(=O)(CH_3)(C_6H_5)_2$ (2(3*H*)-Naphthalenone,4,4a,5,6,7,8-hexahydro-4a-methyl-7,7-diphenyl-)	50786-03-3		13.0±0.4	EI	4018
	$C_6H_6(=O)(CH_3)(C_6H_5)_2CH_2CH_2CHO$ (Cyclohexanepropanal, 1-methyl-2-oxo-3,3-diphenyl-)	XXXXX-XX-X		13.4±0.4	EI	4018
	$C_6H_6(=O)(CH_3)(C_6H_5)_2CH_2CH_2COCH_3$ 4018 (Cyclohexanone, 2-methyl-2-(3-oxobutyl)-6,6-diphenyl-)	50592-55-7		14.2±0.4	EI	
	$C_6H_6(=O)(C_6H_5)=CHS(CH_2)_3CH_3$ (Cyclohexanone, 6-[(butylthio)methylene]-2,2-diphenyl-)	50592-51-3		13.7±0.4	EI	4018
	$C_6H_6(=O)CH_3(C_6H_5)_2CH_2CH=C(CH_3)Cl$ (Cyclohexanone, 2-(3-chloro-2-butenyl)-2-methyl-6,6-diphenyl-)	50592-54-6	Cl	13.7±0.4	EI	4018

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_9H_8^+$						
	$C_6H_4(CH_3)C{\equiv}CH$ (Benzene,1-ethynyl-2-methyl-)	766-47-2	**	8.61±0.02 (V)	PE	5409
	$C_6H_4(CH_3)C{\equiv}CH$ (Benzene,1-ethynyl-3-methyl-)	766-82-5	**	8.63±0.02 (V)	PE	5409
	$C_6H_4(CH_3)C{\equiv}CH$ (Benzene, 1-ethynyl-4-methyl-)	766-97-2	**	8.43 (V)	PE	4334
			**	8.48±0.02 (V)	PE	5409
	$C_6H_5CH{=}C{=}CH_2$ (Benzene, 1,2-propadienyl-)	2327-99-3	**	8.29 (V)	PE	4493
	$C_6H_5C{\equiv}CCH_3$ (Benzene,1-propynyl-)	673-32-5	**	8.41±0.02 (V)	PE	5409
			**	8.49 (V)	PE	4334
	$C_6H_4C_3H_4$ (1H-Indene)	95-13-6	**	8.15±0.015 (V)	PE	5522
			**	8.33±0.01	EI	3805
	C_9H_8 (Spiro[4.4]nona-1,3,6,8-tetraene)	14867-83-5	**	7.99 (V)	PE	4049
			**	7.99 (V)	PE	4189
$C_9H_9^+$						
	$CH{\equiv}C(CH{=}CH)_3CH_3$	1743-34-6	H	10.7±0.1	EI	4336
	$C_6H_5C_3H_5$ (Benzene, cyclopropyl-)	873-49-4	H	11.4±0.1	EI	4336
	$C_6H_4(CH_3)CH{=}CH_2$ (Benzene, 1-ethenyl-4-methyl-)	622-97-9	H	11.8±0.1	EI	4336
	$C_6H_5C(CH_3){=}CH_2$ (Benzene, (1-methylethenyl)-)	98-83-9	H	11.8±0.1	EI	4336
	$C_6H_5CH{=}CHCH_3$ (Benzene, 1-propenyl-)	637-50-3	H	11.8±0.1	EI	4336
	$C_6H_5CH_2CH{=}CH_2$ (Benzene, 2-propenyl-)	300-57-2	H	11.6±0.1	EI	4336
	C_9H_{10} (1*H*-Indene, 2,3-dihydro-)	496-11-7	H	12.1±0.1	EI	4336
$C_9H_{10}^+$						
	$CH{\equiv}C(CH{=}CH)_3CH_3$	1743-34-6	**	7.2±0.1	EI	4336
	$C_6H_5C_3H_5$ (Benzene, cyclopropyl-)	873-49-4	**	8.61 (V)	PE	4927
			**	8.66 (V)	PE	4815
			**	8.71 (V)	PE	4347
			**	8.3±0.1	EI	4336
	$C_6H_4(CH_3)CH{=}CH_2$ (Benzene, 1-ethenyl-2-methyl-)	611-15-4	**	8.20±0.02	PE	3854
			**	8.53 (V)	PE	3964
	$C_6H_4(CH_3)CH{=}CH_2$ (Benzene, 1-ethenyl-3-methyl-)	100-80-1	**	8.15±0.02	PE	3854
			**	8.37 (V)	PE	3964
	$C_6H_4(CH_3)CH{=}CH_2$ (Benzene, 1-ethenyl-4-methyl-)	622-97-9	**	8.20 (V)	PE	3964
			**	8.1±0.1	EI	4336
	$C_6H_5C(CH_3){=}CH_2$ (Benzene, (1-methylethenyl)-)	98-83-9	**	8.52 (V)	PE	3964
			**	8.18±0.04	EI	4097
			**	8.3±0.1	EI	4336
	$C_6H_5CH{=}CHCH_3$ (Benzene, 1-propenyl-, (E)-)	873-66-5	**	8.20±0.02	PE	3854
			**	8.32	PE	4289
			**	7.84±0.04	EI	4097
	$C_6H_5CH{=}CHCH_3$ (Benzene, 1-propenyl-, (Z)-)	766-90-5	**	8.45	PE	4289
	$C_6H_5CH{=}CHCH_3$ (Benzene, 1-propenyl-)	637-50-3	**	8.5±0.1	EI	4336

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_9H_{10}^+$						
	$C_6H_5C(CH_3)=CH_2$ (Benzene, 2-propenyl-)	300-57-2	**	8.20±0.02	PE	3854
			**	8.60	PE	3938
			**	9.16 (V)	PE	4211
			**	7.8±0.1	EI	4336
	$C_7H_6(=CH_2)_2$ (Bicyclo[2.2.1]hept-2-ene, 5,6-bis(methylene)-)	5628-77-3	**	8.48 (V)	PE	4249
	C_9H_{10} (Bicyclo[3.2.2]nona-2,6,8-triene)	16216-91-4	**	8.72 (V)	PE	3991
	C_9H_{10} (1H-Cyclobuta[*cd*]pentalene,1a,3a,5a,5b-tetrahydro-)	58913-91-0	**	8.76	PE	4855
	$C_8H_8=CH_2$ (Dicyclopropa[*cd*,*gh*]pentalene, octahydro-1-methylene-)	3721-64-0	**	8.43±0.02 (V)	PE	4338
	C_9H_{10} (1*H*-Indene, 2,3-dihydro-)	496-11-7	**	8.45±0.02 (V)	PE	3854
			**	8.46 (V)	PE	4063
			**	8.6±0.1	EI	4336
			**	8.60±0.01	EI	3805
			**	8.52	CTS	3546
			**	8.46±0.03 (V)	PE	4828
			**	8.50	PE	4952
	C_9H_{10} (1,2-Methanodicyclopropa[*cd*,*gh*]pentalene, octahydro-)	13084-56-5	**	9.06±0.02 (V)	PE	4338
			**	9.15±0.05 (V)	PE	5335
	C_9H_{10} (Pentacyclo[4.3.0.0^{2,5}.0^{3,8}.0^{4,7}]nonane)	452-61-9	**	8.47	PE	4955
	C_9H_{10} (Spiro[bicyclo[2.2.1]hepta-2,5-diene-7,1'-cyclopropane])	7092-57-1	**	8.73 (V)	PE	3780
	C_9H_{10} (Spiro[4.4]nona-1,3,6-triene)	766-30-3	**	8.27 (V)	PE	4189
	C_9H_{10} (Spiro[4.4]nona-1,3,7-triene)	24430-29-3	**	8.25 (V)	PE	4189
	C_9H_{10} (Tricyclo[3.2.2.0^{2,4}]nona-6,8-diene)	7092-05-9	**	8.65 (V)	PE	5605
	C_9H_{10} (Tricyclo[3.3.1.0^{2,8}]nona-3,6-diene)	14693-11-9	**	8.4 (V)	PE	4034
	C_9H_{10} (Tricyclo[4.2.1.0^{2,5}]nona-3,7-diene)	4932-71-2	**	8.7 (V)	PE	3853
	C_9H_{10} (Tricyclo[4.2.1.0^{2,5}]nona-3,7-diene, (1α,2α,5α,6α)-)	15564-45-1	**	9.03±0.03 (V)	PE	4281
	C_9H_{10} (Tricyclo[4.2.1.0^{2,5}]nona-3,7-diene, (1α,2β,5β,6α)-)	15564-44-0	**	8.65±0.05 (V)	PE	4040
	$C_8H_8(=CH_2)$ (Tricyclo[3.2.1.0^{2,4}]oct-6-ene,8-methylene-)	XXXXX-XX-X	**	8.85±0.05 (V)	PE	5335
	$C_6H_5(CH_2)_3NH_2$ (Benzenepropanamine)	2038-57-5	NH_3	9.5±0.1	EI	5374
	$C_6H_4(CH_3)CH_2CH_2OCOCH_3$ (Phenethyl alcohol, *m*-methyl-, acetate)	33709-40-9		8.75	EI	3590
	$C_6H_4(CH_3)CH_2CH_2OCOCH_3$ (Phenethyl alcohol, *p*-methyl-, acetate)	22532-47-4		8.50	EI	3590
$C_9H_{12}^+$						
	$C_6H_5(iso\text{-}C_3H_7)$ (Benzene, (1-methylethyl)-)	98-82-8	**	8.75 (V)	PE	4927
			**	8.72	EI	5293
			**	8.98 (V)	PE	4347
	$(C_2H_3)_4C$	20685-34-1	**	9.52 (V)	PE	3994
	$C_6H_5CH_2CH_2CH_3$ (Benzene,propyl-)	103-65-1	**	8.71	EI	5293
	$C_6H_3(CH_3)_3$ (Benzene, 1,2,3-trimethyl-)	526-73-8	**	8.6±0.03 (V)	PE	3713

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_9H_{12}^+$						
	$C_6H_3(CH_3)_3$ (Benzene, 1,2,4-trimethyl-)	95-63-6	**	8.5±0.03 (V)	PE	3713
	$C_6H_3(CH_3)_3$ (Benzene, 1,3,5-trimethyl-)	108-67-8	**	8.45±0.05 (V)	PE	4132
			**	8.45±0.05 (V)	PE	4724
			**	8.45 (V)	PE	5367
			**	8.65±0.03 (V)	PE	3713
			**	8.21±0.1	EI	3788
			**	8.46	CTS	4029
	$C_7H_8(=CH_2)_2$ (Bicyclo[2.2.1]heptane, 2,3-bis(methylene)-)	36439-78-8	**	8.41 (V)	PE	4249
	C_9H_{12} (Bicyclo[3.2.2]nona-2,6-diene)	14993-07-8	**	8.84 (V)	PE	3991
	C_9H_{12} (Bicyclo[3.2.2]nona-6,8-diene)	7164-08-1	**	9.00 (V)	PE	3991
	C_9H_{12} (Bicyclo[4.2.1]nona-2,4-diene)	6572-82-3	**	8.23 (V)	PE	4688
	$C_8H_{10}=CH_2$ (Bicyclo[2.2.2]oct-2-ene, 5-methylene-)	19386-05-1	**	8.97 (V)	PE	4249
	$CH\equiv CCH=C_6H_{10}$ (Cyclohexane,2-propynylidene-)	2806-45-3	**	8.49±0.01	PE	5407
	$(C_3H_5)_2C=C=CH_2$ (Cyclopropane, 1,1'-(1,2-propadienylidene)bis-)	60166-70-3	**	8.62	PE	4608
	C_9H_{12} (Spiro[4.4]nona-1,3-diene)	766-29-0	**	8.10 (V)	PE	4189
			**	8.14	PE	4268
	C_9H_{12} (Tetracyclo[3.3.1.0^{2,8}.0^{4,6}]nonane)	3105-29-1	**	8.67 (V)	PE	3741
	C_9H_{12} (Tetracyclo[6.1.0.0^{2,4}.0^{5,7}]nonane(1α,2α,4α,5β,7β,8α)-)	37831-90-6	**	9.0 (V)	PE	5192
	$C_7H_6(CH_3)_2$ (Tricyclo[4.1.0.0^{2,7}]hept-3-ene,1,3-dimethyl-)	66036-92-8	**	8.26 (V)	PE	5441
	$C_7H_6(CH_3)_2$ (Tricyclo[4.1.0.0^{2,7}]hept-3-ene,1,6-dimethyl-)	61772-32-5	**	8.30 (V)	PE	5441
	C_9H_{12} (Tricyclo[3.2.2.0^{2,4}]non-6-ene)	7092-58-2	**	8.8 (V)	PE	5605
	C_9H_{12} (Tricyclo[4.2.1.0^{2,5}]non-3-ene)	7078-40-2	**	9 (V)	PE	3853
	C_9H_{12} (Tricyclo[4.2.1.0^{2,5}]non-3-ene, (1α,2β,5β,6α)-)	16529-76-3	**	9.00±0.05 (V)	PE	4040
	C_9H_{12} (Tricyclo[4.2.1.0^{2,5}]non-7-ene)	6827-30-1	**	8.7 (V)	PE	3853
	C_9H_{12} (Tricyclo[4.2.1.0^{2,5}]non-7-ene, (1α,2α,5α,6α)-)	16529-83-2	**	8.92±0.03 (V)	PE	4281
	C_9H_{12} (Tricyclo[4.2.1.0^{2,5}]non-7-ene, *exo*-)	16529-82-1	**	8.70±0.05 (V)	PE	4040
	C_9H_{12} (Tricyclo[6.1.0.0^{2,4}]non-5-ene(1α,2α,4α,8α)-)	62211-27-2	**	8.90 (V)	PE	4964
	C_9H_{12} (Tricyclo[6.1.0.0^{2,4}]non-5-ene(1α,2β,4β,8α)-)	62279-39-4	**	8.96 (V)	PE	4964
	C_9H_{12} (*Tricyclo[6.1.0.0^{3,5}]non-6-ene(1α,3α,5α,8α)-*)	XXXXX-XX-X	**	9.0 (V)	PE	4964
	C_9H_{12} (Tricyclo[6.1.0.0^{3,5}]non-6-ene(1α,3β,5β,8α)-)	62163-62-6	**	8.5 (V)	PE	4964
	$C_8H_{10}(=CH_2)$ (Tricyclo[3.2.1.0^{2,4}]octane,8-methylene-)	38310-48-4	**	9.10±0.05 (V)	PE	5335
	C_9H_{12} (Trispiro[2.0.2.0.2.0]nonane)	31561-59-8	**	9.12 (V)	PE	4963
	$(C_6H_3(CH_3)_3)(CO)_3Cr$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-1,3,5-trimethylbenzene]-)	12129-67-8		8.61±0.1	EI	3788

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_9H_{13}^+$						
	$C(CH_3)(CH_2)C_6H_8CH_3$	138-86-3	CH_3	8.9	EI	5200
	(Cyclohexene, 1-methyl-4-(1-methylethenyl)-)					
	$C_{10}H_{16}$	2825-82-3	CH_3	9.8±0.1	PI	3918
	(4,7-Methano-1*H*-indene, octahydro-, (3aα,4β,7β,7aα)-)					
	$C_{10}H_{15}CH_3$	XXXXX-XX-X		⩽10.2±0.1	PI	3918
	$C_{10}H_{15}CH_3$	50745-90-9		10.1±0.1	PI	3918
	(4,7-Methano-1*H*-indene, octahydro-2-methyl-, (2α,3aβ,4α,7α,7aβ)-)					
	$C_{10}H_{15}CH_3$	50745-92-1		9.5±0.1	PI	3918
	(4,7-Methano-1*H*-indene, octahydro-8-methyl-, stereoisomer)					
	$C_{10}H_{15}C_2H_5$	32787-97-6		9.9±0.1	PI	3918
	(4,7-Methano-1*H*-indene, 5-ethyloctahydro-, (3aα,4β,5α,7β,7aα)-)					
$C_9H_{14}^+$						
	$C_4H_9C{\equiv}CC(CH_3){=}CH_2$	17603-76-8	**	8.57±0.01	PE	5407
	$CH_3C{\equiv}CCH{=}C(C_2H_5)_2$	70058-01-4	**	8.12±0.01	PE	5407
	$CH{\equiv}CC(iso\text{-}C_3H_7){=}C(CH_3)_2$	61786-07-0	**	8.26±0.01	PE	5407
	cis-$CH_3C{\equiv}CCH{=}CHC_4H_9$	53497-78-2	**	8.46±0.01	PE	5407
	trans-$CH_3C{\equiv}CCH{=}CHC_4H_9$	53497-79-3	**	8.46±0.01	PE	5407
	C_9H_{14}	40319-81-1	**	8.84 (V)	PE	3991
	(Bicyclo[3.2.2]non-2-ene)					
	C_9H_{14}	7124-86-9	**	8.95 (V)	PE	3991
	(Bicyclo[3.2.2]non-6-ene)					
	C_9H_{14}	17530-61-9	**	8.35 (V)	PE	4569
	(Bicyclo[3.3.1]non-1-ene)					
	$C_8H_{12}{=}CH_2$	2972-20-5	**	8.87 (V)	PE	4249
	(Bicyclo[2.2.2]octane, 2-methylene-)					
	$CH_2{=}CHCH_2C_6H_9$	13511-13-2	**	8.49±0.01	PI	5556
	(Cyclohexene,1-(2-propenyl)-)					
	$CH_2{=}CHCH_2C_6H_9$	15232-95-8	**	8.83±0.02	PI	5556
	(Cyclohexene,3-(2-propenyl)-)					
	C_9H_{14}	1123-11-1	**	8.87 (V)	PE	4019
	(1,2-Cyclononadiene)					
	$C_3H_2(CH_3)_2{=}C{=}C(CH_3)_2$	28438-32-6	**	7.65	PE	5625
	(Cyclopropane,1,1-dimethyl-2-(2-methyl-1-propenylidene)-)					
	$C_3H_2(CH_3)_2{=}C{=}C(CH_3)_2$	37817-36-0	**	7.76	PE	5625
	(Cyclopropane,1,2-dimethyl-3-(2-methyl-1-propenylidene)-*cis*-)					
	$C_3H_2(CH_3)_2{=}C{=}C(CH_3)_2$	37817-46-2	**	7.70	PE	5625
	(Cyclopropane,1,2-dimethyl-3-(2-methyl-1-propenylidene)-*trans*-)					
	$C_3H_5C(C_2H_5){=}C{=}CHCH_3$	60042-77-5	**	8.60	PE	4608
	(Cyclopropane, (1-ethyl-1,2-butadienyl)-)					
	C_9H_{14}	173-89-7	**	9.45 (V)	PE	4433
	(Spiro[bicyclo[2.2.1]heptane-2,1′-cyclopropane])					
	C_9H_{14}	873-12-1	**	8.73	PE	4268
	(Spiro[4.4]non-1-ene)					
			**	8.96 (V)	PE	4347
	C_9H_{14}	278-80-8	**	9.3 (V)	PE	5605
	(Tricyclo[3.2.2.$0^{2,4}$]nonane)					
			**	9.50 (V)	PE	3849
	C_9H_{14}	16526-28-6	**	9.65±0.03 (V)	PE	4281
	(Tricyclo[4.2.1.$0^{2,5}$]nonane, (1α,2α,5α,6α)-)					
	C_9H_{14}	16526-27-5	**	9.5±0.05 (V)	PE	4040
	(Tricyclo[4.2.1.$0^{2,5}$]nonane, *exo*-)					
	$C_6H_{10}{=}C{=}C{=}CHCH_3$	20023-43-2	**	8.41	PE	5625
	(Cyclohexane,1-propenylidene-)					
$C_9H_{16}^+$						
	$C_3H_7C(CH_3)_2C{\equiv}CCH_3$	XXXXX-XX-X	**	9.183±0.010	PE	4575
	$(CH_3)_2CHC(CH_3)_2C{\equiv}CCH_3$	994-21-8	**	9.154±0.010	PE	4575
	$CH_2{=}CH(CH_2)_5CH{=}CH_2$	4900-30-5	**	9.51±0.02 (V)	PE	4010
	$C_6H_{13}C{\equiv}CCH_3$	19447-29-1	**	9.289±0.005	PE	4575
			**	9.32±0.02	PI	5583

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_9H_{16}^+$						
	$C_5H_{11}C{\equiv}CC_2H_5$	20184-89-8	**	9.202±0.005	PE	4575
			**	9.20±0.02	PI	5583
	1-C_9H_{16}	3452-09-3	**	9.93±0.02	PI	5583
	4-C_9H_{16}	20184-91-2	**	9.17±0.03	PI	5583
	$C_7H_{10}(CH_3)_2$ (Bicyclo[2.2.1]heptane, 7,7-dimethyl-)	2034-53-9	**	8.30	PE	3687
	C_9H_{16} (Bicyclo[3.2.2]nonane)	283-19-2	**	9.6 (V)	PE	3991
	C_9H_{16} (Bicyclo[3.3.1]nonane)	280-65-9	**	9.35	PE	4735
	C_9H_{16} (Bicyclo[6.1.0]nonane)	286-60-2	**	9.4 (V)	PE	3509
	C_9H_{16} (Bicyclo[6.1.0]nonane, *trans*-)	39124-79-3	**	9.36 (V)	PE	3849
	n-$C_3H_7C_6H_9$ (Cyclohexene,1-propyl-)	2539-75-5	**	8.43±0.01	PI	5556
	n-$C_3H_7C_6H_9$ (Cyclohexene,3-propyl-)	3983-06-0	**	8.80±0.01	PI	5556
	C_9H_{16} (Cyclononene(Z))	933-21-1	**	8.81±0.15	EI	5532
	n-$C_4H_9C_5H_7$ (Cyclopentene,1-butyl-)	2423-01-0	**	8.45±0.01	PI	5556
	n-$C_4H_9C_5H_7$ (Cyclopentene,3-butyl-)	22531-00-6	**	8.83±0.02	PI	5556
	iso-$C_4H_9C_5H_7$ (Cyclopentene,1-(2-methylpropyl)-)	53098-47-8	**	8.44±0.01	PI	5556
$C_9H_{18}^+$						
	$CH_3(CH_2)_3C(CH_3){=}C(CH_3)_2$	3074-64-4	**	8.145±0.005	PE	3957
	$C_2H_5CH_2C(CH_3){=}C(CH_3)C_2H_5$	3074-67-7	**	8.077±0.005	PE	3957
	$(C_2H_5)_2C{=}C(CH_3)C_2H_5$	50787-13-8	**	8.128±0.005	PE	3957
	1-C_9H_{18}	124-11-8	**	9.42±0.01	PI	5584
	cis-2-C_9H_{18}	6434-77-1	**	8.90±0.01	PI	5584
	cis-3-C_9H_{18}	20237-46-1	**	8.84±0.01	PI	5584
			**	9.01±0.01 (V)	PE	4939
	cis-4-C_9H_{18}	10405-84-2	**	8.801±0.01	PI	5584
	trans-2-C_9H_{18}	6434-78-2	**	8.90±0.01	PI	5584
	trans-3-C_9H_{18}	20063-92-7	**	8.84±0.01	PI	5584
			**	9.01±0.01 (V)	PE	4939
	trans-4-C_9H_{18}	10405-85-3	**	8.809±0.01	PI	5584
	$(CH_3)_2CHC_6H_{11}$ (Cyclohexane,(1-methylethyl)-)	696-29-7	**	9.55±0.03	PI	5556
	n-$C_4H_9C_5H_9$ (Cyclopentane,butyl-)	2040-95-1	**	9.95±0.03	PI	5556
$C_{10}H_6^+$						
	$C_6H_4(C{\equiv}CH)_2$ (Benzene, 1,2 diethynyl-)	21792-52-9	**	8.69±0.02	PE	4374
	$C_6H_4(C{\equiv}CH)_2$ (Benzene, 1,3 diethynyl-)	1785-61-1	**	8.82±0.02	PE	4374
	$C_6H_4(C{\equiv}CH)_2$ (Benzene, 1,4 diethynyl-)	935-14-8	**	8.58±0.02	PE	4374
$C_{10}H_8^+$						
	$C_{10}H_8$ (Azulene)	275-51-4	**	7.42 (V)	PE	5397
			**	7.43±0.04	PE	4196
			**	7.44±0.03 (V)	PE	4828
	$C_{10}H_8$ (Naphthalene)	91-20-3	**	8.1	PI	3586
			**	8.13	PE	3637

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{10}H_8^+$						
	$C_{10}H_8$	91-20-3	**	8.15±0.02 (V)	PE	4913
			**	8.15	PE	3668
			**	8.15	PE	3638
			**	8.15	PE	4066
			**	8.15	PE	4515
			**	8.15 (V)	PE	3781
			**	8.15 (V)	PE	4701
			**	8.15 (V)	PE	5632
			**	8.18±0.03 (V)	PE	4828
			**	8.31±0.03 (V)	PE	4341
			**	8.25±0.01	EI	3588
			**	8.12	CTS	3922
$C_{10}H_8^{+2}$						
	$C_{10}H_8$ (Naphthalene)	91-20-3	**	22.8	OTH	5141
$C_{10}H_8^{+3}$						
	$C_{10}H_8$ (Naphthalene)	91-20-3	**	41.2±1.0	OTH	5141
$C_{10}H_{10}^+$						
	$C_6H_5CH=CHCH=CH_2$ (Benzene, 1,3-butadienyl-, (E)-)	16939-57-4	**	7.95	PE	3892
	$C_6H_5CH=C=CHCH_3$ (Benzene, 1,2-butadienyl-)	2327-98-2	**	8.15 (V)	PE	4493
	cis-$(C_6H_5)CH=CHCH=CH_2$ (Benzene,1,3-butadienyl-)	1515-78-2	**	8.39	PE	5202
	$C_6H_5C\equiv CC_2H_5$ (Benzene,1-butynyl-)	622-76-4	**	8.33±0.02 (V)	PE	5409
	$C_6H_5C_4H_5$ (Benzene, 1-cyclobuten-1-yl-)	3365-26-2	**	8.22	PE	4347
	$C_6H_4(C_2H_3)_2$ (Benzene,1,4-diethenyl-)	105-06-6	**	8.11 (V)	PE	5537
	$C_6H_3(CH_3)_2C\equiv CH$ (Benzene,1-ethynyl-2,4-dimethyl-)	16017-30-4	**	8.31±0.02 (V)	PE	5409
	$CH_2=C(C_6H_5)CH=CH_2$ (Benzene, (1-methylene-2-propenyl)-)	2288-18-8	**	8.57	PE	3892
			**	8.60 (V)	PE	5537
	$C_6H_5C(CH_3)=C=CH_2$ (Benzene, 1-methyl-1,2-propadienyl-)	22433-39-2	**	8.07 (V)	PE	4493
	$C_6H_4(CH_3)C\equiv CCH_3$ (Benzene,1-methyl-2-(1-propynyl)-)	57497-13-9	**	8.23±0.02 (V)	PE	5409
	$C_6H_4(CH_3)C\equiv CCH_3$ (Benzene,1-methyl-3-(1-propynyl)-)	XXXXX-XX-X	**	8.26±0.02 (V)	PE	5409
	$C_6H_4(CH_3)C\equiv CCH_3$ (Benzene,1-methyl-4-(1-propynyl)-)	2749-93-1	**	8.13±0.02 (V)	PE	5409
	$C_9H_8=CH_2$ (Bicyclo[4.2.1]nona-2,4,7-triene, 9-methylene-)	38898-39-4	**	8.25 (V)	PE	4094
	$C_8H_6(=CH_2)_2$ (Bicyclo[2.2.2]octa-2,5-diene,7,8-bis(methylene)-)	51698-73-8	**	8.33±0.03 (V)	PE	4665
	$C_9H_8=CH_2$ (1H-Cyclobuta[*cd*]pentalene, 1a,3a,5a,5b-tetrahydro-1-methylene-)	64096-73-7	**	8.80	PE	4855
	$C_{10}H_{10}$ (Cyclopenta[*cd*]pentalene, 2a,4a,6a,6b-tetrahydro-)	6053-74-3	**	9.0 (V)	PE	4004
	$C_{10}H_{10}$ (Hexacyclo[4.4.0.$0^{2,4}$.$0^{3,9}$.$0^{5,7}$.$0^{8,10}$]decane)	XXXXX-XX-X	**	8.5 (V)	PE	5192
	$C_9H_8(=CH_2)$ (1*H*-Indene, 2,3-dihydro-1-methylene-)	1194-56-5	**	8.00±0.02	PE	3854
	$C_9H_8(=CH_2)$ (1,2-Methanodicyclopropa[*cd*,*gh*]pentalene,octahydro-3-methylene-)	64630-96-2	**	9.00±0.05 (V)	PE	5335

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	*Ionization or* appearance potential (eV)	Method	Ref.
$C_{10}H_{14}^+$						
	$C_{10}H_{14}$ (Tetracyclo[7.1.0.0^{2,4}.0^{5,7}]decane(1α,2α,4β,5α,7α,9α)-)	62279-35-0	**	8.88 (V)	PE	4964
	$C_{10}H_{14}$ (Tricyclo[4.2.2.0^{2,5}]dec-7-ene)	37706-26-6	**	9.0 (V)	PE	5605
	$C_9H_{12}(=CH_2)$ (Tricyclo[4.2.1.0^{2,5}]nonane,9-methylene-)	XXXXX-XX-X	**	9.20±0.05 (V)	PE	5335
	$C_6H_4(CH_3)_4$ (Benzene, 1,2,4,5-tetramethyl-)	95-93-2	**	8.07	PE	4952
$C_{10}H_{15}^+$						
	$C_{10}H_{16}$ (Tricyclo[3.3.1.1^{3,7}]decane)	281-23-2	H	10.6	PI	4173
	$C_{10}H_{15}CH_3$	XXXXX-XX-X	CH_3	9.5±0.1	PI	3918
	$C_{10}H_{15}CH_3$ (4,7-Methano-1*H*-indene, octahydro-2-methyl-, (2α,3aβ,4α,7α,7aβ)-)	50745-90-9	CH_3	10.1±0.1	PI	3918
	$C_{10}H_{15}CH_3$ (4,7-Methano-1*H*-indene, octahydro-8-methyl-, stereoisomer)	50745-92-1	CH_3	9.6±0.1	PI	3918
	$C_{10}H_{15}C_2H_5$ (4,7-Methano-1*H*-indene, 5-ethyloctahydro-, (3aα,4β,5α,7β,7aα)-)	32787-97-6		9.9±0.1	PI	3918
	$C_{12}H_{20}$ (Tricyclo[3.3.1.1^{3,7}]decane, 2-ethyl-)	14451-87-7		10.5	PI	4173
$C_{10}H_{16}^+$						
	$C_5H_{11}C{\equiv}CC(CH_3){=}CH_2$	70058-00-3	**	8.57±0.01	PE	5407
	$CH_3C{\equiv}CC(iso\text{-}C_3H_7){=}C(CH_3)_2$	70058-04-7	**	7.89±0.01	PE	5407
	$C_9H_{14}{=}CH_2$ (Bicyclo[4.2.1]nonane, 9-methylene-)	40916-48-1	**	9.0 (V)	PE	4094
	$C_3H_3(CH_3)_4C{\equiv}CH$ (Cyclobutane,2-ethynyl-1,1,3,3-tetramethyl)	66438-89-9	**	9.33 (V)	PE	5607
	$C_6H_4(CH_3)_4$ (1,4-Cyclohexadiene, 3,3,6,6-tetramethyl-)	2223-54-3	**	8.81 (V)	PE	4385
	$C(CH_3)(CH_2)C_6H_8CH_3$ (Cyclohexene, 1-methyl-4-(1-methylethenyl)-)	138-86-3	**	8.3	EI	5200
	$(C_3H_5)_2C{=}C(CH_3)_2$ (Cyclopropane, 1,1'-(2-methyl-1-propenylidene)bis-)	27720-84-9	**	7.82	PI	3759
	$C_3H(CH_3)_3{=}C{=}C(CH_3)_2$ (Cyclopropane,trimethyl(2-methyl-1-propenylidene)-)	14803-30-6	**	7.57	PE	5625
	$C_{10}H_{16}$ (Dispiro[2.0.2.4]decane)	24029-74-1	**	9.22 (V)	PE	5359
	$C_{10}H_{16}$ (Dispiro[2.2.2.2] decane)	24518-94-3	**	9.17 (V)	PE	4385
	$C_{10}H_{16}$ (4,7-Methano-1*H*-indene, octahydro-)	6004-38-2	**	9.3	PI	4173
	$C_{10}H_{16}$ (4,7-Methano-1*H*-indene, octahydro-, (3aα,4β,7β,7aα)-)	2825-82-3	**	9.35±0.05	PI	3918
	$C_{10}H_{16}$ (Spiro[bicyclo[2.2.2]octane-2,1'-cyclopropane])	53764-10-6	**	9.32 (V)	PE	4433
	$C_{10}H_{16}$ (Tricyclo[3.3.1.1^{3,7}]decane	281-23-2	**	9.30±0.01	S	3757
			**	9.25	PI	4173
			**	9.1±0.05	PE	3855
			**	9.20	PE	4735
			**	9.22	PE	3907
			**	9.23	PE	3886
			**	9.28±0.1	PE	3851
			**	9.28 (V)	PE	5043
			**	9.31±0.01	PE	3757
			**	9.55 (V)	PE	3990
			**	9.75±0.02 (V)	PE	4217
			**	9.75 (V)	PE	4000
			**	9.75 (V)	PE	5395

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{10}H_{16}^+$						
	$C_{10}H_{16}$ (Tricyclo[4.2.2.0^{2,5}]decane)	249-87-6	**	9.45 (V)	PE	5605
$C_{10}H_{17}^+$						
	$C_6H_9(CH_3)C_4H_8$ (Naphthalene,decahydro-1-methyl-(1α,4aα,8aβ)	4683-95-8	CH_3	10.13±0.007	EI	5451
	$C_6H_9(CH_3)C_4H_8$ (Naphthalene,decahydro-1-methyl-(1α,4aβ,8aα)	XXXXX-XX-X	CH_3	10.14±0.010	EI	5451
	$C_6H_9(CH_3)C_4H_8$ (Naphthalene,decahydro-2-methyl-(2α,4aα,8aβ)	14398-71-1	CH_3	10.34±0.006	EI	5451
	$C_6H_9(CH_3)C_4H_8$ (Naphthalene,decahydro-2-methyl-(2α,4aβ,8aα)	4683-94-7	CH_3	10.33±0.009	EI	5451
$C_{10}H_{18}^+$						
	(*tert*-C_4H_9)C≡C(*tert*-C_4H_9)	17530-24-4	**	9.054±0.010	PE	4575
	C_6H_9(*tert*-C_4H_9) (Cyclohexene,3-(1,1-dimethylethyl)-)	14072-87-8	**	8.94±0.02 (V)	PE	5420
	$C_4H_9C{\equiv}CC_4H_9$	1942-46-7	**	9.125±0.005	PE	4575
			**	9.14±0.02	PI	5583
	$C_6H_{13}C{\equiv}CC_2H_5$	2384-85-2	**	9.190±0.005	PE	4575
			**	9.19±0.02	PI	5583
	1-$C_{10}H_{18}$	764-93-2	**	9.91±0.02	PI	5583
	2-$C_{10}H_{18}$	2384-70-5	**	9.30±0.02	PI	5583
	4-$C_{10}H_{18}$	2384-86-3	**	9.17±0.02	PI	5583
	$C_4H_3(CH_3)_4CH{=}CH_2$ (Cyclobutane,2-ethenyl-1,1,3,3-tetramethyl)	66438-87-7	**	9.10 (V)	PE	5607
	$C_{10}H_{18}$ (Cyclodecene(E))	2198-20-1	**	8.91±0.15	EI	5532
	$C_{10}H_{18}$ (Cyclodecene(Z))	935-31-9	**	8.97±0.15	EI	5532
	$C_{10}H_{18}$ (Cyclodecene)	3618-12-0	**	8.98 (V)	PE	4267
	n-$C_4H_9C_6H_9$ (Cyclohexene,1-butyl-)	3282-53-9	**	8.41±0.01	PI	5556
	n-$C_4H_9C_6H_9$ (Cyclohexene,3-butyl-)	3983-07-1	**	8.80±0.02	PI	5556
	n-$C_4H_9C_6H_9$ (Cyclohexene,4-butyl-)	21524-26-5	**	8.85±0.02	PI	5556
	$(CH_3)_2CHCH_2C_6H_9$ (Cyclohexene,1-(2-methylpropyl)-)	3983-03-7	**	8.40±0.01	PI	5556
	$C_2H_5CH(CH_3)C_6H_9$ (Cyclohexene,3-(1-methylpropyl)-)	15232-91-4	**	8.74±0.02	PI	5556
	$(CH_3)_2CHCH_2C_6H_9$ (Cyclohexene,3-(2-methylpropyl)-)	4104-56-7	**	8.77±0.02	PI	5556
	n-$C_5H_{11}C_5H_7$ (Cyclopentene,1-pentyl-)	4291-98-9	**	8.45±0.02	PI	5556
	n-$C_5H_{11}C_5H_7$ (Cyclopentene,3-pentyl-)	37689-14-8	**	8.84±0.02	PI	5556
	$C_{10}H_{18}$ (Naphthalene, decahydro-)	91-17-8	**	~9.35	PE	4735
	$(CH_3)_2CHC_2H_5C_5H_7$ (Cyclopentene,1-(3-methylbutyl)-)	37689-15-9	**	8.44±0.02	PI	5556
	$(CH_3)_2CHC_2H_5C_5H_7$ (Cyclopentene,3-(3-methylbutyl)-)	37689-16-0	**	8.83±0.02	PI	5556
$C_{10}H_{20}^+$						
	$CH_3(CH_2)_3C(C_2H_5){=}C(CH_3)_2$	19780-61-1	**	8.101±0.005	PE	3957
	$CH_3(CH_2)_4C(CH_3){=}C(CH_3)_2$	19781-18-1	**	8.132±0.005	PE	3957
	$(CH_3)_3CCH_2C(CH_3){=}C(CH_3)_2$	33175-59-6	**	8.097±0.005	PE	3957
	1-$C_{10}H_{20}$	872-05-9	**	9.417±0.006	PI	5584
			**	9.59±0.01 (V)	PE	4939

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{10}H_{20}^+$						
	$(tert\text{-}C_4H_9)_2C{=}CH_2$	5857-68-1	**	8.795±0.008	PE	3957
	$cis\text{-}(CH_3)_3CCH{=}CHC(CH_3)_3$	692-47-7	**	8.695±0.010	PE	3957
			**	8.95 (V)	PE	4084
	$cis\text{-}2\text{-}C_{10}H_{20}$	20348-51-0	**	8.899±0.010	PI	5584
			**	9.08±0.01 (V)	PE	4939
	$cis\text{-}3\text{-}C_{10}H_{20}$	19398-86-8	**	8.832±0.009	PI	5584
			**	9.01±0.01 (V)	PE	4939
	$cis\text{-}4\text{-}C_{10}H_{20}$	19398-88-0	**	8.784±0.004	PI	5584
			**	8.97±0.01 (V)	PE	4939
	$cis\text{-}5\text{-}C_{10}H_{20}$	7433-78-5	**	8.773±0.006	PI	5584
			**	8.766±0.005	PE	3957
			**	8.94±0.01 (V)	PE	4939
	$cis((iso\text{-}C_3H_7)(CH_3)C)_2$	60643-93-8	**	8.27 (V)	PE	4459
	$trans\text{-}(CH_3)_3CCH{=}CHC(CH_3)_3$	692-48-8	**	8.741±0.008	PE	3957
			**	8.89 (V)	PE	4084
	$trans\text{-}2\text{-}C_{10}H_{20}$	20063-97-2	**	8.903±0.005	PI	5584
			**	9.06±0.01 (V)	PE	4939
	$trans\text{-}3\text{-}C_{10}H_{20}$	19150-21-1	**	8.830±0.006	PI	5584
			**	9.00±0.01	PE	4939
	$trans\text{-}4\text{-}C_{10}H_{20}$	19398-89-1	**	8.782±0.004	PI	5584
			**	8.97±0.01 (V)	PE	4939
	$trans\text{-}5\text{-}C_{10}H_{20}$	7433-56-9	**	8.762±0.012	PI	5584
			**	8.760±0.005	PE	3957
			**	8.95±0.01 (V)	PE	4939
	$trans((iso\text{-}C_3H_7)(CH_3)C)_2$	60643-94-9	**	8.24 (V)	PE	4459
	$C_{10}H_{20}$ (Cyclodecane)	293-96-9	**	10.00±0.05	EI	4319
	$n\text{-}C_4H_9C_6H_{11}$ (Cyclohexane,butyl-)	1678-93-9	**	9.57±0.03	PI	5556
	$C_2H_5CH(CH_3)C_6H_{11}$ (Cyclohexane,(1-methylpropyl)-)	7058-01-7	**	9.51±0.03	PI	5556
	$(CH_3)_2CHCH_2C_6H_{11}$ (Cyclohexane,(2-methylpropyl)-)	1678-98-4	**	9.54±0.03	PI	5556
	$n\text{-}C_5H_{11}C_5H_9$ (Cyclopentane,pentyl-)	3741-00-2	**	9.91±0.05	PI	5556
$C_{11}H_7^+$						
	$(C_6H_5)_2$ (1,1′-Biphenyl)	92-52-4	CH_3	14.80±0.2	EI	4199
$C_{11}H_9^+$						
	$C_{10}H_7CH_3$ (Naphthalene, 1-methyl-)	90-12-0	H	13.15±0.2	EI	4199
	$C_{10}H_7CH_3$ (Naphthalene, 2-methyl-)	91-57-6	H	13.15±0.2	EI	4199
	$C_{10}H_6(CH_3)_2$ (Naphthalene, 1,5-dimethyl-)	571-61-9	CH_3	12.85±0.05	EI	4199
	$C_{10}H_6(CH_3)_2$ (Naphthalene, 1,8-dimethyl-)	569-41-5	CH_3	12.70±0.2	EI	4199
	$C_6H_5C{\equiv}CCH{=}CHCH_2Cl$ (Benzene, (5-chloro-3-penten-1-ynyl)-, (*E*)-)	40316-56-1		8.95±0.05	EI	4044
	$C_{10}H_7CH_2Cl$ (Naphthalene, 1-(chloromethyl)-)	86-52-2		11.21±0.05	EI	4044
	$C_{10}H_7CH_2Cl$ (Naphthalene, 2-(chloromethyl)-)	2506-41-4		11.15±0.05	EI	4044
$C_{11}H_{10}^+$						
	$C_{10}H_7CH_3$ (Azulene, 1-methyl-)	769-31-3	**	7.26±0.03 (V)	PE	4828
	$C_{10}H_7CH_3$ (Azulene, 4-methyl-)	17647-77-7	**	7.33±0.03 (V)	PE	4828

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{11}H_{10}^+$						
	$C_{10}H_7CH_3$ (Azulene, 5-methyl-)	1654-55-3	**	7.30±0.03 (V)	PE	4828
	$C_{10}H_7CH_3$ (Azulene, 6-methyl-)	1654-52-0	**	7.34±0.03 (V)	PE	4828
	$C_{11}H_{10}$ (Bicyclo[4.4.1]undeca-1,3,5,7,9-pentaene)	2443-46-1	**	7.90 (V)	PE	3953
	$C_9H_8(=C=CH_2)$ (1,2-Methanodicyclopropa[*cd*,*gh*]pentalene,3-ethenylideneoctahydro-)	65915-89-1	**	8.75 (V)	PE	5447
	$C_{11}H_{10}$ (1,4-Methanonaphthalene, 1,4-dihydro-)	4453-90-1	**	8.30±0.05 (V)	PE	4830
			**	8.32±0.05 (V)	PE	4866
			**	8.34±0.05 (V)	PE	5019
			**	8.34 (V)	PE	4541
			**	8.34 (V)	PE	4835
	$C_{10}H_7CH_3$ (Naphthalene, 1-methyl-)	90-12-0	**	7.95 (V)	PE	3685
			**	8.01±0.03 (V)	PE	4828
			**	7.80±0.03	EI	3588
			**	8.50±0.05	EI	4199
			**	7.98	CTS	3758
	$C_{10}H_7CH_3$ (Naphthalene, 2-methyl-)	91-57-6	**	7.83	PE	4515
			**	7.93 (V)	PE	3685
			**	8.01±0.03 (V)	PE	4828
			**	8.10±0.03	EI	3588
			**	8.45±0.05	EI	4199
	$(C_6H_5)_2S$ (Benzene, 1,1'-thiobis-)	139-66-2	CS	12.57±0.1	EI	3817
$C_{11}H_{12}^+$						
	$C_9H_8(C_2H_4)$ (Spiro[cyclopropane-1,3'-[1,2]methanodicyclopropa[*cd*,*gh*]pentalene] octahydro-)	65915-88-0	**	9.05 (V)	PE	5447
	$C_6H_5C_5H_7$ (Benzene, 1-cyclopenten-1-yl-)	825-54-7	**	8.15 (V)	PE	4347
	$C_6H_5C_5H_7$ (Benzene, 2-cyclopenten-1-yl-)	37689-22-8	**	~9.2±0.05 (V)	PE	4954
	$C_6H_5C_5H_7$ (Benzene,3-cyclopenten-1-yl-)	39599-89-8	**	8.62±0.01	PI	5556
	$C_6H_5C{\equiv}CC_3H_7$ (Benzene,1-pentynyl-)	4250-81-1	**	8.29±0.02 (V)	PE	5409
	$C_{11}H_{12}$ (1H-Cyclobut[f]indene,2,4,5,6-tetrahydro-)	60582-10-7	**	8.05	PE	4952
	$C_{11}H_{12}$ (1H-Cyclobut[*e*]indene, 2,5,6,7-tetrahydro-)	60582-11-8	**	8.19	PE	4952
	$C_{11}H_{12}$ (1,4-Methanonaphthalene, 1,2,3,4-tetrahydro-)	4486-29-7	**	8.42±0.05 (V)	PE	4830
			**	8.45±0.05 (V)	PE	4866
	$C_{10}H_{10}(=CH_2)$ (Naphthalene, 1,2,3,4-tetrahydro-1-methylene-)	25108-63-8	**	7.90±0.02 (V)	PE	3854
	$C_{11}H_{12}$ (Pentacycloundecene)	XXXXX-XX-X	**	8.7 (V)	PE	5578
	$C_9H_8(=CH_2)_2$ (Tricyclo[3.2.2.0^{2,4}]non-6-ene,8,9-bis(methylene)-(1α,2α,4α,5α)-)	36439-89-1	**	8.37±0.03 (V)	PE	4665
$C_{11}H_{14}^+$						
	$C_6H_5C_3H_4(C_2H_5)$ (Benzene, (1-ethylcyclopropyl)-)	50462-84-5	**	8.70 (V)	PE	4815
	$C_6H_5C_5H_9$ (Benzene, cyclopentyl-)	700-88-9	**	8.81 (V)	PE	4347
	$C_6H_2(CH_3)_3CH=CH_2$ (Benzene, 2-ethenyl-1,3,5-trimethyl-)	769-25-5	**	8.33 (V)	PE	3964

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{11}H_{11}^+$						
	$C_6H_5CH=CH(CH_2)_2CH_3$ (Benzene,1-pentenyl-)	826-18-6	**	8.4±0.07	EI	5374
	$C_{11}H_{14}$ (5*H*-Benzocycloheptene, 6,7,8,9-tetrahydro-)	1075-16-7	**	8.40±0.02 (V)	PE	3854
			**	8.44 (V)	PE	4063
	$C_{11}H_{14}$ (Bicyclo[4.2.1]non-7-ene,2,5-bis(methylene)-)	72569-85-8		8.90 (V)	PE	5325
	$C_9H_8(CH_3)_2$ (Indan, 1,1-dimethyl)	4912-92-9	**	8.47	CTS	3546
	$C_9H_8(CH_3)_2$ (1*H*-Indene, 2,3-dihydro-2,2-dimethyl-)	20836-11-7	**	8.47	CTS	3546
	$C_{11}H_{14}$ (Spiro[2,4]hepta-1,4,6-triene,1,2-diethyl)	49542-94-1	**	7.87 (V)	PE	5480
	$C_9H_{10}(=CH_2)_2$ (Tricyclo[3.2.2.0^{2,4}]nonane,6,7-bis(methylene)-(1α,2β,4β,5α)-)	36439-90-4	**	8.38±0.03 (V)	PE	4665
	$C_8H_8=C(CH_3)_2$ (Tricyclo[3.2.1.0^{2,4}]oct-6-ene, 8-(1-methylethylidene)-, *endo*-)	XXXXX-XX-X	**	7.9	PE	3687
	$C_6H_5(CH_2)_5NH_2$ (Benzenepentanamine)	17734-21-3	NH_3	9.4±0.1	EI	5374
$C_{11}H_{16}^+$						
	$C_6H_5CH_2$(*tert*-C_4H_9) (Benzene, (2,2-dimethylpropyl)-)	1007-26-7	**	8.7 (V)	PE	4172
			**	8.77 (V)	PE	4280
			**	~8.8	PE	4589
	$C_6H_4(CH_3)C_4H_9$ (Benzene, 1-butyl-3-methyl-)	1595-04-6	**	8.42±0.1	EI	3629
	$C_6H_4(CH_3)C_4H_9$ (Benzene, 1-butyl-4-methyl-)	1595-05-7	**	8.35±0.1	EI	3629
	$C_6H(CH_3)_5$ (Benzene, pentamethyl-)	700-12-9	**	7.9	CTS	3543
	$C_6H_{10}C=C=C(CH_3)_2$ (Bicyclo[4.1.0]heptane,7-(2-methyl-1-propenylidene)-)	4544-26-7	**	7.60	PE	5625
	$C_9H_{12}(=CH_2)_2$ (Bicyclo[4.2.1]nonane,2,5-bis(methylene)-)	72569-86-9	**	8.90 (V)	PE	5314
	$(C_3H_5)_2C=CHC_3H_5$ (Cyclopropane, 1,1′,1″-(1-ethenyl-2-ylidene)tris-)	23603-63-6	**	7.48	PI	3759
	$C_{11}H_{16}$ (Dispiro[cyclopropane-1,2′-bicyclo[2.2.1]heptane-3′,1″-cyclopropane])	40827-29-0	**	8.76 (V)	PE	4433
	$C_{11}H_{16}$ (Spiro[2,4]hepta-4,6-diene,1,2-diethyl)	59313-59-6	**	8.20 (V)	PE	5480
	$C_{10}H_{14}(=CH_2)$ (Tricyclo[3.3.1.1^{3,7}]decane, 2-methylene-)	875-72-9		8.82	PE	3886
			**	8.86±0.02 (V)	PE	4217
	$C_8H_8(=CH_2)(CH_3)_2$ (Tricyclo[3.2.1.0^{2,4}]octane,3,3-dimethyl-)	XXXXX-XX-X	**	8.80±0.05 (V)	PE	5335
	$C_8H_{10}=C(CH_3)_2$ (Tricyclo[3.2.1.0^{2,4}]octane, 8-(1-methylethylidene)-, *endo*-)	XXXXX-XX-X	**	8.18	PE	3687
$C_{11}H_{17}^+$						
	$C_{10}H_{15}C_2H_5$ (4,7-Methano-1*H*-indene, 5-ethyloctahydro-, (3aα,4β,5α,7β,7aα)-)	32787-97-6	CH_3	10.0±0.1	PI	3918
$C_{11}H_{18}^+$						
	$C_{10}H_{15}CH_3$	XXXXX-XX-X	**	9.35±0.05	PI	3918
	$C_7H_6(CH_3)_4$ (Cycloheptyne, 3,3,7,7-tetramethyl-)	33470-40-5	**	8.80 (V)	PE	4362
	$C_6H_{11}C_5H_7$ (Cyclohexane, 2-cyclopenten-1-yl-)	2690-15-5	**	8.95±0.05 (V)	PE	4954
	$C_3(CH_3)_4=C=C(CH_3)_2$ (Cyclopropane,tetramethyl(2-methyl-1-propenylidene)-)	13303-30-5	**	7.46	PE	5625
	$C_{11}H_{18}$ (4,7-Ethano-1*H*-indene, octahydro-)	38255-97-9	**	9.15	PI	4173

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{11}H_{18}^+$						
	$C_{11}H_{18}$ (4,7-Methanoazulene, decahydro-)	51027-86-2	**	9.25	PI	4173
	$C_{10}H_{15}CH_3$ (4,7-Methano-1*H*-indene, octahydro-2-methyl-, (2α,3aβ,4α,7α,7aβ)-)	50745-90-9	**	9.35±0.05	PI	3918
	$C_{10}H_{15}CH_3$ (4,7-Methano-1*H*-indene, octahydro-8-methyl-, stereoisomer)	50745-92-1	**	9.35±0.05	PI	3918
	$C_6H_7(CH_3)C_4H_8$ (*Naphthalene,1,2,3,4,4a,5,6,8a-octahydro-4a-methyl-cis-*)	65698-42-2	**	8.92±0.02 (V)	PE	5420
	$C_6H_7(CH_3)C_4H_8$ (Naphthalene,1,2,3,4,4a,5,6,8a-octahydro-4a-methyl-*trans*-)	XXXXX-XX-X	**	8.92±0.02 (V)	PE	5420
	$C_{11}H_{18}$ (Naphthalene, 1,2,3,4,4a,5,6,8a-octahydro-4a-methyl-*trans*-)	68211-37-0	**	8.92±0.05 (V)	PE	4842
	$C_{10}H_{15}CH_3$ (Tricyclo[3.3.1.1^{3,7}]decane, 1-methyl-)	768-91-2	**	9.17±0.02	PE	3886
$C_{11}H_{20}^+$						
	1-$C_{11}H_{20}$	2243-98-3	**	9.90±0.02	PI	5583
	2-$C_{11}H_{20}$	60212-29-5	**	9.28±0.02	PI	5583
	3-$C_{11}H_{20}$	60212-30-8	**	9.17±0.02	PI	5583
	4-$C_{11}H_{20}$	60212-31-9	**	9.13±0.02	PI	5583
	5-$C_{11}H_{20}$	2294-72-6	**	9.11±0.02	PI	5583
	(*tert*-C_4H_9)$_2$C=C=CH_2	22585-31-5	**	8.55 (V)	PE	4019
	$C_{11}H_{20}$ (Cyclohexane, 1-(1,1-dimethylethyl)-4-methylene)	13294-73-0	**	9.09±0.05 (V)	PE	4842
			**	9.09±0.02 (V)	PE	5420
	n-$C_5H_{11}C_6H_9$ (Cyclohexene,1-pentyl-)	15232-85-6	**	8.37±0.02	PI	5556
	n-$C_6H_{13}C_5H_7$ (Cyclopentene,1-hexyl-)	4291-99-0	**	8.43±0.01	PI	5556
	n-$C_6H_{13}C_5H_7$ (Cyclopentene,3-hexyl-)	37689-18-2	**	8.84±0.02	PI	5556
	$C_{11}H_{20}$ (Cycloundecene(E))	13151-60-5	**	8.73±0.15	EI	5532
	$C_{11}H_{20}$ (Cycloundecene(Z))	13151-61-6	**	8.65±0.15	EI	5532
	$C_6H_9(CH_3)C_4H_8$ (Naphthalene,decahdyro-2-methyl-(2α,4aβ,8aα)	4683-94-7	**	9.31±0.006	EI	5451
	$C_6H_9(CH_3)C_4H_8$ (Naphthalene,decahydro-1-methyl-(1α,4aα,8aβ)	4683-95-8	**	9.27±0.009	EI	5451
	$C_6H_9(CH_3)C_4H_8$ (Naphthalene,decahydro-1-methyl-(1α,4aβ,8aα)	XXXXX-XX-X	**	9.26±0.008	EI	5451
	$C_6H_9(CH_3)C_4H_8$ (Naphthalene,decahydro-2-methyl-(2α,4aα,8aβ)	14398-71-1	**	9.32±0.006	EI	5451
$C_{11}H_{22}^+$						
	$C_2H_5CH_2C(C_2H_5)$=$C(C_2H_5)_2$	50787-14-9	**	8.041±0.020	PE	3957
	n-$C_6H_{13}C_5H_9$ (Cyclopentane,hexyl-)	4457-00-5	**	9.90±0.03	PI	5556
$C_{12}H_6^+$						
	$C_6H_3(C{\equiv}CH)_3$ (Benzene, 1,3,5-triethynyl-)	7567-63-7	**	8.86±0.02	PE	4374
	$C_{12}H_6$ (*1,5,9-Cyclododecatriene-3,7,11-triyne*)	6555-54-0	**	7.69 (V)	PE	4652
$C_{12}H_8^+$						
	$C_{12}H_8$ (Acenaphthylene)	208-96-8	**	8.22±0.04	PE	4196
	$C_{12}H_8$ (Biphenylene)	259-79-0	**	7.53±0.05	PE	3684
			**	7.60±0.02 (V)	PE	3702

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{12}H_8^+$						
	$C_{12}H_8$	259-79-0	**	7.61±0.04	PE	4196
	$C_{12}H_8$ (1,3,5,9-Cyclododecatetraene-7,11-diyne)	7003-42-1	**	7.54 (V)	PE	4652
$C_{12}H_9^+$						
	$(C_6H_5)_2$ (1,1'-Biphenyl)	92-52-4	H	13.60±0.2	EI	4199
$C_{12}H_{10}^+$						
	$C_{12}H_{10}$ (Acenaphthylene, 1,2-dihydro-)	83-32-9	**	7.76±0.03 (V)	PE	4828
			**	7.82±0.04	PE	4196
	$(C_6H_5)_2$ (1,1'-Biphenyl)	92-52-4	**	7.95±0.02	PE	3702
			**	8.34 (V)	PE	5619
			**	8.39 (V)	PE	5364
			**	8.80±0.05	EI	4199
			**	8.35	CTS	3577
	$C_{12}H_{10}$ (Cyclobuta[*a*]naphthalene, 1,2-dihydro-)	32277-35-3	**	7.84±0.03 (V)	PE	4952
	$C_{12}H_{10}$ (Cyclobuta[*b*]naphthalene, 1,2-dihydro-)	6827-31-2	**	7.92±0.03 (V)	PE	4952
			**	7.96±0.03 (V)	PE	4828
	$C_{12}H_{10}$ (Cyclopent[*cd*]azulene, 2a, 8b-dihydro-)	38310-40-6	**	7.46 (V)	PE	4008
	$C_{12}H_{10}$ (4a, 8a-Ethenonaphthalene)	19539-78-7	**	8.1 (V)	PE	4006
$C_{12}H_{10}^{+2}$						
	$(C_6H_5)_2$ (1,1'-Biphenyl)	92-52-4	**	22.1	OTH	5141
$C_{12}H_{11}^+$						
	$C_{10}H_6(CH_3)_2$ (Naphthalene, 1,5-dimethyl-)	571-61-9	H	12.85±0.05	EI	4199
	$C_{10}H_6(CH_3)_2$ (Naphthalene, 1,8-dimethyl-)	569-41-5	H	13.00±0.2	EI	4199
$C_{12}H_{12}^+$						
	$C_{11}H_9(CH_3)$ (1,4-Methanonaphthalene, 1,4-dihydro-6-methyl-)	4897-73-8	**	8.12±0.05 (V)	PE	5019
	$C_{10}H_6(CH_3)_2$ (Azulene, 4,5-dimethyl-)	56594-77-5	**	7.18±0.03 (V)	PE	4828
	$C_{10}H_6(CH_3)_2$ (Azulene, 4,6-dimethyl-)	56594-78-6	**	7.29±0.03 (V)	PE	4828
	$C_{10}H_6(CH_3)_2$ (Azulene, 4,7-dimethyl-)	46030-99-3	**	7.20±0.03 (V)	PE	4828
	$C_{10}H_6(CH_3)_2$ (Azulene, 4,8-dimethyl-)	7206-52-2	**	7.27±0.03 (V)	PE	4828
	$C_{10}H_6(CH_3)_2$ (Azulene, 5,6-dimethyl-)	10556-12-4	**	7.17±0.03 (V)	PE	4828
	$C_{10}H_6(CH_3)_2$ (Azulene, 5,7-dimethyl-)	56594-76-4	**	7.08±0.03 (V)	PE	4828
	$C_{12}H_{12}$ (1,5,9-Cyclododecatriyne)	60323-50-4	**	9.24 (V)	PE	4781
	$C_{12}H_{12}$ (Cyclopent[*cd*]azulene,2a,4a,8a,8b-tetrahydro-)	56004-38-7	**	8.50 (V)	PE	5606
	$C_{12}H_{12}$ (4a, 8a-Ethenonaphthalene, 1,4-dihydro-)	38310-32-6	**	8.0 (V)	PE	4006
	$C_{12}H_{12}$ (5,9-Methano-5H-benzocycloheptene, 6,9-dihydro-)	24309-43-1	**	8.42±0.05	PE	4866

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{12}H_{12}^+$						
	$C_{12}H_{12}$ (2,7-Methano-1H-cyclopropa[*b*]naphthalene, 1a,2,7,7a-tetrahydro-(1aα,2β,7β,7aα)-)	15577-76-1	**	8.40±0.05 (V)	PE	4866
	$C_{12}H_{12}$ (1,2,5-Metheno-1H-cyclobuta[*de*]naphthalene,1a,2,4a,5,7a,7b-hexahydro-)	68109-02-4	**	8.30 (V)	PE	5119
	$C_{10}H_6(CH_3)_2$ (Naphthalene, 1,3-dimethyl-)	575-41-7	**	7.86±0.03 (V)	PE	4828
	$C_{10}H_6(CH_3)_2$ (Naphthalene, 1,4-dimethyl-)	571-58-4	**	7.82±0.03 (V)	PE	4828
	$C_{10}H_6(CH_3)_2$ (Naphthalene, 1,5-dimethyl-)	571-61-9	**	7.85±0.03 (V)	PE	4828
			**	8.30±0.05	EI	4199
	$C_{10}H_6(CH_3)_2$ (Naphthalene, 1,8-dimethyl-)	569-41-5	**	7.64±0.03 (V)	PE	4828
			**	8.30±0.05	EI	4199
	$C_{10}H_6(CH_3)_2$ (Naphthalene, 2,3-dimethyl-)	581-40-8	**	7.89±0.03 (V)	PE	4828
	$C_{10}H_6(CH_3)_2$ (Naphthalene, 2,7-dimethyl-)	582-16-1	**	7.89±0.03 (V)	PE	4828
$C_{12}H_{14}^+$						
	$C_6H_5C_6H_9$ (Benzene,2-cyclohexen-1-yl-)	15232-96-9	**	7.96±0.02	PI	5556
	$C_6H_5C_6H_9$ (Benzene,3-cyclohexen-1-yl-)	4994-16-5	**	8.57±0.01	PI	5556
	$C_6H_5CH_2C_5H_7$ (Benzene,(1-methyl-2-cyclopenten-1-yl-)	XXXXX-XX-X	**	8.47±0.02	PI	5556
	$C_{11}H_{12}(=CH_2)$ (5*H*-Benzocycloheptene, 6,7,8,9-tetrahydro-5-methylene-)	40562-09-2	**	8.45±0.02 (V)	PE	3854
	$C_7H_4(=CH_2)_2(=C(CH_3)_2)$ (Bicyclo[2.2.1]hept-2-ene,5,6-*bis*(methylene)-7-(1-methylethylidene)-)	36439-83-5	**	8.40±0.03 (V)	PE	4665
	$C_9H_8=C(CH_3)_2$ (1H-Cyclobuta[*cd*]pentalene,1a,3a,5a,5b-tetrahydro-1-(1-methylethylidene)-)	64096-77-1	**	8.15	PE	4855
	$C_{12}H_{14}$ (1,4:5,8-Dimethanonaphthalene, 1,4,4a,5,8,8a-hexahydro-,(1α,4α,4aα,5α,8α,8aα)-)	1076-13-7	**	8.08±0.03 (V)	PE	4301
	$C_{12}H_{14}$ (1,4:5,8-Dimethanonaphthalene, 1,4,4a,5,8,8a-hexahydro-, (1α,4α,4aα,5β,8β,8aα)-)	15914-94-0	**	8.46±0.03 (V)	PE	4301
	$C_{12}H_{14}$ (4a, 8a-Ethenonaphthalene, 1,2,3,4-tetrahydro-)	24139-33-1	**	8.0 (V)	PE	4006
	$C_{12}H_{14}$ (4a, 8a-Ethenonaphthalene, 1,4,5,8-tetrahydro-)	20295-17-4	**	8.7 (V)	PE	4006
	$C_{12}H_{14}$ (Hexacyclododecane)	XXXXX-XX-X	**	9.0 (V)	PE	5578
	$C_{12}H_{14}$ (5-Indacene, 1,2,3,5,6,7-hexahydro-)	495-52-3	**	7.94	PE	4952
	$C_{12}H_{14}$ (*as*-Indacene, 1,2,3,6,7,8-hexahydro-)	1076-17-1	**	8.09	PE	4952
	$C_{12}H_{14}$ (5,9-Methano-5H-*benzocycloheptene*,6,7,8,9-tetrahydro-)	15391-62-5	**	8.52±0.05 (V)	PE	4866
	$C_9H_8(=C(CH_3)_2)$ (1,2-Methanodicyclopropa[*cd*,*gh*]pentalene,octahydro-3-(1-methylethylidene)-)	65915-87-9	**	8.35 (V)	PE	5447
	$C_{10}H_{10}(=CH_2)_2$ (Tricyclo[4.2.2.$0^{2,5}$]dec-7-ene,9,10-bis(methylene)-(1α,2α,5α,6α)-)	57297-56-0	**	8.40±0.03 (V)	PE	4665
	$C_9H_8=C(CH_3)_2$ (Tricyclo[4.2.1.$0^{2,5}$]nona-3,7-diene, 9-(1-methylethylidene)-, (1α,2α,5α,6α)-)	27237-73-6	**	8.33±0.03 (V)	PE	4281
$C_{12}H_{16}^+$						
	$C_6H_5C_3H_4(iso\text{-}C_3H_7)$ (Benzene, [1-(1-methylethyl)cyclopropyl]-)	63339-99-1	**	8.63 (V)	PE	4815
	$C_6H_5CH=CHC(CH_3)_3$ (Benzene, (3,3-dimethyl-1-butenyl)-, (E)-)	3846-66-0	**	7.80±0.04	EI	4097

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{12}H_{16}^+$						
	$C_6H_5CH=CHC(CH_3)_3$	3740-05-4	**	8.29±0.04	EI	4097
	(Benzene, (3,3-dimethyl-1-butenyl)-, (Z)-)					
	$C_6H_5C(C(CH_3)_3)=CH_2$	5676-29-9	**	8.25±0.04	EI	4097
	(Benzene, (2,2-dimethyl-1-methylenepropyl)-)					
	$C_{12}H_{16}$	1076-69-3	**	8.42 (V)	PE	4063
	(Benzocyclooctene, 5,6,7,8,9,10-hexahydro-)					
	$C_6H_4(CH_2)_6$	53011-74-8	**	8.00 (V)	PE	5339
	(Bicyclo[6.2.2]dodeca-8,10,11-triene)					
	$C_{12}H_{16}$	5103-78-6	**	9.00±0.05 (V)	PE	4593
	(4a,8a-Ethanonaphthalene, 1,4,5,8-tetrahydro-)					
	$C_{12}H_{16}$	24139-32-0	**	8.9 (V)	PE	4006
	(4a, 8a-Ethenonaphthalene, 1,2,3,4,5,8-hexahydro-)					
	$C_{12}H_{16}$	24375-17-5	**	8.22 (V)	PE	4963
	(Tetraspiro[2.0.2.0.2.0.2.0]dodecane)					
	$C_{10}H_{12}(=CH_2)_2$	36439-92-6	**	8.27±0.03 (V)	PE	4665
	(*Tricyclo*[4.2.2.$0^{2,5}$]*decane*,7,8-*bis*(methylene)-(1α,2β,5β,6α)-)					
	$C_9H_{10}=C(CH_3)_2$	53848-19-4	**	8.39±0.03 (V)	PE	4281
	(Tricyclo[4.2.1.$0^{2,5}$]non-7-ene, 9-(1-methylethylidene)-, (1α,2α,5α,6α)-)					
$C_{12}H_{18}^+$						
	$(n\text{-}C_4H_9C\equiv C)_2$	1120-29-2	**	8.67	PE	4731
	$(tert\text{-}C_4H_9C\equiv C)_2$	6130-98-9	**	8.61±0.02 (V)	PE	4816
	$C_6H_4(CH(CH_3)_2)_2$	100-18-5	**	8.35	PE	5574
	(Benzene,1,4-bis(1-methylethyl))					
	$C_6(CH_3)_6$	87-85-4	**	7.9 (V)	PE	5600
	(Benzene,hexamethyl-)					
			**	7.8	CTS	3543
	$C_6(CH_3)_6$	7641-77-2		7.83 (V)	PE	4296
	(Bicyclo[2.2.0]hexa-2,5-diene, 1,2,3,4,5,6-hexamethyl-)					
			**	7.92 (V)	PE	4297
	$C_9H_{12}=C(CH_3)_2$	66149-44-8	**	8.19	PE	4855
	(1H-Cyclobuta[*cd*]pentalene, octahydro-1-(1-methylethylidene)-)					
	$C_3=(C(CH_3)_2)_3$	2799-44-2	**	7.49	PE	4390
	(Cyclopropane, tris (1-methylethylidene)-)					
	(JC-Mean value of Jahn-Teller components)					
	$C_{12}H_{18}$	53862-33-2	**	9.50±0.03 (V)	PE	4301
	(1,4:5,8-Dimethanonaphthalene, decahydro-, (1α,4α,4aα,5α,8α,8aα)-)					
	$C_{12}H_{18}$	15914-95-1	**	9.57±0.03 (V)	PE	4301
	(1,4:5,8-Dimethanonaphthalene, decahydro-, (1α,4α,4aα,5β,8β,8aα)-)					
	$C_{12}H_{18}$	40827-30-3	**	8.67 (V)	PE	4433
	(Dispiro[cyclopropane-1,2′-bicyclo[2.2.2]octane-3′,1″-cyclopropane])					
	$C_{12}H_{18}$	38992-78-8	**	9.05 (V)	PE	4006
	(4a, 8a-Ethenonaphthalene, 1,2,3,4,5,6,7,8-octahydro-)					
	$C_9H_{12}=C(CH_3)_2$	53848-20-7	**	8.30±0.03 (V)	PE	4281
	(Tricyclo[4.2.1.$0^{2,5}$]nonane, 9-(1-methylethylidene)-, (1α,2α,5α,6α)-)					
	$(C_6(CH_3)_6)(CO)_3Cr$	12088-11-8		8.55±0.1	EI	3788
	(Chromium, tricarbonyl[(1,2,3,4,5,6-η)-hexamethylbenzene]-)					
$C_{12}H_{20}^+$						
	$C_{12}H_{20}$	2146-36-3	**	9.05	PI	4173
	(Acenaphthylene, dodecahydro-)					
	$C_6H_{11}C_6H_9$	3282-54-0	**	8.30±0.01	PI	5556
	(Cyclohexene,1-cyclohexyl-)					
	$C_6H_{11}C_6H_9$	1808-09-9	**	8.68±0.01	PI	5556
	(Cyclohexene,3-cyclohexyl-)					
	$C_8H_8(CH_3)_4$	XXXXX-XX-X	**	8.90 (V)	PE	4362
	(Cyclooctyne, 3,3,8,8-tetramethyl-)					
	$C_{10}H_{15}C_2H_5$	32787-97-6	**	9.35±0.05	PI	3918
	(4,7-Methano-1*H*-indene, 5-ethyloctahydro-,(3aα,4β,5α,7β,7aα)-)					
	$C_{10}H_{14}(CH_3)_2$	702-79-4	**	9.15	PE	4735
	(Tricyclo[3.3.1.$1^{3,7}$]decane)					

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{12}H_{20}^+$						
	$C_{12}H_{20}$ (Tricyclo[3.3.1.1^{3,7}]decane, 2-ethyl-)	14451-87-7	**	9.2	PI	4173
$C_{12}H_{22}^+$						
	trans-C_3H_2(*tert*-C_4H_9)$_2$=CH_2	XXXXX-XX-X	**	8.22±0.04	EI	4575
	$C_5H_{11}C{\equiv}CC_5H_{11}$	6975-99-1	**	9.090±0.005	PE	4575
			**	9.06±0.03	PI	5583
	trans,trans-((*tert*-C_4H_9)CH=CH)$_2$	22430-49-5	**	8.23±0.04	EI	4274
	1-$C_{12}H_{22}$	765-03-7	**	9.90±0.02	PI	5583
	2-$C_{12}H_{22}$	629-49-2	**	9.29±0.02	PI	5583
	3-$C_{12}H_{22}$	6790-27-8	**	9.17±0.02	PI	5583
	4-$C_{12}H_{22}$	22058-01-1	**	9.14±0.03	PI	5583
	5-$C_{12}H_{22}$	19780-12-2	**	9.09±0.03	PI	5583
	$C_{12}H_{22}$ (Cyclododecene(E))	1486-75-5	**	8.74±0.15	EI	5532
	$C_{12}H_{22}$ (Cyclododecene(Z))	1129-89-1	**	8.78±0.15	EI	5532
	n-$C_6H_{13}C_6H_9$ (Cyclohexene,1-hexyl-)	3964-66-7	**	8.37±0.03	PI	5556
	n-$C_6H_{13}C_6H_9$ (Cyclohexene,3-hexyl-)	15232-78-7	**	8.78±0.01	PI	5556
	n-$C_7H_{15}C_5H_7$ (Cyclopentene,1-heptyl-)	4292-00-6	**	8.41±0.03	PI	5556
$C_{12}H_{24}^+$						
	cis-$(CH_3)_3CCH_2C(CH_3)$=$CHC(CH_3)_3$	27656-50-4	**	8.346±0.005	PE	3957
	$C_{12}H_{24}$ (Cyclododecane)	294-62-2	**	10.04±0.05	EI	4319
$C_{13}H_9^+$						
	$C_{14}H_9CH_3$ (Phenanthrene, 4-methyl-)	832-64-4	C_2H_3	12.7±0.1	EI	3454
	$C_{14}H_8(CH_3)_2$ (Phenanthrene, 4,5-dimethyl-)	3674-69-9		12.4±0.1	EI	3454
	$C_6H_8(C_6H_5)_2$ (Benzene, 1,1′-(2-cyclohexen-1-ylidene)bis-)	31158-25-5		13.0±0.4	EI	4018
	$C_6H_{10}(C_6H_5)_2$ (Benzene, 1,1′-cyclohexylidenebis-)	21113-55-3		13.3±0.4	EI	4018
	$C_6H_7(CH_3)(C_6H_5)_2$ (Cyclohexene, 1-methyl-4,4-diphenyl-)	50592-48-8		13.4±0.4	EI	4018
	$C_6H_9(CH_3)(C_6H_5)_2$ (Benzene, 1,1′-(4-methylcyclohexylidene)bis-)	32812-65-0		13.2±0.4	EI	4018
	$C_{10}H_{13}(CH_3)(C_6H_5)_2$ (Naphthalene, 1,2,3,4,4a,5,6,7-octahydro-4a-methyl-2,2-diphenyl-)	50592-50-2		13.4±0.4	EI	4018
	$C_6H_6(=O)(C_6H_5)_2$ (2-Cyclohexen-1-one, 4,4-diphenyl-)	4528-64-7		14.4±0.4	EI	4018
	$C_6H_8(=O)(C_6H_5)_2$ (Cyclohexanone, 2,2-diphenyl-)	22612-62-0		13.8±0.4	EI	4018
	$C_6H_8(=O)(C_6H_5)_2$ (Cyclohexanone, 4,4-diphenyl-)	4528-68-1		14.4±0.4	EI	4018
	$C_6H_7(=O)(CH_3)(C_6H_5)_2$ (Cyclohexanone, 2-methyl-5,5-diphenyl-)	50592-49-9		14.0±0.4	EI	4018
	$C_6H_7(=O)(CH_3)(C_6H_5)_2$ (Cyclohexanone, 6-methyl-2,2-diphenyl-)	50592-52-4		14.1±0.4	EI	4018
	$C_6H_8(OH)(CH_3)(C_6H_5)_2$ (Cyclohexanol, 1-methyl-4,4-diphenyl-)	50592-47-7		13.9±0.4	EI	4018
	$C_6H_6(=O)(CH_3)_2(C_6H_5)_2$ (Cyclohexanone, 2,2-dimethyl-6,6-diphenyl-)	50592-53-5		13.4±0.4	EI	4018
	$C_6H_6(=O)(CH_3)(C_6H_5)_2CH_2CH_2CHO$ (Cyclohexanepropanal, 1-methyl-2-oxo-3,3-diphenyl-)	XXXXX-XX-X		13.6±0.4	EI	4018
	$C_6H_6(=O)(CH_3)(C_6H_5)_2CH_2CH_2COCH_3$ (Cyclohexanone, 2-methyl-2-(3-oxobutyl)-6,6-diphenyl-)	50592-55-7		13.6±0.4	EI	4018

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{13}H_9^+$						
	$C_6H_6(=O)(C_6H_5)=CHS(CH_2)_3CH_3$	50592-51-3		13.7±0.4	EI	4018
	(Cyclohexanone, 6-[(butylthio)methylene]-2,2-diphenyl-)					
	$C_6H_6(=O)CH_3(C_6H_5)_2CH_2CH=C(CH_3)Cl$	50592-54-6	Cl	13.3±0.4	EI	4018
	(Cyclohexanone, 2-(3-chloro-2-butenyl)-2-methyl-6,6-diphenyl-)					
$C_{13}H_{10}^+$						
	$C_{13}H_{10}$	86-73-7	**	7.93±0.02 (V)	PE	3702
	(9*H*-Fluorene)					
			**	7.89±0.03	PI	5552
			**	7.91 (V)	PE	5619
			**	8.52	EI	4228
$C_{13}H_{11}^+$						
	$(C_6H_5)_2CH_2$	101-81-5	H	11.2±0.1	EI	5429
	(Benzene,1,1′-methylenebis-)					
	$C_6H_5C_6H_4CH_3$	644-08-6	H	11.3±0.1	EI	5429
	(1,1′-Biphenyl,4-methyl-)					
	$C_{10}H_7CH=CHCH_3$	22767-77-7	H	12.2±0.1	EI	5429
	(Naphthalene,1-(1-propenyl)-)					
	$C_{11}H_8C_2H_4$	29150-13-8	H	11.4±0.1	EI	5429
	(Spiro[7H-benzocycloheptene-7,1′-cyclopropane])					
	$C_6H_4(CH_3)C_6H_4CH_3$	605-39-0	CH_3	11.75±0.2	EI	4199
	(1,1′-Biphenyl, 2,2′-dimethyl-)					
	$C_6H_4(CH_3)C_6H_4CH_3$	612-75-9	CH_3	13.40±0.2	EI	4199
	(1,1′-Biphenyl, 3,3′-dimethyl-)					
	$C_6H_4(CH_3)C_6H_4CH_3$	613-33-2	CH_3	12.65	EI	4199
	(1,1′-Biphenyl, 4,4′-dimethyl-)					
	$(C_6H_5)_3CH$	519-73-3	C_6H_5	10.9	PI	4055
	(Benzene, 1,1′,1″-methylidynetris-)					
	$C_6H_5CH_2C_6H_4OH$	101-53-1	OH	11.0±0.2	EI	3807
	(Phenol, 4-(phenylmethyl)-)					
	$C_6H_5CH_2C_6H_4OCH_3$	834-14-0	OCH_3	11.6±0.1	EI	3807
	(Benzene, 1-methoxy-4-(phenylmethyl)-)					
	$C_6H_5CH_2C_6H_4NO_2$	1817-77-2	NO_2	10.5±0.1	EI	3807
	(Benzene, 1-nitro-4-(phenylmethyl)-)					
$C_{13}H_{10}D^+$						
	$C_6H_4(CH_2D)C_6H_4CH_2D$	52889-80-2	CH_2D	11.80±0.2	EI	4199
	(1,1′-Biphenyl, 2,2′-di(methyl-*d*)-)					
	$C_6H_4(CH_2D)C_6H_4CH_2D$	52889-82-4	CH_2D	12.95	EI	4199
	(1,1′-Biphenyl, 4,4′-di(methyl-*d*)-)					
$C_{13}H_9D_2^+$						
	$C_6H_4(CH_2D)C_6H_4CH_2D$	52889-82-4	CH_3	12.65±0.2	EI	4199
	(1,1′-Biphenyl, 4,4′-di(methyl-*d*)-)					
$C_{13}H_{12}^+$						
	$(C_6H_5)_2CH_2$	101-81-5	**	8.55±0.03	PI	5552
	(Benzene,1,1′-methylenebis-)					
			**	8.67±0.05 (V)	PE	4620
			**	8.8 (V)	PE	4211
			**	8.80±0.02 (V)	PE	3854
			**	8.7±0.1	EI	5429
			**	9.00±0.05	EI	3806
			**	9.4	EI	4228
	$C_{13}H_{12}$	1624-26-6	**	7.85±0.03 (V)	PE	4828
	(1H-Benz[*f*]indene, 2,3-dihydro-)					
	$C_6H_5C_6H_4CH_3$	643-58-3	**	8.10±0.02	PE	3702
	(1,1′-Biphenyl, 2-methyl-)					
	$C_6H_5C_6H_4CH_3$	643-93-6	**	7.95±0.02	PE	3702
	(1,1′-Biphenyl, 3-methyl-)					

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{13}H_{12}^+$						
	$C_6H_5C_6H_4CH_3$ (1,1′-Biphenyl, 4-methyl-)	644-08-6	**	7.80±0.02	PE	3702
			**	8.6±0.1	EI	5429
	$C_{13}H_{12}$ (5,10-Methanobenzocyclooctene, 5,10-dihydro-)	33627-04-2	**	8.25±0.05	PE	4866
	$C_{13}H_{12}$ (3,8-Methanocyclobuta[*b*]naphthalene, 2a,3,8,8a-tetrahydro-(2aα,3α,8α,8aα)-)	54483-68-4	**	8.35±0.05 (V)	PE	4866
	$C_{13}H_{12}$ (3,8-Methanocyclobuta[*b*]naphthalene, 2a,3,8,8a-tetrahydro-((2aα,3β,8β,8aα)-)	54483-73-7	**	8.42±0.05 (V)	PE	4866
	$C_{10}H_7CH=CHCH_3$ (Naphthalene,1-(1-propenyl)-)	22767-77-7	**	8.4±0.1	EI	5429
	$C_{11}H_8C_2H_4$ (Spiro[7H-benzocycloheptene-7,1′-cyclopropane])	29150-13-8	**	8.0±0.1	EI	5429
$C_{13}H_{14}^+$						
	$C_{13}H_{14}$ (Azulene,4,6,8-trimethyl-)	941-81-1	**	7.10 (V)	PE	5397
	$C_3H_3(C_6H_5)=C=C(CH_3)_2$ (Benzene,[2-(2-methyl-1-propenylidene)cyclopropyl]-)	4544-23-4	**	7.73	PE	5625
	$C_{13}H_{14}$ (1,2,4-Ethanylylidene-1*H*-cyclobuta[*cd*]pentalene, octahydro-5,7-bis (methylene)-)	42607-62-5	**	8.50	PE	4036
	$C_{13}H_{14}$ (5,10-Methanobenzocyclooctene, 5,6,7,10-tetrahydro-)	42919-37-9	**	8.66±0.05	PE	4866
	$C_{13}H_{14}$ (5,10-Methanobenzocyclooctene, 5,6,9,10-tetrahydro-)	42919-38-0	**	8.54±0.05	PE	4866
	$C_{13}H_{14}$ (3,8-Methanocyclobuta[*b*]naphthalene, 1,2,2a,3,8,8a-hexahydro-(2aα,3α,8α,8aα)-)	67145-41-9	**	8.46±0.05 (V)	PE	4866
	$C_{13}H_{14}$ (3,8-Methanocyclobuta[*b*]naphthalene, 1,2,2a,3,8,8a-hexahydro-(2aα,3β,8β,8aα)-)	67109-90-4	**	8.60±0.05 (V)	PE	4866
$C_{13}H_{16}^+$						
	$C_{13}H_{16}$ (Bicyclo[5.4.2]trideca-7,9,11,12-tetraene)	XXXXX-XX-X	**	8.2 (V)	PE	3999
	$C_{13}H_{16}$ (1,2,4-Ethanylylidene-1*H*-cyclobuta[*cd*]pentalene, octahydro-5-methyl-7-methylene-, (1α,1aβ,2α,3aβ,4α,5α,5aβ,5bβ)-)	42607-64-7	**	9.10	PE	4036
	$C_{13}H_{16}$ (5,10-Methanobenzocyclooctene, 5,6,7,8,9,10-hexahydro-)	33627-05-3	**	8.52±0.05 (V)	PE	4866
$C_{13}H_{18}^+$						
	$C_6H_5C_3H_4(tert\text{-}C_4H_9)$ (Benzene, [1-(1,1-dimethylethyl)cyclopropyl]-)	63340-00-1	**	8.63 (V)	PE	4815
	$C_6H_4(CH_2)_7$ (Bicyclo[7.2.2]trideca-9,11,12-triene)	3761-63-5	**	8.21 (V)	PE	5339
$C_{13}H_{22}^+$						
	$C_5H_4(C_4H_9)_2$ (1,3-Cyclopentadiene, 1,3-bis(1,1-dimethylethyl)-)	XXXXX-XX-X	**	7.79 (V)	PE	4324
	$C_{13}H_{22}$ (1*H*-Phenalene, dodecahydro-)	2935-07-1	**	8.85	PI	4173
$C_{13}H_{24}^+$						
	1-$C_{13}H_{24}$	26186-02-7	**	9.90±0.02	PI	5583
	2-$C_{13}H_{24}$	28467-75-6	**	9.28±0.02	PI	5583
	3-$C_{13}H_{24}$	60186-78-9	**	9.14±0.03	PI	5583
	4-$C_{13}H_{24}$	60186-79-0	**	9.07±0.03	PI	5583
	5-$C_{13}H_{24}$	60186-80-3	**	9.09±0.03	PI	5583

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{13}H_{24}^+$						
	6-$C_{13}H_{24}$	42371-66-4	**	9.05±0.03	PI	5583
	n-$C_7H_{15}C_6H_9$ (Cyclohexene,1-heptyl-)	15232-86-7	**	8.37±0.02	PI	5556
	$C_{13}H_{24}$ (Cyclotridecene(E))	2484-65-3	**	8.63±0.15	EI	5532
$C_{13}H_{26}^+$						
	$((CH_3)_3C)_2C{=}CHCH(CH_3)_2$	50787-12-7	**	8.307±0.008	PE	3957
$C_{14}H_8^+$						
	$C_{18}H_8N_4$ (Dibenzo[*f,h*]quinoxaline-2,3-dicarbonitrile)	55408-49-6	$2(CN)_2$	11.91	EI	5488
$C_{14}H_{10}^+$						
	$C_{14}H_{10}$ (Anthracene)	120-12-7	**	7.47	S	3857
			**	7.4	PI	3586
			**	7.40	PI	3877
			**	7.40	PE	3668
			**	7.40 (V)	PE	5436
			**	7.40 (V)	PE	5630
			**	7.41±0.02 (V)	PE	4913
			**	7.41±0.05	PE	3684
			**	7.41 (V)	PE	4701
			**	7.42±0.02 (V)	PE	4430
			**	7.43±0.03 (V)	PE	4887
			**	7.44±0.03 (V)	PE	4341
			**	7.47±0.01	PE	3644
			**	7.47±0.01	PE	3657
			**	7.47	PE	4364
			**	7.35	CTS	3577
			**	7.4	CTS	3543
	$C_6H_5C{\equiv}CC_6H_5$ (Benzene, 1,1′-(1,2-ethynediyl)bis-)	501-65-5	**	7.90±0.02	PE	3854
			**	8.0±0.05	PE	3684
	$C_{10}H_6C_4H_4$ (Cyclohepta[*de*]naphthalene)	208-20-8	**	7.10 (V)	PE	5597
	$C_{14}H_{10}$ (Cyclopenta[*ef*]heptalene)	209-42-7	**	6.84 (V)	PE	4572
	$C_{10}H_6C_4H_4$ (6b,8a-Dihydrocyclobut[*a*]acenaphthylene)	XXXXX-XX-X	**	7.72 (V)	PE	5597
	$C_{10}H_6C_4H_4$ (2,3-Dihydro-1,2,3-metheno-1H-phenalene)	XXXXX-XX-X	**	7.55 (V)	PE	5597
	$C_{14}H_{10}$ (Phenanthrene)	85-01-8	**	7.85 (V)	PE	5619
			**	7.86±0.01	PE	3644
			**	7.86±0.02 (V)	PE	4913
			**	7.86 (V)	PE	4701
			**	7.87±0.02 (V)	PE	4430
			**	7.91 (V)	PE	5364
			**	7.92±0.02 (V)	PE	3702
			**	7.92±0.05	PE	3684
			**	8.03±0.01	EI	3588
			**	8.25	CTS	3577
	$C_6H_8(C_6H_5)_2$ (Benzene, 1,1′-(2-cyclohexen-1-ylidene)bis-)	31158-25-5		10.4±0.4	EI	4018
	$C_6H_{10}(C_6H_5)_2$ (Benzene, 1,1′-cyclohexylidenebis-)	21113-55-3		10.8±0.4	EI	4018
	$C_6H_9(CH_3)(C_6H_5)_2$ (Benzene, 1,1′-(4-methylcyclohexylidene)bis-)	32812-65-0		10.2±0.4	EI	4018
	$C_{10}H_{13}(CH_3)(C_6H_5)_2$ (Naphthalene, 1,2,3,4,4a,5,6,7-octahydro-4a-methyl-2,2-diphenyl-)	50592-50-2		9.3±0.4	EI	4018

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{14}H_{10}^+$						
	$C_6H_8(=O)(C_6H_5)_2$ (Cyclohexanone, 2,2-diphenyl-)	22612-62-0		10.7±0.4	EI	4018
	$C_6H_8(=O)(C_6H_5)_2$ (Cyclohexanone, 4,4-diphenyl-)	4528-68-1		13.2±0.4	EI	4018
	$C_6H_7(=O)(CH_3)(C_6H_5)_2$ (Cyclohexanone, 2-methyl-5,5-diphenyl-)	50592-49-9		9.6±0.4	EI	4018
	$C_6H_7(=O)(CH_3)(C_6H_5)_2$ (Cyclohexanone, 6-methyl-2,2-diphenyl-)	50592-52-4		10.3±0.4	EI	4018
	$C_6H_8(OH)(CH_3)(C_6H_5)_2$ (Cyclohexanol, 1-methyl-4,4-diphenyl-)	50592-47-7		10.5±0.4	EI	4018
	$C_6H_6(=O)(CH_3)(C_6H_5)_2CH_2CH_2CHO$ (Cyclohexanepropanal, 1-methyl-2-oxo-3,3-diphenyl-)	XXXXX-XX-X		10.2±0.4	EI	4018
	$C_6H_6(=O)(CH_3)(C_6H_5)_2CH_2CH_2COCH_3$ (Cyclohexanone, 2-methyl-2-(3-oxobutyl)-6,6-diphenyl-)	50592-55-7	$_3$	10.0±0.4	EI	4018
	$C_{14}H_{12}S$ (Dibenzo[*b*,*e*]thiepin,6,11-dihydro-)	1207-93-8	H_2S	9.76	EI	5414
	$C_{14}H_{12}SO_2$ (Dibenzo[*b*,*e*]thiepin,6,11-dihydro-5,5-dioxide-)	23772-26-1	H_2SO_2	10.00	EI	5414
	$C_6H_6(=O)CH_3(C_6H_5)_2CH_2CH=C(CH_3)Cl$ (Cyclohexanone, 2-(3-chloro-2-butenyl)-2-methyl-6,6-diphenyl-)	50592-54-6	Cl	10.5±0.4	EI	4018
$C_{14}H_{10}^{+2}$						
	$C_{14}H_{10}$ (Anthracene)	120-12-7	**	21.3	OTH	5141
	$C_6H_5C{\equiv}CC_6H_5$ (Benzene, 1,1′-(1,2-ethynediyl)bis-)	501-65-5	**	23.3	OTH	5141
$C_{14}H_{11}^+$						
	$C_{14}H_{12}S$ (Dibenzo[*b*,*e*]thiepin,6,11-dihydro-)	1207-93-8	HS	11.05	EI	5414
	$C_{14}H_{12}SO_2$ (Dibenzo[*b*,*e*]thiepin,6,11-dihydro-5,5-dioxide-)	23772-26-1	HSO_2	10.35	EI	5414
$C_{14}H_{12}^+$						
	$(C_6H_5)_2CH=CH$ (Benzene,1,1′-(1,2-ethenediyl)bis-(E)-)	103-30-0	**	7.70±0.03	PI	5552
			**	7.70±0.02	PE	3854
			**	7.76	PE	3657
			**	7.87 (V)	PE	4464
			**	7.90±0.05 (V)	PE	4377
			**	7.91±0.05 (V)	PE	4333
	$C_6H_5CH=CHC_6H_5$	645-49-8	**	7.80±0.02	PE	3854
			**	8.17 (V)	PE	4464
	(Benzene, 1,1′-(1,2-ethenediyl)bis-,(Z))					
	$C_{14}H_{12}$ (Benzene, 1,1′-(1,2-ethenediyl)bis-)	588-59-0	**	7.5	PI	3586
			**	7.93±0.03 (V)	PE	4767
			**	7.94	PE	5124
			**	10.30 (V)	PE	4856
			**	7.9	CTS	3577
	$(C_6H_5)_2C-CH_2$ (Benzene, 1,1′-ethenylidenebis-)	530-48-3	**	8.00±0.02	PE	3854
	$C_{14}H_{12}$ (Phenanthrene, 9,10-dihydro-)	776-35-2	**	7.55±0.02	PE	3702
			**	8.19 (V)	PE	5364
	$C_6H_8(C_6H_5)_2$ (Benzene, 1,1′-(2-cyclohexen-1-ylidene)bis-)	31158-25-5		9.8±0.4	EI	4018
	$C_6H_{10}(C_6H_5)_2$ (Benzene, 1,1′-cyclohexylidenebis-)	21113-55-3		9.8±0.4	EI	4018
	$C_6H_7(CH_3)(C_6H_5)_2$ (Cyclohexene, 1-methyl-4,4-diphenyl-)	50592-48-8		9.8±0.4	EI	4018

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{14}H_{12}^+$						
	$C_6H_9(CH_3)(C_6H_5)_2$	32812-65-0		10.1±0.4	EI	4018
	(Benzene, 1,1′-(4-methylcyclohexylidene)bis-)					
	$C_{10}H_{13}(CH_3)(C_6H_5)_2$	50592-50-2		9.5±0.4	EI	4018
	(Naphthalene, 1,2,3,4,4a,5,6,7-octahydro-4a-methyl-2,2-diphenyl-)					
	$C_6H_8(=O)(C_6H_5)_2$	22612-62-0		9.5±0.4	EI	4018
	(Cyclohexanone, 2,2-diphenyl-)					
	$C_6H_8(=O)(C_6H_5)_2$	4528-68-1		10.0±0.4	EI	4018
	(Cyclohexanone, 4,4-diphenyl-)					
	$C_6H_7(=O)(CH_3)(C_6H_5)_2$	50592-49-9		10.0±0.4	EI	4018
	(Cyclohexanone, 2-methyl-5,5-diphenyl-)					
	$C_6H_7(=O)(CH_3)(C_6H_5)_2$	50592-52-4		10.4±0.4	EI	4018
	(Cyclohexanone, 6-methyl-2,2-diphenyl-)					
	$C_6H_8(OH)(CH_3)(C_6H_5)_2$	50592-47-7		10.1±0.4	EI	4018
	(Cyclohexanol, 1-methyl-4,4-diphenyl-)					
	$C_6H_6(=O)(CH_3)_2(C_6H_5)_2$	50592-53-5		9.9±0.4	EI	4018
	(Cyclohexanone, 2,2-dimethyl-6,6-diphenyl-)					
	$C_6H_6(=O)(CH_3)(C_6H_5)_2CH_2CH_2CHO$	XXXXX-XX-X		10.3±0.4	EI	4018
	(Cyclohexanepropanal, 1-methyl-2-oxo-3,3-diphenyl-)					
	$C_6H_6(=O)(CH_3)(C_6H_5)_2CH_2CH_2COCH_3$	50592-55-7		10.5±0.4	EI	4018
	(Cyclohexanone, 2-methyl-2-(3-oxobutyl)-6,6-diphenyl-)					
	$C_6H_6(=O)(C_6H_5)=CHS(CH_2)_3CH_3$	50592-51-3		10.1±0.4	EI	4018
	(Cyclohexanone, 6-[(butylthio)methylene]-2,2-diphenyl-)					
	$C_{14}H_{12}SO_2$	23772-26-1	SO_2	10.20	EI	5414
	(Dibenzo[*b*,*e*]thiepin,6,11-dihydro-5,5-dioxide-)					
	$C_6H_6(=O)CH_3(C_6H_5)_2CH_2CH=C(CH_3)Cl$	50592-54-6	Cl	10.0±0.4	EI	4018
	(Cyclohexanone, 2-(3-chloro-2-butenyl)-2-methyl-6,6-diphenyl-)					
$C_{14}H_{13}^+$						
	$C_6H_4(CH_3)C_6H_4CH_3$	605-39-0	H	12.20±0.2	EI	4199
	(1,1′-Biphenyl, 2,2′-dimethyl-)					
	$C_6H_4(CH_3)C_6H_4CH_3$	612-75-9	H	13.00±0.2	EI	4199
	(1,1′-Biphenyl, 3,3′-dimethyl-)					
	$C_6H_4(CH_3)C_6H_4CH_3$	613-33-2	H	12.85	EI	4199
	(1,1′-Biphenyl, 4,4′-dimethyl-)					
$C_{14}H_{14}^+$						
	$C_6H_5CH_2CH_2C_6H_5$	103-29-7	**	9.00±0.05	EI	3806
	(Benzene, 1,1′-(1,2-ethanediyl)bis-)					
	$(C_7H_7)_2$	39473-62-6	**	8.62 (V)	PE	4820
	(Bicycloheptatrienyl)					
	$C_{14}H_{14}$	XXXXX-XX-X	**	8.38 (V)	PE	5315
	(Bicyclo[2.2.2]octane,2,3,5,6,7,8-hexa(methylene)-)					
	$(C_6H_4CH_3)_2$	605-39-0	**	8.05±0.02	PE	3702
	(1,1′-Biphenyl, 2,2′-dimethyl-)					
			**	8.80±0.05	EI	4199
	$(C_6H_4CH_3)_2$	612-75-9	**	7.85±0.02	PE	3702
	(1,1′-Biphenyl, 3,3′-dimethyl-)					
			**	8.70±0.05	EI	4199
	$C_6H_4(CH_3)C_6H_4CH_3$	613-33-2	**	8.50	EI	4199
	(1,1′-Biphenyl, 4,4′-dimethyl-)					
	$C_6H_5C_6H_4C_2H_5$	1812-51-7	**	8.55±0.02 (V)	PE	3702
	(1,1′-Biphenyl, 2-ethyl-)					
	$C_{14}H_{14}$	7350-72-3	**	8.01 (V)	PE	4541
	(1,4-Methanonaphthalene, 1,4-dihydro-9-((1-methylethylidene)-)					
$C_{14}H_{16}^+$						
	$C_{14}H_{16}$	5910-28-1	**	8.16 (V)	PE	4531
	(Anthracene, 1,4,5,8,9-hexahydro-)					
	$C_3H_2(C_6H_5)(CH_3)=C=C(CH_3)_2$	33530-26-6	**	7.65	PE	5625
	(Benzene,[2-methyl-3-(2-methyl-1-propenylidene)cyclopropyl]-*cis*-)					
	$C_3H_2(C_6H_5)(CH_3)=C=C(CH_3)_2$	33530-27-7	**	7.63	PE	5625
	(Benzene,[2-methyl-3-(2-methyl-1-propenylidene)cyclopropyl]-*trans*-)					

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{14}H_{16}^+$						
	$C_{10}H_7(CH_2)_3CH_3$ (Naphthalene, 1-butyl-)	1634-09-0	**	7.76	PE	3960
	$C_{10}H_4(CH_3)_4$ (Naphthalene, 2,3,6,7-tetramethyl-)	1134-40-3	**	7.60±0.03 (V)	PE	4828
$C_{14}H_{18}^+$						
	(*tert*-$C_4H_9)_2(C{\equiv}C)_3$	20264-60-2	**	8.32±0.02 (V)	PE	4816
$C_{14}H_{22}^+$						
	$C_6H_4(C(CH_3)_3)_2$ (Benzene,1,4-bis(1,1-dimethylethyl))	1012-72-2	**	8.30	PE	5574
$C_{14}H_{24}^+$						
	$(CH_3)_2CC(C_3H_6)C(C_3H_6)C(CH_2)CH_3$	54580-22-2	**	8.14 (V)	PE	4459
	$C_4(CH_3)_4(C(CH_3)_2)_2$ (Cyclobutane,1,1,2,2-tetramethyl-3,4-bis(1-methylethylidene)-)	1133-23-9	**	7.49 (V)	PE	4459
$C_{14}H_{26}^+$						
	$C_6H_{13}C{\equiv}CC_6H_{13}$	35216-11-6	**	9.067±0.005	PE	4575
			**	9.03±0.04	PI	5583
	$1\text{-}C_{14}H_{26}$	765-10-6	**	9.89±0.02	PI	5583
	$2\text{-}C_{14}H_{26}$	638-60-8	**	9.26±0.03	PI	5583
	$3\text{-}C_{14}H_{26}$	60212-32-0	**	9.17±0.02	PI	5583
	$4\text{-}C_{14}H_{26}$	60212-33-1	**	9.11±0.03	PI	5583
	$5\text{-}C_{14}H_{26}$	60212-34-2	**	9.10±0.03	PI	5583
	$6\text{-}C_{14}H_{26}$	3730-08-3	**	9.09±0.02	PI	5583
	$((CH_3)_2C{=}C(iso\text{-}C_3H_7))_2$	54580-23-3	**	8.22 (V)	PE	4459
	$C_{14}H_{26}$ (Cyclotetradecene(E))	6568-33-8	**	8.70±0.15	EI	5532
			**	8.65±0.15	EI	5532
$C_{14}H_{28}^+$						
	$((CH_3)_3C)_2C{=}CHC(CH_3)_3$	28923-90-2	**	8.169±0.012	PE	3957
	$((iso\text{-}C_3H_7)_2C)_2$	7090-88-2	**	8.13 (V)	PE	4459
$C_{15}H_9^+$						
	$C_{14}H_9CH_3$ (Phenanthrene, 4-methyl-)	832-64-4	H_2+H	14.4±0.1	EI	3454
	$C_{14}H_8(CH_3)_2$ (Phenanthrene, 2,7-dimethyl-)	1576-69-8		17.6±0.1	EI	3454
	$C_{14}H_8(CH_3)_2$ (Phenanthrene, 4,5-dimethyl-)	3674-69-9		15.1±0.1	EI	3454
	$C_{14}H_6(CH_3)_4$ (Phenanthrene, 2,4,5,7-tetramethyl-)	7396-38-5	$3CH_3$	14.5±0.1	EI	3454
	$C_{14}H_6(CH_3)_4$ (Phenanthrene, 3,4,5,6-tetramethyl-)	7343-06-8	$3CH_3$	16.5±0.1	EI	3454
$C_{15}H_{11}^+$						
	$C_{14}H_9CH_3$ (Phenanthrene, 4-methyl-)	832-64-4	H	12.0±0.1	EI	3454
	$C_{14}H_8(CH_3)_2$ (Phenanthrene, 2,7-dimethyl-)	1576-69-8	CH_3	13.5±0.1	EI	3454
	$C_{14}H_8(CH_3)_2$ (Phenanthrene, 4,5-dimethyl-)	3674-69-9	CH_3	10.8±0.1	EI	3454
$C_{15}H_{12}^+$						
	$C_{14}H_9CH_3$ (Anthracene, 9-methyl-)	779-02-2	**	7.24±0.03 (V)	PE	4887
			**	7.25	PE	4171
			**	7.27 (V)	PE	5436
	$C_3H_2(C_6H_5)_2$ (Benzene, 1,1'-(1-cyclopropene-1,2-diyl)bis-)	24168-52-3	**	10.27 (V)	PE	4856

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{15}H_{12}^+$						
	$(C_7H_6)_2C$	73045-26-8	**	8.05 (V)	PE	5463
	(Bicyclo[2.2.1]hepta-2,5-diene,7,7′-methanediylidenebis-)					
	$C_{15}H_{12}$	949-41-7	**	7.77 (V)	PE	4927
	(1H-Cyclopropa[*l*]phenanthrene, 1a,9b-dihydro-)					
	$C_{15}H_{12}$	256-81-5	**	7.95 (V)	PE	4611
	(5H-Dibenzo [*a*,*d*]cycloheptene)					
	$C_{14}H_9CH_3$	832-69-9	**	7.7±0.03	EI	3588
	(Phenanthrene, 1-methyl-)					
	$C_{14}H_9CH_3$	2531-84-2	**	7.9±0.04	EI	3588
	(Phenanthrene, 2-methyl-)					
	$C_{14}H_9CH_3$	832-71-3	**	7.68±0.01	EI	3588
	(Phenanthrene, 3-methyl-)					
	$C_{14}H_9CH_3$	832-64-4	**	7.1±0.1	EI	3454
	(Phenanthrene, 4-methyl-)					
			**	7.70±0.02	EI	3588
	$C_{14}H_9CH_3$	883-20-5	**	7.46±0.03	EI	3588
	(Phenanthrene, 9-methyl-)					
	$(C_7H_6)_2C$	73050-57-4	**	7.80 (V)	PE	5463
	(Tetracyclo[3.2.0.0^{2,7}.0^{4,6}]heptane,3,3′-methanetetrabis-)					
$C_{15}H_{13}^+$						
	$C_6H_{10}(C_6H_5)_2$	21113-55-3		10.3±0.4	EI	4018
	(Benzene, 1,1′-cyclohexylidenebis-)					
	$C_6H_9(CH_3)(C_6H_5)_2$	32812-65-0		10.6±0.4	EI	4018
	(Benzene, 1,1′-(4-methylcyclohexylidene)bis-)					
	$C_{10}H_{13}(CH_3)(C_6H_5)_2$	50592-50-2		10.3±0.4	EI	4018
	(Naphthalene, 1,2,3,4,4a,5,6,7-octahydro-4a-methyl-2,2-diphenyl-)					
	$C_6H_8(=O)(C_6H_5)_2$	22612-62-0		9.7±0.4	EI	4018
	(Cyclohexanone, 2,2-diphenyl-)					
	$C_6H_8(=O)(C_6H_5)_2$	4528-68-1		10.5±0.4	EI	4018
	(Cyclohexanone, 4,4-diphenyl-)					
	$C_6H_7(=O)(CH_3)(C_6H_5)_2$	50592-49-9		10.8±0.4	EI	4018
	(Cyclohexanone, 2-methyl-5,5-diphenyl-)					
	$C_6H_7(=O)(CH_3)(C_6H_5)_2$	50592-52-4		10.3±0.4	EI	4018
	(Cyclohexanone, 6-methyl-2,2-diphenyl-)					
	$C_6H_8(OH)(CH_3)(C_6H_5)_2$	50592-47-7		10.1±0.4	EI	4018
	(Cyclohexanol, 1-methyl-4,4-diphenyl-)					
	$C_6H_6(=O)(CH_3)_2(C_6H_5)_2$	50592-53-5		10.3±0.4	EI	4018
	(Cyclohexanone, 2,2-dimethyl-6,6-diphenyl-)					
	$C_{10}H_{11}(=O)(CH_3)(C_6H_5)_2$	50786-03-3		9.9±0.4	EI	4018
	(2(3*H*)-Naphthalenone,4,4a,5,6,7,8-hexahydro-4a-methyl-7,7-diphenyl-)					
	$C_6H_6(=O)(CH_3)(C_6H_5)_2CH_2CH_2CHO$	XXXXX-XX-X		10.5±0.4	EI	4018
	(Cyclohexanepropanal, 1-methyl-2-oxo-3,3-diphenyl-)					
	$C_6H_6(=O)(CH_3)(C_6H_5)_2CH_2CH_2COCH_3$	50592-55-7		10.6±0.4	EI	4018
	(Cyclohexanone, 2-methyl-2-(3-oxobutyl)-6,6-diphenyl-)					
	$C_6H_6(=O)(C_6H_5)=CHS(CH_2)_3CH_3$	50592-51-3		10.8±0.4	EI	4018
	(Cyclohexanone, 6-[(butylthio)methylene]-2,2-diphenyl-)					
	$C_6H_6(=O)CH_3(C_6H_5)_2CH_2CH=C(CH_3)Cl$	50592-54-6	Cl	10.6±0.4	EI	4018
	(Cyclohexanone, 2-(3-chloro-2-butenyl)-2-methyl-6,6-diphenyl-)					
$C_{15}H_{14}^+$						
	$C_{15}H_{14}$	1138-48-3	**	8.20	PE	5260
	(Benzene,1,1′-(1,2-cyclopropanediyl)bis-,*cis*-)					
	$C_{15}H_{14}$	1138-47-2	**	8.05	PE	5260
	(Benzene,1,1′-(1,2-cyclopropanediyl)bis-,*trans*-)					
	$(C_6H_5)_2CH=CCH_3$	833-81-8	**	8.10±0.05 (V)	PE	4377
	(Benzene, *trans*-1,1′-(1-methyl-1,2-ethenediyl)bis-)					
	$(C_7H_6)_2CH_2$	73045-27-9	**	8.25 (V)	PE	5463
	(Dispiro[bicyclo[2.2.1]hepta-2,5-diene-7,1′-cyclopropane-2′,7″-bicyclo[2.2.1]hepta[2,5]diene])					
	$(C_7H_6)_2CH_2$	73050-58-5		8.4 (V)	PE	5463
	(Dispiro[tetracyclo[3.2.0.0^{2,7}.0^{4,6}]heptane-3,1′-cyclopropane-2′,3″-tetracyclo[3.2.0.0^{2,7}.0^{4,6}]heptane)					

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{15}H_{14}^+$						
	$C_{13}H_8(CH_3)_2$ (9*H*-Fluorene, 9,9-dimethyl-)	4569-45-3	**	7.8 (V)	PE	4081
$C_{15}H_{16}^+$						
	$C_6H_5CH_2CH_2C_6H_4CH_3$ (Benzene,1-methyl-2-(2-phenylethyl)-)	34403-05-9	**	8.64±0.05	EI	5230
	$C_6H_5CH_2CH_2C_6H_4CH_3$ (Benzene,1-methyl-3-(2-phenylethyl)-)	34403-06-0	**	8.59±0.05	EI	5230
	$C_6H_5CH_2CH_2C_6H_4CH_3$ (Benzene,1-methyl-4-(2-phenylethyl)-)	14310-20-4	**	8.58±0.05	EI	5230
	$C_6H_5(CH_2)_3C_6H_5$ (Benzene, 1,1'-(1,3-propanediyl)bis-)	1081-75-0	**	8.60±0.1	EI	4925
			**	8.79±0.05	EI	5230
	$C_6H_5C_6H_4CH(CH_3)_2$ (1,1'-Biphenyl, 2-isopropyl-)	19486-60-3	**	8.50±0.02 (V)	PE	3702
	$C_6H_5C_6H_4C_3H_7$ (1,1'-Biphenyl, 2-propyl-)	20282-28-4	**	8.50±0.02 (V)	PE	3702
	$C_6H_5CH_2CH_2C_7H_7$ (1,3,5-Cycloheptatriene,7-(2-phenylethyl)-)	712-32-6	**	8.06±0.05	EI	5230
$C_{15}H_{18}^+$						
	$C_{10}H_3(CH_3)_5$ (Azulene, 1,2,4,6,8-pentamethyl-)	XXXXX-XX-X	**	6.85±0.03 (V)	PE	4828
$C_{15}H_{24}^+$						
	$C_9H_6(CH_3)_6$ (Tetracyclo[6.1.0.0^{2,4}.0^{5,7}]nonane,3,3,6,6,9,9-hexamethyl-(1α,2α,4α,5β,7β,8α)-)	51898-92-1	**	8.5 (V)	PE	5192
	$C_{11}H_{12}(CH_3)_4$ (Undec-1,5,8-triene,1,4,4,8-tetramethyl-)	XXXXX-XX-X	**	9.54 (V)	PE	5314
$C_{15}H_{28}^+$						
	$C_{15}H_{28}$ (Cyclopentadecene(E))	2146-35-2	**	8.83±0.15	EI	5532
	$C_{15}H_{28}$ (Cyclopentadecene(Z))	34458-54-3	**	8.80±0.15	EI	5532
$C_{16}H_8^+$						
	$C_{16}H_8$ (Dibenzo[*a*,*e*]cyclooctene, 5,6,11,12-tetradehydro-)	53397-65-2	**	7.76 (V)	PE	4652
$C_{16}H_{10}^+$						
	$C_{16}H_{10}$ (Azuleno[2,1,8-*ija*]azulene)	3526-04-3	**	7.14±0.03 (V)	PE	4263
	$C_{16}H_{10}$ (Cyclohept[*fg*]acenaphthylene)	194-32-1	**	7.13±0.04	PE	4196
	$C_{16}H_{10}$ (Dibenzo[*a*,*e*]cyclooctene, 5,6-didehydro-)	53397-66-3	**	7.56 (V)	PE	4652
	$C_{16}H_{10}$ (Fluoranthene)	206-44-0	**	7.95±0.04	PE	4196
	$C_{16}H_{10}$ (Pyrene)	129-00-0	**	7.41 (V)	PE	3951
			**	7.41 (V)	PE	4701
			**	7.42 (V)	PE	5364
			**	7.45±0.01	PE	3657
			**	7.45	CTS	3577
	$C_{14}H_8(CH_3)_2$ (Phenanthrene, 2,7-dimethyl-)	1576-69-8		17.7±0.1	EI	3454
	$C_{14}H_8(CH_3)_2$ (Phenanthrene, 4,5-dimethyl-)	3674-69-9		>16	EI	3454

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{16}H_{11}^+$						
	$C_{14}H_6(CH_3)_4$ (Phenanthrene, 2,4,5,7-tetramethyl-)	7396-38-5	$2CH_3+H$	15.6±0.1	EI	3454
	$C_{14}H_6(CH_3)_4$ (Phenanthrene, 3,4,5,6-tetramethyl-)	7343-06-8	$2CH_3+H$	14.3±0.1	EI	3454
$C_{16}H_{12}^+$						
	$C_{14}H_8(=CH_2)_2$ (Anthracene, 9,10-dihydro-9,10-bis(methylene)-)	3302-51-0	**	7.95 (V)	PE	4540
	$C_{16}H_{12}$ (Azulene,2-phenyl-)	19227-07-7	**	7.20 (V)	PE	5397
	$C_{16}H_{12}$ (Azulene,6-phenyl-)	23781-82-0	**	7.25 (V)	PE	5397
	$C_{16}H_{12}$ (Azuleno[2,1,8-*ija*]azulene, 10b, 10c-dihydro-)	38765-94-5	**	7.33±0.03 (V)	PE	4263
	$C_{16}H_{12}$ (Cyclohept[*fg*]acenaphthylene, 1,2-dihydro-)	518-03-6	**	6.85±0.04	PE	4196
	$C_{16}H_{12}$ (Dibenzo[*a,e,*]cyclooctene)	262-89-5	**	7.8 (V)	PE	4652
	$C_{10}H_7C_6H_5$ (Naphthalene, 2-phenyl-)	612-94-2	**	7.75	PE	4066
	$C_{14}H_6(CH_3)_4$ (Phenanthrene, 2,4,5,7-tetramethyl-)	7396-38-5	$2CH_3$	14.0±0.1	EI	3454
	$C_{14}H_6(CH_3)_4$ (Phenanthrene, 3,4,5,6-tetramethyl-)	7343-06-8	$2CH_3$	13.5±0.1	EI	3454
$C_{16}H_{13}^+$						
	$C_{16}H_{14}$ (Phenanthrene, 2,7-dimethyl-)	1576-69-8	H	13.5±0.1	EI	3454
	$C_{14}H_8(CH_3)_2$ (Phenanthrene, 4,5-dimethyl-)	3674-69-9	H	12.3±0.1	EI	3454
$C_{16}H_{14}^+$						
	$C_6H_5(CH=CH)_2C_6H_5$ (Benzene, 1,1'(1,3-butadiene-1,4-diyl)bis-)	886-65-7	**	7.54±0.03 (V)	PE	4767
			**	7.56	PE	5124
			**	8.05	PE	5202
	$C_{14}H_8(CH_3)_2$ (Cyclopenta[*ef*]heptalene, 3,5-dimethyl-)	20672-23-5	**	6.73 (V)	PE	4572
	$C_{14}H_8(CH_3)_2$ (Phenanthrene, 2,7-dimethyl-)	1576-69-8	**	8.0±0.1	EI	3454
	$C_{14}H_8(CH_3)_2$ (Phenanthrene, 4,5-dimethyl-)	3674-69-9	**	7.6±0.1	EI	3454
	$C_6H_6(=O)(C_6H_5)_2$ (2-Cyclohexen-1-one, 4,4-diphenyl-)	4528-64-7		9.3±0.4	EI	4018
	$C_6H_8(=O)(C_6H_5)_2$ (Cyclohexanone, 2,2-diphenyl-)	22612-62-0		9.6±0.4	EI	4018
	$C_6H_7(=O)(CH_3)(C_6H_5)_2$ (Cyclohexanone, 6-methyl-2,2-diphenyl-)	50592-52-4		9.2±0.4	EI	4018
	$C_6H_6(=O)(CH_3)_2(C_6H_5)_2$ (Cyclohexanone, 2,2-dimethyl-6,6-diphenyl-)	50592-53-5		9.4±0.4	EI	4018
	$C_6H_6(=O)(CH_3)(C_6H_5)_2CH_2CH_2CHO$ (Cyclohexanepropanal, 1-methyl-2-oxo-3,3-diphenyl-)	XXXXX-XX-X		9.4±0.4	EI	4018
	$C_6H_6(=O)(CH_3)(C_6H_5)_2CH_2CH_2COCH_3$ (Cyclohexanone, 2-methyl-2-(3-oxobutyl)-6,6-diphenyl-)	50592-55-7		9.3±0.4	EI	4018
	$C_6H_6(=O)CH_3(C_6H_5)_2CH_2CH=C(CH_3)Cl$ (Cyclohexanone, 2-(3-chloro-2-butenyl)-2-methyl-6,6-diphenyl-)	50592-54-6	Cl	9.1±0.4	EI	4018
$C_{16}H_{16}^+$						
	$C_{16}H_{16}$ (1,6-Ethenocyclopenta[*cd*]pentaleno[2,1,6-*gha*] pentalene, 1,1a,3a,3b,5a,5b,6,6a,6b,6c-decahydro-)	66081-13-8	**	8.74 (V)	PE	4832

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{16}H_{16}^+$						
	$C_{16}H_{16}$	1633-22-3	**	8.00 (V)	PE	4510
	(Tricyclo[8.2.2.2^{4,7}]hexadeca-4,6,10,12,13,15-hexaene)					
			**	7.60	PE	4158
			**	7.8	PE	5600
			**	8.08 (V)	PE	4088
			**	8.10 (V)	PE	5575
	$(C_6H_4CH_2CH_2)_2$	2319-97-3	**	8.20 (V)	PE	5575
	(Tricyclo[9.3.1.1^{4,8}]hexadeca-1(15),4,6,8(16),11,13-hexaene)					
			**	8.24 (V)	PE	4088
			**	8.24 (V)	PE	4231
$C_{16}H_{18}^+$						
	(*tert*-C_4H_9)$_2$(C≡C)$_4$	20264-61-3	**	8.12±0.02 (V)	PE	4816
	$C_6H_5C_6H_4C_4H_9$	XXXXX-XX-X	**	8.50±0.02 (V)	PE	3702
	(1,1′-Biphenyl, 2-butyl-)					
$C_{16}H_{20}^+$						
	$C_{10}H_2(CH_3)_6$	63297-21-2	**	6.84±0.03 (V)	PE	4828
	(Azulene, 2,4,5,6,7,8-hexamethyl-)					
	$C_{10}H_2(CH_3)_6$	XXXXX-XX-X	**	6.73±0.03 (V)	PE	4828
	(Azulene, 3,4,5,6,7,8-hexamethyl-)					
	$C_8(CH_3)_4(=CH_2)_4$	34106-16-6	**	7.97±0.02 (V)	PE	5562
	(Tricyclo[3.3.0.0^{2,6}]octane,1,2,5,6-tetramethyl-3,4,7,8-tetrakis(methylene)-)					
	$C_8(CH_3)_4(=CH_2)_4$	34101-24-1	**	8.10±0.02 (V)	PE	5562
	(Tricyclo[4.2.0.0^{2,5}]octane,1,2,5,6-tetramethyl-3,4,7,8-tetrakis(methylene)-(1α,2β,5β,6α)-)					
$C_{16}H_{26}^+$						
	$C_6H_4(CH_2C(CH_3)_3)_2$	1020-87-7	**	8.25	PE	5574
	(Benzene,1,4-bis(2,2-dimethylpropyl))					
$C_{17}H_{12}^+$						
	$C_{17}H_{12}$	38801-41-1	**	7.15±0.03 (V)	PE	4263
	(10b,10c-Methanoazuleno[2,1,8-*ija*]azulene)					
	$C_{17}H_{12}$	165-42-4	**	7.80 (V)	PE	4083
	(1,1′-Spirobi[1*H*-indene])					
$C_{17}H_{14}^+$						
	$C_{17}H_{14}$	25835-57-8	**	7.37±0.03 (V)	PE	4263
	(12H-1,11-Methenobenzo[1,2:4,5]dicycloheptene, 11a,12a-dihydro-)					
$C_{17}H_{15}^+$						
	$C_{14}H_6(CH_3)_4$	7396-38-5	CH_3	11.5±0.1	EI	3454
	(Phenanthrene, 2,4,5,7-tetramethyl-)					
	$C_{18}H_{18}$	7343-06-8	CH_3	11.5±0.1	EI	3454
	(Phenanthrene, 3,4,5,6-tetramethyl-)					
$C_{18}H_{10}^+$						
	$C_{18}H_{10}$	92-24-0	**	6.9	PI	3586
	(Naphthacene)					
$C_{18}H_{12}^+$						
	$C_{18}H_{12}$	56-55-3	**	7.41 (V)	PE	4701
	(Benz[a]anthracene)					
			**	7.41±0.02 (V)	PE	4913
			**	7.42 (V)	PE	4039
			**	7.47±0.01	PE	3644
			**	7.56±0.01	PE	3657
			**	7.5	CTS	3577
	$C_{18}H_{12}$	195-19-7	**	7.60 (V)	PE	4701
	(Benzo[c]phenanthrene)					

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{18}H_{12}^+$						
	$C_{18}H_{12}$	195-19-7	**	7.62 (V)	PE	4039
			**	7.60±0.02 (V)	PE	4913
	$C_{18}H_{12}$	218-01-9	**	7.59±0.02 (V)	PE	4913
	(Chrysene)					
			**	7.59 (V)	PE	4701
			**	7.60±0.01	PE	3644
			**	7.61 (V)	PE	4039
			**	7.75	CTS	3577
	$C_{18}H_{12}$	92-24-0	**	6.97±0.02 (V)	PE	4913
	(Naphthacene)					
			**	7.01	PE	3668
			**	7.01 (V)	PE	4039
			**	7.04±0.04	PE	4196
	$C_{18}H_{12}$	27313-56-0	**	8.06 (V)	PE	3647
	(Tetracyclo[6.6.2.1^{3,13}.1^{6,10}]octadeca-1,3(17),4,6,8,10(18),11,13,15-nonaene)					
			**	8.06 (V)	PE	4088
	$C_{18}H_{12}$	217-59-4	**	7.84±0.01	PE	3657
	(Triphenylene)					
			**	7.86 (V)	PE	4039
			**	7.88±0.02 (V)	PE	4913
			**	7.88 (V)	PE	4701
			**	7.89±0.04	PE	4196
			**	8.1	CTS	3577
$C_{18}H_{14}^+$						
	$C_5H_4{=}C(C_6H_5)_2$	2175-90-8	**	7.96 (V)	PE	4357
	(Benzene, (2,4-cyclopentadien-1-ylidenephenylmethyl)-)					
	$(C_6H_5)_2C_6H_4$	92-94-4	**	7.83	PE	4478
	(1,1′:4′,1″-Terphenyl)					
	$C_{18}H_{14}$	84-15-1	**	7.99±0.01	PE	3657
	(1,1′:2′,1″-Terphenyl)					
	$C_{18}H_{14}$	92-06-8	**	8.01±0.01	PE	3657
	(1,1′:3′,1″-Terphenyl)					
	$(C_6H_5)_2C_6H_4$	92-94-4	**	7.78±0.01	PE	3657
	(1,1′:4′,1″-Terphenyl)					
$C_{18}H_{16}^+$						
	$C_6H_5(CH{=}CH)_3C_6H_5$	1720-32-7	**	7.27±0.03 (V)	PE	4767
	(Benzene, 1,1′-(1,3,5-hexatriene-1,6-diyl)bis-)					
			**	7.33	PE	5124
	$C_{18}H_{16}$	28255-97-2	**	7.40±0.05 (V)	PE	4263
	(11,1-Metheno-1*H*-cyclohepta[*b*]heptalene, 11*a*,12,13,13*a*-tetrahydro-)					
	$C_{16}H_{10}(CH_3)_2$	956-84-3	**	6.7	PE	3948
	(Pyrene, 10b,10c-dihydro-10b,10c-dimethyl-, *trans*-)					
$C_{18}H_{18}^+$						
	$(tert\text{-}C_4H_9)_2(C{\equiv}C)_5$	XXXXX-XX-X	**	8.06±0.02 (V)	PE	4816
	$C_{14}H_9C(CH_3)_3$	13719-97-6	**	7.13±0.03 (V)	PE	4887
	(Anthracene, 9-(1,1-dimethylethyl)-)					
	$C_{14}H_6(CH_3)_4$	17597-70-5	**	6.59 V)	PE	4572
	(Cyclopenta[*ef*]heptalene, 3,5,8,10-tetramethyl-)					
	$(C_6H_3)_2(CH_2)_6$	XXXXX-XX-X	**	8.0±0.1 (V)	PE	5600
	([2.2.2](1,2,4)Cyclophane)					
	$C_{14}H_6(CH_3)_4$	7396-38-5	**	7.8±0.1	EI	3454
	(Phenanthrene, 2,4,5,7-tetramethyl-)					
	$C_{14}H_6(CH_3)_4$	7343-06-8	**	7.5±0.1	EI	3454
	(Phenanthrene, 3,4,5,6-tetramethyl-)					
	$(C_6H_3)_2(CH_2)_6$	27165-88-4	**	7.70±0.02 (V)	PE	5600
	(Tetracyclo[6.6.2.1^{3,13}.1^{6,10}]octadeca-1,3(17),6,8,10(18),13-hexaene)					
			**	8.20±0.05 (V)	PE	5600

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{18}H_{18}^+$						
	$(C_6H_5)_2(CH_2)_6$	27165-88-4	**	7.88 (V)	PE	4701
$C_{18}H_{20}^+$						
	$C_6H_{10}(C_6H_5)_2$ (Benzene, 1,1′-cyclohexylidenebis-)	21113-55-3	**	8.9±0.2	EI	4074
	$C_{18}H_{20}$ (Naphthacene, 1,4,5,6,7,10,11,12-octahydro-)	60700-47-2	**	8.14 (V)	PE	4531
	$C_{16}H_{14}(CH_3)_2$ (Tricyclo[9.3.1.1^{4,8}]hexadeca-1(15),4,6,8(16),11,13-hexaene, 5,12-dimethyl-)	55705-29-8	**	7.98 (V)	PE	4231
$C_{19}H_{16}^+$						
	$(C_6H_5)_3CH$ (Benzene, 1,1′,1″-methylidynetris-)	519-73-3	**	8.34±0.03	PI	4055
			**	8.34±0.04	PI	5552
			**	8.40±0.05 (V)	PE	4620
$C_{19}H_{20}^+$						
	$C_6H_7(CH_3)(C_6H_5)_2$ (Cyclohexene, 1-methyl-4,4-diphenyl-)	50592-48-8	**	8.7±0.4	EI	4018
	$C_6H_8(OH)(CH_3)(C_6H_5)_2$ (Cyclohexanol, 1-methyl-4,4-diphenyl-)	50592-47-7	H_2O	9.2±0.4	EI	4018
$C_{19}H_{22}^+$						
	$C_6H_9(CH_3)(C_6H_5)_2$ (Benzene, 1,1′-(4-methylcyclohexylidene)bis-)	32812-65-0	**	8.8±0.2	EI	4074
			**	8.8±0.2	EI	4074
$C_{20}H_{12}^+$						
	$C_{20}H_{12}$ (Azuleno[1,2,3-*cd*]phenalene)	54100-60-6	**	6.58 (V)	PE	4637
	$C_{20}H_{12}$ (Azuleno[5,6,7-*cd*]phenalene)	6580-41-2	**	7.76 (V)	PE	4637
	$C_{20}H_{12}$ (Benzo[*a*]pyrene)	50-32-8	**	7.12±0.01	PE	3644
			**	7.12 (V)	PE	5364
			**	7.39±0.01	PE	3657
			**	7.41 (V)	PE	4701
	$C_{20}H_{12}$ (Benzo[*e*]pyrene)	192-97-2	**	7.43±0.04	PE	4196
	$C_{20}H_{12}$ (Perylene)	198-55-0	**	6.90±0.01	PE	3657
			**	6.97 (V)	PE	4712
			**	6.97 (V)	PE	4701
			**	7.00±0.01	PE	3644
			**	7.1	CTS	3577
$C_{20}H_{14}^+$						
	$C_{14}H_9C_6H_5$ (Anthracene,9-phenyl-)	602-55-1	**	7.25 (V)	PE	5436
			**	7.25 (V)	PE	5630
	$C_{14}H_9C_6H_5$ (Phenanthrene, 9-phenyl-)	844-20-2	**	7.65 (V)	PE	4262
$C_{20}H_{18}^+$						
	$(C_6H_5CHCHCHCH)_2$ (Benzene,1,1′-(1,3,5,7-octatetraene-1,8-diyl)bis-)	22828-29-1	**	7.19	PE	5124
	$C_6H_4(CH_2CH_2)_2C_{10}H_6$ (5,14:8,11-Diethanobenzocyclododecane,6,7,12,13-tetrahydro-)	4432-72-8	**	7.60 (V)	PE	5575
	$C_6H_4(CH_2CH_2)_2C_{10}H_6$ (1,5-(Ethano[1,4]benzeneoethano)naphthalene)	60058-13-1	**	7.56 (V)	PE	5575

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{20}H_{20}^+$						
	$(C_6H_2)_2(CH_2)_8$ ([2.2.2.2](1,2,3,4)Cyclophane)	XXXXX-XX-X **		7.9±0.1 (V)	PE	5600
	$(C_6H_2)_2(CH_2)_8$ ([2.2.2.2](1,2,3,5)Cyclophane)	XXXXX-XX-X **		7.75±0.02 (V)	PE	5600
	$(C_6H_2)_2(CH_2)_8$ ([2.2.2.2](1,2,4,5)Cyclophane)	XXXXX-XX-X **		7.67±0.02 (V)	PE	5600
$C_{20}H_{24}^+$						
	$C_{12}(CH_3)_8$ (1,3,7,9-Cyclododecatetrayne, 5,5,6,6,11,11,12,12-octamethyl-)	61414-48-0 **		8.27±0.03 (V)	PE	4938
	$(C_6H_1)(CH_2)_1C_6(CH_3)_4$ (Tricyclo[8.2.2.2^{4,7}]hexadeca-4,6,10,12,13,15-hexaene, 4,5,7,8-tetramethyl-)	XXXXX-XX-X **		7.47 (V)	PE	5600
	$C_{16}H_{12}(CH_3)_4$ (Tricyclo[8.2.2.2^{4,7}]hexadeca-4,6,10,12,13,15-hexaene, 5,11,13,15-tetramethyl-,stereoisomer)	35233-71-7 **		7.52 (V)	PE	4771
	$C_6H_4CH_2CH_2C_6(CH_3)_4CH_2CH_2$ (Tricyclo[8.2.2.2^{4,7}]hexadeca-4,6,10,12,13,15-hexaene,5,6,15,16-tetramethyl-)	65304-59-8 **		7.55 (V)	PE	5575
$C_{20}H_{28}^+$						
	$(C_9H_{11}C)_2$ (Tricyclo[3.3.1.1^{3,7}]decane, tricyclo[3.3.1.1^{3,7}]decylidene-)	30541-56-1 **		7.84 (V)	PE	4459
$C_{20}H_{30}^+$						
	$C_8H_3(tert\text{-}C_4H_9)_3$ (Pentalene,1,3,5-tris(1,1-dimethylethyl)-)	50356-52-0 **		7.11 (V)	PE	5613
$C_{20}H_{36}^+$						
	$((tert\text{-}C_4H_9)_2C{=}C)_2$	33512-45-7 **		7.0	PE	5034
	$C_4(tert\text{-}C_4H_9)_4$ (1,3-Cyclobutadiene,1,2,3,4-tetrakis(1,1-dimethylethyl)-)	66809-05-0 **		6.35 (V)	PE	5094
	$C_4(tert\text{-}C_4H_9)_4$ (Tricyclo[1.1.0.0^{2,4}]butane,tetrakis(1,1-dimethylethyl)-) (JC-Mean value of Jahn-Teller components)	66809-06-1 **		7.50 (V)	PE	5094
$C_{21}H_{15}^+$						
	$C_{10}H_6(CH_3)C_{10}H_6CH_3$ (1,1'-Binaphthalene, 2,2'-dimethyl-)	32834-84-7	CH_3	13.25±0.2	EI	4199
	$C_{10}H_6(CH_3)C_{10}H_6CH_3$ (1,1'-Binaphthalene, 3,3'-dimethyl-)	34042-82-5	CH_3	12.25±0.2	EI	4199
	$C_{10}H_6(CH_3)C_{10}H_6CH_3$ (1,1'-Binaphthalene, 7,7'-dimethyl-)	34003-80-0	CH_3	12.75±0.2	EI	4199
	$C_{10}H_6(CH_3)C_{10}H_6CH_3$ (1,1'-Binaphthalene, 8,8'-dimethyl-)	32693-05-3	CH_3	11.50±0.2	EI	4199
	$C_{10}H_6(CH_3)C_{10}H_6CH_3$ (1,1'-Binaphthalene, 2,2'-dimethyl-)	32834-84-7	CH_3	13.25	EI	3477
	$C_{10}H_6(CH_3)C_{10}H_6CH_3$ (1,1'-Binaphthalene, 3,3'-dimethyl-)	34042-82-5	CH_3	12.25	EI	3477
	$C_{10}H_6(CH_3)C_{10}H_6CH_3$ (1,1'-Binaphthalene, 7,7'-dimethyl-)	34003-80-0	CH_3	12.75	EI	3477
	$C_{10}H_6(CH_3)C_{10}H_6CH_3$ (1,1'-Binaphthalene, 8,8'-dimethyl-)	32693-05-3	CH_3	11.50	EI	3477
	$C_{12}H_{30}$ (Cyclopropene, bis-3,3'-triphenyl-)	XXXXX-XX-X **		9.3±0.05	EI	4628
	$C_3(C_6H_5)_3BF_4$ (Cyclopropenium, triphenyl-,tetrafluoroborate(1-))	741-16-2	BF_3,F	9.3±0.05	EI	4628
	$C_3(C_6H_5)_3Cl$ ((Cyclopropenylium, triphenyl-,chloride)	58090-78-1	Cl	8.51±0.05	EI	4628
	$C_3(C_6H_5)_3Br$ (Cyclopropenylium, triphenyl-,bromide)	4919-51-1	Br	8.35±0.05	EI	4628
	$C_3(C_6H_5)_3I$ (Cyclopropenium, triphenyl-,iodide)	58090-79-2	I	8.6±0.05	EI	4628

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{21}H_{14}D^+$						
	$C_{10}H_6(CH_2D)C_{10}H_6CH_2D$ (1,1′-Binaphthalene, 2,2′-di(methyl-*d*)-)	52889-79-9	CH_2D	13.05±0.2	EI	4199
	$C_{10}H_6(CH_2D)C_{10}H_6CH_2D$ (1,1′-Binaphthalene, 8,8′-di(methyl-*d*)-)	52963-27-6	CH_2D	11.35±0.2	EI	4199
$C_{22}H_{12}^+$						
	$C_{22}H_{12}$ (Benzo[*g,h,i*]perylene)	191-24-2	**	7.15 (V)	PE	4701
			**	7.15 (V)	PE	4712
			**	7.19±0.01	PE	3644
	$C_{22}H_{12}$ (Dibenzo[*d,e,f,m,n,o*]chrysene)	191-26-4	**	6.92±0.04	PE	4196
$C_{22}H_{14}^+$						
	$C_{22}H_{14}$ (Benzo[*b*]chrysene)	214-17-5	**	7.20±0.02 (V)	PE	4913
	$C_{22}H_{14}$ (Benzo[*a*,]naphthacene)	226-88-0	**	6.97±0.02 (V)	PE	4913
	$C_{22}H_{14}$ (Benzo[*b*]chrysene)	214-17-5	**	7.14±0.04	PE	4196
	$C_{22}H_{14}$ (Benzo[*a*]naphthacene)	226-88-0	**	7.06±0.04	PE	4196
	$C_{22}H_{14}$ (3,4-Benzotetraphene)	XXXXX-XX-X	**	7.35±0.01	PE	3657
	$C_{22}H_{14}$ (Benzo[*b*]triphenylene)	215-58-7	**	7.39±0.02 (V)	PE	4913
			**	7.39 (V)	PE	4701
			**	7.44±0.04	PE	4196
	$C_{22}H_{14}$ (Dibenz[a,h]anthracene)	53-70-3	**	7.38±0.02 (V)	PE	4913
			**	7.38±0.04	PE	4196
			**	7.38 (V)	PE	4701
	$C_{22}H_{14}$ (Dibenz[*a,j*]anthracene)	224-41-9	**	7.39±0.04	PE	4196
			**	7.40±0.02 (V)	PE	4913
			**	7.40 (V)	PE	4701
	$C_{22}H_{14}$ (Dibenzo[*c,g*]phenanthrene)	188-52-3	**	7.47±0.04	PE	4196
			**	7.51 (V)	PE	4488
			**	7.51 (V)	PE	4701
			**	7.51±0.02 (V)	PE	4913
	$C_{22}H_{14}$ (Pentacene)	135-48-8	**	6.61±0.02 (V)	PE	4913
			**	6.64	PE	3668
			**	6.74±0.01	PE	3644
	$C_{22}H_{14}$ (Pentaphene)	222-93-5	**	7.27±0.02 (V)	PE	4913
			**	7.27 (V)	PE	4701
			**	7.34±0.04	PE	4196
	$C_{22}H_{14}$ (Picene)	213-46-7	**	7.52±0.02 (V)	PE	4913
			**	7.52 (V)	PE	4701
			**	7.54±0.04	PE	4196
$C_{22}H_{18}^+$						
	$C_{10}H_6(CH_3)C_{10}H_6CH_3$ (1,1′-Binaphthalene, 2,2′-dimethyl-)	32834-84-7	**	8.20±0.05	EI	4199
	$C_{10}H_6(CH_3)C_{10}H_6CH_3$ (1,1′-Binaphthalene, 3,3′-dimethyl-)	34042-82-5	**	8.20±0.05	EI	4199
	$C_{10}H_6(CH_3)C_{10}H_6CH_3$ (1,1′-Binaphthalene, 7,7′-dimethyl-)	34003-80-0	**	8.15±0.05	EI	4199

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{22}H_{18}^+$						
	$C_{10}H_6(CH_3)C_{10}H_6CH_3$ (1,1′-Binaphthalene, 8,8′-dimethyl-)	32693-05-3	**	8.00±0.05	EI	4199
	$C_{10}H_6(CH_3)C_{10}H_6CH_3$ (1,1′-Binaphthalene, 2,2′-dimethyl-)	32834-84-7	**	8.20	EI	3477
	$C_{10}H_6(CH_3)C_{10}H_6CH_3$ (1,1′-Binaphthalene, 3,3′-dimethyl-)	34042-82-5	**	8.00	EI	3477
	$C_{10}H_6(CH_3)C_{10}H_6CH_3$ (1,1′-Binaphthalene, 7,7′-dimethyl-)	34003-80-0	**	8.15	EI	3477
	$C_{10}H_6(CH_3)C_{10}H_6CH_3$ (1,1′-Binaphthalene, 8,8′-dimethyl-)	32693-05-3	**	8.00	EI	3477
$C_{22}H_{20}^+$						
	$(C_6H_5CHCHCHCHCH)_2$ (Benzene,1,1′-(1,3,5,7,9-decapentaene-1,10-diyl)bis-)	XXXXX-XX-X	**	7.05	PE	5124
$C_{22}H_{22}^+$						
	$(C_6H)_2(CH_2)_{10}$ ([2.2.2.2.2](1,2,3,4,5)Cyclophane)	XXXXX-XX-X	**	7.67±0.02 (V)	PE	5600
$C_{23}H_{26}^+$						
	$C_{10}H_{13}(CH_3)(C_6H_5)_2$ (Naphthalene, 1,2,3,4,4a,5,6,7-octahydro-4a-methyl-2,2-diphenyl-)	50592-50-2	**	8.9±0.2	EI	4074
$C_{24}H_{12}^+$						
	$C_{24}H_{12}$ (Coronene)	191-07-1	**	7.29 (V)	PE	4701
			**	7.29 (V)	PE	4712
			**	7.34 (V)	PE	3951
			**	7.5	CTS	3577
	$C_{24}H_{12}$ (Tribenzo[*a,e,i*]cyclododecene, 5,6,11,12,17,18-hexadehydro-)	5385-26-2	**	7.45 (V)	PE	4652
$C_{24}H_{14}^+$						
	$C_{24}H_{14}$ (Benzo[*rst*]pentaphene)	189-55-9	**	7.07±0.04	PE	4196
	$C_{24}H_{14}$ (Benzo[*a*]perylene)	191-85-5	**	6.71 (V)	PE	4712
	$C_{24}H_{14}$ (Benzo[*b*]perylene)	197-70-6	**	6.89 (V)	PE	4712
			**	6.92±0.04	PE	4196
	$C_{24}H_{14}$ (Dibenzo[*de,qr*]naphthacene)	193-09-9	**	7.41±0.04	PE	4196
	$C_{24}H_{14}$ (Dibenzo[*fg,op*]naphthacene)	192-51-8	**	7.40±0.04	PE	4196
	$C_{24}H_{14}$ (Dibenzo[*a,h*]pyrene)	XXXXX-XX-X	**	7.39 (V)	PE	4701
$C_{24}H_{16}^+$						
	$(C_{10}H_6C_2H_2)_2$ (Pentacyclo[10.4.4.4^{4,9}.0^{6,22}.0^{15,19}]tetracosa-2,4,6,8,10,12,14,16,17,19,21,23-dodecaene)	43012-17-5	**	7.40 (V)	PE	5575
	$(C_{10}H_6C_2H_2)_2$ (Pentacyclo[11.5.3.3^{4,10}.0^{7,23}.0^{16,20}]tetracosa-1(19),2,4,6,8,10(22),11,13,15,17,20,23-dodecaene)	51557-75-6	**	7.20 (V)	PE	5575
$C_{24}H_{20}^+$						
	$(C_{10}H_6CH_2CH_2)_2$ (5,16:8,13-Diethenodibenzo[*a,g*]cyclododecene,6,7,14,15-tetrahydro-)	14724-91-5	**	7.25 (V)	PE	5575
			**	7.50 (V)	PE	5575
	$(C_{10}H_6CH_2CH_2)_2$ (Pentacyclo[10.4.4.4^{4,9}.0^{5,21}.0^{16,20}]tetracosa-1(17),4,6,8,12,14,16(20),18,21,23-decaene)	54835-57-3	**	7.05 (V)	PE	5575

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{24}H_{20}^+$						
	$(C_{10}H_6CH_2CH_2)_2$	54835-57-3	**	7.25 (V)	PE	5575
	$(C_{10}H_6CH_2CH_2)_2$	73608-51-2	**	7.52 (V)	PE	5575
	(Pentacyclo[10.4.4.4^{4,9}.0^{6,22}.0^{15,19}]tetracosa-4,6,8,12,14,16, 17,19,21,23-decaene)					
	$(C_{10}H_6CH_2CH_2)_2$	7130-24-7	**	7.37 (V)	PE	5575
	(Pentacyclo[11.5.3.3^{4,10}.0^{7,23}.0^{16,20}]tetracosa-1(19),4,6,8,10(22), 13,15,17,20,23-decaene)					
	$(C_{10}H_6CH_2CH_2)_2$	73608-52-3	**	6.60 (V)	PE	5575
	(Pentacyclo[13.3.2.2^{6,10}.1^{3,18}.1^{9,12}]tetracosa-1,3(21),6,8,10, 12(22),15,17,19,23-decaene)					
$C_{24}H_{22}^+$						
	$(C_6H_5CHCHCHCHCH)_2$	XXXXX-XX-X	**	7.07	PE	5124
	(Benzene,1,1′-(1,3,5,7,9,11-dodecahexaene-1,12-diyl)bis-)					
	$C_{10}H_7(CH_2)_4C_{10}H_7$	29571-17-3	**	7.67	PE	3960
	(Naphthalene, 1,1′-(1,4-butanediyl)bis-)					
$C_{24}H_{24}^+$						
	$(C_6)_2(CH_2)_{12}$	XXXXX-XX-X	**	7.55±0.02 (V)	PE	5600
	([2.2.2.2.2.2](1,2,3,4,5,6)Cyclophane)					
$C_{25}H_{16}^+$						
	$C_{25}H_{16}$	159-66-0	**	7.7 (V)	PE	4081
	(9,9′-Spirobi[9*H*-fluorene])					
$C_{26}H_{14}^+$						
	$C_{26}H_{14}$	5869-30-7	**	6.99 (V)	PE	4712
	(Dibenzo[*b*,*ghi*]perylene)					
	$C_{26}H_{14}$	190-95-4	**	7.12 (V)	PE	4712
	(Dibenzo[*b*,*pqr*]perylene)					
	$C_{26}H_{14}$	188-96-5	**	6.72±0.02 (V)	PE	4852
	(Dibenzo[*cd*,*lm*]perylene)					
			**	6.77±0.04	PE	4196
	$C_{26}H_{14}$	190-84-1	**	6.96 (V)	PE	4712
	(Naphtho[1,2,3,4-*ghi*]perylene)					
	$C_{26}H_{14}$	188-89-6	**	6.82±0.04	PE	4196
	(Naphtho[8,1,2-*bcd*]perylene)					
$C_{26}H_{16}^+$						
	$C_{26}H_{16}$	217-37-8	**	7.36±0.02 (V)	PE	4913
	(Benzo[*c*]picene)					
	$C_{26}H_{16}$	239-98-5	**	6.61±0.02 (V)	PE	4913
	(Benzo[*a*]pentacene)					
			**	6.72±0.04	PE	4196
	$C_{26}H_{16}$	222-54-8	**	7.14±0.04	PE	4196
	(Benzo[*c*]pentaphene)					
			**	7.20±0.02 (V)	PE	4913
	$C_{26}H_{16}$	214-91-5	**	7.30±0.04	PE	4196
	(Benzo[*h*]pentaphene)					
			**	7.36±0.02 (V)	PE	4913
	$C_{26}H_{16}$	217-42-5	**	7.17±0.02 (V)	PE	4913
	(Benzo[*b*]picene)					
			**	7.20±0.04	PE	4196
	$C_{26}H_{16}$	217-37-8	**	7.20 (V)	PE	4701
	(Benzo[*c*]picene)					
	$C_{26}H_{16}$	227-04-3	**	6.99±0.02 (V)	PE	4913
	(Dibenzo[*a*,*j*]naphthacene)					
	$C_{26}H_{16}$	217-54-9	**	6.97±0.04	PE	4196
	(Dibenzo[*b*,*k*]chrysene)					
			**	6.98±0.02 (V)	PE	4913
	$C_{26}H_{16}$	191-68-4	**	7.18±0.04	PE	4196
	(Dibenzo[*g*,*p*]chrysene)					

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{26}H_{16}^+$						
	$C_{26}H_{16}$	191-68-4	**	7.20±0.02 (V)	PE	4913
	$C_{26}H_{16}$	216-00-2	**	6.96±0.04	PE	4196
	(Dibenzo[*a,c*]naphthacene)					
			**	6.98±0.02 (V)	PE	4913
	$C_{26}H_{16}$	227-04-3		7.02±0.04	PE	4196
	(Dibenzo[*a,j*]naphthacene)					
	$(C_{13}H_8)_2$	746-47-4	**	7.27±0.04	PE	4196
	(9*H*-Fluorene, 9(9*H*-fluoren-9-ylidene)-)					
	$C_{26}H_{16}$	258-31-1	**	6.36±0.02 (V)	PE	4913
	(Hexacene)					
			**	6.44±0.04	PE	4196
	$C_{26}H_{16}$	222-78-6	**	6.92±0.02 (V)	PE	4913
	(Hexaphene)					
			**	7.02±0.04	PE	4196
	$C_{26}H_{16}$	220-77-9	**	7.19±0.02 (V)	PE	4913
	(Naphtho[1,2-*b*]chrysene)					
	$C_{26}H_{16}$	196-64-5	**	7.15±0.02 (V)	PE	4913
	(Naphtho[2,3-*g*]chrysene)					
			**	7.15±0.04	PE	4196
	$C_{26}H_{16}$	220-82-6	**	7.22±0.04	PE	4196
	(Naphtho[2,1-*a*]naphthacene)					
			**	6.83±0.02 (V)	PE	4913
	$C_{26}H_{16}$	187-83-7	**	7.37 (V)	PE	4488
	(Phenanthro[3,4-*c*]phenanthrene)					
	$C_{26}H_{16}$	215-26-9	**	7.35±0.04	PE	4196
	(Tribenz[*a,c,h*]anthracene)					
			**	7.40±0.02 (V)	PE	4913
			**	7.40 (V)	PE	4701
$C_{26}H_{24}^+$						
	$(C_6H_5CHCHCHCHCHCH)_2$	62622-57-5	**	7.2±0.2	PE	5124
	(Benzene,1,1′-(1,3,5,7,9,11,13-tetradecaheptaene-1,14-diyl)bis-)					
$C_{28}H_{14}^+$						
	$C_{28}H_{14}$	190-70-5	**	7.08 (V)	PE	4701
	(Benzo[*a*]coronene)					
			**	7.08 (V)	PE	4712
	$C_{28}H_{14}$	190-71-6	**	6.92±0.04	PE	4196
	(Benzo[*pqr*]naphtho[8,1,2-*bcd*]perylene)					
	$C_{28}H_{14}$	190-39-6	**	6.30 (V)	PE	4712
	(Phenanthro[1,10,9,8-*opqra*]perylene)					
$C_{28}H_{16}^+$						
	$C_{28}H_{16}$	385-14-8	**	7.00±0.04	PE	4196
	(Benzo[p]naphtho[1,8,7-*ghi*]chrysene)					
	$C_{28}H_{16}$	14147-38-7	**	6.82 (V)	PE	4712
	(Dibenzo[*de,st*]pentacene)					
	$C_{28}H_{16}$	193-11-3	**	7.03±0.04	PE	4196
	(Dibenzo[*de,uv*]pentacene)					
	$C_{28}H_{16}$	197-74-0	**	6.86 (V)	PE	4712
	(Dibenzo[*fg,qr*]pentacene)					
	$C_{28}H_{16}$	192-59-6	**	7.33±0.04	PE	4196
	(Dibenzo[*fg,st*]pentacene)					
	$C_{28}H_{16}$	197-69-3	**	6.85 (V)	PE	4712
	(Dibenzo[*fg,ij*]pentaphene)					
	$C_{28}H_{16}$	190-36-3	**	6.51 (V)	PE	4712
	(Dibenzo[*a,o*]perylene)					
	$C_{28}H_{16}$	191-81-1	**	6.64 (V)	PE	4712
	(Dibenzo[*a,n*]perylene)					
	$C_{28}H_{16}$	191-87-7	**	6.51 (V)	PE	4712
	(Dibenzo[*a,j*]perylene)					

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{28}H_{16}^+$						
	$C_{28}H_{16}$ (Naphtho[1,2,3,4–*rst*]pentaphene)	191-20-8	**	7.09±0.04	PE	4196
$C_{28}H_{20}^+$						
	$C_{28}H_{20}$ (Azulene,1,2,3-triphenyl-)	XXXXX-XX-X	**	6.9 (V)	PE	5397
$C_{28}H_{34}^+$						
	$(C_6H_2(CH_3)_3)_3CH$ (Benzene, 1,1′,1″-methylidynetris[2,4,6-trimethyl-)	52719-55-8	**	7.68±0.05 (V)	PE	4620
$C_{30}H_{14}^+$						
	$C_{30}H_{14}$ (Dibenzo[*bc*,*ef*]coronene)	190-31-8	**	6.50 (V)	PE	4712
	$C_{30}H_{14}$ (Dibenzo[*bc*,*kl*]coronene)	190-55-6	**	6.42±0.02 (V)	PE	4852
$C_{30}H_{16}^+$						
	$C_{30}H_{16}$ (Anthra[1,2,3,4–*ghi*]perylene)	190-85-2	**	6.77 (V)	PE	4712
	$C_{30}H_{16}$ (Benzo[*st*]naphtho[2,1,8,7–*defg*]pentacene)	14258-76-5	**	7.04 (V)	PE	4712
	$C_{30}H_{16}$ (Benzo[*uv*]naphtho[2,1,8,7–*defg*]pentacene)	5869-31-8	**	6.78 (V)	PE	4712
	$C_{30}H_{16}$ (Benzo[*qr*]naptho[2,1,8,7–*fghi*]pentacene)	190-87-4	**	6.97 (V)	PE	4712
	$C_{30}H_{16}$ (Tetrabenzo[*de*,*hi*,*mn*,*qr*]naphthacene)	385-13-7	**	6.90±0.04	PE	4196
	$C_{30}H_{16}$ (Tribenzo[*de*,*kl*,*rst*]pentaphene)	188-72-7	**	6.42±0.02 (V)	PE	4852
	$C_{30}H_{16}$ (Tribenzo[*b*,*n*,*pqr*]perylene)	190-81-8	**	7.13 (V)	PE	4701
			**	7.13 (V)	PE	4712
$C_{30}H_{18}^+$						
	$C_{30}H_{18}$ (Benzo[*p*]hexaphene)	222-81-1	**	6.59±0.02 (V)	PE	4913
	$C_{30}H_{18}$ (Benzo[*c*]naphtho[2,1–*p*]chrysene)	27798-46-5	**	7.19±0.02 (V)	PE	4913
	$C_{30}H_{18}$ (Dibenzo[*a*,*c*]pentacene)	216-08-0	**	6.62±0.02 (V)	PE	4913
			**	6.67±0.04	PE	4196
	$C_{30}H_{18}$ (Dibenzo[*a*,*l*]pentacene)	227-09-8	**	6.64±0.02 (V)	PE	4913
	$C_{30}H_{18}$ (Dibenzo[*c*,*m*]pentaphene)	222-51-5	**	7.11±0.02 (V)	PE	4913
			**	7.11 (V)	PE	4701
	$C_{30}H_{18}$ (Dibenzo[*b*,*n*]picene)	213-44-5	**	7.17±0.02 (V)	PE	4913
	$C_{30}H_{18}$ (Dinaphtho[2,1–*c*:1′,2′–*g*]phenanthrene)	16914-68-4	**	7.25 (V)	PE	4488
	$C_{30}H_{18}$ (Heptaphene)	222-75-3	**	6.89±0.02 (V)	PE	4913
			**	6.98±0.04	PE	4196
	$C_{30}H_{18}$ (Naphtho[2,3–*c*]pentaphene)	222-58-2	**	7.04±0.02 (V)	PE	4913
	$C_{30}H_{18}$ (Tetrabenz[*a*,*c*,*h*,*j*]anthracene)	215-11-2	**	7.43±0.02 (V)	PE	4913
			**	7.43 (V)	PE	4701
			**	7.45±0.04	PE	4196
	$C_{30}H_{18}$ (Tribenz[*a*,*c*,*j*] naphthacene)	215-96-3	**	6.99±0.02 (V)	PE	4913

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{30}H_{18}^+$						
	$C_{30}H_{18}$ (Trinaphthylene)	196-62-3	**	7.35±0.02 (V)	PE	4913
$C_{32}H_{14}^+$						
	$C_{32}H_{14}$ (Ovalene)	190-26-1	**	6.71 (V)	PE	4712
			**	6.86±0.01	PE	3644
$C_{32}H_{16}^+$						
	$C_{32}H_{16}$ (Dibenzo[*a,g*]coronene)	190-66-9	**	7.04 (V)	PE	4712
			**	7.04 (V)	PE	4701
	$C_{32}H_{16}$ (Dibenzo[*a,j*]coronene)	190-72-7	**	6.92 (V)	PE	4712
			**	6.92 (V)	PE	4701
	$C_{32}H_{16}$ (Naphtho[2,3-*a*]coronene)	190-74-9	**	6.88 (V)	PE	4712
$C_{32}H_{18}^+$						
	$C_{32}H_{18}$ (Dibenzo[*fg,wx*]hexacene)	192-60-9	**	7.01±0.04	PE	4196
	$C_{32}H_{18}$ (Dibenzo[*hi,uv*]hexacene)	192-54-1	**	7.30±0.04	PE	4196
$C_{34}H_{16}^+$						
	$C_{34}H_{16}$ (Benzo[*pqr*]dinaphtho[8,1,2-*bcd*:2′,1′,8′-*lmn*]perylene)	188-11-4	**	6.74±0.02 (V)	PE	4852
	$C_{34}H_{16}$ (Dibenzo[*fg,ij*]phenanthro[2,1,10,9,8,7-*pqrstuv*]pentaphene)	187-94-0	**	6.82±0.02 (V)	PE	4852
			**	6.82 (V)	PE	4712
$C_{34}H_{18}^+$						
	$C_{34}H_{18}$ (Benzo[*rst*]phenanthro[1,10,9-*cde*]pentaphene)	190-93-2	**	6.42±0.02 (V)	PE	4852
	$C_{34}H_{18}$ (Dibenzo[*a,rst*]naphtho[8,1,2-*cde*]pentaphene)	191-46-8	**	6.59±0.02 (V)	PE	4852
	$C_{34}H_{18}$ (Dibenzo[*fg,ij*]naphtho[1,2,3,4-*rst*]pentaphene)	313-63-3	**	6.84 (V)	PE	4712
	$C_{34}H_{18}$ (Dibenzo[*m,pqr*]naptho[1,2,3,4-*tuv*]picene)	XXXXX-XX-X	**	6.59±0.02 (V)	PE	4852
	$C_{34}H_{18}$ (Tetrabenzo[*de,hi,op,st*]pentacene)	191-79-7	**	6.27±0.02 (V)	PE	4852
	$C_{34}H_{18}$ (Tetrabenzo[*de,h,kl,rst*]pentaphene)	188-13-6	**	6.22±0.02 (V)	PE	4852
	$C_{34}H_{18}$ (Tetrabenzo[*a,cd,j,lm*]perylene)	191-53-7	**	6.71±0.02 (V)	PE	4852
	$C_{34}H_{18}$ (Tetrabenzo[*c,m,pqr,tuv*]picene)	XXXXX-XX-X	**	6.48±0.02 (V)	PE	4852
$C_{34}H_{20}^+$						
	$C_{34}H_{20}$ (Benz[*j*]heptaphene)	214-87-9	**	6.90±0.02 (V)	PE	4913
	$C_{34}H_{20}$ (Benzo[a]phenanthro[9,10-*c*]naphthacene)	385-16-0	**	6.73±0.02 (V)	PE	4913
	$C_{34}H_{20}$ (Naphtho[2,1-*c*]phenanthro[4,3-*g*]phenanthrene)	20495-12-9	**	7.15 (V)	PE	4488
	$C_{34}H_{20}$ (Tetrabenzo[*b,g,k,p*]chrysene)	385-15-9	**	6.83±0.02 (V)	PE	4913
	$C_{34}H_{20}$ (Tetrabenzo[*a,c,j,l*]naphthacene)	215-95-2	**	7.00±0.02 (V)	PE	4913
			**	7.00 (V)	PE	4701

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{36}H_{16}^+$						
	$C_{36}H_{16}$ (Dinaphtho[8,1,2-*abc*:2′,1′,8′-*klm*]coronene)	53086-28-5	**	6.76±0.02 (V)	PE	4852
			**	6.85±0.04	PE	4196
	$C_{36}H_{16}$ (Dinaphtho[8,1,2-*abc*:8′,1′,2′-*jkl*]coronene)	190-47-6	**	6.70±0.04	PE	4196
$C_{36}H_{18}^+$						
	$C_{36}H_{18}$ (Dibenzo[*fg,ij*]phenanthro[9,10,1,2,3-*pqrst*]pentaphene)	188-00-1	**	7.10 (V)	PE	4701
	$C_{36}H_{18}$ (Tribenzo[*a,d,g*]coronene)	313-62-2	**	6.88 (V)	PE	4712
			**	6.88 (V)	PE	4701
$C_{36}H_{20}^+$						
	$C_{36}H_{20}$ (Dibenzo[*hi,wx*]heptacene)	197-73-9	**	6.68 (V)	PE	4712
	$C_{36}H_{20}$ (Dinaphtho[1,2,3-fg:1′,2′,3′-*qr*]pentacene)	36474-85-8	**	6.82 (V)	PE	4712
$C_{38}H_{16}^+$						
	$C_{38}H_{16}$ (Naphth[2′,1′,8′,7′:4,10,5]anthra[1,9,8-*abcd*]coronene)	41163-25-1	**	6.81±0.02 (V)	PE	4852
			**	6.90 (V)	PE	4701
$C_{38}H_{18}^+$						
	$C_{38}H_{18}$ (Benzo[*rs*]dinaphtho[2,1,8,7-*klmn*:3′,2′,1′,8′,7′-*owxyz*]hexaphene)	190-90-9	**	6.38±0.02 (V)	PE	4852
	$C_{38}H_{18}$ (Dibenzo[*jk,uv*]dinaphtho[2,1,8,7-*defg*:2′,1′,8′,7′-*opqr*]pentacene)	190-89-6	**	6.50±0.02 (V)	PE	4852
$C_{38}H_{20}^+$						
	$C_{38}H_{20}$ (Benzo[*wx*]naphtho[2,1,8,7-*hijk*]heptacene)	14529-73-8	**	6.72 (V)	PE	4712
	$C_{38}H_{20}$ (Tribenzo[*fg,mn,xyz*]heptaphene)	34814-77-2	**	6.40±0.02 (V)	PE	4852
	$C_{38}H_{20}$ (Tribenzo[*de,h,kl*]naphtho[1,2,3,4-*rst*]pentaphene)	187-96-2	**	6.06±0.02 (V)	PE	4852
$C_{38}H_{22}^+$						
	$C_{38}H_{22}$ (Diphenanthro[3,4-*c*:4′3′-*g*]phenanthrene)	20495-14-1	**	7.07 (V)	PE	4488
	$C_{38}H_{22}$ (Tetrabenz[*a,c,l,n*]pentacene)	216-07-9	**	6.65±0.02 (V)	PE	4913
$C_{38}H_{56}^+$						
	$(C_6H_6(CH_3)_3(CHCHC(CH_3)CH)_2CH)_2$ (*β*-Carotene,(all-E)-1,1′-(3,7,12,16-tetramethyl-1,3,5,7,9,11,13,15,17-octadecanonaene-1,18-diyl)bis[2,6,6-trimethylcyclohexene])	7235-40-7		6.4±0.2	OTH	5278
$C_{40}H_{20}^+$						
	$C_{40}H_{20}$ (Benzo[1,2,3-*cd*:4,5,6-c′d′]diperylene)	188-73-8	**	6.11±0.02 (V)	PE	4852
$C_{40}H_{56}^+$						
	$C_{40}H_{56}$ (1,3,5,7,9,11,13,15,17-Octadecanonene,3,7,12,16-tetramethyl-1,18-cyclohex-1-ene,2,6,6-trimethyl-)	XXXXX-XX-X	**	6.5	PE	5093
$C_{42}H_{18}^+$						
	$C_{42}H_{18}$ (Hexabenzo[*bc,ef,hi,kl,no,qr*]coronene)	190-24-9	**	6.87±0.02 (V)	PE	4852
			**	6.87 (V)	PE	4712

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{42}H_{18}^+$						
	$C_{42}H_{18}$	190-24-9	**	6.89 (V)	PE	4701
$C_{42}H_{20}^+$						
	$C_{42}H_{20}$ (Dibenzo[*fg,mn*]phenanthro[2,1,10,9,8,7-*cwxyza,b,*]heptaphene)	34814-80-7	**	6.72±0.02 (V)	PE	4852
$C_{42}H_{22}^+$						
	$C_{42}H_{22}$ (Dibenzo[*fg,mn*]naphtho[1,2,3,4-*xyz*]heptaphene)	34814-82-9	**	6.18±0.02 (V)	PE	4852
	$C_{42}H_{22}$ (Hexabenzo[*a,cd,f,j,lm,o*]perylene)	190-22-7	**	6.71±0.02 (V)	PE	4852
$C_{42}H_{24}^+$						
	$C_{42}H_{24}$ (Anthra[2,3-*j*]heptaphene)	214-77-7	**	6.85±0.02 (V)	PE	4913
	$C_{42}H_{24}$ (Benzo[g[phenanthro[3,4-*c*:6,5-c']diphenanthrene)	57520-29-3	**	6.99 (V)	PE	4488
	$C_{42}H_{24}$ (Dibenzo[*f,j*]phenanthro[9,10-*s*]picene)	190-23-8	**	7.52±0.02 (V)	PE	4913
$C_{42}H_{30}^+$						
	$C_6(C_6H_5)_6$ (Benzene, hexaphenyl-)	XXXXX-XX-X	**	8.47±0.05	EI	4628
	$C_{42}H_{30}$ (Cyclopropene, bis-3,3'-triphenyl-)	XXXXX-XX-X	**	7.72±0.05	EI	4628
$C_{44}H_{20}^+$						
	$C_{44}H_{20}$ (Dibenzo[*a,jk*]phenanthro[8,9,10,1,2-*cdefgh*]pyranthrene)	70346-75-7	**	6.79±0.02 (V)	PE	4852
$C_{46}H_{26}^+$						
	$C_{46}H_{26}$ (Bisbenzo[5,6]phenanthro[3,4-*c*:4',3'-*g*]phenanthrene)	57468-45-8	**	6.95 (V)	PE	4488
	$C_{46}H_{26}$ (Tetrabenzo[*a,c,g,s*]heptaphene)	62662-49-1	**	6.88±0.02 (V)	PE	4913
$C_{48}H_{24}^+$						
	$C_{48}H_{24}$ (Hexabenzo[*a,d,g,j,m,p*]coronene)	1065-80-1	**	6.75 (V)	PE	4712
			**	6.78 (V)	PE	4701
$C_{50}H_{28}^+$						
	$C_{50}H_{28}$ (Dinaphtho[1,2-*g*:1',2'-*g'*]naphtho[2,1-*c*:7,8-c']diphenanthrene)	57468-46-9	**	6.93 (V)	PE	4488
$C_{54}H_{30}^+$						
	$C_{54}H_{30}$ (Bisnaphtho[1',2':5,6]phenanthro[3,4-*c*:4',3'-*g*]phenanthrene]	24386-06-9	**	6.91 (V)	PE	4488
$C_{58}H_{32}^+$						
	$C_{58}H_{32}$ (Diphenanthro[4,3-*g*:4',3'-*g'*]naphtho[2,1-*c*:7,8-*c'*]diphenanthrene)	57483-71-3	**	6.88 (V)	PE	4488
Li_3C^+						
	CLi_3	70378-93-7	**	4.6±0.3	EI	5334
$LiCH_3^+$						
	(*tert*-C_4H_9)$_4$$Li_4$	25395-78-2		11.0±0.50	PI	5455
$Li_2C_4H_9^+$						
	(*tert*-C_4H_9)$_4$$Li_4$	25395-78-2		8.1±0.25	PI	5455

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$Li_4C_4H_9^+$						
	$(tert\text{-}C_4H_9)_4Li_4$	25395-78-2		8.1±0.25	PI	5455
$Li_4C_8H_{18}^+$						
	$(tert\text{-}C_4H_9)_4Li_4$	25395-78-2		8.1±0.25	PI	5455
$Li_4C_{12}H_{27}^+$						
	$(tert\text{-}C_4H_9)_4Li_4$	25395-78-2		6.2±0.25	PI	5455
$Li_4C_{16}H_{36}^+$						
	$(tert\text{-}C_4H_9)_4Li_4$	25395-78-2	**	6.2±0.25	OTH	5455
$BeC_6H_5^+$						
	$(C_6H_5)_2Be$ (Beryllium, diphenyl-)	22300-89-6	C_6H_5	13.4±0.2	EI	3815
$BeC_6H_8^+$						
	$(C_5H_5)(CH_3)Be$ (Beryllium,(η^5-2,4-cyclopentadien-1-yl)methyl-)	36351-95-8	**	9.43 (V)	PE	5384
$BeC_7H_6^+$						
	$(C_5H_5)(C_2H)Be$ (Beryllium,(η^5-2,4-cyclopentadien-1-yl)ethynyl-)	52140-36-0	**	9.40 (V)	PE	5384
$BeC_8H_8^+$						
	$(C_5H_5)(C_2CH_3)Be$ (Beryllium(η^5-2,4-cyclopentadien-1-yl)propynyl-)	XXXXX-XX-X	**	8.82 (V)	PE	5384
$BeC_{10}H_{10}^+$						
	$(C_5H_5)_2Be$ (Beryllium,2,4-cyclopentadien-1-yl(η^5-2,4-cyclopentadien-1-yl)-)	37048-03-6	**	7.45 (V)	PE	5108
$BeC_{12}H_{10}^+$						
	$(C_6H_5)_2Be$ (Beryllium, diphenyl-)	22300-89-6	**	9.20±0.10	EI	3815
$B_5CH_9^+$						
	CH_9B_5 (2-Carbahexaborane(9))	12385-35-2	**	10.4 (V)	PE	4949
$B_5CH_{11}^+$						
	$B_5H_8CH_3$ (Pentaborane(9), 1-methyl-)	19495-55-7	**	10.20 (V)	PE	4519
	$B_5H_8CH_3$ (Pentaborane(9), 2-methyl-)	23753-74-4	**	10.30 (V)	PE	4519
$B_3C_2H_5^+$						
	$C_2H_5B_3$ (1,5-Dicarbapentaborane)	20693-66-7	**	10.54	PE	4446
			**	10.9 (V)	PE	4949
$B_4C_2H_6^+$						
	$C_2H_6B_4$ (1,6-Dicarbahexaborane(6))	20693-67-8	**	9.9 (V)	PE	4949
			**	9.77	PE	4446
$B_4C_2H_8^+$						
	$C_2H_8B_4$ (2,3-Dicarbahexborane(8))	18972-20-8	**	9.6 (V)	PE	4949
$B_5C_2H_7^+$						
	$C_2H_7B_5$ (2,4-Dicarbaheptaborane(7))	20693-69-0	**	10.54	PE	4446

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$B_5C_2H_7^+$						
	$C_2H_7B_5$	20693-69-0	**	10.6 (V)	PE	4949
$B_8C_2H_{10}^+$						
	$C_2B_8H_{10}$ (1,10-Dicarbadecaborane(10))	23653-23-8	**	10.5 (V)	PE	5324
$B_{10}C_2H_{12}^+$						
	$C_2B_{10}H_{12}$ (1,12-Dicarbadodecaborane(12))	20644-12-6	**	10.6 (V)	PE	5324
	$C_2H_{12}B_{10}$ (1,7-Dicarbadodecaborane)	16986-24-6	**	10.19	PE	4446
$BC_3H_9^+$						
	$(CH_3)_3B$	593-90-8	**	10.68 (V)	PE	4398
			**	10.69 (V)	PE	4243
			**	10.69	PE	5485
$BC_{12}H_{10}^+$						
	$(C_6H_5)_3B$ (Borane, triphenyl-)	960-71-4	C_6H_5	10.2	PI	4055
$BC_{14}H_{19}^+$						
	$C_6H_5BC_8H_{14}$ (9-Borabicyclo[3.3.1]nonane, 9-phenyl-)	23418-91-9	**	9.16 (V)	PE	4956
$BC_{18}H_{15}^+$						
	$(C_6H_5)_3B$ (Borane, triphenyl-)	960-71-4	**	8.60±0.03	PI	4055
N^+						
	N	17778-88-0	**	14.549	PI	4355
	N_2	7727-37-9	**	24.3	EI	5617
			$N(^4S'')$	24.34	EI	5051
			N	24.4±0.25	EI	3797
	NH_3	7664-41-7	H_2+H	⩽22.5	EI	3811
	N_2O	10024-97-2	NO	20±1	PI	5170
			NO	19.494	PE	4752
N^{+2}						
	N_2	7727-37-9	N	60.3±2	EI	3797
N_2^+						
($^2\Sigma_g$)	N_2	7727-37-9	**	15.5812±0.002	S	3561
($^2\Sigma_g$)			**	15.5	PI	5479
($^2\Pi_u$)			**	16.7	PI	5479
($^2\Sigma_g$)			**	18.8	PI	5479
($^2\Sigma_g$)			**	15.58	PE	4248
($^2\Sigma_g$)			**	15.58 (V)	PE	5055
($^2\Sigma_g$)			**	15.60 (V)	PE	4022
($^2\Sigma_g$)			**	15.61	PE	4073
($A^2\Pi_u$)			**	16.695±0.002	PE	3935
($^2\Pi_u$)			**	16.70	PE	4248
($^2\Pi_u$)			**	16.73	PE	4073
($^2\Pi_u$)			**	16.98 (V)	PE	4022
($^2\Sigma_u$)			**	18.75	PE	4248
($^2\Sigma_u$)			**	18.78 (V)	PE	4022
($^2\Sigma_u$)			**	18.87 (V)	PE	3714
($^2\Sigma_u$)			**	24.6 (V)	PE	3714

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
N_2^+						
($^2\Pi_g$)	N_2	7727-37-9	**	29.0 (V)	PE	4615
($^2\Sigma_g$)			**	35 (V)	PE	3714
($^2\Sigma_g$)			**	39.8 (V)	PE	4615
($^2\Sigma_u$)			**	28-29 (V)	PE	3714
($^2\Sigma_g$)			**	32-33 (V)	PE	3714
($^2\Sigma_g$)			**	36-37 (V)	PE	3714
($^2\Sigma_g$)			**	15.58±0.02	EI	4877
			**	61.1±0.5	EI	5346
	N_2H_2	3618-05-1	H_2	14.00±0.05	EI	4896
	iso-N_2H_2	28647-38-3	H_2	13.70±0.05	EI	5248
	N_2O	10024-97-2	O	18±1	PI	5170
N_2^{+2}						
	N_2	7727-37-9	**	43	EI	3452
($^1\Sigma_g$)			**	43.1±0.5	OTH	5007
($^1\Pi_u$)			**	45.2±0.5	OTH	5007
	N_2^+	13966-04-6		28	EI	3452
HN^+						
($^2\Pi$)	NH	XXXXX-XX-X	**	13.49±0.01 (V)	PE	5011
	NH_3	7664-41-7	H_2	17.2	EI	3811
H_2N^+						
($^3B_1$)	NH_2	15194-15-7	**	11.46±0.01	PE	5011
($^1A_1$)			**	12.45±0.01	PE	5011
($^1B_1$)			**	14.27±0.01 (V)	PE	5011
	NH_3	7664-41-7	**	15.768±0.004	PI	5146
			H	15.0	EI	3811
	CH_3NH_2	74-89-5	CH_3	15.9	EI	3808
HDN^+						
	NH_2D	13587-49-0	**	15.79±0.01	PI	5146
	NHD_2	13780-28-4	**	15.90±0.01	PI	5146
D_2N^+						
	ND_2	54842-55-6	**	11.45±0.01	PE	5011
	NHD_2	13780-28-4	**	15.79±0.01	PI	5146
	ND_3	13550-49-7	**	15.89±0.01	PI	5146
H_3N^+						
	NH_3	7664-41-7	**	10.18±0.09	PE	4497
			**	10.15	PE	3719
			**	10.2	PE	4623
			**	10.85 (V)	PE	5540
			**	11.3 (V)	PE	4845
			**	10.2	EI	3811
			**	10.45	EI	4759
	NH_4Cl	12125-02-9		10.10±0.05	PI	4592
H_3N^{+2}						
	NH_3	7664-41-7	**	35.3±0.7	OTH	5266
D_3N^+						
	ND_3	13550-49-7	**	10.21	PE	3719
H_4N^+						
	$C_2H_5NH_2$	75-04-7	C_2H_2+H	12.72±0.02	EI	3487
	$(CH_3)_2NH$	124-40-3		14.05±0.05	EI	3487
	NH_4Cl	12125-02-9	Cl	10.10±0.05	PI	4592

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
HN_2^+						
	N_2H	36882-13-0		7.8±0.05	EI	5248
	N_2H_2	3618-05-1	H	10.98±0.05	EI	4896
			H	11.33±0.05	EI	5248
	N_2H_2	15626-43-4	H	10.89±0.08	EI	4903
	iso-N_2H_2	28647-38-3	H	10.77±0.05	EI	5248
$H_2N_2^+$						
	N_2H_2	3618-05-1	**	9.59±0.01	PE	4587
			**	9.59	PE	4408
			**	9.59	PE	5137
			**	9.7±0.1	EI	4896
				9.80±0.05	EI	5248
	iso-N_2H_2	28647-38-3		9.52±0.05	EI	5248
	trans-N_2H_2	15626-42-3	**	9.65±0.08	EI	4904
	N_2H_4	302-01-2	2H	10.75±0.08	EI	4904
$D_2N_2^+$						
	N_2D_2	14989-24-3	**	9.61	PE	4408
			**	9.61	PE	5137
	N_2D_2	40712-39-8	**	9.61±0.01	PE	4587
$H_3N_2^+$						
	N_2H_3	13598-46-4		7.85±0.05	EI	5248
	N_2H_4	302-01-2	H	10.86±0.05	EI	5248
$H_4N_2^+$						
	N_2H_4	302-01-2	**	8.98±0.05	PE	4521
			**	9.90 (V)	PE	4137
			**	9.91 (V)	PE	3862
			**	10.07	PE	3747
			**	10.68 (V)	PE	5381
				8.93±0.05	EI	5248
HN_3^+						
	HN_3	7782-79-8	**	10.70	PE	4500
($^2A''$)			**	10.72±0.02	PE	3670
			**	10.72 (V)	PE	5151
			**	10.74	PE	4595
($^2A'$)			**	12.24±0.02 (V)	PE	3670
$H_4N_4^+$						
	trans-$H_2NN{=}NNH_2$	54410-57-0	**	8.99 (V)	PE	4432
H_6BN^+						
	$(BH_3)(NH_3)$	xxxx-xx-x	**	9.44±0.02	PE	3699
$H_6B_3N_3^+$						
	$B_3H_6N_3$ (Borazine)	6569-51-3	**	9.88	PE	3637
			**	10.09 (V)	PE	3673
			**	10.14±0.01	PE	3506
CN^+						
	$((CH_3)_2C(CN)NO)_2$	31018-29-8		16.50	EI	4809
	$((CH_3)_2C(NO)OOCCH_3)_2$	68777-98-0		15.90	EI	4809
	PF_2CN	14118-40-2	PF_2	19.8±0.3	EI	4543
C_2N^{2+}						
	C_2H_3CN	107-12-0		41.2	EI	5337

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2N_2^+$						
	C_2N_2	460-19-5	**	13.51 (V)	PE	5525
			**	35.5±0.5	OTH	5147
$C_4N_2^+$						
	CNC≡CCN	1071-98-3	**	11.84 (V)	PE	4765
			**	11.84 (V)	PE	5525
$C_6N_2^+$						
	CNC≡CC≡CCN	16419-78-6	**	11.2	S	4254
CN_4^+						
	N_3C≡N	764-05-6	**	10.96 (V)	PE	4392
			**	11.00±0.01	PE	4746
$C_5N_4^+$						
	$C(CN)_4$	24331-09-7		13.94	PE	4417
$C_6N_4^+$						
	$(NC)_2C=C(CN)_2$	670-54-2	**	11.67±0.02	PI	5505
			**	11.765±0.008	PI	4306
			**	11.79±0.05 (V)	PE	4859
CHN^+						
	HCN	74-90-8	**	13.60 (V)	PE	5055
($^2\Pi$)			**	13.607±0.002	PE	4525
($^2\Pi$)			**	13.61±0.01	PE	3840
($^2\Sigma$)			**	14.00±0.01	PE	3840
($^2\Sigma$)			**	14.011±0.003	PE	4525
($^2\Sigma$)			**	19.06±0.01	PE	3840
($^2\Sigma$)			**	~19.7	PE	4525
($^2\Sigma$)			**	31.0 (V)	PE	4525
			**	13.71	EI	3737
	CH_3NH_2	74-89-5		12.5±0.1 (V)	PE	5457
	CH_3NC	75-05-8		12.5±0.1 (V)	PE	5457
	$((CH_3)_2C(CN)NO)_2$	31018-29-8		14.10	EI	4809
DCN^+						
($^2\Pi$)	DCN	3017-23-0	**	13.613±0.002	PE	4525
($^2\Sigma$)			**	13.999±0.003	PE	4525
CH_2N^+						
	CH_2CHCH_2CN	109-75-1		11.90	PI	5201
	$CH_2C(CH_3)CN$	126-98-7		12.05	PI	5201
	C_3H_5CN (Cyclopropanecarbonitrile)	5500-21-0		11.50	PI	5201
	C_4H_5NH (1H-Pyrrole)	109-97-7		12.40	PI	5201

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
CH_3N^+						
($^3A'$)	$CH_2{=}NH$	2053-29-4	**	~10.0	PE	4489
CH_4N^+						
	CH_3NH_2	74-89-5		10.55	EI	4878
				10.70	EI	4878
	$(CH_3)_2NH$	124-40-3		10.80	EI	4878
	$HCONHCH_3$	123-39-7		11.65	EI	4878
	$CH_3CONHCH_3$	79-16-3		11.50	EI	4878
	$NHCH_3CONH_2$	598-50-5		11.65	EI	4878
	$(NHCH_3)_2CO$	96-31-1		11.45	EI	4878
	$N(CH_3)_2CONHCH_3$	632-14-4		11.45	EI	4878
	$C_2H_5NO_2$	56-40-6		10.27±0.05	EI	3571
	$NH(CH_3)CSNH_2$	598-52-7		11.10	EI	4878
	$(NHCH_3)_2CS$	534-13-4		11.25	EI	4878
	$N(CH_3)_2CSNHCH_3$	2489-77-2		11.60	EI	4878
CH_5N^+						
	CH_3NH_2	74-89-5	**	8.80±0.02	PE	3890
			**	8.89±0.1	PE	4480
			**	9.08	PE	5510
			**	9.58 (V)	PE	4884
			**	9.58 (V)	PE	5249
			**	9.64 (V)	PE	4068
			**	9.64 (V)	PE	5063
			**	9.65 (V)	PE	4087
			**	9.45	EI	4759
$C_2H_2N^+$						
	$C_3H_4N_2$ (1*H*-Imidazole)	288-32-4	HCN	13.2	EI	3910
	C_3H_3NO (Oxazole)	288-42-6	HCO	14.1	EI	5400
$C_2H_3N^+$						
	CH_3CN	75-05-8	**	12.20±0.01	PE	4679
			**	12.21 (V)	PE	4884
			**	12.46 (V)	PE	5525
	CH_3NC	593-75-9	**	11.32 (V)	PE	5525
	CH_2CHCH_2CN	109-75-1		11.10	PI	5201
	$CH_2C(CH_3)CN$	126-98-7		11.65	PI	5201
	C_3H_5CN (Cyclopropanecarbonitrile)	5500-21-0		11.00	PI	5201
	C_4H_4NH (1H-Pyrrole)	109-97-7		11.75	PI	5201
	C_3H_3NO (Oxazole)	288-42-6	CO	11.0	EI	5400
$C_2H_4N^+$						
	$(CH_3)_2NCH{=}CHC{\equiv}CH$	2206-24-8		13.1	EI	3674
	$(C_2H_5)_2NCH{=}CHC{\equiv}CH$	1809-53-6		13.6	EI	3674
$C_2H_5N^+$						
	$CH_2{=}NCH_3$	1761-67-7	**	9.90±0.02 (V)	PE	4776
	$CH_3CH{=}NH$	20729-41-3	**	10.18±0.02 (V)	PE	4776
	C_2H_5N (Aziridine)	151-56-4	**	9.2±0.1	PE	4990
			**	9.85±0.02 (V)	PE	4133
$C_2H_6N^+$						
	$C_2H_5NH_2$	75-04-7	H	9.61±0.09	EI	5467
	$(CH_3)_2NH$	124-40-3	H	9.41±0.06	EI	5467

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_6N^+$						
	$(CH_3)_2NH$	124-40-3		10.50	EI	4878
				10.55	EI	4878
	$(CH_3)_3N$	75-50-3	CH_3	10.68±0.09	EI	5467
				11.25	EI	4878
	$C_2H_5NHCH_3$	624-78-2	CH_3	8.49±0.05	EI	5467
	n-$C_3H_7NH_2$	107-10-8	CH_3	10.2±0.3	EI	5467
	iso-$C_3H_7NH_2$	75-31-0	CH_3	8.86±0.05	EI	5467
	$(C_2H_5)_2NH$	109-89-7	C_2H_5	11.42±0.05	EI	5467
	n-$C_4H_9NH_2$	109-73-9	C_2H_5	9.49±0.09	EI	5467
	$(CH_3)_2NCH_2CH=CH_2$	2155-94-4	C_3H_5	8.58	PI	5543
	$(CH_3)_2CH(CH_2)_2NH_2$	107-85-7	*iso*-C_3H_7	9.59±0.12	EI	5467
	n-$C_5H_{11}NH_2$	110-58-7	C_3H_7	9.34±0.10	EI	5467
	n-$C_4H_9NHCH_3$	110-68-9	*iso*-C_3H_7	8.37±0.06	EI	5467
	$(CH_3)_2NCH=CHC\equiv CH$	2206-24-8	$CH=CHC\equiv CH$	12.7	EI	3674
	$(CH_3)_2NC_4H_9$	927-62-8	C_4H_9	9.75±0.10	EI	5467
	$C_2H_5NHC_4H_9$	13360-63-9	C_4H_9	8.61±0.05	EI	5467
	(*tert*-C_4H_9)$N(CH_3)_2$	918-02-5	*tert*-C_4H_9	10.96±0.07	EI	5467
	$C_6H_5CH_2N(CH_3)_2$ (Benzenemethanamine,dimethyl-)	28262-13-7	$C_6H_5CH_2$	9.62	PI	5543
	$C_6H_5CH_2CH_2N(CH_3)_2$ (Benzeneethanamine,dimethyl-)	29088-49-1	$C_6H_5C_2H_4$	8.50	PI	5543
	$CH_3C_6H_4CH_2N(CH_3)_2$ (Benzenemethanamine,N,N,*ar*-trimethyl-)	56927-89-0	C_8H_9	9.49	PI	5543
	$HCON(CH_3)_2$	68-12-2		11.60	EI	4878
	C_2H_5NHCHO	627-45-2	HCO	9.7±0.15	EI	5467
	$CH_3CON(CH_3)_2$	127-19-5		12.15	EI	4878
	$N(CH_3)_2CONH_2$	1320-50-9		11.65	EI	4878
	$N(CH_3)_2CONHCH_3$	632-14-4		11.70	EI	4878
	$((CH_3)_2N)_2CO$	632-22-4		10.10	EI	4878
	$N(CH_3)_2CSNHCH_3$	2489-77-2		10.85	EI	4878
	$((CH_3)_2N)_2CS$	2782-91-4		10.35	EI	4878
$C_2H_7N^+$						
	$C_2H_5NH_2$	75-04-7	**	8.76±0.1	PE	4480
			**	9.44±0.18 (V)	PE	3987
			**	9.471 (V)	PE	4527
			**	9.50 (V)	PE	4032
			**	9.50 (V)	PE	4068
			**	9.50 (V)	PE	5249
	$(CH_3)_2NH$	124-40-3	**	8.07	PE	3589
			**	8.15±0.1	PE	4480
			**	8.2±0.1	PE	4990
			**	8.25±0.02	PE	3890
			**	8.30	PE	5510
			**	8.85 (V)	PE	4588
			**	8.929 (V)	PE	4527
			**	8.95 (V)	PE	5540
			**	8.97 (V)	PE	5063
			**	8.83	EI	4759
C_3HN^+						
	$CH\equiv CCN$	1070-71-9	**	11.6	S	3755
			**	11.64±0.01	PI	3929
			**	11.75 (V)	PE	5525
$C_3H_2N^+$						
	CH_2CHCH_2CN	109-75-1		12.05	PI	5201
	$CH_2C(CH_3)CN$	126-98-7		12.20	PI	5201
	C_3H_5CN (Cyclopropanecarbonitrile)	5500-21-0		11.75	PI	5201
	C_4H_5NH (1H-Pyrrole)	109-97-7		12.50	PI	5201

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_3H_2N^{2+}$						
	C_2H_5CN	107-12-0	H_2+H	31.4	EI	5337
$C_3H_3N^+$						
	$CH_2=CHCN$	107-13-1	**	10.92±0.05 (V)	PE	4859
	$((CH_3)_2C(CN)NO)_2$	31018-29-8		13.65	EI	4809
$C_3H_5N^+$						
	C_2H_5CN	107-12-0	**	11.85±0.01	PE	4679
	C_3H_5N (1-Azabicyclo[1.1.0]butane)	19540-05-7	**	9.76±0.22 (V)	PE	4527
$C_3H_6N^+$						
	$(C_2H_5)_2NCH=CHC\equiv CH$	1809-53-6		12.3	EI	3674
	$(CH_2NF_2)_2CH$	21298-22-6		15.6±0.4	EI	3634
	$CH_2(NF_2)CH(NF_2)CH_3$	15403-25-5		15.6±0.3	EI	3634
	$(CH_3)_2C(NF_2)_2$	19309-63-8		15.4±0.3	EI	3634
$C_3H_7N^+$						
	$CH_2=CHCH_2NH_2$	107-11-9	**	8.76	PE	3864
			**	9.43±0.3 (V)	PE	4818
		4427-28-5	**	9.43 (V)	PE	5469
	C_3H_7N (Azetidine)	503-29-7	**	9.04±0.02 (V)	PE	4133
	C_3H_7N (Aziridine, 1-methyl-)	1072-44-2	**	9.258 (V)	PE	4527
	$C_2H_4NCH_3$ (Aziridine, 2-methyl-)	75-55-8	**	9.57±0.02 (V)	PE	4133
	$CH_3C_6H_4CH_2N(CH_3)_2$ (Benzenemethanamine,N,N,*ar*-trimethyl-)	56927-89-0	C_7H_8	10.9	PI	5543
$C_3H_8N^+$						
	$(CH_3)_3N$	75-50-3		10.55	EI	4878
	$(CH_3)_2NCH_2CH=CH_2$	2155-94-4	C_2H_3	9.55	PI	5543
	$C_6H_5CH_2N(CH_3)_2$ (Benzenemethanamine,dimethyl-)	28262-13-7	C_6H_5	9.52	PI	5543
	$C_6H_5CH_2CH_2N(CH_3)_2$ (Benzeneethanamine,dimethyl-)	29088-49-1	$C_6H_5CH_2$	8.17	PI	5543
	$CH_3C_6H_4CH_2N(CH_3)_2$ (Benzenemethanamine,N,N,*ar*-trimethyl-)	56927-89-0	C_7H_7	9.6	PI	5543
	$(CH_3)_2NCH_2Si(CH_3)_3$	18182-40-6	C_3H_9Si	9.47	PI	5543
$C_3H_9N^+$						
	$N(CH_3)_3$	75-50-3	**	7.95±0.10	PI	3729
			**	7.76±0.1	PE	4480
			**	7.83±0.02	PE	3890
			**	7.83±0.05	PE	4192
			**	7.88	PE	5510
			**	8.45±0.01 (V)	PE	3699
			**	8.45 (V)	PE	5540
			**	8.47 (V)	PE	4884
			**	8.5±0.1 (V)	PE	3661
			**	8.5 (V)	PE	5378
			**	8.54 (V)	PE	4226
			**	8.560 (V)	PE	4527
			**	8.40	EI	4759
			**	8.44 (V)	PE	5063
	n-$C_3H_7NH_2$	107-10-8	**	8.54±0.1	PE	4480
			**	9.37±0.3 (V)	PE	4818
			**	9.44 (V)	PE	4068
	iso-$C_3H_7NH_2$	75-31-0	**	8.63±0.1	PE	4480
			**	9.31 (V)	PE	4068

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_4H_3N^+$						
	$CH_2=C=CHCN$	1001-56-5	**	10.35 (V)	PE	4748
	$CH_3C\equiv CCN$	13752-78-8	**	10.78±0.02	PE	4765
			**	10.95 (V)	PE	5525
	$(CH_3)_2NCH=CHC\equiv CH$	2206-24-8	$2CH_3$	15.1	EI	3674
	$C_4H_8NCH=CHC\equiv CH$ (Pyrrolidine, 1-(1-buten-3-ynyl)-)	19352-85-3	C_4H_8	15.3	EI	3674
	$(C_2H_5)_2NCH=CHC\equiv CH$	1809-53-6		16.5	EI	3674
$C_4H_4N^+$						
	CH_2CHCH_2CN	109-75-1	H	12.30	PI	5201
	$CH_2C(CH_3)CN$	126-98-7	H	12.55	PI	5201
	C_3H_5CN (Cyclopropanecarbonitrile)	5500-21-0	H	12.10	PI	5201
	C_4H_4NH (1H-Pyrrole)	109-97-7	H	12.85	PI	5201
$C_4H_5N^+$						
	CH_2CHCH_2CN	109-75-1	**	10.22	PE	5201
	$CH_2C(CH_3)CN$	126-98-7	**	10.34	PE	5201
			**	10.37±0.02 (V)	PE	4609
			**	10.37±0.05 (V)	PE	4859
	trans-$CH_3CH=CHCN$	627-26-9	**	10.23±0.05 (V)	PE	4859
	C_3H_5CN (Cyclopropanecarbonitrile)	5500-21-0	**	10.25	PE	5201
	C_4H_4NH (1H-Pyrrole)	109-97-7	**	8.207±0.003	PI	5430
			**	8.208±0.005	PI	5274
			**	8.20±0.01	PI	4058
			**	8.23 (V)	PE	4009
				8.21	PE	5201
			**	~8.1	EI	4656
			**	8.22±0.05	EI	4316
			**	8.40±0.05	EI	3482
$C_4H_6N^+$						
	$(CH_3)_2CC\equiv N$	3225-31-8	**	8.56±0.06 (V)	PE	4609
	tert-C_4H_9CN	630-18-2		12.5	EI	4809
	$((CH_3)_2C(CN)NO)_2$	31018-29-8		9.00	EI	4809
$C_4H_7N^+$						
	C_4H_7N (1H-Pyrrole, 2,5-dihydro-)	109-96-6	**	8.61±0.05 (V)	PE	4830
$C_4H_8N^+$						
	$(CH_3)_2NCH_2CH=CH_2$	2155-94-4	CH_3	9.62	PI	5543
$C_4H_9N^+$						
	$CH_3CH=NC_2H_5$	1190-79-0	**	9.440 (V)	PE	4527
	$C_2H_3N(CH_3)_2$ (Aziridine, 2,2-dimethyl-)	2658-24-4	**	9.29±0.02 (V)	PE	4133
	C_4H_9N (Pyrrolidine)	123-75-1	**	8.77±0.02 (V)	PE	4133
			**	8.77±0.02 (V)	PE	4480
			**	8.77±0.05 (V)	PE	4830
			**	8.82±0.03 (V)	PE	4452
			**	8.82 (V)	PE	4742
$C_4H_{10}N^+$						
	$(C_2H_5)_3N$	121-44-8	C_2H_5	13.14	EI	3674

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_4H_{11}N^+$						
	$(C_2H_5)_2NH$	109-89-7	**	7.85±0.1	PE	4480
			**	8.630 (V)	PE	4527
			**	8.68 (V)	PE	4588
	$C_2H_5N(CH_3)_2$	598-56-1	**	7.74±0.05	PE	4192
	n-$C_4H_9NH_2$	109-73-9	**	9.40 (V)	PE	4068
	sec-$C_4H_9NH_2$	13952-84-6	**	8.46±0.1	PE	4480
	iso-$C_4H_9NH_2$	78-81-9	**	8.50±0.1	PE	4480
	tert-$C_4H_9NH_2$	75-64-9	**	8.46±0.1	PE	4480
$C_5H_7N^+$						
	$(CH_3)_2NCH=CHC\equiv CH$	2206-24-8	CH_3+H_2	12.4	EI	3674
	$C_4H_8NCH=CHC\equiv CH$ (Pyrrolidine, 1-(1-buten-3-ynyl)-)	19352-85-3		15.0	EI	3674
$C_5H_5N^+$						
	C_5H_5N (Pyridine)	110-86-1	**	9.25	PI	5028
			**	9.4	PI	3586
			**	9.26	PE	4867
			**	9.263	PE	3707
			**	9.51 (V)	PE	5258
			**	9.59 (V)	PE	3513
			**	9.60±0.5 (V)	PE	3685
			**	9.66 (V)	PE	4240
			**	9.7 (V)	PE	3832
			**	~9.5	EI	4530
			**	9.66±0.03	EI	3626
			**	9.70±0.05	EI	3498
			**	9.70	EI	5292
			**	9.74±0.05	EI	5413
			**	9.85±0.1	EI	4302
$C_5H_6N^+$						
	$(CH_3)_2NCH=CHC\equiv CH$	2206-24-8	CH_3	11.2	EI	3674
	$C_4H_8NCH=CHC\equiv CH$ (Pyrrolidine, 1-(1-buten-3-ynyl)-)	19352-85-3	$CH_2=CHCH_2$	11.3	EI	3674
	$(C_2H_5)_2NCH=CHC\equiv CH$	1809-53-6		13.9	EI	3674
$C_5H_7N^+$						
	$C_4H_4N(CH_3)$ (1H-Pyrrole, 1-methyl-)	96-54-8	**	8.4	EI	3580
			**	7.94±0.02	PI	5430
	C_5H_7N (Pyridine, 1,4-dihydro-)	3337-17-5	**	7.46 (V)	PE	4586
	$C_4H_4NCH_3$ (Pyrrole, 2-methyl-)	636-41-9	**	8.01±0.05	EI	3482
$C_5H_8N^+$						
	$(CH_3)_2NCH_2C\equiv CH$	7223-38-3	H	9.29	PI	5543
$C_5H_9N^+$						
	$C_4H_6N(CH_3)$ (1H-Pyrrole, 2,5-dihydro-1-methyl-)	554-15-4	**	8.21±0.05 (V)	PE	4830
	$(CH_3)_2NCH_2C\equiv CH$	7223-38-3	**	8.17	PI	5543
			**	8.22±0.05	PE	4192
	n-$C_4H_9N\equiv C$	2769-64-4	**	11.1 (V)	PE	4649
	C_5H_9N (Pyridine, 1,2,3,6-tetrahydro-)	694-05-3	**	8.64±0.05 (V)	PE	4830
$C_5H_{10}N^+$						
	$(CH_3)_2NCH_2CH=CH_2$	2155-94-4	H	9.56	PI	5543

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_{11}N^+$						
	$C_4H_8N(CH_3)$ (Pyrrolidine, 1-methyl-)	120-94-5	**	8.41±0.02 (V)	PE	4480
			**	8.41±0.02 (V)	PE	4133
			**	8.41±0.05 (V)	PE	4830
	$(CH_3)_2NCH_2CH=CH_2$	2155-94-4	**	7.84	PI	5543
			**	7.84±0.05	PE	4192
	$C_2H_5CH=NC_2H_5$	18328-91-1	**	9.45 (V)	PE	4814
	$C_2H_2N(CH_3)_3$ (Aziridine, 1,2,2-trimethyl-)	23132-47-0	**	8.68±0.02 (V)	PE	4133
	$C_5H_{11}N$ (Piperidine)	110-89-4	**	7.85±0.1	PE	4480
			**	8.05±0.05	PE	4996
			**	8.64±0.02 (V)	PE	4133
			**	8.64±0.05 (V)	PE	4830
			**	8.65±0.10 (V)	PE	5308
			**	8.66±0.03 (V)	PE	4452
			**	8.660 (V)	PE	4527
			**	8.67 (V)	PE	5540
$C_5H_{12}N^+$						
	$(C_2H_5)_3N$	121-44-8	CH_3	11.48	EI	3674
$C_5H_{13}N^+$						
	$(C_2H_5)_2(CH_3)N$	616-39-7	**	7.42±0.1	PE	4480
			**	8.32 (V)	PE	4564
	tert-$C_5H_{11}NH_2$	5813-64-9	**	8.46±0.1	PE	4480
	neo-$C_5H_{11}NH_2$	110-58-7	**	8.54±0.1	PE	4480
$C_6H_5N^+$						
	C_5H_5CN (Cyclopentadienecarbonitrile)	27659-36-5	**	9.7	EI	3476
$C_6H_6N^+$						
	$C_6H_5COC_6H_4NH_2$ (Methanone, (2-aminophenyl)phenyl-)	2835-77-0		15.0±0.3	EI	4358
	$C_6H_5COC_6H_4NH_2$ (Methanone, (3-aminophenyl)phenyl-)	2835-78-1		14.6±0.2	EI	4358
	$C_6H_5COC_6H_4NH_2$ (Methanone, (4-aminophenyl)phenyl-)	1137-41-3		15.5±0.3	EI	4358
	$C_6H_4(NH_2)COOH$ (Benzoic acid, 3-amino-)	99-05-8	CO+OH	14.26±0.2	EI	3973
	$C_6H_4(NH_2)COOH$ (Benzoic acid, 4-amino-)	150-13-0	CO+OH	14.77±0.2	EI	3973
	$C_6H_4(NO_2)NH_2$ (Benzenamine, 3-nitro-)	99-09-2	NO_2	11.23±0.1	EI	3447
	$C_6H_4(NO_2)NH_2$ (Benzenamine, 4-nitro-)	100-01-6	NO_2	11.53±0.1	EI	3447
	$C_6H_4ClNH_2$ (Benzenamine, 2-chloro-)	95-51-2	Cl	13.10	EI	4834
	$C_6H_4BrNH_2$ (Benzenamine, 2-bromo-)	615-36-1	Br	12.50	EI	4834
	$C_6H_4INH_2$ (Benzenamine, 2-iodo-)	615-43-0	I	11.60	EI	4834
$C_6H_7N^+$						
	$C_6H_5NH_2$ (Benzenamine)	62-53-3	**	7.7	PI	3586
			**	7.70±0.01	PI	4028
			**	7.65±0.02	PE	3890
			**	7.66	PE	3988
			**	7.71±0.01	PE	4154

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_7N^+$						
	$C_6H_5NH_2$	62-53-3	**	7.71	PE	3955
			**	7.80	PE	4621
			**	8.03 (V)	PE	4884
			**	8.05 (V)	PE	4106
			**	8.05 (V)	PE	4893
			**	8.10 (V)	PE	4159
			**	7.61±0.1	EI	3788
			**	7.63	EI	3845
			**	7.89±0.03	EI	3626
			**	7.89	EI	3485
			**	8.09±<0.1	EI	3735
			**	8.27±0.05	EI	5413
			**	8.35	EI	4834
			**	8.05 (V)	PE	5272
	$CH_3C_5H_4N$ (Pyridine,2-methyl-)	109-06-8	**	9.18 (V)	PE	5258
			**	9.20±0.05 (V)	PE	3685
			**	9.20 (V)	PE	5527
			**	9.37±0.05	EI	5413
			**	9.4±0.1	EI	4302
	$CH_3C_5H_4N$ (Pyridine,3-methyl-)	108-99-6	**	9.29 (V)	PE	5258
			**	9.43±0.05	EI	5413
			**	9.4±0.1	EI	4302
	$CH_3C_5H_4N$ (Pyridine,4-methyl-)	108-89-4	**	9.41 (V)	PE	5258
			**	9.46±0.05	EI	5413
			**	9.50±0.05 (V)	PE	3685
			**	9.5±0.1	EI	4302
			**	9.55±0.05	EI	3498
			**	9.55	EI	5292
	$C_6H_4(NH_2)OCH_3$ (Benzenamine, 3-methoxy-)	536-90-3	CH_2O	10.51±0.1	EI	3446
	$C_6H_4(NH_2)OCH_3$ (Benzenamine, 4-methoxy-)	104-94-9	HCHO	9.58	EI	3845
	$C_6H_5NHCOCH_3$ (Acetamide, N-phenyl-)	103-84-4		10.60	EI	4834
			$CH_2=C=O$	10.45±0.03	EI	3483
	$C_6H_5NHCONH_2$ (Urea, phenyl-)	64-10-8		10.1	EI	4834
	$(C_6H_5NH_2)(CO)_3Cr$ (Chromium, (η^6-benzenamine)tricarbonyl-)	12108-11-1		7.96±0.1	EI	3788
$C_6H_8N^+$						
	$(CH_3)_2NCH=CHC\equiv CH$	2206-24-8	H	10.1	EI	3674
$C_6H_9N^+$						
	$(CH_3)_2NCH=CHC\equiv CH$	2206-24-8	**	7.7	EI	3674
	$C_5H_6NCH_3$ (Pyridine, 1,4-dihydro-N-methyl-)	33666-44-3	**	7.39 (V)	PE	4255
			**	7.39 (V)	PE	4586
	$C_4H_2NH(CH_3)_2$ (1H-Pyrrole,2,5-dimethyl-)	625-84-3	**	7.69 (V)	PE	5387
	$C_4H_4NC_2H_5$ (Pyrrole, 2-ethyl-)	1551-06-0	**	7.97±0.05	EI	3482
$C_6H_{11}N^+$						
	$C_5H_8N(CH_3)$ (Pyridine, 1,2,3,6-tetrahydro-1-methyl-)	694-55-3	**	8.67±0.05 (V)	PE	4830
	$(CH_2=CHCH_2)_2NH$	124-02-7	**	8.79±0.3 (V)	PE	4818
			**	8.79 (V)	PE	5469

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_{11}N^+$						
	$CH_3CH=CHCH=NC_2H_5$	3653-19-8	**	9.3 (V)	PE	4814
$C_6H_{13}N^+$						
	$C_5H_{10}N(CH_3)$ (Piperidine, 1-methyl-)	626-67-5	**	7.74±0.05	PE	4996
			**	8.29±0.02 (V)	PE	4133
			**	8.29±0.02 (V)	PE	4480
			**	8.29±0.05 (V)	PE	4830
	n-$C_3H_7N=CHCH_2CH_3$	7707-70-2	**	8.55±0.2	EI	4360
	n-$C_3H_7N=C(CH_3)_2$	22023-64-9	**	8.31±0.2	EI	4360
	(*iso*-C_3H_7)$CH=NC_2H_5$	1743-56-2	**	9.25 (V)	PE	4814
	iso-$C_3H_7N=C(CH_3)_2$	3332-08-9	**	8.36±0.2	EI	4360
	iso-$C_3H_7N=CHCH_2CH_3$	28916-23-6	**	8.50±0.2	EI	4360
	$C_6H_{13}N$ (1*H*-Azepine, hexahydro-)	111-49-9	**	8.41±0.02 (V)	PE	4133
	$C_6H_{11}NH_2$ (Cyclohexanamine)	108-91-8	**	8.37±0.1	PE	4480
	$C_5H_{10}NCH_3$ (Piperidine, 2-methyl-)	109-05-7	**	7.76±0.05	PE	4996
	$C_5H_{10}NCH_3$ (Piperidine, 3-methyl-)	626-56-2	**	7.94±0.05	PE	4996
	$C_5H_{10}NCH_3$ (Piperidine, 4-methyl-)	626-58-4	**	8.01±0.05	PE	4996
$C_6H_{15}N^+$						
	$(C_2H_5)_3N$	121-44-8	**	7.11±0.1	PE	4480
			**	7.20±0.09	PE	4497
			**	8.08 (V)	PE	4564
			**	8.19±0.05 (V)	PE	3987
	n-$C_6H_{13}NH_2$	111-26-2	**	8.63±0.05	PI	5508
	(n-$C_3H_7)_2NH$	142-84-7	**	7.76±0.1	PE	4480
			**	8.59±0.3 (V)	PE	4818
	(*iso*-$C_3H_7)_2NH$	108-18-9	**	7.59±0.1	PE	4480
$C_7H_4N^+$						
	$C_6H_4(CN)COOH$ (Benzoic acid, 4-cyano-)	619-65-8	CO+OH	15.68±0.2	EI	3973
	$C_6H_4(NO_2)CN$ (Benzonitrile, 3-nitro-)	619-24-9	NO_2	12.25±0.1	EI	3447
	$C_6H_4(NO_2)CN$ (Benzonitrile, 4-nitro-)	619-72-7	NO_2	12.42±0.1	EI	3447
$C_7H_5N^+$						
	$C_6H_5N{\equiv}C$ (Benzene, isocyano-)	931-54-4	**	9.50 (V)	PE	4649
	C_6H_5CN (Benzonitrile)	100-47-0	**	9.62	PE	3938
			**	9.69	PE	4621
			**	9.70 (V)	PE	4334
			**	9.70 (V)	PE	4969
			**	9.71 (V)	PE	5259
			**	9.72 (V)	PE	5272
			**	9.7	EI	3916
			**	9.77	EI	3845
			**	10.13±0.03	EI	5080
	$C_6H_4(CN)OCH_3$ (Benzonitrile, 3-methoxy-)	1527-89-5	CH_2O	12.23±0.1	EI	3446
	$C_6H_4(CN)OCH_3$ (Benzonitrile, 4-methoxy-)	874-90-8	CH_2O	12.30±0.1	EI	3446
			HCHO	12.39	EI	3845

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_8N^+$						
	$C_6H_4(NH_2)CH_3$ (Benzenamine, 2-methyl-)	95-53-4	H	11.25±0.05	PI	4028
	$C_6H_4(NH_2)CH_3$ (Benzenamine, 4-methyl-)	106-49-0	H	11.00±0.1	PI	4028
	$C_6H_4(NH_2)C_4H_9$ (Benzenamine, 3-butyl-)	5369-17-5		12.13±0.1	EI	3629
	$C_6H_4(NH_2)C_4H_9$ (Benzenamine, 4-butyl-)	104-13-2		11.10±0.1	EI	3629
	$C_6H_5CH_2C_6H_4NH_2$ (Benzenamine, 4-(phenylmethyl)-)	1135-12-2	C_6H_5	10.6±0.1	EI	3807
	$(C_6H_4NH_2)_2CH_2$ (Benzenamine, 4,4'-methylenebis-)	101-77-9		10.6±0.1	EI	3807
	$C_6H_4(CH_3)NHCOCH_3$ (Acetamide, *N*-(2-methylphenyl)-)	120-66-1	CH_3CO	13.97±0.02	EI	3631
	$C_6H_4(CH_3)NHCOCH_3$ (Acetamide, *N*-(4-methylphenyl)-)	103-89-9	CH_3CO	14.21±0.02	EI	3631
	$C_6H_4(NH_2)CH_2CH_2OCOCH_3$ (Benzeneethanol, 4-amino-, acetate(ester))	33709-38-5		11.00	EI	3590
	$C_6H_4(NO_2)CH_2C_6H_4NH_2$ (Benzenamine, 4-[(4-nitrophenyl)methyl]-)	726-17-0		11.6±0.2	EI	3807
	$C_5H_5N(CH=CH_2)BF_4$ (Pyridinium, 1-ethenyl-tetrafluoroborate (1-))	XXXXX-XX-X		9.0±0.1	EI	5502
$C_7H_9N^+$						
	$C_6H_4(NH_2)CH_3$ (Benzenamine, 2-methyl-)	95-53-4	**	7.44±0.02	PI	4028
			**	7.45±0.02	PE	3890
			**	7.52	PE	3988
			**	7.83 (V)	PE	4106
			**	7.83 (V)	PE	5272
			**	7.84 (V)	PE	4893
	$C_6H_4(NH_2)CH_3$ (Benzenamine, 3-methyl-)	108-44-1	**	7.55	PE	3988
			**	7.66 (V)	PE	5272
			**	7.66 (V)	PE	4106
			**	7.82 (V)	PE	4893
	$C_6H_4(NH_2)CH_3$ (Benzenamine, 4-methyl-)	106-49-0	**	7.24±0.02	PI	4028
			**	7.37	PE	3988
			**	7.44±0.02	PI	4028
			**	7.62 (V)	PE	4106
			**	7.81 (V)	PE	4893
			**	7.85±0.05 (V)	PE	5013
	$C_6H_5NHCH_3$ (Benzenamine, *N*-methyl-)	100-61-8	**	7.32	PE	3988
			**	7.35±0.02	PE	3890
	$C_6H_5CH_2NH_2$ (Benzenemethanamine)	100-46-9	**	9.10±0.01 (V)	PE	4154
	$C_5H_3N(CH_3)_2$ (Pyridine, 2,5-dimethyl-)	589-93-5	**	8.80±0.05 (V)	PE	3685
	$C_5H_3N(CH_3)_2$ (Pyridine, 2,6-dimethyl-)	108-48-5	**	8.87	PE	4867
			**	9.23±0.05	EI	3498
			**	8.90±0.05 (V)	PE	3685
			**	9.23	EI	5292
	$(CH_3)_2C_5H_3N$ (Pyridine,3,4-dimethyl-)	583-58-4	**	9.15 (V)	PE	5527
	$(CH_3)_2C_5H_3N$ (Pyridine,3,5-dimethyl-)	591-22-0	**	9.25 (V)	PE	5527
	$C_6H_4(NH_2)C_4H_9$ (Benzenamine, 3-butyl-)	5369-17-5	$CH_2=CHCH_3$	10.10±0.1	EI	3629

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_9N^+$						
	$C_6H_4(NH_2)C_4H_9$ (Benzenamine, 4-butyl-)	104-13-2	$CH_2=CHCH_3$	9.37±0.1	EI	3629
	$C_6H_4(CH_3)NHCOCH_3$ (Acetamide, *N*-(2-methylphenyl)-)	120-66-1	$CH_2=C=O$	10.05±0.02	EI	3631
	$C_6H_4(CH_3)NHCOCH_3$ (Acetamide, *N*-(4-methylphenyl)-)	103-89-9	$CH_2=C=O$	10.12±0.02	EI	3631
$C_7H_{10}N^+$						
	$(C_2H_5)_2NCH=CHC\equiv CH$	1809-53-6	CH_3	13.1	EI	3674
$C_7H_{11}N^+$						
	$C_7H_{11}N$ (1-Azabicyclo[2.2.2]oct-2-ene)	13929-94-7	**	8.02	PE	5185
	$C_7H_{11}N$ (2-Azabicyclo[2.2.2]oct-5-ene)	3693-58-1	**	8.35±0.05 (V)	PE	4830
	$C_7H_{10}NH$ (2-Azabicyclo[3.2.1]oct-6-ene)	71017-41-9	**	8.60 (V)	PE	5481
	$C_6H_{11}N\equiv C$ (Cyclohexane, isocyano-)	931-53-3	**	11.0 (V)	PE	4649
	$C_4H_2N(CH_3)_3$ (Pyrrole, 1,3,4-trimethyl-)	30144-12-8	**	7.3	EI	3580
$C_7H_{13}N^+$						
	$C_5H_7(N(CH_3)_2)$ (2-Cyclopenten-1-amine, N,N-dimethyl-)	13044-51-4	**	9.32±0.05 (V)	PE	4954
	$(CH_2=CHCH_2)_2(CH_3)N$	2424-01-3	**	8.41±0.3 (V)	PE	4818
	$C_7H_{13}N$ (1-Azabicyclo[2.2.2]octane)	100-76-5	**	7.50±0.09	PE	4497
			**	8.06±0.015 (V)	PE	4286
	$C_7H_{13}N$ (2-Azabicyclo[2.2.2]octane)	280-38-6	**	8.22±0.05 (V)	PE	4830
	$C_7H_{13}N$ (4-Azabicyclo[2.2.2]octane)	100-76-5	**	7.50±0.1	PE	4480
	$C_5H_7N(CH_3)_2$ (1-Cyclopenten-1-amine,N,N-dimethyl-)	4840-12-4	**	7.46 (V)	PE	5185
$C_7H_{15}N^+$						
	$C_6H_{12}NCH_3$ (1*H*-Azepine, hexahydro-1-methyl-)	1192-95-6	**	8.29±0.02 (V)	PE	4133
	$C_5H_9N(CH_3)_2$ (Cyclopentanamine,N,N-dimethyl-)	18636-91-4	**	8.34 (V)	PE	5185
$C_8H_6N^+$						
	$C_6H_4(CN)C_4H_9$ (Benzonitrile, 3-butyl-)	20651-74-5		12.90±0.1	EI	3629
	$C_6H_4(CN)C_4H_9$ (Benzonitrile, 4-butyl-)	20651-73-4		12.71±0.1	EI	3629
$C_8H_7N^+$						
	$C_6H_5CH_2CN$ (Benzeneacetonitrile)	140-29-4	**	9.34	EI	4934
	$C_6H_5CH_2N\equiv C$ (Benzene, (isocyanomethyl)-)	10340-91-7	**	9.47 (V)	PE	4649
	$C_6H_4(CH_3)CN$ (Benzonitrile,2-methyl-)	529-19-1	**	9.38 (V)	PE	5272
			**	9.40 (V)	PE	5259
	$C_6H_4(CH_3)CN$ (Benzonitrile,3-methyl-)	620-22-4	**	9.34 (V)	PE	5259
			**	9.40 (V)	PE	5272
	$C_6H_4(CH_3)CN$ (Benzonitrile,4-methyl-)	104-85-8	**	9.38 (V)	PE	5259

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_{14}N^+$						
	$C_{10}H_{18}N_2O_2$	67139-53-1	$C_2H_4NO_2$	10.2±0.3	EI	5401
	(8-Azabicyclo[3.2.1]octan-3-ol,8-methyl-methylcarbamate(ester),*exo*-)					
	$C_{15}H_{20}N_2O_2$	29364-21-4	$C_7H_6NO_2$	9.2±0.3	EI	5401
	(8-Azabicyclo[3.2.1]octan-3-ol,8-methyl-phenylcarbamate(ester)-*exo*-)					
	$C_{15}H_{20}N_2OS$	67139-54-2	C_7H_6NOS	8.4±0.3	EI	5401
	(Carbamothioic acid,phenyl-0-(8-methyl-8-azabicyclo[3.2.1]oct-3-yl)ester,*endo*-)					
	$C_{15}H_{20}N_2OS$	67139-55-3	C_7H_6NOS	8.6±0.3	EI	5401
	(Carbamothioic acid,phenyl-0-(8-methyl-8-azabicyclo[3.2.1]oct-3-yl)ester,*exo*-)					
	$C_9H_{17}NO_3S$	35130-97-3	CH_3O_3S	9.1±0.3	EI	5401
	(8-Azabicyclo[3.2.1]octan-3-ol,8-methyl-methanesulfonate(ester),*endo*-)					
	$C_9H_{17}NO_3S$	35136-87-9	CH_3O_3S	9.6±0.3	EI	5401
	(8-Azabicyclo[3.2.1]octan-3-ol,8-methyl-methanesulfonate(ester),*exo*-)					
	$C_8H_{14}NCl$	13514-03-9	Cl	9.1±0.3	EI	5401
	(8-Azabicyclo[3.2.1]octane,3-chloro-8-methyl-*endo*-)					
	$C_8H_{14}NCl$	2292-12-8	Cl	9.5±0.3	EI	5401
	(8-Azabicyclo[3.2.1]octane,3-chloro-8-methyl-*exo*-)					
	$C_8H_{14}NBr$	27809-79-6	Br	9.1±0.3	EI	5401
	(8-Azabicyclo[3.2.1]octane,3-bromo-8-methyl-*endo*-)					
	$C_8H_{14}NBr$	2292-11-7	Br	8.9±0.3	EI	5401
	(8-Azabicyclo[3.2.1]octane,3-bromo-8-methyl-*exo*-)					
$C_8H_{15}N^+$						
	$C_7H_{12}N(CH_3)$	55100-40-8	**	7.78±0.05 (V)	PE	4830
	(2-Azabicyclo[2.2.2]octane,2-methyl-)					
	tert-$C_4H_9CH{=}NCH_2CH{=}CH_2$	68003-54-3	**	9.31 (V)	PE	4968
	tert-$C_4H_9CH{=}NCH{=}CHCH_3$	68003-65-6	**	8.69 (V)	PE	4968
	$C_8H_{15}N$	284-18-4	**	8.50 (V)	PE	4136
	(9-Azabicyclo[4.2.1]nonane)					
	$C_7H_{12}NCH_3$	45651-41-0	**	8.06±0.015 (V)	PE	4286
	(1-Azabicyclo[2.2.2]octane, 4-methyl-)					
	$C_6H_9N(CH_3)_2$	13815-46-8	**	7.56 (V)	PE	5185
	(1-Cyclohexen-1-amine,N,N-dimethyl-)					
	$((CH_2)_4N)CH{=}C(CH_3)_2$	2403-57-8	**	7.66±0.03 (V)	PE	4452
	(Pyrrolidine, 1-(2-methyl-1-propenyl)-)					
$C_8H_{17}N^+$						
	$C_6H_{11}N(CH_3)_2$	XXXXX-XX-X	**	8.09 (V)	PE	5185
	(Cyclohexanamine,N,N-diethyl-)					
	$((CH_2)_4N)CH_2CH(CH_3)_2$	39198-81-7	**	8.17±0.03 (V)	PE	4452
	(Pyrrolidine, 1-(2-methylpropyl)-)					
$C_9H_7N^+$						
	C_9H_7N	119-65-3	**	8.50	PE	3638
	(Isoquinoline)					
			**	8.50	PE	4515
			**	8.54 (V)	PE	3723
	C_9H_7N	91-22-5	**	8.3	PI	3586
	(Quinoline)					
			**	8.62	PE	3638
			**	8.62	PE	4066
			**	8.62 (V)	PE	3723
$C_9H_9N^+$						
	$C_6H_5CH(N{\equiv}C)CH_3$	21872-33-3	**	9.37 (V)	PE	4649
	(Benzene, (1-isocyanoethyl)-(R)-)					
	$C_6H_4C_2H_2NCH_3$	603-76-9	**	7.74±0.03	PI	5552
	(1H-Indole,1-methyl-)					
			**	7.48±0.015	PE	5522
			**	7.71 (V)	PE	4586
	$CH_3C_6H_4C_2H_2NH$	95-20-5	**	7.44±0.015	PE	5522
	(1H-Indole,2-methyl-)					

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_9H_9N^+$						
	$CH_3C_6H_3C_2H_2NH$ (1H-Indole,3-methyl-)	83-34-1	**	7.54±0.015	PE	5522
	$CH_3C_6H_3C_2H_2NH$ (1H-Indole,4-methyl-)	16096-32-5	**	7.60±0.015	PE	5522
	$C_6H_4C_2H(CH_3)NH$ (1H-Indole,6-methyl-)	3420-02-8	**	7.54±0.015	PE	5522
	$C_6H_4C_2H(CH_3)NH$ (1H-Indole,7-methyl-)	933-67-5	**	7.53±0.015	PE	5522
	$C_8H_6NCH_3$ (2H-Isoindole, 2-methyl-)	33804-84-1	**	7.12 (V)	PE	4935
			**	7.22 (V)	PE	4586
$C_9H_{11}N^+$						
	$C_9H_{11}N$ (Isoquinoline, 1,2,3,4-tetrahydro-)	91-21-4	**	8.57±0.05 (V)	PE	4830
	$C_9H_{11}N$ (Quinoline, 1,2,3,4-tetrahydro-)	635-46-1	**	7.00±0.02	PE	3890
$C_9H_{13}N^+$						
	$C_6H_4CH_3(N(CH_3)_2)$ (Benzeneamine,N,N,3-trimethyl-)	121-72-2	**	7.24 (V)	PE	5272
	$C_6H_4CH_3(N(CH_3)_2)$ (Benzeneamine,N,N,2-trimethyl-)	609-72-3	**	7.92 (V)	PE	5272
	$C_7H_{12}NC{\equiv}CH$ (1-Azabicyclo[2.2.2]octane, 4-ethynyl-)	52547-86-1	**	8.30±0.015 (V)	PE	4286
	$C_6H_4CH_3N(CH_3)_2$	99-97-8	**	6.95	PE	3988
			**	6.9±0.1	PE	4401
	(Benzenamine, N,N,4-trimethyl-)			7.27 (V)	PE	5272
	$C_6H_2(CH_3)_3NH_2$ (Benzenamine, 2,4,6-trimethyl-)	88-05-1	**	7.15	PE	3988
	$C_6H_3(CH_3)_2NHCH_3$ (Benzenamine, *N*,2,6-trimethyl-)	767-71-5	**	7.34	PE	3988
	$C_6H_4(CH_3)N(CH_3)_2$ (Benzenamine, *N*,*N*,2-trimethyl-)	609-72-3	**	7.40±0.02	PE	3890
			**	7.44	PE	3988
			**	7.92 (V)	PE	4106
	$C_6H_4(CH_3)N(CH_3)_2$ (Benzenamine, *N*,*N*,3-trimethyl-)	121-72-2	**	7.06	PE	3988
			**	7.24 (V)	PE	4106
			**	7.27 (V)	PE	4106
	$C_6H_5CH_2CH_2NHCH_3$ (Benzeneethanamine, N-methyl-)	589-08-2	**	8.66±0.20 (V)	PE	4672
	$C_6H_5CH_2CH(NH_2)CH_3$ (Benzeneethanamine, α-methyl- (±)-)	300-62-9	**	8.99±0.06 (V)	PE	4758
			**	8.91±0.14 (V)	PE	4672
	$C_6H_5CH_2N(CH_3)_2$ (Benzenemethanamine,dimethyl-)	103-83-3	**	7.69	PI	5543
				7.69±0.05	PE	4192
	$C_6H_5(CH_2)_3NH_2$ (Benzenepropanamine)	2038-57-5	**	8.89±0.12 (V)	PE	4672
	$C_5H_4NC(CH_3)_3$ (Pyridine, 4-(1,1-dimethylethyl)-)	3978-81-2	**	9.30±0.05 (V)	PE	3685
$C_9H_{15}N^+$						
	$(CH_2{=}CHCH_2)_3N$	102-70-5	**	8.30±0.3 (V)	PE	4818
			**	8.30 (V)	PE	5469
	$C_9H_{15}N$ (1-Azatricyclo[3.3.1.$1^{3,7}$]decane)	281-27-6	**	7.57±0.02	PE	4217
	$C_4H_8NC_5H_7$ (Pyrrolidine, 1-(1-cyclopenten-1-yl)-)	7148-07-4	**	7.10±0.05 (V)	PE	4654

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_9H_{17}N^+$						
	$(CH_3)_2C{=}NC_6H_{11}$	XXXXX-XX-X	**	8.23	PE	5589
	$C_8H_{14}NCH_3$ (9-Azabicyclo[3.3.1]nonane,9-methyl-)	491-25-8	**	7.84 (V)	PE	5091
	$C_7H_{12}NC_2H_5$ (1-Azabicyclo[2.2.2]octane, 4-ethyl-)	45732-65-8	**	8.05±0.015 (V)	PE	4286
	$C_6H_{11}N{=}C(CH_3)_2$ (Cyclohexanamine, *N*-(1-methylethylidene)-)	6407-36-9	**	8.23	PE	4043
	$((CH_2)_5N)CH{=}C(CH_3)_2$ (Piperidine, 1-(2-methyl-1-propenyl)-)	673-33-6	**	7.93±0.03 (V)	PE	4452
$C_9H_{19}N^+$						
	$((CH_2)_5N)CH_2CH(CH_3)_2$ (Piperidine, 1-(2-methylpropyl)-)	10315-89-6	**	8.16±0.03 (V)	PE	4452
	$C_5H_7N(CH_3)_4$ (Piperidine, 2,2,6,6-tetramethyl-)	768-66-1	**	7.39	PE	4278
$C_9H_{21}N^+$						
	$(n\text{-}C_3H_7)_3N$	102-69-2	**	7.03±0.09	PE	4497
			**	7.03±0.1	PE	4480
			**	8.04±0.3 (V)	PE	4818
	$tert\text{-}C_5H_{11}(tert\text{-}C_4H_9)NH$	58471-09-3	**	7.81±0.1	PE	4480
$C_{10}H_7N^+$						
	$C_{10}H_7N$ (Pyrrolo[2,1,5-*cd*]indolizine)	209-81-4	**	7.63 (V)	PE	4812
$C_{10}H_9N^+$						
	$C_{10}H_7(NH_2)$ (1-Naphthalenamine)	134-32-7	**	7.3	PI	3586
			**	7.46 (V)	PE	4466
	$C_9H_6NCH_3$ (Isoquinoline, 3-methyl-)	1125-80-0	**	8.11	PE	4515
			**	7.74±0.02	PE	4143
	$C_{10}H_7NH_2$ (2-Naphthalenamine)	91-59-8	**	7.10±0.02	PE	4143
			**	7.2	PI	3586
			**	7.56 (V)	PE	4466
	$C_{10}H_9N$ (Naphthalen-1,4-imine,1,4-dihydro-)	5176-20-5	**	8.25±0.05 (V)	PE	4830
$C_{10}H_{11}N^+$						
	$C_6H_5CH{=}NCH{=}CHCH_3$ (z)	53146-18-2	**	8.33 (V)	PE	4968
	$C_{10}H_{11}N$ (Naphthalen-1,4-imine, 1,2,3,4-tetrahydro-)	5176-30-7	**	8.44±0.05 (V)	PE	4830
	$C_6H_5CH{=}NCH_2CH{=}CH_2$ (2-Propen-1-amine, N-(phenylmethylene)-(E)-)	68003-55-4	**	8.87 (V)	PE	4968
$C_{10}H_{13}N^+$						
	$C_9H_{10}N(CH_3)$ (Isoquinoline, 1,2,3,4-tetrahydro-2-methyl-)	1612-65-3	**	8.60±0.05 (V)	PE	4830
$C_{10}H_{14}N^+$						
	$CH_3C_6H_4CH_2N(CH_3)_2$ (Benzenemethanamine,N,N,*ar*-trimethyl-)	56927-89-0	H	9.5	PI	5543
$C_{10}H_{15}N^+$						
	$C_9H_{13}N{=}CH_2$ (1-Azatricyclo[3.3.1.1^{3,7}]decane, 4-methylene-)	42949-22-4	**	7.78±0.02 (V)	PE	4217
	$C_6H_4(NH_2)C_4H_9$ (Benzenamine, 3-butyl-)	5369-17-5	**	7.51±0.1	EI	3629

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$C_{10}H_{15}N^+$						
	$C_6H_4(NH_2)C_4H_9$ (Benzenamine, 4-butyl-)	104-13-2	**	7.61±0.1	EI	3629
	$C_6H_5N(C_2H_5)_2$ (Benzenamine, *N*,*N*-diethyl-)	91-66-7	**	6.95±0.02	PE	3890
	$C_6H_2(CH_3)_3NHCH_3$ (Benzenamine, *N*,2,4,6-tetramethyl-)	13021-14-2	**	7.22	PE	3988
	$C_6H_3(CH_3)_2N(CH_3)_2$ (Benzenamine, *N*,*N*,2,6-tetramethyl-)	769-06-2	**	7.30±0.02	PE	3890
			**	7.42	PE	3988
	$C_6H_5CH_2CH_2N(CH_3)_2$ (Benzeneethanamine, N,N-dimethyl-)	1126-71-2	**	7.70±0.05	PE	4192
			**	8.35±0.14 (V)	PE	4672
	$C_6H_5CH_2CH_2N(CH_3)_2$ (Benzeneethanamine,dimethyl-)	29088-49-1	**	7.70	PI	5543
	$CH_3C_6H_4CH_2N(CH_3)_2$ (Benzenemethanamine,N,N,*ar*-trimethyl-)	56927-89-0	**	7.61	PI	5543
	$C_6H_5CH_2CH(CH_3)NHCH_3$ (Benzenethanamine, N,α-dimethyl-)	7632-10-2	**	8.60±0.20 (V)	PE	4672
$C_{10}H_{17}N^+$						
	$((CH_2)_4N)(C_6H_9)$ (Pyrrolidine, 1-(1-cyclohexen-1-yl)-)	1125-99-1	**	7.10±0.03 (V)	PE	4452
			**	7.14±0.05	PE	4654
	$C_5H_{10}NC_5H_7$ (Piperidine, 1-(1-cyclopenten-1-yl)-)	1614-92-2	**	7.4±0.05 (V)	PE	4654
$C_{10}H_{19}N^+$						
	$((CH_2)_4N)(C_6H_{11})$ (Pyrrolidine, 1-cyclohexyl-)	7731-02-4	**	7.96±0.03 (V)	PE	4452
	$C_7H_{12}N(iso\text{-}C_3H_7)$ (1-Azabicyclo[2.2.2]octane, 4-(1-methylethyl)-)	45842-68-0	**	7.99±0.015 (V)	PE	4286
	$C_8H_{14}NC_2H_5$ (9-Azabicyclo[3.3.1]nonane,9-ethyl-)	64776-29-0	**	7.76 (V)	PE	5091
	$C_{10}H_{19}N$ (*1-Azabicyclo[3.3.3]undecane*)	31023-92-4	**	6.94±0.09	PE	4497
$C_{10}H_{23}N^+$						
	$n\text{-}C_{10}H_{21}NH_2$	2016-57-1	**	8.63±0.05	PI	5508
$C_{11}H_7N^+$						
	$C_{10}H_7CH$ (*1-Naphthalenecarbonitrile*)	86-53-3	**	8.61 (V)	PE	4466
	$C_{10}H_7CN$ (2-Naphthalenecarbonitrile)	613-46-7	**	8.64 (V)	PE	4466
$C_{11}H_{11}N^+$						
	$C_{11}H_9(NH_2)$ (1,4-Methanonaphthalene-5-amine, 1,4-dihydro-)	61346-80-3	**	7.84±0.05 (V)	PE	5019
	$C_{11}H_9(NH_2)$ (1,4-Methanonaphthalene-6-amine, 1,4-dihydro-)	35391-95-8	**	7.60±0.05	PE	5019
	$C_{10}H_8N(CH_3)$ (Naphthalen-1,4-imine,1,4-dihydro-9-methyl-)	55258-00-9	**	8.18±0.05 (V)	PE	4830
$C_{11}H_{13}N^+$						
	$C_{10}H_{10}N(CH_3)$ (Napthalen-1,4-imine, 1,2,3,4-tetrahydro-9-methyl-)	55257-99-3	**	8.33±0.05 (V)	PE	4830
	$C_6H_4(CN)C_4H_9$ (Benzonitrile, 3-butyl-)	20651-74-5	**	9.77±0.1	EI	3629
	$C_6H_4(CN)C_4H_9$ (Benzonitrile, 4-butyl-)	20651-73-4	**	10.08±0.1	EI	3629
	$C_{11}H_{13}N$ (2*H*-1,4-Ethanoquinoline, 3,4-dihydro-)	4363-25-1	**	7.85±0.02	PE	3890

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{11}H_{13}N^+$						
	$C_6H_5CH=NCH=C(CH_3)_2$ (2-Propen-1-amine, 2-methyl-N-(phenylmethylene)-(E)-)	68003-68-9	**	8.05 (V)	PE	4968
$C_{11}H_{17}N^+$						
	$C_7H_8N(tert\text{-}C_4H_9)$ (2-Azabicyclo[3.2.1]octa-3,6-diene,2-(1,1-dimethylethyl)-)	71017-51-1	**	7.06 (V)	PE	5481
	$C_6H_2(CH_3)_3N(CH_3)_2$ (Benzenamine, *N*,*N*,2,4,6-pentamethyl-)	13021-15-3	**	7.24	PE	3988
$C_{11}H_{19}N^+$						
	$C_5H_{10}NC_6H_9$ (Piperidine, 1-(1-cyclohexen-1-yl)-)	2981-10-4	**	7.44±0.03 (V)	PE	4452
$C_{11}H_{21}N^+$						
	$((CH_2)_5N)(C_6H_{11})$ (Piperidine, 1-cyclohexyl-)	3319-01-5	**	7.93±0.03 (V)	PE	4452
	$C_7H_{12}N(tert\text{-}C_4H_9)$ (1-Azabicyclo[2.2.2]octane, 4-(1,1-dimethylethyl)-)	45980-26-5	**	7.97±0.015 (V)	PE	4286
	$C_7H_{12}N(tert\text{-}C_4H_9)$ (2-Azabicyclo[3.2.1]octane,2-(1,1-dimethylethyl)-)	71017-52-2	**	8.30 (V)	PE	5481
	$C_8H_{14}NCH(CH_3)_2$ (9-Azabicyclo[3.3.1]nonane,9-(1-methylethyl)-)	64776-33-6	**	7.68 (V)	PE	5091
	$C_8H_{14}NCH_2CH_2CH_3$ (9-Azabicyclo[3.3.1]nonane,9-propyl-)	73320-99-7	**	7.71 (V)	PE	5091
$C_{12}H_9N^+$						
	$C_{11}H_9(CN)$ (1,4-Methanonaphthalene-5-carbonitrile, 1,4-dihydro-)	61346-79-0	**	8.94±0.05	PE	5019
			**	8.94±0.05 (V)	PE	5235
	$C_{11}H_9(CN)$ (1,4-Methanonaphthalene-6-carbonitrile, 1,4-dihydro-)	16513-60-3	**	8.87±0.05 (V)	PE	5019
	$(C_6H_4)_2NH$ (9H-Carbazole)	86-74-8	**	7.57±0.03	PI	5552
			**	7.50 (V)	PE	5619
			**	7.68 (V)	PE	4159
	$C_{11}H_9CN$ (1,4-Methanonaphthalene-2-carbonitrile, 1,4-dihydro-)	71906-57-5	**	8.77±0.05 (V)	PE	5235
			**	8.77 (V)	PE	4835
	$C_{11}H_9CN$ (1,4-Methanonaphthalene-6-carbonitrile, 1,4-dihydro-)	16513-60-3	**	8.85±0.05 (V)	PE	5235
	$C_{12}H_9N$ (Pyrido[2,1,6-*de*]quinolizine)	519-61-9	**	5.87 (V)	PE	4812
$C_{12}H_{11}N^+$						
	$(C_6H_5)_2NH$ (Benzenamine, *N*-phenyl-)	122-39-4	**	7.14±0.03	PI	4028
			**	7.18±0.01	PE	4154
			**	7.44 (V)	PE	4159
	$C_6H_5C_6H_4NH_2$ ([1,1'-Biphenyl]-2-amine)	90-41-5	**	7.28±0.02	PE	3702
$C_{12}H_{13}N^+$						
	$C_{10}H_7N(CH_3)_2$ (2-Naphthalenamine, N,N-dimethyl-)	2436-85-3	**	7.12 (V)	PE	4466
	$C_{10}H_7N(CH_3)_2$ (1-Naphthalenamine, N,N-dimethyl-)	86-56-6	**	7.59 (V)	PE	4466
			**	7.00±0.02	PE	4143
$C_{12}H_{15}N^+$						
	$C_{12}H_{15}N$ (1*H*,5*H*-Benzo[*ij*]quinolizine, 2,3,6,7-tetrahydro-)	479-59-4	**	6.65±0.02	PE	3890

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{12}H_{23}N^+$						
	$C_8H_{14}NC(CH_3)_3$ (9-Azabicyclo[3.3.1]nonane,9-(1,1-dimethylethyl)-)	64776-36-9	**	7.30 (V)	PE	5091
$C_{12}H_{27}N^+$						
	$(n\text{-}C_4H_9)_3N$	102-82-9	**	6.98±0.1	PE	4480
$C_{13}H_9N^+$						
	$C_{13}H_9N$ (Acridine)	260-94-6	**	7.8	PI	3586
			**	7.85 (V)	PE	5436
			**	7.88±0.02 (V)	PE	4430
			**	8.13±0.02 (V)	PE	4551
	$C_{13}H_9N$ (Benzo[*f*]quinoline)	85-02-9	**	8.14±0.02 (V)	PE	4430
	$C_{13}H_9N$ (Benzo[*h*]quinoline)	230-27-3	**	8.04±0.02 (V)	PE	4430
	$C_{13}H_9N$ (Phenanthridine)	229-87-8	**	8.31±0.02 (V)	PE	4430
$C_{13}H_{10}N^+$						
	$C_6H_5C(=CH_2)C_5H_4N$ (Pyridine,2-(1-phenylethenyl)-)	XXXXX-XX-X	H	9.5	EI	5570
	$C_6H_5C(=CH_2)C_5H_4N$ (Pyridine,3-(1-phenylethenyl)-)	XXXXX-XX-X	H	9.9	EI	5570
	$C_6H_5C(=CH_2)C_5H_4N$ (Pyridine,4-(1-phenylethenyl)-)	54813-56-8	H	10.0	EI	5570
	$C_6H_4(CH_3)C(=CH_2)C_5H_4N$ (Pyridine,2-[1-(3-methylphenyl)ethenyl]-)	XXXXX-XX-X	CH_3	9.7	EI	5570
	$C_6H_4(CH_3)C(=CH_2)C_5H_4N$ (Pyridine,2-[1-(4-methylphenyl)ethenyl]-)	XXXXX-XX-X	CH_3	9.8	EI	5570
	$C_6H_4FC(=CH_2)C_5H_4N$ (Pyridine,2-[1-(2-fluorophenyl)ethenyl)-)	XXXXX-XX-X	F	9.5	EI	5570
	$C_6H_4ClC(=CH_2)C_5H_4N$ (Pyridine,2-[1-(2-chlorophenyl)ethenyl]-)	XXXXX-XX-X	Cl	9.2	EI	5570
	$C_6H_4ClC(=CH_2)C_5H_4N$ (Pyridine,2-[1-(4-chlorophenyl)ethenyl]-)	XXXXX-XX-X	Cl	9.9	EI	5570
	$C_6H_4BrC(=CH_2)C_5H_4N$ (Pyridine,2-[1-(2-bromophenyl)ethenyl]-)	XXXXX-XX-X	Br	9.0	EI	5570
	$C_6H_4BrC(=CH_2)C_5H_4N$ (Pyridine,2-[1-(4-bromophenyl)ethenyl]-)	XXXXX-XX-X	Br	9.7	EI	5570
	$C_6H_4IC(=CH_2)C_5H_4N$ (Pyridine,2-[1-(2-iodophenyl)ethenyl]-)	XXXXX-XX-X	I	8.8	EI	5570
$C_{13}H_{11}N^+$						
	$C_{13}H_{11}N$ (Acridine, 9,10-dihydro-)	92-81-9	**	7.33 (V)	PE	4159
	$C_6H_5CH=NC_6H_5$ (Benzenamine, N-(phenylmethylene)-)	538-51-2	**	8.25 (V)	PE	4475
			**	8.27±0.05 (V)	PE	4333
	$C_{12}H_8NCH_3$ (2H-Benz[*f*]isoindole, 2-methyl-)	59788-14-6	**	6.56 (V)	PE	4935
	$C_6H_5C(=CH_2)C_5H_4N$ (Pyridine,2-(1-phenylethenyl)-)	XXXXX-XX-X	**	8.65	EI	5570
	$C_6H_5C(=CH_2)C_5H_4N$ (Pyridine,3-(1-phenylethenyl)-)	XXXXX-XX-X	**	8.73	EI	5570
	$C_6H_5C(=CH_2)C_5H_4N$ (Pyridine,4-(1-phenylethenyl)-)	54813-56-8	**	8.90	EI	5570
	$C_6H_5CH=CHC_5H_4N$ (Pyridine, *trans*-2-(2-phenylethenyl)-)	538-49-8	**	7.99±0.05 (V)	PE	4377
	$C_6H_5CH=CHC_5H_4N$ (Pyridine, *trans*-3-(2-phenylethenyl)-)	5097-91-6	**	8.10±0.05 (V)	PE	4377

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{13}H_{11}N^+$						
	$C_6H_5CH=CHC_5H_4N$ (Pyridine, *trans*-4-(2-phenylethenyl)-)	5097-93-8	**	8.34±0.05 (V)	PE	4377
$C_{13}H_{12}N^+$						
	$(C_6H_4NH_2)_2CH_2$ (Benzenamine, 4,4′-methylenebis-)	101-77-9	NH_2	10.7±0.1	EI	3807
$C_{13}H_{13}N^+$						
	$(C_6H_5)_2NCH_3$ (Benzenamine,N-methyl-N-phenyl-)	552-82-9	**	6.94±0.03	PI	5552
			**	7.33 (V)	PE	4159
	$C_6H_5CH_2C_6H_4NH_2$ (Benzenamine, 4-(phenylmethyl)-)	1135-12-2	**	7.67±0.05	EI	3806
$C_{13}H_{17}N^+$						
	$C_7H_{12}NC_6H_5$ (1-Azabicyclo[2.2.2]octane, 4-phenyl-)	51069-11-5	**	8.13±0.015 (V)	PE	4286
$C_{14}H_9N^+$						
	$C_{14}H_9N$ (Cyclopent[4,5]azepino[2,1,7-*cd*]pyrrolizine)	27884-38-4	**	7.06 (V)	PE	4812
$C_{14}H_{11}N^+$						
	$C_{13}H_8NCH_3$ (Acridine,9-methyl-)	611-64-3	**	7.68 (V)	PE	5436
	$C_6H_5CH_2C_6H_4CN$ (Benzonitrile, 4-(phenylmethyl)-)	23450-31-9	**	9.25±0.05	EI	3806
	$C_{14}H_{11}N$ (5H-Dibenzo [*b,f*]azepine)	256-96-2	**	6.78	PE	4611
$C_{14}H_{13}N^+$						
	$C_6H_5N=CHC_6H_4CH_3$ (Benzenamine,N-[(3-methylphenyl)methylene]-)	6906-25-8	**	8.07 (V)	PE	5486
	$C_{14}H_{13}N$ (5*H*-Dibenz[*b,f*]azepine, 10,11-dihydro-)	494-19-9	**	7.25 (V)	PE	4159
	$C_6H_4(CH_3)C(=CH_2)C_5H_4N$ (Pyridine,2-[1-(3-methylphenyl)ethenyl]-)	XXXXX-XX-X	**	8.48	EI	5570
	$C_6H_4(CH_3)C(=CH_2)C_5H_4N$ (Pyridine,2-[1-(4-methylphenyl)ethenyl]-)	XXXXX-XX-X	**	8.45	EI	5570
	$C_6H_4(CH_3)CH=CHC_5H_4N$ (Pyridine, *trans*-3-[2-(4-methylphenyl)ethenyl]-)	6892-33-7	**	7.90±0.05 (V)	PE	4377
	$C_6H_5CH=C(CH_3)C_5H_4N$ (Pyridine, *trans*-4-(1-methyl-2-phenylethenyl)-)	18150-12-4	**	8.39±0.05 (V)	PE	4377
	$C_6H_4(CH_3)N=CHC_6H_5$ (Benzenamine,2-methyl-N-(phenylmethylene)-)	5877-55-4	**	8.06 (V)	PE	5486
$C_{14}H_{15}N^+$						
	$C_6H_4(CH_2CH_2)_2C_4H_2NH$ (15-Azatricyclo[8.2.2.1^{4,7}]pentadeca-4,6,10,12,13-pentaene)	51053-69-1	**	7.26	PE	5575
	$C_6H_5CH_2CH_2C_6H_4NH_2$ (Benzenamine, 4-(2-phenylethyl)-)	13024-49-2	**	7.55±0.05	EI	3806
$C_{15}H_9N^+$						
	$C_{14}H_9CN$ (9-Anthracenecarbonitrile)	1210-12-4	**	7.80±0.03 (V)	PE	4887
$C_{15}H_{11}N^+$						
	$C_{14}H_8N(CH_3)$ (Cyclopenta[*ij*]pyrido[2,1,6-*de*]quinolizine, 3-methyl-)	21533-76-6	**	6.37 (V)	PE	4812
	$C_{15}H_{11}N$ (16-Azatricyclo[9.2.2.1^{4,8}]hexadeca-2,4,6,8(16),9,11,13,14-octaene)	51647-34-8	**	8.03 (V)	PE	4824

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{15}H_{11}N^+$						
	$C_6H_6NC_6H_5$ (Quinoline, 2-phenyl-)	612-96-4	**	8.10	PE	4066
$C_{15}H_{15}N^+$						
	$C_{15}H_{15}N$ (16-Azatricyclo[9.2.2.1^{4,8}]hexadeca-4,6,8(16),11,13,14-hexaene)	42082-72-4	**	8.05 (V)	PE	4824
	$C_6H_4(CH_2CH_2)_2C_5H_3N$ (5-Azatricyclo[8.2.2.2^{4,7}]hexadeca-4,6,10,12,13,15-hexaene)	37877-95-5	**	8.20 (V)	PE	5575
	$C_6H_4(CH_3)N=CHC_6H_4CH_3$ (Benzenamine,2-methyl-N-[(3-methylphenyl)methylene]-)	33629-97-9	**	8.00 (V)	PE	5486
	$C_6H_4(CH_3)_2N=CHC_6H_5$ (Benzenamine,2,6-dimethyl-N-(phenylmethylene)-)	3096-95-5	**	8.00 (V)	PE	5486
$C_{16}H_{13}N^+$						
	$C_{15}H_{10}N(CH_3)$ (16-Azatricyclo[9.2.2.1^{4,8}]hexadeca-2,4,6,8(16),9,11,13,14-octaene, 6-methyl-)	70389-17-2	**	7.92 (V)	PE	4824
	$C_{14}H_7N(CH_3)_2$ (Cyclopent[4,5]azepino[2,1,7-*cd*]pyrrolizine,6,8-dimethyl-)	65738-45-6	**	6.99 (V)	PE	4812
	$C_3H_3(CN)(C_6H_5)_2$ (Cyclopropanecarbonitrile, 1,2-diphenyl-)	10224-14-3	**	8.80±0.08	EI	3575
$C_{16}H_{15}N^+$						
	$C_{14}H_9N(CH_3)_2$ (3H-Indole, 3,3-dimethyl-2-phenyl-)	6636-32-4	**	8.10 (V)	PE	4421
$C_{16}H_{17}N^+$						
	$C_{15}H_{14}N(CH_3)$ (16-Azatricyclo[9.2.2.1^{4,8}]hexadeca-4,6,8(16),11,13,14-hexaene, 6-methyl-)	70389-16-1	**	8.06 (V)	PE	4824
	$C_6H_3(CH_3)_2N=CHC_6H_4CH_3$ (Benzamine,2,6-dimethyl-N-[(3-methylphenyl)methylene]-)	57387-52-7	**	7.90 (V)	PE	5486
	$C_{16}H_{15}NH_2$ (Tricyclo[8.2.2.2^{4,7}]hexadeca-4,6,10,12,13,15-hexaen-5-amine)	10122-95-9	**	6.90	PE	4158
$C_{17}H_{13}N^+$						
	$C_{16}H_{10}NCH_3$ (2H-Dibenz[*e*,*g*]isoindole, 2-methyl-)	59788-15-7	**	7.15 (V)	PE	4935
$C_{17}H_{15}N^+$						
	$C_{15}H_9N(CH_3)_2$ (16-Azatricyclo[9.2.2.1^{4,8}]hexadeca-2,4,6,8(16),9,11,13,14-octaene, 12,14-dimethyl-)	64000-97-1	**	7.67 (V)	PE	4824
$C_{17}H_{19}N^+$						
	$C_{15}H_{13}N(CH_3)_2$ (16-Azatricyclo[9.2.2.1^{4,8}]hexadeca-4,6,8(16),11,13,14-hexaene, 12,14-dimethyl-)	70389-13-8	**	7.70 (V)	PE	4824
$C_{17}H_{29}N^+$						
	$C_5H_2N(C(CH_3)_3)_3$ (Pyridine, 2,4,6-tris(1,1-dimethylethyl)-)	20336-15-6	**	8.6 (V)	PE	3685
			**	8.6 (V)	PE	3934
$C_{18}H_{15}N^+$						
	$(C_6H_5)_3N$ (Benzamine, N,N-diphenyl-)	603-34-9	**	7.00±0.05 (V)	PE	4368
			**	6.80±0.05	PI	4028
			**	6.75±0.01	PE	4154

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{18}H_{17}N^+$						
	$C_{10}H_6(CH_2CH_2)_2C_4H_2NH$ (5,14–Ethenobenzocyclododecen–8,11–imine,6,7,12,13–tetrahydro–)	73650–66–5	**	7.35 (V)	PE	5575
$C_{18}H_{27}N^+$						
	$C_8H_{14}NC_6H_4C(CH_3)_3$ (9–Azabicyclo[3.3.1]nonane,9–[4–(1,1–dimethylethyl)phenyl])	XXXXX–XX–X	**	6.94 (V)	PE	5091
$C_{19}H_{13}N^+$						
	$C_{13}H_8NC_6H_5$ (Acridine,9–phenyl–)	602–56–2	**	7.75 (V)	PE	5436
			**	7.80 (V)	PE	5630
	$C_{13}H_8NC_6H_5$ (Phenanthridine, 6–phenyl–)	2720–93–6	**	8.20 (V)	PE	4262
$C_{19}H_{19}N^+$						
	$C_{15}H_7N(CH_3)_4$ (16–Azatricyclo[9.2.2.1^{4,8}]hexadeca–2,4,6,8(16),9,11,13,14–octaene, 12,13,14,15–tetramethyl–)	64000–98–2	**	7.54 (V)	PE	4824
$C_{19}H_{23}N^+$						
	$C_{15}H_{11}N(CH_3)_4$ (16–Azatricyclo[9.2.2.1^{4,8}]hexadeca–4,6,8(16),11,13,14–hexaene, 12,13,14,15–tetramethyl–)	70389–15–0	**	7.57 (V)	PE	4824
$C_{20}H_{23}N^+$						
	$C_{15}H_{12}{=}CHCH_2CH_2N(CH_3)_2$ (1–Propanamine, 3–(10,11–dihydro–5*H*–dibenzo[*a*,*d*]cyclohepten–5–ylidene)–*N*,*N*–dimethyl–)	50–48–6	**	8.26±0.07	CTS	4079
$CH_2N_2^+$						
	CH_2N_2	334–88–3	**	9.00	PE	4595
	$H_2NC{\equiv}N$	420–04–2		10.65 (V)	PE	4294
	CH_2N_2 (3*H*–Diazirine)	157–22–2	**	10.3	PE	3727
$CH_3N_2^+$						
	$CH_3N{=}NCH_3$	503–28–6	CH_3	9.2	EI	3632
	trans–$CH_3N{=}NCH_3$	4143–41–3	CH_3	9.20±0.03	PI	4342
$CH_4N_2^+$						
	$CH_3N{=}NH$	XXXXX–XX–X	**	8.8±0.1	PE	4587
$CH_6N_2^+$						
	$H_2NNH(CH_3)$	60–34–4	**	9.34 (V)	PE	5381
			**	8.40±0.05	PE	4521
			**	9.32 (V)	PE	4137
			**	9.36 (V)	PE	4514
$C_2H_4N_2^+$						
	$CH_2{=}NN{=}CH_2$	503–27–5	**	8.95	PE	4499
$C_2H_6N_2^+$						
	$(CH_3N)_2$	503–28–6	**	8.30	PE	4587
			**	8.95±0.05 (V)	PE	4614
			**	9.0 (V)	PE	4467
	trans–$CH_3N{=}NCH_3$	4143–41–3	**	8.45±0.05	PI	4342
			**	8.20	PE	3649
$C_2H_8N_2^+$						
	$(CH_3)_2NNH_2$	57–14–7	**	8.05±0.05	PE	4521
			**	8.82 (V)	PE	5381
			**	8.85 (V)	PE	4514

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_8N_2^+$						
	$(CH_3)_2NNH_2$	57-14-7	**	8.88 (V)	PE	4137
	$(CH_3NH)_2$	540-73-8	**	9.00 (V)	PE	4137
			**	9.02 (V)	PE	5068
			**	9.02 (V)	PE	5381
			**	9.62	PE	3747
	$C_2H_5NHNH_2$	624-80-6	**	8.12±0.05	PE	4521
			**	9.20 (V)	PE	4137
$C_3H_2N_2^+$						
	$CH_2(CN)_2$	109-77-3	**	12.88	PE	4067
$C_3H_3N_2^+$						
	$C_3H_4N_2$ (1*H*-Imidazole)	288-32-4	H	12.8	EI	3910
$C_3H_4N_2^+$						
	$C_3H_4N_2$ (1H-Imidazole)	288-32-4	**	8.96 (V)	PE	5092
			**	8.78 (V)	PE	4009
			**	9.12	EI	3910
	$C_3H_4N_2$ (1H-Pyrazole)	288-13-1	**	9.15 (V)	PE	5213
			**	9.15 (V)	PE	4009
$C_3H_6N_2^+$						
	$(CH_3)_2NC{\equiv}N$	1467-79-4		9.44 (V)	PE	4294
	$(CH_3)_2C{=}N{=}N$	2684-60-8	**	7.88	PE	4047
	$C_3H_6N_2$ (3*H*-Diazirine, 3,3-dimethyl-)	5161-49-9	**	9.76 (V)	PE	3505
$C_3H_8N_2^+$						
	$(CH_3)_2NN{=}CH_2$	2035-89-4	**	7.85	PE	3884
	$CH_3NHN{=}CHCH_3$	17167-73-6	**	7.67	PE	3884
	$C_3H_6NNH_2$ (1-Azetidinamine)	53779-89-8	**	8.828 (V)	PE	4156
	$CH_2N_2(CH_3)_2$ (Diaziridine, 1,2-dimethyl-)	6794-95-2	**	9.42 (V)	PE	3888
			**	9.42 (V)	PE	4277
	$CH_2N_2(CH_3)_2$ (Diaziridine, 3,3-dimethyl-)	4901-76-2	**	9.90 (V)	PE	3888
	$C_3H_8N_2$ (Pyrazolidine)	504-70-1	**	7.90 (V)	PE	4085
			**	9.16 (V)	PE	4134
$C_3H_{10}N_2^+$						
	$(CH_3)_2NNH(CH_3)$	1741-01-1	**	8.74 (V)	PE	5381
			**	8.67 (V)	PE	4137
	n-$C_3H_7NHNH_2$	5039-61-2	**	9.07 (V)	PE	4137
	iso-$C_3H_7NHNH_2$	2257-52-5	**	8.42±0.05	PE	4521
			**	9.05 (V)	PE	4137
$C_4H_2N_2^+$						
	cis-CH(CN)=CH(CN)	928-53-0	**	11.15	PE	3778
	trans-CH(CN)=CH(CN)	764-42-1	**	11.15	PE	3778
			**	11.16±0.03	PI	5505
	$C(CN)_2{=}CH_2$	922-64-5	**	11.38±0.05 (V)	PE	4859
$C_4H_4N_2^+$						
	$C_4H_4N_2$ (Pyrazine)	290-37-9	**	9.28±0.01	S	3773

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_{14}N_2^+$						
	$((CH_3)_2N)_2CH_2$	XXXXX-XX-X	**	7.74±0.05	PE	4192
	$(C_2H_5)(CH_3)NN(CH_3)_2$	50599-41-2	**	8.18	PE	5280
			**	8.18 (V)	PE	4137
	n-$C_4H_9N(CH_3)NH_2$	20240-62-4	**	7.82±0.05	PE	4521
	iso-$C_3H_7NHN(CH_3)_2$	5824-85-1	**	8.52 (V)	PE	4137
$C_6H_4N_2^+$						
	C_5H_4NCN (2-Pyridinecarbonitrile)	100-70-9	**	10.12 (V)	PE	4240
			**	10.33±0.05	EI	3498
			**	10.33	EI	5292
			**	10.5±0.1	EI	4302
	C_5H_4NCN (3-Pyridinecarbonitrile)	100-54-9	**	10.10 (V)	PE	4240
			**	10.37 (V)	PE	5527
			**	10.4±0.1	EI	4302
	C_5H_4NCN (4-Pyridinecarbonitrile)	100-48-1	**	10.30 (V)	PE	4240
			**	10.7 (V)	PE	5527
			**	10.4±0.1	EI	4302
$C_6H_6N_2^+$						
	$C_6H_4(NH)_2$ (2,5-Cyclohexadiene,1,4-diimine)	4377-73-5	**	9.36±0.03	PI	5552
	$C_6H_6N_2$ (7,8-Diazatetracyclo[3.3.0.$0^{2,4}$.$0^{3,6}$]oct-7-ene)	34122-54-8	**	8.54 (V)	PE	4135
$C_6H_7N_2^+$						
	$C_6H_4(NH_2)NHCOCH_3$ (Acetamide, *N*-(2-aminophenyl)-)	34801-09-7	CH_3CO	13.93±0.02	EI	3631
	$C_6H_4(NH_2)NHCOCH_3$ (Acetamide, *N*-(4-aminophenyl)-)	122-80-5	CH_3CO	13.72±0.02	EI	3631
$C_6H_8N_2^+$						
	$C_6H_4(NH_2)_2$ (1,2-Benzenediamine)	95-54-5	**	7.2	PE	4201
			**	7.69 (V)	PE	5474
			**	7.78 (V)	PE	4893
	$C_6H_4(NH_2)_2$ (1,3-Benzenediamine)	108-45-2	**	7.14	PI	4328
			**	7.44	PE	4201
			**	7.60 (V)	PE	5474
			**	7.74 (V)	PE	4893
	$C_6H_4(NH_2)_2$ (1,4-Benzenediamine)	106-50-3	**	6.89±0.03	PI	5552
			**	6.84	PE	4201
			**	7.34 (V)	PE	5474
			**	7.61 (V)	PE	4893
			**	7.16	EI	4089
	$C_6H_5NHNH_2$ (Phenylhydrazine)	100-63-0	**	7.86 (V)	PE	5474
	$C_4H_2N_2(CH_3)_2$ (Pyrazine, 2,6-dimethyl-)	108-50-9	**	8.80	PE	3860
	$C_5NH_3(CH_3)NH_2$ (2-Pyridinamine, 6-methyl-)	1824-81-3	**	9.1	CTS	3730
	$C_5H_4NNHCH_3$ (2-Pyridinamine, *N*-methyl-)	4597-87-9	**	8.26±0.05	EI	3891

Ion (state)	Reactant	CAS Registry Number	Other products	*Ionization or* appearance potential (eV)	Method	Ref.
$C_6H_8N_2^+$						
	$C_5NH_3(CH_3)NH_2$ (3-Pyridinamine, 4-methyl-)	3430-27-1	**	9.3	CTS	3730
	$C_5H_4NNHCH_3$ (3-Pyridinamine, *N*-methyl-)	18364-47-1	**	8.53±0.05	EI	3891
	$C_5H_4NNHCH_3$ (4-Pyridinamine, *N*-methyl-)	1121-58-0	**	8.75±0.05	EI	3891
	$C_5H_4N(NH)CH_3$ (2(1*H*-Pyridinimine, 1-methyl-)	4088-63-5	**	7.91±0.05	EI	3891
	$C_5H_4N(NH)CH_3$ (4(1*H*)-Pyridinimine, 1-methyl-)	16562-40-6	**	7.85±0.05	EI	3891
	$C_5H_4N(NH)CH_3$ (Pyridinium, 3-amino-1-methyl-, hydroxides, inner salt)	38879-42-2	**	7.45±0.1	EI	3891
	$C_6H_4(NH_2)NHCOCH_3$ (Acetamide, *N*-(2-aminophenyl)-)	34801-09-7	$CH_2=C=O$	10.49±0.02	EI	3631
	$C_6H_4(NH_2)NHCOCH_3$ (Acetamide, *N*-(4-aminophenyl)-)	122-80-5	$CH_2=C=O$	10.06±0.02	EI	3631
$C_6H_{10}N_2^+$						
	$C_6H_{10}N_2$ (2,3-Diazabicyclo[2.2.2]oct-2-ene)	3310-62-1	**	7.79±0.04	PE	3828
$C_6H_{12}N_2^+$						
	$(CH_3)_2C=NN=C(CH_3)_2$	627-70-3	**	7.97	PE	4043
			**	8.6	PE	4814
	$(C_2H_5CH=N)_2$	15601-98-6	**	9.0 (V)	PE	4814
	$(C_3H_6N)_2$ (1,1-Biazetidine)	67092-91-5	**	8.2 (V)	PE	4780
	$C_6H_{12}N_2$ (1,2-Diazabicyclo[2.2.2]octane)	329-94-2	**	8.52 (V)	PE	4134
	$C_6H_{12}N_2$ (1,4-Diazabicyclo[2.2.2]octane)	280-57-9	**	7.20	PI	5045
			**	7.52±0.02 (V)	PE	4480
			**	7.52 (V)	PE	4038
			**	7.609	PE	4214
			**	7.61 (V)	PE	4141
			**	7.70 (V)	PE	5623
	$C_6H_{12}N_2$ (1,5-Diazabicyclo[3.2.1]octane)	280-28-4	**	8.24 (V)	PE	5623
			**	8.89 (V)	PE	4141
	$C_6H_{12}N_2$ (1,5-Diazabicyclo[3.3.0]octane)	XXXXX-XX-X	**	7.87 (V)	PE	5504
	$C_2N_2(CH_3)_4$ (1,2-Diazete, 3,4-dihydro-3,3,4,4-tetramethyl-)	54166-22-2	**	8.87 (V)	PE	4651
	$C_3H_6N_2C_3H_6$ (1H,5H-Pyrazolo[1,2-*a*]pyrazole,tetrahydro-)	5397-67-1	**	7.87	PE	5280
			**	7.90 (V)	PE	5381
				7.87 (V)	PE	4134
			**	7.91 (V)	PE	3889
	$C_4H_6N_2(CH_3)_2$ (Pyridazine, 1,2,3,6-tetrahydro-1,2-dimethyl-)	26163-36-0	**	8.89 (V)	PE	4277
			**	8.12 (V)	PE	4134
$C_6H_{14}N_2^+$						
	$CH_2=C(N(CH_3)_2)_2$	815-62-3	**	7.5 (V)	PE	4291
	cis-(*iso*-$C_3H_7)_2N=N$	23201-84-5	**	8.24 (V)	PE	4429
	trans-$C_3H_7N=NC_3H_7$	55204-42-7	**	8.61 (V)	PE	4429
	trans-(*iso*-$C_3H_7)_2N=N$	15464-00-3	**	8.47 (V)	PE	4429
	$C_4H_8N_2(CH_3)_2$ (Piperazine, 1,4-dimethyl-)	106-58-1	**	8.77 (V)	PE	4141

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_{14}N_2^+$						
	$C_4H_8N_2(CH_3)_2$ (Pyridazine, hexahydro-1,2-dimethyl-)	26163-37-1	**	7.77 (V)	PE	3887
			**	7.78 (V)	PE	4277
			**	7.78 (V)	PE	5353
			**	7.81	PE	5280
			**	7.81 (V)	PE	4134
			**	8.57 (V)	PE	4277
	$C_4H_8N_2(CH_3)_2$ (Pyrimidine, hexahydro-1,3-dimethyl-)	10556-96-4	**	8.11 (V)	PE	4141
	$C_4H_8NN(CH_3)_2$ (1-Pyrrolidinamine,N,N-dimethyl-)	53779-90-1	**	7.97	PE	5280
$C_6H_{16}N_2^+$						
	$(CH_3)_2NCH_2CH_2N(CH_3)_2$	51-80-9	**	7.61±0.05	PE	4192
	$(C_3H_6NH_2)_2$	124-09-4	**	7.52 (V)	PE	5538
	$(NH(C_3H_7))_2$	1615-83-4	**	8.62 (V)	PE	5381
	$(C_2H_5)_2NN(CH_3)_2$	21849-74-1		8.10	PE	5280
			**	8.10 (V)	PE	4137
	$((C_2H_5)(CH_3)N)_2$	23337-93-1	**	8.08	PE	5280
	$(n\text{-}C_3H_7)_2NNH_2$	4986-50-9	**	8.51	PE	4137
	$(n\text{-}C_3H_7)(CH_3)NN(CH_3)_2$	60678-65-1	**	8.14	PE	5280
	$(NH(iso\text{-}C_3H_7))_2$	3711-34-0	**	8.45 (V)	PE	5381
			**	8.34 (V)	PE	4085
			**	8.59 (V)	PE	4137
	$(iso\text{-}C_3H_7)(CH_3)NN(CH_3)_2$	49840-63-3	**	8.09	PE	5280
			**	8.09 (V)	PE	4137
$C_7H_6N_2^+$						
	$C_6H_5CHN_2$ (Benzene, (diazomethyl)-)	766-91-6	**	7.72±0.02 (V)	PE	4674
	$C_7H_6N_2$ (1H-Benzimidazole)	51-17-2	**	8.44 (V)	PE	5092
			**	8.45 (V)	PE	5396
	$C_7H_6N_2$ (Imidazo[1,2-*a*]pyridine)	274-76-0	**	8.19 (V)	PE	4812
	$C_6H_4CHN_2H$ (1H-Indazole)	271-44-3	**	8.35 (V)	PE	5396
$C_7H_8N_2^+$						
	$C_7H_8N_2$ (3,4-Diazatricyclo[4.2.1.$0^{2,5}$]nona-3,7-diene)	23979-29-5	**	9.05±0.05 (V)	PE	4040
	$C_7H_8N_2$ (3,5,6-Methenocyclopentapyrazole,3,3a,4,5,6,6a-hexahydro-)	16104-45-3	**	8.23±0.05	PE	4449
			**	8.65 (V)	PE	4135
$C_7H_{10}N_2^+$						
	$C_7H_{10}N_2$ (3,4-Diazatricyclo[4.2.1.$0^{2,5}$]non-3-ene)	23979-30-8	**	8.90±0.05 (V)	PE	4040
	$C_5H_4NN(CH_3)_2$ (4-Pyridinamine,*N*,*N*-dimethyl-)	1122-58-3	**	7.82 (V)	PE	5527
			**	8.3±0.1	EI	4302
	$C_5H_4NN(CH_3)_2$ (2-Pyridinamine, *N*,*N*-dimethyl-)	5683-33-0	**	7.8±0.1	EI	4302
			**	7.7	CTS	3730
$C_7H_{12}N_2^+$						
	$C_5H_6N_2(CH_3)_2$ (2,3-Diazabicyclo[2.2.1]hept-5-ene, 2,3-dimethyl-)	14288-15-4	**	7.63 (V)	PE	4277
			**	7.63 (V)	PE	5353
			**	7.72 (V)	PE	4134
			**	7.74 (V)	PE	3889

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_{12}N_2^+$						
	$C_7H_{12}N_2$ (6,7-Diazabicyclo[3.2.2]non-6-ene)	43195-77-3	**	7.64±0.04	PE	3828
	$C_3N_2(CH_3)_4$ (4H-Pyrazole,3,4,4,5-tetramethyl-)	19078-32-1	**	9.57 (V)	PE	5381
			**	10.12 (V)	PE	4085
$C_7H_{14}N_2^+$						
	$C_5H_8N_2(CH_3)_2$ (2,3-Diazabicyclo[2.2.1]heptane, 2,3-dimethyl-)	14287-89-9	**	7.48 (V)	PE	4277
			**	7.48 (V)	PE	5353
			**	7.58 (V)	PE	3889
			**	7.66	PE	5280
	$C_5H_8N_2(CH_3)_2$ (2,3-Diazabicyclo[2.2.1]heptane, 2,3-dimethyl-, (2-*endo*,3-*exo*)-)	53798-46-2	**	7.66 (V)	PE	4134
	$C_7H_{14}N_2$ (1,5-Diazabicyclo[3.2.2]nonane)	283-47-6	**	7.43 (V)	PE	4141
	$C_7H_{14}N_2$ (1,5-Diazabicyclo[3.3.1]nonane)	281-17-4	**	7.75 (V)	PE	4141
	$C_6H_{11}N_2CH_3$ (1,2-Diazabicyclo[2.2.2]octane, 2-methyl-)	6523-29-1	**	8.02 (V)	PE	4134
	$C_3H_2N_2(CH_3)_4$ (3H-Pyrazole, 4,5-dihydro-3,3,5,5-tetramethyl-)	2721-31-5	**	8.63 (V)	PE	4429
	$C_4H_8N_2C_3H_6$ (1H-Pyrazolo[1,2-*a*]pyridazine,hexahydro-)	5721-43-7	**	7.63	PE	5280
			**	7.63 (V)	PE	4134
	$C_4H_5N_2(CH_3)_3$ (Pyridazine, 1,2,3,6-tetrahydro-1,2,3-trimethyl-)	38704-94-8	**	8.08 (V)	PE	4134
$C_7H_{16}N_2^+$						
	$C_5H_{10}N_2(CH_3)_2$ (1H-1,2-Diazepin,hexahydro-1,2-dimethyl-)	49840-68-8	**	7.88	PE	5280
	$C_3H_4N_2(CH_3)_4$ (Imidazolidine,1,2,2,3-tetramethyl-)	33709-65-8	**	7.85 (V)	PE	5477
	$C_5H_{10}NN(CH_3)_2$ (1-Piperidinamine,N,N-dimethyl-)	49840-60-0	**	8.09	PE	5280
	$C_3H_6N_2(C_2H_5)_2$ (Pyrazolidine,1,2-diethyl-)	22825-58-7	**	8.06	PE	5280
			**	8.06 (V)	PE	4134
	$C_4H_7N_2(CH_3)_3$ (Pyridazine, hexahydro-1,2,3-trimethyl-)	38704-92-6	**	7.81 (V)	PE	3887
			**	7.83	PE	5280
			**	7.83 (V)	PE	4134
			**	8.03 (V)	PE	4141
$C_7H_{18}N_2^+$						
	$(C_2H_5)_2NN(C_2H_5)(CH_3)$	50599-43-4	**	8.02	PE	5280
	$(n\text{-}C_4H_9)(CH_3)NN(CH_3)_2$	52598-10-4	**	8.12	PE	5280
			**	8.12 (V)	PE	4137
	$(tert\text{-}C_4H_9)(CH_3)NN(CH_3)_2$	60678-73-1	**	7.89	PE	5280
$C_8H_4N_2^+$						
	$C_6H_4(CN)_2$ (1,2-Benzenedicarbonitrile)	91-15-6	**	10.10 (V)	PE	4969
			**	10.27 (V)	PE	5259
	$C_6H_4(CN)_2$ (1,3-Benzenedicarbonitrile)	626-17-5	**	10.20 (V)	PE	5259
			**	10.60 (V)	PE	4969
	$C_6H_4(CN)_2$ (1,4-Benzenedicarbonitrile)	623-26-7	**	10.1 (V)	PE	5259
			**	10.10 (V)	PE	4969

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_6N_2^+$						
	$C_8H_6N_2$ (Cinnoline)	253-66-7	**	<8.8	PE	3638
			**	8.90 (V)	PE	3722
	$C_8H_6N_2$ (1,5-Naphthyridine)	254-79-5	**	9.20 (V)	PE	3722
	$C_8H_6N_2$ (1,6-Naphthyridine)	253-72-5	**	9.07 (V)	PE	3722
	$C_8H_6N_2$ (1,7-Naphthyridine)	253-69-0	**	8.99 (V)	PE	3722
	$C_8H_6N_2$ (1,8-Naphthyridine)	254-60-4	**	9.20 (V)	PE	3722
	$C_8H_6N_2$ (2,6-Naphthyridine)	253-50-9	**	8.87 (V)	PE	3722
	$C_8H_6N_2$ (2,7-Naphthyridine)	253-45-2	**	8.98 (V)	PE	3722
	$C_8H_6N_2$ (Phthalazine)	253-52-1	**	8.70 (V)	PE	3722
	$C_8H_6N_2$ (Quinazoline)	253-82-7	**	9.00	PE	3638
			**	9.08 (V)	PE	3722
	$C_8H_6N_2$ (Quinoxaline)	91-19-0	**	9.00 (V)	PE	3722
			**	9.01	PE	3638
$C_8H_8N_2^+$						
	$(C_4H_4N)_2$ (1,1'-Bi-1H-pyrrole)	38602-81-2	**	8.30 (V)	PE	5387
	$C_8H_8N_2$ (9,10-Diazapentacyclo[4.4.0.0^{2,5}.0^{3,8}.0^{4,7}]dec-9-ene)	24046-80-8	**	7.68±0.05	PE	4449
$C_8H_{12}N_2^+$						
	$C_7H_{12}NCN$ (1-Azabicyclo[2.2.2]octane-4-carbonitrile)	26458-78-6	**	8.71±0.015 (V)	PE	4286
	$C_6H_4(NH_2)N(CH_3)_2$ (1,4-Benzenediamine, *N,N*-dimethyl-)	99-98-9	**	6.46	PI	4328
	$C_8H_{12}N_2$ (7,8-Diazatricyclo[4.2.2.0^{2,5}]dec-7-ene,(1α,2β,5β,6α)-)	25863-08-5	**	7.68±0.05	PE	4449
	$C_4N_2(CH_3)_4$ (Pyrazine, tetramethyl-)	1124-11-4	**	8.6 (V)	PE	4161
$C_8H_{14}N_2^+$						
	$C_6H_8N_2(CH_3)_2$ (2,3-Diazabicyclo[2.2.2]oct-2-ene,1,4-dimethyl-)	49570-30-1	**	8.06 (V)	PE	4429
	$C_6H_8N_2(CH_3)_2$ (2,3-Diazabicyclo[2.2.2]oct-5-ene, 2,3-dimethyl-)	14287-91-3	**	7.49 (V)	PE	4134
			**	7.51 (V)	PE	4277
			**	7.51 (V)	PE	5353
			**	7.59 (V)	PE	3889
	$C_8H_{14}N_2$ (7,8-Diazabicyclo[4.2.2]dec-7-ene)	32634-64-3	**	7.38±0.04	PE	3828
	$C_8H_{14}N_2$ (1,3-Diazatricyclo[3.3.1.1^{3,7}]decane)	281-29-8	**	7.75 (V)	PE	4659
$C_8H_{16}N_2^+$						
	$C_5H_{10}N_2C_3H_6$ (2H-Azirin-3-amine, N,N-diethyl-2,2-dimethyl-)	28942-55-4	**	7.68 (V)	PE	4780
	$(C_4H_8N)_2$ (1,1'-Bipyrrolidine)	18389-95-2	**	7.888 (V)	PE	4156
			**	7.91	PE	5280
			**	9.95 (V)	PE	5381
	$C_6H_{10}N_2(CH_3)_2$ (2,3-Diazabicyclo[2.2.2]octane, 2,3-dimethyl-)	14287-92-4	**	7.45 (V)	PE	4277

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_{16}N_2^+$						
	$C_6H_{10}N_2(CH_3)_2$	14287-92-4	**	7.45 (V)	PE	5353
			**	7.46	PE	5280
	$C_6H_{10}N_2(CH_3)_2$	53779-85-4	**	7.46 (V)	PE	4134
	(2,3-Diazabicyclo[2.2.2]octane, 2,3-dimethyl-, *trans*-)					
	$C_8H_{16}N_2$	49840-69-9	**	7.58 (V)	PE	4134
	(1*H*,5*H*-Pyrazolo[1,2-*a*][1,2]diazepine, hexahydro-)					
			**	7.58	PE	5280
	$C_4H_4N_2(CH_3)_4$	14003-02-2	**	7.92 (V)	PE	4134
	(Pyridazine, 1,2,3,6-tetrahydro-1,2,4,5-tetramethyl-)					
	$C_4H_4N_2(CH_3)_4$	19403-24-8	**	7.89 (V)	PE	4429
	(Pyridazine, 3,4,5,6-tetrahydro-3,3,6,6-tetramethyl-)					
	$C_8H_{16}N_2$	3661-15-2	**	7.59 (V)	PE	3889
	(Pyridazino[1,2-*a*]pyridazine, octahydro-)					
			**	7.60 (V)	PE	4134
			**	7.61	PE	5280
$C_8H_{18}N_2^+$						
	trans-(*tert*-$C_4H_9N)_2$	927-83-3	**	8.2±0.2 (V)	PE	4581
			**	8.20 (V)	PE	4429
	(*iso*-$C_4H_9N)_2$	3896-19-3	**	8.20 (V)	PE	4429
	$C_6H_{12}NN(CH_3)_2$	60678-76-4	**	8.09	PE	5280
	(1H-Azepin-1-amine,hexahydro-N,N-dimethyl-)					
	$C_2H_4N_2(C_3H_7)_2$	67092-87-9	**	7.6 (V)	PE	4780
	(1,2-Diazetidine, 1,2-bis(1-methylethyl)-*trans*)					
	$C_4H_8N_2(C_2H_5)_2$	60678-82-2	**	7.81	PE	5280
	(Pyridazine,1,2-diethylhexahydro-)					
	$C_4H_6(CH_3)_2N_2(CH_3)_2$	26171-64-2	**	7.76	PE	5280
	(Pyridazine,hexahydro-1,2,3,6-tetramethyl,*cis*-)					
			**	7.76 (V)	PE	4134
			**	7.82 (V)	PE	3887
	$C_4H_6(CH_3)_2N_2(CH_3)_2$	38704-91-5	**	7.55	PE	5280
	(Pyridazine,hexahydro-1,2,3,6-tetramethyl,*trans*-)					
			**	7.78 (V)	PE	3887
			**	7.82 (V)	PE	4134
$C_8H_{20}N_2^+$						
	$(NH(C_4H_9))_2$	1744-71-4	**	8.65 (V)	PE	5381
	$((C_2H_5)_2N)_2$	4267-00-9	**	7.94	PE	5280
			**	7.94 (V)	PE	4137
			**	7.94 (V)	PE	5381
			**	8.10 (V)	PE	3889
	(n-$C_4H_9)_2NNH_2$	7422-80-2	**	7.75±0.05	PE	4521
	(n-$C_3H_7)_2NN(CH_3)_2$	60678-72-0	**	7.98	PE	5280
	(NH(*iso*-$C_4H_9))_2$	3711-37-3	**	8.70 (V)	PE	5381
	(*iso*-$C_4H_9)_2NNH_2$	16596-38-6	**	7.73±0.05	PE	4521
	(*iso*-$C_3H_7)_2NN(CH_3)_2$	60678-66-2	**	7.65	PE	5280
	((*iso*-$C_3H_7)(CH_3)N)_2$	60678-71-9	**	7.92	PE	5280
$C_9H_6N_2^+$						
	$C_9H_6N_2$	27884-36-2	**	7.65 (V)	PE	4812
	(Pyrazino[2,1,6-*cd*]pyrrolizine)					
$C_9H_{11}N_2^+$						
	$C_6H_5N{=}CHN(CH_3)_2$	1783-25-1	H	9.0±0.1	EI	4359
	(Methanimidamide, *N*,*N*-dimethyl-*N'*-phenyl-)					
			H	9.0	EI	4337
	$C_6H_4(F)N{=}CHN(CH_3)_2$	53666-09-4	F	8.9	EI	4337
	(Methanimidamide, *N'*-(2-fluorophenyl)-*N*,*N*-dimethyl-)					
	$C_6H_4(Cl)N{=}CHN(CH_3)_2$	2103-49-3	Cl	8.6±0.1	EI	4359
	(Methanimidamide, *N'*-(2-chlorophenyl)-*N*,*N*-dimethyl-)					
			Cl	8.6	EI	4337

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_9H_{11}N_2^+$						
	$C_6H_4(Br)N=CHN(CH_3)_2$	53746-69-3	Br	8.4	EI	4337
	(Methanimidamide, *N'*-(2-bromophenyl)-*N*,*N*-dimethyl-)					
	$C_6H_4(I)N=CHN(CH_3)_2$	53666-10-7	I	8.4	EI	4337
	(Methanimidamide, *N'*-(2-iodophenyl)-*N*,*N*-dimethyl-)					
$C_9H_{12}N_2^+$						
	$C_6H_5N=CHN(CH_3)_2$	1783-25-1	**	7.3±0.1	EI	4359
	(Methanimidamide, *N*,*N*-dimethyl-*N'*-phenyl-)					
			**	7.3	EI	4337
$C_9H_{14}N_2^+$						
	$C_9H_{14}N_2$	67144-64-3	**	7.68 (V)	PE	4780
	(3,4-Diazatricyclo[4.2.1.$0^{2,5}$]non-7-ene, 3,4-dimethyl-(1α,2β,5β,6α)-)					
	$C_8H_{12}N_2(=CH_2)$	51500-09-5	**	7.53 (V)	PE	4659
	(1,3-Diazatricylco[3.3.1.$1^{3,7}$]decane, 6-methylene-)					
$C_9H_{16}N_2^+$						
	$C_9H_{16}N_2$	67144-63-2	**	7.64 (V)	PE	4780
	(3,4-Diazatricyclo[4.2.1.$0^{2,5}$]nonane, 3,4-dimethyl-(1α,2β,5β,6α)-)					
	$C_9H_{16}N_2$	72282-74-7	**	7.19 (V)	PE	5133
	(1,4-Methanopyrazino[1,2-*a*]pyridazine,octahydro-)					
$C_9H_{18}N_2^+$						
	$C_5H_{10}N(C_4H_8N)$	49840-66-6	**	7.951 (V)	PE	4156
	(Piperidine, 1-(1-pyrrolidinyl)-)					
			**	7.95	PE	5280
$C_9H_{20}N_2^+$						
	$C_3H_6N_2(C_3H_7)_2$	67092-89-1	**	7.5 (V)	PE	4780
	(1-Azetidinamine, N,N-dipropyl-)					
	$C_3H_6N_2(C_3H_7)_2$	38704-87-9	**	7.81 (V)	PE	4134
	(Pyrazolidine, 1,2-bis(1-methylethyl)-)					
			**	7.89 (V)	PE	3889
			**	7.81	PE	5280
	$C_3H_4N_2(CH_3)_2(C_2H_5)_2$	53779-87-6	**	7.59 (V)	PE	4134
	(Pyrazolidine, 4,4-diethyl-1,2-dimethyl-, *trans*-)					
$C_{10}H_6N_2^+$						
	$C_{12}H_6N_4$	52109-66-7	$(CN)_2$	13.20	EI	5488
	(2,3-Pyrazinedicarbonitrile,5-phenyl-)					
$C_{10}H_8N_2^+$						
	$(C_5H_4N)_2$	366-18-7	**	8.35±0.02	PE	3702
	(2,2'-Bipyridine)					
	$(C_5H_4N)_2$	553-26-4	**	9.10±0.02	PE	3702
	(4,4'-Bipyridine)					
$C_{10}H_{10}N_2^+$						
	$C_{10}H_6(NH_2)_2$	2243-62-1	**	6.74±0.02	PE	4143
	(1,5-Naphthalenediamine)					
	$C_{10}H_6(NH_2)_2$	479-27-6		6.65±0.02	PE	4143
	(1,8-Naphthalenediamine)					
$C_{10}H_{12}N_2^+$						
	$C_4H_4NNC_4H_2(CH_3)_2$	24046-14-8	**	7.77 (V)	PE	5387
	(1,1'-Bi-1H-pyrrole,2,5-dimethyl)					
	$C_6H_5CH_2C_3H_5N_2$	59-98-3	**	8.50 (V)	PE	5096
	(1H-Imidazole,4,5-dihydro-2-(phenylmethyl)-)					
	$C_8H_6NCH_2CH_2NH_2$	61-54-1	**	7.69±0.08 (V)	PE	4672
	(1H-Indole-3-ethanamine)					

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{10}H_{13}N_2^+$						
	$C_6H_3(Cl)(CH_3)N{=}CHN(CH_3)_2$	53666-35-6	Cl	8.6±0.1	EI	4359
	(Methanimidamide, *N'*(2-chloro-4-methylphenyl)-*N*,*N*-dimethyl-)					
	$C_6H_3(Cl)(CH_3)N{=}CHN(CH_3)_2$	53666-41-4	Cl	8.5±0.1	EI	4359
	(Methanimidamide, *N'*(2-chloro-5-methylphenyl)-*N*,*N*-dimethyl-)					
$C_{10}H_{14}N_2^+$						
	$C_6H_5N{=}N(tert\text{-}C_4H_9)$	1775-83-3	**	8.35±0.2 (V)	PE	4581
	(Diazene, (1,1-dimethylethyl)phenyl-)					
	$C_6(NH_2)_2(CH_3)_4$	3102-87-2	**	8.63±0.03	PI	5552
	(1,4-Benzenediamine,2,3,5,6-tetramethyl-)					
$C_{10}H_{16}N_2^+$						
	$C_6H_4(N(CH_3)_2)_2$	100-22-1	**	6.1±0.1	PE	4401
	(1,4-Benzenediamine, N,N,N',N'-tetramethyl-)					
			**	6.20±0.05	PI	3729
			**	6.7	CTS	3543
			**	6.75 (V)	PE	5382
	$C_6(NH_2)_2(CH_3)_4$	3102-87-2	**	6.43	PI	4328
	(1,4-Benzenediamine, 2,3,5,6-tetramethyl-)					
	$C_{10}H_{16}N_2$	72282-73-6	**	7.07 (V)	PE	5133
	(1,4-Ethanopyridazino[1,2-*a*]pyridazine,1,4,6,7,8,9-hexahydro-)					
$C_{10}H_{18}N_2^+$						
	$C_6H_6N_2(CH_3)_4$	53779-88-7	**	7.43 (V)	PE	4134
	(2,3-Diazabicyclo[2.2.2]oct-5-ene, 1,2,3,4-tetramethyl-)					
	$C_{10}H_{18}N_2$	72282-72-5	**	7.06 (V)	PE	5133
	(1,4-Ethanopyridazino[1,2-*a*]pyridazine,octahydro-)					
	$C_3N_2(CH_3)_4(=C(CH_3)_2)$	55204-47-2	**	8.58 (V)	PE	4429
	(3H-Pyrazole, 4,5-dihydro-3,3,5,5-tetramethyl-4-(1-methylethylidene)-)					
$C_{10}H_{20}N_2^+$						
	$C_5H_8N_2(tert\text{-}C_4H_9)(CH_3)$	42842-99-9	**	7.34	PE	5280
	(2,3-Diazabicyclo[2.2.1]heptane,2-(1,1-dimethylethyl) -3-methyl-)					
			**	7.33 (V)	PE	4134
	$C_8H_{14}N_2(CH_3)_2$	60678-79-7	**	7.53 (V)	PE	5091
	(9-Azabicyclo[3.3.1]nonan-9-amine,N,N-dimethyl-)					
	$C_6H_{12}NNC_4H_8$	60678-75-3	**	7.60	PE	5280
	(1H-Azepine,hexahydro-1-(pyrrolidinyl)-)					
	$(C_5H_{10}N)_2$	6130-94-5	**	7.89	PE	5280
	(1,1'-Bipiperidine)					
			**	7.892 (V)	PE	4156
			**	8.05 (V)	PE	4085
	$C_6H_8(CH_3)_2N_2(CH_3)_2$	59498-94-1	**	7.43	PE	5280
	(2,3-Diazabicyclo[2.2.2]octane,1,2,3,4-tetramethyl-)					
	$C_6H_8N_2(CH_3)_4$	53779-86-5	**	7.43 (V)	PE	4134
	(2,3-Diazabicyclo[2.2.2]octane, 1,2,3,4-tetramethyl-, *trans*-)					
	$(C_3H_4(CH_3)_2)_2N_2$	2940-98-9	**	7.53	PE	5280
	(1H,5H-Pyrazolo[1,2-*a*]pyrazole,tetrahydro-2,2,6,6-tetramethyl-)					
			**	7.53 (V)	PE	4134
$C_{10}H_{22}N_2^+$						
	$C_4H_4(CH_3)_4N_2(CH_3)_2$	60678-80-0	**	7.46	PE	5280
	(Pyridazine,hexahydro-1,2,3,3,6,6-hexamethyl-)					
$C_{10}H_{24}N_2^+$						
	$(iso\text{-}C_3H_7)_2NN(iso\text{-}C_3H_7)(CH_3)$	XXXXX-XX-X	**	7.60	PE	5280
	$(n\text{-}C_3H_7)_2NN(C_2H_5)_2$	52598-09-1	**	7.87	PE	5280
			**	7.87 (V)	PE	4137
	$(n\text{-}C_4H_9)_2NN(CH_3)_2$	60678-67-3	**	7.96	PE	5280
	$(iso\text{-}C_3H_7)_2NN(C_2H_5)_2$	XXXXX-XX-X	**	8.126 (V)	PE	4156

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{10}H_{24}N_2^+$						
	iso-$C_3H_7N(CH_3)N(iso\text{-}C_3H_7)_2$	49840-64-4	**	7.59 (V)	PE	
			**	7.895 (V)	PE	4156
	((*tert*-C_4H_9)$(CH_3)N)_2$	52291-46-0	**	7.67	PE	5280
			**	7.67 (V)	PE	4137
			**	7.67 (V)	PE	5381
			**	7.920 (V)	PE	4156
$C_{11}H_8N_2^+$						
	$C_{11}H_8N_2$ (1*H*-Perimidine)	204-02-4	**	6.80	CTS	4035
	$C_{11}H_8N_2$ (9H-Pyrido[3,4-*b*]indole)	244-63-3	**	7.99±0.06 (V)	PE	4758
$C_{11}H_{14}N_2^+$						
	$C_6H_4(CH_3)CH_2C_3H_5N_2$ (1H-Imidazole,4,5-dihydro-2-[(2-methylphenyl)methyl]-)	3038-50-4	**	8.60 (V)	PE	5096
	$C_8H_6NCH_2CH_2NHCH_3$ (1H-Indole-3-ethanamine, N-methyl-)	61-49-4	**	7.60±0.08 (V)	PE	4672
	$C_8H_5N(CH_3)CH_2CH_2NH_2$ (1H-Indole-3-ethanamine, 5-methyl-)	1821-47-2	**	7.64±0.05 (V)	PE	4672
	$C_8H_6NCH_2N(CH_3)_2$ (1H-Indole-3-methanamine, N,N-dimethyl-)	87-52-5	**	7.69±0.16 (V)	PE	4672
$C_{11}H_{22}N_2^+$						
	$C_{11}H_{22}N_2$ (8-Azabicyclo[3.2.1]octan-3-amine,8-methyl-N-propyl-*endo*-)	67216-34-6	**	8.0±0.15	EI	5401
	$C_{11}H_{22}N_2$ (8-Azabicyclo[3.2.1]octan-3-amine,8-methyl-N-propyl-*exo*-)	67139-56-4	**	8.1±0.15	EI	5401
	$C_6H_{12}NNC_5H_{10}$ (1H-Azepine,hexahydro-1-(1-piperidinyl)-)	60778-60-1	**	7.87	PE	5280
$C_{12}H_8N_2^+$						
	$C_{12}H_8N_2$ (Benzo[*c*]cinnoline)	230-17-1	**	~8.69±0.02 (V)	PE	4430
	$C_{12}H_8N_2$ (1,10-Phenanthroline)	66-71-7	**	8.51±0.02 (V)	PE	4430
	$C_{12}H_8N_2$ (4,7-Phenanthroline)	230-07-9	**	8.35±0.02 (V)	PE	4430
	$C_{12}H_8N_2$ (Phenazine)	92-82-0	**	8.33±0.02 (V)	PE	4430
			**	8.44±0.02 (V)	PE	4551
$C_{12}H_{10}N_2^+$						
	$C_6H_5N{=}NC_6H_5$ (Diazene, diphenyl-)	103-33-3	**	8.5 (V)	PE	4467
	trans-$C_6H_5N{=}NC_6H_5$ (Diazene, diphenyl-,(*trans*)-)	17082-12-1	**	8.46 (V)	PE	4475
			**	8.5±0.05 (V)	PE	5320
	trans-$(C_5H_4N)_2CH{=}CH$ (Pyridine, 2,2'-(1,2-ethenediyl)bis-(E)-)	13341-40-7	**	8.18±0.03 (V)	PE	4805
	trans-$(C_5H_4N)_2CH{=}CH$ (Pyridine, 4,4'-(1,2-ethenediyl)bis-(E)-)	13362-78-2	**	8.83±0.03 (V)	PE	4805
	trans-$(C_5H_4N)_2CH{=}CH$ (Pyridine, 2-[2-(3-pyridinyl)ethenyl]-(E)-)	13362-75-9	**	8.33±0.03 (V)	PE	4805
	trans-$(C_5H_4N)_2CH{=}CH$ (Pyridine, 2-[2-(4-pyridinyl)ethenyl]-(E)-)	14802-41-6	**	8.50±0.03 (V)	PE	4805
	$C_{11}H_7N_2CH_3$ (9H-Pyrido[3,4-*b*]indole, 1-methyl-)	486-84-0	**	7.83±0.06 (V)	PE	4758
$C_{12}H_{12}N_2^+$						
	$C_6H_4(NH_2)C_6H_4NH_2$ ([1,1'-Biphenyl]-4,4'-diamine)	92-87-5	**	6.88	PI	4328

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{12}H_{12}N_2^+$						
	$(C_6H_5NH)_2$ (Hydrazine,1,2-diphenyl-)	122-66-7	**	7.78±0.05	PE	5322
			**	7.78 (V)	PE	5381
$C_{12}H_{14}N_2^+$						
	$(C_4H_2NHCH_2CH_2)_2$ (13,14-Diazatricyclo[8.2.1.1^{4,7}]tetradeca-4,6,10,12-tetraene)	73650-67-6	**	7.45 (V)	PE	5575
$C_{12}H_{16}N_2^+$						
	$(C_4H_2N(CH_3)_2)_2$ (1,1′-Bi-1H-pyrrole,2,2′,5,5′-tetramethyl-)	10507-71-8	**	7.73 (V)	PE	5387
	$C_{12}H_{16}N_2$ (Benzenecarboximidamide, N,N-dimethyl-N′-1-propenyl)	68003-59-8	**	7.20 (V)	PE	4968
	$C_8H_6NCH_2CH_2N(CH_3)_2$ (1H-Indole-3-ethanamine, N,N-dimethyl-)	61-50-7	**	7.57±0.05 (V)	PE	4672
$C_{12}H_{20}N_2^+$						
	$C_6H_{10}NN(C_6H_{10})$ (Cyclohexanone, cyclohexylidenehydrazone)	4278-87-9	**	7.84	PE	4043
	$(C_6H_{10}N)_2$	XXXXX-XX-X	**	7.84	PE	5589
$C_{12}H_{22}N_2^+$						
	$C_8H_{14}N_2C_4H_8$ (Pyridazino[1,2-*b*]phthalazine,dodecahydro-,*trans*-)	60678-83-3	**	7.51	PE	5280
$C_{12}H_{25}N_2^+$						
	$C_{12}H_{25}N_2^+$ (Hexyl,1,1,5-trimethyl-5-[(1-methylethyl)azo]-)	73322-99-3	**	7.39 (V)	PE	5091
$C_{12}H_{28}N_2^+$						
	$(n\text{-}C_4H_9)_2NN(C_2H_5)_2$	60678-68-4	**	7.77	PE	5280
	$((n\text{-}C_3H_7)_2N)_2$	60678-69-5	**	7.74	PE	5280
$C_{13}H_8N_2^+$						
	$C_{11}H_8(CN)_2$ (1,4-Methanonaphthalene-2,5-dicarbonitrile, 1,4-dihydro-)	71925-32-1	**	9.31±0.05 (V)	PE	5235
	$C_{11}H_8(CN)_2$ (1,4-Methanonaphthalene-2,6-dicarbonitrile, 1,4-dihydro-)	71925-30-9	**	9.30±0.05 (V)	PE	5235
	$C_{11}H_8(CN)_2$ (1,4-Methanonaphthalene-2,7-dicarbonitrile, 1,4-dihydro-)	71925-31-0	**	9.27±0.05 (V)	PE	5235
	$C_{11}H_8(CN)_2$ (1,4-Methanonaphthalene-2,8-dicarbonitrile, 1,4-dihydro-)	71925-33-2	**	9.27±0.05 (V)	PE	5235
$C_{13}H_{10}N_2^+$						
	$C_{13}H_{10}N_2$ (1H-Phenalen-9-amine, 1-iminio-)	67618-27-3	**	7.27 ±0.1 (V)	PE	4951
$C_{13}H_{12}N_2^+$						
	$C_6H_5NNC_6H_4CH_3$ (Diazene,(4-methylphenyl)phenyl-(E)-)	6720-39-4	**	~8.3 (V)	PE	5320
$C_{13}H_{14}N_2^+$						
	$(C_6H_4NH_2)_2CH_2$ (Benzenamine, 4-4′-methylenebis-)	101-77-9	**	7.20	PI	4328
			**	7.75±0.05	EI	3806
$C_{13}H_{16}N_2^+$						
	$C_{10}H_{11}C_3H_5N_2$ (1H-Imidazole,4,5-dihydro-2-(1,2,3,4,-tetrahydro-1-naphthalenyl)-)	84-22-0	**	8.33 (V)	PE	5096

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{13}H_{22}N_2^+$						
	$C_{13}H_{22}N_2$	72282-76-9	**	7.04 (V)	PE	5133
	(5,8-Ethano-1H-pyrazolo[1,2-*a*]pyridazine,2,2-diethyl-2,3,5,8-tetrahydro-)					
	$C_{13}H_{22}N_2$	53994-42-6	**	7.46 (V)	PE	4141
	(Spiro[cyclohexane-1,3'-[3*H*-2,6]methanoimidazo[1,5-*a*]pyridine]					
$C_{13}H_{24}N_2^+$						
	$C_6H_{10}N_2C_3H_4(C_2H_5)_2$	23211-28-1	**	6.92	PE	5280
	(5,8-Ethano-1H-pyrazolo[1,2-*a*]pyridazine,2,2-diethylhexahydro-)					
			**	6.93 (V)	PE	4134
$C_{14}H_{12}N_2^+$						
	$C_{13}H_9N_2(CH_3)$	18969-93-2	**	6.53	CTS	4035
	(1*H*-Cyclopenta[*gh*]perimidine, 6,7-dihydro-1-methyl-)					
$C_{14}H_{14}N_2^+$						
	$(C_5H_3N)_2(CH_2)_4$	6574-83-0	**	8.35	PE	4386
	(15,16-Diazatricyclo[9.3.1.1^{4,8}] hexadeca-1(15),4,6,8(16),11,13-hexaene)					
	$C_{14}H_{14}N_2$	59950-41-3	**	7.56 (V)	PE	4419
	(1,4-Ethanonaphtho[1,8-*ef*]-1,4-diazepine, 2,3-dihydro-)					
	$C_{10}H_7CH_2C_3H_5N_2$	835-31-4	**	8.46 (V)	PE	5096
	(1H-Imidazole,4,5-dihydro-2-(1-naphthalenylmethyl)-)					
$C_{14}H_{16}N_2^+$						
	$C_6H_4(NH_2)CH_2CH_2C_6H_4NH_2$	621-95-4	**	7.45±0.05	EI	3806
	(Benzenamine, 4,4'-(1,2-ethanediyl)bis-)					
	$(C_4H_2N)_2(C_3H_6)_2$	56751-92-9	**	7.72 (V)	PE	5387
	(10b,10c-Diazadicyclopenta[*ef*,*kl*]heptalene,3,4,5,8,9,10-hexahydro-)					
	$(C_6H_5N(CH_3))_2$	14996-70-4	**	7.30±0.05	PE	5322
	(Hydrazine,1,2-dimethyl-1,2-diphenyl-)					
$C_{14}H_{18}N_2^+$						
	$C_{10}H_6(N(CH_3)_2)_2$	10075-69-1	**	6.70±0.02	PE	4143
	(1,5-Naphthalenediamine, *N*,*N*,*N'*,*N'*-tetramethyl-)					
	$C_{10}H_6(N(CH_3)_2)_2$	20734-58-1	**	6.45±0.02	PE	4143
	(1,8-Naphthalenediamine, *N*,*N*,*N'*,*N'*-tetramethyl-)					
	$C_{14}H_{18}N_2$	72282-75-8	**	7.21 (V)	PE	5133
	(1,4-Ethanopyridazino[1,2-*b*]phthalazine,1,2,3,4,6,11-hexahydro-)					
$C_{15}H_{14}N_2^+$						
	$C_{13}H_7(=NCH_3)NHCH_3$	XXXXX-XX-X	**	6.98±0.04 (V)	PE	5595
	(Phenalene,9-methylamino-1-methylimino-)					
$C_{15}H_{16}N_2^+$						
	$C_3H_6N_2(C_6H_5)_2$	63378-86-9	**	7.50±0.05	PE	5322
	(Pyrazolidine,1,2-diphenyl-)					
$C_{16}H_8N_2^+$						
	$C_{18}H_8N_4$	55408-49-6	$(CN)_2$	12.30	EI	5488
	(Dibenzo[*f*,*h*]quinoxaline-2,3-dicarbonitrile)					
$C_{16}H_{18}N_2^+$						
	$C_{16}H_{18}N_2$	59950-40-2	**	6.90 (V)	PE	4419
	(2H-1,5-Propano-1H-naphtho[1,8-*bc*]-1,5-diazocine,3,4-dihydro-)					
	$C_4H_8N_2(C_6H_5)_2$	63378-87-0	**	7.30±0.05	PE	5322
	(Pyridazine,hexahydro-1,2-diphenyl-)					
$C_{16}H_{20}N_2^+$						
	$C_6H_4(N(CH_3)_2)C_6H_4N(CH_3)_2$	366-29-0	**	6.40	PI	4328
	([1,1'-Biphenyl]-4,4'-diamine, *N*,*N*,*N'*,*N'*-tetramethyl-)					
$C_{16}H_{24}N_2^+$						
	$C_{16}H_{24}N_2$	526-36-3	**	8.49 (V)	PE	5096
	(1H-Imidazole,2-[[4-(1,1-dimethylethyl)-2,6-dimethylphenyl]methyl]-4,5-dihydro-)					

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{16}H_{28}N_2^+$	$(C_8H_{14}N)_2$ (9,9′-Bi-9-azabicyclo[3.3.1]nonane)	62796-83-2	**	6.94 (V)	PE	5091
$C_{16}H_{34}N_2^+$	*trans*-$((CH_3)_3CCH_2C(CH_3)_2)_2N{=}N$	55204-43-8	**	8.00 (V)	PE	
$C_{17}H_{20}N_2^+$	$C_5H_{10}N_2(C_6H_5)_2$ (1H-1,2-Diazepine,hexahydro-1,2-diphenyl-)	63378-89-2	**	7.30±0.05	PE	5322
$C_{17}H_{22}N_2^+$	$(C_6H_4N(CH_3)_2)_2CH_2$ (Benzenamine, 4,4′-methylenebis(*N*,*N*-dimethyl)-)	101-61-1	**	6.72	PI	4328
			**	7.1	CTS	3543
$C_{18}H_{18}N_2^+$	$C_6H_5C_3H_3(CN)C_6H_4N(CH_3)_2$ (Cyclopropanecarbonitrile, 2-(*p*-(dimethylamino)phenyl)-1-phenyl-)	6114-58-5	**	6.90±0.10	EI	3575
$C_{18}H_{20}N_2^+$	$C_6H_{10}N_2(C_6H_5)_2$ (2,3-Diazabicyclo[2.2.2]octane,2,3-diphenyl-)	63378-90-5	**	7.15±0.05	PE	5322
$C_{18}H_{24}N_2^+$	$(C_6H_5N(iso\text{-}C_3H_7))_2$ (Hydrazine,1,2-bis(1-methylethyl)-1,2-diphenyl-)	63378-85-8	**	7.20±0.05	PE	5322
	$(C_6H_5N(C_3H_7))_2$ (Hydrazine,1,2-diphenyl-1,2-dipropyl-)	63378-84-7	**	7.24±0.05	PE	5322
$C_{19}H_{20}N_2^+$	$C_6H_4(CH_3)C_3H_3(CN)C_6H_4N(CH_3)_2$ (Cyclopropanecarbonitrile, 2-(*p*-(dimethylamino)phenyl)-1-*p*-tolyl-)	32589-51-8	**	6.80±0.07	EI	3575
$C_{19}H_{24}N_2^+$	$C_{14}H_{12}N(CH_2)_3N(CH_3)_2$ (5*H*-Dibenz[*b*,*f*]azepine-5-propanamine, 10,11-dihydro-*N*,*N*-dimethyl-)	50-49-7	**	8.21±0.07	CTS	4079
$C_{20}H_{18}N_2^+$	$C_6H_4(CH_2NC_6H_5)_2$ (Phthalazine,1,2,3,4-tetrahydro-2,3-diphenyl-)	16460-56-3	**	7.32±0.05	PE	5322
$C_{20}H_{22}N_2^+$	$C_8H_{12}N_2(C_6H_5)_2$ (1,3-Diazatricyclo[3.3.1.1^{3,7}]decane, 5,7-diphenyl-)	38705-08-7	**	7.54±0.03 (V)	PE	4163
$C_{20}H_{24}N_2^+$	$C_6H_{10}(CH_2NC_6H_5)_2$ (Phthalazine,decahydro-2,3-diphenyl,*trans*-)	63378-88-1	**	7.01±0.05	PE	5322
$C_{20}H_{34}N_2^+$	$C_4(CH_3)_4(=NC_6H_{11})_2$ (Cyclohexanamine, N,N′-(2,2,4,4-tetramethyl-1,3-cyclobutanediylidene)bis-)	6119-44-4	**	8.33 (V)	PE	5499
$C_{24}H_{16}N_2^+$	$C_{24}H_{16}N_2$ (25,26-Diazapentacyclo[19.3.1.1^{9,13}.0^{4,16}.0^{6,18}]hexacosa-1(25),2,4,6(18),7,9,11,13(26),14,16,19,21,23-tridecaene)	64031-65-8	**	6.97 (V)	PE	4824
$C_{26}H_{24}N_2^+$	$(C_6H_5N(CH_2C_6H_5))_2$ (Hydrazine,1,2-diphenyl-1,2-bis(phenylmethyl)-)	29334-75-6	**	7.59±0.05	PE	5322

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$CH_3N_3^+$						
	CH_3N_3	624-90-8	**	9.81±0.02	PE	3670
$C_2H_3N_3^+$						
	$C_2H_3N_3$ (1*H*-1,2,4-Triazole)	288-88-0	**	10.6 (V)	PE	5228
			**	10.0 (V)	PE	4009
	$C_2H_3N_3$ (1*H*-1,2,3-Triazole)	288-36-8	**	10.06 (V)	PE	4009
	$C_2H_3N_3$ (1*H*-1,2,4-Triazole)	288-88-0	**	10.0 (V)	PE	4009
$C_3H_3N_3^+$						
	$C_3H_3N_3$ (1,2,4-Triazine)	290-38-0	**	9.61 (V)	PE	4707
	$C_3H_3N_3$ (1,3,5-Triazine)	290-87-9	**	9.98	PE	3679
			**	10.01±0.01	PE	3720
			**	10.1	PE	3637
$C_4H_5N_3^+$						
	$C_3H_2N_3(CH_3)$ (1,2,4-Triazine, 3-methyl-)	24108-33-6	**	9.26 (V)	PE	4707
	$C_3H_2N_3(CH_3)$ (1,2,4-Triazine, 5-methyl-)	21134-95-2	**	9.31 (V)	PE	4707
	$C_3H_2N_3(CH_3)$ (1,2,4-Triazine, 6-methyl-)	21134-96-3	**	9.35 (V)	PE	4707
$C_5HN_3^+$						
	$C(CN)_2{=}CHCN$	997-76-2	**	~11.55	PE	4859
	$C_{12}H_6N_4$ (2,3-Pyrazinedicarbonitrile,5-phenyl-)	52109-66-7	C_6H_5CN	11.27	EI	5488
$C_5H_7N_3^+$						
	$C_3HN_3(CH_3)_2$ (1,2,4-Triazine, 3,5-dimethyl-)	24108-34-7	**	9.02 (V)	PE	4707
	$C_3HN_3(CH_3)_2$ (1,2,4-Triazine, 5,6-dimethyl-)	21134-90-7	**	9.15 (V)	PE	4707
$C_6H_3N_3^+$						
	$C_{13}H_8N_4$ (2,3-Pyrazinedicarbonitrile,5-methyl-6-phenyl-)	52109-67-8	C_6H_5CN	11.92	EI	5488
$C_6H_5N_3^+$						
	$C_6H_5N_3$ (Benzene, azido-)	622-37-7	**	8.72±0.02 (V)	PE	4674
	$C_6H_5N_3$ (1*H*-Benzotriazole)	95-14-7	**	9.20±0.05	EI	4316
	$C_4H_3N_2C_2H_2N$ (Imidazo[1,2-*b*]pyridazine)	766-55-2	**	8.33 (V)	PE	5396
$C_6H_9N_3^+$						
	$C_3N_3(CH_3)_3$ (1,2,4-Triazine, 3,5,6-trimethyl-)	24108-36-9	**	8.84 (V)	PE	4707
$C_6H_{15}N_3^+$						
	$(CH_2{=}NCH_3)_3$	108-74-7	**	8.33±0.05 (V)	PE	4776
	$(CH_3CH{=}NH)_3$	638-14-2	**	8.45±0.05 (V)	PE	4776
	$C_3H_6N_3(CH_3)_3$ (1,2,4-Triazine, hexahydro-1,2,4-trimethyl-)	66175-25-5	**	8.10 (V)	PE	5215

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_{15}N_3^+$						
	$C_7H_{12}N_3(CH_3)$ (1,3,5-Triazatricyclo[3.3.1.1.^{3,7}]decane, 7-methyl-)	38705-10-1	**	8.08 (V)	PE	4141
$C_9H_{11}N_3^+$						
	$C_6H_5NC_3H_4N_2H_2$ (Imidazolidine,2-(phenylimino)-)	XXXXX-XX-X	**	7.85 (V)	PE	5545
$C_{10}H_{11}N_3^+$						
	$C_6H_4C_4H_7N_3$ (Imidazo[2,1-*b*]quinazoline,1,2,3,5-tetrahydro-)	32725-29-4	**	7.46 (V)	PE	5545
$C_{10}H_{13}N_3^+$						
	$C_6H_4(CH_3)NC_3H_4N_2H_2$ (Imidazolidine,2-(2-methylphenylimino)-)	XXXXX-XX-X	**	7.75 (V)	PE	5545
$C_{11}H_5N_3^+$						
	$C_{12}H_6N_4$ (2,3-Pyrazinedicarbonitrile,5-phenyl-)	52109-66-7	HCN	11.61	EI	5488
	$C_{13}H_8N_4$ (2,3-Pyrazinedicarbonitrile,5-methyl-6-phenyl-)	52109-67-8	CH_3CN	11.48	EI	5488
$C_{11}H_{15}N_3^+$						
	$C_6H_3(CH_3)_2NC_3H_4N_2H_2$ (Imidazolidine,2-(2,6-dimethylphenylimino)-)	XXXXX-XX-X	**	7.63 (V)	PE	5545
$C_{11}H_{16}N_3^+$						
	$C_6H_4(N(CH_3)_2)N=CHN(CH_3)_2$ (Methanimidamide, *N'*-[3-(dimethylamino)phenyl]-*N*,*N*-dimethyl-)	53666-32-3	H	8.8±0.1	EI	4359
	$C_6H_4(N(CH_3)_2)N=CHN(CH_3)_2$ (Methanimidamide, *N'*-[4-(dimethylamino)phenyl]-*N*,*N*-dimethyl-)	53666-31-2	H	9.0±0.1	EI	4359
	$C_6H_3(Cl)(N(CH_3)_2)N=CHN(CH_3)_2$ (Methanimidamide, *N'*-[2-chloro-4-(dimethylamino)phenyl]-*N*,*N*-dimethyl-)	53666-30-1	Cl	9.1±0.1	EI	4359
	$C_6H_3(Cl)(N(CH_3)_2)N=CHN(CH_3)_2$ (Methanimidamide, *N'*-[2-chloro-5-(dimethylamino)phenyl]-*N*,*N*-dimethyl-)	53666-39-0	Cl	8.9±0.1	EI	4359
$C_{11}H_{17}N_3^+$						
	$C_6H_4(N(CH_3)_2)N=CHN(CH_3)_2$ (Methanimidamide, *N'*-[3-(dimethylamino)phenyl]-*N*,*N*-dimethyl-)	53666-32-3	**	6.3±0.1	EI	4359
	$C_6H_4(N(CH_3)_2)N=CHN(CH_3)_2$ (Methanimidamide, *N'*-[4-(dimethylamino)phenyl]-*N*,*N*-dimethyl-)	53666-31-2	**	6.1±0.1	EI	4359
$C_{12}H_7N_3^+$						
	$C_{13}H_8N_4$ (2,3-Pyrazinedicarbonitrile,5-methyl-6-phenyl-)	52109-67-8	HCN	14.82	EI	5488
$C_{12}H_8N_3^+$						
	$C_{13}H_8N_4$ (2,3-Pyrazinedicarbonitrile,5-methyl-6-phenyl-)	52109-67-8	CN	15.10	EI	5488
$C_{12}H_9N_3^+$						
	$C_4H_3N_2C_2HNC_6H_5$ (Imidazo[1,2-*b*]pyridazine,2-phenyl-)	1844-54-8	**	7.73 (V)	PE	5396
$C_{12}H_{11}N_3^+$						
	$C_6H_5NNC_6H_4NH_2$ (Benzenamine,4-(phenylazo)-(E)-)	25548-34-9	**	7.67±0.05 (V)	PE	5320
	$C_{11}H_6N_2(NH_2)CH_3$ (1*H*-Perimindin-2-amine, 1-methyl-)	20551-10-4	**	6.41	CTS	4035
$C_{12}H_{13}N_3^+$						
	$(C_6H_4NH_2)_2NH$ (1,4-Benzenediamine, *N*-(4-aminophenyl)-)	537-65-5	**	6.20	PI	4328

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{13}H_{17}N_3^+$						
	$C_{10}H_{11}NC_3H_4N_2H_2$ (Imidazolidine,2-[(5,6,7,8-tetrahydronaphthal-1-yl]imino-)	XXXXX-XX-X	**	7.62 (V)	PE	5545
$C_{17}H_8N_3^+$						
	$C_{18}H_8N_4$ (Dibenzo[*f*,*h*]quinoxaline-2,3-dicarbonitrile)	55408-49-6	CN	13.10	EI	5488
$CH_2N_4^+$						
	CH_2N_4 (1*H*-Tetrazole)	288-94-8	**	11.3 (V)	PE	4009
$C_2H_2N_4^+$						
	$C_2H_2N_4$ (1,2,4,5-Tetrazine)	290-96-0	**	9.14	PE	3679
			**	9.24	PE	3740
$C_2H_4N_4^+$						
	$C_2H_4N_4$ (1H-1,2,4-Triazole-5-amine)	XXXXX-XX-X		8.3	EI	5487
	$C_4H_8N_4$ (1H-1,2,4-Triazol-5-amine,1-ethyl-)	58661-94-2	C_2H_4	10.0	EI	5487
	$C_4H_8N_4$ (4H-1,2,4-Triazol-3-amine,4-ethyl-)	42786-06-1	C_2H_4	10.2	EI	5487
	$C_4H_8N_4$ (1H-1,2,4-Triazole-3-amine,1-ethyl-)	42786-04-9	C_2H_4	10.2	EI	5487
	$C_5H_{10}N_4$ (4H-1,2,4-Triazol-3-amine,4-propyl-)	58661-97-5		10.4	EI	5487
	$C_5H_{10}N_4$ (1H-1,2,4-Triazole-3-amine,1-propyl-)	58661-95-3	C_3H_6	10.2	EI	5487
	$C_5H_{10}N_4$ (1H-1,2,4-Triazole-5-amine,1-propyl-)	58661-96-4	C_3H_6	9.9	EI	5487
$C_4H_6N_4^+$						
	$C_2N_4(CH_3)_2$ (1,2,4,5-Tetrazine, 3,6-dimethyl-)	1558-23-2	**	9.08 (V)	PE	3679
$C_4H_8N_4^+$						
	$C_4H_8N_4$ (1H-1,2,4-Triazol-5-amine,1-ethyl-)	58661-94-2		8.5	EI	5487
	$C_4H_8N_4$ (4H-1,2,4-Triazol-3-amine,4-ethyl-)	42786-06-1		8.3	EI	5487
	$C_4H_8N_4$ (1H-1,2,4-Triazole-3-amine,1-ethyl-)	42786-04-9		8.2	EI	5487
$C_4H_{10}N_4^+$						
	$C_2N_2(CH_3)_2{=}N_2$ (1,2,3,4-Tetrazine,1,4,5,6-tetrahydro-1,4-dimethyl-)	39247-66-0	**	8.03 (V)	PE	5604
$C_4H_{12}N_4^+$						
	$((CH_3)_2N_2)_2$ (2-Tetrazene,1,1,4,4-tetramethyl-)	6130-87-6	**	7.7 (V)	PE	5604
$C_5H_4N_4^+$						
	$C_5H_4N_4$ (1H-Purine)	120-73-0	**	9.52±0.03 (V)	PE	4445
	$C_5H_4NN_3$ (Tetrazolo[1,5-*a*]Pyridine)	274-87-3	**	8.85 (V)	PE	5396
	$C_5H_4N_4$ (1*H*-1,2,3-Triazlo[4,5-*c*]pyridine)	273-05-2	**	9.10±0.05	EI	4316
	$C_5H_4N_4$ ([1,2,4]Triazolo[1,5-*a*]pyrazine)	399-66-6	**	9.6 (V)	PE	5492

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_4N_4^+$						
	$C_5H_4N_4$ (1*H*-1,2,3-Triazolo[4,5-*b*]pyridine)	273-34-7	**	9.20±0.05	EI	4316
$C_5H_{10}N_4^+$						
	$C_5H_{10}N_4$ (4H-1,2,4-Triazol-3-amine,4-propyl-)	58661-97-5		8.3	EI	5487
	$C_5H_{10}N_4$ (1H-1,2,4-Triazole-3-amine,1-propyl-)	58661-95-3		8.1	EI	5487
	$C_5H_{10}N_4$ (1H-1,2,4-Triazole-5-amine,1-propyl-)	58661-96-4		8.3	EI	5487
$C_6H_6N_4^+$						
	$C_5H_3N_4CH_3$ (1H-Purine, 6-methyl-)	2004-03-7	**	9.3 (V)	PE	5492
	$C_5H_3N_4CH_3$ (7H-Purine, 7-methyl-)	18346-04-8	**	9.4 (V)	PE	5492
	$C_5H_3N_4CH_3$ (9H-Purine, 9-methyl-)	20427-22-9	**	9.4 (V)	PE	5492
$C_6H_{12}N_4^+$						
	$C_6H_{12}N_4$ (1,3,5,7-Tetraazatricyclo[3.3.1.1.^{3,7}]decane)	100-97-0	**	8.53 (V)	PE	4141
$C_6H_{16}N_4^+$						
	$C_2H_4N_4(CH_3)_4$ (1,2,4,5-Tetrazacyclohexane, 1,2,4,5-tetramethyl-)	XXXXX-XX-X	**	7.90 (V)	PE	5504
	$C_2H_4N_4(CH_3)_4$ (1,2,4,5-Tetrazine, hexahydro-1,2,4,5-tetramethyl-)	20717-38-8	**	7.90 (V)	PE	4277
			**	7.90 (V)	PE	5215
			**	7.90 (V)	PE	5353
			**	9.00 (V)	PE	4277
$C_7H_{16}N_4^+$						
	$C_2H_4N_4(CH_3)_2(C_3H_6)$ (6H-Pyrazolo[1,2-*a*][1,2,4,5]tetrazine,hexahydro-2,3-dimethyl-)	70517-50-9	**	7.76 (V)	PE	5489
$C_8H_{12}N_4^+$						
	trans-$(NCC(CH_3)_2)_2N{=}N$	34241-39-9	**	9.62 (V)	PE	4429
$C_8H_{16}N_4^+$						
	$C_2H_4N_4(CH_3)_2(C_4H_6)$ (Pyridazino[1,2-*a*][1,2,4,5]tetrazine,1,2,3,4,6,9-hexahydro-2,3-dimethyl-)	53233-92-4	**	7.77 (V)	PE	5489
	$C_2H_4N_4(C_3H_6)_2$ (1H,5H,7H,11H-Dipyrazolo[1,2-*a*:1′,2′-*d*][1,2,4,5]tetrazine,tetrahydro-)	37882-92-1	**	7.55 (V)	PE	5489
	$C_8H_{16}N_4$ (1,3,6,8-Tetraazatricyclo[4.4.1.1^{3,8}]dodecane)	51-46-7	**	7.389	PE	4214
$C_8H_{18}N_4^+$						
	$C_2H_4N_4(CH_3)_2(C_4H_8)$ (Pyridazino[1,2-*a*][1,2,4,5]tetrazine,octahydro-2,3-dimethyl-)	61012-98-4	**	7.69 (V)	PE	5489
$C_8H_{20}N_4^+$						
	$(N_2(C_2H_5)_2)_2$ (2-Tetrazene,1,1,4,4-tetraethyl-)	13304-29-5	**	7.1 (V)	PE	5604
	$C_2H_2N_4(CH_3)_6$ (1,2,4,5-Tetrazine, hexahydro-1,2,3,4,5,6-hexamethyl-*trans*-)	71899-35-9	**	7.63 (V)	PE	5215
$C_9H_{24}N_4^+$						
	$C(N(CH_3)_2)_4$	10524-51-3	**	7.19 (V)	PE	4588

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{10}H_{16}N_4^+$						
	$C_2H_4N_4(C_4H_6)_2$	37882-93-2	**	7.51 (V)	PE	5489
	(6H,13H-Dipyridazino[1,2-*a*:1′,2′-*d*][1,2,4,5-tetrazine,1,4,8,11-tetrahydro-)					
			**	7.73 (V)	PE	5215
$C_{10}H_{20}N_4^+$						
	$C_2H_4N_4(C_4H_8)_2$	5767-20-4	**	7.46 (V)	PE	5489
	(6H,13H-Dipyridazino[1,2-*a*:1′,2′-*d*][1,2,4,5]tetrazine,octahydro-)					
	$(C_3H_4N_2(CH_3)_2)_2$	1911-01-9	**	<5.41	PI	5277
	(Imidazolidine,2-(1,3-dimethyl-2-imidazolidinylidene)-1,3-dimethyl-)					
			**	6.06 (V)	PE	3512
$C_{10}H_{24}N_4^+$						
	$((CH_3)_2N)_4C_2$	996-70-3	**	<5.36	PI	5277
			**	5.95 (V)	PE	3512
$C_{12}H_6N_4^+$						
	$C_{12}H_6N_4$	52109-66-7	**	8.68	EI	5488
	(2,3-Pyrazinedicarbonitrile,5-phenyl-)					
$C_{12}H_{26}N_4^+$						
	$(((CH_3)_2N)_2C{=}CH)_2$	10596-53-9	**	5.60±0.10	PI	5278
$C_{12}H_{28}N_4^+$						
	$(((CH_3)_2CH)_2NN)_2$	13304-31-9	**	6.9 (V)	PE	5604
	(2-Tetrazene,1,1,4,4-tetrakis(1-methylethyl)					
$C_{13}H_7N_4^+$						
	$C_{13}H_8N_4$	52109-67-8	H	9.35	EI	5488
	(2,3-Pyrazinedicarbonitrile,5-methyl-6-phenyl-)					
$C_{13}H_8N_4^+$						
	$C_{13}H_8N_4$	52109-67-8		8.65	EI	5488
	(2,3-Pyrazinedicarbonitrile,5-methyl-6-phenyl-)					
$C_{16}H_{18}N_4^+$						
	$C_{16}H_{18}N_4$	XXXXX-XX-X	**	7.83±0.04	EI	4668
	(Aniline, 2,2′-[1,2-ethanediylbis(nitrilomethylidyne)]bis-)					
$C_{16}H_{28}N_4^+$						
	$(C_8H_{14}N_2)_2$	67282-66-0	**	7.07 (V)	PE	5091
	(9-Azabicyclo[3.3.1]nonane,9,9′-azobis-)					
$C_{18}H_8N_4^+$						
	$C_{18}H_8N_4$	55408-49-6	**	8.20	EI	5488
	(Dibenzo[*f*,*h*]quinoxaline-2,3-dicarbonitrile)					
$C_{18}H_{24}N_4^+$						
	$C_{18}H_{24}N_4$	61012-91-7	**	7.71 (V)	PE	5215
	(1,2,4,5-Tetrazine, hexahydro-1,4-dimethyl-2,5-bis(phenylmethyl)-)					
$C_{30}H_{32}N_4^+$						
	$C_2H_4N_4(CH_2C_6H_5)_4$	38422-60-5	**	7.44 (V)	PE	5215
	(1,2,4,5-Tetrazine, hexahydro-1,3,5,6-tetrakis(4-methylphenyl)-)					
$C_{36}H_{46}N_4^+$						
	$C_{20}H_6N_4(C_2H_5)_8$	2683-82-1	**	6.25 (V)	PE	4557
	(21H, 23H-Porphine,2,3,7,8,12,13,17,18-octaethyl-)					
			**	6.39±0.03 (V)	PE	5476
$C_{44}H_{30}N_4^+$						
	$C_{20}H_{10}N_4(C_6H_5)_4$	917-23-7	**	6.39 (V)	PE	4557
	(21H, 23H-Porphine,5,10,15,20-tetraphenyl-)					

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{44}H_{30}N_4^+$						
	$C_{20}H_{10}N_4(C_6H_5)_4$	917-23-7	**	6.32±0.2	OTH	4962
$C_5H_5N_5^+$						
	$C_5H_3N_4(NH_2)$ (1H-Purin-6-amine)	73-24-5	**	8.44±0.03 (V)	PE	4445
			**	8.3±0.1	EI	5555
			**	8.48 (V)	PE	4644
			**	8.48 (V)	PE	5492
$C_6H_3N_5^+$						
	$C_5H_3N(CN)N_3$ (Tetrazolo[1,5-*a*]pyridine-8-carbonitrile)	40306-97-6	**	9.22 (V)	PE	5396
$C_6H_7N_5^+$						
	$C_5H_3N_4(NHCH_3)$ (1H-Purin-6-amine, N-methyl-)	443-72-1	**	8.15 (V)	PE	5492
			**	8.15 (V)	PE	4644
			**	8.39 (V)	PE	4644
	$C_5H_2N_4(CH_3)NH_2$ (7H-Purin-6-amine, 7-methyl-)	935-69-3	**	8.64 (V)	PE	5492
	$C_5H_2N_4(NH_2)CH_3$ (9H-Purin-6-amine, 9-methyl-)	700-00-5	**	8.39 (V)	PE	5492
	$C_5H_2N_4(NH_2)CH_3$ (1H-Purin-6-amine,9-methyl-)	XXXXX-XX-X	**	7.9±0.1	EI	5555
$C_7H_9N_5^+$						
	$C_5H_2N_4(CH_3)NHCH_3$ (9H-Purin-6-amine, N,9-dimethyl-)	2009-52-1	**	7.95 (V)	PE	5492
	$C_5H_3N_4N(CH_3)_2$ (1H-Purin-6-amine,N,N-dimethyl-)	938-55-6	**	7.78 (V)	PE	5492
$C_{11}H_{15}N_5^+$						
	$C_{11}H_{13}N_4NH_2$ (9*H*-Purin-6-amine, 9-cyclohexyl-)	4235-94-3	**	9.1	CTS	3915
$C_4H_{12}N_6^+$						
	$C_2H_4N_2H_2N_2C_2H_4N_2H_2$ ([1,2,4,5]Tetrazino[1,2-*a*][1,2,4,5]tetrazine,octahydro-)	1743-13-1	**	11.05 (V)	PE	5381
$C_{32}H_{16}N_8^+$						
	$C_{32}H_{18}N_8$ (29*H*,31*H*-Phthalocyanine)	574-93-6	**	7.36±0.10	EI	3829
BCH_8N^+						
	$(CH_3NH_2)(BH_3)$	1722-33-4	**	9.66±0.01	PE	3699
$BC_2H_8N^+$						
	$(CH_3)_2NBH_2$	1838-13-7	**	9.51	PE	3584
$BC_2H_9N^+$						
	$((CH_3)_2NH)(BH_2)$	74-94-2	**	9.39±0.01	PE	3699
$BC_3H_{12}N^+$						
	$((CH_3)_3N)(BH_3)$	75-22-9	**	9.28±0.2	PE	3699
$BC_4H_{12}N^+$						
	$(CH_3)_2NB(CH_3)_2$	1113-30-0	**	8.92	PE	3584
			**	8.92 (V)	PE	4243
			**	9.02 (V)	PE	5581

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$BC_5H_8N^+$						
	$C_5H_5N{\cdot}BH_3$ (Pyridine, compound with borane (1:1))	110-51-0	**	9.72 (V)	PE	4536
$BC_6H_{10}N^+$						
	$C_5H_4N(CH_3){\cdot}BH_3$ (Pyridine, 4-methyl-, compound with borane (1:1))	3999-39-1	**	9.50 (V)	PE	4536
$BC_6H_{12}N^+$						
	$(C_3H_6)_2BN$ (1H,5H-[1,2]Azaborolo[1,2-a][1,2]azaborole,tetrahydro-)	16153-13-2	**	8.80 (V)	PE	5609
			**	8.06	PE	3584
$BC_9H_{16}N^+$						
	$C_5H_4N(tert\text{-}C_4H_9){\cdot}BH_3$ (Pyridine, 4-(1,1-dimethylethyl)-, compound with borane (1:1))	56898-51-2	**	9.45 (V)	PE	4536
$BC_{10}H_{20}N^+$						
	$(CH_3)_2BNC_8H_{14}$ (1-Azabicyclo[3.3.1]nonane,1-dimethylboryl-)	XXXXX-XX-X	**	8.53 (V)	PE	5581
	$(CH_3)_2NBC_8H_{14}$ (Methanamine,N-methyl-N-(9-boratabicyclo[3.3.1]non-9-yl))	XXXXX-XX-X	**	8.73 (V)	PE	5581
$BC_{16}H_{28}N^+$						
	$C_8H_{14}BNC_8H_{14}$ (1-Azabicyclo[3.3.1]nonane,1-(9-boratabicyclo[3.3.1]non-9-yl)-)	XXXXX-XX-X	**	8.31 (V)	PE	5581
$BC_4H_{11}N_2^+$						
	$C_2H_5BN_2(CH_3)_2$ (1,3,2-Diazaborolidine, 1,3-dimethyl-)	38151-26-7	**	7.55 (V)	PE	4298
$BC_4H_{13}N_2^+$						
	$((CH_3)_2N)_2BH$	2386-98-3	**	7.76	PE	3584
$BC_5H_{15}N_2^+$						
	$((CH_3)_2N)_2B(CH_3)$	6914-63-2	**	7.63	PE	3584
$B_2C_6H_{18}N_2^+$						
	$((CH_3)_2BNCH_3)_2$ (Boranediamine,N-(dimethylboryl)-N,N',N',1-tetramethyl)	73263-55-5	**	9.02 (V)	PE	5628
$BC_8H_{17}N_2^+$						
	$C_2H_2BN_2(CH_3)_2C(CH_3)_3$ (1*H*-1,3,2-Diazaborole, 2-(1,1-dimethylethyl)-2,3-dihydro-1,3-dimethyl-)	53088-51-0	**	7.25 (V)	PE	4298
$BC_8H_{19}N_2^+$						
	$C_2H_4BN_2(CH_3)_2C(CH_3)_3$ (1,3,2-Diazaborolidine, 2-(1,1-dimethylethyl)-1,3-dimethyl-)	53088-52-1	**	7.46 (V)	PE	4298
$BC_9H_{11}N_2^+$						
	$C_6H_5C_2H_3BN_2CH_3$ (1*H*-1,3,2-Diazaborole, 2,3-dihydro-1-methyl-2-phenyl-)	53088-50-9	**	7.53 (V)	PE	4298
$BC_9H_{13}N_2^+$						
	$C_6H_5C_2H_5BN_2CH_3$ (1,3,2-Diazaborolidine, 1-methyl-2-phenyl-)	6076-64-8	**	7.91 (V)	PE	4298
$BC_{10}H_{13}N_2^+$						
	$C_6H_5C_2H_2BN_2(CH_3)_2$ (1*H*-1,3,2-Diazaborole, 2,3-dihydro-1,3-dimethyl-2-phenyl-)	41422-89-3	**	7.34 (V)	PE	4298

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$BC_{10}H_{15}N_2^+$						
	$C_6H_5C_2H_4BN_2(CH_3)_2$ (1,3,2-Diazaborolidine, 1,3-dimethyl-2-phenyl-)	5709-94-4	**	7.48 (V)	PE	4298
$B_2C_3H_{11}N_3^+$						
	$N_3B_2H_2(CH_3)_3$ (1,2,4,3,5-Triazadiborolidine, 1,2,4-trimethyl-)	53246-11-0	**	7.78 (V)	PE	4526
	$N_3B_2H_2(CH_3)_3$ (1,2,4,3,5-Triazadiborolidine, 1,3,5-trimethyl-)	40392-35-6	**	7.76 (V)	PE	4526
$B_3C_3H_{12}N_3^+$						
	$C_3H_{12}B_3N_3$ (Borazine, 1,3,5-trimethyl-)	1004-35-9	**	8.99 (V)	PE	3943
			**	9.28±0.02	PE	3506
	$C_3H_{12}B_3N_3$ (Borazine, 2,4,6-trimethyl-)	5314-85-2	**	9.50 (V)	PE	3943
			**	9.64±0.03	PE	3506
$B_2C_4H_{13}N_3^+$						
	$N_3B_2H(CH_3)_4$ (1,2,4,3,5-Triazadiborolidine, 1,2,3,5-tetramethyl-)	31732-40-8	**	7.51 (V)	PE	4526
	$N_3B_2H(CH_3)_4$ (1,2,4,3,5-Triazadiborolidine, 1,3,4,5-tetramethyl-)	40392-34-5	**	7.73 (V)	PE	4526
$B_2C_5H_{15}N_3^+$						
	$N_3B_2(CH_3)_5$ (1,2,4,3,5-Triazadiborolidine, 1,2,3,4,5-pentamethyl-)	31732-41-9	**	7.47 (V)	PE	4526
$BC_6H_{14}N_3^+$						
	$C_6H_{14}BN_3$ ([1,3,2]Diazaborino[1,2-*a*][1,3,2]diazaborine, octahydro-)	1730-15-0	**	7.90	PE	3584
$BC_6H_{18}N_3^+$						
	$B(N(CH_3)_2)_3$	4375-83-1	**	7.60 (V)	PE	3704
$B_3C_6H_{18}N_3^+$						
	$C_6H_{18}B_3N_3$ (Borazine, hexamethyl-)	877-07-6	**	8.53 (V)	PE	3943
$B_2C_8H_{21}N_3^+$						
	$N_3B_2(CH_3)_4C(CH_3)_3$ (1,2,4,3,5-Triazadiborolidine, 4-(1,1-dimethylethyl)-1,2,3,5-tetramethyl-)	57877-83-5	**	7.45 (V)	PE	4526
$B_2C_6H_{18}N_4^+$						
	$B_2N_4(CH_3)_6$ (1,2,4,5,3,6-Tetrazadiborine, hexahydro-1,2,3,4,5,6-hexamethyl-)	7318-93-6	**	6.83 (V)	PE	4299
$B_2C_8H_{24}N_4^+$						
	$((CH_3)_2N)_2BB(N(CH_3)_2)_2$	1630-79-1	**	7.3 (V)		3512
			**	7.58	PE	3584
$B_2C_7H_{21}N_5^+$						
	$N_3B_2(CH_3)_3(N(CH_3)_2)_2$ (1,2,4,3,5-Triazadiborolidine-3,5-diamine, N,N,N′,N′,1,2,4-heptamethyl-)	53246-08-5	**	7.05 (V)	PE	4526
$B_3C_8H_{24}N_5^+$						
	$C_8H_{24}B_3N_5$ (Boranediamine, N,N,N′,N′-tetramethyl-1-(2,3,4,5-tetramethyl-1,2,4,3,5-triazadiborolidin-1-yl)-)	53324-00-8	**	~7.29 (V)	PE	4526
	$C_8H_{24}B_3N_5$ (Boranediamine, N,N,N′,N′-tetramethyl-1-(1,2,3,5-tetramethyl-1,2,4,3,5-triazadiborolidin-4-yl)-)	53323-99-2	**	~7.2 (V)	PE	4526
	(RX $N_3B_2(CH_3)_4B(N(CH_3)_2)_2$					

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$B_2C_8H_{24}N_6^+$						
	$B_2N_4(CH_3)_4(N(CH_3)_2)_2$ (1,2,4,5,3,6-Tetrazadiborine-3,6-diamine, tetrahydro-*N*,*N*,*N'*,*N'*,1,2,4,5-octamethyl-)	54154-16-4	**	7.09 (V)	PE	4299
O^+						
($^1P^e$)	O	17778-80-2	**	14.040	S	5209
			**	13.618	PI	5000
(^2P)			**	18.63	PE	3701
			**	14.0±0.5	EI	4436
			**	14.2±1	EI	4687
($^4S^o$)	O_2	7782-44-7	$O(^3P)$	18.69±0.04	EI	4318
($^4S^o$)			$O(^1D)$	20.52±0.05	EI	4318
($^2D^o$)			$O(^3P)$	22.09±0.1	EI	4318
(^3P)	O_3	10028-15-6	O_2	15.21±0.1	PI	5004
	H_2O	7732-18-5	H_2	19.0	EI	3967
			2H	26.8	EI	3967
(^4S)	CO	630-08-0	$C^-(^4S)$	23.44	EI	5126
	CO_2	124-38-9		19.393±0.008	PI	4349
			CO	19±1	PI	5170
			CO	19.067	PE	5064
(^4S_u)			CO	19.071	PE	4886
			CO	19.05±0.05	EI	4693
				22.6±1.0	EI	4129
	NO	10102-43-9	N	20.1±0.3	EI	3945
	N_2O	10024-97-2	N_2	15±1	PI	5170
	HOF	14034-79-8	HF	14.34	PI	3932
(^4S_u)	COS	463-58-1	CS^-	19.45±0.08	EI	4905
O^{+2}						
	$O^+(^2P)$	14581-93-2	**	30	EI	3489
			**	32	EI	3489
(^1D)			**	38	EI	3489
(^5S)			**	42	EI	3489
	CO	630-08-0	$C(^1D)$	61	EI	3489
	CO^+	12144-04-6	$C(^1D)$	47	EI	3489
O_2^+						
($^2\Pi_{3/2g}$)	O_2	7782-44-7	**	12.127	PE	4675
($^2\Pi_g$)			**	12.07±0.01	PI	4020
($^2\Pi_{1/2}$)			**	12.071±0.001	PE	4491
($^2\Pi_g$)			**	12.071	PE	5064
($^2\Pi_g$)			**	12.076±0.002	PE	4770
($^2\Pi_{3/2g}$)			**	12.077	PE	3834
($^2\Pi_g$)			**	12.08	PE	4073
($^2\Pi_{1/2g}$)			**	12.102	PE	3834
($^2\Pi_g$)			**	12.33±0.01 (V)	PE	4415
($^4\Pi_u$)			**	16.101	PE	5064
($^4\pi u$)			**	16.105	PE	3664
($^2\Pi_u$)			**	16.5	PE	3698
($^2\Pi_u$)			**	17.15	PE	5064
($^2\Pi_u$)			**	~17.45	PE	3534
($^2\Phi_u$)			**	17.5	PE	3698
($^4\Sigma_g^-$)			**	18.171	PE	5064
($^2\Delta_g$)			**	18.803±0.006	PE	4288
($^2\Delta_g$)			**	18.81	PE	3534
($^2\Phi_u$)			**	19.1±0.01	PE	5142
($^2\Delta_g$)			**	19.9±0.01	PE	5142
($^2\Sigma_g^-$)			**	20.296	PE	5064
($^2\Pi_u$)			**	22.8±0.1	PE	3975
($^4\Sigma_u^-$)			**	24.6	PE	3975
($^4\Sigma_g^-$)			**	39.7 (V)	PE	4629
($^2\Sigma_g^-$)			**	40.33 (V)	PE	4629

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
O_2^+						
	O_2	7782-44-7	**	12.0±0.5	EI	4436
			**	12.2±0.2	EI	4131
			**	60.5±0.8	EI	5346
	O_3	10028-15-6	O	13.125±0.004	PI	5004
O_2^{+2}						
($^3\Pi_g$, $^3\Sigma_u^-$)	O_2	7782-44-7	**	43.0±0.5	OTH	5007
($^3\Pi_u$)			**	48.0±1.0	OTH	5007
O_3^+						
($^2A_1$)	O_3	10028-15-6	**	12.519±0.004	PI	5004
($^2A_1$)			**	12.3±0.1?	PE	4539
($^2A_1$)			**	12.44±0.01	PE	4239
($^2A_1$)			**	12.53±0.1	PE	4170
($^2A_1$)			**	12.56	PE	4169
($^2A_2$)			**	13.02 (V)	PE	4169
($^2B_2$)			**	13.02 (V)	PE	4239
($^2A_2$)			**	13.03±0.02	PE	4170
($^2B_2$)			**	13.57±0.01	PE	4170
($^2B_2$)			**	13.57 (V)	PE	4169
($^2A_2$)			**	13.57 (V)	PE	4239
($^2A_2$)			**	15.57 (V)	PE	4239
($^2B_2$)			**	16.54 (V)	PE	4239
($^2A_1$)			**	17.45 (V)	PE	4239
($^2B_1$,$^2B_2$,$^2A_1$,$^2B_2$)			**	19.99 (V)	PE	4239
($^2B_1$,$^2B_2$)			**	20.3±0.1 (V)	PE	4170
($^2A_1$)			**	24.5 (V)	PE	4239
HO^+						
($^3\Sigma^-$)	OH	3352-57-6	**	13.01 (V)	PE	4773
($^1\Delta$)			**	15.20 (V)	PE	4773
			**	13.5±1.0	EI	4054
			**	12.88	OTH	3932
	H_2O	7732-18-5	H	18.115±0.008	PI	5146
			H	18.08±0.05	EI	5046
			H	18.2	EI	3967
	HCOOH	64-18-6	HCO	17.97±0.06	PI	4177
	HOF	14034-79-8	F	15.07	PI	3932
OD^+						
	D_2O	7789-20-0	D	18.219±0.008	PI	5146
			D	18.19±0.03	PE	4247
H_2O^+						
	H_2O	7732-18-5	**	12.612	S	5101
($^2B_1$)			**	12.619±0.006	S	3983
($^2B_1$)			**	12.6	PI	5479
($^2A_1$)			**	13.8	PI	5479
($^2B_2$)			**	17.2	PI	5479
			**	11.8 (V)	PE	4845
($^2B_1$)			**	12.6	PE	4623
($^2B_2$)			**	12.60±0.02 (V)	PE	4970
($^2B_1$)			**	12.61 (V)	PE	4537
($^2B_1$)			**	12.61 (V)	PE	4850
($^2B_1$)			**	12.615±0.001	PE	4351
			**	12.615±0.001	PE	5506
($^2B_1$)			**	12.616	PE	5064
($^2B_1$)			**	12.619	PE	3941
($^2B_1$)			**	12.62	PE	3719
($^2B_1$)			**	12.624	PE	3530
($^2B_1$)			**	12.624	PE	4602

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
H_2O^+						
	H_2O	7732-18-5	**	12.627	PE	5626
($^2A_1$)			**	13.78	PE	3719
($^2A_1$)			**	13.8	PE	4623
($^2A_1$)			**	13.930±0.010	PE	3530
($^2A_1$)			**	14.75±0.03 (V)	PE	4970
($^2A_1$)			**	14.8	PE	3941
($^2B_2$)			**	17.02	PE	3719
($^2B_2$)			**	17.2	PE	4623
($^2B_2$)			**	17.378±0.008	PE	4351
($^2B_2$)			**	17.390	PE	3530
($^2B_2$)			**	18.54	PE	3941
($^2B_1$)			**	18.74±0.04 (V)	PE	4970
($^2A_1$)			**	32.2	PE	4623
($^2A_1$)			**	32.2 (V)	PE	3719
($^2A_1$)			**	32.61±0.05 (V)	PE	4970
($^2B_1$)			**	12.63±0.03	EI	5046
			**	12.7	EI	3967
	$H_2{}^{18}O$	14314-42-2	**	12.615±0.001	PE	5506
HDO^+						
	HDO	14940-63-7	**	12.630	PE	5626
D_2O^+						
($^2B_1$)	D_2O	7789-20-0	**	12.636±0.006	S	3983
($^2B_1$)			**	12.637	S	5101
($^2B_1$)			**	12.633±0.001	PE	4351
			**	12.633±0.001	PE	5506
($^2B_1$)			**	12.633	PE	3530
($^2B_1$)			**	12.637	PE	4602
			**	12.639	PE	5626
($^2A_1$)			**	13.930±0.010	PE	3530
($^2B_2$)			**	17.412±0.008	PE	4351
($^2B_1$)	D_2O		**	12.65±0.03	EI	5046
H_3O^+						
	$(H_2O)_2$	25655-83-8	OH	11.73±0.03	PI	5015
	C_2H_5OH	64-17-5		14.30±0.02	EI	3487
HO_2^+						
	HO_2	3170-83-0	**	11.67±0.15	EI	4920
$H_2O_2^+$						
	H_2O_2	7722-84-1	**	10.54	PE	4577
			**	11.69 (V)	PE	4168
$H_4O_2^+$						
	$(H_2O)_2$	25655-83-8	**	<11.21±0.09	PI	5015
LiO^+						
	LiO	12142-77-7	**	8.45±0.20	EI	3909
Li_2O^+						
	Li_2O	12057-24-8	**	6.19±0.20	EI	3909
BO^+						
	BO	12505-77-0	**	13.2±0.2	EI	4483
	BO	13840-87-4	**	13.0±0.5	EI	3473
BO_2^+						
	BO_2	13840-88-5	**	14.0±1.0	EI	4054

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
HBO_2^+						
	BHO_2	13460-50-9	**	13.5±1.0	EI	4054
CO^+						
	CO	630-08-0	**	11.3969	S	5167
($^2\Sigma^+$)			**	14.014	S	3760
($^2\Pi_{1/2}$)			**	16.550	S	3760
($^2\Sigma^+$)			**	19.672	S	3760
($^2\Sigma_{2p}$)			**	14.0	PI	5479
($^2\Pi_{2p}$)			**	16.5	PI	5479
($^2\Sigma_{2s}$)			**	19.7	PI	5479
($^2\Sigma^+$)			**	14.01	PE	4073
($^2\Sigma_{2p}$)			**	14.01 (V)	PE	4022
($^2\Sigma^+$)			**	14.01 (V)	PE	5055
($^2\Pi$)			**	16.55	PE	4073
($^2\Pi$)			**	16.91 (V)	PE	4022
($^2\Sigma_u^+$)			**	19.69 (V)	PE	3714
($^2\Sigma_{2s}$)			**	19.72 (V)	PE	4022
($^2\Sigma^+$)			**	39.0	PE	3975
($^2\Sigma^+$)			**	39.7 (V)	PE	4615
($^2\Sigma^+$)			**	14.07±0.05	EI	4958
	CO_2	124-38-9	O(^{3}S)	29.0	PI	4095
			O	19±2	PI	5170
($^2\Sigma^+$)			O	19.466	PE	4886
			O	19.466	PE	5064
($^2\Sigma^+$)			O	21.433	PE	4886
($^2\Pi$)			O	21.976	PE	4886
			O	19.42±0.075	EI	4693
				20.9±1.0	EI	4129
	COS	463-58-1	S^-?	15.6	EI	3779
CO^{+2}						
	CO	630-08-0	**	41.8±0.5	EI	4958
CO_2^+						
($^2\Pi_g$)	CO_2	124-38-9	**	13.77	PI	4932
($X^2\Pi_{3/2g}$)			**	13.773±0.002	PI	3925
($^2\Pi_{3/2g}$)			**	13.774±0.003	PI	4349
($X^2\Pi_{3/2g}$)			**	13.776±0.008	PI	4069
($^2\Pi_{1/2g}$)			**	13.788±0.003	PI	4349
($^2\Sigma_g^+$)			**	19.391±0.001	PI	4886
			**	36.2	PI	5127
			**	13±1	PI	5170
			**	35±3	PI	5170
($^2\Pi_{3/2g}$)			**	13.776±0.002	PE	4910
($^2\Pi_{1/2g}$)			**	13.797±0.002	PE	4910
($^2\Pi_{3/2u}$,$^2\Pi_{1/2u}$)			**	17.316±0.003	PE	4910
($^2\Sigma_u^+$)			**	18.076±0.002	PE	4910
($^2\Sigma_g^+$)			**	19.395±0.003	PE	4910
($^2\Pi_g$)			**	13.773 (V)	PE	4886
			**	13.776±0.002	PE	5256
($^2\Pi_g$)			**	13.777±0.002	PE	5132
($^2\Pi_g$)			**	13.78	PE	4073
($^2\Pi_g$)			**	13.78 (V)	PE	4850
($^2\Pi_g$)			**	13.788	PE	5064
($^2\Pi_g$)			**	13.79 (V)	PE	5055
($^2\Pi_g$)			**	13.80±0.01	PE	3965
($^2\Pi_u$)			**	17.31 (V)	PE	4886
($^2\Pi_u$)			**	17.311±0.002	PE	5132
($^2\Pi_u$)			**	17.34±0.01	PE	3965
($^2\Sigma_u$)			**	18.068±0.002	PE	5132
($^2\Sigma_u^+$)			**	18.07 (V)	PE	4886

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
CO_2^+						
($^2\Sigma_u^+$)	CO_2	124-38-9	**	18.08±0.01	PE	3965
($^2\Sigma_g$)			**	19.386±0.002	PE	5132
($^2\Sigma_g^+$)			**	19.39±0.01	PE	3965
($^2\Sigma_u$)			**	37	PE	4095
($^2\Sigma_g$)			**	38.4	PE	4095
			**	13.79±0.05	EI	5240
			**	13.83±0.05	EI	4693
			**	13.89±0.03	EI	4877
			**	13.92±0.2	EI	5588
			**	37.2±0.5	EI	5240
$C_3O_2^+$						
	C_3O_2	504-64-3	**	10.605	PE	3728
CHO^+						
($^2A'$)	HCO	17030-74-9	**	8.55±0.01	PE	5008
	HCHO	50-00-0	H	11.89±0.03	PI	3554
	CH_3OH	67-56-1	H_2+H	13.06±0.10	PI	3554
	CD_3OH	1849-29-2	D_2+D	13.8±0.6	EI	5173
	CH_3CHO	75-07-0	CH_3	11.79±0.03	PI	4177
	CH_3CDO	4122-13-8		12.67	PI	5270
	CD_3CHO	19901-15-6		11.98	PI	5270
			CH_3	12.03±0.03	PI	4350
				12.03	PI	5270
	C_2H_4O (Oxirane)	75-21-8	CH_3	11.54±0.03	PI	4350
	$(CH_3)_2O$	115-10-6		13.96±0.2	EI	4071
	CH_3OCD_3	13725-27-4		13.97±0.2	EI	4071
	$C_2H_5OCD_3$	16995-14-5		13.13±0.2	EI	4071
	C_4H_4O (Furan)	110-00-9	C_3H_3	13.2±0.1	PE	5289
	HCOOH	64-18-6	OH	12.79±0.03	PI	4177
			OH	13.0±0.1	PI	5135
	HNCO	420-05-3	N	15.52	EI	4507
	$HCONH_2$	75-12-7		13.70	EI	4878
	$HCONHCH_3$	123-39-7		12.40	EI	4878
	$HCON(CH_3)_2$	68-12-2		14.50	EI	4878
CDO^+						
	DCO	15233-68-8	**	8.56±0.01	PE	5008
	CD_3OH	1849-29-2	D_2+H	13.53±0.5	EI	5173
	CD_3OD	811-98-3		14.88	PI	5174
	CH_3CDO	4122-13-8		11.95	PI	5270
	CD_3CHO	19901-15-6		12.65	PI	5270
	CH_3OCD_3	13725-27-4		13.87±0.2	EI	4071
	$C_2H_5OCD_3$	16995-14-5		13.57±0.2	EI	4071
CH_2O^+						
	H_2CO	50-00-0	**	10.874±0.002	S	5071
			**	10.88±0.02	PI	3554
			**	10.90±0.03	PI	3765
			**	10.1 (V)	PE	4467
			**	10.885±0.005	PE	5519
	CH_3OH	67-56-1	H_2	12.05±0.12	PI	3554
$CHDO^+$						
	CD_3OH	1849-29-2	D_2	12.78±0.3	EI	5173
CD_2O^+						
	D_2CO	XXXXX-XX-X	**	10.901±0.006	S	5071
	CD_3OH	1849-29-2	HD	12.28±0.4	EI	5173

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
CH_3O^+						
	CH_3OH	67-56-1	H	11.55±0.03	PI	3554
			H	11.69	EI	4915
			H	11.76±0.11	EI	5503
	$(CH_3)_2O$	115-10-6	CH_3	<11.8	EI	4915
			CH_3	12.42±0.1	EI	4071
	C_2H_5OH	13725-27-4	CH_3	11.30	EI	4915
	$C_2H_5OCH_3$	540-67-0	C_2H_5	<11.7	EI	4915
				12.86±0.1	EI	4071
	n-C_3H_7OH	71-23-8	C_2H_5	11.16±0.03	EI	3626
	$(C_2H_5)_2O$	60-29-7		11.92	EI	5072
	$C_2H_5CH(OH)CH_3$	78-92-2		12.40	EI	5072
	$((CH_3)_2C(NO)OOCCH_3)_2$	68777-98-0		14.20	EI	4809
CHD_2O^+						
	CD_3OH	1849-29-2	D	11.30±0.3	EI	5173
	$C_2H_5OCD_3$	16995-14-5		12.86±0.05	EI	4071
CD_3O^+						
	CD_3OH	1849-29-2	H	11.40±0.5	EI	5173
	CD_3OD	811-98-3	D	12.71	PI	5174
CH_4O^+						
	CH_3OH	67-56-1	**	10.83±0.03	PI	3554
			**	10.85±0.01	PI	4957
			**	10.846±0.002	PE	4770
			**	10.86 (V)	PE	4850
			**	10.94 (V)	PE	4068
			**	10.95	PE	4087
			**	10.95 (V)	PE	4032
			**	10.95 (V)	PE	4884
			**	10.95 (V)	PE	5249
			**	10.96 (V)	PE	3941
			**	10.97±0.03 (V)	PE	4484
			**	10.90±0.03	EI	4877
			**	10.90±0.12	EI	5503
CH_4O^{2+}						
	CH_3OH	67-56-1	**	33.2±0.5	OTH	5147
CH_3DO^+						
	CH_3OD	4206-31-9	**	10.861±0.002	PE	4770
CHD_3O^+						
	CD_3OH	1849-29-2	**	10.84±0.1	EI	5173
CD_4O^+						
	CD_3OD	811-98-3	**	11.00	PI	5174
			**	10.885±0.002	PE	4770
$C_2H_2O^+$						
	$CH_2=C=O$	463-51-4	**	9.614±0.008	PI	5458
			**	9.60 (V)	PE	5610
			**	9.61±0.02	PE	5458
			**	9.63±0.02	PE	5211
	CH_3CHO	75-07-0	H_2?	13.06±0.09	PI	4350
	C_2H_4O (Oxirane)	75-21-8	H_2?	13.07±0.05	PI	4350
	$C_3H_4(=O)$ (Cyclopropanone)	5009-27-8		9.9±0.1	EI	4689
	C_4H_4O (Furan)	110-00-9	C_2H_2	11.80±0.10	PE	5289

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_2O^+$						
	C_4H_6O (Cyclobutanone)	1191-95-3	C_2H_4	10.53±0.15	EI	3794
	C_3H_3NO (Oxazole)	288-42-6	HCN	12.15±0.6	EI	5400
$C_2H_3O^+$						
	CH_3CHO	75-07-0	H	10.82±0.03	PI	4177
			H	10.90±0.03	PI	4350
			H	10.90	PI	5270
	C_2H_4O (Oxirane)	75-21-8	H	11.62±0.05	PI	4350
	CH_3CDO	4122-13-8	D	10.92	PI	5270
	$(CH_3)_2CO$	67-64-1	CH_3	10.52±0.02	PI	5412
			CH_3	12.22	PE	5066
			CH_3	10.28±0.05	EI	3626
				10.30	EI	4535
			CH_3	11.3	EI	3550
	$CH_3COC{\equiv}CH$	1423-60-5	C_2H	12.10±0.10	PE	5289
	$C_2H_5COCH_3$	78-93-3		10.69	EI	4535
	iso-$C_3H_7COCH_3$	563-80-4		10.68	EI	4535
	tert-$C_4H_9COCH_3$	75-97-8		~11.3	EI	4535
	CH_3COOCH_3	79-20-9		10.94	EI	5070
	$C_6H_5OOCCH_3$ (Acetic acid, phenyl ester)	122-79-2	*cyclo*-C_6H_5O	12.78±0.2	EI	3484
			C_6H_5O	12.83±0.03	EI	3483
	$C_6H_4(CH_3)OOCCH_3$ (Acetic acid, 3-methylphenyl ester)	122-46-3	$C_6H_4(CH_3)O$	13.83±0.2	EI	3484
	$C_6H_4(CH_3)OOCCH_3$ (Acetic acid, 4-methylphenyl ester)	140-39-6		13.97±0.2	EI	3484
	$C_6H_5CH_2CH_2OCOCH_3$ (Acetic acid, 2-phenylethyl ester)	103-45-7		11.70	EI	3590
	$C_6H_4(CH_3)CH_2CH_2OCOCH_3$ (Phenethyl alcohol, *m*-methyl-, acetate)	33709-40-9		11.90	EI	3590
	$C_6H_4(CH_3)CH_2CH_2OCOCH_3$ (Phenethyl alcohol, *p*-methyl-, acetate)	22532-47-4		11.90	EI	3590
	$C_6H_4(OCH_3)OOCCH_3$ (Phenol, 3-methoxy-, acetate)	5451-83-2	$C_6H_4(OCH_3)O$	13.92±0.2	EI	3484
	$C_6H_4(OCH_3)OOCCH_3$ (Phenol, 4-methoxy-, acetate)	1200-06-2	$C_6H_4(OCH_3)O$	14.57±0.2	EI	3484
	$C_6H_4(OCH_3)CH_2CH_2OCOCH_3$ (Phenethyl alcohol, *m*-methoxy-, acetate)	33709-39-6		11.80	EI	3590
	$C_6H_4(OCH_3)CH_2CH_2OCOCH_3$ (Phenethyl alcohol, *p*-methoxy-, acetate)	22532-51-0		12.20	EI	3590
	$C_6H_4(COOH)OOCCH_3$ (Benzoic acid, 4-(acetyloxy)-)	2345-34-8	$C_6H_4(COOH)O$	12.46±0.2	EI	3484
	CH_3CONH_2	60-35-5		11.70	EI	4878
	$CH_3CONHCH_3$	79-16-3		12.40	EI	4878
	$CH_3CON(CH_3)_2$	127-19-5		12.55	EI	4878
	$C_5H_8NCOCH_3$ (Pyridine, 1-acetyl-1,2,3,4-tetrahydro-)	19615-27-1		13.5	EI	4046
	$C_5H_{10}NCOCH_3$ (Piperidine, 1-acetyl-)	618-42-8		15.1	EI	4046
	$C_6H_5NHCOCH_3$ (Acetamide, *N*-phenyl-)	103-84-4		13.22±0.03	EI	3483
	$C_6H_4(NH_2)CH_2CH_2OCOCH_3$ (Benzeneethanol, 4-amino-, acetate(ester))	33709-38-5		12.30	EI	3590
	$C_6H_4(NO_2)OOCCH_3$ (Acetic acid, 3-nitrophenyl ester)	1523-06-4		10.94±0.2	EI	3484
	$C_6H_4(NO_2)OOCCH_3$ (Acetic acid, 4-nitrophenyl ester)	830-03-5		10.85±0.2	EI	3484
	$((CH_3)_2C(NO)COCH_3)_2$	30442-79-6		11.60	EI	4809

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_3O^+$						
	$(C_6H_{11}NO_2)_2$	68777-99-1		10.40	EI	4809
	$((CH_3)_2C(NO)OOCCH_3)_2$	68777-98-0		10.20	EI	4809
	$C_6H_4FOOCCH_3$ (Phenol, 2-fluoro-, acetate)	29650-44-0	C_6H_4FO	12.23±0.03	EI	3483
	$C_6H_4FOOCCH_3$ (Phenol, 4-fluoro-, acetate)	405-51-6	C_6H_4FO	12.72±0.03	EI	3483
	$C_6H_3F_2OOCCH_3$ (Phenol, 2,4-difluoro-, acetate)	36914-77-9		12.00±0.03	EI	3480
	$C_6H_3F_2OOCCH_3$ (Phenol, 2,6-difluoro-, acetate)	36914-78-0		12.24±0.03	EI	3480
	CH_3COCF_3	421-50-1		11.45	EI	3550
	$C_6H_4FNHCOCH_3$ (Acetamide, *N*-(2-fluorophenyl)-)	399-31-5		13.59±0.03	EI	3483
	$C_6H_4FNHCOCH_3$ (Acetamide, *N*-(4-fluorophenyl)-)	351-83-7		13.42±0.03	EI	3483
	$C_6H_3F_2NHCOCH_3$ (Acetamide, *N*-(2,4-difluorophenyl)-)	399-36-0		13.18±0.03	EI	3480
	$C_6H_3F_2NHCOCH_3$ (Acetamide, *N*-(2,6-difluorophenyl)-)	3869-29-5		13.80±0.03	EI	3480
	$C_6H_4ClOOCCH_3$ (Acetic acid, 2-chlorophenyl ester)	4525-75-1		12.55±0.03	EI	3483
	$C_6H_4ClOOCCH_3$ (Acetic acid, 3-chlorophenyl ester)	13031-39-5		12.36±0.2	EI	3484
	$C_6H_4ClOOCCH_3$ (Acetic acid, 4-chlorophenyl ester)	876-27-7		12.39±0.03	EI	3483
				12.73±0.2	EI	3484
	$C_6H_4ClCH_2CH_2OCOCH_3$ (Phenethyl alcohol, *m*-chloro-, acetate)	33709-41-0		11.60	EI	3590
	$C_6H_3Cl_2OOCCH_3$ (Phenol, 2,4-dichloro-, acetate)	6341-97-5		12.11±0.03	EI	3480
	$C_6H_3Cl_2OOCCH_3$ (Phenol, 2,6-dichloro-, acetate)	28165-71-1		12.09±0.03	EI	3480
	$C_6H_4ClNHCOCH_3$ (Acetamide, *N*-(2-chlorophenyl)-)	533-17-5		13.91±0.03	EI	3483
	$C_6H_4ClNHCOCH_3$ (Acetamide, *N*-(4-chlorophenyl)-)	539-03-7		13.00±0.03	EI	3483
	$C_6H_3Cl_2NHCOCH_3$ (Acetamide, *N*-(2,4-dichlorophenyl)-)	6975-29-7		13.08±0.03	EI	3480
	$C_6H_3Cl_2NHCOCH_3$ (Acetamide, *N*-(2,6-dichlorophenyl)-)	17700-54-8		13.40±0.03	EI	3480
	$C_6H_4BrCOOCH_3$ (Phenol, 2-bromo-, acetate)	1829-37-4		12.24±0.03	EI	3483
	$C_6H_4BrOOCCH_3$ (Phenol, 3-bromo-, acetate)	35065-86-2		12.36±0.2	EI	3484
	$C_6H_4BrOOCCH_3$ (Phenol, 4-bromo-, acetate)	1927-95-3		12.87±0.2	EI	3484
				13.06±0.03	EI	3483
	$C_6H_3Br_2OOCCH_3$ (Phenol, 2,4-dibromo-, acetate)	36914-79-1		12.01±0.03	EI	3480
	$C_6H_3Br_2OOCCH_3$ (Phenol, 2,6-dibromo-, acetate)	28165-72-2		12.36±0.03	EI	3480
	$C_6H_4BrNHCOCH_3$ (Acetamide, *N*-(2-bromophenyl)-)	614-76-6		14.68±0.03	EI	3483
	$C_6H_4BrNHCOCH_3$ (Acetamide, *N*-(4-bromophenyl)-)	103-88-8		13.96±0.03	EI	3483
	$C_6H_3Br_2NHCOCH_3$ (Acetamide, *N*-(2,4-dibromophenyl)-)	23373-04-8		13.10±0.03	EI	3480
	$C_6H_3Br_2NHCOCH_3$ (Acetamide, *N*-(2,6-dibromophenyl)-)	33098-80-5		13.21±0.03	EI	3480
	$C_6H_4IOOCCH_3$ (Phenol, 2-iodo-, acetate)	32865-61-5	C_6H_4IO	12.47±0.03	EI	3483

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_3O^+$						
	$C_6H_4IOOCCH_3$ (Phenol, 4-iodo-, acetate)	33527-94-5	C_6H_4IO	12.74±0.03	EI	3483
	$C_6H_3I_2OOCCH_3$ (Phenol, 2,4-diiodo-, acetate)	36914-80-4		12.15±0.03	EI	3480
	$C_6H_3I_2OOCCH_3$ (Phenol, 2,6-diiodo-, acetate)	28165-73-3		12.02±0.03	EI	3480
	$C_6H_4INHCOCH_3$ (Acetamide, *N*-(2-iodophenyl)-)	19591-17-4		13.56±0.03	EI	3483
	$C_6H_4INHCOCH_3$ (Acetamide, *N*-(4-iodophenyl)-)	622-50-4		13.16±0.03	EI	3483
$C_2D_3O^+$						
	CD_3CHO	19901-15-6	H	10.91	PI	5270
	$(CD_3)_2CO$	666-52-4	CD_3	10.56±0.02	PI	5412
$C_2H_4O^+$						
	$C_4H_7(OH)$ (Cyclobutanol)	2919-23-5	C_2H_4	9.87	EI	4729
	$C_2H_3O(CH_2OH)$ (Oxiranemethanol)	556-52-5	CH_2O	10.30	EI	4729
	CH_3CHO	75-07-0	**	10.19	S	5273
			**	10.20±0.02	PI	4177
			**	10.20±0.03	PI	3765
			**	10.22±0.01	PI	4350
			**	10.22	PI	5270
			**	10.2298±0.0007	PI	4306
			**	10.20	PE	4471
			**	10.20	PE	4520
			**	10.21	PE	4224
			**	10.227±0.005	PE	5519
			**	10.23 (V)	PE	4850
			**	10.24±0.02	PE	4220
			**	10.26 (V)	PE	4513
			**	10.9 (V)	PE	4467
			**	10.23	EI	4729
	$CH_2=CHOH$	557-75-5	**	9.0±0.15	OTH	4729
	C_2H_4O (Oxirane)	75-21-8	**	10.558±0.1	PI	4868
			**	10.56±0.01	PI	4350
			**	10.4±0.1	PE	4990
			**	10.560	PE	4868
			**	10.568 (V)	PE	4527
			**	10.57	EI	4729
	C_2H_5OH	64-17-5	H_2	~10.45	EI	4729
	iso-C_3H_7OH	67-63-0	CH_4	10.23±0.02	PI	5512
	$CH_2=CHOC_2H_5$	109-92-2	C_2H_4	10.19	EI	4729
	n-C_3H_7CHO	123-72-8	C_2H_4	10.52	EI	4729
	n-C_4H_9CHO	110-62-3	C_3H_6	11.40	EI	5264
	iso-C_4H_9CHO	26140-47-6	C_3H_6	10.57	EI	4729
	$(CH_3)_2CHC_2H_4CHO$	1119-16-0	C_4H_8	11.40	EI	5264
	$C_2H_5CH(CH_3)CH_2CHO$	15877-57-3	2-C_4H_8	10.88	EI	4729
			C_4H_8	11.40	EI	5264
	n-$C_5H_{11}CHO$	66-25-1	C_4H_8	11.60	EI	5264
	n-$C_6H_{13}OH$	111-27-3		~10.7	EI	4729
	$C_3H_6O_2$ (1,3-dioxolane)	646-06-0	CH_2O	10.87	EI	4729
$C_2H_3DO^+$						
	CH_3CDO	4122-13-8	**	10.21	PI	5270

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2HD_3O^+$						
	CD_3CHO	19901-15-6	**	10.19	PI	5270
$C_2D_4O^+$						
	C_2D_4O (Oxirane-d_4)	6552-57-4	**	10.571	PE	4868
$C_2H_5O^+$						
	CH_3OCH_2	23653-97-6	**	6.94	EI	4915
	C_2H_5OH	64-17-5	H	10.75±0.03	EI	5467
			H	10.67	EI	4915
	$(CH_3)_2O$	115-10-6	H	10.99	EI	4915
			H	10.70±0.13	EI	5503
			H	11.23±0.04	EI	5467
			H	11.55±0.15	EI	4071
	$C_2H_5OCH_3$	540-67-0	CH_3	10.47	EI	4915
			CH_3	10.91±0.1	EI	4071
	n-C_3H_7OH	71-23-8	CH_3	11.35±0.04	EI	5467
	iso-C_3H_7OH	67-63-0	CH_3	10.40±0.03	PI	5512
			CH_3	10.26	EI	4915
	$(C_2H_5)_2O$	60-29-7	C_2H_5	11.85	EI	4915
				11.83	EI	4603
	$C_2H_5CH(OH)CH_3$	78-92-2	C_2H_5	10.22	EI	4915
	$CH_3CD_2OC_2H_5$	XXXXX-XX-X		11.71	EI	4603
	$CH_3CH(OH)CH_2OH$	57-55-6	CH_2OH	10.25	EI	4915
	$CH_3OCH_2CH_2OH$	109-86-4	CH_2OH	10.36	EI	4915
	$CH_3OCH_2CH_2OCH_3$	110-71-4	CH_3OCH_2	10.27	EI	4915
	C_2H_5ONO	79-24-3	NO	10.62±0.07	EI	5467
	$((CH_3)_2C(NO)OOCCH_3)_2$	68777-98-0		12.75	EI	4809
	CH_2BrCH_2OH	540-51-2	Br	10.47±0.05	EI	5467
$C_2H_4DO^+$						
	$CH_3CD_2OC_2H_5$	XXXXX-XX-X		11.91	EI	4603
$C_2H_3D_2O^+$						
	CH_3OCD_3	13725-27-4	D	11.53±0.1	EI	4071
	$CH_3CD_2OC_2H_5$	XXXXX-XX-X		13.1	EI	4603
$C_2H_2D_3O^+$						
	CH_3OCD_3	13725-27-4	H	11.15±0.1	EI	4071
	$C_2H_5OCD_3$	16995-14-5	CH_3	10.41±0.06	EI	5503
			CH_3	11.01±0.1	EI	4071
$C_2H_6O^+$						
	C_2H_5OH	64-17-5	**	10.59 (V)	PE	5514
			**	10.61 (V)	PE	4850
			**	10.62 (V)	PE	3941
			**	10.64 (V)	PE	4068
			**	10.64 (V)	PE	5249
			**	10.65±0.03 (V)	PE	4484
			**	10.65 (V)	PE	5088
	$(CH_3)_2O$	115-10-6	**	9.8±0.1	PE	4990
			**	9.98 (V)	PE	4850
			**	10.0±0.2 (V)	PE	4774
			**	10.03 (V)	PE	4884
			**	10.04 (V)	PE	3656
			**	10.04 (V)	PE	3844
			**	10.052 (V)	PE	4527
			**	11.94 (V)	PE	5249
			**	10.12±0.2	EI	4071

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_3D_3O^+$						
	CH_3OCD_3	13725-27-4	**	10.00±0.1	EI	4071
C_3HO^+						
	$CH_3COC{\equiv}CH$	1423-60-5	CH_3	11.00±0.10	PE	5289
$C_3H_2O^+$						
	$C_3H_2(=O)$ (2-Cyclopropen-1-one)	2961-80-0	**	9.47	PE	4270
			**	10.0±0.3	EI	4689
$C_3H_3O^+$						
	$CH_2=CHCOCH_3$	78-94-4	CH_3	10.44±0.05	EI	5445
	$(C_6H_{11}NO_2)_2$	68777-99-1		13.25	EI	4809
$C_3H_4O^+$						
	$CH_2=CHCHO$	107-02-8	**	10.13	PE	3864
			**	10.15 (V)	PE	4195
	$CH{\equiv}CCH_2OH$	107-19-7	**	10.45 (V)	PE	4847
	$CH_3CH=C=O$	6004-44-0	**	8.95 (V)	PE	5610
	$C_3H_4(=O)$ (Cyclopropanone)	5009-27-8	**	9.1±0.1	EI	4689
	$CH_2=CHCHO$ (2-Propenal)	107-02-8	**	10.11	PE	5360
$C_3H_5O^+$						
	$C_2H_5COCH_3$	123-72-8		10.22	EI	4535
	$(C_2H_5)_2CO$	96-22-0		10.10	EI	4535
	$(C_6H_{11}NO_2)_2$	68777-99-1		10.75	EI	4809
$C_3H_6O^+$						
	$(CH_3)_2CO$	67-64-1	**	9.705	S	5006
			**	9.71	S	5273
			**	9.694±0.006	PI	5412
			**	9.700±0.001	PI	4306
			**	9.71±0.03	PI	3765
			**	9.5 (V)	PE	4467
			**	9.68 (V)	PE	4850
			**	9.70 (V)	PE	4513
			**	9.709±0.005	PE	5519
			**	9.709 (V)	PE	4527
			**	9.71±0.01	PE	4535
			**	9.71±0.02 (V)	PE	4524
			**	9.71	PE	4224
			**	9.71 (V)	PE	4233
			**	9.72	PE	3649
			**	9.72 (V)	PE	4285
			**	9.72 (V)	PE	5538
			**	9.75±0.025	PE	3626
			**	9.71±0.03	EI	4535
			**	9.74	EI	3485
	$CH_2=CHCH_2OH$	107-18-6	**	9.63	PE	3864
			**	10.22 (V)	PE	3863
	$CH_2=CHOCH_3$	107-25-5	**	8.95	PE	3863
			**	8.96	PE	4246
			**	9.05 (V)	PE	4291
	C_2H_5CHO	123-38-6	**	9.85 (V)	PE	4513
			**	9.953±0.005	PE	5519
			**	9.96 (V)	PE	4850
			**	9.99	PE	4224
	C_3H_6O (Oxetane)	503-30-0	**	9.63	PE	3980
				9.679 (V)	PE	4527

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_3H_6O^+$						
	$C_2H_3OCH_3$ (Oxirane, methyl-)	75-56-9	**	10.26 (V)	PE	4747
	n-$C_3H_7COCH_3$	107-87-9	C_2H_4	10.08	EI	5039
	n-C_4H_9CHO	110-62-3	C_2H_4	9.82	EI	5039
			C_2H_4	10.00	EI	5264
	C_5H_9OH (Cyclopentanol)	96-41-3	C_2H_4	9.98	EI	5039
	$(CH_3)_2CHC_2H_4CHO$	1119-16-0	C_3H_6	11.00	EI	5264
	$C_2H_5CH(CH_3)CH_2CHO$	15877-57-3	C_3H_6	10.10	EI	5264
	n-$C_5H_{11}CHO$	66-25-1	C_3H_6	9.72	EI	5039
			C_3H_6	10.20	EI	5264
	n-$C_3H_7CH(CH_3)CHO$	123-15-9	C_3H_6	9.80	EI	5039
	n-$C_4H_9COCH_3$	591-78-6	C_3H_6	10.04	EI	5039
	sec-$C_5H_{11}CHO$	123-15-9	C_3H_6	10.30	EI	5264
	iso-$C_4H_9COCH_3$	108-10-1	C_3H_6	9.98	EI	5039
$C_3D_6O^+$						
	$(CD_3)_2CO$	666-52-4	**	9.695±0.006	PI	5412
			**	9.68	PE	3649
$C_3H_7O^+$						
	CH_3CHOCH_3	20615-69-4	**	≤6.50	EI	4915
	$C_2H_5OCH_3$	540-67-0	H	10.32	EI	4915
			H	10.32±0.1	EI	4071
	n-C_3H_7OH	71-23-8	H	10.2	EI	3916
			H	10.48±0.03	EI	3626
	iso-C_3H_7OH	67-63-0	H	10.3±0.5	PI	5512
			H	<10.48	EI	4915
	$(C_2H_5)_2O$	60-29-7	CH_3	10.26	EI	4915
	iso-$C_3H_7OCH_3$	598-53-8	CH_3	9.82	EI	4915
	$tert$-C_4H_9OH	75-65-0	CH_3	9.86	EI	4915
				10.1±0.2	EI	4124
	n-$C_3H_7(CH_3)OH$	71-23-8	CH_3	10.18	EI	4915
	$tert$-$C_5H_{11}OH$	75-85-4	C_2H_5	9.80	EI	4915
	$C_2H_5OCH_2CH_2OH$	110-80-5	CH_2OH	10.26	EI	4915
	$CH_3OCH(CH_3)CH_2OH$	1589-47-5	CH_2OH	9.68	EI	4915
$C_3H_4D_3O^+$						
	$C_2H_5OCD_3$	16995-14-5	H	10.22±0.1	EI	4071
$C_3H_8O^+$						
	$C_2H_5OCH_3$	540-67-0	**	9.72 (V)	PE	5088
			**	9.62±0.1	EI	4071
	n-C_3H_7OH	71-23-8	**	10.15±0.025	PE	3626
			**	10.49 (V)	PE	4068
			**	10.51 (V)	PE	3941
			**	10.51 (V)	PE	4850
			**	10.52±0.03 (V)	PE	4484
			**	10.0	EI	3916
			**	10.16±0.03	EI	3626
	iso-C_3H_7OH	67-63-0	**	10.10±0.02	PI	5512
			**	10.36 (V)	PE	4068
			**	10.42 (V)	PE	3941
			**	10.44 (V)	PE	4850
			**	10.49±0.03 (V)	PE	4484
$C_3H_5D_3O^+$						
	$C_2H_5OCD_3$	16995-14-5	**	9.64±0.1	EI	4071
$C_4H_4O^+$						
	$CH_3COC{\equiv}CH$	1423-60-5	**	10.19	PE	5289

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_6O^+$						
	$C_6H_5OC_2H_5$	103-73-1	C_2H_4	11.3	EI	3479
	$C_7H_6O_2$ (2,4,6-Cycloheptatrien-1-one, 2-hydroxy-)	533-75-5	CO	10.8	EI	3479
	$C_6H_4(OH)OCH_3$ (Phenol, 4-methoxy-)	150-76-5	HCHO	10.30	EI	3845
	$C_6H_5OOCCH_3$ (Acetic acid, phenyl ester)	122-79-2	$CH_2=C=O$	9.57±0.03	EI	3483
			$CH_2=C=O$	9.89±0.2	EI	3484
	$C_6H_5OCH_2CH_2F$ (Benzene,2-fluoroethoxy-)	405-97-0	C_2H_3F	11.18	EI	5083
	$C_6H_5OCH_2CH_2Cl$ (Benzene,2-chloroethoxy-)	622-86-6	C_2H_3Cl	10.80	EI	5083
	$C_6H_5OCH_2CH_2Br$ (Benzene,2-bromoethoxy-)	589-10-6	C_2H_3Br	9.71	EI	5083
$C_6H_8O^+$						
	$CH_3(CH=CH)_2CHO$	142-83-6	**	9.22±0.03 (V)	PE	4767
	C_6H_8O (2-Cyclohexen-1-one)	930-68-7	**	9.20 (V)	PE	4195
			**	9.23±0.05	PE	5086
			**	9.37 (V)	PE	4285
	C_6H_8O (3-Cyclohexen-1-one)	4096-34-8	**	9.42 (V)	PE	4285
	$C_4H_3OC_2H_5$ (Furan, 2-ethyl-)	3208-16-0	**	8.45±0.05	EI	3482
	C_6H_8O (7-Oxabicyclo[2.2.1]hept-2-ene)	6705-50-6	**	9.44±0.02 (V)	PE	3843
$C_6H_{10}O^+$						
	$C_5H_7(OCH_3)$ (Cyclopentene, 3-methoxy-)	39819-74-4	**	9.45±0.05 (V)	PE	4954
	$C_5H_7(OCH_3)$ (Cyclopentene, 4-methoxy-)	40955-64-4	**	9.12±0.03 (V)	PE	4468
	$C_5H_7O(CH_3)$ (2H-Pyran, 3,4-dihydro-6-methyl-)	16015-11-5	**	8.40 (V)	PE	4569
	n-$C_3H_7CH=CHCHO$	505-57-7	**	9.65	PE	5360
	$CH{\equiv}CC(CH_3)(OH)C_2H_5$	77-75-8	**	10.03 (V)	PE	4847
	$CH_2=CHCH_2CH_2COCH_3$	109-49-9	**	9.50 (V)	PE	4195
	$(C_2H_5)_2C=C=O$	24264-08-2	**	8.24	EI	4660
	$CH_3CH=C(C_2H_5)CHO$ (2-Butenal,2-ethyl-)	19780-25-7	**	9.53	PE	5360
	$C_6H_{10}O$ (Cyclohexanone)	108-94-1	**	9.14±0.03	PI	3765
			**	9.14±0.02 (V)	PE	3517
			**	9.18	PE	5085
			**	9.18 (V)	PE	5043
			**	9.28 (V)	PE	4285
			**	9.5±0.2	EI	4074
	$C_3H_4(CH_3)COCH_3$ (Ethanone,1-(1-methylcyclopropyl)-)	1567-75-5	**	9.3 (V)	PE	5528
	$C_3H_4(CH_3)COCH_3$ (Ethanone,1-(2-methylcyclopropyl)-)	930-56-3	**	9.38 (V)	PE	5528
	$CH_3CH=CHC(=O)C_2H_5$	2497-21-4	**	9.32	PE	5360
	$C_6H_{10}O$ (7-Oxabicyclo[2.2.1]heptane)	279-49-2	**	9.57±0.02 (V)	PE	3843
	$CH_3CH_2CH=C(CH_3)CHO$	623-36-9	**	9.54	PE	5360
	iso-$C_3H_7COCH=CH_2$	1606-47-9	**	9.39	PE	5360
	$CH_3CH=C(CH_3)C(=O)CH_3$	565-62-8	**	9.35	PE	5360
	$(CH_3)_2C=CHC(=O)CH_3$	141-79-7	**	9.11	PE	5360
	$C_3HN(=O)_2(C_2H_5)_2$ (2,4-Azetidinedione, 3,3-diethyl-)	42282-85-9		9.60	EI	4660

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_{10}O^+$						
	$C_3N(=O)_2(C_2H_5)_2C_6H_5$ (2,4-Azetidinedione, 3,3-diethyl-1-phenyl-)	15745-94-5		9.61	EI	4660
$C_6H_{11}O^+$						
	$(C_6H_{11}NO_2)_2$	68777-99-1		9.65	EI	4809
$C_6H_{12}O^+$						
	$C_5H_9(OCH_3)$ (Cyclopentane, methoxy-)	5614-37-9	**	9.40±0.03 (V)	PE	4468
	tert-$C_4H_9COCH_3$	75-97-8	**	8.88±0.04	PE	3851
			**	9.11±0.01	PE	4535
			**	9.117±0.005	PE	5519
			**	9.21 (V)	PE	4224
			**	9.17±0.06	EI	4535
			**	9.24	PE	4395
			**	9.18±0.03	PI	3765
	$(CH_3)_2CHC_2H_4CHO$	1119-16-0	**	9.80	EI	5264
	$C_2H_5CH(CH_3)CH_2CHO$	15877-57-3	**	9.90	EI	5264
	n-$C_5H_{11}CHO$	66-25-1	**	9.62±0.02	PE	4695
			**	9.722±0.005	PE	5519
			**	9.80	EI	5264
	n-$C_3H_7COC_2H_5$	589-38-8	**	9.12±0.02	PE	4695
	n-$C_4H_9COCH_3$	591-78-6	**	9.44±0.03	PI	3765
			**	9.24±0.02	PE	4695
			**	9.331±0.005	PE	5519
			**	9.38 (V)	PE	4850
			**	9.2	EI	3916
	iso-$C_4H_9COCH_3$	108-10-1	**	9.42	PE	4224
			**	9.296±0.005	PE	5519
	sec-$C_5H_{11}CHO$	123-15-9	**	9.70	EI	5264
	sec-$C_4H_9COCH_3$	565-61-7	**	9.209±0.005	PE	5519
	iso-$C_3H_7COC_2H_5$	565-69-5	**	9.098±0.005	PE	5519
	neo-$C_5H_{11}CHO$	2987-16-8	**	9.610±0.005	PE	5519
	$C_6H_{11}OH$ (Cyclohexanol)	108-93-0	**	10.0±0.2	EI	4617
$C_6H_{14}O^+$						
	tert-$C_4H_9OC_2H_5$	637-92-3	**	9.39±0.015 (V)	PE	4434
	$(n\text{-}C_3H_7)_2O$	111-43-3	**	9.49 (V)	PE	4850
$C_7H_5O^+$						
	C_6H_5CHO (Benzaldehyde)	100-52-7	H	11.26	EI	3792
	$C_6H_5COCH_3$ (Acetophenone)	98-86-2	CH_3	10.50±0.01	EI	5059
			CH_3	9.6	EI	3916
			CH_3	10.38	EI	3792
	$(C_6H_5)_2CO$ (Methanone, diphenyl-)	119-61-9		11.35±0.1	EI	4335
			C_6H_5	11.72	EI	3792
			C_6H_5	12.00±0.1	EI	5493
	C_6H_5COOH (Benzoic acid)	65-85-0	OH	11.5±0.07	EI	5121
			OH	12.11±0.2	EI	3973
			OH	12.11	EI	3792
	$C_6H_5COOCH_3$ (Benzoic acid, methyl ester)	93-58-3	OCH_3	10.8±0.05	EI	5121
			OCH_3	11.40	EI	3792
	$C_6H_5COOC_2H_5$ (Benzoic acid, ethyl ester)	93-89-0	OC_2H_5	10.8±0.07	EI	5121
	$C_6H_5COOC_3H_7$ (Benzoic acid, 1-methylethyl ester)	939-48-0	OC_3H_7	11.2±0.10	EI	5121

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_5O^+$						
	$C_6H_5COOC_3H_7$ (Benzoic acid, propyl ester)	2315-68-6	OC_3H_7	11.2±0.05	EI	5121
	$C_6H_5COC_4H_3O$ (Methanone, 2-furanylphenyl-)	2689-59-0	C_4H_3O	12.3±0.1	EI	5493
	$C_6H_5COOC_4H_9$ (Benzoic acid, butyl ester)	136-60-7	OC_4H_9	11.2±0.10	EI	5121
	$C_6H_5COOC_4H_9$ (Benzoic acid, 2-methylpropyl ester)	120-50-3	OC_4H_9	11.3±0.10	EI	5121
	$C_6H_5COOC_5H_{11}$ (Benzoic acid, methylbutyl ester)	XXXXX-XX-X	OC_5H_{11}	11.2±0.10	EI	5121
	$C_6H_5COOC_6H_5$ (Benzoic acid, phenyl ester)	93-99-2		10.0	EI	5631
	$C_6H_5COOC_6H_4OCH_3$ (Phenol, 4-methoxy-, benzoate)	1523-19-9		10.6	EI	5631
	$C_6H_5CONH_2$ (Benzamide)	55-21-0	NH_2	11.09	EI	3792
	$C_6H_5COC_5H_4N$ (Methanone,phenyl-2-pyridinyl-)	91-02-1	C_5H_4N	11.7±0.1	EI	5493
	$C_6H_5COC_5H_4N$ (Methanone,phenyl-3-pyridinyl-)	5424-19-1	C_5H_4N	11.7±0.1	EI	5493
	$C_6H_5COC_5H_4N$ (Methanone,phenyl-4-pyridinyl-)	14548-46-0	C_5H_4N	10.8±0.1	EI	5493
	$C_6H_5COC_4H_3NCH_3$ (Methanone,(1-methyl-1H-pyrrol-2-yl)phenyl-)	37496-06-3		13.1±0.1	EI	5493
	$C_5H_8NCOC_6H_5$ (Pyridine, 1-benzoyl-1,2,3,4-tetrahydro-)	50838-24-9		12.4	EI	4046
	$C_5H_{10}NCOC_6H_5$ (Piperidine, 1-benzoyl-)	776-75-0		14.4	EI	4046
	$C_6H_5COC_6H_4NH_2$ (Methanone, (2-aminophenyl)phenyl-)	2835-77-0		12.6±0.2	EI	4358
	$C_6H_5COC_6H_4NH_2$ (Methanone, (3-aminophenyl)phenyl-)	2835-78-1		12.3±0.2	EI	4358
	$C_6H_5COC_6H_4NH_2$ (Methanone, (4-aminophenyl)phenyl-)	1137-41-3		12.5±0.2	EI	4358
	$C_6H_5COC_4H_3N_2$ (Methanone,phenylpyrazinyl-)	3430-09-9	$C_4H_3N_2$	10.8±0.1	EI	5493
	$C_6H_5COC_4H_3N_2$ (Methanone,phenyl-4-pyrimidinyl-)	68027-80-5	$C_3H_3N_2$	10.7±0.1	EI	5493
	$C_6H_5COC_6H_4NO_2$ (Methanone, (2-nitrophenyl)phenyl-)	2243-79-0		11.05±0.1	EI	4358
	$C_6H_5COC_6H_4NO_2$ (Methanone, (3-nitrophenyl)phenyl-)	2243-80-3		11.15±0.1	EI	4358
	$C_6H_5COC_6H_4NO_2$ (Methanone, (4-nitrophenyl)phenyl-)	1144-74-7		11.4±0.1	EI	4358
	$C_6H_5COOC_6H_4NO_2$ (Benzoic acid, 4-nitrophenyl ester)	959-22-8		10.2	EI	5631
	$C_6H_5COC_4H_3S$ (Methanone, phenyl-2-thienyl-)	135-00-2	C_4H_3S	12.0±0.1	EI	5493
	C_6H_5COCl (Benzoyl chloride)	98-88-4	Cl	10.31	EI	3792
	$C_6H_5COC_6H_4Cl$ (Methanone, (2-chlorophenyl)phenyl-)	5162-03-8		11.1±0.1	EI	4358
	$C_6H_5COC_6H_4Cl$ (Methanone, (3-chlorophenyl)phenyl-)	1016-78-0		11.3±0.1	EI	4358
	$C_6H_5COC_6H_4Cl$ (Methanone, (4-chlorophenyl)phenyl-)	134-85-0		11.5±0.1	EI	4358
$C_7H_6O^+$						
	C_6H_5CHO (Benzaldehyde)	100-52-7	**	9.50±0.02	PI	4031
			**	9.50±0.02	PI	4057

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_6O^+$						
	C_6H_5CHO	100-52-7	**	9.6	PI	3586
			**	9.40	PE	3938
			**	9.49	PE	4621
			**	9.54 (V)	PE	4850
			**	10.0 (V)	PE	4467
			**	9.74	EI	3792
	C_7H_6O (2,4,6-Cycloheptatriene-1-one)	539-80-0	**	8.89±0.03 (V)	PE	4391
			**	8.82 (V)	PE	5444
			**	8.90±0.02 (V)	PE	4140
	$C_6H_4(=O)(=CH_2)$ (2,4-Cyclohexadien-1-one, 6-methylene-)	27890-67-1	**	8.80 (V)	PE	4744
	$C_6H_5CH_2C_6H_4OH$ (Phenol, 4-(phenylmethyl)-)	101-53-1	C_6H_5	11.1±0.2	EI	3807
$C_7H_7O^+$						
	$C_6H_4(OCH_3)CH_3$ (Benzene, 1-methoxy-3-methyl-)	100-84-5	CH_3	11.60±0.1	EI	3446
	$C_6H_4(OCH_3)CH_3$ (Benzene, 1-methoxy-4-methyl-)	104-93-8	CH_3	11.45±0.1	EI	3446
	$C_6H_4(OH)C_4H_9$ (Phenol, 3-butyl-)	4074-43-5		12.79±0.1	EI	3629
	$C_6H_4(OH)C_4H_9$ (Phenol, 4-butyl-)	1638-22-8		11.45±0.1	EI	3629
	$C_6H_4(CH_3)OOCCH_3$ (Acetic acid, 2-methylphenyl ester)	533-18-6	CH_3CO	13.16±0.02	EI	3631
	$C_6H_4(CH_3)OOCCH_3$ (Acetic acid, 4-methylphenyl ester)	140-39-6	CH_3CO	13.47±0.02	EI	3631
	$C_6H_4(OCH_3)COOH$ (Benzoic acid, 3-methoxy-)	586-38-9	COOH	13.07±0.2	EI	3973
	$C_6H_4(OCH_3)COOH$ (Benzoic acid, 4-methoxy-)	100-09-4	COOH	12.80±0.2	EI	3973
	$C_6H_4(NO_2)CH_3$ (Benzene, 1-methyl-3-nitro-)	99-08-1	NO	9.98±0.1	EI	3447
	$CH_3C_6H_4NO_2$ (Benzene,1-methyl-4-nitro-)	99-99-0	NO	10.91±0.05	PI	5437
			NO	10.34±0.1	EI	3447
	$C_6H_4(NO_2)OCH_3$ (Benzene, 1-methoxy-3-nitro-)	555-03-3	NO_2	11.44±0.1	EI	3447
	$C_6H_4(NO_2)OCH_3$ (Benzene, 1-methoxy-4-nitro-)	100-17-4	NO_2	11.63±0.1	EI	3447
$C_7H_8O^+$						
	$C_6H_4CH_3(OH)$ (Phenol,2-methyl-)	95-48-7	**	8.48 (V)	PE	5272
			**	8.50 (V)	PE	4891
			**	8.24±0.02	PE	3890
	$C_6H_4CH_3(OH)$ (Phenol,3-methyl-)	108-39-4	**	8.52 (V)	PE	5272
			**	8.41 (V)	PE	4891
	$C_6H_4CH_3(OH)$ (Phenol,4-methyl-)	106-44-5	**	8.38 (V)	PE	5272
			**	8.35 (V)	PE	4891
			**	8.34	EI	4089
	$C_6H_5CH_2OH$ (Benzenemethanol)	100-51-6	**	9.11 (V)	PE	4850
			**	9.23 (V)	PE	4744
			**	9.00±0.1	EI	3788
	$C_6H_5OCH_3$ (Benzene, methoxy-)	100-66-3	**	8.20±0.02	PE	3890
			**	8.24	PE	4621

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_8O^+$						
	$C_6H_5OCH_3$	100-66-3	**	8.25 (V)	PE	4850
			**	8.39 (V)	PE	5272
			**	8.42 (V)	PE	3781
			**	8.42 (V)	PE	4884
			**	8.45 (V)	PE	5310
			**	8.46 (V)	PE	4327
			**	8.20	EI	3845
			**	8.20	EI	3845
			**	8.25±0.1	EI	3788
			**	8.39±0.1	EI	3446
			**	8.6	EI	3479
			**	8.6	EI	3916
			**	8.76± <0.1	EI	3735
			**	8.18	CTS	3758
			**	8.37	CTS	4029
	C_7H_8O (Bicyclo[2.2.1]hept-2-en-7-one)	694-71-3	**	9.25 (V)	PE	4285
	C_7H_8O (Bicyclo[2.2.1]hept-5-en-2-one)	694-98-4	**	8.86 (V)	PE	4285
	C_7H_8O (2-Oxabicyclo[3.2.1]octa-3,6-diene)	4729-06-0	**	8.04-8.24 (V)	PE	5481
	$C_6H_4(OH)C_4H_9$ (Phenol, 3-butyl-)	4074-43-5	$CH_2=CHCH_3$	11.07±0.1	EI	3629
	$C_6H_4(OH)C_4H_9$ (Phenol, 4-butyl-)	1638-22-8	$CH_2=CHCH_3$	10.32±0.1	EI	3629
	$C_6H_4(OCH_3)_2$ (Benzene, 1,3-dimethoxy-)	151-10-0	CH_2O	10.98±0.1	EI	3446
	$C_6H_4(OCH_3)_2$ (Benzene, 1,4-dimethoxy-)	150-78-7	HCHO	11.00	EI	3845
	$C_6H_4(CH_3)OOCCH_3$ (Acetic acid, 2-methylphenyl ester)	533-18-6	$CH_2=C=O$	9.44±0.02	EI	3631
	$C_6H_4(CH_3)OOCCH_3$ (Acetic acid, 3-methylphenyl ester)	122-46-3	$CH_2=C=O$	10.03±0.2	EI	3484
	$C_6H_4(CH_3)OOCCH_3$ (Acetic acid, 4-methylphenyl ester)	140-39-6	$CH_2=C=O$	9.26±0.02	EI	3631
			$CH_2=C=O$	9.75±0.2	EI	3484
	$C_6H_5OOCOCH_3$ (Carbonic acid, methyl phenyl ester)	13509-27-8	CO_2	10.3	EI	3479
	$(C_6H_5CH_2OH)(CO)_3Cr$ (Chromium, [(1,2,3,4,5,6-η)-benzenemethanol]tricarbonyl-)	12116-45-9		9.40±0.1	EI	3788
	$(C_6H_5OCH_3)(CO)_3Cr$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-methoxybenzene]-)	12116-44-8		8.45±0.1	EI	3788
$C_7H_{10}O^+$						
	$C_7H_9(OH)$ (Bicyclo[2.2.1]hept-2-en-7-ol-*syn*-)	13118-70-2	**	9.41 (V)	PE	4511
	$C_7H_9(OH)$ (Bicyclo[2.2.1]hept-2-en-7-ol-*anti*-)	694-70-2	**	9.19 (V)	PE	4511
	$C_7H_{10}O$ (Bicyclo[2.2.1]heptane-2-one)	497-38-1	**	9.14 (V)	PE	4285
	$C_7H_{10}O$ (Bicyclo[2.2.1]heptan-7-one)	10218-02-7	**	9.06 (V)	PE	4285
	$C_7H_{10}O$ (2-Cyclohepten-1-one)	1121-66-0	**	9.25 (V)	PE	4285
	$C_7H_{10}O$ (3-Cyclohepten-1-one)	1121-64-8	**	9.14 (V)	PE	4285
	$(C_3H_5)_2CO$ (Methanone, dicyclopropyl-)	1121-37-5	**	9.28 (V)	PE	4233
	$C_7H_{10}O$ (2-Oxabicyclo[3.2.1]oct-3-ene)	59171-38-9	**	8.01-8.18 (V)	PE	5481

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_{12}O^+$						
	$C_6H_9(OCH_3)$ (Cyclohexene, 4–methoxy–)	15766–93–5	**	9.01±0.03 (V)	PE	4468
	$C_6H_9O(CH_3)$ (Cyclohexanone,2–methyl–)	583–60–8	**	9.05	PE	5085
			**	9.5±0.2	EI	4074
	$C_6H_9O(CH_3)$ (Cyclohexanone,4–methyl–)	589–92–4	**	9.16	PE	5085
	$CH_2=C(CH_3)CH_2CH_2COCH_3$	3240–09–3	**	9.40 (V)	PE	4195
	$C_7H_{12}O$ (Cycloheptanone)	502–42–1	**	9.14 (V)	PE	4285
			**	9.17±0.02 (V)	PE	3517
$C_7H_{14}O^+$						
	$C_6H_{11}(OCH_3)$ (Cyclohexane, methoxy–)	931–56–6	**	9.22±0.03 (V)	PE	4468
	$C_2H_5C(CH_3)_2COCH_3$	20669–04–9	**	9.019±0.005	PE	5519
	n–$C_4H_9COC_2H_5$	106–35–4	**	9.02±0.02	PE	4695
	n–$C_5H_{11}COCH_3$	110–43–0	**	9.18±0.02	PE	4695
			**	9.298±0.005	PE	5519
			**	9.36 (V)	PE	4850
	n–$C_6H_{13}CHO$	111–71–7	**	9.65±0.02	PE	4695
	$(n$–$C_3H_7)_2CO$	123–19–3	**	9.12±0.03	PI	3765
			**	9.04±0.02	PE	4695
			**	9.10±0.01	PE	5519
	iso–$C_5H_{11}COCH_3$	110–12–3	**	9.284±0.005	PE	5519
	$(iso$–$C_3H_7)_2CO$	565–80–0	**	8.94±0.01	PE	4535
			**	8.947±0.005	PE	5519
			**	8.99±0.04	EI	4535
	neo–$C_5H_{11}COCH_3$	590–50–1	**	9.226±0.005	PE	5519
	$C_6H_{10}(OH)CH_3$ (Cyclohexanol, 1–methyl–)	590–67–0	**	9.8±0.2	EI	4074
$C_8H_4O^+$						
	$C_6H_8O(CH_3)_2$ (Cyclohexanone,4,4–dimethyl–)	4255–62–3	**	9.12	PE	5085
$C_8H_6O^+$						
	$C_6H_5CH=C=O$	3496–32–0	**	8.17 (V)	PE	5610
	C_8H_6O (Benzene,ethynyloxy–)	4279–76–9		8.7	EI	5290
	$C_6H_4C_2H_2O$ (Benzofuran)	271–89–6	**	8.37±0.015 (V)	PE	5522
				8.8	EI	5290
			**	8.85±0.05	EI	4316
	C_8H_6O (Phenol,2–ethynyl–)	5101–44–0		8.5	EI	5290
	$C_9H_6O_2$ (2H–1–Benzopyran–2–one)	91–64–5	CO	10.8	EI	5290
$C_8H_7O^+$						
	$CH_3C_6H_4COCH_3$ (Ethanone,1–(4–methylphenyl)	122–00–9	CH_3	10.52±0.05	EI	5059
	$C_6H_4(CH_3)COOH$ (Benzoic acid, 3–methyl–)	99–04–7	OH	12.38±0.2	EI	3973
	$C_6H_4(CH_3)COOH$ (Benzoic acid, 4–methyl–)	99–94–5	OH	12.07±0.2	EI	3973
	$C_6H_5COCOC_6H_4CH_3$ (Ethanedione, (4–methylphenyl)phenyl–)	2431–00–7	C_6H_5CO	9.84±0.10	EI	3823
$C_8H_8O^+$						
	$C_7H_5OCH_3$ 2,4,6–Cycloheptatriene–1–one, 2–methyl–)	29639–50–0	**	8.61±0.03 (V)	PE	4391

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_8O^+$						
	$C_6H_5COCH_3$ (Benzaldehyde, methyl-)	1334-78-7	**	8.9 (V)	PE	4467
	$C_6H_5CH_2CHO$ (Benzeneacetaldehyde)	122-78-1	**	8.80	PE	3938
	C_8H_8O (Benzofuran, 2,3-dihydro-)	496-16-2	**	8.02	PE	4573
	$C_6H_5COCH_3$ (Ethanone, 1-phenyl-)	98-86-2	**	9.29±0.2	PI	4031
			**	9.29±0.2	PI	4057
			**	9.6	PI	3586
			**	9.1±0.1	PE	4401
			**	9.35 (V)	PE	4850
			**	9.37 (V)	PE	5272
			**	9.45 (V)	PE	4804
			**	9.1	EI	3916
			**	9.50	EI	3792
	$C_6H_4O(=CH_2)_2$ (7-Oxabicyclo[2.2.1]hept-2-ene,5,6-bis(methylene)-)	56582-02-6	**	8.87±0.03 (V)	PE	4665
	C_8H_8O (9-Oxabicyclo[4.2.1]nona-2,4,7-triene)	7140-63-8	**	8.56 (V)	PE	4688
	$C_6H_5C_2H_3O$ (Oxirane, phenyl-)	96-09-3	**	9.04 (V)	PE	4927
			**	9.07 (V)	PE	4747
			**	9.23 (V)	PE	5364
	$C_{10}H_{11}OH$ (1-Naphthalenol, 1,2,3,4-tetrahydro-)	529-33-9	C_2H_4	10.42±0.03	EI	4960
$C_8H_9O^+$						
	$C_6H_4(OCH_3)C_4H_9$ (Benzene, 1-butyl-3-methoxy-)	20893-43-0		12.04±0.1	EI	3629
	$C_6H_4(OCH_3)C_4H_9$ (Benzene, 1-butyl-4-methoxy-)	18272-84-9		10.79±0.1	EI	3629
	$C_6H_5CH_2C_6H_4OCH_3$ (Benzene, 1-methoxy-4-(phenylmethyl)-)	834-14-0	C_6H_5	11.9±0.1	EI	3807
	$C_{16}H_{18}O$ (Benzene, 1-methoxy-4-(3-phenylpropyl)-)	40715-68-2		10.7±0.1	EI	4925
	$C_6H_4(OCH_3)CH_2CH_2OCOCH_3$ (Phenethyl alcohol, *m*-methoxy-, acetate)	33709-39-6		12.10	EI	3590
	$C_6H_4(OCH_3)CH_2CH_2OCOCH_3$ (Phenethyl alcohol, *p*-methoxy-, acetate)	22532-51-0		11.50	EI	3590
$C_8H_6D_3O^+$						
	$C_{17}H_{17}D_3O_2$ (Benzene, 1-methoxy-3-[3-(4-methoxy-d_3-phenyl)propyl]-)	67081-97-4		11.1±0.1	EI	4925
$C_8H_{10}O^+$						
	$CH_3(CH=CH)_3CHO$	17609-31-3	**	8.42±0.03 (V)	PE	4767
	$C_6H_5OC_2H_5$ (Benzene,ethoxy-)	103-73-1	**	8.36 (V)	PE	5310
			**	8.41 (V)	PE	4327
			**	8.6	EI	3479
	$C_6H_5CH_2OCH_3$ (Benzene, (methoxymethyl)-)	538-86-3	**	9.07 (V)	PE	4927
			**	9.12 (V)	PE	3781
	$C_6H_4(CH_3)OCH_3$ (Benzene, 1-methoxy-2-methyl-)	578-58-5	**	7.90	PE	4573
			**	8.03±0.02	PE	3890
			**	8.24 (V)	PE	5272
			**	8.24 (V)	PE	5310
	$C_6H_4(CH_3)OCH_3$ (Benzene,1-methoxy-3-methyl)	100-84-5	**	8.28 (V)	PE	5272

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_{10}O^+$						
	$C_6H_4(CH_3)OCH_3$	100-84-5	**	8.35±0.1	EI	3446
	$C_6H_4(OCH_3)CH_3$ (Benzene, 1-methoxy-4-methyl-)	104-93-8	**	8.14±0.01 (V)	PE	4389
			**	8.16 (V)	PE	4327
			**	8.17 (V)	PE	4211
			**	8.18 (V)	PE	5272
			**	7.85	EI	3845
			**	8.33±0.1	EI	3446
			**	7.91	CTS	3758
	$C_8H_{10}O$ (Bicyclo[2.2.2]oct-5-en-2-one)	2220-40-8	**	8.73 (V)	PE	4285
	$C_6H_6O(=CH_2)_2$ (7-Oxabicyclo[2.2.1]heptane,2,3-bis(methylene)-)	53011-95-3	**	8.79±0.03 (V)	PE	4665
	$C_8H_{10}O$ (9-Oxabicyclo[4.2.1]nona-2,4-diene)	19740-75-1	**	8.55 (V)	PE	4688
	$C_6H_3(CH_3)_2OH$ (Phenol,2,4-dimethyl-)	105-67-9	**	8.18 (V)	PE	5272
	$C_6H_3(CH_3)_2OH$ (Phenol, 2,6-dimethyl-)	576-26-1	**	8.05±0.02	PE	3890
			**	8.26 (V)	PE	5272
			**	8.34 (V)	PE	4327
	$C_8H_{10}O$ (Tricyclo[3.2.1.$0^{2,4}$]octan-8-one, (1α,2α,4α,5α)-)	14224-86-3	**	8.8±0.1	EI	3492
	$C_8H_{10}O$ (Tricyclo[3.2.1.$0^{2,4}$]octan-8-one, *exo*-)	7076-83-7	**	9.2±0.1	EI	3492
	$C_6H_4(OCH_3)C_4H_9$ (Benzene, 1-butyl-3-methoxy-)	20893-43-0	$CH_2=CHCH_3$	10.52±0.1	EI	3629
	$C_6H_4(OCH_3)C_4H_9$ (Benzene, 1-butyl-4-methoxy-)	18272-84-9	$CH_2=CHCH_3$	10.38±0.1	EI	3629
	$C_{16}H_{18}O$ (Benzene, 1-methoxy-3-(3-phenylpropyl)-)	67081-95-2		9.7±0.1	EI	4925
	$C_{17}H_{17}D_3O_2$ (Benzene, 1-methoxy-3-[3-(4-methoxy-d_3-phenyl)propyl]-)	67081-97-4		9.8±0.1	EI	4925
	$C_6H_5OOCOC_2H_5$ (Carbonic acid, ethyl phenyl ester)	3878-46-4	CO_2	10.0	EI	3479
$C_8H_{12}O^+$						
	$C_7H_9(OCH_3)$ (Bicyclo[2.2.1]hept-2-ene, 5-methoxy-*endo*-)	17190-92-0	**	8.69±0.03 (V)	PE	4468
	$C_7H_9(OCH_3)$ (Bicyclo[2.2.1]hept-2-ene, 5-methoxy-*exo*-)	17190-87-3	**	8.68±0.03 (V)	PE	4468
	$C_7H_9(OCH_3)$ (Bicyclo[2.2.1]hept-2-ene, 7-methoxy-*syn*-)	36197-25-8	**	8.84±0.03 (V)	PE	4468
			**	8.95 (V)	PE	4511
	$C_7H_9(OCH_3)$ (Bicyclo[2.2.1]hept-2-ene, 7-methoxy-*anti*-)	13041-10-6	**	9.02±0.03 (V)	PE	4468
			**	9.11 (V)	PE	4511
	C_4H_3O(*tert*-C_4H_9) (Furan, 2-(1,1-dimethylethyl)-)	7040-43-9	**	8.32	CTS	4382
	C_4H_3O(*tert*-C_4H_9) (Furan, 3-(1,1-dimethylethyl-)	7040-42-8	**	8.58	CTS	4382
	$C_8H_{12}O$ (Bicyclo[2.2.2]octan-2-one)	2716-23-6	**	9.10 (V)	PE	4285
	$C_8H_{11}OH$ (Bicyclo[2.2.2]oct-2-en-1-ol)	68211-36-9	**	9.21±0.05 (V)	PE	4842
	anti-$C_8H_{11}OH$ (Bicyclo[2.2.2]oct-5-en-2-ol-(1α,2α,4α)-)	6688-07-9	**	9.14±0.02 (V)	PE	4703
	syn-$C_8H_{11}OH$ (Bicyclo[2.2.2]oct-5-en-2-ol-(1α,2β,4α)-)	19245-72-8	**	9.25±0.02 (V)	PE	4703
	$C_6H_{10}(OH)C{\equiv}CH$ (Cyclohexanol, 1-ethynyl-)	78-27-3	**	10.6 (V)	PE	4847

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_{12}O^+$						
	$C_8H_{12}O$ (2-Cycloocten-1-one)	1728-25-2	**	9.18 (V)	PE	4285
	$C_8H_{12}O$ (3-Cycloocten-1-one)	4734-90-1	**	9.12 (V)	PE	4285
	$C_8H_{12}O$ (9-Oxabicyclo[3.3.1]*non*-1-ene)	40164-27-0	**	8.60 (V)	PE	4569
	$C_8H_{12}O$ (9-Oxabicyclo[4.2.1]non-7-ene)	20642-83-5	**	8.89 (V)	PE	4688
	$C_8H_{11}OH$ (Tricyclo[3.2.1.$0^{2,4}$]octan-8-ol, *endo-syn*-)	7076-81-5	**	8.8±0.1	EI	3492
	$C_8H_{11}OH$ (Tricyclo[3.2.1.$0^{2,4}$]octan-8-ol, *endo-anti*-)	16384-97-7	**	9.1±0.1	EI	3492
	$C_8H_{11}OH$ (Tricyclo[3.2.1.$0^{2,4}$]octan-8-ol, *exo-syn*-)	7076-80-4	**	9.1±0.1	EI	3492
	$C_8H_{11}OH$		**	9.3±0.1	EI	3492
$C_8H_{14}O^+$						
	$C_7H_{11}(OCH_3)$ (Bicyclo[2.2.1]heptane, 2-methoxy-*endo*-)	10395-55-3	**	9.17±0.03 (V)	PE	4468
	$C_7H_{11}(OCH_3)$ (Bicyclo[2.2.1]heptane, 7-methoxy-)	36197-12-3	**	9.27±0.03 (V)	PE	4468
	(*iso*-$C_3H_7)_2C{=}C{=}O$	XXXXX-XX-X	**	8.09	EI	4660
	$C_8H_{13}OH$ (Bicyclo[2.2.2]octan-1-ol)	20534-58-1	**	9.65±0.05 (V)	PE	4842
	$C_8H_{14}(=O)$ (Cyclooctanone)	502-49-8	**	9.00 (V)	PE	4285
			**	9.08 (V)	PE	5043
			**	9.09±0.02 (V)	PE	3517
	n-$C_3H_7CH{=}C(CH_3)C(=O)CH_3$ (3-Hepten-2-one,3-methyl-)	39899-08-6	**	9.22	PE	5360
	$C_8H_{14}O$ (9-Oxabicyclo[3.3.1]nonane)	281-05-0	**	9.05 (V)	PE	4569
	$C_8H_{14}O$ (9-Oxabicyclo[4.2.1]nonane)	284-20-8	**	9.12 (V)	PE	4688
	$C_3HN(=O)_2$(*iso*-$C_3H_7)_2$ (2,4-Azetidinedione, 3,3-bis(1-methylethyl)-)	17197-62-5	HN=C=O	9.49	EI	4660
	$C_{10}H_{17}NO_2$ (2,4-Azetidinedione, 1-methyl-3,3-bis(1-methylethyl)-)	38951-66-5	$CH_3N{=}C{=}O$	9.39	EI	4660
	$C_{11}H_{16}NO_2F_3$ (2,4-Azetidinedione, 3,3-bis(1-methylethyl)-1-(2,2,2-trifluoroethyl)-)	56519-50-7	**	9.55	EI	4660
$C_8H_{16}O^+$						
	tert-C_4H_9CO(*iso*-C_3H_7)	5857-36-3	**	8.797±0.005	PE	5519
	n-$C_6H_{13}COCH_3$	111-13-7	**	9.40±0.03	PI	3765
			**	9.38 (V)	PE	4850
	n-$C_4H_9COCH_2CH_2CH_3$	589-63-9	**	9.10±0.05	PI	3765
$C_8H_{18}O^+$						
	(*n*-$C_4H_9)_2O$	142-96-1	**	9.40 (V)	PE	4850
			**	9.51±0.015 (V)	PE	4434
	(*tert*-$C_4H_9)_2O$ (1,1'Oxybis (1,1-Dimethylethane))	XXXXX-XX-X	**	8.81	PE	4577
$C_9H_8O^+$						
	$CH{\equiv}CCH(OH)C_6H_5$ (Benzenemethanol, α-ethynyl-)	4187-87-5	**	10.69 (V)	PE	4847
	$C_7H_4(=O)(=CH_2)_2$ (Bicyclo[2.2.1]hept-2-en-7-one,5,6-bis(methylene)-)	57297-57-1	**	8.57±0.03 (V)	PE	4665
	$C_9H_8{=}O$ (Bicyclo[4.2.1]nona-2,4,7-trien-9-one)	34733-74-9	**	8.28 (V)	PE	4363
	$C_9H_8(=O)$ (1H-Inden-1-one, 2,3-dihydro-)	83-33-0	**	9.31	EI	4863

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_9H_9O^+$						
	$C_6H_2(CH_3)_2(CH_2D)CHO$ (Benzaldehyde, 2,4-dimethyl-5-(methyl-*d*-)-)	38479-87-7	CH_2D	12.3±0.1	EI	4041
	$C_6H_2(CH_3)_2(CH_2D)CHO$ (Benzaldehyde, 2,5-dimethyl-4-(methyl-*d*)-)	38479-86-6	CH_2D	11.4±0.1	EI	4041
$C_9H_8DO^+$						
	$C_6H_2(CH_3)_2(CH_2D)CHO$ (Benzaldehyde, 2,4-dimethyl-5-(methyl-*d*-)-)	38479-87-7	CH_3	11.5±0.1	EI	4041
	$C_6H_2(CH_3)_2(CH_2D)CHO$ (Benzaldehyde, 2,5-dimethyl-4-(methyl-*d*)-)	38479-86-6	CH_3	11.4±0.1	EI	4041
$C_9H_{10}O^+$						
	$C_9H_{10}O$ (2H-1-Benzopyran, 3,4-dihydro-)	493-08-3	**	7.93	PE	4573
	$C_7H_6(=O)(=CH_2)_2$ (Bicyclo[2.2.1]heptan-7-one,2,3-bis(methylene)-)	38680-06-7	**	8.64±0.03 (V)	PE	4665
	$C_9H_{10}O$ (2-Cyclopropen-1-one,2,3-dicyclopropyl-)	42152-37-4	**	8.55 (V)	PE	5390
	$C_6H_4(CH_3)COCH_3$ (Ethanone,1-(2-methylphenyl-))	577-16-2	**	9.15 (V)	PE	5272
	$C_6H_4(CH_3)COCH_3$ (Ethanone,1-(3-methylphenyl-))	585-74-0	**	9.14 (V)	PE	5272
	$C_6H_4(CH_3)COCH_3$ (Ethanone,1-(4-methylphenyl-))	122-00-9	**	9.12 (V)	PE	5272
	$C_6H_4(OCH_3)CH_2CH_2OCOCH_3$ (Phenethyl alcohol, *m*-methoxy-, acetate)	33709-39-6		8.40	EI	3590
	$C_6H_4(OCH_3)CH_2CH_2OCOCH_3$ (Phenethyl alcohol, *p*-methoxy-, acetate)	22532-51-0		8.25	EI	3590
$C_9H_{12}O^+$						
	$C_6H_5O(iso\text{-}C_3H_7)$ (Benzene, (1-methylethoxy)-)	2741-16-4	**	8.42 (V)	PE	5310
			**	8.32 (V)	PE	4327
	$C_6H_4(CH_3)OC_2H_5$ (Benzene,1-ethoxy-2-methyl-)	614-71-1	**	8.21 (V)	PE	5310
	$C_6H_4(CH_3)OC_2H_5$ (Benzene, 1-ethoxy-4-methyl-)	622-60-6	**	8.13 (V)	PE	4327
	$C_6H_3(CH_3)_2OCH_3$ (Benzene,1-methoxy-2,4-dimethyl-)	6738-23-4	**	7.95 (V)	PE	5272
	$C_6H_3(CH_3)_2OCH_3$ (Benzene, 2-methoxy-1,3-dimethyl-)	1004-66-6	**	8.10±0.02	PE	3890
			**	8.51 (V)	PE	5272
			**	8.53 (V)	PE	4327
	syn-$C_9H_{11}OH$ (Bicyclo[4.2.1]nona-2,4-dien-9-ol *syn*-)	64725-61-7	**	8.62±0.02 (V)	PE	4703
	anti-$C_9H_{11}OH$ (Bicyclo[4.2.1]nona-2,4-dien-9-ol *anti*-)	64725-60-6	**	8.43±0.02 (V)	PE	4703
	$C_9H_{12}(=O)$ (Bicyclo[4.2.1]non-7-en-9-one)	42948-91-4	**	9.10 (V)	PE	4363
	$C_9H_{12}(=O)$ (Tricyclo[3.2.1.1^{3,6} nonan-2-one)	XXXXX-XX-X	**	8.67 (V)	PE	5043
	$C_9H_{12}(=O)$ (Tricyclo[3.2.1.1^{3,6}]nonan-7-one)	XXXXX-XX-X	**	8.81 (V)	PE	5043
	$C_{10}H_{12}O_2$ (2,5-Cyclohexadiene-1,4-dione, 2,3,5,6-tetramethyl-)	527-17-3	CO	10.1±0.05	PI	3523
$C_9H_{14}O^+$						
	$C_9H_{14}(=O)$ (Bicyclo[4.2.1]nonan-9-one)	14252-11-0	**	8.90 (V)	PE	4363
	$C_9H_{14}(=O)$ (Bicyclo[4.3.0]nonan-7-one)	XXXXX-XX-X	**	9.08±0.08	EI	5038

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_9H_{14}O^+$						
	$C_9H_{14}(=O)$ (Bicyclo[4.3.0]nonan-8-one)	XXXXX-XX-X	**	9.14±0.08	EI	5038
	syn-$C_9H_{13}OH$ (Bicyclo[4.2.1]non-3-en-9-ol *syn*-)	64725-59-3	**	9.14±0.02 (V)	PE	4703
	anti-$C_9H_{13}OH$ (Bicyclo[4.2.1]non-3-en-9-ol *anti*-)	64725-58-2	**	9.11±0.02 (V)	PE	4703
	$C_8H_{11}OCH_3$ (Bicyclo[2.2.2]oct-2-ene, 1-methoxy-)	25489-02-5	**	9.17±0.05 (V)	PE	4842
	$C_8H_{11}OCH_3$ (Bicyclo[2.2.2]oct-2-ene, 5-methoxy-)	56206-38-3	**	8.77±0.03 (V)	PE	4468
	$C_{10}H_{15}(=O)CH_3$ (Bicyclo[4.4.0]decan-3-one, 2-methyl-)	XXXXX-XX-X	**	10.50±0.08	EI	5038
	$C_{10}H_{15}(=O)CH_3$ (Bicyclo[4.4.0]decan-3-one, 4-methyl-)	XXXXX-XX-X	**	10.65±0.08	EI	5038
$C_9H_{16}O^+$						
	$C_8H_{13}OCH_3$ (Bicyclo[2.2.2]octane, 1-methoxy-)	7697-14-5	**	9.17±0.05 (V)	PE	4842
	$C_8H_{13}OCH_3$ (Bicyclo[2.2.2]octane, 2-methoxy-)	56206-39-4	**	9.07±0.03	PE	4468
$C_9H_{18}O^+$						
	n-$C_7H_{15}COCH_3$	821-55-6	**	9.38 (V)	PE	4850
	(*iso*-$C_4H_9)_2CO$	108-83-8	**	9.04±0.03	PI	3765
			**	8.98±0.01	PE	5519
	(*tert*-$C_4H_9)_2CO$	815-24-7	**	8.67±0.01	PE	4535
			**	8.67±0.02	PE	5519
			**	8.79±0.05	EI	4535
			**	8.65±0.03	PI	3765
$C_{10}H_8O^+$						
	$C_{10}H_8O$ (2-Cyclopropen-1-one,2-methyl-3-phenyl-)	26307-30-2	**	8.64 (V)	PE	5390
	$C_{10}H_7OH$ (1-Naphthalenol)	90-15-3	**	7.76±0.03	PI	5552
			**	7.78 (V)	PE	4466
	$C_{10}H_7OH$ (2-Naphthalenol)	135-19-3	**	7.85±0.05	PI	5552
			**	7.90 (V)	PE	4466
$C_{10}H_{10}O^+$						
	$C(C_6H_5)(C_2H_5)=C=O$ (1-Buten-1-one, 2-phenyl-)	XXXXX-XX-X	**	7.94	EI	4660
	$C_3HN(=O)_2C_2H_5(C_6H_5)$ (2,4-Azetidinedione, 3-ethyl-3-phenyl-)	42282-82-6	**	8.97	EI	4660
	$C_{12}H_{13}NO_2$ (2,4-Azetidinedione, 3-ethyl-1-methyl-3-phenyl-)	56519-51-8	**	8.83	EI	4660
$C_{10}H_{11}O^+$						
	$C_{10}H_{11}OH$ (1-Naphthalenol, 1,2,3,4-tetrahydro-)	529-33-9	H	9.67±0.11	EI	4960
	$C_{10}H_{11}OH$ (2-Naphthalenol, 1,2,3,4-tetrahydro-)	530-91-6	H	11.6	EI	4960
$C_{10}H_{12}O^+$						
	$C_6H_4(OCH_3)C_3H_5$ (Benzene, 1-cyclopropyl-4-methoxy-)	4030-17-5	**	8.05 (V)	PE	4815
	$C_6H_4(OCH_3)CH_2CH=CH_2$ (Benzene, 1-methoxy-4-(2-propenyl)-)	140-67-0	**	8.20 (V)	PE	4211
	$C_{10}H_{11}OH$ (1-Naphthalenol, 1,2,3,4-tetrahydro-)	529-33-9	**	8.70±0.01	EI	4960

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{10}H_{12}O^+$						
	$C_{10}H_{11}OH$ (2-Naphthalenol, 1,2,3,4-tetrahydro-)	530-91-6	**	8.67±0.02	EI	4960
$C_{10}H_{11}DO^+$						
	$C_6H_2(CH_3)_2(CH_2D)CHO$ (Benzaldehyde, 2,4-dimethyl-5-(methyl-*d*-)-)	38479-87-7	**	8.7±0.1	EI	4041
	$C_6H_2(CH_3)_2(CH_2D)CHO$ (Benzaldehyde, 2,5-dimethyl-4-(methyl-*d*)-)	38479-86-6	**	8.7±0.1	EI	4041
$C_{10}H_{14}O^+$						
	$C_6H_5O(tert\text{-}C_4H_9)$ (Benzene, (1,1-dimethylethoxy-))	6669-13-2	**	8.66 (V)	PE	4327
			**	8.71±0.015 (V)	PE	
			**	8.77 (V)	PE	5310
	$C_6H_4(CH_3)O(iso\text{-}C_3H_7)$ (Benzene,1-methyl-2-(1-methylethoxy)-)	33426-60-7	**	8.24 (V)	PE	5310
	$C_6H_3(CH_3)_2OC_2H_5$ (Benzene, 2-ethoxy-1,3-dimethyl-)	26620-08-6	**	8.49 (V)	PE	4327
	$C_6H_2(CH_3)_3OCH_3$ (Benzene,2-methoxy-1,3,5-trimethyl-)	4028-66-4	**	8.28 (V)	PE	5310
	$C_6H_4(CH_3)OCH(CH_3)_2$ (Benzene, 1-methyl-4-(1-methylethoxy)-)	22921-10-4	**	8.09 (V)	PE	4327
	syn-$C_9H_{11}OCH_3$ (Bicyclo[4.2.1]nona-2,4-diene, 9-methoxy-*syn*-)	64725-62-8	**	8.28±0.02 (V)	PE	4703
	$C_6H_4(OH)C_4H_9$ (Phenol, 3-butyl-)	4074-43-5	**	8.92±0.1	EI	3629
	$C_6H_4(OH)C_4H_9$ (Phenol, 4-butyl-)	1638-22-8	**	8.67±0.1	EI	3629
	$C_6H_4(OH)C_4H_9$ (Phenol, 2-(1,1-dimethylethyl-)	88-18-6	**	8.10±0.02	PE	3890
	$C_{10}H_{14}(=O)$ (Tricyclo[3.3.1.1^{3,7}]decanone)	700-58-3	**	8.67 (V)	PE	5043
			**	8.59	PE	3886
			**	8.80±0.02 (V)	PE	4217
	$C_{10}H_{14}(=O)$ (Tricyclo[4.2.1.1^{2,6}]decan-8-one)	XXXXX-XX-X	**	8.57 (V)	PE	5043
	$C_{10}H_{14}(=O)$ (Tricyclo[4.2.1.1^{3,6}]decan-8-one)	XXXXX-XX-X	**	8.96 (V)	PE	5043
$C_{10}H_{16}O^+$						
	$C_{10}H_{16}O$ (Bicyclo[2,2,1]heptan-2-one, 1,7,7-trimethyl-)	76-22-2	**	8.76±0.03	PI	3765
	$C_{10}H_{15}OH$ (Tricyclo[3.3.1.1^{3,7}]decan-1-ol)	768-95-6	**	9.09±0.05	PE	3886
	$C_{10}H_{15}OH$ (Tricyclo[3.3.1.1^{3,7}]decan-2-ol)	700-57-2	**	9.09±0.07	PE	3886
$C_{10}H_{18}O^+$						
	$C_6H_8(tert\text{-}C_4H_9)(OH)$ (2-Cyclohexen-1-ol,4-(1,1-dimethylethyl)-*cis*-)	35376-39-7	**	9.33±0.02 (V)	PE	5420
	$C_6H_8(tert\text{-}C_4H_9)(OH)$ (2-Cyclohexen-1-ol,4-(1,1-dimethylethyl)-*trans*-)	35376-40-0	**	9.18±0.02 (V)	PE	5420
	$C_6H_9O(tert\text{-}C_4H_9)$ (Cyclohexanone,4-*tert*-butyl-)	98-53-3	**	9.04	PE	5085
$C_{10}H_{20}O^+$						
	$C_6H_{10}(tert\text{-}C_4H_9)(OH)$ (Cyclohexanol,4-(1,1-dimethylethyl)-*cis*-)	937-05-3	**	9.82±0.02 (V)	PE	5420
	$C_6H_{10}(tert\text{-}C_4H_9)(OH)$ (Cyclohexanol,4-(1,1-dimethylethyl)-*trans*-)	21862-63-5	**	9.91±0.02 (V)	PE	5420

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{11}H_8O^+$						
	$C_{11}H_8O$	4443-91-8	**	8.61±0.03 (V)	PE	4391
	(7-H-Benzocyclohepten-7-one)					
	$C_{10}H_7CHO$	66-77-3	**	8.43±0.03	PI	5552
	(1-Naphthalenecarboxaldehyde)					
$C_{11}H_{10}O^+$						
	$C_{10}H_7OCH_3$	2216-69-5	**	7.72 (V)	PE	3781
	(Naphthalene, 1-methoxy-)					
	$C_{10}H_7OCH_3$	93-04-9	**	7.87 (V)	PE	3781
	(Naphthalene, 2-methoxy-)					
$C_{11}H_{12}O^+$						
	syn-$C_{11}H_{11}OH$	1198-20-5	**	8.80±0.02 (V)	PE	4703
	(1,4-Methanonaphthalen-9-ol, 1,2,3,4-tetrahydrostereoisomer)					
			**	8.62±0.02 (V)	PE	4703
	$C_{20}H_{26}O_2$	1232-89-9		11.46±0.05	EI	3571
	(*D*-Homoestra-1,3,5(10)-trien-17a-one, 3-methoxy-)					
	$C_{20}H_{26}O_2$	1232-88-8		11.20±0.05	EI	3571
	(*D*-Homoestra-1,3,5(10)-trien-17a-one, 3-methoxy-, (8α)-)					
$C_{11}H_{13}O^+$						
	$C_6(CH_3)_4(CH_2D)CHO$	43022-36-2	CH_2D	11.2±0.1	EI	4041
	(Benzaldehyde, 2,3,5,6-tetramethyl-4-(methyl-*d*)-)					
$C_{11}H_{14}O^+$						
	$C_6H_4(OCH_3)C_3H_4(CH_3)$	63340-01-2	**	8.09 (V)	PE	4815
	(Benzene, 1-methoxy-4-(1-methylcyclopropyl)-)					
	$C_{11}H_{14}O$	58287-34-6	**	8.44 (V)	PE	5390
	(2-Cyclopropen-1-one,2,3-bis(1-methylcyclopropyl)-)					
	$C_6H_5CO(CH_2)_3CH_3$	1009-14-9	**	9.3 (V)	PE	4804
	(1-Pentanone, 1-phenyl-)					
	tert-$C_4H_9COC_6H_5$	938-16-9	**	8.70	PE	4395
	(1-Propanone, 2,2 dimethyl-1-phenyl-)					
			**	9.02 (V)	PE	4804
$C_{11}H_{13}DO^+$						
	$C_6(CH_3)_4(CH_2D)CHO$	43022-36-2	CH_3	11.2±0.1	EI	4041
	(Benzaldehyde, 2,3,5,6-tetramethyl-4-(methyl-*d*)-)					
$C_{11}H_{16}O^+$						
	$C_6H_4(CH_3)O(tert\text{-}C_4H_9)$	15359-96-3	**	8.45 (V)	PE	5310
	(Benzene,1-(1,1-dimethylethoxy)-2-methyl-)					
	$C_6H_4(OCH_3)C_4H_9$	20893-43-0	**	8.17±0.1	EI	3629
	(Benzene, 1-butyl-3-methoxy-)					
	$C_6H_4(OCH_3)C_4H_9$	18272-84-9	**	8.24±0.1	EI	3629
	(Benzene, 1-butyl-4-methoxy-)					
	$C_6H_4(CH_3)OC(CH_3)_3$	15359-98-5	**	8.23 (V)	PE	4327
	(Benzene, 1-(1,1-dimethylethoxy)-4-methyl-)					
	$C_6H_3(CH_3)_2OCH(CH_3)_2$	54350-31-1	**	8.49 (V)	PE	4327
	(Benzene, 1,3-dimethyl-2-(1-methylethoxy)-)					
	$C_6H_2(CH_3)_3OC_2H_5$	61248-63-3	**	8.28 (V)	PE	5310
	(Benzene,2-ethoxy-1,3,5-trimethyl-)					
	$C_{10}H_{13}(=O)CH_3$	826-56-2	**	9.6±0.2	EI	4074
	(2(3*H*)-Naphthalenone, 4,4a,5,6,7,8-hexahydro-4a-methyl-)					
$C_{11}H_{18}O^+$						
	$C_{10}H_{15}(=O)CH_3$	XXXXX-XX-X	**	9.32±0.08	EI	5038
	(Bicyclo[4.4.0]decan-3-one, 2-methyl-)					
	$C_{10}H_{15}(=O)CH_3$	XXXXX-XX-X	**	9.41±0.08	EI	5038
	(Bicyclo[4.4.0]decan-3-one, 4-methyl-)					
	$C_9H_{13}(=O)(C_2H_5)$	XXXXX-XX-X	**	9.40±0.08	EI	5038
	(Bicyclo[4.3.0]*nonan*-7-*one*, 1-ethyl-)					

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{11}H_{18}O^+$						
	$C_9H_{13}(=O)(C_2H_5)$ (Bicyclo[4.3.0]nonan-8-one, 7-ethyl-)	XXXXX-XX-X	**	9.45±0.08	EI	5038
	$C_3(C_4H_9)_2=O$ (2-Cyclopropen-1-one, 2,3-bis(1,1-dimethylethyl)-)	19985-79-6	**	8.23 (V)	PE	4361
			**	8.36 (V)	PE	5390
	$C_6H_6(CH_3)(OH)C_4H_8$ (4a(2H)-Naphthalenol,1,3,4,7,8,8a-hexahydro-8a-methyl-*cis*-)	68211-44-9	**	9.26±0.02 (V)	PE	5420
	$C_6H_6(CH_3)(OH)C_4H_8$ (4a(2H)-Naphthalenol,1,3,4,7,8,8a-hexahydro-8a-methyl-*trans*-)	XXXXX-XX-X	**	9.35±0.02 (V)	PE	5420
	$C_{11}H_{17}OH$ (4a(2H)-Naphthalenol, 1,3,4,7,8,8a-hexahydro-8a-methyl-*trans*-)	67497-82-9	**	9.35±0.05 (V)	PE	4842
$C_{11}H_{20}O^+$						
	$C_6H_8(tert\text{-}C_4H_9)(OCH_3)$ (Cyclohexene,3-(1,1-dimethylethyl)-6-methoxy-*cis*-)	71555-63-0	**	9.29±0.03 (V)	PE	5420
	$C_6H_8(tert\text{-}C_4H_9)(OCH_3)$ (Cyclohexene,3-(1,1-dimethylethyl)-6-methoxy-*trans*-)	71555-64-1	**	8.97±0.02 (V)	PE	5420
	$C_{11}H_{19}OH$ (Cyclohexanol, 5-(1,1-dimethylethyl)-2-methylene-*cis*-)	19245-69-3	**	9.18±0.05 (V)	PE	4842
			**	9.18±0.02 (V)	PE	5420
	$C_{11}H_{19}OH$ (Cyclohexanol, 5-(1,1-dimethylethyl)-2-methylene-*trans*-)	19245-70-6	**	9.37±0.05 (V)	PE	4842
			**	9.37±0.02 (V)	PE	5420
	$C_3H_2(C_4H_9)_2=O$ (Cyclopropanone, 2,3-bis(1,1-dimethylethyl)-, *trans*-)	14743-58-9	**	8.45 (V)	PE	4361
	$tert\text{-}C_4H_9COC(C_2H_5)=C(CH_3)CH_3$ (4-Hexen-3-one,4-ethyl-2,2,5-trimethyl-)	68165-37-7	**	8.74	PE	5360
	$C_6H_8(CH_3)(OH)C_4H_8$ (4a(2H)-Naphthalenol,octahydro-8a-methyl-*cis*-)	5173-74-0	**	9.45±0.02 (V)	PE	5420
	$C_{11}H_{19}OH$ (4a(2H)-Naphthalenol, octahydro-8a-methyl-*trans*-)	5173-73-9	**	9.41±0.05 (V)	PE	4842
$C_{11}H_{22}O^+$						
	$C_6H_{10}(tert\text{-}C_4H_9)(OCH_3)$ (Cyclohexane,1-(1,1-dimethylethyl)-4-methoxy-*cis*-)	15875-99-7	**	9.36±0.02 (V)	PE	5420
	$C_6H_{10}(tert\text{-}C_4H_9)(OCH_3)$ (Cyclohexane,1-(1,1-dimethylethyl)-4-methoxy-*trans*-)	15876-31-0	**	9.32±0.02 (V)	PE	5420
$C_{12}H_8O^+$						
	$(C_6H_4)_2O$ (Dibenzofuran)	132-64-9	**	8.09 (V)	PE	5619
			**	8.77	EI	4228
$C_{12}H_{10}O^+$						
	$(C_6H_5)_2O$ (Benzene,1,1'-oxybis-)	101-84-8	**	8.09±0.03	PI	5552
			**	8.0	PE	4228
	$C_{11}H_7OCH_3$ (7-H-Benzocyclohepten-7-one,6-methyl-)	4900-73-6	**	8.46±0.03 (V)	PE	4391
	$C_6H_5C_6H_4OH$ ([1,1'-Biphenyl]-2-ol)	90-43-7	**	7.80±0.02	PE	3702
	$C_6H_5C_6H_4OH$ ([1,1'-Biphenyl]-4-ol)	92-69-3	**	7.78±0.03	PI	5552
	$C_{10}H_7COCH_3$ (Ethanone, 1-(1-naphthalenyl)-)	941-98-0	**	8.23 (V)	PE	4466
	$C_{10}H_7COCH_3$ (Ethanone, 1-(2-naphthalenyl)-)	93-08-3	**	8.31 (V)	PE	4466
	$C_{10}H_7C_2H_3O$ (Oxirane,2-naphthalenyl-)	20861-99-8	**	8.21 (V)	PE	5364

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{12}H_{12}O^+$						
	$C_{11}H_9(OCH_3)$	53308-23-9	**	8.10±0.05 (V)	PE	5019
	(1,4-Methanonaphthalene, 1,4-dihydro-5-methoxy-)					
			**	8.10 (V)	PE	4835
	$C_{11}H_9(OCH_3)$	4897-71-6	**	7.87±0.05	PE	5019
	(1,4-Methanonaphthalene, 1,4-dihydro-6-methoxy-)					
			**	7.87 (V)	PE	4835
$C_{12}H_{14}O^+$						
	syn-$C_{11}H_{11}OCH_3$	64725-57-1	**	8.46±0.02 (V)	PE	4703
	1,4-Methanonaphthalene, 1,2,3,4-tetrahydro-9-methoxy-stereoisomer)					
	$C_{12}H_{14}O$	60964-67-2	**	8.85±0.05 (V)	PE	4593
	(4a,8a-Ethanonaphthalene-9-one, 1,4,5,8-tetrahydro-)					
	anti-$C_{11}H_{11}OCH_3$	64725-57-1	**	8.61±0.02 (V)	PE	4703
	(1,4-Methanonaphthalene, 1,2,3,4-tetrahydro-9-methoxy-stereoisomer)					
	anti-$C_{11}H_{10}(OH)CH_3$	1201-10-1	**	8.31±0.02 (V)	PE	4703
	(1,4-Methanonaphthalen-9-ol, 1,2,3,4-tetrahydro-6-methyl-(1α,4α,6R*)-)					
	syn-$C_{11}H_{10}(OH)CH_3$	16306-87-7	**	8.41±0.02 (V)	PE	4703
	(1,4-Methanonaphthalen-9-ol, 1,2,3,4-tetrahydro-6-methyl-(1α,4α 9S*)-)					
$C_{12}H_{16}O^+$						
	$C_6H_4(OCH_3)C_3H_4(C_2H_5)$	63340-02-3	**	8.11 (V)	PE	4815
	(Benzene, 1-(1-ethylcyclopropyl)-4-methoxy-)					
	$C_6H_4(C(CH_3)_3)COCH_3$	943-27-1	**	9.01±0.05 (V)	PE	5097
	(Ethanone,1-[4-(1,1-dimethylethyl)phenyl]-)					
	$C_6H_4(CH_3)CO(CH_2)_3CH_3$	1671-77-8	**	9.02 (V)	PE	4804
	(1-Pentanone, 1-(4-methylphenyl)-)					
$C_{12}H_{15}DO^+$						
	$C_6(CH_3)_4(CH_2D)CHO$	43022-36-2	**	8.3±0.1	EI	4041
	(Benzaldehyde, 2,3,5,6-tetramethyl-4-(methyl-*d*)-)					
$C_{12}H_{18}O^+$						
	$C_6H_2(CH_3)_3O(iso\text{-}C_3H_7)$	13605-05-5	**	8.15 (V)	PE	5310
	(Benzene,1,3,5-trimethyl-2-(1-methylethoxy)-)					
	$C_6H_3(CH_3)_2OC(CH_3)_3$	54350-32-2	**	8.47 (V)	PE	4327
	(Benzene, 2-(1,1-dimethylethoxy)-1,3-dimethyl-)					
	$C_{10}H_{15}COCH_3$	1660-04-4	**	8.82±0.05	PE	3851
	(Ethanone, 1-tricyclo[3.3.1.1^{3,7}]dec-1-yl-)					
$C_{12}H_{20}O^+$						
	$C_6H_6(CH_3)(OCH_3)C_4H_8$	71546-87-7	**	9.34±0.02 (V)	PE	5420
	(Naphthalene,1,2,3,4,4a,5,6,8a-octahydro-8a-methoxy-4a-methyl-*cis*-)					
	$C_6H_6(CH_3)(OCH_3)C_4H_8$	68211-38-1	**	9.00±0.05 (V)	PE	4842
	(Naphthalene, 1,2,3,4,4a,5,6,8a-octahydro-8a-methoxy-4a-methyl-*trans*-)					
			**	9.35±0.02 (V)	PE	5420
$C_{12}H_{22}O^+$						
	$C_{11}H_{19}OCH_3$	68211-39-2	**	8.97±0.05 (V)	PE	4842
	(Cyclohexane, 1-(1,1-dimethylethyl)-3-methoxy-4-methylene-*cis*-)					
			**	8.97±0.02 (V)	PE	5420
	$C_{11}H_{19}OCH_3$	68211-40-5	**	9.30±0.05 (V)	PE	4842
	(Cyclohexane, 1-(1,1-dimethylethyl)-3-methoxy-4-methylene-*trans*-)					
			**	9.30±0.02 (V)	PE	5420
	$C_6H_8(CH_3)(OCH_3)C_4H_8$	17987-54-1	**	9.08±0.02 (V)	PE	5420
	(Naphthalene,decahydro-4a-methoxy-8a-methyl-*cis*-)					
	$C_{11}H_{19}OCH_3$	17987-53-0	**	9.10±0.05 (V)	PE	4842
	(Naphthalene, decahydro-4a-methoxy-8a-methyl-*trans*-)					
$C_{13}H_8O^+$						
	$(C_6H_4)_2CO$	486-25-9	**	8.36±0.03	PI	5552
	(9H-Fluoren-9-one)					

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{13}H_8O^+$						
	$(C_6H_4)_2CO$	486-25-9	**	8.36±0.02	PI	3523
	$C_{13}H_8(=O)$ (1H-Phenalen-1-one)	548-39-0	**	8.20±0.04 (V)	PE	5193
	$C_6H_5COC_6H_4NH_2$ (Methanone, (2-aminophenyl)phenyl-)	2835-77-0		11.2±0.2	EI	4358
	$C_6H_5COC_6H_4NH_2$ (Methanone, (3-aminophenyl)phenyl-)	2835-78-1		12.3±0.3	EI	4358
	$C_6H_5COC_6H_4NH_2$ (Methanone, (4-aminophenyl)phenyl-)	1137-41-3		11.5±0.2	EI	4358
$C_{13}H_9O^+$						
	$C_6H_5COC_6H_4Cl$ (Methanone, (2-chlorophenyl)phenyl-)	5162-03-8		10.9±0.2	EI	4358
	$C_6H_5COC_6H_4Cl$ (Methanone, (3-chlorophenyl)phenyl-)	1016-78-0		11.0±0.1	EI	4358
	$C_6H_5COC_6H_4Cl$ (Methanone, (4-chlorophenyl)phenyl-)	134-85-0		11.1±0.2	EI	4358
$C_{13}H_{10}O^+$						
	$C_6H_5C_6H_4CHO$ ([1,1'-Biphenyl]-4-carboxaldehyde)	3218-36-8	**	8.47±0.03	PI	5552
	$(C_6H_5)_2CO$ (Methanone, diphenyl-)	119-61-9	**	9.14±0.03	PI	4031
			**	9.14±0.03	PI	4057
			**	9.4	PI	3586
			**	9.05±0.05 (V)	PE	4844
			**	9.4±0.1	EI	5493
			**	9.45±0.1	EI	4335
			**	9.45±0.1	EI	4358
			**	9.46	EI	3792
	$(C_6H_4)_2CH_2OC(=O)$ (Dibenz[*b,e*]oxepin-11(6H)-one)	4504-87-4	CO	11.5	EI	5340
$C_{13}H_{11}O^+$						
	$C_6H_5CH_2C_6H_4OCH_3$ (Benzene, 1-methoxy-4-(phenylmethyl)-)	834-14-0	CH_3	11.9±0.1	EI	3807
$C_{13}H_{12}O^+$						
	$C_{11}H_9(COCH_3)$ (Ethanone, 1-(1,4-dihydro-1,4-methanonaphthalen-5-yl)-)	61346-78-9	**	8.49±0.05 (V)	PE	5019
	$C_{11}H_9(COCH_3)$ (Ethanone, 1-(1,4-dihydro-1,4-methanonaphthalen-6-yl)-)	63509-77-3	**	8.57±0.05 (V)	PE	5019
	$C_6H_5CH_2OC_6H_5$ (Benzene,phenoxymethyl-)	946-80-5	**	8.31	CT	5336
	$C_{11}H_6O(CH_3)_2$ (7H-Benzocyclohepten-7-one,6,8-dimethyl-)	2484-16-4	**	8.29±0.03 (V)	PE	4391
	$C_{11}H_6O(CH_3)_2$ (7H-Benzocyclohept-7-one,2,3-dimethyl-)	55027-90-2	**	8.25±0.03 (V)	PE	4391
	$C_6H_5CH_2C_6H_4OH$ (Phenol, 4-(phenylmethyl)-)	101-53-1	**	8.45±0.05	EI	3806
$C_{13}H_{18}O^+$						
	$C_{13}H_{18}O$ (Benzene, 1-methoxy-4-[1-(1-methylethyl)cyclopropyl]-)	63340-03-4	**	8.10 (V)	PE	4815
$C_{13}H_{20}O^+$						
	$C_6H_2(CH_3)_3O(tert\text{-}C_4H_9)$ (Benzene,2-(1,1-dimethylethoxy)-1,3,5-trimethyl-)	61248-61-1	**	8.27 (V)	PE	5310
	$C_5H_2(O)(C_4H_9)_2$ (2,4-Cyclopentadien-1-one, 2,5-bis(1,1-dimethylethyl)-)	36319-88-7	**	8.50 (V)	PE	4293
	$C_5H_2(O)(C_4H_9)_2$ (2,4-Cyclopentadien-1-one, 3,4-bis(1,1-dimethylethyl)-)	28786-71-2	**	8.60 (V)	PE	4293

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{14}H_{10}O^+$						
	$C_{14}H_{10}O$ (9(10H)-Anthracenone)	90-44-8	**	8.83±0.03	PI	5552
			**	8.83±0.03	PI	3523
	$C_{14}H_{10}O$ (Dibenz [*b,f*]oxepin)	257-05-6	**	7.45	PE	4611
	$(C_6H_5)_2C{=}C{=}O$ (Ethenone, diphenyl-)	525-06-4	**	7.85	EI	4660
	$C_{14}H_{10}O$ (Phenanthro[9,10-*b*]oxirene,1a,9b-dihydro-)	585-08-0	**	8.19 (V)	PE	5364
			**	8.24 (V)	OTH	4927
	$C_3N(=O)_2(C_6H_5)_3$ (2,4-Azetidinedione, 1,3,3-triphenyl-)	15745-93-4	**	8.46	EI	4660
	$(C_6H_4)_2CH_2SC(=O)$ (Dibenz[*b,e*]thiepin-11(6H)-one)	1531-77-7	S	9.45	EI	5340
	$C_{14}H_{10}SO_3$ (Dibenzo[*b,e*]thiepin-11(6H)-one-5,5-dioxide)	33301-21-2	SO_2	10.00	EI	5414
$C_{14}H_{12}O^+$						
	$C_{14}H_{12}O$ (Oxirane,*cis*-2,3-diphenyl-)	1689-71-0	**	8.68	PE	5260
	$C_{14}H_{12}O$ (Oxirane,*trans*-2,3-diphenyl-)	1439-07-2	**	8.60	PE	5260
$C_{14}H_{14}O^+$						
	$C_6H_5CH_2C_6H_4OCH_3$ (Benzene, 1-methoxy-4-(phenylmethyl)-)	834-14-0	**	8.20±0.05	EI	3806
	$C_6H_5CH_2OC_6H_4CH_3$ (Benzene,1-methyl-4-(phenylmethoxy)-)	834-25-3	**	7.91	CTS	5336
	$C_6H_4(CH_2CH_2)_2C_4H_2O$ (15-Oxatricyclo[8.2.2.1^{4,7}]pentadeca-4,6,10,12,13-pentaene)	5040-51-7	**	7.78 (V)	PE	5575
$C_{14}H_{20}O^+$						
	$C_{14}H_{20}O$ (Benzene, 1-[1-(1,1-dimethylethyl)cyclopropyl]-4-methoxy-)	63340-04-5	**	8.05 (V)	PE	4815
$C_{14}H_{22}O^+$						
	$C_6H_3(C_4H_9)_2OH$ (Phenol, 2,6-bis(1,1-dimethylethyl-)	128-39-2	**	7.70±0.02	PE	3890
	$C_6H_3(C_4H_9)_2OH$ (Phenol, 3,5-bis(1,1-dimethylethyl-)	1138-52-9	**	7.90±0.02	PE	3890
$C_{15}H_{10}O^+$						
	$C_{14}H_9CHO$ (9-Anthracenecarboxaldehyde)	642-31-9	**	7.69±0.03	PI	5552
			**	7.67±0.03 (V)	PE	4887
	$C_{15}H_{10}O$ (2-Cyclopropen-1-one,2,3-diphenyl-)	886-38-4	**	8.47 (V)	PE	5390
			**	10.56 (V)	PE	4856
	$C_{15}H_{10}O$ (5H-Dibenzo[a,c]cyclohepten-5-one)	4444-43-3	**	8.5±0.1 (V)	PE	4391
	$C_{15}H_{10}O$ (5H-Dibenzo[a,d]cyclohepten-5-one)	2222-33-5	**	8.06±0.03 (V)	PE	4391
$C_{15}H_{12}O^+$						
	$C_{14}H_9OCH_3$ (Anthracene, 9-methoxy-)	2395-96-2	**	7.21±0.03 (V)	PE	4887
	trans-$C_6H_5CH{=}CHC_6H_4CHO$ (Benzaldehyde,4-(2-phenylethenyl)-)	32555-96-7	**	7.92±0.04	PI	5552

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{15}H_{15}O^+$						
	$C_{20}H_{22}O_2$ (*D*-Homoestra-1,3,5(10),6,8-pentaen-17a-one, 3-methoxy-)	1232-90-2		11.46±0.05	EI	3571
	$C_{20}H_{22}O_2$ (*D*-Homoestra-1,3,5(10),6,8-pentaen-17a-one, 3-methoxy-, (14β)-)	1232-91-3		10.84±0.09	EI	3571
$C_{16}H_{10}O^+$						
	$C_{16}H_{10}O$ (4,6-Ethenodibenz[*b*,*f*]oxepine, (*Z*,*Z*)-)	42073-03-0	**	7.95 (V)	PE	4088
$C_{16}H_{12}O^+$						
	$C_{14}H_9C_2H_3O$ (Oxirane,9-anthracenyl-)	61695-73-6	**	7.41 (V)	PE	5364
$C_{16}H_{16}O^+$						
	$C_{16}H_{16}O$ (6,12-Methano-7H-benzocycloundecen-14-one,8,9,10,11-tetrahydro-)	25401-39-2	**	8.31±0.03 (V)	PE	4391
	$C_{20}H_{22}O_2$ (*D*-Homoestra-1,3,5(10),6,8-pentaen-17a-one, 3-methoxy-)	1232-90-2		10.79±0.07	EI	3571
	$C_{20}H_{22}O_2$ (*D*-Homoestra-1,3,5(10),6,8-pentaen-17a-one, 3-methoxy-, (14β)-)	1232-91-3		10.44±0.11	EI	3571
$C_{16}H_{18}O^+$						
	$C_{16}H_{18}O$ (Benzene, 1-methoxy-3-(3-phenylpropyl)-)	67081-95-2	**	8.15±0.05	EI	4925
	$C_{16}H_{18}O$ (Benzene, 1-methoxy-4-(3-phenylpropyl)-)	40715-68-2	**	8.18±0.05	EI	4925
$C_{17}H_{12}O^+$						
	$C_{17}H_{12}O$ (Methanone, phenyl-1-azulenyl-)	XXXXX-XX-X	**	7.55 (V)	PE	5397
$C_{17}H_{14}O^+$						
	$C_{15}H_8O(CH_3)_2$ (8H-Cyclohepta[b]naphthalen-8-one,7,9-dimethyl-)	39787-00-3	**	7.83±0.03 (V)	PE	4391
	$C_6H_5CH_2OC_{10}H_7$ (Naphthalene,1-(phenylmethoxy)-)	607-58-9	**	7.63	CTS	5336
	$C_6H_5CH_2OC_{10}H_7$ (Naphthalene,2-(phenylmethoxy)-)	613-62-7	**	7.82	CTS	5336
$C_{17}H_{18}O^+$						
	$C_{17}H_{18}O$ (6,13-Methanobenzocyclododecene-15-one,7,8,9,10,11,12-hexahydro-)	55027-91-3	**	8.2±0.1 (V)	PE	4391
$C_{17}H_{20}O^+$						
	$C_{11}H_6O[(CH_3)_2CH]_2$ (7-H-Benzocyclohepten-7-one,6,8-bis(1-methylethyl)-)	55027-89-9	**	8.15±0.03 (V)	PE	4391
$C_{18}H_{12}O^+$						
	$C_{16}H_9C_2H_3O$ (Oxirane,1-pyrenyl-)	61695-74-7	**	7.43 (V)	PE	5364
$C_{18}H_{16}O^+$						
	$C_{10}H_6(CH_2CH_2)_2C_4H_2O$ (8,11-Epoxy-5,14-ethenobenzocyclododecene,6,7,12,13-tetrahydro-)	24178-85-6	**	7.46 (V)	PE	5575
$C_{18}H_{18}O^+$						
	$C_6H_8(=O)(C_6H_5)_2$ (Cyclohexanone, 4,4-diphenyl-)	4528-68-1	**	8.8±0.2	EI	4074
$C_{18}H_{20}O^+$						
	$C_{18}H_{20}O$ (6,14-Methanobenzocyclotridecene-16-one,8,9,10,11,12,12-hexahydro-)	25401-40-5	**	8.13±0.03 (V)	PE	4391

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{19}H_{18}O^+$						
	$C_{15}H_8O(CH_2CH_3)_2$ (8H-Cyclohepta[b]naphthalen-8-one,7,9-diethyl-)	55027-92-4	**	7.83±0.03 (V)	PE	4391
$C_{19}H_{20}O^+$						
	$C_6H_7(=O)(CH_3)(C_6H_5)_2$ (Cyclohexanone, 2-methyl-5,5-diphenyl-)	50592-49-9	**	8.8±0.2	EI	4074
$C_{19}H_{22}O^+$						
	$C_6H_8(OH)(CH_3)(C_6H_5)_2$ (Cyclohexanol, 1-methyl-4,4-diphenyl-)	50592-47-7	**	9.2±0.2	EI	4074
$C_{20}H_{24}O^+$						
	$C_{20}H_{24}O$ (6,16-Methanobenzocyclopentadecen-18-one,8,9,10,11,12,13,14,15-octahydro-)	25401-41-6	**	8.10±0.03 (V)	PE	4391
$C_{21}H_{22}O^+$						
	$C_{15}H_8O(CH(CH_3)_2)_2$ (8H-Cyclohepta[b]naphthalen-8-one,7,9-bis(1-methylethyl)-)	55027-93-5	**	7.76±0.03 (V)	PE	4391
$C_{22}H_{18}O^+$						
	$C_{14}H_8(CH_2CH_2)_2C_4H_2O$ (9,10-(Ethano[2,5]furanoethano)anthracene)	34721-69-2	**	6.87 (V)	PE	5575
$C_{23}H_{24}O^+$						
	$C_{10}H_{11}(=O)(CH_3)(C_6H_5)_2$ (2(3*H*-Naphthalenone, 4,4a,5,6,7,8-hexahydro-4a-methyl-7,7-diphenyl-)	50786-03-3	**	8.9±0.2	EI	4074
$C_{23}H_{30}O^+$						
	$C_{23}H_{30}O$ (6,19-Methanobenzocyclooctadecen-21-one, 7,8,9,10,11,12,13,14,15,16,17,18,-dodecahydro-)	25401-43-8	**	8.15±0.03 (V)	PE	4391
CHO_2^+						
	HCOOH	64-18-6		12.26	PI	4959
			H	12.29±0.03	PI	4177
			H	12.36±0.1	PI	5135
	$((CH_3)_2C(NO)OOCCH_3)_2$	68777-98-0		12.75	EI	4809
$CH_2O_2^+$						
	HCOOH	64-18-6	**	11.329±0.002	S	5465
			**	11.05±0.03	PI	3765
			**	11.16±0.03	PI	4177
			**	11.314±0.002	PI	4306
			**	10.7 (V)	PE	4467
			**	11.3	PE	3883
			**	11.33	PE	3874
			**	11.34 (V)	PE	4850
			**	11.35±0.03	PE	3734
			**	11.51 (V)	PE	4513
$CH_3O_2^+$						
	$HCOOC_2H_5$	109-94-4	$CH_2=CH$	10.9±0.05	EI	4831
	$HCOOCH_2CH_2CH_3$	110-74-7	$CH_2=CHCH_2$	10.45±0.05	EI	4831
	$HCOOCH(CH_3)_2$	625-55-8	$CH_2=CHCH_3$	10.38±0.05	EI	4831
$C_2H_2O_2^+$						
	$(CHO)_2$	107-22-2	**	10.52 (V)	PE	5517
	$((CH_3)_2C(NO)OOCCH_3)_2$	68777-98-0		10.30	EI	4809
$C_2H_3O_2^+$						
	$((CH_3)_2C(NO)COOCH_3)_2$	6144-15-6		11.05	EI	4809
	$((CH_3)_2C(NO)OOCCH_3)_2$	68777-98-0		10.35	EI	4809

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_4O_2^+$						
	CH_3COOH	64-19-7	**	10.38±0.03	PI	3765
			**	10.644±0.002	PI	4306
			**	10.66±0.05	PI	4959
			**	10.664±0.003	PI	5161
			**	10.63 (V)	PE	4850
			**	10.65	PE	3874
			**	10.69±0.03	PE	3734
			**	10.70	PE	3718
			**	10.8 (V)	PE	4426
			**	10.84 (V)	PE	5251
			**	10.87 (V)	PE	4513
			**	11.5 (V)	PE	4467
				10.66±0.05	EI	5263
			**	10.66	EI	5039
	$HCOOCH_3$	107-31-3	**	10.3 (V)	PE	4467
			**	10.85±0.05	PE	4831
			**	10.85	PE	3718
			**	10.85 (V)	PE	4850
	$CH_3CH_2CH_2COOH$	107-92-6	C_2H_4	10.60±0.05	EI	5263
			C_2H_4	10.60	EI	5039
	$CH_3(CH_2)_3COOH$	109-52-4	C_3H_6	10.56±0.05	EI	5263
			C_3H_6	10.56	EI	5039
	$CH_3(CH_2)_4COOH$	142-62-1	C_4H_8	10.52±0.05	EI	5263
			$1\text{-}C_4H_8$	10.52	EI	5039
	$CH_3(CH_2)_5COOH$	111-14-8	C_5H_{10}	10.54±0.05	EI	5263
			$1\text{-}C_5H_{10}$	10.54	EI	5039
	$((CH_3)_2C(NO)OOCCH_3)_2$	68777-98-0		11.35	EI	4809
$C_2H_5O_2^+$						
	$CH_3COOC_2H_5$	141-78-6	$CH_2=CH$	10.6±0.1	EI	4831
	$CH_3COOCH(CH_3)_2$	108-21-4	$CH_2=CHCH_2$	9.96±0.05	EI	4831
	$CH_3COOCH_2CH_2CH_3$	109-60-4	$CH_2=CHCH_2$	9.94±0.05	EI	4831
$C_2H_6O_2^+$						
	$(CH_3O)_2$	690-02-8	**	9.71 (V)	PE	5068
$C_3H_4O_2^+$						
	$CH_2=CHCOOH$	79-10-7	**	10.60	PE	3864
$C_3H_6O_2^+$						
	C_2H_5COOH	79-09-4	**	10.525±0.003	PI	5161
			**	10.44±0.03	PE	3734
			**	10.51 (V)	PE	4850
			**	10.54	PE	3874
			**	10.72 (V)	PE	4513
			**	10.41	EI	5039
	CH_3COOCH_3	79-20-9	**	10.25±0.05	PE	4831
			**	10.25 (V)	PE	4850
			**	10.33	PE	3718
			**	10.59 (V)	PE	3937
			**	11.0 (V)	PE	4467
	$HCOOC_2H_5$	109-94-4	**	10.61±0.05	PE	4831
			**	10.61 (V)	PE	4850
			**	10.62	PE	3718
	$C_3H_6O_2$ (1,2-Dioxolane)	4362-13-4	**	9.86 (V)	PE	5212
	$C_3H_6O_2$ (1,3-Dioxolane)	646-06-0	**	10.1 (V)	PE	3733
	$n\text{-}C_3H_7COOCH_3$	623-42-7		10.17±0.05	EI	5070
			C_2H_4	10.18	EI	5039
	$sec\text{-}C_4H_9COOH$	116-53-0	C_2H_4	10.27	EI	5039
	$CH_3CH(CH_3)CH(CH_3)COOH$	14287-61-7	C_3H_6	10.20	EI	5039
	$n\text{-}C_4H_9COOCH_3$	624-24-8	C_3H_6	10.06	EI	5039
	$iso\text{-}C_4H_9COOCH_3$	556-24-1	C_3H_6	10.16	EI	5039

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_4H_2O_2^+$						
	$C_4H_2(=O)_2$ (3-Cyclobutene-1,2-dione)	32936-74-6	**	9.79 (V)	PE	4808
	$C_6H_4O_2$ (2,5-Cyclohexadiene-1,4-dione)	106-51-4	C_2H_2	11.2±0.05	PI	3523
$C_4H_4O_2^+$						
	$C_4H_4(=O)_2$ (1,2-Cyclobutanedione)	33689-28-0	**	9.61 (V)	PE	4808
	$C_4H_4O_2$ (1,4-Dioxin)	290-67-5	**	7.75±0.02	PE	4740
	$C_4H_4O(=O)$ (2(3*H*)-Furanone)	20825-71-2	**	10.70 (V)	PE	3826
$C_4H_6O_2^+$						
	$CH_2=CHCOOCH_3$	96-33-3	**	10.72 (V)	PE	3937
	$CH_3CO_2CH=CH_2$	108-05-4	**	9.85±0.05 (V)	PE	4859
	$(CH_3CO)_2$	431-03-8	**	9.47 (V)	PE	5538
			**	9.55 (V)	PE	3936
			**	9.55 (V)	PE	4520
			**	9.57 (V)	PE	4233
			**	9.72 (V)	PE	5517
	$CH_2=CHCH_2COOH$	625-38-7	**	10.02	PE	5086
	$CH_2=C(CH_3)COOH$	3724-65-0	**	10.15	PE	5086
	cis-$CH_3CH=CHCOOH$	503-64-0	**	10.08	PE	5086
	trans-$CH_3CH=CHCOOH$	107-93-7	**	10.08	PE	5086
	C_3H_5COOH (Cyclopropanecarboxylic acid)	1759-53-1	**	10.64	PE	5086
	$C_4H_6O_2$ (1,2-Dioxin-3,6-dihydro-)	18715-02-1	**	9.66	PE	5318
	$C_4H_6O_2$ (1,4-Dioxin, 2,3-dihydro-)	543-75-9	**	8.07±0.02	PE	4740
	$C_4H_6O(=O)$ (2(3H)-Furanone, dihydro-)	96-48-0	**	10.26 (V)	PE	4742
			**	10.26 (V)	PE	3826
$C_4H_8O_2^+$						
	$HCOOCH_2CH_2CH_3$	110-74-7	**	10.50±0.05	PE	4831
			**	10.50	PE	4850
			**	10.62	PE	3718
	$CH_3COOC_2H_5$	141-78-6	**	9.90±0.05	PE	4831
			**	9.90 (V)	PE	4850
			**	10.24	PE	3718
			**	10.16	EI	5039
	$C_2H_5COOCH_3$	554-12-1	**	10.30 (V)	PE	4850
			**	10.15	EI	5039
	$HCOOCH(CH_3)_2$	625-55-8	**	10.44±0.05	PE	4831
			**	10.44 (V)	PE	4850
	n-C_3H_7COOH	107-92-6	**	10.22 (V)	PE	3937
			**	10.38 (V)	PE	4850
			**	10.46	PE	3874
			**	10.24	EI	5039
	iso-C_3H_7COOH	79-31-2	**	10.33±0.03	PE	3734
			**	10.33	PE	3874
			**	10.12	EI	5039
			**	10.329±0.005	PI	5161
			**	10.30 (V)	PE	3937
	$C_4H_8O_2$ (1,2-Dioxane)	5703-46-8	**	10.0 (V)	PE	5212
	$C_4H_8O_2$ (1,3-Dioxane)	505-22-6	**	10.1 (V)	PE	3733
			**	10.12 (V)	PE	4082

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
	$C_4H_8O_2$ (1,4-Dioxane)	123-91-1	**	9.41 (V)	PE	4082
			**	9.43 (V)	PE	3733
	$(C_2H_5)_2CHCOOH$	88-09-5	C_2H_4	10.14	EI	5039
	$C_2H_5C(CH_3)_2COOH$	595-37-9	C_2H_4	10.02	EI	5039
	n-$C_3H_7COOC_2H_5$	105-54-4	C_2H_4	10.06	EI	5039
	sec-$C_4H_9COOCH_3$	868-57-5	C_2H_4	9.81	EI	5039
	n-$C_3H_7C(CH_3)_2COOH$	1185-39-3	C_3H_6	9.96	EI	5039
	n-$C_5H_{11}COOC_2H_5$	123-66-0	1-C_4H_8	9.96	EI	5039
$C_4H_{10}O_2^+$						
	tert-C_4H_9OOH	75-91-2	**	10.24 (V)	PE	4251
$C_5H_3O_2^+$						
	$C_6H_5COC_4H_3O$ (Methanone, 2-furanylphenyl-)	2689-59-0	C_6H_5	12.4±0.1	EI	5493
$C_5H_4O_2^+$						
	$C_5H_4O_2$ (4-Cyclopentene-1,3-dione)	930-60-9	**	10.25 (V)	PE	3826
	C_4H_3OCHO (2-Furancarboxaldehyde)	98-01-1	**	9.50±0.05	EI	3482
	$C_5H_4O(=O)$ (4H-Pyran-4-one)	108-97-4	**	9.35±0.05 (V)	PE	5002
$C_5H_6O_2^+$						
	$CH_2=C=CHCOOCH_3$	18913-35-4	**	10.02 (V)	PE	4748
	$C_5H_6(=O)_2$ (1,3-Cyclopentanedione)	3859-41-4	**	9.46±0.05	PE	3848
			**	9.53 (V)	PE	5020
	$C_5H_5(=O)OH$ (2-Cyclopenten-1-one, 3-hydroxy-)	5870-62-2	**	9.22±0.05 (V)	PE	3848
	$C_3H_2O_2(=CH_2)_2$ (1,3-Dioxolane,4,5-bis(methylene)-)	4362-68-9	**	8.62	PE	5265
	$C_4H_3O(=O)CH_3$ (2(3H)-Furanone, 5-methyl-)	591-12-8	**	9.62±0.05	EI	4666
	$C_4H_3O(=O)CH_3$ (2(5H)-Furanone, 5-methyl-)	591-11-7	**	10.12±0.05	EI	4666
$C_5H_8O_2^+$						
	$CH_2=C(CH_3)COOCH_3$	80-62-6	**	10.28 (V)	PE	3937
	$CH_3COCH_2COCH_3$	123-54-6	**	8.85±0.05	PE	3848
			**	9.00 (V)	PE	4195
			**	9.15 (V)	PE	5100
			**	9.18±0.07 (V)	PE	3682
	$(CH_3)_2C=CHCOOH$	541-47-9	**	9.63	PE	5086
	$CH_3CO_2C(CH_3)=CH_2$	591-87-7	**	9.74±0.05 (V)	PE	4859
	$C_2H_5CH=CHCOOH$	626-98-2	**	10.14	PE	5086
	$HCOC(CH_3)_2CHO$	1185-34-8	**	9.8 (V)	PE	4195
	$CH_3CH=CHCH_2COOH$	1617-32-9	**	9.41	PE	5086
	$CH_2=C(C_2H_5)COOH$	3586-58-1	**	10.06	PE	5086
	$CH_3CH=C(CH_3)COOH$	13201-46-2	**	9.50	PE	5086
	$CH_2=C(CH_3)CH_2COOH$	53774-20-2	**	9.52	PE	5086
	C_4H_7COOH (Cyclobutanecarboxylic acid)	3721-95-7	**	10.35	PE	5086
	$C_5H_8O_2$ (2,3-Dioxabicyclo[2.2.1]heptane)	279-35-6	**	8.96 (V)	PE	5563
			**	8.99 (V)	PE	5212
$C_5H_9O_2^+$						
	$((CH_3)_2CO)_2$	XXXXX-XX-X	CH_3	10.08±0.05	PI	5412
	$((CH_3)_2C(NO)OOCCH_3)_2$	68777-98-0		9.45	EI	4809

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_{10}O_2^+$						
	$CH_3COOCH(CH_3)_2$	108-21-4	**	9.95±0.05	PE	4831
			**	10.08	PE	3718
	$CH_3COOCH_2CH_2CH_3$	109-60-4	**	9.92 (V)	PE	4850
	$HCOO(CH_2)_3CH_3$	592-84-7	**	10.52±0.05	PE	4831
			**	10.52 (V)	PE	4850
			**	10.54	PE	3718
	n-C_4H_9COOH	109-52-4	**	10.53 (V)	PE	3874
	n-$C_3H_7COOCH_3$	623-42-7	**	10.15 (V)	PE	4850
	iso-C_4H_9COOH	503-74-2	**	10.51 (V)	PE	3874
	tert-C_4H_9COOH	75-98-9	**	10.3 (V)	PE	4426
	$C_5H_{10}O_2$ (1,2-Dioxepane)	505-63-5	**	9.75 (V)	PE	5212
	$C_3H_4O_2(CH_3)_2$ (1,3-Dioxolane, 2,2-dimethyl-)	2916-31-6	**	9.71 (V)	PE	3733
$C_6H_4O_2^+$						
	$C_6H_4O_2$ (2,5-Cyclohexadiene-1,4-dione)	106-51-4	**	9.7	PI	3586
			**	9.96±0.01	PI	3523
			**	9.96±0.01	PI	5505
			**	9.99±0.05 (V)	PE	5558
			**	10.01	PE	4463
			**	10.03 (V)	PE	3936
			**	10.11	PE	5082
	$C_6H_4(=O)_2$ (3,5-Cyclohexadiene-1,2-dione)	583-63-1	**	9.6 (V)	PE	4616
			**	9.60 (V)	PE	4808
$C_6H_5O_2^+$						
	$C_6H_4(OH)OCH_3$ (Phenol, 4-methoxy-)	150-76-5	CH_3	11.10±0.1	EI	3446
	$C_6H_4(OH)OOCCH_3$ (1,2-Benzenediol monoacetate)	2848-25-1	CH_3CO	12.54±0.02	EI	3631
	$C_6H_4(OH)OOCCH_3$ (1,4-Benzenediol monoacetate)	3233-32-7	CH_3CO	13.83±0.02	EI	3631
	$C_6H_4(NO_2)OH$ (Phenol, 4-nitro-)	100-02-7	NO	9.90±0.1	EI	3447

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_6O_2^+$						
	$C_6H_4(OH)_2$ (1,2-Benzenediol)	120-80-9	**	8.56 (V)	PE	4891
	$C_6H_4(OH)_2$ (1,3-Benzenediol)	108-46-3	**	8.63 (V)	PE	4891
	$C_6H_6O_2$ (1,4-Benzenediol)	123-31-9	**	7.95±0.03	PI	3523
			**	7.95±0.05	PI	5552
			**	8.44 (V)	PE	4891
	$C_4(=O)_2(CH_3)_2$ (3-Cyclobutene-1,2-dione, 3,4-dimethyl-)	1121-15-9	**	9.06 (V)	PE	4808
			**	9.10 (V)	PE	4861
	$C_4H_3OCOCH_3$ (Ethanone, 1-(2-furanyl)-)	1192-62-7	**	9.27±0.05	EI	3482
	$C_6H_4(OH)OOCH_3$ (1,2-Benzenediol monoacetate)	2848-25-1	$CH_2=C=O$	9.30±0.02	EI	3631
	$C_6H_4(OH)OOCCH_3$ (Benzeneacetic acid, 4-hydroxy-)	3233-32-7	$CH_2=C=O$	9.28±0.02	EI	3631
$C_6H_8O_2^+$						
	$C_6H_8(=O)_2$ (1,3-Cyclohexanedione)	504-02-9	**	9.52±0.05	PE	3848
			**	9.60 (V)	PE	5020
	$C_6H_8(=O)_2$ (1,4-Cyclohexanedione)	637-88-7	**	9.65 (V)	PE	3936
			**	~9.85 (V)	PE	5090
	$C_5H_5(=O)_2CH_3$ (1,3-Cyclopentanedione, 2-methyl-)	765-69-5	**	9.40±0.1 (V)	PE	3848
	$C_5H_4(=O)(OH)CH_3$ (2-Cyclopenten-1-one, 3-hydroxy-2-methyl-)	5870-63-3	**	8.84±0.05	PE	3848
	$C_6H_8O_2$ (2,3-Dioxabicyclo[2.2.2]oct-5-ene)	6671-70-1	**	8.76 (V)	PE	5563
	$C_4H_4O_2(=CH_2)_2$ (1,4-Dioxane,2,3-bis(methylene)-)	70517-24-7	**	8.38	PE	5265
	$C_4H_2O(=O)(CH_3)_2$ (3(2H)-Furanone, 2,5-dimethyl-)	14400-67-0	**	9.23±0.05	EI	4673
	$C_3H_5COCOCH_3$ (1,2-Propanedione, 1-cyclopropyl-)	15940-89-3	**	9.33 (V)	PE	4233
$C_6H_{10}O_2^+$						
	$CH_3COC(CH_3)HCOCH_3$	815-57-6	**	8.55 (V)	PE	4195
	trans-$CH_3CH=CHCOOC_2H_5$	623-70-1	**	10.11 (V)	PE	3937
	$C_6H_9(=O)OH$ (Cyclohexanone, 2-hydroxy-)	533-60-8	**	9.70 (V)	PE	4509
	$C_6H_{10}O_2$ (2,3-Dioxabicyclo[2.2.2]octane)	280-53-5	**	8.82 (V)	PE	5212
			**	8.83 (V)	PE	5563
$C_6H_{11}O_2^+$						
	$C_4H_6O_2(CH_3)_2$ (1,3-Dioxane, 4,6-dimethyl-, *cis*-)	3390-18-9	H	9.693±0.005	EI	3481
	$C_4H_6O_2(CH_3)_2$ (1,3-Dioxane, 4,6-dimethyl-, *trans*-)	1121-87-5	H	9.540±0.003	EI	3481
	$C_4H_5O_2(CH_3)_3$ (1,3-Dioxane, 2,4,6-trimethyl-, (2α,4α,6α)-)	19145-91-6	CH_3	9.593±0.006	EI	3481
	$C_4H_5O_2(CH_3)_3$ (1,3-Dioxane, 2,4,6-trimethyl-, (2α,4α,6β)-)	36402-73-0	CH_3	9.448±0.002	EI	3481

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_{12}O_2^+$						
	$((CH_3)_2CO)_2$	XXXXX-XX-X	**	9.26±0.03	PI	5412
	$CH_3COOCH(CH_3)C_2H_5$	105-46-4	**	9.97±0.05	PE	4831
	$C_2H_5COOCH_2CH_2CH_3$	106-36-5	**	9.96 (V)	PE	4850
	$CH_3COO(CH_2)_3CH_3$	123-86-4	**	9.92±0.05	PE	4831
			**	10.02±0.05	PE	4831
			**	10.17	PE	3718
	$CH_2=C(OC_2H_5)_2$	2678-54-8	**	8.3 (V)	PE	4291
	tert-$C_4H_9COOCH_3$	598-98-1	**	9.90±0.04	PE	3851
	cis-$C_5H_8(OH)OCH_3$ (Cyclopentanol, 2-methoxy-,*cis*-)	13051-91-7	**	9.80 (V)	PE	4450
	trans-$C_5H_8(OH)OCH_3$ (Cyclopentanol, 2-methoxy-,*trans*-)	7429-45-0	**	9.60 (V)	PE	4450
	$C_2O_2(CH_3)_4$ (1,2-Dioxetane, 3,3,4,4-tetramethyl-)	35856-82-7	**	8.53	PE	4577
	$C_6H_{12}O_2$ (1,2-Dioxocane)	6572-89-0	**	9.29 (V)	PE	5212
$C_6D_{12}O_2^+$						
	$((CD_3)_2CO)_2$	XXXXX-XX-X	**	9.25±0.03	PI	5412
$C_6H_{14}O_2^+$						
	(*iso*-$C_3H_7O)_2$	16642-57-2	**	9.16 (V)	PE	5212
$C_7H_5O_2^+$						
	$C_6H_4(OH)COOH$ (Benzoic acid, 3-hydroxy-)	99-06-9	OH	12.51±0.2	EI	3973
	$C_6H_4(OH)COOH$ (Benzoic acid, 4-hydroxy-)	99-96-7	OH	12.00±0.2	EI	3973
	$C_6H_4(COOH)_2$ (1,3-Benzenedicarboxylic acid)	121-91-5	COOH	12.42±0.2	EI	3973
	$C_6H_4(COOH)_2$ (1,4-Benzenedicarboxylic acid)	100-21-0	COOH	12.56±0.2	EI	3973
$C_7H_6O_2^+$						
	$C_6H_4(O_2CH_2)$ (1,3-Benzodioxole)	274-09-9	**	8.21 (V)	PE	5567
	C_6H_5COOH (Benzoic acid)	65-85-0	**	9.75±0.2	EI	3973
			**	9.75	EI	3792
	$C_7H_6O_2$ (Bicyclo[2.2.1]hept-5-ene-2,3-dione)	17994-26-2	**	8.73±0.05 (V)	PE	4851
	$C_7H_6O_2$ (2,5-Cyclohexadiene-1,4-dione, 2-methyl-)	553-97-9	**	9.78±0.02	PI	3523
			**	9.78	PE	4463
	$C_6H_3(=O)_2(CH_3)$ (3,5-Cyclohexadiene-1,2-dione, 4-methyl-)	3131-54-2	**	9.40 (V)	PE	4808
$C_7H_7O_2^+$						
	$C_6H_4(OCH_3)_2$ (Benzene, 1,3-dimethoxy-)	151-10-0	CH_3	11.17±0.1	EI	3446
	$C_6H_4(OCH_3)_2$ (Benzene, 1,4-dimethoxy-)	150-78-7	CH_3	10.98±0.1	EI	3446
	$C_6H_4(NO_2)OCH_3$ (Benzene, 1-methoxy-3-nitro-)	555-03-3	NO	9.39±0.1	EI	3447
	$C_6H_4(NO_2)OCH_3$ (Benzene, 1-methoxy-4-nitro-)	100-17-4	NO	10.03±0.1	EI	3447
$C_7H_8O_2^+$						
	$C_6H_4(OH)CH_2OH$ (Benzenemethanol, 2-hydroxy-)	90-01-7	**	8.58 (V)	PE	4744
	$C_7H_8O_2$ (Bicyclo[2.2.1]heptane-2,3-dione)	6236-71-1	**	9.00±0.05 (V)	PE	4851

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_8O_2^+$						
	$C_6H_4(OH)OCH_3$ (Phenol, 4-methoxy-)	150-76-5	**	7.50	EI	3845
			**	8.02±0.1	EI	3446
	$C_6H_4(OCH_3)OOCCH_3$ (Phenol, 3-methoxy-, acetate)	5451-83-2	$CH_2=C=O$	9.56±0.2	EI	3484
	$C_6H_4(OCH_3)OOCCH_3$ (Phenol, 4-methoxy-, acetate)	1200-06-2	$CH_2=C=O$	9.48±0.2	EI	3484
$C_7H_{10}O_2^+$						
	$C_5H_7(OOCCH_3)$ (2-Cyclopenten-1-ol)	20657-21-0	**	9.61±0.05 (V)	PE	4954
	$C_6H_7(=O)_2CH_3$ (1,3-Cyclohexanedione, 2-methyl-)	1193-55-1	**	9.37±0.05	PE	3848
	$C_5H_4(=O)_2(CH_3)_2$ (1,3-Cyclopentanedione, 2,2-dimethyl-)	3883-58-7	**	9.08±0.05	PE	3848
			**	9.22 (V)	PE	4742
			**	9.22 (V)	PE	4810
	$C_5H_5(=O)_2C_2H_5$ (1,3-Cyclopentanedione, 2-ethyl-)	823-36-9	**	9.35±0.1 (V)	PE	3848
	$C_5H_4(=O)(OH)C_2H_5$ (2-Cyclopenten-1-one, 2-ethyl-3-hydroxy-)	5857-25-0	**	8.79±0.05	PE	3848
	$C_3O_2(=CH_2)_2(CH_3)_2$ (1,3-Dioxolane,2,2-dimethyl-4,5-bis(methylene)-)	70517-23-6	**	8.30	PE	5265
	$C_4HO(CH_3)_2OCH_3$ (Furan, 3-methoxy-2,5-dimethyl-)	57556-12-4	**	7.86±0.05	EI	4673
	$C_4HO(=O)(CH_3)_3$ (2(3H)-Furanone, 3,3,5-trimethyl-)	35983-73-4	**	9.00±0.05	EI	4666
	$C_4HO(=O)(CH_3)_3$ (3(2H)-Furanone, 2,2,5-trimethyl-)	1559-45-1	**	9.04±0.05	EI	4673
	$C_7H_{10}O_2$ (Spiro[2,3-dioxabicyclo[2.2.1]heptane,7,1'-cyclopropane]	XXXXX-XX-X	**	8.87 (V)	PE	5563
$C_7H_{12}O_2^+$						
	$CH_3COC(CH_3)_2COCH_3$	3142-58-3	**	9.30 (V)	PE	4195
	$C_6H_9(=O)OCH_3$ (Cyclohexanone, 2-methoxy-)	17429-00-4	**	9.06 (V)	PE	4509
	$C_7H_{12}O_2$ (6,7-Dioxabicyclo[3.2.2]nonane)	283-35-2	**	8.97 (V)	PE	5212
$C_7H_{13}O_2^+$						
	$C_4H_4O_2(CH_3)_4$ (1,3-Dioxane, 2,2,4,6-tetramethyl-, *cis*-)	17227-17-7	CH_3	9.332±0.006	EI	3481
	$C_4H_4O_2(CH_3)_4$ (1,3-Dioxane, 2,2,4,6-tetramethyl-, *trans*-)	20268-00-2	CH_3	9.128±0.008	EI	3481
$C_7H_{14}O_2^+$						
	$C_2H_5COOCH_2CH(CH_3)_2$	540-42-1	**	9.94 (V)	PE	4850
	cis-$C_6H_{10}(OH)OCH_3$ (Cyclohexanol, 2-methoxy-,*cis*-)	7429-41-6	**	9.68 (V)	PE	4450
	trans-$C_6H_{10}(OH)OCH_3$ (Cyclohexanol, 2-methoxy-,*trans*-)	7429-40-5	**	9.69 (V)	PE	4450
	cis-$C_5H_8(OCH_3)_2$ (Cyclopentane, 1,2-dimethoxy-,*cis*-)	61011-51-6	**	9.29 (V)	PE	4450
	trans-$C_5H_8(OCH_3)_2$ (Cyclopentane, 1,2-dimethoxy-,*trans*-)	29887-56-7	**	9.39 (V)	PE	4450
	$C_3H_2O_2(CH_3)_4$ (1,2-Dioxolane, 3,3,5,5-tetramethyl-)	22431-90-9	**	9.25 (V)	PE	4251
			**	9.26 (V)	PE	4577
$C_8H_4O_2^+$						
	$C_8H_4(=O)_2$ (Bicyclo[4.2.0]octa-1,3,5-triene-7,8-dione)	6383-11-5	**	9.23 (V)	PE	4861

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_7O_2^+$						
	$CH_3OC_6H_4COCH_3$ (Ethanone,1-(4-methoxyphenyl)-)	100-06-1	CH_3	10.69±0.04	EI	5059
	$C_6H_4(OCH_3)COOH$ (Benzoic acid, 3-methoxy-)	586-38-9	OH	12.51±0.2	EI	3973
	$C_6H_4(OCH_3)COOH$ (Benzoic acid, 4-methoxy-)	100-09-4	OH	12.53±0.2	EI	3973
$C_8H_8O_2^+$						
	$C_6H_5OC(=O)CH_3$ (Acetic acid, phenyl ester)	122-79-2	**	8.6±0.05	PE	5608
			**	8.75±0.03	EI	3483
			**	8.84±0.2	EI	3484
	$C_6H_4(CHO)OCH_3$ (Benzaldehyde, 4-methoxy-)	123-11-5	**	8.43	PE	4621
	$C_6H_4(CH_3)COOH$ (Benzoic acid, 3-methyl-)	99-04-7	**	9.43±0.2	EI	3973
	$C_6H_4(CH_3)COOH$ (Benzoic acid, 4-methyl-)	99-94-5	**	9.23±0.2	EI	3973
	$C_6H_5COOCH_3$ (Benzoic acid, methyl ester)	93-58-3	**	9.28	PE	4621
			**	9.34 (V)	PE	4850
			**	9.40±0.025	PE	3626
			**	9.35±0.03	EI	3626
			**	9.35±0.1	EI	3788
			**	9.49	EI	3792
	$C_8H_8O_2$ (Bicyclo[2.2.1]hept-5-ene-2,3-dione, 5-methyl-)	60526-48-9	**	8.50±0.05 (V)	PE	4851
	$C_6H_2O_2(CH_3)_2$ (2,5-Cyclohexadiene-1,4-dione, 2,5-dimethyl-)	137-18-8	**	9.58	PE	4463
			**	9.60±0.05 (V)	PE	5558
	$(C_6H_5COOCH_3)(CO)_3Cr$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-methylbenzoate]-)	12125-87-0		9.31±0.1	EI	3788
$C_8H_{10}O_2^+$						
	$C_6H_4(OCH_3)_2$ (Benzene, 1,2-dimethoxy-)	91-16-7	**	7.8 (V)	PE	4758
			**	8.17 (V)	PE	5567
	$C_6H_4(OCH_3)_2$ (Benzene,1,3-dimethoxy-)	151-10-0	**	8.14 (V)	PE	5567
			**	8.18 (V)	PE	4758
			**	8.17±0.1	EI	3446
	$C_6H_4(OCH_3)_2$ (Benzene, 1,4-dimethoxy-)	150-78-7	**	7.54	PE	4621
			**	7.83±0.015 (V)	PE	4434
			**	7.90 (V)	PE	3781
			**	7.90 (V)	PE	4758
			**	7.90 (V)	PE	5403
			**	7.96 (V)	PE	5567
			**	7.45	EI	3845
			**	7.88±0.1	EI	3446
	$C_8H_{10}(=O)_2$ (Bicyclo[3.2.1]octane-2,4-dione)	XXXXX-XX-X	**	9.28 (V)	PE	5020
	$C_8H_{10}(=O)_2$ (*cis*-Bicyclo[3.3.0]octane-3,7-dione)	XXXXX-XX-X	**	9.78 (V)	PE	5090
	$C_3H_5COCOC_3H_5$ (Ethanedione, dicyclopropyl-)	XXXXX-XX-X	**	9.09 (V)	PE	4233
$C_8H_{12}O_2^+$						
	$C_8H_{12}O_2$ (*trans,trans*-$CH_3CH=CHCH=CHCOOC_2H_5$)	5941-48-0	**	8.85 (V)	PE	5010
	$C_4(=O)_2(CH_3)_4$ (1,3-Cyclobutanedione, 2,2,4,4-tetramethyl-)	933-52-8	**	8.80 (V)	PE	3936

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_{12}O_2^+$						
	$C_4(=O)_2(CH_3)_4$	933-52-8	**	8.80 (V)	PE	5090
	$C_6H_6(=O)_2(CH_3)_2$ (1,3-Cyclohexanedione, 5,5-dimethyl-)	126-81-8	**	9.28±0.05	PE	3848
	$C_6H_7(=O)OC_2H_5$ (2-Cyclohexen-1-one, 3-ethoxy-)	5323-87-5	**	8.69±0.05	PE	3848
	$C_8H_{12}O_2$ (7,8-Dioxabicyclo[4.2.2]dec-9-ene)	52148-56-8	**	9.00 (V)	PE	5563
	$C_8H_{12}O_2$ (2,3-Dioxabicyclo[2.2.1]heptane,7-[methylene(dimethyl)]-)	XXXXX-XX-X	**	8.62 (V)	PE	5563
	$C_4H_3O(=O)(tert\text{-}C_4H_9)$ (2(3H)-Furanone, 5-(1,1-dimethylethyl)-)	19918-17-3	**	9.03±0.05	EI	4666
$C_8H_{14}O_2^+$						
	$C_8H_{14}O_2$	142-30-3	**	9.70 (V)	PE	4847
	$(C(=CH_2)OC_2H_5)_2$	55370-32-6	**	8.14	PE	5265
	$C_8H_{14}O_2$ (7,8-Dioxabicyclo[4.2.2]decane)	52965-57-8	**	9.05 (V)	PE	5212
			**	9.06 (V)	PE	5563
	$C_8H_{14}O_2$ (9,10-Dioxabicyclo[3.3.2]decane)	XXXXX-XX-X	**	9.14 (V)	PE	5563
	$C_4H_2O(O)(CH_3)_4$ (3(2*H*)-Furanone, dihydro-2,2,5,5-tetramethyl-)	5455-94-7	**	9.29±0.03 (V)	PE	4292
$C_8H_{16}O_2^+$						
	cis-$C_6H_{10}(OCH_3)_2$ (Cyclohexane, 1,2-dimethoxy-,*cis*-)	30363-80-5	**	9.24 (V)	PE	4450
	trans-$C_6H_{10}(OCH_3)_2$ (Cyclohexane, 1,2-dimethoxy-,*trans*-)	29887-60-3	**	9.31 (V)	PE	4450
	$C_4H_4O_2(CH_3)_4$ (1,2-Dioxane, 3,3,6,6-tetramethyl-)	22431-89-6	**	9.35 (V)	PE	4577
			**	9.55 (V)	PE	4251
$C_8H_{18}O_2^+$						
	$(tert\text{-}C_4H_9O)_2$	110-05-4	**	8.78 (V)	PE	4251
			**	8.78 (V)	PE	5212
$C_9H_6O_2^+$						
	$C_9H_6(=O)_2$ (1H-Indene-1,2(3H)dione)	16214-27-0	**	9.04±0.05 (V)	PE	4708
	$C_9H_6(=O)_2$ (1H-Indene-1,3(2H)dione)	606-23-5	**	9.43±0.05 (V)	PE	4708
$C_9H_8O_2^+$						
	$C_9H_8O_2$ (Spiro[bicyclo[2.2.1]hept-5-ene-7,1′-cyclopropane]-2,3-dione)	60526-40-1	**	8.50±0.05 (V)	PE	4851
$C_9H_{10}O_2^+$						
	$C_6H_4(OCH_3)(COCH_3)$ (Ethanone, 1-(4-methoxyphenyl)-	100-06-1	**	8.2±0.1	PE	4401
			**	8.65 (V)	PE	4804
	$C_6H_4(CH_3)OOCCH_3$ (Acetic acid, 2-methylphenyl ester)	533-18-6	**	8.38±0.02	EI	3631
	$C_6H_4(CH_3)OOCCH_3$ (Acetic acid, 3-methylphenyl ester)	122-46-3	**	8.98±0.2	EI	3484
	$C_6H_4(CH_3)OOCCH_3$ (Acetic acid, 4-methylphenyl ester)	140-39-6	**	7.84±0.02	EI	3631
			**	8.61±0.2	EI	3484
	$C_9H_{10}O_2$ (Bicyclo[2.2.1]hept-5-ene-2,3-dione, 7,7-dimethyl-)	60526-42-3	**	8.50±0.05	PE	4851
	$C_9H_{10}O_2$ (Spiro[bicyclo[2.2.1]heptane-7,1′-cyclopropane]-2,3-dione)	70705-73-6	**	8.75±0.05 (V)	PE	4851

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_9H_{12}O_2^+$						
	$C_6H_4(OCH_3)(OC_2H_5)$ (Benzene, 1-ethoxy-4-methoxy-)	5076-72-2	**	7.72±0.015 (V)	PE	4434
	$C_6H_3(OCH_3)_2CH_3$ (Benzene, 1,2-dimethoxy-4-methyl-)	494-99-5	**	7.95 (V)	PE	4672
	$C_6H_5O(CH_2)_2OCH_3$ (Benzene,(2-methoxyethoxy)-)	41532-81-4	**	8.41±0.05	EI	5484
	$C_9H_{12}(=O)_2$ (Bicyclo[3.2.2]nonane-2,4-dione)	XXXXX-XX-X	**	9.15 (V)	PE	5020
$C_9H_{14}O_2^+$						
	$C_6H_7(=O)_2CH(CH_3)_2$ (1,3-Cyclohexanedione, 2-(1-methylethyl)-)	3401-01-2	**	9.09±0.05	PE	3848
	$C_6H_5(=O)_2(CH_3)_3$ (1,3-Cyclohexanedione, 2,5,5-trimethyl-)	1125-11-7	**	9.10±0.05	PE	3848
	$C_5H_2(=O)_2(CH_3)_4$ (1,3-Cyclopentanedione, 4,4,5,5-tetramethyl-)	XXXXX-XX-X	**	9.18 (V)	PE	5020
$C_{10}H_6O_2^+$						
	$C_{10}H_6O_2$ (1,4-Naphthalenedione)	130-15-4	**	9.56±0.01	PI	3523
			**	9.49	PE	5082
$C_{10}H_8O_2^+$						
	$C_{10}H_6(OH)_2$ (1,4-Napththalenediol)	571-60-8	**	7.62±0.03	PI	5552
$C_{10}H_{10}O_2^+$						
	$C_{10}H_{10}O_2$ (Bicyclo[2.2.1]hept-5-ene-2,3-dione, 7-(1-methylethylidene)-)	60526-38-7	**	8.30±0.05 (V)	PE	4851
$C_{10}H_{12}O_2^+$						
	$C_{10}H_{12}O_2$ (2,5-Cyclohexadiene-1,4-dione, 2,3,5,6-tetramethyl-)	527-17-3	**	9.16±0.03	PI	3523
			**	9.16±0.03	PI	5505
			**	9.25±0.05 (V)	PE	5558
	$C_{10}H_{12}O_2$ (Tricyclo[3.3.1.1^{3,7}]decane-2,6-dione)	39751-07-0	**	9.06	PE	3886
	(JC-Mean value of Jahn-Teller components)		**	9.07 (V)	PE	5043
	$C_{10}H_{12}(=O)_2$ (Tricyclo[4.2.1.1^{2,6}]decane-7,8-dione)	XXXXX-XX-X	**	8.84 (V)	PE	5043
$C_{10}H_{14}O_2^+$						
	$C_6H_4(OCH_3)(OCH(CH_3)_2)$ (Benzene, 1-methoxy-4-(1-methylethoxy)-)	20744-02-9	**	7.83±0.015 (V)	PE	4434
	$C_6H_4(OCH_3)(OC_3H_7)$ (Benzene, 1-methoxy-4-propoxy-)	20743-94-6	**	7.80±0.015 (V)	PE	4434
	$C_6(CH_3)_4(OH)_2$ (1,4-Benzenediol,2,3,5,6-tetramethyl-)	527-18-14	**	7.48±0.05	PI	5552
	$C_6H_5O(CH_2)_3OCH_3$ (Benzene,(3-methoxypropoxy)-)	61372-56-3	**	8.42±0.05	EI	5484
	$C_7H_5(CH_3)_3O_2$ (Bicyclo[2.2.1]heptane-2,3-dione,1,7,7-trimethyl-)	465-29-2	**	8.71 (V)	PE	5517
			**	8.80 (V)	PE	3936
	$C_8H_{11}OOCCH_3$ (Tricyclo[3.2.1.0^{2,4}]octan-8-ol, acetate, *endo-syn*-)	32426-26-9	**	8.6±0.1	EI	3492
	$C_8H_{11}OOCCH_3$ (Tricyclo[3.2.1.0^{2,4}]octan-8-ol, acetate, *endo-anti*-)	32350-51-9	**	9.0±0.1	EI	3492
	$C_8H_{11}OOCCH_3$ (Tricyclo[3.2.1.0^{2,4}]octan-8-ol, acetate, *exo-syn*-)	32350-52-0	**	8.9±0.1	EI	3492
	$C_8H_{11}OOCCH_3$ (Tricyclo[3.2.1.0^{2,4}]octan-8-ol, acetate, *exo-anti*-)	32350-50-8	**	9.3±0.1	EI	3492

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{10}H_{14}O_2^+$						
	$C_8H_8(OCH_3)_2$ (Tricyclo[3.2.1.$0^{2,4}$]oct-6-ene, 8,8-dimethoxy-, (1α,2α,4α,5α)-)	14224-84-1	**	8.6±0.1	EI	3492
$C_{10}H_{16}O_2^+$						
	$C_8H_{10}(OCH_3)_2$ (Bicyclo[2.2.2]oct-2-ene, 1,4-dimethoxy-)	59880-82-9	**	9.24 (V)	PE	4619
	$C_6H_7(=O)_2C(CH_3)_3$ (1,3-Cyclohexanedione, 2-(1,1-dimethylethyl)-)	XXXXX-XX-X	**	9.05±0.1	PE	3848
	$C_6H_4(=O)_2(CH_3)_4$ (1,3-Cyclohexanedione, 2,2,5,5-tetramethyl-)	702-50-1	**	9.04±0.05	PE	3848
	$C_6H_4(=O)_2(CH_3)_4$ (1,3-Cyclohexanedione, 4,4,6,6-tetramethyl-)	60681-10-9	**	9.29 (V)	PE	5020
	$C_6H_6O_2CH_3CH(CH_3)_2$ (2,3-Dioxabicyclo[2.2.2]oct-5-ene,1-methyl-4-(1-methylethyl)-)	512-85-6	**	8.07	PE	4577
			**	8.42 (V)	PE	4619
	$C_8H_{10}(OCH_3)_2$ (Tricyclo[3.2.1.$0^{2,4}$]octane, 8,8-dimethoxy-, (1α,2α,4α,5α)-)	14224-85-2	**	8.7±0.1	EI	3492
	$C_8H_{10}(OCH_3)_2$ (Tricyclo[3.2.1.$0^{2,4}$]octane, 8,8-dimethoxy-, (1α,2β,4β,5α)-)	7076-82-6	**	8.9±0.1	EI	3492
$C_{10}H_{18}O_2^+$						
	$C_8H_{12}(OCH_3)_2$ (Bicyclo[2.2.2]octane, 1,4-dimethoxy-)	59880-84-1	**	9.14 (V)	PE	4619
	$C_6H_8O_2CH_3CH(CH_3)_2$ (2,3-Dioxabicyclo[2.2.2]octane, 1-methyl-4-(1-methylethyl-)	5718-73-0	**	8.09	PE	4577
			**	8.50 (V)	PE	4619
$C_{11}H_8O_2^+$						
	$C_6H_5COC_4H_3O$ (Methanone,2-furanylphenyl-)	2689-59-0	**	9.1±0.1	EI	5493
	$C_{10}H_5(=O)_2(CH_3)$ (1,4-Naphthalenedione,2-methyl-)	58-27-5	**	9.51 (V)	PE	5093
$C_{11}H_{10}O_2^+$						
	$C_6H_4C_3(CH_3)_2O_2$ (1H-Indene-1,2(3H)-dione,3,3-dimethyl-)	20651-88-1	**	8.7 (V)	PE	5517
$C_{11}H_{12}O_2^+$						
	$C_{11}H_{12}O_2$ (Spiro[bicyclo[2.2.1]hept-5-ene-7,1'-cyclopentane]-2,3-dione)	60526-44-5	**	8.45±0.05 (V)	PE	4851
$C_{11}H_{14}O_2^+$						
	$C_6H_4(OCH_3)(OCH_2C_3H_5)$ (Benzene, 1-(cyclopropylmethoxy)-4-methoxy-)	54929-10-1	**	7.78±0.015 (V)	PE	4434
$C_{11}H_{16}O_2^+$						
	$C_6H_4(OCH_3)(OC_4H_9)$ (Benzene, 1-*butoxy*-4-*methoxy*-)	20743-95-7	**	7.74±0.015 (V)	PE	4434
	$C_6H_4(OCH_3)(OC(CH_3)_3)$ (Benzene, 1-(1,1-dimethylethoxy)-4-methoxy-)	15360-00-6	**	8.00±0.015 (V)	PE	4434
	$C_6H_4(OCH_3)(OC_4H_9)$ (Benzene, 1-methoxy-4-(1-methylpropoxy)-)	51241-49-7	**	7.83±0.015 (V)	PE	4434
	$C_6H_4(OCH_3)(OC_4H_9)$ (Benzene, 1-methoxy-4-(2-methylpropoxy)-)	54929-09-8	**	7.79±0.015 (V)	PE	4434
	$C_6H_5O(CH_2)_4OCH_3$ (Benzene,(4-methoxybutoxy)-)	20636-14-0	**	8.45±0.05	EI	5484
	$C_8H_7(=O)_2(CH_3)_3$ (Bicyclo[3.2.1]octane-2,4-dione, 1,8,8-trimethyl-)	3278-94-2	**	8.73 (V)	PE	5020
	$C_{10}H_{15}COOH$ (Tricyclo[3.3.1.$1^{3,7}$]decane-1-carboxylic acid)	828-51-3	**	9.34	PE	3886

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{11}H_{18}O_2^+$						
	$C_7H_6(=O)_2(CH_3)_4$ (1,2-Cycloheptanedione,3,3,7,7-tetramethyl-)	68347-39-7	**	8.70 (V)	PE	5090
	$C_7H_8O_2(CH_3)C_3H_7$ (2,4-Dioxabicyclo[3.2.2]non-6-ene,1-methyl-5-(1-methylethyl)-)	59880-80-7	**	9.31 (V)	PE	4619
$C_{11}H_{20}O_2^+$						
	$(CH_3)_3CCOCH_2COC(CH_3)_3$	1118-71-4	**	8.86±0.07 (V)	PE	3682
	$C_7H_{10}O_2(CH_3)C_3H_7$ (2,4-Dioxabicyclo[3.2.2]nonane, 1-methyl-5-(1-methylethyl)-)	59880-83-0	**	9.29 (V)	PE	4619
$C_{12}H_6O_2^+$						
	$C_{12}H_6(=O)_2$ (1,2-Acenaphthalenedione)	82-86-0	**	8.77±0.05 (V)	PE	5095
$C_{12}H_8O_2^+$						
	$C_{12}H_8O_2$ (Dibenzo[*b,e*][1,4]dioxin)	262-12-4	**	7.78±0.05 (V)	PE	4743
$C_{12}H_{12}O_2^+$						
	$(C_4H_2OCH_2CH_2)_2$ (13,14-Dioxatricyclo[8.2.1.1^{4,7}]tetradeca-4,6,10,12-tetraene)	73650-68-7	**	7.60	PE	5575
	$C_{12}H_{12}O_2$ (4a,8a-Ethanonaphthalene-9,10-dione, 1,4,5,8-tetrahydro-)	21377-44-6	**	8.70±0.05 (V)	PE	4593
$C_{12}H_{14}O_2^+$						
	$C_{12}H_{14}O_2$ (4a,8a-Ethanonaphthalene-9,10-dione, 1,2,3,4,5,8-hexahydro-)	21377-45-7	**	8.60±0.05 (V)	PE	4593
$C_{12}H_{16}O_2^+$						
	$C_{12}H_{16}O_2$ (4a,8a-Ethanonaphthalene-9,10-dione, octahydro-)	21377-46-8	**	8.65±0.05 (V)	PE	4593
$C_{12}H_{18}O_2^+$						
	$C_6H_5O(CH_2)_5OCH_3$ (Benzene,[(5-methoxypentyl)oxy]-)	61372-57-4	**	8.51±0.05	EI	5484
	$C_{10}H_{15}COOCH_3$ (Tricyclo[3.3.1.1^{3,7}]decane-1-carboxylic acid methyl ester)	711-01-3	**	9.38±0.03	PE	3851
$C_{12}H_{22}O_2^+$						
	$C_6H_6CH_3(OCH_3)_2C_3H_7$ (Cyclohexene, 3,6-dimethoxy-3-methyl-6-(1-methylethyl)-*cis*-)	59880-81-8	**	9.21 (V)	PE	4619
$C_{12}H_{24}O_2^+$						
	$C_6H_8CH_3(OCH_3)_2C_3H_7$ (Cyclohexane, 1,4-dimethoxy-1-methyl-4-(1-methylethyl)-*cis*-)	59922-36-0	**	9.26 (V)	PE	4619
$C_{13}H_8O_2^+$						
	$C_{13}H_7(=O)OH$ (1H-Phenalen-1-one,9-hydroxy-)	7465-58-9	**	8.12±0.04 (V)	PE	5193
	$C_{14}H_8O_2$ (9*H*-Xanthen-9-one)	90-47-1	**	8.42±0.03	PI	3523
$C_{13}H_{10}O_2^+$						
	$C_6H_5COOC_6H_5$ (Benzoic acid, phenyl ester)	93-99-2	**	9.0	EI	5631
	$C_6H_5COC_6H_4OH$ (Methanone, (4-hydroxyphenyl)phenyl-)	1137-42-4	**	8.80±0.05 (V)	PE	4844
$C_{13}H_{12}O_2^+$						
	$C_6H_5CH_2OC_6H_4OH$ (Phenol,4-(phenylmethoxy)-)	103-16-2	**	7.83	CTS	5336

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{13}H_{14}O_2^+$						
	$C_{11}H_8(OCH_3)_2$ (1,4-Methanonaphthalene, 1,4-dihydro-5,8-dimethoxy-)	947-58-0	**	7.77±0.05 (V)	PE	5019
$C_{13}H_{20}O_2^+$						
	$C_6H_5O(CH_2)_6OCH_3$ (Benzene,[(6-methoxyhexyl)oxy]-)	61372-58-5	**	8.48±0.05	EI	5484
$C_{14}H_8O_2^+$						
	$C_{14}H_8O_2$ (1,4-Anthracenedione)	635-12-1	**	8.45±0.02	PI	3523
	$C_{14}H_8O_2$ (9,10-Anthracenedione)	84-65-1	**	9.25±0.03	PI	3523
			**	9.3	PI	3586
			**	9.25	PE	5082
			**	9.40±0.08	EI	3571
	$C_{14}H_8O_2$ (9,10-Phenanthrenedione)	84-11-7	**	8.64±0.03	PI	3523
$C_{14}H_9O_2^+$						
	$(C_6H_4)_2CH_2OC(=O)$ (Dibenz[*b*,*e*]oxepin-11(6H)-one)	4504-87-4	H	10.8	EI	5340
$C_{14}H_{10}O_2^+$						
	$(C_6H_4)_2CH_2OC(=O)$ (Dibenz[*b*,*e*]oxepin-11(6H)-one)	4504-87-4	**	9.63	EI	5340
	$(C_6H_5CO)_2$ (Ethanedione, diphenyl-)	134-81-6	**	8.9±0.05 (V)	PE	4844
			**	9.1 (V)	PE	5517
			**	8.86±0.15	EI	3823
	$C_{13}H_7(=O)OCH_3$ (1H-Phenalen-1-one,9-methoxy-)	35897-82-6	**	8.14±0.04 (V)	PE	5193
$C_{14}H_{12}O_2^+$						
	$C_{14}H_{12}O_2$ (Azulene,1,3-diacetyl-)	10487-55-5	**	7.95 (V)	PE	5397
	$C_{14}H_{12}O_2$ (3,6-Ethanodicyclopenta[*cd*,*gh*]pentalene-7,8-dione 2a,3,3a,5a,6,6a,6b,6c-octahydro-)	68217-17-4	**	8.85 (V)	PE	4849
	$C_{14}H_{10}(OH)_2$ (9,10-Phenanthrenediol,9,10-dihydro-*trans*-)	572-41-8	**	8.13 (V)	PE	5364
$C_{14}H_{14}O_2^+$						
	$C_{11}H_9(COOC_2H_5)$ (1,4-Methanonaphthalene-6-carboxylic acid ethyl ester, 1,4-dihydro-)	56136-20-0	**	8.51±0.05 (V)	PE	5019
	$C_6H_5O(CH_2)_2OC_6H_5$ (Benzene,1,1′-[1,2-ethanediylbis(oxy)]bis-)	104-66-5	**	8.39±0.05	EI	5484
	$C_6H_5CH_2OC_6H_4OCH_3$ (Benzene,1-methoxy-4-(phenylmethoxy)-)	6630-18-8	**	7.76	CTS	5336
	$C_{14}H_{14}O_2$ (3,6-Ethanodicyclopenta[*cd*,*gh*]pentalene-7,8-dione, 1,2,2a,3,3a,5a,6,6a 6b,6c-decahydro-)	68217-18-5	**	8.80 (V)	PE	4849
$C_{14}H_{16}O_2^+$						
	$C_{14}H_{16}O_2$ (3,6-Ethanodicyclopenta[*cd*,*gh*]pentalene-7,8-dione, dodecahydro-)	68217-19-6	**	8.82 (V)	PE	4849
$C_{14}H_{18}O_2^+$						
	$C_6H_4OCH_3(OCH(C_3H_5)_2)$ (Benzene, 1-(dicyclopropylmethoxy)-4-methoxy-)	54929-11-2	**	7.80±0.015 (V)	PE	4434

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{14}H_{20}O_2^+$						
	$C_6H_2(=O)_2(tert\text{-}C_4H_9)_2$ (3,5-Cyclohexadiene-1,2-dione, 3,5-bis(1,1-dimethylethyl)-)	3383-21-9	**	8.81 (V)	PE	4808
	$C_6H_2(=O)_2(tert\text{-}C_4H_9)_2$ (3,5-Cyclohexadiene-1,2-dione, 3,6-bis(1,1-dimethylethyl)-)	34105-76-5	**	8.71 (V)	PE	4808
$C_{14}H_{22}O_2^+$						
	$C_6H_4(OCH_3)(OC_7H_{15})$ (Benzene, 1-(heptyloxy)-4-methoxy-)	20743-97-9	**	7.78±0.015 (V)	PE	4434
$C_{15}H_{10}O_2^+$						
	$C_{15}H_{10}O_2$	XXXXX-XX-X	**	9.0 (V)	PE	5599
$C_{15}H_{12}O_2^+$						
	$C_{15}H_{12}O_2$	XXXXX-XX-X	**	9.22 (V)	PE	5599
	$C_6H_5COCOC_6H_4CH_3$ (Ethanedione, (4-methylphenyl)phenyl-)	2431-00-7	**	9.05±0.10	EI	3823
	$C_{13}H_7(=O)OC_2H_5$ (1H-Phenalen-1-one,9-ethoxy-)	68217-42-5	**	8.06±0.04 (V)	PE	5193
	$C_6H_5COCH_2COC_6H_5$ (1,3-Propanedione, 1,3-diphenyl-)	120-46-7	**	8.45±0.05 (V)	PE	4844
$C_{15}H_{16}O_2^+$						
	$C_6H_5O(CH_2)_3OC_6H_5$ (Benzene,1,1′-[1,3-propanediylbis(oxy)]bis-)	726-44-3	**	8.46±0.05	EI	5484
$C_{16}H_{12}O_2^+$						
	$C_{16}H_{12}O_2$	XXXXX-XX-X	**	7.8 (V)	PE	5599
$C_{16}H_{14}O_2^+$						
	$C_6H_5COCH_2CH_2COC_6H_5$ (1,4-Butanedione, 1,4-diphenyl-)	495-71-6	**	9.2±0.05 (V)	PE	4844
$C_{16}H_{16}O_2^+$						
	$C_{16}H_{16}O_2$ (2,4-Ethanobiscyclopropa[4,5]cyclopenta[1,2,3-*cd*:1′,2′,3′-*gh*] pentalene-5,6-dione, tetradecahydro-(1aα,1bβ,2α,2aβ,2bα, 3aα,3bβ,3cβ,3dβ,4α,4aβ,4bα)-)	68217-20-9	**	8.6 (V)	PE	4849
$C_{16}H_{18}O_2^+$						
	$C_6H_5O(CH_2)_4OC_6H_5$ (Benzene,1,1′-[1,4-butanediylbis(oxy)]bis-)	3459-88-9	**	8.41±0.05	EI	5484
$C_{17}H_{16}O_2^+$						
	$C_{17}H_{16}O_2$	XXXXX-XX-X	**	7.55 (V)	PE	5599
	$C_{13}H_7(=O)OC_4H_9$ (1H-Phenalen-1-one,9-butoxy-)	69454-53-1	**	8.03±0.04 (V)	PE	5193
	$C_6H_5COC(CH_3)_2COC_6H_5$ (1,3-Propanedione, 2,2-dimethyl-1,3-diphenyl-)	41169-42-0	**	9.0±0.05 (V)	PE	4844
$C_{17}H_{18}O_2^+$						
	$C_{17}H_{18}O_2$	XXXXX-XX-X	**	7.5 (V)	PE	5599
	$C_{17}H_{18}O_2$ (Azulene,1,3-diacetyl-4,6,8-trimethyl-)	841-71-4	**	7.5 (V)	PE	5397
$C_{17}H_{20}O_2^+$						
	C_6H_5O (Benzene,1,1′-[1,5-pentanediylbis(oxy)]bis-)	40339-96-6	**	8.4	EI	5484
$C_{17}H_{17}D_3O_2^+$						
	$C_{17}H_{17}D_3O_2$ (Benzene, 1-methoxy-3-[3-(4-methoxy-d_3-phenyl)propyl]-)	67081-97-4	**	7.90±0.1	EI	4925

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{17}H_{22}O_2^+$	$C_{10}H_{15}(OCH_3)(OC_6H_4)$ (Tricylo[3.3.1.1^{3,7}]decane, 1-(4-methoxyphenoxy)-)	49764-17-2	**	7.82±0.015 (V)	PE	4434
$C_{18}H_{18}O_2^+$	$C_{18}H_{18}O_2$	XXXXX-XX-X	**	7.5 (V)	PE	5599
$C_{18}H_{22}O_2^+$	$C_6H_5O(CH_2)_6OC_6H_5$ (Benzene,1,1′-[1,6-hexanediylbis(oxy)]bis-)	10125-18-5	**	8.47±0.05	EI	5484
$C_{19}H_{20}O_2^+$	$C_{19}H_{20}O_2$	XXXXX-XX-X	**	7.4 (V)	PE	5599
$C_{20}H_{14}O_2^+$	$C_{20}H_{12}(OH)_2$ (Benzo[*a*]pyrene,7,8-diol,7,8-dihydro-,*trans*-)	57404-88-3	**	7.21 (V)	PE	5364
$C_{20}H_{22}O_2^+$	$C_{20}H_{22}O_2$ (*D*-Homoestra-1,3,5(10),6,8-pentaen-17a-one, 3-methoxy-)	1232-90-2	**	7.56±0.07	EI	3571
	$C_{20}H_{22}O_2$ (*D*-Homoestra-1,3,5(10),6,8-pentaen-17a-one, 3-methoxy-, (14β)-)	1232-91-3	**	7.82±0.07	EI	3571
$C_{20}H_{26}O_2^+$	$C_{20}H_{26}O_2$ (*D*-Homoestra-1,3,5(10)-trien-17a-one, 3-methoxy-)	1232-89-9	**	8.22±0.06	EI	3571
	$C_{20}H_{26}O_2$ (*D*-Homoestra-1,3,5(10)-trien-17a-one, 3-methoxy-, (8α)-)	1232-88-8	**	8.17±0.08	EI	3571
$C_{22}H_{12}O_2^+$	$C_{22}H_{12}O_2$ (6,13-Pentacenedione)	3029-32-1	**	8.07±0.05	PI	3523
$C_{23}H_{40}O_2^+$	$C_6H_4(OCH_3)(OC_{16}H_{33})$ (Benzene, 1-hexadecyloxy)-4-methoxy-)	20743-99-1	**	7.72±0.015 (V)	PE	4434
$C_{24}H_{16}O_2^+$	$C_{24}H_{16}O_2$ (Azulene,1,3-dibenzoyl-)	XXXXX-XX-X	**	7.7 (V)	PE	5397
$C_2H_4O_3^+$	$C_2H_4O_3$ (1,2,4-Trioxolane)	289-14-5	**	10.67±0.03 (V)	PE	4980
$C_3H_2O_3^+$	$C_3H_2O_2(=O)$ (1,3-Dioxol-2-one)	872-36-6	**	10.08 (V)	PE	4549
			**	11.91 (V)	PE	3826
$C_3H_4O_3^+$	$CH_3COCOOH$	127-17-3	**	10.42 (V)	PE	4520
	$C_3H_4O_2(=O)$ (1,3-Dioxolan-2-one)	96-49-1	**	10.40	PE	4471
			**	10.40	PE	4648
			**	10.70	PE	4219
			**	11.1 (V)	PE	4549
			**	11.47 (V)	PE	3826

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_3H_6O_3^+$						
	$CH_3OCOOCH_3$	616-38-6	**	11.00 (V)	PE	4471
			**	11.00 (V)	PE	4648
			**	11.2 (V)	PE	4549
	$C_3H_6O_3$ (1,3,5-Trioxane)	110-88-3	**	10.8 (V)	PE	3733
$C_4H_2O_3^+$						
	$C_4H_2O(=O)_2$ (2,5-Furandione)	108-31-6	**	11.1 (V)	PE	4269
			**	11.11±0.05 (V)	PE	4708
			**	11.45 (V)	PE	3826
$C_4H_4O_3^+$						
	$C_4H_4O(=O)_2$ (2,5-Furandione, dihydro-)	108-30-5	**	10.8 (V)	PE	4269
			**	10.84 (V)	PE	4742
			**	10.84 (V)	PE	4810
$C_4H_6O_3^+$						
	$CH_3COCOOCH_3$	600-22-6	**	9.88 (V)	PE	4520
	$C_3H_3O_2(=O)CH_3$ (1,3-Dioxolan-2-one, 4-methyl-)	108-32-7		10.52	PE	4219
$C_4H_{10}O_3^+$						
	$CH(OCH_3)_3$	149-73-5	**	10.24±0.07 (V)	PE	4721
$C_5H_4O_3^+$						
	$C_3O_2(=CH_2)_2O$ (1,3-Dioxolan-2-one,4,5-bis(methylene)-)	62458-20-2	**	9.30	PE	5265
	C_4H_3OCOOH (2-Furancarboxylic acid)	488-93-7	**	9.16±0.05 (V)	PE	4626
$C_5H_6O_3^+$						
	$CH_3(C=O)_3CH_3$	921-11-9	**	9.52 (V)	PE	5347
	$C_3O_2(=O)(CH_3)_2$ (1,3-Dioxol-2-one, 4,5-dimethyl-)	37830-90-3	**	9.10 (V)	PE	4549
	$C_5H_6O(=O)_2$ (2H-Pyran-2,6(3H)-dione,dihydro)	108-55-4	**	11.17 (V)	PE	5090
$C_5H_8O_3^+$						
	$C_5H_8O_3$ (6,7,8-Trioxabicyclo[3.2.1]octane)	280-21-7	**	9.63±0.03 (V)	PE	4980
$C_6H_4O_3^+$						
	$C_6H_4O_3$ (7-oxabicyclo[2.2.1]hept-5-ene-2,3-dione)	55058-68-9	**	8.95±0.05 (V)	PE	4851
$C_6H_6O_3^+$						
	$C_4H_3OCOOCH_3$ (2-Furancarboxylic acid, methyl ester)	611-13-2	**	9.00±0.05 (V)	PE	4626
			**	9.32±0.05	EI	3482
$C_6H_{10}O_3^+$						
	$C_6H_{10}O_3$ (7,8,9-Trioxabicyclo[4.2.1]nonane)	284-22-0	**	9.61±0.03 (V)	PE	4980
$C_7H_6O_3^+$						
	$C_6H_4(OH)COOH$ (Benzoic acid, 3-hydroxy-)	99-06-9	**	9.20±0.2	EI	3973
	$C_6H_4(OH)COOH$ (Benzoic acid, 4-hydroxy-)	99-96-7	**	9.22±0.2	EI	3973

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_6O_3^+$						
	$C_6H_4(COOH)OOCCH_3$ (Benzoic acid, 4–(acetyloxy)–)	2345–34–8	$CH_2=C=O$	10.08±0.2	EI	3484
$C_8H_4O_3^+$						
	$C_8H_4O(=O)_2$ (2,3–Benzofurandione)	4732–72–3	**	9.65±0.05 (V)	PE	4708
	$C_8H_4O(=O)_2$ (1,3–Isobenzofurandione)	85–44–9	**	10.25±0.05 (V)	PE	4708
$C_8H_5O_3^+$						
	$C_6H_4(COOH)_2$ (1,3–Benzenedicarboxylic acid)	121–91–5	OH	12.17±0.2	EI	3973
	$C_6H_4(COOH)_2$ (1,4–Benzenedicarboxylic acid)	100–21–0	OH	12.14±0.2	EI	3973
$C_8H_8O_3^+$						
	$C_6H_4(OH)))CCH_3$ (1,2–Benzenediol monoacetate)	2848–25–1	**	8.16±0.02	EI	3631
	$C_6H_4(OH)OOCCH_3$ (1,4–Benzenediol monoacetate)	3233–32–7	**	8.12±0.02	EI	3631
	$C_6H_4(OCH_3)COOH$ (Benzoic acid, 3–methoxy–)	586–38–9	**	9.06±0.2	EI	3973
	$C_6H_4(OCH_3)COOH$ (Benzoic acid, 4–methoxy–)	100–09–4	**	9.04±0.2	EI	3973
	$C_8H_8O_3$ (Bicyclo[3.2.1]octane–2,3,4–trione)	25352–00–5	**	9.49 (V)	PE	4387
$C_9H_4O_3^+$						
	$C_9H_4O_3$ (1H–Indene–1,2,3–trione)	938–24–9	**	9.1 (V)	PE	4387
$C_9H_7O_3^+$						
	$C_6H_4(COOCH_3)COSC_6H_4CH_3$ (Benzoic acid, 2–[[(4–methylphenyl)thio]carbonyl]– methyl ester)	42797–32–0		10.98±0.2	EI	4062
	$C_8H_4O(=O)(OCH_3)SC_6H_4CH_3$ (1(3*H*)–Isobenzofuranone, 3–methoxy–3–[(4–methylphenyl)thio]–)	51053–89–5		10.7±0.2	EI	4062
$C_9H_{10}O_3^+$						
	$C_6H_4(OCH_3)CO_2CH_3$ (Benzoic acid, 4–methoxy–,methyl ester)	121–98–2	**	8.24	PE	4621
	$C_9H_{10}O_3$ (Bicyclo[3.2.2]nonane–2,3,4–trione)	57744–40–8	**	9.14 (V)	PE	4387
	$C_6H_4(OCH_3)OOCCH_3$ (Phenol, 3–methoxy–, acetate)	5451–83–2	**	8.29±0.2	EI	3484
	$C_6H_4(OCH_3)OOCCH_3$ (Phenol, 4–methoxy–, acetate)	1200–06–2	**	7.92±0.2	EI	3484
$C_9H_{12}O_3^+$						
	$C_5O_3(CH_3)_4$ (1,2,3 Cyclopentanetrione, 4,4,5,5–tetramethyl–)	1889–98–1	**	9.00 (V)	PE	4387
$C_9H_{18}O_3^+$						
	$((CH_3)_2CO)_3$	XXXXX–XX–X	**	9.10±0.03	PI	5412
$C_{10}H_6O_3^+$						
	$C_{10}H_5O_2(OH)$ (1,4–Naphthalenedione, 5–hydroxy–)	481–39–0	**	8.70±0.02	PI	3523
$C_{10}H_{14}O_3^+$						
	$C_6H_2O_3(CH_3)_4$ (1,2,3 Cyclohexanetrione, 4,4,6,6–tetramethyl–)	57744–39–5	**	9.10 (V)	PE	4387

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{10}H_{16}O_3^+$						
	$CH(OCH_2CH=CH_2)_3$	16754-50-0	**	9.80±0.07 (V)	PE	4721
	$C_6H_4O(=O)_2(CH_3)_4$ (1,2-Cycloheptanedione-5-oxa,3,3,7,7-tetramethyl-)	XXXXX-XX-X	**	8.90 (V)	PE	5090
$C_{12}H_6O_3^+$						
	$C_{12}H_6O(=O)_2$ (1H,3H-Naphtho[1,8-*cd*]pyran-1,3-dione)	81-84-5	**	8.92±0.05 (V)	PE	5095
$C_{12}H_{22}O_3^+$						
	$C_4H_4O_3(tert\text{-}C_4H_9)_2$ (2,3,7-Trioxabicyclo[2.2.1]heptane,1,4-bis(1,1-dimethylethyl)-)	XXXXX-XX-X	**	9.00 (V)	PE	5563
$C_{14}H_8O_3^+$						
	$C_{14}H_7O_2(OH)$ (9,10-Anthracenedione, 1-hydroxy-)	129-43-1	**	8.43±0.05	PI	3523
	$C_{14}H_7O_2(OH)$ (9,10-Anthracenedione, 2-hydroxy-)	605-32-3	**	8.70±0.03	PI	3523
$C_{14}H_{10}O_3^+$						
	$C_6H_5COCOC_6H_4OH$ (Ethanedione, (4-hydroxyphenyl)phenyl-)	38469-73-7	**	8.9±0.05 (V)	PE	4844
$C_{14}H_{12}O_3^+$						
	$C_6H_5COOC_6H_4OCH_3$ (Phenol, 4-methoxy-, benzoate)	1523-19-9	**	8.6	EI	5631
$C_{18}H_{18}O_3^+$						
	$C_{18}H_{18}O_3^+$ (1,3-Propanedione, 1-(4-methoxyphenyl)-2,2-dimethyl-3-phenyl-)	71591-81-6	**	8.6±0.05 (V)	PE	4844
$C_{20}H_{14}O_3^+$						
	$C_{20}H_{12}(OH)_2O$ (Benzo[10,11]chryseno[3,4-*b*]oxirene-7,8-diol,7,8,8a,9a-tetrahydro-(7α,8β,8aα,9aα)-)	60268-85-1	**	7.13 (V)	PE	5364
$C_2H_2O_4^+$						
	HOCOCOOH	144-62-7	**	11.20 (V)	PE	4487
			**	11.20 (V)	PE	4648
			**	11.20 (V)	PE	5517
$C_2H_4O_4^+$						
	$(HCOOH)_2$	14523-98-9	**	11.3 (V)	PE	3734
$C_3H_4O_4^+$						
	$CH_2(COOH)_2$	141-82-2	**	11.05 (V)	PE	5243
$C_4H_4O_4^+$						
	trans-$HO_2CCH=CHCO_2H$	110-17-8	**	10.9 (V)	PE	4464
$C_4H_6O_4^+$						
	$CHCH_3(COOH)_2$	516-05-2	**	10.80 (V)	PE	5243
	$CH_3OCOCOOCH_3$	553-90-2	**	10.30 (V)	PE	4648
$C_4H_8O_4^+$						
	$(CH_3COOH)_2$	6993-75-5	**	10.6 (V)	PE	3734
$C_6H_6O_4^+$						
	$CH_3OOCC{\equiv}CCOOCH_3$	762-42-5	**	10.9 (V)	PE	3937
	$C_4(=O)_2(CH_3O)_2$ (3-Cyclobutene-1,2-dione, 3,4-dimethoxy-)	5222-73-1	**	9.20 (V)	PE	4861

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_8O_4^+$						
	cis-$(CH_3OC(O)CH)_2$	624-48-6	**	10.3 (V)	PE	4464
			**	10.47 (V)	PE	3937
	trans-$(CH_3OC(O)CH)_2$	624-49-7	**	10.5 (V)	PE	4464
			**	10.70 (V)	PE	3937
$C_6H_{10}O_4^+$						
	$C_2H_5OCOCOOC_2H_5$	95-92-1	**	10.19 (V)	PE	4648
$C_6H_{12}O_4^+$						
	$(CH_3CH_2COOH)_2$	XXXXX-XX-X	**	10.4 (V)	PE	3734
$C_7H_7O_4^+$						
	$C_{14}H_{20}O_{10}$ (α-D-Galactopyranosiduronic acid, methyl methyl ester, triacetate)	35785-35-4		10.81	EI	5227
$C_7H_{12}O_4^+$						
	$C(C_2H_5)_2(COOH)_2$	510-20-3	**	10.40 (V)	PE	5243
$C_8H_6O_4^+$						
	$C_6H_4(COOH)_2$ (1,3-Benzenedicarboxylic acid)	121-91-5	**	9.98±0.2	EI	3973
	$C_6H_4(COOH)_2$ (1,4-Benzenedicarboxylic acid)	100-21-0	**	9.86±0.2	EI	3973
$C_8H_{16}O_4^+$						
	$C_8H_{16}O_4$ (1,4,7,10-Tetraoxacyclododecane)	294-93-9	**	9.3 (V)	PE	5104
$C_9H_8O_4^+$						
	$C_6H_4(COOH)OOCCH_3$ (Benzoic acid, 4-(acetyloxy)-)	2345-34-8	**	9.11±0.2	EI	3484
$C_{10}H_6O_4^+$						
	$C_{10}H_4O_2(OH)_2$ (1,4-Naphthalenedione, 5,8-dihydroxy-)	475-38-7	**	8.20±0.02	PI	3523
$C_{12}H_{24}O_4^+$						
	$((CH_3)_2CO)_4$	XXXXX-XX-X	**	9.02±0.03	PI	5412
$C_{14}H_8O_4^+$						
	$C_{14}H_6O_2(OH)_2$ (9,10-Anthracenedione, 1,4-dihydroxy-)	81-64-1	**	7.94±0.03	PI	3523
	$C_{14}H_6O_2(OH)_2$ (9,10-Anthracenedione, 1,5-dihydroxy-)	117-12-4	**	8.53±0.03	PI	3523
	$C_{14}H_6O_2(OH)_2$ (9,10-Anthracenedione, 2,6-dihydroxy-)	84-60-6	**	8.65±0.05	PI	3523
$C_{16}H_{14}O_4^+$						
	$C_6H_4(COOCH_3)C_6H_4COOCH_3$ ([1,1'-Biphenyl]-2,2'-dicarboxylic acid dimethyl ester)	5807-64-7	**	8.90±0.05	EI	4199
	$C_6H_4(COOCH_3)C_6H_4COOCH_3$ ([1,1'-Biphenyl]-4-4'-dicarboxylic acid dimethyl ester)	792-74-5	**	9.15±0.05	EI	4199
	$(C_6H_5CH_2OC{=}O)_2$ (Ethanedioic acid bis(phenylmethyl)ester)	7579-36-4	**	9.1 (V)	PE	4609
$C_{22}H_{10}O_4^+$						
	$C_{22}H_{10}O_4$ (5,7,12,14-Pentacenetetrone)	23912-79-0	**	9.22±0.05	PI	3523
$C_9H_9O_5^+$						
	$C_{14}H_{20}O_{10}$ (α-D-Galactopyranosiduronic acid, methyl methyl ester, triacetate)	35785-35-4		10.50	EI	5227

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{10}H_{20}O_5^+$	$C_{10}H_{20}O_5$ (1,4,7,10,13–Pentaoxacyclopentadecane)	33100–27–5	**	9.58 (V)	PE	5104
$C_9H_{11}O_6^+$	$C_{14}H_{20}O_{10}$ (α–D–Galactopyranosiduronic acid, methyl methyl ester, triacetate)	35785–35–4		10.46	EI	5227
$C_{10}H_2O_6^+$	$C_{10}H_2O_2(=O)_4$ (1*H*,3*H*–Benzo[1,2–c:4,5–c′]difuran–1,3,5,7–tetrone)	89–32–7	**	12.19±0.02	PI	4174
$C_{12}H_{24}O_6^+$	$C_{12}H_{24}O_6$ (1,4,7,10,13,16–Hexaoxacyclooctadecane)	17455–13–9	**	9.70 (V)	PE	5104
$C_{14}H_8O_6^+$	$C_{14}H_4O_2(OH)_4$ (Anthraquinone, 1,4,5,8–tetrahydroxy–)	81–60–7	**	7.83±0.02	PI	3523
$C_{20}H_{24}O_6^+$	$C_{20}H_{24}O_6$ (Dibenzo[*b*,*k*][1,4,7,10,13,16]hexaoxacyclooctadecin,6,7,9,10,17,18,20,21–octahydro–)	14187–32–7	**	7.70 (V)	PE	5104
$C_{20}H_{36}O_6^+$	$C_{20}H_{36}O_6$ (Dibenzo[*b*,*k*][1,4,7,10,13,16]hexaoxacyclooctadecin,eicosahydro–)	16069–36–6	**	9.45 (V)	PE	5104
$C_{11}H_{13}O_7^+$	$C_{14}H_{20}O_{10}$ (α–D–Galactopyranosiduronic acid, methyl methyl ester, triacetate)	35785–35–4	OCH_3,CH_3COOH	10.27	EI	5227
$C_{13}H_{17}O_9^+$	$C_{14}H_{20}O_{10}$ (α–D–Galactopyranosiduronic acid, methyl methyl ester, triacetate)	35785–35–4	OCH_3	10.10	EI	5227
$C_{14}H_{20}O_{10}^+$	$C_{14}H_{20}O_{10}$ (α–D–Galactopyranosiduronic acid, methyl methyl ester, triacetate)	35785–35–4	**	9.96	EI	5227
$BeC_{10}H_{14}O_4^+$	$(CH_3COCHCOCH_3)_2Be$ (Beryllium, bis(2,4–pentanedionato–*O*,*O*′)–, (*T*–4)–)	10210–64–7	**	8.41±0.07 (V)	PE	3682
BCH_3O^+	$(BH_3)(CO)$	13205–44–2	**	11.14±0.02	PE	3699
$BC_3H_9O^+$	$(CH_3)_2BOCH_3$	4443–43–0	**	10.32 (V)	PE	4065
$BC_3H_9O_2^+$	$(CH_3O)_2BCH_3$	7318–81–2	**	10.40 (V)	PE	4065
$BC_8H_{11}O_2^+$	$C_6H_5B(OCH_3)_2$ (Boronic acid, phenyl–dimethyl ester)	13471–35–7	**	9.25±0.05 (V)	PE	4956
$BC_3H_9O_3^+$	$B(OCH_3)_3$	121–43–7	**	10.40 (V)	PE	4065

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
NO^+						
($^1\Sigma^+$)	NO	10102-43-9	**	9.26436±0.00006	S	5144
($^3\Pi$,$^1\Pi$)			**	21.72	S	4176
($^3\Pi$)			**	21.721±0.006	S	3761
($^1\Sigma^+$)			**	9.26 (V)	PE	4843
($^1\Sigma^+$)			**	9.262±0.003	PE	3516
($^1\Sigma^+$)			**	9.27	PE	4073
($^3\Sigma^+$)			**	15.667±0.003	PE	3516
($^3\Pi$)			**	16.562±0.003	PE	3516
($^3\Delta$)			**	16.863±0.003	PE	3516
($^3\Sigma^-$)			**	17.586±0.003	PE	3516
($^1\Sigma^-$)			**	17.811±0.003	PE	3516
($^1\Pi$)			**	18.319±0.003	PE	3516
($^3\Pi$)			**	21.722±0.010	PE	3516
($^1\Pi$)			**	21.722±0.010	PE	3516
($^1\Sigma^+$)			**	22.727±0.10	PE	3516
($^1\Sigma^+$)			**	9.27±0.05	EI	3453
	N_2O	10024-97-2	N	15.01	PI	4356
			N($^2D°$)	16.53±0.01	PI	4356
			N($^2P°$)	17.73±0.01	PI	4356
			N	16±1	PI	5170
	CH_3NO_2	75-52-5		11.75±0.01	PI	3524
	CH_3ONO	624-91-9	CH_3O	10.917±0.008	PI	3524
	$((CH_3)_2C(CN)NO)_2$	31018-29-8		10.20	EI	4809
	$((CH_3)_2C(NO)COCH_3)_2$	30442-79-6		10.50	EI	4809
	$(C_6H_{11}NO_2)_2$	68777-99-1		12.20	EI	4809
	$((CH_3)_2C(NO)COOCH_3)_2$	6144-15-6		9.90	EI	4809
	$((CH_3)_2C(NO)OOCCH_3)_2$	68777-98-0		10.80	EI	4809
	$((CH_3)_2C(NO_2)NO)_2$	5275-46-7		10.50	EI	4809
	CF_3NO	XXXXX-XX-X	CF_3	12.4±0.1	EI	5220
	ClNO	XXXXX-XX-X	Cl	11.0±0.02	EI	5220
	$(CH_3)_2CClNO$	2421-26-3	CH_3CCl	12.75	EI	4809
	$(CH_3)_2CBrNO$	7119-91-7		11.10	EI	4809
NO^{+2}						
($^2\Sigma^+$,$^2\Pi$)	NO	10102-43-9	**	39.3±0.5	OTH	5007
($^2\Sigma^+$)			**	42.4±1.0	OTH	5007
($^2\Sigma^+$,$^2\Pi$)			**	47.2±0.5	OTH	5007
N_2O^+						
($^2\Pi_{3/2}$)	N_2O	10024-97-2	**	12.88±0.005	PI	4356
($^2\Pi_{1/2}$)			**	12.89±0.005	PI	4356
($^2\Sigma^+$)			**	16.37±0.01	PI	4356
			**	12±1	PI	5170
($^2\Pi$)			**	12.886±0.002	PE	4752
			**	12.89 (V)	PE	5055
($^2\Pi$)			**	12.90	PE	3998
($^2\Sigma^+$)			**	16.388±0.001	PE	4752
($^2\Sigma^+$)			**	16.40	PE	3998
($^2\Sigma^+$)			**	20.105±0.002	PE	4752
			**	12.91±0.03	EI	4877
	$(CH_3)_2CBrNO$	7119-91-7		13.15	EI	4809
N_2O^{2+}						
	N_2O	10024-97-2	**	37.3±0.5	OTH	5147
NO_2^+						
	NO_2	10102-44-0	**	<9.62±0.01	PI	3927
			**	10.4±0.3	EI	5176
			**	35.0±0.5	EI	5176

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$N_2O_4^+$						
	N_2O_4	10544-72-6	**	10.8±0.2	PE	4700
			**	11.4±0.1 (V)	PE	4709
			**	11.4±0.1 (V)	PE	5262
			**	11.45±0.1 (V)	PE	5383
			**	11.6 (V)	PE	4561
			**	11–12 (V)	PE	4631
$N_2O_5^+$						
	N_2O_5	10102-03-1	**	12.3 (V)	PE	4561
HNO^+						
	HNO	14332-28-6	**	8.6 (V)	PE	4467
	$((CH_3)_2C(NO)OOCCH_3)_2$	68777-98-0		14.20	EI	4809
	$(CH_3)_2CBrNO$	7119-91-7		12.75	EI	4809
H_3NO^+						
	NH_2OH	7803-49-8	**	10.59 (V)	PE	4768
				10.64 (V)	PE	5288
$C_6H_7NO^+$						
	$C_5H_4N(O)CH_3$ (Pyridine, 2-methyl-, 1-oxide)	931-19-1	**	8.21±0.02 (V)	PE	4275
HNO_2^+						
	HNO_2	7782-77-6	**	11.3 (V)	PE	4467
HNO_3^+						
	HNO_3	7697-37-2	**	11.95±0.01	PE	4477
			**	11.96	PE	4404
			**	12.2 (V)	PE	4561
$C_2N_2O^+$						
	NCNCO	22430-66-6	**	11.49±0.02	PE	4746
$C_3N_2O^+$						
	$(CN)_2CO$	1115-12-4	**	12.56 (V)	PE	3726
CNO_2^+						
	$((CH_3)_2C(NO_2)NO)_2$	5275-46-7		10.15	EI	4809
$C_6H_5NO_3^+$						
	$C_6H_4(OH)NO_2$ (Phenol, 4-nitro-)	100-02-7	**	7.38	EI	4089
$CHNO^+$						
	HNCO	75-13-8	**	11.62±0.02	PE	3670
	HCNO	506-85-4	**	10.83	PE	4595
CH_2NO^+						
	$HCONH_2$	75-12-7		12.00	EI	4878
	CH_3CONH_2	60-35-5		11.60	EI	4878
	$(NH_2)_2CO$	57-13-6		12.90	EI	4878
	$NHCH_3CONH_2$	598-50-5		13.25	EI	4878
	$N(CH_3)_2CONH_2$	1320-50-9		13.70	EI	4878
CH_3NO^+						
	$HCONH_2$	75-12-7	**	10.16±0.03	PI	3765
			**	10.50±0.05	EI	4759
	$CH_2=NOH$	75-17-2	**	10.62 (V)	PE	4650
	CH_3NO	865-40-7	**	8.68±0.1 (V)	PE	4465
				9.76±0.05 (V)	PE	5298

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
CH_3NO^+						
	CH_3NO	865-40-7	**	9.8	PE	4379
			**	9.8 (V)	PE	4467
CH_5NO^+						
	H_2NOCH_3	67-62-9		10.25 (V)	PE	5288
			**	10.28 (V)	PE	4768
	CH_3NHOH	593-77-1		9.82 (V)	PE	5288
$C_2H_3NO^+$						
	CH_3NCO	624-83-9	**	10.67±0.02	PE	3670
$C_2H_4NO^+$						
	$HCONHCH_3$	123-39-7		11.20	EI	4878
	$CH_3CONHCH_3$	79-16-3		11.80	EI	4878
	$(NHCH_3)_2CO$	96-31-1		11.90	EI	4878
	$N(CH_3)_2CONHCH_3$	632-14-4		12.40	EI	4878
	$((CH_3)_2C(NO)OOCCH_3)_2$	68777-98-0		10.30	EI	4809
	$((CH_3)_2C(NO_2)NO)_2$	5275-46-7		10.15	EI	4809
	$(CH_3)_2CBrNO$	7119-91-7		10.10	EI	4809
$C_2H_5NO^+$						
	CH_3CONH_2	60-35-5	**	9.65±0.03	PI	3765
			**	9.62	PE	4471
			**	9.62	PE	4520
			**	9.80	PE	3718
			**	10.15±0.05	EI	4759
	$CH_3CH=NOH$	107-29-9	**	10.20 (V)	PE	4650
	$HCONHCH_3$	123-39-7	**	10.00±0.05	EI	4759
	C_2H_5NO	925-91-7	**	10.1±0.2	EI	4099
$C_2H_7NO^+$						
	$NH_2CH_2CH_2OH$	141-43-5	**	9.87±0.06 (V)	PE	3987
	CH_3NHOCH_3	1117-97-1		9.48 (V)	PE	5288
	$(CH_3)_2NOH$	5725-96-2		9.18 (V)	PE	5288
$C_3H_2NO^+$						
	C_3H_3NO (Oxazole)	288-42-6	H	12.7	EI	5400
$C_3H_3NO^+$						
	$CH_2=CHNCO$	3555-94-0	**	9.80±0.1 (V)	PE	5541
	C_3H_3NO (Isoxazole)	288-14-2	**	10.20 (V)	PE	5213
	C_3H_3NO (Oxazole)	288-42-6	**	9.6	EI	5400
$C_3H_5NO^+$						
	C_2H_5NCO	109-90-0	**	10.32±0.05 (V)	PE	5026
	$(CH_3)_2CBrNO$	7119-91-7		10.60	EI	4809
$C_3H_6NO^+$						
	$HCON(CH_3)_2$	68-12-2		11.35	EI	4878
	$CH_3CON(CH_3)_2$	127-19-5		11.60	EI	4878
	$N(CH_3)_2CONHCH_3$	632-14-4		12.40	EI	4878
	$((CH_3)_2N)_2CO$	632-22-4		11.75	EI	4878
	$((CH_3)_2C(NO)OOCCH_3)_2$	68777-98-0		10.25	EI	4809
	$(CH_3)_2CClNO$	2421-26-3		11.80	EI	4809
	$(CH_3)_2CBrNO$	7119-91-7		10.35	EI	4809
$C_3H_7NO^+$						
	$HCON(CH_3)_2$	68-12-2	**	9.45±0.05	EI	4759

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_3H_7NO^+$						
	$CH_3CONHCH_3$	79-16-3	**	9.85 (V)	PE	3718
			**	9.70±0.05	EI	4759
	$(CH_3)_2C{=}NOH$	127-06-0	**	9.67 (V)	PE	4650
	C_3H_6ONH (Isoxazolidine)	504-72-3	**	9.57 (V)	PE	5301
	$((CH_3)_2C(NO)OOCCH_3)_2$	68777-98-0		10.70	EI	4809
$C_3H_9NO^+$						
	$CH_3OCH_2CH_2NH_2$	109-85-3	**	9.45±0.09 (V)	PE	3987
	$NH_2(CH_2)_3OH$	156-87-6	**	9.77±0.20 (V)	PE	3987
	$(CH_3)_3NO$	1184-78-7	**	8.27 (V)	PE	4537
			**	8.375±0.035 (V)	PE	5529
	$(CH_3)_2NOCH_3$	5669-39-6		8.81 (V)	PE	5288
$C_4H_7NO^+$						
	$C_4H_7N(=O)$ (2-Pyrrolidinone)	616-45-5	**	9.53 (V)	PE	4742
$C_4H_8NO^+$						
	$(C_6H_{11}NO_2)_2$	68777-99-1		9.40	EI	4809
$C_4H_9NO^+$						
	$C_3H_6ON(CH_3)$ (Isoxazolidine,2-methyl-)	22445-44-9	**	8.60 (V)	PE	5301
	$CH_3CON(CH_3)_2$	127-19-5	**	9.43 (V)	PE	3718
			**	9.20±0.05	EI	4759
	n-$C_3H_7CH{=}NOH$	110-69-0	**	9.93 (V)	PE	4650
	tert-C_4H_9NO	917-95-3	**	7.99±0.1 (V)	PE	4465
			**	8.95 (V)	PE	4719
			**	9.05±0.05 (V)	PE	5298
	C_4H_9NO (Morpholine)	110-91-8	**	8.88±0.05	PE	4654
			**	8.88±0.05 (V)	PE	4819
			**	8.91±0.03 (V)	PE	4452
	C_4H_8ONH (2H-1,2-Oxazine,tetrahydro-)	36652-42-3	**	9.00 (V)	PE	5301
$C_4H_{11}NO^+$						
	$(CH_3)_2NC_2H_4OH$	108-01-0	**	8.82 (V)	PE	4537
			**	8.85±0.04 (V)	PE	3987
	$CH_3O(CH_2)_3NH_2$	5332-73-0	**	9.37±0.12 (V)	PE	3987
$C_5H_3NO^+$						
	C_4H_3OCN (2-Furancarbonitrile)	617-90-3	**	9.47±0.05 (V)	PE	4626
			**	9.77±0.05	EI	3482
$C_5H_5NO^+$						
	$C_5H_4N(OH)$ (2-Pyridinol)	109-10-4	**	9.11±0.03 (V)	PE	4711
			**	9.28±0.02	EI	3636
	$C_5H_4N(OH)$ (3-Pyridinol)	109-00-2	**	9.15±0.03 (V)	PE	4711
			**	9.5±0.1	EI	4302
			**	9.55±0.02	EI	3636
			**	9.55±0.05	EI	3635
	$C_5H_4N(OH)$ (4-Pyridinol)	626-64-2	**	9.8±0.03	PE	4711
			**	9.6±0.1	EI	4302
			**	9.89±0.02	EI	3636
	C_5H_5NO (Pyridine, 1-oxide)	694-59-7	**	8.38±0.02	PE	4470

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_5NO^+$						
	C_5H_5NO	694-59-7	**	8.38±0.02 (V)	PE	4275
			**	8.46 (V)	PE	4222
	C_5H_4NOH (2-Pyridinol)	72762-00-6	**	8.62 (V)	PE	5191
	$C_5H_4NH(=O)$ (2(1H)-Pyridinone)	142-08-5	**	8.62±0.03 (V)	PE	4711
	$C_5H_4NH(=O)$ (2(1*H*)-Pyridinone)	142-08-5	**	9.0±0.1	EI	4302
	C_4H_4NCHO (1-*H*-Pyrrole-2-carboxaldehyde)	1003-29-8	**	8.93±0.05	EI	3482
$C_5H_8NO^+$						
	$(CH_3)_2NCOCH=CHCH_3$	23135-18-4	CH_3	11.0±0.1	EI	3996
$C_5H_9NO^+$						
	n-C_4H_9NCO	111-36-4	**	10.14±0.05 (V)	PE	5026
	tert-C_4H_9CNO	1609-86-5	**	9.57 (V)	PE	4674
	tert-$C_4H_9C{\equiv}NO$	27143-81-3	**	9.55±0.05 (V)	PE	4719
	$C_3H_5CHN(CH_3)O$ (Methanaminium,N-(cyclopropylmethylene)-N-hydroxy-hydroxide,inner salt)	65194-05-0	**	8.30	PE	5099
	$C_4H_6N(=O)CH_3$ (3-Pyrrolidinone, 1-methyl-)	68165-06-0	**	8.83 (V)	PE	4742
$C_5H_{11}NO^+$						
	$C_4H_8ON(CH_3)$ (2H-1,2-Oxazine,tetrahydro-2-methyl-)	22445-43-8	**	8.66 (V)	PE	5301
	n-$C_3H_7CHNO(CH_3)$ (Oxaziridine, 2-methyl-3-propyl-)	58751-77-2	**	9.40±0.05	EI	4677
	$CH_3COCH_2N(CH_3)_2$	15364-56-4	**	7.71±0.05	PE	4192
	n-$C_3H_7CONHCH_3$	17794-44-4	**	9.68±0.05	EI	4677
	n-$C_3H_7CH=NOCH_3$	31376-98-4	**	9.33±0.05	EI	4677
	n-$C_3H_7CH=N(O)CH_3$	44603-43-2	**	8.57±0.05	EI	4677
	tert-$C_4H_9N(=CH_2)O$	41012-82-2	**	8.64	PE	5099
			**	8.64 (V)	PE	4719
	cis-$C_5H_8(OH)NH_2$ (Cyclopentanol, *cis*-2-amino-)	57070-95-8	**	8.61	PE	4399
	trans-$C_5H_8(OH)NH_2$ (Cyclopentanol, *trans*-2-amino-)	59260-76-3	**	8.30	PE	4399
$C_5H_{13}NO^+$						
	$(CH_3)_2N(CH_2)_3OH$	3179-63-3	**	8.74±0.04 (V)	PE	3987
$C_6H_5NO^+$						
	C_6H_5NO (Benzene, nitroso-)	586-96-9	**	8.09	PE	3938
			**	8.9 (V)	PE	4467
			**	8.90±0.1 (V)	PE	4465
			**	9.84±0.1 (V)	PE	4401
$C_6H_6NO^+$						
	$C_6H_4(NH_2)OCH_3$ (Benzenamine, 3-methoxy-)	536-90-3	CH_3	11.07±0.1	EI	3446
	$C_6H_4(NH_2)OCH_3$ (Benzenamine, 4-methoxy-)	104-94-9	CH_3	10.43±0.1	EI	3446
	$C_6H_5COC_4H_3NCH_3$ (Methanone,(1-methyl-1H-pyrrol-2-yl)phenyl-)	37496-06-3	C_6H_5	12.2±0.1	EI	5493
	$C_6H_4(OH)NHCOCH_3$ (Acetamide, *N*-(2-hydroxyphenyl)-)	614-80-2	CH_3CO	13.46±0.02	EI	3631
	$C_6H_4(OH)NHCOCH_3$ (Acetamide, *N*-(4-hydroxyphenyl)-)	103-90-2	CH_3CO	13.52±0.02	EI	3631
	$C_6H_4(NO_2)NH_2$ (Benzenamine, 3-nitro-)	99-09-2	NO	9.12±0.1	EI	3447

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_6NO^+$						
	$C_6H_4(NO_2)NH_2$ (Benzenamine, 4-nitro-)	100-01-6	NO	9.56±0.1	EI	3447
$C_6H_7NO^+$						
	$C_5H_4N(OCH_3)$ (Pyridine, 2-methoxy-)	1628-89-3	**	8.82±0.03 (V)	PE	4711
			**	8.9±0.1	EI	4302
			**	8.96±0.02	EI	3636
	$C_5H_4N(OCH_3)$ (Pyridine, 3-methoxy-)	7295-76-3	**	9.34±0.02	EI	3636
			**	9.34±0.05	EI	3635
	$C_5H_4N(OCH_3)$ (Pyridine, 4-methoxy-)	620-08-6	**	9.58±0.02	EI	3636
	$C_5H_4N(=O)CH_3$ (2(1*H*)-Pyridinone, 1-methyl-)	694-85-9	**	8.58±0.02	EI	3636
			**	8.41±0.03 (V)	PE	4711
	$C_5H_4N(=O)CH_3$ (4(1*H*)-Pyridinone, 1-methyl-)	695-19-2	**	8.48±0.02	EI	3636
			**	8.20±0.03 (V)	PE	4711
	$C_5H_3N(CH_3)OH$ (2-Pyridinol,6-methyl-)	73229-70-6	**	8.33 (V)	PE	5191
			**	8.69±0.03	OTH	5596
	$C_4H_4NCOCH_3$ (Ethanone, 1-(1*H*-pyrrol-2-yl)-)	1072-83-9	**	8.72±0.05	EI	3482
	$C_5H_4N(O)CH_3$ (Pyridine, 3-methyl-, 1-oxide)	1003-73-2	**	8.20±0.02 (V)	PE	4275
	$C_5H_4N(O)CH_3$ (Pyridine, 4-methyl-, 1-oxide)	1003-67-4	**	8.12±0.02 (V)	PE	4275
			**	8.17 (V)	PE	4222
	$C_5H_4N(O)CH_3$ (Pyridinium, 3-hydroxy-1-methyl-, hydroxide, inner salt)	25065-00-3	**	7.90±0.02	EI	3636
			**	7.90±0.05	EI	3635
	$C_5H_3N(OH)CH_3$ (3-Pyridinol, 6-methyl-)	1121-78-4	**	9.15±0.05	EI	3635
	$C_5H_3NH(CH_3)(=O)$ (2(1H)-Pyridinone,6-methyl-)	3279-76-3	**	8.19±0.03	OTH	5596
	$C_6H_4(OH)NHCOCH_3$ (Acetamide, *N*-(2-hydroxyphenyl)-)	614-80-2	$CH_2=C=O$	9.41±0.02	EI	3631
	$C_6H_4(OH)NHCOCH_3$ (Acetamide, *N*-(4-hydroxyphenyl)-)	103-90-2	$CH_2=C=O$	9.82±0.02	EI	3631
$C_6H_{11}NO^+$						
	$(CH_3)_2NCOCH=CHCH_3$	23135-18-4	**	9.0±0.1	EI	3996
$C_6H_{12}NO^+$						
	$C_{11}H_{20}N_2O_4$ (L-Alanine,N-(N-acetyl-L-valyl)-methyl ester)	55728-13-7		9.2±0.1	PI	5279
$C_6H_{13}NO^+$						
	cis-$C_6H_{10}(OH)NH_2$ (Cyclohexanol, 2-amino-,*cis*-)	931-15-7	**	9.59 (V)	PE	4450
	trans-$C_6H_{10}(OH)NH_2$ (Cyclohexanol, 2-amino-, *trans*-)	6982-39-4	**	9.49 (V)	PE	4450
	$C_{11}H_{20}N_2O_4$ (L-Alanine,N-(N-acetyl-L-valyl)-methyl ester)	55728-13-7		8.8±0.1	PI	5279
$C_6H_{15}NO^+$						
	$(C_2H_5)_2NCH_2CH_2OH$	100-37-8	**	8.58±0.03 (V)	PE	3987
$C_7H_4NO^+$						
	$C_6H_4(CN)OCH_3$ (Benzonitrile, 3-methoxy-)	1527-89-5	CH_3	12.75±0.1	EI	3446

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_4NO^+$						
	$C_6H_4(CN)OCH_3$ (Benzonitrile, 4–methoxy–)	874–90–8	CH_3	12.65±0.1	EI	3446
	$C_6H_4(NO_2)CN$ (Benzonitrile, 3–nitro–)	619–24–9	NO	10.45±0.1	EI	3447
	$C_6H_4(NO_2)CN$ (Benzonitrile, 4–nitro–)	619–72–7	NO	10.80±0.1	EI	3447
$C_7H_5NO^+$						
	$C_6H_5N=C=O$ (Benzene, isocyanato–)	103–71–9	**	9.00 (V)	PE	4495
			**	9.2	EI	4660
	C_6H_5CNO (Benzonitrile, N–oxide)	873–67–6	**	8.96±0.02 (V)	PE	4674
$C_7H_6NO^+$						
	$C_6H_5COC_6H_4NH_2$ (Methanone, (2–aminophenyl)phenyl–)	2835–77–0		11.9±0.1	EI	4358
				11.9±0.1	EI	4335
	$C_6H_5COC_6H_4NH_2$ (Methanone, (3–aminophenyl)phenyl–)	2835–78–1		12.0±0.1	EI	4335
				12.0±0.1	EI	4358
	$C_6H_5COC_6H_4NH_2$ (Methanone, (4–aminophenyl)phenyl–)	1137–41–3		11.25±0.1	EI	4335
				11.25±0.1	EI	4358
	$CH_3C_6H_4NO_2$ (Benzene,1–methyl–2–nitro–)	88–72–2	OH	9.69±0.05	PI	5437
	$C_6H_4(NH_2)COOH$ (Benzoic acid, 3–amino–)	99–05–8	OH	12.18±0.2	EI	3973
	$C_6H_4(NH_2)COOH$ (Benzoic acid, 4–amino–)	150–13–0	OH	12.12±0.2	EI	3973
	$C_6H_4(Cl)NHCHO$ (Formamide, *N*–(2–chlorophenyl)–)	2596–93–2	Cl	9.3±0.1	EI	4359
$C_7H_7NO^+$						
	$C_6H_4(NO)(CH_3)$ (Benzene, 1–methyl–4–nitroso–)	623–11–0	**	8.79±0.1 (V)	PE	4465
	$C_6H_5CONH_2$ (Benzamide)	55–21–0	**	9.45 (V)	PE	4918
			**	9.60	EI	3792
$C_7H_9NO^+$						
	$C_5H_4N(OC_2H_5)$ (Pyridine, 4–ethoxy–)	33399–46–1	**	9.25±0.03 (V)	PE	4711
	$C_6H_4(NH_2)OCH_3$ (Benzenamine, 3–methoxy–)	536–90–3	**	7.76±0.1	EI	3446
	$C_6H_4(NH_2)OCH_3$ (Benzenamine, 4–methoxy–)	104–94–9	**	7.44	PI	4328
			**	7.08	PE	4621
			**	7.58±0.01 (V)	PE	4389
			**	7.58 (V)	PE	5403
			**	6.92	EI	3845
			**	7.60±0.1	EI	3446
			**	9.39	EI	4089
$C_7H_{10}NO^+$						
	$C_4H_8NCOCH=CHCH_3$ (Pyrrolidine, 1–(1–oxo–2–butenyl)–)	51944–65–1	CH_3	11.2±0.1	EI	3996
$C_7H_{11}NO^+$						
	$C_5H_8NCOCH_3$ (Pyridine, 1–acetyl–1,2,3,4–tetrahydro–)	19615–27–1	**	8.8	EI	4046

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_{13}NO^+$						
	$C_7H_{12}NOH$ (1-Azabicyclo[2.2.2]octan-4-ol)	26458-74-2	**	8.48±0.015 (V)	PE	4286
	$C_6H_{10}N(=O)CH_3$ (2H-Azepin-2-one, hexahydro-1-methyl-)	2556-73-2	**	9.00±0.05	EI	4677
	$C_6H_{10}(=NOCH_3)$ (Cyclohexanone, O-methyloxime)	13858-85-0	**	9.01±0.05	EI	4677
	$C_6H_{10}(=N(O)CH_3)$ (Methanamine, N-cyclohexylidene-N-oxide)	58751-78-3	**	7.97±0.05	EI	4677
	$C_6H_{10}NOCH_3$ (1-Oxa-2-azaspiro[2.5]octane, 2-methyl-)	3400-13-3	**	8.93±0.05	EI	4677
	$C_5H_{10}NCOCH_3$ (Piperidine, 1-acetyl-)	618-42-8	**	9.1	EI	4046
$C_7H_{15}NO^+$						
	$C_3H_6ON(C(CH_3)_3)$ (Isoxazolidine,2-(1,1-dimethylethyl)-)	67137-81-9	**	8.25	PE	5301
	cis-$C_5H_8(OH)N(CH_3)_2$ (Cyclopentanol, *cis*-2-(dimethylamino)-)	57070-96-9	**	7.80	PE	4399
	trans-$C_5H_8(OH)N(CH_3)_2$ (Cyclopentanol, *trans*-2-(dimethylamino)-)	18760-79-7	**	7.45	PE	4399
$C_7H_{17}NO^+$						
	$(C_2H_5)_2N(CH_2)_3OH$	622-93-5	**	8.56±0.05 (V)	PE	3987
$C_8H_4NO^+$						
	$C_6H_4(CN)COOH$ (Benzoic acid, 4-cyano-)	619-65-8	OH	12.68±0.2	EI	3973
$C_8H_7NO^+$						
	$C_6H_4(NCO)CH_3$ (Benzene, 1-isocyanato-2-methyl-)	614-68-6	**	8.7±0.1 (V)	PE	5026
	$C_6H_4(NCO)CH_3$ (Benzene, 1-isocyanato-3-methyl-)	621-29-4	**	8.7±0.1 (V)	PE	5026
			**	8.83 (V)	PE	4495
	$C_6H_4(NCO)CH_3$ (Benzene, 1-isocyanato-4-methyl-)	622-58-2	**	8.6±0.1 (V)	PE	5026
	$C_6H_4(CN)OCH_3$ (Benzonitrile, 3-methoxy-)	1527-89-5	**	9.11±0.1	EI	3446
	$C_6H_4(CN)OCH_3$ (Benzonitrile, 4-methoxy-)	874-90-8	**	8.74	EI	3845
			**	8.97±0.1	EI	3446
	$C_6H_4C_2H_2NH(=O)$ (2H-Indol-2-one,1,3-dihydro-)	59-48-3	**	8.36 (V)	PE	5406
$C_8H_8NO^+$						
	$C_6H_5NHCOCH_3$ (Acetamide, N-phenyl-)	103-84-4	H	11.00	EI	4834
	$C_6H_4ClNHCOCH_3$ (Acetamide, N-(2-chlorophenyl)-)	533-17-5	Cl	9.40	EI	4834
			Cl	9.40	EI	4834
				8.86±0.03	EI	3483
	$C_6H_3(Cl)(CH_3)NHCHO$ (Formamide, *N*-(2-chloro-4-methylphenyl)-)	18931-77-6	Cl	9.1±0.1	EI	4359
	$C_6H_3(Cl)(CH_3)NHCHO$ (Formamide, *N*-(2-chloro-5-methylphenyl)-)	18931-82-3	Cl	9.1±0.1	EI	4359
	$C_6H_4BrNHCOCH_3$ (Acetamide, N-(2-bromophenyl)-)	614-76-6	Br	9.40	EI	4834
				9.08±0.03	EI	3483
	$C_6H_4INHCOCH_3$ (Acetamide, N-(2-iodophenyl)-)	19591-17-4	I	9.30	EI	4834
				8.57±0.03	EI	3483

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_9NO^+$						
	$C_6H_4(CH_3)(CONH_2)$ (Benzamide, 3-methyl-)	618-47-3	**	9.11 (V)	PE	4918
	$C_6H_4(CH_3)(CONH_2)$ (Benzamide, 4-methyl-)	619-55-6	**	9.14 (V)	PE	4918
	$C_6H_4NH_2(COCH_3)$ (Ethanone, 1-(4-aminophenyl)-)	99-92-3	**	7.8±0.1	PE	4401
	$C_6H_5CHNO(CH_3)$ (Oxaziridine, 2-methyl-3-phenyl-)	3400-12-2	**	8.36±0.05	EI	4677
	$C_6H_5CH=N(O)CH_3$	XXXXX-XX-X	**	8.01 (V)	PE	5590
	$C_6H_5NHC(=O)CH_3$ (Acetamide, N-phenyl)	103-84-4	**	8.30±0.10	PE	5608
			**	8.46±0.05 (V)	PE	5013
			**	8.46 (V)	PE	5406
			**	8.60	EI	4834
			**	8.18±0.03	EI	3483
	$C_6H_5CH=NOCH_3$ (Benzaldehyde, O-methyloxime)	3376-32-7	**	8.76±0.05	EI	4677
	$C_6H_5CONHCH_3$ (Benzamide, N-methyl-)	613-93-4	**	9.33±0.05	EI	4677
	$C_6H_5CH=N(CH_3)O$ (Methanamine, N-(phenylmethylene)-N-oxide)	3376-23-6	**	7.89 (V)	PE	4719
			**	8.01±0.02 (V)	PE	4674
			**	8.01	PE	5099
			**	8.08±0.05	EI	4677
	$C_7H_6N(CH_3)O$ (Methanaminium,N-2,4,6-cycloheptatrien-1-ylidene-N-hydroxy-hydroxide, inner salt)	65194-06-1	**	7.28	PE	5099
	$C_6H_4(OH)CHN(O)CH_3$ (Phenol,4-amino-N-oxide)	16089-67-1	**	7.76±0.02 (V)	PE	4674
$C_8H_{11}NO^+$						
	$C_6H_4(OH)(CH_2NHCH_3)$ (Benzenemethanamine,2-hydroxy-N-methyl-)	XXXXX-XX-X	**	8.18 (V)	PE	5134
	$C_6H_4(OH)CH_2CH_2NH_2$ (Phenol, 4-(2-aminoethyl)-)	51-67-2	**	8.41±0.12 (V)	PE	4672
$C_8H_{12}NO^+$						
	$C_5H_{10}NCOCH=CHCH_3$ (Piperidine, 1-(1-oxo-2-butenyl)-)	3626-69-5	**	11.1±0.1	EI	3996
$C_8H_{13}NO^+$						
	$C_4H_8NCOCH=CHCH_3$ (Pyrrolidine, 1-(1-oxo-2-butenyl)-)	51944-65-1	**	9.0±0.1	EI	3996
$C_8H_{15}NO^+$						
	$C_7H_{12}NCH_2OH$ (1-Azabicyclo[2.2.2]octane-4-methanol)	26608-58-2	**	8.17±0.015 (V)	PE	4286
	$C_8H_{15}NO$ (8-Azabicyclo[3.2.1]octan-3-ol,8-methyl-*endo*-)	120-29-6	**	8.1±0.15	EI	5401
	$C_8H_{15}NO$ (8-Azabicyclo[3.2.1]octan-3-ol,8-methyl-*exo*-)	135-97-7	**	7.9±0.15	EI	5401
	$((CH_2)_4ON)CH=C(CH_3)_2$ (Morpholine, 4-(2-methyl-1-propenyl)-)	2403-55-6	**	8.20±0.03 (V)	PE	4452
$C_8H_{17}NO^+$						
	$C_4H_8ON(C(CH_3)_3)$ (2H-1,2-Oxazine,2-(1,1-dimethylethyl)tetrahydro-)	54722-72-4	**	8.27 (V)	PE	5301
	$CH_3CH(CH_3)CON(C_2H_5)_2$	33931-44-1	**	8.80 (V)	PE	4672
	cis-$C_6H_{10}(OH)N(CH_3)_2$ (Cyclohexanol, 2-(dimethylamino)-,*cis*-)	20431-82-7	**	8.64 (V)	PE	4450
	trans-$C_6H_{10}(OH)N(CH_3)_2$ (Cyclohexanol, 2-(dimethylamino)-,*trans*-)	15910-74-4	**	8.36 (V)	PE	4450

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_{17}NO^+$						
	$((CH_2)_4ON)CH_2CH(CH_3)_2$ (Morpholine, 4-(2-methylpropyl)-)	10315-98-7	**	8.46±0.03 (V)	PE	4452
$C_8H_{18}NO^+$						
	(*tert*-$C_4H_9)_2NO$	2406-25-9	**	6.77	PE	3712
$C_9H_7NO^+$						
	C_9H_7NO (Isoquinoline, 2-oxide)	1532-72-5	**	7.98±0.02 (V)	PE	4551
	C_9H_7NO (Quinoline, 1-oxide)	1613-37-2	**	8.00±0.02 (V)	PE	4551
$C_9H_8NO^+$						
	$C_6H_5NHCOCH=CHCH_3$ (2-Butenamide, *N*-phenyl-)	1733-40-0	CH_3	12.1±0.3	EI	3996
$C_9H_9NO^+$						
	$C_6H_3(CH_3)_2CNO$ (Benzonitrile, 2,6-dimethyl-N-oxide)	19111-74-1	**	8.62±0.02 (V)	PE	4674
	C_9H_9NO (Isoquinoline, 3,4-dihydro-2-oxide)	24423-87-8	**	7.81 (V)	PE	4719
	$C_6H_4C_3H_5NO$ (Isoquinolinium,3,4-dihydro-2-hydroxy-hydroxide,inner salt)	65194-03-8	**	7.81	PE	5099
$C_9H_{10}NO^+$						
	$C_6H_4ClNHCOC_2H_5$ (Propanamide, N-(2-chlorophenyl)-)	2760-32-9	Cl	9.45	EI	4834
$C_9H_{11}NO^+$						
	$C_6H_5N(CH_3)C(=O)CH_3$ (Acetamide,N-methyl-N-phenyl-)	579-10-2	**	8.81 (V)	PE	5406
	$C_6H_4(CH_3)NHC(=O)CH_3$ (Acetamide,N-(2-methylphenyl)-)	120-66-1	**	8.34 (V)	PE	5406
			**	8.03±0.02	EI	3631
	$C_6H_4(CH_3)NHCOCH_3$ (Acetamide, *N*-(4-methylphenyl)-)	103-89-9	**	7.75±0.02	EI	3631
	$C_6H_4(CHO)N(CH_3)_2$ (Benzaldehyde, 4-(dimethylamino)-)	100-10-7	**	7.36±0.02	PI	4028
			**	7.3±0.1	PE	4401
$C_9H_{13}NO^+$						
	$C_6H_4(OCH_3)(CH_2NHCH_3)$ (Methanamine,N-[2-methoxyphenyl methylene]-)	1125-90-2	**	8.22 (V)	PE	5134
	$C_5H_4N(O)$(*tert*-C_4H_9) (Pyridine, 4-(1,1-dimethylethyl)-, 1-oxide)	23569-17-7	**	8.00 (V)	PE	4222
	$C_9H_{13}N=O$ (1-Azatricyclo[3.3.1.1^{3,7}]decan-4-one)	42949-24-6	**	8.21±0.02 (V)	PE	4217
	$C_6H_4(OCH_3)N(CH_3)_2$ (Benzenamine, 4-methoxy-N,N-dimethyl-)	701-56-4	**	6.7±0.1	PE	4401
			**	7.18±0.01 (V)	PE	4389
	$C_6H_4(OCH_3)N(CH_3)_2$ (Benzenamine, 2-methoxy-*N*,*N*-dimethyl-)	700-75-4	**	7.59±0.02	EI	3630
	$C_6H_4(O)N(CH_3)_3$ (Benzenaminium, 2-hydroxy-*N*,*N*,*N*-trimethyl-, hydroxide, inner salt)	31061-58-2	**	~6.8	EI	3630
	$C_6H_4(OCH_3)CH_2CH_2NH_2$ (Benzeneethanamine, 4-methoxy-)	55-81-2	**	8.16±0.08 (V)	PE	4672
	$C_5H_8NCOCH=CHCH_3$ (Pyridine, 1,2,3,4-tetrahydro-1-(1-oxo-2-butenyl)-, (E))	50838-23-8	**	8.6	EI	4046
$C_9H_{15}NO^+$						
	$C_4H_8NOC_5H_7$ (Morpholine, 4-(1-cyclopenten-1-yl)-)	936-52-7	**	7.60±0.05 (V)	PE	4654

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_9H_{15}NO^+$						
	$C_4H_8NOC_5H_7$	936-52-7	**	7.60±0.05 (V)	PE	4819
	$C_5H_{10}NCOCH=CHCH_3$	50838-22-7		8.9	EI	4046
	(Piperidine, 1-(1-oxo-2-butenyl)-, (E))					
	$C_5H_{10}NCOCH=CHCH_3$	3626-69-5	CH_3	8.9±0.1	EI	3996
	(Piperidine, 1-(1-oxo-2-butenyl)-)					
$C_9H_{17}NO^+$						
	$C_8H_{14}NOCH_3$	73321-04-7	**	7.79 (V)	PE	5091
	(9-Azabicyclo[3.3.1]nonane,9-methoxy-)					
	$C_9H_{17}NO$	XXXXX-XX-X	**	7.8±0.15	EI	5401
	(8-Azabicyclo[3.2.1]octane,3-methoxy-8-methyl-*endo*-)					
	$C_9H_{17}NO$	16487-33-5	**	7.9±0.15	EI	5401
	(8-Azabicyclo[3.2.1]octane,3-methoxy-8-methyl-*exo*-)					
	$C_9H_{17}NO$	57128-85-5	**	8.35 (V)	PE	5377
	(Bicyclo[2.2.1]heptan-2-ol,3-(dimethylamino)-(2-*exo*,3-*endo*)-					
	$C_9H_{17}NO$	57070-90-3	**	8.60 (V)	PE	5377
	(Bicyclo[2.2.1]heptan-2-ol,3-(dimethylamino)-(*endo*,*endo*)-)					
	$C_5H_5N(O)(CH_3)_4$	826-36-8	**	7.74	PE	4278
	(4-Piperidinone, 2,2,6,6-tetramethyl-)					
			**	8.30±0.05	EI	3494
$C_9H_{18}NO^+$						
	$C_5H_6N(CH_3)_4O$	2564-83-2	**	6.73	PE	3712
	(1-Piperidinyloxy, 2,2,6,6-tetramethyl-)					
$C_{10}H_9NO^+$						
	$C_9H_6N_3(=O)(CH_3)$	55507-30-7	N_2	8.8±0.2	EI	4863
	(Indeno[1,2-*d*]triazol-8(3H)-one, 3a,8a-dihydro-3-methyl-)					
$C_{10}H_{10}NO^+$						
	$C_6H_5CH_2NHCOCH=CHCH_3$	51944-67-3	CH_3	10.7±0.1	EI	3996
	(2-Butenamide, *N*-(phenylmethyl)-)					
$C_{10}H_{11}NO^+$						
	$C_6H_2(CH_3)_3(C\equiv NO)$	2904-57-6	**	8.34 (V)	PE	4719
	(Benzonitrile, 2,4,6-trimethyl-N-oxide)					
			**	8.35±0.02 (V)	PE	4674
	$C_6H_5NHCOCH=CHCH_3$	1733-40-0	**	8.7±0.1	EI	3996
	(2-Butenamide, *N*-phenyl-)					
$C_{10}H_{12}NO^+$						
	$C_6H_4ClNHCOCH_2CH_2CH_3$	33694-15-4	Cl	9.45	EI	4834
	(Butanamide, N-(2-chlorophenyl)-)					
$C_{10}H_{13}NO^+$						
	$C_6H_3(CH_3)_2NHCOCH_3$	2198-53-0	**	8.70±0.05 (V)	PE	5013
	(Acetamide, N-(2,6-dimethylphenyl)-)					
	$C_6H_4(CH_3)N(CH_3)C(=O)CH_3$	29823-47-0	**	8.82 (V)	PE	5406
	(Acetamide,N-methyl-N-(2-methylphenyl)-)					
	$C_6H_4(N(CH_3)_2)COCH_3$	2124-31-4	**	7.57±0.05 (V)	PE	5097
	(Ethanone,1-[4-(dimethylamino)phenyl]-)					
$C_{10}H_{15}NO^+$						
	$C_{10}H_{15}NO$	23239-32-9	**	8.16±0.06 (V)	PE	4758
	(Benzeneethanamine, 4-methoxy-α-methyl-(±)-)					
$C_{10}H_{17}NO^+$						
	$C_4H_8NOC_6H_9$	670-80-4	**	7.67±0.05	PE	4452
	(Morpholine, 4-(1-cyclohexen-1-yl)-)					
			**	7.67±0.05	PE	4654
			**	7.67±0.05 (V)	PE	4819

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{10}H_{19}NO^+$						
	$((CH_2)_3ON)(C_6H_{11})$ (Morpholine, 4-cyclohexyl-)	6425-41-8	**	8.18±0.03 (V)	PE	4452
	$C_{10}H_{19}NO$ (Bicyclo[2.2.1]heptan-2-amine,3-methoxy-N,N-dimethyl-(2-*endo*,3-*exo*)-)	67425-06-3	**	8.13 (V)	PE	5377
	$C_{10}H_{19}NO$ (Bicyclo[2.2.1]heptan-2-amine,3-methoxy-N,N-dimethyl-(*endo*,*endo*)-)	67398-96-3	**	8.06 (V)	PE	5377
$C_{11}H_{13}NO^+$						
	$C_6H_5CH_2NHCOCH=CHCH_3$ (2-Butenamide, *N*-(phenylmethyl)-)	51944-67-3	**	8.6±0.1	EI	3996
$C_{11}H_{14}NO^+$						
	$C_{27}H_{40}N_4O_8S$ (L-Cysteine,S-(2-methoxy-2-oxoethyl)-N-[N-[N-[N-(1-oxopropyl)-L-phenylalanyl]-L-leucyl]glycyl]-methyl ester)	35146-63-5		9.0±0.1	PI	5279
	$C_6H_4ClNHCOC(CH_3)_3$ (Propanamide, N-(2-chlorophenyl)-2,2-dimethyl-)	62662-74-2	Cl	9.45	EI	4834
$C_{11}H_{15}NO^+$						
	$C_6H_3(CH_3)_2N(CH_3)C(=O)CH_3$ (Acetamide,N-(2,6-dimethylphenyl)-N-methyl-)	18835-47-7	**	8.8 (V)	PE	5406
	$C_6H_2(CH_3)_3CHN(CH_3)O$ (Methanamine, N-[(2,4,6-trimethylphenyl)methylene]-N-oxide)	41106-03-0	**	8.08	PE	5099
			**	8.08 (V)	PE	4719
	$C_6H_5CH=N(tert\text{-}C_4H_9)O$ (2-Propanamine, 2-methyl-N-(phenylmethylene)-N-oxide)	3376-24-7	**	7.69 (V)	PE	4719
$C_{11}H_{20}NO^+$						
	$C_{13}H_{25}NO$ (4-Quinolinol,4-ethyldecahydro-1,2-dimethyl-(2α,4α,4aα,8aβ)	20422-70-2	C_2H_5	9.92	EI	5452
	$C_{13}H_{25}NO$ (4-Quinolinol,4-ethyldecahydro-1,2-dimethyl-(2α,4α,4aβ,8aα))	20422-68-8	C_2H_5	9.81±0.02	EI	5598
	$C_{13}H_{25}NO$ (4-Quinolinol,4-ethyldecahydro-1,2-dimethyl-(2α,4β,4aα8aβ)	20422-72-4	C_2H_5	9.94	EI	5452
$C_{11}H_{22}NO^+$						
	$C_{30}H_{45}N_5O_6$ (L-Alanine,N-[N-[N-[N-(1-oxodecyl)glycyl]-L-tryptophyl]-L-alanyl]-methyl ester)	19716-78-0		9.4±0.1	PI	5279
$C_{12}H_8NO^+$						
	$C_{12}H_9NOH$ (Methanone, (2-nitrophenyl)-2-pyridinyl-)	27693-37-4		7.94	EI	5459
	$C_6H_5COC_5H_4N$ (Methanone, phenyl-2-pyridinyl-)	91-02-1		9.97	EI	5459
	$C_6H_4(CH_3)COC_5H_4N$ (Methanone, (2-methylphenyl)-2-pyridinyl-)	54523-78-3		9.71	EI	5459
	$C_6H_4FCOC_5H_4N$ (Methanone, (2-fluorophenyl)-2-pyridinyl-)	XXXXX-XX-X		10.15	EI	5459
	$C_6H_4ClCOC_5H_4N$ (Methanone, (2-chlorophenyl)-2-pyridinyl-)	1694-57-1		9.59	EI	5459
	$C_6H_4BrCOC_5H_4N$ (Methanone, (2-bromophenyl)-2-pyridinyl-)	XXXXX-XX-X		9.37	EI	5459
	$C_6H_4ICOC_5H_4N$ (Methanone, (2-iodophenyl)-2-pyridinyl-)	XXXXX-XX-X		9.06	EI	5459
$C_{12}H_9NO^+$						
	$C_{12}H_8NOH$ (Methanone, (2-nitrophenyl)-2-pyridinyl-)	27693-37-4	**	7.29	EI	5459
	$C_6H_5COC_5H_4N$ (Methanone, phenyl-2-pyridinyl-)	91-02-1	**	9.06	EI	5459
			**	9.1±0.1	EI	5493
	$C_6H_5COC_5H_4N$ (Methanone,phenyl-3-pyridinyl-)	5424-19-1	**	9.6±0.1	EI	5493

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{12}H_9NO^+$						
	$C_6H_5COC_5H_4N$ (Methanone,phenyl-4-pyridinyl-)	14548-46-0	**	9.6±0.1	EI	5493
$C_{12}H_{11}NO^+$						
	$C_6H_5COC_4H_3NCH_3$ (Methanone,(1-methyl-1H-pyrrol-2-yl)phenyl-)	37496-06-3	**	8.7±0.1	EI	5493
$C_{12}H_{13}NO^+$						
	$C_6H_4(CN)CO(CH_2)_3CH_3$ (Benzonitrile, 4-(1-oxopentyl)-)	30611-20-2	**	9.57 (V)	PE	4804
	$C_4H_2O(CH_2CH_2)_2C_4H_2NH$ (13-Oxa-14-azatricyclo[8.2.1.1^{4,7}]tetradeca-4,6,10,12-tetraene)	73650-94-9	**	7.22	PE	5575
	$C_5H_8NCOC_6H_5$ (Pyridine, 1-benzoyl-1,2,3,4-tetrahyro-)	50838-24-9	**	8.4	EI	4046
$C_{12}H_{15}NO^+$						
	$C_5H_{10}NCOC_6H_5$ (Piperidine, 1-benzoyl-)	776-75-0	**	8.8	EI	4046
$C_{12}H_{16}NO^+$						
	$C_6H_4ClNHCOCH_2C(CH_3)_3$ (Butanamide, N-(2-chlorophenyl)-3,3-dimethyl-)	XXXXX-XX-X	Cl	9.40	EI	4834
$C_{12}H_{18}NO^+$						
	$C_{13}H_{21}NO$ (4-Quinolinol,4-ethynyldecahydro-1,2-dimethyl-(2α,4α,4aα,8aβ))	16067-80-4	CH_3	9.35	EI	5598
	$C_{13}H_{21}NO$ (4-Quinolinol,4-ethynyldecahydro-1,2-dimethyl-(2α,4α,4aβ,8aα)	16067-45-1	CH_3	9.15	EI	5452
	$C_{13}H_{21}NO$ (4-Quinolinol,4-ethynyldecahydro-1,2-dimethyl-(2α,4β,4aα,8aβ)	14788-65-9	CH_3	9.33	EI	5452
$C_{12}H_{20}NO^+$						
	$C_{13}N_{23}NO$ (4-Quinolinol,4-ethenyldecahydro-1,2-dimethyl-(2α,4α,4aα,8aβ))	20431-93-0	CH_3	9.17	EI	5598
	$C_{13}H_{23}NO$ (4-Quinolinol-4-ethenyldecahydro-1,2-dimethyl-(2α,4α,4aβ,8aα)	20431-91-8	CH_3	8.98	EI	5452
	$C_{13}H_{23}NO$ (4-Quinolinol-4-ethenyldecahydro-1,2-dimethyl-(2α,4β,4aα,8aβ)	20431-95-2	CH_3	9.14	EI	5452
$C_{12}H_{21}NO^+$						
	$C_4(=O)(CH_3)_4(=NC_4H_9)$ (Cyclobutanone, 3-(butylimino)-2,2,4,4-tetramethyl-)	23458-49-3	**	8.63 (V)	PE	5499
$C_{12}H_{22}NO^+$						
	$C_{13}H_{25}NO$ (4-Quinolinol,4-ethyldecahdyro-1,2-dimethyl-(2α,4α,4aβ,8aα)	20422-68-8	CH_3	9.00	EI	5452
	$C_{13}H_{25}NO$ (4-Quinolinol,4-ethyldecahydro-1,2-dimethyl-(2α,4α,4aα,8aβ))	20422-70-2	CH_3	9.04	EI	5598
	$C_{13}H_{25}NO$ (4-Quinolinol,4-ethyldecahydro-1,2-dimethyl-(2α,4β,4aα,8aβ)	20422-72-4	CH_3	9.15	EI	5452
	$C_{14}H_{27}NO$ (4-Quinolinol,1,4-diethyldecahydro-2-methyl-(2α,4α,4aα,8aβ)	38463-60-4	C_2H_5	9.85	EI	5452
	$C_{14}H_{27}NO$ (4-Quinolinol,1,4-diethyldecahydro-2-methyl-(2α,4α,4aβ,8aα))	38463-62-6	C_2H_5	9.80±0.02	EI	5598
	$C_{14}H_{27}NO$ (4-Quinolinol,1,4-diethyldecahydro-2-methyl-(2α,4β,4aα,8aβ)	38463-61-5	C_2H_5	9.90	EI	5452
$C_{12}H_{24}NO^+$						
	$C_{17}H_{32}N_2O_5$ (L-Serine,N-[N-(1-oxodecyl)-L-alanyl]-methyl ester)	55728-15-9		9.5±0.1	PI	5279
	$C_{20}H_{37}N_3O_5$ (L-Alanine,N-[N-[N-(1-oxodecyl)-L-alanyl]-L-alanyl]-methyl ester)	55728-11-5		9.0±0.1	PI	5279

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{12}H_{21}NO^+$						
	$C_{23}H_{43}N_3O_5$	55728-12-6		9.0±0.1	PI	5279
	(L-Alanine,N-[N-[N-(1-oxodecyl)-L-alanyl]-L-leucyl]-methyl ester)					
$C_{12}H_{25}NO^+$						
	$C_{17}H_{32}N_2O_5$	55728-15-9		9.4±0.1	PI	5279
	(L-Serine,N-[N-(1-oxodecyl)-L-alanyl]-methyl ester)					
$C_{13}H_9NO^+$						
	$C_{13}H_9NO$	10399-73-2	**	7.45±0.02 (V)	PE	4551
	(Acridine 10-oxide)					
$C_{13}H_{10}NO^+$						
	$C_6H_5COC_6H_4NH_2$	2835-77-0	H	10.6±0.1	EI	4358
	(Methanone, (2-aminophenyl)phenyl-)					
$C_{13}H_{11}NO^+$						
	$C_{11}H_8(CN)(OCH_3)$	71906-50-8	**	8.46 (V)	PE	4835
	(1,4-Methanonaphthalene-2-carbonitrile, 1,4-dihydro-5-methoxy-)					
	$C_{11}H_8(CN)(OCH_3)$	71906-48-4	**	8.44 (V)	PE	4835
	(1,4-Methanonaphthalene-2-carbonitrile, 1,4-dihydro-8-methoxy-)					
	$C_{11}H_9(CN)(OCH_3)$	71906-42-8	**	8.22 (V)	PE	4835
	(1,4-Methanonaphthalene-2-carbonitrile, 1,4-dihydro-6-methoxy-)					
	$C_6H_5CH=N(O)C_6H_5$	59862-61-2	**	7.75 (V)	PE	5590
	(Benzenemethanimine,α-phenyl-N-oxide)					
	$C_6H_5COC_6H_4NH_2$	2835-77-0	**	8.25±0.1	EI	4358
	(Methanone, (2-*aminophenyl*)*phenyl*-)					
			**	8.25±0.1	EI	4335
	$C_6H_5COC_6H_4NH_2$	2835-78-1	**	8.45±0.1	EI	4335
	(Methanone, (3-aminophenyl)phenyl-)					
			**	8.45±0.1	EI	4358
	$C_6H_5COC_6H_4NH_2$	1137-41-3	**	8.4±0.1	EI	4358
	(Methanone, (4-aminophenyl)phenyl-)					
			**	8.4±0.1	EI	4335
	$C_6H_4(CH_3)COC_5H_4N$	54523-78-3	**	8.72	EI	5459
	(Methanone, (2-methylphenyl)-2-pyridinyl-)					
$C_{13}H_{13}NO^+$						
	$C_6H_5CH_2OC_6H_4NH_2$	6373-46-2	**	7.58	CTS	5336
	(Benzenamine,4-(phenylmethoxy)-)					
$C_{13}H_{15}NO^+$						
	$C_9H_6N(=O)(n\text{-}C_4H_9)$	56359-28-5	**	7.90±0.1	EI	4863
	(Indeno[1,2-*b*]azirin-6(1H)-one, 1-butyl-1a,6a-dihydro-)					
	$C_9H_6N_3(=O)(n\text{-}C_4H_9)$	55507-31-8	N_2	7.8±0.2	EI	4863
	(Indeno[1,2-*d*]triazol-8(3H)-one, 3-butyl-3a,8a-dihydro-)					
$C_{13}H_{20}NO^+$						
	$C_{14}H_{23}NO$	38463-55-7	CH_3	9.29	EI	5598
	(4-Quinolinol,1-ethyl-4-ethynyldecahydro-2-methyl-(2α,4β,4aα,8aβ))					
	$C_{14}H_{23}NO$	38463-54-6	CH_3	9.30	EI	5598
	(4-Quinolinol,1-ethyl-4-ethynyldecahydro-2-methyl-(2α,4α,4aα,8aβ))					
	$C_{14}H_{23}NO$	38463-56-8	CH_3	9.15	EI	5598
	(4-Quinolinol,1-ethyl-4-ethynyldecahydro-2-methyl-(2α,4α,4aβ,8aα))					
$C_{13}H_{21}NO^+$						
	$C_5H_5N(CH_3)_2(OH)(C\equiv CH)C_4H_8$	16067-45-1	**	7.27±0.02	EI	5598
	(4-Quinolinol,4-ethynyldecahydro-1,2-dimethyl-(2α,4α,4aβ,8aα))					
	$C_{13}H_{21}NO$	14788-65-9	**	7.41±0.02	EI	5598
	(4-Quinolinol,4-ethynyldecahydro-1,2-dimethyl-(2α,4β,4aα,8aβ))					
	$C_{13}H_{21}NO$	16067-80-4	**	7.40±0.02	EI	5598
	(4-Quinolinol,4-ethynyldecahydro-1,2-dimethyl-(2α,4α,4aα,8aβ))					

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{13}H_{22}NO^+$						
	$C_{14}H_{25}NO$ (4-Quinolinol,4-ethenyl-1-ethyldecahydro-2-methyl-(2α,4α,4aα,8aβ))	38463-57-9	CH_3	9.23	EI	5598
	$C_{14}H_{25}NO$ (4-Quinolinol,4-ethenyl-1-ethyldecahydro-2-methyl-(2α,4β,4aα,8aβ))	38463-58-0	CH_3	9.20	EI	5598
	$C_{14}H_{25}NO$ (4-Quinolinol,4-ethenyl-1-ethyldecahydro-2-methyl-(2α,4α,4aβ,8aα))	38463-59-1	CH_3	9.06	EI	5598
$C_{13}H_{23}NO^+$						
	$C_{13}H_{23}NO$ (4-Quinolinol,4-ethenyldecahydro-1,2-dimethyl-(2α,4α,4aα,8aβ))	20431-93-0	**	7.43±0.02	EI	5598
	$C_5H_5N(CH_3)_2(OH)(CH=CH_2)C_4H_8$ (4-Quinolinol,4-ethenyldecahydro-1,2-dimethyl-(2α,4α,4aβ,8aα))	20431-91-8	**	7.26±0.02	EI	5598
	$C_{13}H_{23}NO$ (4-Quinolinol,4-ethenyldecahydro-1,2-dimethyl-(2α,4β,4aα,8aβ))	20431-95-2	**	7.39±0.02	EI	5598
$C_{13}H_{24}NO^+$						
	$C_{14}H_{27}NO$ (4-Quinolinol,1,4-diethyldecahydro-2-methyl-(2α,4α,4aα,8aβ))	38463-60-4	CH_3	9.09	EI	5598
	$C_{14}H_{27}NO$ (4-Quinolinol,1,4-diethyldecahydro-2-methyl-(2α,4α,4aβ,8aα))	38463-62-6	CH_3	9.05	EI	5598
	$C_{14}H_{27}NO$ (4-Quinolinol,1,4-diethyldecahydro-2-methyl-(2α,4β,4aα,8aβ))	38463-61-5	CH_3	9.18	EI	5598
$C_{13}H_{25}NO^+$						
	$C_{13}H_{25}NO$ (4-Quinolinol,4-ethyldecahydro-1,2-dimethyl-(2α,4α,4aα,8aβ))	20422-70-2	**	7.30±0.02	EI	5598
	$C_5H_5N(CH_3)_2(OH)(C_2H_5)C_4H_8$ (4-Quinolinol,4-ethyldecahydro-1,2-dimethyl-(2α,4α,4aβ,8aα))	20422-68-8	**	7.19±0.02	EI	5598
	$C_{13}H_{25}NO$ (4-Quinolinol,4-ethyldecahydro-1,2-dimethyl-(2α,4β,4aα,8aβ))	20422-72-4	**	7.32±0.02	EI	5598
$C_{14}H_{11}NO^+$						
	$C_{13}H_7(=O)NHCH_3$ (Phenalen-1-one,9-methylamino-)	XXXXX-XX-X	**	7.41±0.04 (V)	PE	5595
$C_{14}H_{13}NO^+$						
	$C_6H_4(OCH_3)C(=CH_2)C_5H_4N$ (Pyridine,2-[1-(3-methoxyphenyl)ethenyl]-)	XXXXX-XX-X	**	8.27	EI	5570
	$C_6H_4(OCH_3)C(=CH_2)C_5H_4N$ (Pyridine,2-[1-(4-methoxyphenyl)ethenyl]-)	XXXXX-XX-X	**	8.15	EI	5570
	$C_6H_4(OCH_3)CH=CHC_5H_4N$ (Pyridine, *trans*-3-[2-(4-methoxyphenyl)ethenyl]-)	5847-73-4	**	7.72±0.05 (V)	PE	4377
$C_{14}H_{15}NO^+$						
	$C_6H_5COC_6H_4N(CH_3)_2$ (Benzenamine,N,N-dimethyl-4-(phenylmethanone)-)	XXXXX-XX-X	**	7.50±0.05	PI	5552
$C_{14}H_{19}NO^+$						
	$C_{14}H_{19}NO$ (8-Azabicyclo[3.2.1]octane,3-phenoxy-*endo*-)	XXXXX-XX-X	**	8.1±0.15	EI	5401
	$C_{14}H_{19}NO$ (8-Azabicyclo[3.2.1]octane,3-phenoxy-*exo*-)	16487-31-3	**	8.2±0.15	EI	5401
$C_{14}H_{23}NO^+$						
	$C_4(=O)(CH_3)_4(=NC_6H_{11})$ (Cyclobutanone, 3-(cyclohexylimino)-2,2,4,4-tetramethyl-)	54133-31-2	**	9.23 (V)	PE	5499
	$C_{14}H_{23}NO$ (4-Quinolinol,1-ethyl-4-ethynyldecahydro-2-methyl-(2α,4α,4aα,8aβ))	38463-54-6	**	7.33±0.02	EI	5598
	$C_{14}H_{23}NO$ (4-Quinolinol,1-ethyl-4-ethynyldecahydro-2-methyl-(2α,4α,4aβ,8aα))	38463-56-8	**	7.16±0.02	EI	5598
	$C_{14}H_{23}NO$ (4-Quinolinol,1-ethyl-4-ethynyldecahydro-2-methyl-(2α,4β,4aα,8aβ))	38463-55-7	**	7.28±0.02	EI	5598

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{14}H_{25}NO^+$						
	$C_{14}H_{25}NO$	38463-57-9	**	7.32±0.02	EI	5598
	(4-Quinolinol,4-ethenyl-1-ethyldecahydro-2-methyl-(2α,4α,4aα,8aβ))					
	$C_{14}H_{25}NO$	38463-59-1	**	7.15±0.02	EI	5598
	(4-Quinolinol,4-ethenyl-1-ethyldecahydro-2-methyl-(2α,4α,4aβ,8aα))					
	$C_{14}H_{25}NO$	38463-58-0	**	7.30±0.02	EI	5598
	(4-Quinolinol,4-ethenyl-1-ethyldecahydro-2-methyl-(2α,4β,4aα,8aβ))					
$C_{14}H_{27}NO^+$						
	$C_{14}H_{27}NO$	38463-60-4	**	7.24±0.02	EI	5598
	(4-Quinolinol,1,4-diethyldecahydro-2-methyl-(2α,4α,4aα,8aβ))					
	$C_{14}H_{27}NO$	38463-62-6	**	7.09±0.02	EI	5598
	(4-Quinolinol,1,4-diethyldecahydro-2-methyl-(2α,4α,4aβ,8aα))					
	$C_{14}H_{27}NO$	38463-61-5	**	7.23±0.02	EI	5598
	(4-Quinolinol,1,4-diethyldecahydro-2-methyl-(2α,4β,4aα,8aβ))					
$C_{15}H_{11}NO^+$						
	$C_9H_6N(O)(C_6H_5)$	56359-29-6	**	7.10±0.05	EI	4863
	(Isoquinolinium, 4-hydroxy-2-phenyl-hydroxide, inner salt)					
	$C_9H_6N(=O)(C_6H_5)$	42299-62-7	**	8.13±0.05	EI	4863
	(Indeno[1,2-*b*]azirin-6(1H)-one, 1a,6a-dihydro-1-phenyl-)					
	$C_9H_6N_3(=O)(C_6H_5)$	55507-27-2	N_2	8.1±0.1	EI	4863
	(Indeno[1,2-*d*]triazol-8(3H)-one, 3a,8a-dihydro-3-phenyl-)					
$C_{15}H_{13}NO^+$						
	$C_{13}H_7(=O)N(CH_3)_2$	XXXXX-XX-X	**	7.36±0.04 (V)	PE	5595
	(Phenalen-1-one,9-dimethylamino-)					
$C_{15}H_{30}NO^+$						
	$C_{19}H_{36}N_2O_4$	55728-14-8		9.2±0.1	PI	5279
	(Glycine,N-[N-(1-oxodecyl)-L-leucyl]-methyl ester)					
$C_{15}H_{31}NO^+$						
	$C_{19}H_{36}N_2O_4$	55728-14-8		9.1±0.1	PI	5279
	(Glycine,N-[N-(1-oxodecyl)-L-leucyl]-methyl ester)					
$C_{16}H_{13}NO^+$						
	$C_9H_6N_3(=O)(CH_2C_6H_5)$	55527-79-2	N_2	8.1±0.1	EI	4863
	(Indeno[1,2-*d*]triazol-8(3H)-one, 3a,8a-dihydro-3-(phenylmethyl)-)					
$CH_4N_2O^+$						
	$(NH_2)_2CO$	57-13-6	**	9.7	PE	4221
			**	10.15 (V)	PE	4471
			**	10.28 (V)	PE	4599
			**	10.33 (V)	PE	4469
$C_2H_6N_2O^+$						
	$(CH_3)_2NNO$	62-75-9	**	8.69	PE	4647
			**	9.05 (V)	PE	4451
			**	9.09 (V)	PE	4576
	$CH_3NHCONH_2$	598-50-5	**	9.66 (V)	PE	4599
	$CH_3NN(O)CH_3$	54168-20-6	**	~10.07±0.03 (V)	PE	4691
$C_3H_4N_2O^+$						
	$CH_3C(=O)CHN_2$	2684-62-0	**	9.21±0.05 (V)	PE	5326
$C_3H_8N_2O^+$						
	$(CH_3NH)_2CO$	96-31-1	**	9.23 (V)	PE	4599
	$(CH_3)_2NCONH_2$	598-94-7	**	8.96 (V)	PE	4599
$C_4H_4N_2O^+$						
	$C_4H_4N_2O$	2423-65-6	**	9.17±0.02 (V)	PE	4470
	(Pyrazine, 1-oxide)					

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_4H_4N_2O^+$						
	$C_4H_4N_2O$ (Pyridazine, 1-oxide)	1457-42-7	**	8.89±0.02	PE	4470
	$C_4H_4N_2O$ (Pyrimidine, 1-oxide)	17043-94-6	**	8.80±0.02	PE	4470
	$C_4H_4N_2(=O)$ (2(1H)-Pyrimidinone)	557-01-7	**	10.06±0.05	EI	5159
$C_4H_6N_2O^+$						
	$CH_3C(=O)C(CH_3)N_2$	14088-58-5	**	8.76±0.05 (V)	PE	5326
	$C(CH_3)_2(CN)NO$	44513-62-4	**	9.77±0.1 (V)	PE	4465
$C_4H_{10}N_2O^+$						
	$(CH_3)_2NCONHCH_3$	632-14-4	**	8.80 (V)	PE	4599
	$(CH_3CH_2)_2NNO$ (Ethanamine, N-ethyl-N-nitroso-)	55-18-5	**	8.76 (V)	PE	4576
$C_5H_6N_2O^+$						
	$C_5H_6N_2O$ (1H-Imidazole,1-acetyl-)	2466-76-4	**	9.38 (V)	PE	5092
	$C_5H_4N(O)NH_2$ (2-Pyridinamine 1-oxide)	14150-95-9	**	8.04±0.05	EI	4117
	$C_5H_4N(O)NH_2$ (3-Pyridinamine 1-oxide)	1657-32-5	**	8.21±0.05	EI	4117
	$C_5H_4N(O)NH_2$ (4-Pyridinamine 1-oxide)	3535-75-9	**	7.67±0.05	EI	4117
	$C_4H_3N_2OCH_3$ (Pyrimidine,2-methoxy-)	931-63-5	**	9.66±0.05	EI	5159
	$C_4H_3N_2(=O)CH_3$ (2(1H)Pyrimidinone,1-methyl-)	3739-81-9	**	9.31±0.05	EI	5159
$C_5H_8N_2O^+$						
	$C_5H_8N_2O$ (2,3-Diazabicyclo[2.2.1]hept-2-ene, 2-oxide)	22509-00-8	**	9.48±0.03 (V)	PE	4691
$C_5H_{10}N_2O^+$						
	$(CH_3)_2NN=CHCOCH_3$	XXXXX-XX-X	**	8.06 (V)	PE	5548
	$(CH_3)_2NN=CHCH_2CHO$	XXXXX-XX-X	**	8.08 (V)	PE	5548
	$C_4H_8NCONH_2$ (1-Pyrrolidinecarboxamide)	4736-71-4	**	8.92 (V)	PE	4803
$C_5H_{12}N_2O^+$						
	$((CH_3)_2N)_2CO$	632-22-4	**	8.64 (V)	PE	4599
			**	8.67 (V)	PE	4469
$C_6H_4N_2O^+$						
	$C_6H_4N_2O$ (Benzofurazan)	273-09-6	**	9.37	PE	4017
	$C_6H_4N_2O$ (1,2,3-Benzoxadiazole)	273-59-6	**	9.45 (V)	PE	5131
	$C_6H_4(O)NN$ (2,4-Cyclohexadien-1-one, 6-diazo-)	4024-72-0	N_2	9.5±0.01	EI	4317
	$C_6H_4(O)NN$ (2,5-Cyclohexadien-1-one, 4-diazo-)	932-97-8	**	8.28±0.05	EI	4317
	$C_5H_4N(O)CN$ (2-Pyridinecarbonitrile, 1-oxide)	2402-98-4	**	8.96±0.02 (V)	PE	4275
	$C_5H_4N(O)CN$ (3-Pyridinecarbonitrile, 1-oxide)	14906-64-0	**	8.93±0.02 (V)	PE	4275
	$C_5H_4N(O)CN$ (4-Pyridinecarbonitrile, 1-oxide)	14906-59-3	**	8.95±0.02 (V)	PE	4275
$C_6H_6N_2O^+$						
	$C_5H_4NCONH_2$ (3-Pyridinecarboxamide)	98-92-0	**	9.18	PE	5093

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_8N_2O^+$						
	$C_5H_4N(O)NHCH_3$ (2-Pyridinamine, *N*-methyl-, 1-oxide)	54818-70-1	**	7.67±0.05	EI	4117
	$C_5H_4N(O)NHCH_3$ (3-Pyridinamine, *N*-methyl-, 1-oxide)	54818-71-2	**	7.97±0.05	EI	4117
	$C_5H_4N(O)NHCH_3$ (4-Pyridinamine, *N*-methyl-, 1-oxide)	1122-92-5	**	7.45±0.05	EI	4117
	$C_5H_4N(=NH)OCH_3$ (2(1*H*)-Pyridinimine, 1-methoxy-)	54818-76-7	**	7.46±0.05	EI	4117
$C_6H_{10}N_2O^+$						
	$C_6H_{10}N_2O$ (2,3-Diazabicyclo[2.2.2]oct-2-ene 2-oxide)	25926-96-9	**	9.30±0.03 (V)	PE	4691
$C_6H_{14}N_2O^+$						
	$C_6H_{14}N_2O$	35216-94-5	**	~9.60±0.03 (V)	PE	4691
	$((CH_3)_2CH)_2NNO$ (2-Propanamine, N-(1-methylethyl)-N-nitroso-)	601-77-4	**	8.58 (V)	PE	4576
$C_7H_7N_2O^+$						
	$C_6H_5NHCONH_2$ (Urea, phenyl-)	64-10-8		9.50	EI	4834
	$C_6H_4ClNHCONH_2$ (Urea, (2-chlorophenyl)-)	114-38-5	Cl	9.35	EI	4834
	$C_6H_4BrNHCONH_2$ (Urea, (2-bromophenyl)-)	13114-90-4	Br	9.35	EI	4834
	$C_6H_4INHCONH_2$ (Urea, (2-iodophenyl)-)	13114-93-7	I	9.15	EI	4834
$C_7H_8N_2O^+$						
	$C_6H_5(CH_3)NNO$ (Benzenamine, N-methyl-N-nitroso-)	614-00-6	**	9.01 (V)	PE	4576
	$C_6H_5NHCONH_2$ (Urea, phenyl-)	64-10-8	**	8.55	EI	4834
$C_7H_{10}N_2O^+$						
	$C_5H_4N(O)N(CH_3)_2$ (2-Pyridinamine, *N*,*N*-dimethyl-, 1-oxide)	3618-79-9	**	7.62±0.05	EI	4117
	$C_5H_4N(O)N(CH_3)_2$ (3-Pyridinamine, *N*,*N*-dimethyl-, 1-oxide)	36100-40-0	**	7.85±0.05	EI	4117
	$C_5H_4N(O)N(CH_3)_2$ (4-Pyridinamine, *N*,*N*-dimethyl-, 1-oxide)	1005-31-8	**	7.21±0.05 (V)	PE	4275
			**	7.32±0.05	EI	4117
$C_7H_{12}N_2O^+$						
	$C_7H_{12}NNO$ (2-Azabicyclo[2.2.2]octane, 2-nitroso)	21744-12-7	**	8.72 (V)	PE	4576
	$C_7H_{12}N_2O$ (6,7-Diazabicyclo[3.2.2]non-6-ene 6-oxide)	26081-83-4	**	9.21±0.03 (V)	PE	4691
	$C_3N_2(=O)(CH_3)_4$ (4H-Pyrazole-4-one,3,5-dihydro-3,3,5,5-tetramethyl-)	30467-62-0	**	8.61 (V)	PE	4429
$C_7H_{14}N_2O^+$						
	$C_7H_{14}N_2O$ (1H-Pyridazino[1,2-*c*][1,3,4]oxadiazine, hexahydro-)	73569-74-1	**	8.04 (V)	PE	5215
$C_8H_6N_2O^+$						
	$C_6H_4(CN)(CONH_2)$ (Benzamide, 4-cyano-)	3034-34-2	**	9.99 (V)	PE	4918
	$C_6H_5C(=O)CHN_2$ (Ethanone,2-diazo-1-phenyl-)	3282-32-4	**	8.93±0.05 (V)	PE	5326
	$C_8H_6N_2O$ (Quinoxaline, 1-oxide)	6935-29-1	**	8.62±0.02 (V)	PE	4551

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_9N_2O^+$						
	$C_6H_4ClNHCONHCH_3$ (Urea, N-(2-chlorophenyl)-N′-methyl-)	15500-96-6	Cl	9.35	EI	4834
$C_8H_{10}N_2O^+$						
	$C_6H_4NO(N(CH_3)_2)$ (Benzenamine, N,N-dimethyl-4-nitroso-)	138-89-6	**	7.2±0.1	PE	4401
			**	7.78±0.1 (V)	PE	4465
	$C_6H_4(NH_2)NHCOCH_3$ (Acetamide, *N*-(2-aminophenyl)-)	34801-09-7	**	7.39±0.02	EI	3631
	$C_6H_4(NH_2)NHCOCH_3$ (Acetamide, *N*-(4-aminophenyl)-)	122-80-5	**	7.12±0.02	EI	3631
	$C_6H_5NHCONHCH_3$ (Urea, N-methyl-N′-phenyl-)	1007-36-9	**	8.50±0.05	EI	4834
$C_8H_{12}N_2O^+$						
	$C_8H_{12}N_2(=O)$ (1,3-Diazatricyclo[3.3.1.1^{3,7}]decan-6-one)	20397-57-3	**	8.25 (V)	PE	4659
$C_8H_{14}N_2O^+$						
	$(CH_3)CH=NN(C_2H_5)CH=CHCOCH_3$	XXXXX-XX-X	**	7.79 (V)	PE	5548
	$(CH_3)_2C=NN(CH_3)CH=CHCOCH_3$	63262-98-6	**	7.78 (V)	PE	5548
	$C_8H_{14}N_2O$ (7,8-Diazabicyclo[4.2.2]dec-7-ene 7-oxide)	25926-97-0	**	9.13±0.03 (V)	PE	4691
$C_8H_{16}N_2O^+$						
	$C_4H_4N_2(O)(CH_3)_4$ (Pyridazine, 3,4,5,6-tetrahydro-3,3,6,6-tetramethyl-1-oxide)	54143-34-9	**	~9.13±0.03 (V)	PE	4691
$C_9H_8N_2O^+$						
	$C_6H_4(CN)CHN(O)CH_3$ (Benzonitrile, 4-[(methylimino)methyl]-N^+-oxide)	16089-70-6	**	8.35±0.02 (V)	PE	4674
	$CH_3C_6H_4C(=O)CHN_2$ (Ethanone,2-diazo-1-(4-methylphenyl)-)	17263-64-8	**	8.80±0.05 (V)	PE	5326
	$C_6H_5C(=O)C(CH_3)N_2$ (1-Propanone,2-diazo-1-phenyl-)	14088-57-4	**	8.52±0.05 (V)	PE	5326
$C_9H_{11}N_2O^+$						
	$C_6H_3(Cl)(N(CH_3)_2)NHCHO$ (Formamide, *N*-[2-chloro-5-(dimethylamino)phenyl]-)	53666-46-9	Cl	9.7±0.1	EI	4359
	$C_6H_4ClNHCONHC_2H_5$ (Urea, N-(2-chlorophenyl)-N′-ethyl-)	62635-53-4	Cl	9.30	EI	4834
$C_9H_{12}N_2O^+$						
	$C_6H_5NHCONHC_2H_5$ (Urea, N-ethyl-N′-phenyl-)	621-04-5	**	8.25±0.05	EI	4834
$C_9H_{14}N_2O^+$						
	$C_9H_{14}N_2O$ (1-Pyrrolidinecarboxamide, N-1,3-butadienyl-(E)-)	61759-62-4	**	7.90 (V)	PE	4803
$C_{10}H_{13}N_2O^+$						
	$C_6H_4(OCH_3)N=CHN(CH_3)_2$ (Methanimidamide, *N*′-(3-methoxyphenyl)-*N*,*N*-dimethyl-)	1202-42-2	H	9.2±0.1	EI	4359
	$C_6H_4(OCH_3)N=CHN(CH_3)_2$ (Methanimidamide, *N*′-(4-methoxyphenyl)-*N*,*N*-dimethyl-)	1202-62-6	H	9.3±0.1	EI	4359
	$C_6H_3(Cl)(OCH_3)N=CHN(CH_3)_2$ (Methanimidamide, *N*′-(2-chloro-4-methoxyphenyl)-*N*,*N*-dimethyl-)	53666-34-5	Cl	8.9±0.1	EI	4359
	$C_6H_3(Cl)(OCH_3)N=CHN(CH_3)_2$ (Methanimidamide, *N*′-(2-chloro-5-methoxyphenyl)-*N*,*N*-dimethyl-)	53666-40-3	Cl	8.7±0.1	EI	4359
	$C_6H_4ClNHCONHCH(CH_3)_2$ (Urea, N-(2-chlorophenyl)-N′-(1-methylethyl)-)	62635-47-6	Cl	9.20	EI	4834

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_7N_3O^+$						
	$C_4H_2N_2(CH_3)(=O)NH_2$	1122-47-0	**	8.65 (V)	PE	5594
	(2(1H)-Pyrimidinone,4-amino-1-methyl-)					
			**	9.5±0.1	EI	5555
	$C_4HN_2H(CH_3)(=O)NH_2$	554-01-8	**	8.78 (V)	PE	5594
	(2(1H)-Pyrimidinone,4-amino-5-methyl-)					
	$C_4HN_2H(CH_3)(=O)NH_2$	6220-50-4	**	8.73 (V)	PE	5594
	(2(1H)-Pyrimidinone,4-amino-6-methyl-)					
	$C_4H_2N_2H(CH_3)(=O)NH$	XXXXX-XX-X	**	8.72 (V)	PE	5594
	(2(1H)-Pyrimidinone,4-imino-3-methyl-)					
$C_5H_9N_3O^+$						
	$C_2N_3(=O)(CH_3)_3$	57626-52-5	**	8.39 (V)	PE	4439
	(3H-1,2,4-Triazol-3-one,2,4-dihydro-2,4,5-trimethyl-)					
$C_6H_9N_3O^+$						
	$C_4H_2N_2(=O)(NH(CH_3))(CH_3)$	XXXXX-XX-X	**	9.25±0.1	EI	5555
	(2(1H)Pyrimidinone,4-amino-1,N-dimethyl-)					
	$C_4HN_2(CH_3)_2(=O)NH_2$	17634-60-5	**	8.50 (V)	PE	5594
	(2(1H)-Pyrimidinone,4-amino-1,5-dimethyl-)					
	$C_4HN_2(CH_3)_2(=O)NH_2$	66943-92-8	**	8.41 (V)	PE	5594
	(2(1H)-Pyrimidinone,4-amino-1,6-dimethyl-)					
	$C_4H_2N_2(CH_3)(=O)NHCH_3$	6220-49-1	**	8.58 (V)	PE	5594
	(2(1H)-Pyrimidinone,1-methyl-4-(methylamino)-)					
$C_7H_{11}N_3O^+$						
	$C_4H_2N_2(=O)(N(CH_3)_2)(CH_3)$	2228-27-5	**	8.7±0.1	EI	5555
	(2(1H)Pyrimidinone,4-(dimethylamino)-1-methyl-)					
$C_{13}H_7N_3O^+$						
	$C_{12}H_7N_2OCN$	59019-84-0	**	8.44 (V)	PE	4590
	(2-Phenazinecarbonitrile-10-oxide)					
$C_{20}H_{25}N_3O^+$						
	$C_{20}H_{25}N_3O$		**	7.25±0.10 (V)	PE	4672
$C_5H_4N_4O^+$						
	$C_5H_4N_4(=O)$	68-94-0	**	8.55±0.03 (V)	PE	4445
	(6H-Purin-6-one,1,7-dihydro-)					
$C_5H_5N_5O^+$						
	$C_5H_3N_4(=O)(NH_2)$	73-40-5	**	7.85	PE	5093
	(6H-Purin-6-one,2-amino-1,7-dihydro-)					
			**	8.70	PE	5093
			**	8.24±0.03 (V)	PE	4445
			**	8.0±0.2	EI	5555
$CH_3NO_2^+$						
	CH_3NO_2	75-52-5	**	11.040±0.017	PI	3524
			**	11.07±0.01	PE	3721
			**	11.29 (V)	PE	5272
			**	11.31±0.015 (V)	PE	4107
			**	11.31 (V)	PE	4884
			**	11.8 (V)	PE	4467
	CH_3ONO	624-91-9	**	10.475±0.007	PI	3524
			**	11.0	PE	4379
$CD_3NO_2^+$						
	CD_3NO_2	13031-32-8	**	11.08±0.01	PE	3721
$C_2H_5NO_2^+$						
	$CH_2(NH_2)COOH$	56-40-6	**	8.8	PE	4221

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_5NO_2^+$						
	$CH_2(NH_2)COOH$	56-40-6	**	9.21±0.05	EI	3571
$C_3H_5NO_2^+$						
	$CH_3COCONH_2$	631-66-3	**	9.71 (V)	PE	4520
	$C_3H_5NO(=O)$ (2-Oxazolidinone)	497-25-6	**	10.21 (V)	PE	4742
$C_3H_7NO_2^+$						
	$NH_2COOC_2H_5$	51-79-6	**	10.62 (V)	PE	4803
	$CH_3CH(NH_2)COOH$	56-41-7	**	8.8	PE	4221
			**	8.88	PE	4641
$C_4H_5NO_2^+$						
	$C_4H_5N(=O)_2$ (2,5-Pyrrolidinedione)	123-56-8	**	10.01 (V)	PE	4742
			**	10.01 (V)	PE	4810
$C_4H_7NO_2^+$						
	$CH_2=CHCH_2CH_2ONO$	67428-02-8	**	10.02±0.02 (V)	PE	4722
			**	10.02 (V)	PE	4898
	$C_3H_4NO(=O)(CH_3)$ (2-Oxazolidinone, 4-methyl-)	16112-59-7	**	9.95 (V)	PE	4742
	$C_3H_4NO(=O)CH_3$ (2-Oxazolidinone, 5-methyl-)	1072-70-4	**	9.99 (V)	PE	4742
$C_4H_9NO_2^+$						
	$C_2H_5CH(NH_2)COOH$	80-60-4	**	8.70	PE	4641
	$CH_2(NH_2)COOC_2H_5$	459-73-4	**	8.8	PE	4221
$C_4H_{11}NO_2^+$						
	$(CH_3)_2N(O)(C_2H_4OH)$	10489-99-3	**	8.86 (V)	PE	4537
$C_5H_5NO_2^+$						
	$CH_2=C(CN)CO_2CH_3$	137-05-3	**	10.98±0.05 (V)	PE	4859
	$CH_3CO_2C(CN)=CH_2$	3061-65-2	**	10.76±0.05 (V)	PE	4859
	$C_5H_4N(O)OH$ (Pyridinium, 1,2-dihydroxy-, 1-hydroxide, inner salt)	XXXXX-XX-X	**	8.90±0.05	EI	4178
	$C_5H_4N(O)OH$ (Pyridinium, 1,3-dihydroxy-, 1-hydroxide, inner salt)	XXXXX-XX-X	**	8.60±0.05	EI	4178
	$C_5H_4N(O)OH$ (Pyridinium, 1,4-dihydroxy-, 1-hydroxide, inner salt)	XXXXX-XX-X	**	8.18±0.05	EI	4178
$C_5H_7NO_2^+$						
	$C_5H_6NH(=O)_2$ (2,6-Piperidinedione)	1121-89-7	**	9.87 (V)	PE	5614
	$C_4H_4N(=O)_2(CH_3)$ (2,5-Pyrrolidinedione,1-methyl-)	1121-07-9	**	10.71 (V)	PE	5090
$C_5H_9NO_2^+$						
	$CH_3COC(CH_3)_2NO$	6931-05-1	**	8.48±0.1 (V)	PE	4465
	$C_3H_3NO(=O)(CH_3)_2$ (2-Oxazolidinone, 4,4-dimethyl-)	26654-39-7	**	9.80 (V)	PE	4742
	$C_3H_3NO(=O)(CH_3)_2$ (2-Oxazolidinone, 4,5-dimethyl-)	58628-98-1	**	9.84 (V)	PE	4742
	$C_3H_3NO(=O)(CH_3)_2$ (2-Oxazolidinone, 5,5-dimethyl-)	1121-83-1	**	9.88 (V)	PE	4742
$C_5H_{11}NO_2^+$						
	$(CH_3)_2NCH_2COOCH_3$	7148-06-3	**	7.96±0.05	PE	4192
	n-$C_3H_7CH(NH_2)COOH$	6600-40-4	**	8.53	PE	4641
	iso-$C_3H_7CH(NH_2)COOH$	72-18-4	**	8.71	PE	4641

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_{13}NO_2^+$						
	$(CH_3)_2N(O)(C_2H_4OCH_3)$	55695-37-9	**	8.37 (V)	PE	4537
$C_6H_4NO_2^+$						
	$C_6H_4(NO_2)_2$ (Benzene, 1,3-dinitro-)	99-65-0	NO_2	12.34±0.1	EI	3447
	$C_6H_4(NO_2)_2$ (Benzene, 1,4-dinitro-)	100-25-4	NO_2	12.50±0.1	EI	3447
$C_6H_5NO_2^+$						
	$C_6H_5NO_2$ (Benzene,nitro-)	98-95-3	**	9.85±0.03	PI	5505
			**	9.87±0.05	PI	5437
			**	9.88±0.015 (V)	PE	4107
			**	9.92 (V)	PE	4892
			**	9.93	PE	4621
			**	9.93 (V)	PE	4884
			**	9.93 (V)	PE	5272
			**	9.94±0.025	PE	3626
			**	9.99±0.01	PE	3721
			**	9.99	PE	3856
			**	10.8 (V)	PE	4467
			**	9.6	EI	3916
			**	9.65±0.1	EI	3447
			**	9.90	EI	3485
	C_5H_5NCOOH (3-Pyridinecarboxylic acid)	59-67-6	**	9.38	PE	5093
$C_6H_7NO_2^+$						
	$C_5H_4N(O)OCH_3$ (Pyridine, 4-methoxy-, 1-oxide)	1122-96-9	**	7.74±0.05 (V)	PE	4275
			**	7.89 (V)	PE	4222
	$C_5H_4N(O)OCH_3$ (*Pyridinium*, 1-hydroxy-2-*methoxy*-, hydroxide, inner salt)	XXXXX-XX-X	**	8.21±0.05	EI	4178
	$C_5H_4N(O)OCH_3$ (Pyridinium, 1-hydroxy-3-methoxy-, hydroxide, inner salt)	XXXXX-XX-X	**	8.40±0.05	EI	4178
	$C_5H_4N(O)OCH_3$ (Pyridinium, 1-hydroxy-4-methoxy-, hydroxide, inner salt)	XXXXX-XX-X	**	7.98±0.05	EI	4178
	$C_5H_4N(O)OCH_3$ (Pyridinium, 3-hydroxy-1-methoxy-, hydroxide, inner salt)	XXXXX-XX-X	**	8.3	EI	4178
	$C_5H_4N(=O)OCH_3$ (2(1*H*)-Pyridinone, 1-methoxy-)	40775-55-1	**	8.32±0.05	EI	4178
	$C_5H_4N(=O)OCH_3$ (4(1*H*)-Pyridinone, 1-methoxy-)	XXXXX-XX-X	**	8.49±0.05	EI	4178
	$C_4H_4NCOOCH_3$ (1*H*-Pyrrole-2-carboxylic acid, methyl ester)	1193-62-0	**	8.65±0.05	EI	3482
$C_6H_{11}NO_2^+$						
	$CH_3COCH_2C(CH_3)_2NO$	60027-50-1	**	7.96±0.1 (V)	PE	4465
$C_6H_{13}NO_2^+$						
	n-$C_4H_9CH(NH_2)COOH$	327-57-1	**	8.52	PE	4641
	sec-$C_4H_9CH(NH_2)COOH$	73-32-5	**	8.66	PE	4641
	iso-$C_4H_9CH(NH_2)COOH$	61-90-5	**	8.51	PE	4641
$C_7H_4NO_2^+$						
	$C_6H_5COC_6H_4NO_2$ (Methanone, (2-nitrophenyl)phenyl-)	2243-79-0		10.3±0.1	EI	4358
$C_7H_6NO_2^+$						
	$C_6H_4(NO_2)C_4H_9$ (Benzene, 1-butyl-3-nitro-)	20651-76-7		13.08±0.1	EI	3629

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_6NO_2^+$						
	$C_6H_4(NO_2)C_4H_9$ (Benzene, 1-butyl-4-nitro-)	20651-75-6		12.54±0.1	EI	3629
$C_7H_7NO_2^+$						
	$C_6H_4(NO)(OCH_3)$ (Benzene, 1-methoxy-4-nitroso-)	1516-21-8	**	8.46±0.1 (V)	PE	4465
			**	9.50 (V)	PE	4892
	$CH_3C_6H_4NO_2$ (Benzene,1-methyl-2-nitro-)	88-72-2	**	9.43±0.05	PI	5437
			**	9.63 (V)	PE	5272
			**	9.69±0.015 (V)	PE	4107
			**	9.50	PE	4892
	$C_6H_4(CH_3)NO_2$ (Benzene,1-methyl-3-nitro-)	99-08-1	**	9.48 (V)	PE	5272
			**	9.49±0.015 (V)	PE	4107
			**	9.48±0.1	EI	3447
			**	9.50	PE	4892
	$C_6H_4(CH_3)NO_2$ (Benzene,1-methyl-4-nitro-)	99-99-0	**	9.52 (V)	PE	5272
			**	9.54±0.015 (V)	PE	4107
			**	9.50±0.1	EI	3447
			**	9.56	EI	4089
			**	9.1±0.1	PE	4401
	$C_6H_4(NH_2)COOH$ (Benzoic acid, 3-amino-)	99-05-8	**	8.41±0.2	EI	3973
	$C_6H_4(NH_2)COOH$ (Benzoic acid, 4-amino-)	150-13-0	**	8.36±0.2	EI	3973
	$C_6H_5OOCNH_2$ (Carbamic acid phenyl ester)	622-46-8	**	9.14 (V)	PE	4803
	$C_5H_4NCOOCH_3$ (3-Pyridinecarboxylic acid, methyl ester)	93-60-7	**	9.25	PE	5093
			**	9.85±0.1	EI	4302
	$C_6H_4(NO_2)C_4H_9$ (Benzene, 1-butyl-3-nitro-)	20651-76-7	$CH_2=CHCH_3$	11.52±0.1	EI	3629
	$C_6H_4(NO_2)C_4H_9$ (Benzene, 1-butyl-4-nitro-)	20651-75-6	$CH_2=CHCH_3$	11.44±0.1	EI	3629
$C_7H_9NO_2^+$						
	$C_4H_3OCON(CH_3)_2$ (2-Furancarboxamide, N,N-dimethyl-)	13156-75-7	**	8.86±0.05 (V)	PE	4626
$C_7H_{10}NO_2^+$						
	$C_7H_{10}NO(=O)$ (8-Azabicyclo[3.2.1]oct-8-yloxy,3-oxo-)	38390-62-4	**	7.4±0.1	OTH	5379
	$C_4H_8NO(COCH=CHCH_3)$ (Morpholine, 4-(1-oxo-2-butenyl)-)	51944-66-2	**	11.1±0.1	EI	3996
$C_7H_{11}NO_2^+$						
	$C_7H_{11}NO_2$	61759-61-3	**	8.21 (V)	PE	4803
	$C_3HN(=O)_2(C_2H_5)_2$ (2,4-Azetidinedione, 3,3-diethyl-)	42282-85-9	**	9.57	EI	4660
$C_7H_{12}NO_2^+$						
	$C_{11}H_{20}N_2O_4$ (L-Alanine,N-(N-acetyl-L-valyl)-methyl ester)	55728-13-7		9.3±0.1	PI	5279
$C_8H_5NO_2^+$						
	$C_6H_4(CN)COOH$ (Benzoic acid, 4-cyano-)	619-65-8	**	10.27±0.2	EI	3973
	$C_8H_5N(=O)_2$ (1H-Indole-2,3-dione)	91-56-5	**	8.98±0.05 (V)	PE	4708

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_5NO_2^+$						
	$C_8H_5N(=O)_2$ (1H-Isoindole-1,3(2H)-dione)	85-41-6	**	9.78±0.05 (V)	PE	4708
			**	9.90 (V)	PE	5614
$C_8H_7NO_2^+$						
	$C_6H_4(OCH_3)(C\equiv NO)$ (Benzonitrile, 4-methoxy-N-oxide)	15500-73-9	**	8.42 (V)	PE	4719
$C_8H_8NO_2^+$						
	$C_6H_3(Cl)(OCH_3)NHCHO$ (Formamide, *N*-(2-chloro-4-methoxyphenyl)-)	53666-45-8	Cl	9.4±0.1	EI	4359
	$C_6H_3(Cl)(OCH_3)NHCHO$ (Formamide, *N*-(2-chloro-5-methoxyphenyl)-)	53666-47-0	Cl	9.0±0.1	EI	4359
$C_8H_9NO_2^+$						
	$C_6H_4(OCH_3)(CONH_2)$ (Benzamide, 3-methoxy-)	5813-86-5	**	8.60 (V)	PE	4918
	$C_6H_4(OCH_3)(CONH_2)$ (Benzamide, 4-methoxy-)	3424-93-9	**	8.62 (V)	PE	4918
	$C_6H_4(OH)CH=N(O)CH_3$	XXXXX-XX-X	**	7.76 (V)	PE	5590
	$C_6H_4(OH)NHCOCH_3$ (Acetamide, *N*-(2-hydroxyphenyl)-)	614-80-2	**	7.01±0.02	EI	3631
	$C_6H_4(OH)NHCOCH_3$ (Acetamide, *N*-(4-hydroxyphenyl)-)	103-90-2	**	7.57±0.02	EI	3631
	$C_6H_3(CH_3)_2NO_2$ (Benzene, 1,3-dimethyl-2-nitro-)	81-20-9	**	9.17±0.015	PE	4107
			**	9.17 (V)	PE	5272
	$C_6H_3(CH_3)_2NO_2$ (Benzene,2,4-dimethyl-1-nitro-)	89-87-2	**	9.36 (V)	PE	5272
			**	9.38±0.015 (V)	PE	4107
	$C_5H_4NCH_2COOCH_3$ (2-Pyridineacetic acid methyl ester)	1658-42-0	**	9.40±0.02	EI	3627
	$C_5H_4NCH_2COOCH_3$ (3-Pyridineacetic acid methyl ester)	39998-25-9	**	9.52±0.02	EI	3627
	$C_5H_4NCH_2COOCH_3$ (4-Pyridineacetic acid methyl ester)	29800-89-3	**	9.62±0.02	EI	3627
	$C_5H_4NCOOC_2H_5$ (4-Pyridinecarboxylic acid ethyl ester)	1570-45-2	**	9.75±0.1	EI	4302
$C_8H_7D_2NO_2^+$						
	$C_6H_5CD_2CH_2ONO$ (Nitrous acid 2-phenylethyl-2,2-d_2 ester)	67428-03-9	**	9.13±0.02 (V)	PE	4722
			**	9.13 (V)	PE	4898
$C_8H_{12}NO_2^+$						
	$C_8H_{12}NO(=O)$ (9-Azabicyclo[3.3.1]non-9-yloxy,3-oxo-)	7123-92-4	**	7.4±0.1	OTH	5379
$C_8H_{13}NO_2^+$						
	$C_4H_8NO(COCH=CHCH_3)$ (Morpholine, 4-(1-oxo-2-butenyl)-)	51944-66-2	**	8.8±0.1	EI	3996
$C_9H_7NO_2^+$						
	$C_8H_4N(=O)_2CH_3$ (1H-Isoindole-1,3(2H)-dione, 2-methyl-)	550-44-7	**	9.55±0.05 (V)	PE	4854
$C_9H_{11}NO_2^+$						
	$C_6H_4(OCH_3)CH=N(O)CH_3$	XXXXX-XX-X	**	7.60 (V)	PE	5590
	$C_5H_4N(CH_3)=CHCOOCH_3$ (Acetic acid, (1-methyl-2(1*H*)-pyridinylidene)-, methyl ester)	39998-21-5	**	7.02±0.02	EI	3627
	$C_5H_4N(CH_3)=CHCOOCH_3$ (Acetic acid, (1-methyl-4(1*H*)-pyridinylidene)-, methyl ester)	39998-22-6	**	6.82±0.02	EI	3627

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_9H_{11}NO_2^+$						
	$C_7H_8NCO_2CH_3$ (2-Azabicyclo[3.2.1]octa-3,6-diene-2-carboxylic acid methyl ester)	56125-93-0	**	8.20 (V)	PE	5481
	$C_6H_2(CH_3)_3NO_2$ (Benzene,1,3,5-trimethyl-2-nitro-)	603-71-4	**	9.01 (V)	PE	5272
	$C_6H_5CH_2CH(NH_2)COOH$ (DL-Phenylalanine)	150-30-1	**	<8.4	PI	3766
$C_9H_{13}NO_2^+$						
	$C_7H_{10}NCO_2CH_3$ (2-Azabicyclo[3.2.1]oct-3-ene-2-carboxylic acid methyl ester)	56125-94-1	**	8.03 (V)	PE	5481
	$C_7H_{10}NCO_2CH_3$ (2-Azabicyclo[3.2.1]oct-6-ene-2-carboxylic acid methyl ester)	56125-95-2	**	8.60 (V)	PE	5481
	$C_9H_{13}NO_2$ (1,2-Benzenediol, 4-(2-aminopropyl)-)	555-64-6	**	8.18±0.06 (V)	PE	4758
	$C_5H_5N(CH_3)CH_2COOCH_3$ (3-Pyridineacetic acid, 1,4-dihydro-1-methyl-, methyl ester)	39998-23-7	**	6.94±0.02	EI	3627
$C_9H_{14}NO_2^+$						
	$C_7H_8NO(=O)(CH_3)_2$ (8-Azabicyclo[3.2.1]oct-8-yloxy,1,5-dimethyl-3-oxo-)	34061-60-4	**	7.4±0.1	OTH	5379
$C_9H_{15}NO_2^+$						
	$C_7H_{12}NCO_2CH_3$ (2-Azabicyclo[3.2.1]octane-2-carboxylic acid methyl ester)	71017-44-2	**	8.70 (V)	PE	5481
	$C_7H_{12}NOCOCH_3$ (1-Azabicyclo[2.2.2]octane-4-ol acetate(ester))	26458-76-4	**	8.42±0.015 (V)	PE	4286
	$C_3HN(=O)_2(iso\text{-}C_3H_7)_2$ (2,4-Azetidinedione, 3,3-bis(1-methylethyl)-)	17197-62-5	**	9.42	EI	4660
$C_9H_{16}NO_2^+$						
	$C_5H_4N(O)(=O)(CH_3)_4$ (1-Piperidinyloxy, 2,2,6,6-tetramethyl-4-oxo-)	2896-70-0	**	7.40±0.05	EI	3494
			**	7.4±0.1	OTH	5379
$C_9H_{17}NO_2^+$						
	$C_5H_4N(=O)(OH)(CH_3)_4$ (4-Piperidinone, 1-hydroxy-2,2,6,6-tetramethyl-)	3637-11-4	**	8.51±0.05	EI	3494
	trans-$(C_2H_5)_2NCH=CHCOO_2H_5$	13894-28-5	**	7.63 (V)	PE	388
$C_9H_{18}NO_2^+$						
	$C_5H_5NO(CH_3)_4OH$ (1-Piperidinyloxy,4-hydroxy-2,2,6,6-tetramethyl-)	2226-96-2	**	7.4±0.1	OTH	5379
$C_{10}H_7NO_2^+$						
	$C_{10}H_7NO_2$ (Naphthalene,1-nitro-)	86-57-7	**	8.60±0.01	PI	5505
	$C_{10}H_7NO_2$ (Naphthalene,2-nitro-)	581-89-5	**	8.67±0.01	PI	5505
$C_{10}H_{13}NO_2^+$						
	$C_6H_4(NO_2)C_4H_9$ (Benzene, 1-butyl-3-nitro-)	20651-76-7	**	9.94±0.1	EI	3629
	$C_6H_4(NO_2)C_4H_9$ (Benzene, 1-butyl-4-nitro-)	20651-75-6	**	10.07±0.1	EI	3629
	$C_7H_5O_2CH_2CH(NH_2)CH_3$ (1,3-Benzodioxole, 5-ethanamine-α-methyl-(±)-)	51497-09-7	**	8.01±0.06 (V)	PE	4758
$C_{10}H_{15}NO_2^+$						
	$C_6H_3(OCH_3)_2CH_2CH_2NH_2$ (Benzeneethanamine, 3,4-dimethoxy-)	120-20-7	**	8.03±0.16 (V)	PE	4672

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{10}H_{17}NO_2^+$						
	$C_{10}H_{17}NO_2$	3423-27-6	**	8.0±0.15	EI	5401
	(8-Azabicyclo[3.2.1]octan-3-ol,8-methyl acetate(ester),*endo*-)					
	$C_{10}H_{17}NO_2$	3423-26-5	**	8.1±0.15	EI	5401
	(8-Azabicyclo[3.2.1]octan-3-ol,8-methyl-acetate(ester),*exo*-)					
	$C_{10}H_{17}NO_2$	38951-66-5	**	9.27	EI	4660
	(2,4-Azetidinedione, 1-methyl-3,3-bis(1-methylethyl)-)					
$C_{11}H_9NO_2^+$						
	$C_{11}H_9(NO_2)$	58673-43-1	**	8.87±0.05 (V)	PE	5019
	(1,4-Methanonaphthalene, 1,4-dihydro-5-nitro-)					
	$C_{11}H_9(NO_2)$	XXXXX-XX-X	**	8.96±0.05 (V)	PE	5019
	(1,4-Methanonaphthalene, 1,4-dihydro-6-nitro-)					
$C_{11}H_{11}NO_2^+$						
	$C_3HN(=O)_2C_2H_5(C_6H_5)$	42282-82-6	**	8.90	EI	4660
	(2,4-Azetidinedione, 3-ethyl-3-phenyl-)					
	$C_{11}H_{11}NO_2$	61759-55-5	**	8.30 (V)	PE	4803
	(Carbamic acid, 1,3-butadienyl-phenyl ester, (E)-)					
$C_{11}H_{17}NO_2^+$						
	$C_{11}H_{17}NO_2$	13641-74-2	**	7.70±0.06 (V)	PE	4758
	(Benzeneethanamine, 2,5-dimethoxy-α-methyl-(±)-)					
	$C_{11}H_{17}NO_2$	52850-81-4	**	7.91±0.06 (V)	PE	4758
	(Benzeneethanamine, 2,4-dimethoxy-α-methyl-(±)-)					
			**	8.18±0.06 (V)	PE	4758
	$C_{11}H_{17}NO_2$	120-26-3	**	8.03±0.06 (V)	PE	4758
	(Benzeneethanamine, 3,4-dimethoxy-α-methyl-)					
$C_{12}H_7NO_2^+$						
	$C_{12}H_7N(=O)_2$	81-83-4	**	8.68±0.05 (V)	PE	5095
	(1H-Benz[*de*]isoquinoline-1,3(2H)-dione)					
$C_{12}H_{11}NO_2^+$						
	$C_{25}H_{37}N_3O_4$	55728-17-1		8.9±0.1	PI	5279
	(L-Tryptophan,N-[N-(1-oxodecyl)-L-alanyl]-methyl ester)					
$C_{12}H_{13}NO_2^+$						
	$C_{12}H_{13}NO_2$	56519-51-8	**	8.82	EI	4660
	(2,4-Azetidinedione, 3-ethyl-1-methyl-3-phenyl-)					
$C_{12}H_{14}NO_2^+$						
	$C_{27}H_{40}N_4O_8S$	35146-63-5		9.1±0.1	PI	5279
	(L-Cysteine,S-(2-methoxy-2-oxoethyl)-N-[N-[N-[N-(1-oxopropyl)-L-phenylalanyl]-L-leucyl]glycyl]-methyl ester)					
$C_{12}H_{19}NO_2^+$						
	$C_{12}H_{19}NO_2$	26011-50-7	**	7.62±0.06 (V)	PE	4758
	(Benzeneethanamine, 2,5-dimethoxy-α,4-dimethyl-(±)-)					
$C_{12}H_{22}NO_2^+$						
	$C_{30}H_{45}N_5O_6$	19716-78-0		9.5±0.1	PI	5279
	(L-Alanine,N-[N-[N-[N-(1-oxodecyl)glycyl]-L-tryptophyl]-L-alanyl]-methyl ester)					
$C_{13}H_8NO_2^+$						
	$C_6H_5COC_6H_4NO_2$	2243-80-3		11.2±0.1	EI	4358
	(Methanone, (3-nitrophenyl)phenyl-)					
	$C_6H_5COC_6H_4NO_2$	1144-74-7		11.5±0.1	EI	4358
	(Methanone, (4-nitrophenyl)phenyl-)					
$C_{13}H_9NO_2^+$						
	$C_{13}H_9N(=O)_2$	2382-08-3	**	8.57±0.05 (V)	PE	5095
	(1H-Benz[*de*]isoquinoline-1,3(2H)-dione,2-methyl-)					

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{13}H_{10}NO_2^+$						
	$(C_6H_4NO_2)_2CH_2$	1817-74-9	NO_2	11.1±0.1	EI	3807
	(Benzene, 1,1′-methylenebis[4-nitro-)					
$C_{13}H_{11}NO_2^+$						
	$C_6H_5CH_2C_6H_4NO_2$	1817-77-2	**	9.35±0.05	EI	3806
	(Benzene, 1-nitro-4-(phenylmethyl)-)					
$C_{13}H_{12}NO_2^+$						
	$C_6H_4(COC_5H_8N)_2$	52881-76-2		10.5	EI	4346
	(Pyridine, 1,1′-(1,2-phenylenedicarbonyl)bis[1,2,3,4-tetrahydro-)					
	$C_6H_4(COC_5H_8N)_2$	52881-77-3		11.6	EI	4346
	(Pyridine, 1,1′-(1,4-phenylenedicarbonyl)bis[1,2,3,4-tetrahydro-)					
$C_{13}H_{14}NO_2^+$						
	$C_5H_{10}NCOC_6H_4COC_5H_8N$	52881-78-4		11.4	EI	4346
	(Pyridine, 1,2,3,4-tetrahydro-1-[4-(1-piperidinylcarbonyl)benzoyl]-)					
	$C_6H_4(COC_5H_{10}N)_2$	38256-33-6		11.8	EI	4346
	(Piperidine, 1,1′-(1,2-phenylenedicarbonyl)bis-)					
	$C_6H_4(COC_5H_{10}N)_2$	15088-30-9		12.7	EI	4346
	(Piperidine, 1,1′-(1,4-phenylenedicarbonyl)bis-)					
$C_{13}H_{15}NO_2^+$						
	$C_3N(=O)_2(C_2H_5)_2C_6H_5$	15745-94-5	**	8.71	EI	4660
	(2,4-Azetidinedione, 3,3-diethyl-1-phenyl-)					
$C_{13}H_{24}NO_2^+$						
	$C_{25}H_{37}N_3O_4$	55728-17-1		9.5±0.1	PI	5279
	(L-Tryptophan,N-[N-(1-oxodecyl)-L-alanyl]-methyl ester)					
	$C_{20}H_{34}N_4O_4$	31944-64-6		8.8±0.1	PI	5279
	(L-Histidine,N-[N-(1-oxodecyl)-L-alanyl]-methyl ester)					
	$C_{17}H_{32}N_2O_5$	55728-15-9		9.6±0.1	PI	5279
	(L-Serine,N-[N-(1-oxodecyl)-L-alanyl]-methyl ester)					
	$C_{20}H_{37}N_3O_5$	55728-11-5		9.5±0.1	PI	5279
	(L-Alanine,N-[N-[N-(1-oxodecyl)-L-alanyl]-L-alanyl]-methyl ester)					
	$C_{23}H_{43}N_3O_5$	55728-12-6		9.6±0.1	PI	5279
	(L-Alanine,N-[N-[N-(1-oxodecyl)-L-alanyl]-L-leucyl]-methyl ester)					
$C_{14}H_9NO_2^+$						
	$C_{14}H_9NO_2$	602-60-8	**	7.88±0.03 (V)	PE	4887
	(Anthracene, 9-nitro-)					
	$C_6H_4C_3O_2NC_5H_5$	1283-93-8	**	7.6	CTS	5592
	(Pyridinium,2,3-dihydro-1,3-dioxo-1H-indene-2-ylide)					
$C_{14}H_{13}NO_2^+$						
	$C_6H_5CH_2CH_2C_6H_4NO_2$	14310-29-3	**	9.17±0.05	EI	3806
	(Benzene, 1-nitro-4-(2-phenylethyl-)					
$C_{15}H_{11}NO_2^+$						
	$C_6H_4C_3O_2C_5H_4NCH_3$	59804-88-5	**	7.20	CTS	5592
	(Pyridinium,3-(1,3-dihydro-1,3-dioxo-2H-inden-2-yl)-1-methyl-hydroxide, inner salt)					
	$C_6H_4C_3O_2C_5H_4NCH_3$	59804-81-8	**	7.35	CTS	5592
	(Pyridinium,1,3-dihydro-1,3-dioxo-2H-inden-2-ylide)					
			**	7.55	CTS	5592
	$C_6H_4C_3O_2NC_5H_4CH_3$	59804-82-9	**	7.55	CTS	5592
	(Pyridinium,3-methyl-1,3-dihydro-1,3-dioxo-2H-inden-2-ylide)					
$C_{15}H_{15}NO_2^+$						
	$C_6H_5CH_2OC_6H_4NHCOCH_3$	41927-14-4	**	7.88	CTS	5336
	(Acetamide,N-[4-(phenylmethoxy)phenyl]-)					

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{15}H_{16}NO_2^+$						
	$C_6H_4(CH_2COC_5H_8N)_2$	52881-80-8		10.8	EI	4346
	(Pyridine, 1,1′-[1,2-phenylenebis(1-oxo-2,1-ethanediyl)]bis[1,2,3,4-tetrahydro-)					
$C_{15}H_{18}NO_2^+$						
	$C_6H_4(CH_2COC_5H_{10}N)_2$	52881-79-5		12.1	EI	4346
	(Piperidine, 1,1′-[1,2-phenylenebis(1-oxo-2,1-ethanediyl)]bis-)					
$C_{16}H_{13}NO_2^+$						
	$C_9H_6N(O)(C_6H_4OCH_3)$	56359-30-9	**	6.93±0.05	EI	4863
	(Isoquinolinium, 4-hydroxy-2-(4-methoxyphenyl)-hydroxide, inner salt)					
	$C_9H_6N(=O)(C_6H_4OCH_3)$	55507-32-9	**	7.68±0.05	EI	4863
	(Indeno[1,2-*b*]azirin-6(1H)-one, 1a,6a-dihydro-1-(4-methoxyphenyl)-)					
	$C_9H_6N_3(=O)(C_6H_4OCH_3)$	55507-28-3	N_2	7.8±0.1	EI	4863
	(Indeno[1,2-*d*]triazol-8(3H)-one, 3a,8a-dihydro-3-(4-methoxyphenyl)-)					
$C_{18}H_{11}NO_2^+$						
	$C_6H_4C_3O_2NC_9H_7$	27609-07-0	**	7.5	CTS	5592
	(Isoquinolinium,1,3-dihydro-1,3-dioxo-2H-inden-2-ylide)					
	$C_6H_4C_3O_2NC_9H_7$	59804-80-7	**	7.45	CTS	5592
	(Quinolinium,1,3-dihydro-1,3-dioxo-2H-inden-2-ylide)					
$C_{19}H_{16}NO_2^+$						
	$(C_6H_4COC_5H_8N)_2$	52882-85-6		10.9	EI	4346
	(Pyridine, 1,1′-([1,1′-biphenyl]-2,2′-diyldicarbonyl)bis[1,2,3,4-tetrahydro-)					
	$(C_6H_4COC_5H_8N)_2$	52882-88-9		11.1	EI	4346
	(Pyridine, 1,1′-([1,1′-biphenyl]-4-4′diyldicarbonyl)bis[1,2,3,4-tetrahydro-)					
$C_{19}H_{18}NO_2^+$						
	$C_6H_4(COC_5H_8N)C_6H_4COC_5H_{10}N$	52882-86-7		10.4	EI	4346
	(Pyridine, 1,2,3,4-tetrahydro-1-[[2′-(1-piperidinylcarbonyl)[1,1′-biphenyl]-2-carbonyl]-)					
	$(C_6H_4COC_5H_{10}N)_2$	52882-84-5		12.0	EI	4346
	(Piperidine, 1,1′-([1,1′-biphenyl]-2,2-diyldicarbonyl)bis-)					
	$(C_6H_4COC_5H_{10}N)_2$	52882-87-8		12.3	EI	4346
	(Piperidine, 1,1′-([1,1′-biphenyl]-4-4′-diyldicarbonyl)bis-)					
$C_{20}H_{15}NO_2^+$						
	$C_3(C_6H_5)_2O_2NC_5H_5$	17281-65-1	**	8.14	CTS	5591
	(Pyridinium,1-benzoyl-2-oxo-2-phenylethylide)					
$C_{21}H_{15}NO_2^+$						
	$C_3N(=O)_2(C_6H_5)_3$	15745-93-4	**	8.37	EI	4660
	(2,4-Azetidinedione, 1,3,3-triphenyl-)					
$C_{24}H_{17}NO_2^+$						
	$C_3(C_6H_5)_2O_2NC_9H_7$	XXXXX-XX-X	**	7.92	CTS	5591
	(Quinolinium,1-benzoyl-2-oxo-2-phenylethylide)					
$C_2H_4N_2O_2^+$						
	$NH_2COCONH_2$	471-46-5	**	9.41	PE	4487
			**	9.80 (V)	PE	4462
			**	9.80 (V)	PE	5517
	$NH_2CONHCHO$	1190-24-5	**	10.58 (V)	PE	4599
$C_2H_6N_2O_2^+$						
	$(CH_3)_2NNO_2$	4164-28-7	**	9.53	PE	4647
	trans-$(CH_3NO)_2$	XXXXX-XX-X	**	8.68 (V)	PE	4465
$C_3H_4N_2O_2^+$						
	$C_2HN_2O_2CH_3$	6939-12-4	**	9.0	CTS	4348
	(Sydnone, 3-methyl-)					

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_3H_6N_2O_2^+$						
	$CH_3CONHCONH_2$	591-07-1	**	10.3 (V)	PE	4599
$C_3H_8N_2O_2^+$						
	$(CH_3)_2NCH_2NO_2$	53915-73-4	**	9.17 (V)	PE	4192
$C_4H_4N_2O_2^+$						
	$C_4H_4N_2O_2$ (Pyrazine, 1,4-dioxide)	2423-84-9	**	8.33±0.02 (V)	PE	4470
	$C_4H_4N_2O_2$ (Pyridazine, 1,2-dioxide)	19194-87-7	**	8.51±0.02 (V)	PE	4470
	$C_4H_4N_2(=O)_2$ (2,4(1H,3H)-Pyrimidinedione)	66-22-8	**	9.45 (V)	PE	4754
			**	9.50±0.03 (V)	PE	4445
			**	9.59 (V)	PE	5472
			**	9.60 (V)	PE	4599
			**	9.68 (V)	PE	5577
			**	9.35±0.1	EI	5555
			**	9.53±0.02	EI	3571
	$C_4H_4NNO_2$ (Pyrrole, 2-nitro-)	5919-26-6	**	9.30±0.05	EI	3482
$C_4H_6N_2O_2^+$						
	$C_2N_2O(=O)(CH_3)_2$ (1,3,4-Oxadiazol-2(5H)-one, 5,5-dimethyl-)	28873-61-2	**	10.20 (V)	PE	4929
	$C_4H_6N_2O_2$ (2,4(1H,3H)-Pyrimidinedione, dihydro-)	504-07-4	**	10.00 (V)	PE	4599
			**	10.0±0.1	EI	5555
$C_4H_8N_2O_2^+$						
	$CH_3NHCOCONHCH_3$	615-35-0	**	9.33	PE	4462
$C_5H_4N_2O_2^+$						
	$C_5H_4NNO_2$ (Pyridine, 2-nitro-)	15009-91-3	**	10.1±0.1	EI	4302
	$C_5H_4NNO_2$ (Pyridine, 3-nitro-)	2530-26-9	**	10.3±0.1	EI	4302
	$C_5H_4NNO_2$ (Pyridine, 4-nitro-)	1122-61-8	**	10.4	PE	4536
			**	10.2±0.1	EI	4302
$C_5H_6N_2O_2^+$						
	$C_4H_3N_2(=O)_2CH_3$ (2,4(1H,3H)-Pyrimidinedione,1-methyl-)	615-77-0	**	9.0±0.1	EI	5555
	$C_4H_3N_2(=O)_2CH_3$ (2,4(1H,3H)-Pyrimidinedione, 5-methyl-)	65-71-4	**	9.02 (V)	PE	4754
			**	9.14±0.03 (V)	PE	4445
			**	9.20 (V)	PE	4599
			**	8.95±0.1	EI	5555
$C_6H_6N_2O_2^+$						
	$C_6H_4NH_2(NO_2)$ (Benzenamine,2-nitro-)	88-74-4	**	8.27±0.01	PI	5552
			**	8.43 (V)	PE	3856
	$C_6H_4NH_2(NO_2)$ (Benzenamine,3-nitro-)	99-09-2	**	8.31±0.02	PI	5552
			**	8.60 (V)	PE	3856
	$C_6H_4NH_2(NO_2)$ (Benzenamine,4-nitro-)	100-01-6	**	8.34±0.01	PI	5552
			**	8.60 (V)	PE	3856
			**	8.43	EI	4089
			**	8.62±0.1	EI	3447

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{11}H_{21}N_2O_2^+$	$C_5H_5N(O)(CH_3)_4NHCOCH_3$ (1-Piperidinyloxy, 4-(acetylamino)-2,2,6,6-tetramethyl-)	14691-89-5	**	7.40±0.05	EI	3494
$C_{12}H_{10}N_2O_2^+$	$(NO_2)C_6H_4C_6H_4NH_2$ ([1,1′-Biphenyl]-4-amine-4′-nitro-)	1211-40-1	**	7.46±0.03	PI	5552
	$C_{10}H_4N_2(=O)_2(CH_3)_2$ (Cyclobuta[*b*]quinoxaline-1,2-dione, 3,8-dihydro-3,8-dimethyl-)	33527-99-0	**	7.13 (V)	PE	4861
$C_{12}H_{20}N_2O_2^+$	$C_{12}H_{20}O_2N_2$ (2-Pentanone, 4,4′-(1,2-ethanediyldinitrilo)bis-)	6310-76-5	**	7.71 (V)	PE	3822
$C_{13}H_{10}N_2O_2^+$	$C_{12}H_7N_2O(OCH_3)$ (Phenazine, 2-methoxy-10-oxide)	2876-29-1	**	7.74 (V)	PE	4590
	$C_{12}H_7N_2O(OCH_3)$ (Phenazine, 2-methoxy-5-oxide)	3224-54-2	**	7.84 (V)	PE	4590
	$NO_2C_6H_4N=CHC_6H_5$ (Benzenamine,4-nitro-N-(phenylmethylene)-)	69173-79-1	**	8.76 (V)	PE	5486
	$C_6H_5NNC_6H_4COOH$ (Benzoic acid,4-(phenylazo)-(E)-)	37790-20-8	**	~8.75 (V)	PE	5320
	$C_6H_4(NO_2)CH=CHC_5H_4N$ (Pyridine, *trans*-3-[2-(4-nitrophenyl)ethenyl]-)	5847-74-5	**	8.58±0.05 (V)	PE	4377
$C_{13}H_{12}N_2O_2^+$	$C_6H_4(NO_2)CH_2C_6H_4NH_2$ (Benzenamine, 4-[(4-nitrophenyl)methyl]-)	726-17-0	**	7.87±0.05	EI	3806
$C_{13}H_{25}N_2O_2^+$	$C_{20}H_{34}N_4O_4$ (L-Histidine,N-[N-(1-oxodecyl)-L-alanyl]-methyl ester)	31944-64-6		9.1±0.1	PI	5279
$C_{14}H_{10}N_2O_2^+$	$(C_6H_5)_2C_2N_2O_2$ (Sydnone, 3,4-diphenyl-)	3815-83-6		7.8	CTS	4348
$C_{14}H_{12}N_2O_2^+$	$NO_2C_6H_4N=CHC_6H_4CH_3$ (Benzenamine,N-[(3-methylphenyl)methylene]-4-nitro-)	XXXXX-XX-X	**	8.58 (V)	PE	5486
	$NO_2C_6H_3(CH_3)N=CHC_6H_5$ (Benzenamine,2-methyl-4-nitro-N-(phenylmethylene)-)	XXXXX-XX-X	**	8.66 (V)	PE	5486
$C_{14}H_{14}N_2O_2^+$	$C_6H_4(NH_2)CH_2CH_2C_6H_4NO_2$ (Benzenamine, 4-[2-(4-nitrophenyl)ethyl]-)	7357-96-2	**	7.78±0.05	EI	3806
$C_{15}H_{14}N_2O_2^+$	$NO_2C_6H_2(CH_3)_2N=CHC_6H_5$ (Benzenamine,2,6-dimethyl-4-nitro-N-(phenylmethylene)-)	XXXXX-XX-X	**	8.51 (V)	PE	5486
	$NO_2C_6H_3(CH_3)N=CHC_6H_4CH_3$ (Benzenamine,2-methyl-4-nitro-N-[(3-methylphenyl)methylene]-)	XXXXX-XX-X	**	~8.49 (V)	PE	5486
$C_{15}H_{20}N_2O_2^+$	$C_{15}H_{20}N_2O_2$ (8-Azabicyclo[3.2.1]octan-3-ol,8-methyl-phenylcarbamate(ester),*exo*-)	29364-21-4	**	8.0±0.15	EI	5401
$C_{15}H_{29}N_2O_2^+$	$C_{20}H_{37}N_3O_5$ (L-Alanine,N-[N-[N-(1-oxodecyl)-L-alanyl]-L-alanyl]-methyl ester)	55728-11-5		8.9±0.1	PI	5279

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{15}H_{30}N_2O_2^+$						
	$C_{20}H_{37}N_3O_5$	55728-11-5		8.7±0.1	PI	5279
	(L-Alanine,N-[N-[N-(1-oxodecyl)-L-alanyl]-L-alanyl]-methyl ester)					
$C_{16}H_{10}N_2O_2^+$						
	$C_{16}H_{10}N_2O_2$	12626-73-2	**	7.17	PI	3586
	([$\Delta^{2,2'}$-Biindoline]-3,3'-dione)					
$C_{16}H_{12}N_2O_2^+$						
	$C_6H_4(NO_2)C_3H_3(CN)C_6H_5$	10432-22-1	**	9.05±0.10	EI	3575
	(Cyclopropanecarbonitrile, 1-(*p*-nitrophenyl)-2-phenyl-)					
$C_{16}H_{16}N_2O_2^+$						
	$NO_2C_6H_2(CH_3)_2N=CHC_6H_4CH_3$	XXXXX-XX-X	**	8.43 (V)	PE	5486
	(Benzenamine,2,6-dimethyl-4-nitro-N-[(3-methylphenyl)methylene]-)					
	$C_{16}H_{16}N_2O_2$	94-93-9	**	8.53±0.07	EI	4668
	(Phenol, 2,2'-[1,2-ethanediylbis(nitrilomethylidyne)]bis-)					
$C_{17}H_{25}N_2O_2^+$						
	$C_{27}H_{40}N_4O_8S$	35146-63-5		8.8±0.1	PI	5279
	(L-Cysteine,S-(2-methoxy-2-oxoethyl)-N-[N-[N-[N-(1-oxopropyl)-L-phenylalanyl]-L-leucyl]glycyl]-methyl ester)					
$C_{17}H_{33}N_2O_2^+$						
	$C_{19}H_{36}N_2O_4$	55728-14-8		9.6±0.1	PI	5279
	(Glycine,N-[N-(1-oxodecyl)-L-leucyl]-methyl ester)					
$C_{18}H_{16}N_2O_2^+$						
	$C_6H_4(NH_2)OC_6H_4OC_6H_4NH_2$	3491-12-1	**	6.60	PI	4328
	(Benzenamine, 4,4'-[1,4-phenylenebis(oxy)]bis-)					
$C_{18}H_{20}N_2O_2^+$						
	$C_6H_4(COC_5H_8N)_2$	52881-76-2	**	8.7	EI	4346
	(Pyridine, 1,1'-(1,2-phenylenedicarbonyl)bis[1,2,3,4-tetrahydro-)					
	$C_6H_4(COC_5H_8N)_2$	52881-77-3	**	8.7	EI	4346
	(Pyridine, 1,1'-(1,4-phenylenedicarbonyl)bis[1,2,3,4-tetrahydro-)					
$C_{18}H_{22}N_2O_2^+$						
	$C_5H_{10}NCOC_6H_4COC_5H_8N$	52881-78-4	**	8.7	EI	4346
	(Pyridine, 1,2,3,4-tetrahydro-1-[4-(1-piperidinylcarbonyl)benzoyl]-)					
$C_{18}H_{24}N_2O_2^+$						
	$C_6H_4(COC_5H_{10}N)_2$	38256-33-6	**	8.9	EI	4346
	(Piperidine, 1,1'-(1,2-phenylenedicarbonyl)bis-)					
	$C_6H_4(COC_5H_{10}N)_2$	15088-30-9	**	8.8	EI	4346
	(Piperidine, 1,1'-(1,4-phenylenedicarbonyl)bis-)					
$C_{18}H_{35}N_2O_2^+$						
	$C_{23}H_{43}N_3O_5$	55728-12-6		8.5±0.1	PI	5279
	(L-Alanine,N-[N-[N-(1-oxodecyl)-L-alanyl]-L-leucyl]-methyl ester)					
$C_{20}H_{24}N_2O_2^+$						
	$C_6H_4(CH_2COC_5H_8N)_2$	52881-80-8	**	8.6	EI	4346
	(Pyridine, 1,1'-[1,2-phenylenebis(1-oxo-2,1-ethanediyl)]bis[1,2,3,4-tetrahydro-)					
$C_{20}H_{28}N_2O_2^+$						
	$C_6H_4(CH_2COC_5H_{10}N)_2$	52881-79-5	**	8.8	EI	4346
	(Piperidine, 1,1'-[1,2-phenylenebis(1-oxo-2,1-ethanediyl)]bis-)					
$C_{21}H_{14}N_2O_2^+$						
	$C_3(C_6H_5)_2O_2NC_5H_4CN$	59805-16-2	**	7.94	CTS	5591
	(Pyridinium,4-cyano-1-benzoyl-2-oxo-2-phenylethylide)					

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{21}H_{26}N_2O_2^+$						
	$C_{21}H_{26}N_2O_2$ (Phenol, 2,2′-[1,7-heptanediylbis(nitrilomethylidyne)]bis-)	52279-42-2	**	8.26±0.06	EI	4213
$C_{24}H_{24}N_2O_2^+$						
	$(C_6H_4COC_5H_8N)_2$ (Pyridine, 1,1′-([1,1′-biphenyl]-2,2′-diyldicarbonyl)bis[1,2,3,4-tetrahydro-)	52882-85-6	**	8.4	EI	4346
	$(C_6H_4COC_5H_8N)_2$ (Pyridine, 1,1′-([1,1′-biphenyl]-4-4′diyldicarbonyl)bis[1,2,3,4-tetrahydro-)	52882-88-9	**	8.3	EI	4346
$C_{24}H_{26}N_2O_2^+$						
	$C_6H_4(COC_5H_8N)C_6H_4COC_5H_{10}N$ (Pyridine, 1,2,3,4-tetrahydro-1-[[2′-(1-piperidinylcarbonyl)[1,1′-biphenyl]-2-carbonyl]-)	52882-86-7	**	8.4	EI	4346
$C_{24}H_{28}N_2O_2^+$						
	$(C_6H_4COC_5H_{10}N)_2$ (Piperidine, 1,1′-([1,1′-biphenyl]-2,2-diyldicarbonyl)bis-)	52882-84-5	**	8.5	EI	4346
	$(C_6H_4COC_5H_{10}N)_2$ (Piperidine, 1,1′-([1,1′-biphenyl]-4-4′-diyldicarbonyl)bis-)	52882-87-8	**	8.4	EI	4346
$C_{25}H_{18}N_2O_2^+$						
	$C_3(C_6H_5)_2O_2(NC_5H_4)_2$ (4,4′-Bipyridinium,1-benzoyl-2-oxo-2-phenylethylide)	59805-17-3	**	7.66	CTS	5591
$C_9H_{10}N_3O_2^+$						
	$C_6H_4(NO_2)N{=}CHN(CH_3)_2$ (Methanimidamide, *N*,*N*-dimethyl-*N*′-(3-nitrophenyl)-)	2103-47-1	H	9.5±0.1	EI	4359
	$C_6H_4(NO_2)N{=}CHN(CH_3)_2$ (Methanimidamide, *N*,*N*-dimethyl-*N*′-(4-nitrophenyl)-)	1205-59-0	H	9.5±0.1	EI	4359
	$C_6H_3(Cl)(NO_2)N{=}CHN(CH_3)_2$ (Methanimidamide, *N*′-(2-chloro-4-nitrophenyl)-*N*,*N*-dimethyl-)	53666-38-9	Cl	9.3±0.1	EI	4359
	$C_6H_3(Cl)(NO_2)N{=}CHN(CH_3)_2$ (Methanimidamide, *N*′-(2-chloro-5-nitrophenyl)-*N*,*N*-dimethyl-)	53666-43-6	Cl	9.1±0.1	EI	4359
$C_9H_{11}N_3O_2^+$						
	$C_6H_4(NO_2)N{=}CHN(CH_3)_2$ (Methanimidamide, *N*,*N*-dimethyl-*N*′-(3-nitrophenyl)-)	2103-47-1	**	7.8±0.1	EI	4359
	$C_6H_4(NO_2)N{=}CHN(CH_3)_2$ (Methanimidamide, *N*,*N*-dimethyl-*N*′-(4-nitrophenyl)-)	1205-59-0	**	7.9±0.1	EI	4359
$C_{12}H_9N_3O_2^+$						
	$C_6H_5NNC_6H_4NO_2$ (Diazene,(nitrophenyl)phenyl-(E)-)	37790-23-1	**	9.05±0.05 (V)	PE	5320
$C_{15}H_{15}N_3O_2^+$						
	$C_{11}H_3N_3(=O)_2(CH_3)_4$ (Benzo[*g*]pyrido[2,3 *d*]pyrimidin-2,4-dione, 3,7,8,10-tetramethyl-)	XXXXX-XX-X	**	7.94 (V)	PE	4992
$C_{18}H_{17}N_3O_2^+$						
	$C_6H_4(NO_2)C_3H_3(CN)C_6H_4N(CH_3)_2$ (Cyclopropanecarbonitrile, 2-(*p*-(dimethylamino)phenyl)-1-(*p*-nitrophenyl)-)	28752-34-3	**	8.30±0.07	EI	3575
$C_{20}H_{25}N_3O_2^+$						
	$C_{20}H_{25}N_3O_2$ (Phenol, 2,2′-[iminobis(3,1-propanediylnitrilomethylidyne)]bis-)	52279-45-5	**	8.31±0.07	EI	4213
$C_{22}H_{32}N_3O_2^+$						
	$C_{30}H_{45}N_5O_6$ (L-Alanine,N-[N-[N-[N-(1-oxodecyl)glycyl]-L-tryptophyl]-L-alanyl]-methyl ester)	19716-78-0		9.6±0.1	PI	5279
$C_5H_4N_4O_2^+$						
	$C_5H_4N_4(=O)_2$ (1H-Purine-2,6-dione,3,7-dihydro-)	69-89-6	**	8.55	PE	5093
			**	8.89±0.03 (V)	PE	4445

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_4N_4O_2^+$						
	$C_6H_4N_4(=O)_2$ (2,4-(1H,3H)-Pteridinedione)	487-21-8	**	9.20 (V)	PE	5577
$C_8H_{10}N_4O_2^+$						
	$C_5HN_4(=O)_2(CH_3)_3$ (1H-Purine-2,6-dione,3,7-dihydro-1,3,7-trimethyl-)	58-08-2	**	7.95	PE	5093
$C_{12}H_{10}N_4O_2^+$						
	$C_{10}H_4N_4(=O)_2(CH_3)_2$ (Benzo[*g*]pteridine-2,4(1H,3H)-dione, 1,3-dimethyl-)	2962-90-5	**	8.63 (V)	PE	4992
	$C_{10}H_4N_4(=O)_2(CH_3)_2$ (Benzo[*g*]pteridine-2,4(3H,10H)-dione, 3,10-dimethyl-)	4074-59-3	**	8.47 (V)	PE	4992
$C_{13}H_{11}N_4O_2^+$						
	$C_6H_2(CH_3)_2C_4N_4(CH_3)(=O)_2$ (Methyl-isoalloxazine)	XXXXX-XX-X	**	8.72 (V)	PE	5577
$C_{13}H_{12}N_4O_2^+$						
	$C_{10}H_3N_4(=O)_2(CH_3)_3$ (Benzo[*g*]pteridine-2,4(3H,10H)-dione, 3,6,10-trimethyl-)	XXXXX-XX-X	**	8.16 (V)	PE	4992
	$C_{10}H_3N_4(=O)_2(CH_3)_3$ (Benzo[*g*]pteridine-2,4(3H,10H)-dione, 3,9,10-trimethyl-)	XXXXX-XX-X	**	8.30 (V)	PE	4992
$C_{14}H_{14}N_4O_2^+$						
	$C_{10}H_2N_4(=O)_2(CH_3)_4$ (Benzo[*g*]pteridine-2,4(3H,10H)-dione, 3,7,8,10-tetramethyl-)	18636-32-3	**	8.22 (V)	PE	4992
$C_{15}H_{18}N_4O_2^+$						
	$C_{10}H_3N_4(=O)_2(CH_3)_5$ (Benzo[*g*]pteridine-2,4(1H,3H)-dione,5,10-dihydro-1,3,7,8,10-pentamethyl-)	14453-97-5	**	7.00 (V)	PE	4992
$C_2H_3NO_3^+$						
	$NH_2COCOOH$	471-47-6	**	10.51 (V)	PE	4487
$C_4H_3NO_3^+$						
	$C_4H_3ONO_2$ (Furan, 2-nitro-)	609-39-2	**	9.75±0.05 (V)	PE	4626
			**	10.04±0.05	EI	3482
$C_4H_7NO_3^+$						
	$C_2H_5O(CO)_2NH_2$	XXXXX-XX-X	**	9.85 (V)	PE	5549
$C_5H_7NO_3^+$						
	$CH_3CONHC(=CH_2)COOH$	XXXXX-XX-X	**	9.24 (V)	PE	4983
$C_5H_9NO_3^+$						
	$CH_3COOC(CH_3)_2NO$	17746-46-2	**	8.28±0.1 (V)	PE	4465
$C_6H_5NO_3^+$						
	$C_6H_4(OH)(NO_2)$ (Phenol, 2-nitro-)	88-75-5	**	9.29 (V)	PE	4473
	$C_6H_4(OH)(NO_2)$ (Phenol, 3-nitro-)	554-84-7	**	9.33 (V)	PE	4473
	$C_6H_4(OH)(NO_2)$ (Phenol, 4-nitro-)	100-02-7	**	9.38 (V)	PE	4473
			**	8.84±0.1	EI	3447
	$C_6H_4(NO_2)OOCCH_3$ (Acetic acid, 3-nitrophenyl ester)	1523-06-4	$CH_2=C=O$	10.85±0.2	EI	3484
	$C_6H_4(NO_2)OOCCH_3$ (Acetic acid, 4-nitrophenyl ester)	830-03-5	$CH_2=C=O$	10.76±0.2	EI	3484

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_{11}NO_3^+$						
	$C_2H_5O(CO)_2N(CH_3)_2$	XXXXX-XX-X	**	9.31 (V)	PE	5549
$C_6H_{15}NO_3^+$						
	$N(CH_2CH_2OH)_3$	102-71-6	**	~8.7 (V)	PE	4413
$C_7H_3NO_3^+$						
	$C_7H_3NO(=O)_2$ (Furo[3,4,-*b*]pyridine-5,7-dione)	699-98-9	**	10.5±0.1 (V)	PE	4889
$C_7H_4NO_3^+$						
	$C_6H_5COC_6H_4NO_2$ (Methanone, (2-nitrophenyl)phenyl-)	2243-79-0		12.0±0.2	EI	4335
				12.0±0.2	EI	4358
	$C_6H_5COC_6H_4NO_2$ (Methanone, (3-nitrophenyl)phenyl-)	2243-80-3		12.3±0.2	EI	4335
				12.3±0.2	EI	4358
	$C_6H_5COC_6H_4NO_2$ (Methanone, (4-nitrophenyl)phenyl-)	1144-74-7		12.35±0.2	EI	4335
				12.35±0.2	EI	4358
	$C_6H_4(NO_2)COOH$ (Benzoic acid, 3-nitro-)	121-92-6	OH	13.00±0.2	EI	3973
	$C_6H_4(NO_2)COOH$ (Benzoic acid, 4-nitro-)	62-23-7	OH	11.58±0.2	EI	3973
$C_7H_7NO_3^+$						
	$C_6H_4(NO_2)(OCH_3)$ (Benzene, 1-methoxy-2-nitro-)	91-23-6	**	9.04 (V)	PE	4473
	$C_6H_4(NO_2)(OCH_3)$ (Benzene, 1-methoxy-3-nitro-)	555-03-3	**	9.01 (V)	PE	4473
			**	9.09±0.1	EI	3447
	$C_6H_4(NO_2)(OCH_3)$ (Benzene, 1-methoxy-4-nitro-)	100-17-4	**	8.6±0.1	PE	4401
			**	8.79	PE	4621
			**	9.04±0.1	EI	3447
			**	9.07 (V)	PE	4473
			**	9.08±0.01 (V)	PE	4389
$C_8H_7NO_3^+$						
	$C_6H_4NO_2(COCH_3)$ (Ethanone, 1-(4-nitrophenyl)-)	100-19-6	**	10.15±0.1 (V)	PE	4401
$C_9H_{11}NO_3^+$						
	$C_6H_3(OH)CH_2CH(NH_2)COOH$ (DL-Tyrosine)	556-03-6	**	≤8.4	EI	3766
$C_{11}H_{17}NO_3^+$						
	$C_6H_2(OCH_3)_3CH_2CH_2NH_2$ (Benzeneethanamine, 3,4,5-trimethoxy-)	54-04-6	**	8.18±0.24 (V)	PE	4672
$C_{12}H_{19}NO_3^+$						
	$C_{12}H_{19}NO_3$ (Benzeneethanamine, 3,4,5-trimethoxy-N-methyl-)	4838-96-4		8.44±0.40 (V)	PE	4672
	$C_{12}H_{19}NO_3$ (Benzeneethanamine, 2,3,4-trimethoxy-*α*-methyl-(±)-)	22199-12-8	**	8.09±0.06 (V)	PE	4758
	$C_{12}H_{19}NO_3$ (Benzeneethanamine, 2,4,5-trimethoxy-*α*-methyl-(±)-)	22199-15-1	**	7.66±0.06 (V)	PE	4758
	$C_{12}H_{19}NO_3$ (Benzeneethanamine, 2,4,6-trimethoxy-*α*-methyl-(±)-)	22199-16-2	**	7.76±0.06 (V)	PE	4758
	$C_{12}H_{19}NO_3$ (Benzeneethanamine, 3,4,5-trimethoxy-*α*-methyl-(±)-)	22199-17-3	**	8.16±0.06 (V)	PE	4758

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{13}H_9NO_3^+$						
	$C_6H_5COC_6H_4NO_2$ (Methanone, (2-nitrophenyl)phenyl-)	2243-79-0	**	9.6±0.1	EI	4358
			**	9.6±0.1	EI	4335
	$C_6H_5COC_6H_4NO_2$ (Methanone, (3-nitrophenyl)phenyl-)	2243-80-3		9.8±0.1	EI	4335
			**	9.8±0.1	EI	4358
	$C_6H_5COC_6H_4NO_2$ (Methanone, (4-nitrophenyl)phenyl-)	1144-74-7	**	9.95±0.1	EI	4335
			**	9.95±0.1	EI	4358
$C_{15}H_{28}NO_3^+$						
	$C_{20}H_{36}N_2O_6$ (L-Alanine,N-[N-(1-oxodecyl)-L-α-glutamyl]-dimethyl ester)	55728-16-0		9.6±0.1	PI	5279
$C_{15}H_{29}NO_3^+$						
	$C_{20}H_{36}N_2O_6$ (L-Alanine,N-[N-(1-oxodecyl)-L-α-glutamyl]-dimethyl ester)	55728-16-0		9.4±0.1	PI	5279
$C_{17}H_{19}NO_3^+$						
	$C_{16}H_{14}NO(OH_2)CH_3$ (Morphinan-3,6-diol,7,8-didehydro-4,5-epoxy-17-methyl-(5α,6α)-)	57-27-2	**	8.3 (V)	PE	4646
$C_{19}H_{21}NO_3^+$						
	$C_{16}H_{14}NO(OH_2)CH_2CH=CH_2$ (Morphinan-3,6-diol,7,8-didehydro-4,5-epoxy-17-(2-propenyl)-(5α,6α)-)	62-67-9	**	8.15 (V)	PE	4646
$C_{20}H_{13}NO_3^+$						
	$C_6H_5OC_6H_3C_3O_2NC_5H_5$	XXXXX-XX-X	**	7.55	CTS	5592
$C_3H_2N_2O_3^+$						
	$C_3H_2N_2O_3$ (Imidazolidinetrione)	120-89-8	**	10.67	PE	4471
$C_3H_6N_2O_3^+$						
	$C(CH_3)_2(NO_2)NO$	5275-46-7	**	9.92±0.1 (V)	PE	4465
$C_4H_4N_2O_3^+$						
	$C_3HN_2O_3(CH_3)$ (Imidazolidinetrione, methyl-)	3659-97-0	**	10.52	PE	4471
	$C_4H_4N_2(=O)_3$ (2,4,6(1H,3H,5H)-Pyrimidinetrione)	67-52-7	**	10.20	PE	5093
$C_5H_4N_2O_3^+$						
	$C_5H_4N(O)NO_2$ (Pyridine, 4-nitro-, 1-oxide)	1124-33-0	**	9.03±0.02 (V)	PE	4275
$C_5H_6N_2O_3^+$						
	$C_3N_2O_3(CH_3)_2$ (Imidazolidinetrione, dimethyl-)	5176-82-9	**	10.19	PE	4471
$C_6H_{10}N_2O_3^+$						
	$C_6H_{10}(NO)(NO_2)$ (Cyclohexane, 1-nitro-1-nitroso-)	14296-14-1	**	9.55 (V)	PE	4465
$C_7H_4N_2O_3^+$						
	$C_6H_4(NO_2)(C\equiv NO)$ (Benzonitrile, 4-nitro-N-oxide)	2574-03-0	**	~9.5 (V)	PE	4719
$C_7H_5N_2O_3^+$						
	$C_6H_3(Cl)(NO_2)NHCHO$ (Formamide, N-(2-chloro-4-nitrophenyl)-)	16135-32-3	Cl	10.2±0.1	EI	4359

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_5N_2O_3^+$						
	$C_6H_3(Cl)(NO_2)NHCHO$ (Formamide, *N*-(2-chloro-5-nitrophenyl)-)	53666-48-1	Cl	9.9±0.1	EI	4359
$C_7H_6N_2O_3^+$						
	$C_6H_4(NO_2)(CONH_2)$ (Benzamide, 3-nitro-)	645-09-0	**	10.28 (V)	PE	4918
	$C_6H_4(NO_2)(CONH_2)$ (Benzamide, 4-nitro-)	619-80-7	**	10.33 (V)	PE	4918
$C_8H_8N_2O_3^+$						
	$C_6H_4(NO_2)NHCOCH_3$ (Acetamide, N-(2-nitrophenyl)-)	552-32-9	**	8.85	EI	4834
$C_9H_7N_2O_3^+$						
	$C_6H_4(NO_2)NHCOCH=CHCH_3$ (2-Butenamide, *N*-(4-nitrophenyl)-)	51944-68-4	CH_3	13.6±0.3	EI	3996
$C_9H_{14}N_2O_3^+$						
	$C_3N_2O_3(C_3H_7)_2$ (Imidazolidinetrione, dipropyl-)	21036-96-4	**	9.90	PE	4471
$C_{10}H_{10}N_2O_3^+$						
	$C_6H_4(NO_2)NHCOCH=CHCH_3$ (2-Butenamide, *N*-(4-nitrophenyl)-)	51944-68-4	**	9.1±0.1	EI	3996
$C_{12}H_8N_2O_3^+$						
	$C_6H_4(NO_2)COC_5H_4N$ (Methanone, (2-nitrophenyl)-2-pyridinyl-)	27693-37-4	**	9.71	EI	5459
$C_{14}H_{14}N_2O_3^+$						
	$C_{14}H_{14}N_2O_3$	XXXXX-XX-X	**	8.00 (V)	PE	5590
$C_{15}H_{10}N_2O_3^+$						
	$C_9H_6N(O)(C_6H_4NO_2)$ (Isoquinolinium, 4-hydroxy-2-(4-nitrophenyl)-hydroxide, inner salt)	56359-31-0	**	7.29±0.05	EI	4863
	$C_9H_6N(=O)(C_6H_4NO_2)$ (Indeno[1,2-*b*]azirin-6(1H)-one, 1a,6a-dihydro-1-(4-nitrophenyl)-)	55507-33-0	**	8.71±0.05	EI	4863
	$C_9H_6N_3(=O)(C_6H_4NO_2)$ (*Indeno*[1,2-*d*]*triazol*-8(3H)-*one*, 3a,8a-*dihydro*-3-(4-*nitrophenyl*)-)	55507-29-4	N_2	8.8±0.1	EI	4863
$C_{15}H_{24}N_2O_3^+$						
	$C_{15}H_{24}(NO)(NO_2)$ (Bicyclo[7.2.0]undecane, 6,10,10-trimethyl-2-methylene-5-nitro-6-nitroso-	28834-17-5	**	9.26 (V)	PE	4465
$C_{16}H_{29}N_2O_3^+$						
	$C_{20}H_{37}N_3O_5$ (L-Alanine,N-[N-[N-(1-oxodecyl)-L-alanyl]-L-alanyl]-methyl ester)	55728-11-5		9.8±0.1	PI	5279
$C_{18}H_{25}N_2O_3^+$						
	$C_{27}H_{40}N_4O_8S$ (L-Cysteine,S-(2-methoxy-2-oxoethyl)-N-[N-[N-[N-(1-oxopropyl)-L-phenylalanyl]-L-leucyl]glycyl]-methyl ester)	35146-63-5		9.1±0.1	PI	5279
$C_{19}H_{35}N_2O_3^+$						
	$C_{23}H_{43}N_3O_5$ (L-Alanine,N-[N-[N-(1-oxodecyl)-L-alanyl]-L-leucyl]-methyl ester)	55728-12-6		8.8±0.1	PI	5279
$C_{20}H_{21}N_2O_3^+$						
	$C_{20}H_{24}N_2O_3$ (Phenol, 2,2′-[oxybis(3,1-propanediylnitrilomethylidyne)]bis-)	52279-43-3	**	8.40±0.10	EI	4213

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_5N_3O_3^+$	$O_2NC_6H_4C(=O)CHN_2$ (Ethanone,2-diazo-(4-nitrophenyl)-)	4203-31-0	**	9.41±0.05 (V)	PE	5326
$C_{12}H_7N_3O_3^+$	$C_{12}H_7N_2ONO_2$ (Phenazine, 2-nitro-10-oxide)	2876-33-7	**	8.46 (V)	PE	4590
$C_{18}H_{34}N_3O_3^+$	$C_{20}H_{37}N_3O_5$ (L-Alanine,N-[N-[N-(1-oxodecyl)-L-alanyl]-L-alanyl]-methyl ester)	55728-11-5		8.8±0.1	PI	5279
$C_{19}H_{28}N_3O_3^+$	$C_{27}H_{40}N_4O_8S$ (L-Cysteine,S-(2-methoxy-2-oxoethyl)-N-[N-[N-[N-(1-oxopropyl)-L-phenylalanyl]-L-leucyl]glycyl]-methyl ester)	35146-63-5		9.0±0.1	PI	5279
$C_{23}H_{32}N_3O_3^+$	$C_{30}H_{45}N_5O_6$ (L-Alanine,N-[N-[N-[N-(1-oxodecyl)glycyl]-L-tryptophyl]-L-alanyl]-methyl ester)	19716-78-0		9.5±0.1	PI	5279
$C_5H_4N_4O_3^+$	$C_5H_4N_4(=O)_3$ (1H-Purine-2,6,8(3H)-trione,7,9-dihydro-)	69-93-2	**	8.15	PE	5093
$C_{25}H_{37}N_4O_3^+$	$C_{30}H_{45}N_5O_6$ (L-Alanine,N-[N-[N-[N-(1-oxodecyl)glycyl]-L-tryptophyl]-L-alanyl]-methyl ester)	19716-78-0		9.5±0.1	PI	5279
$C_7H_5NO_4^+$	$C_6H_4(NO_2)COOH$ (Benzoic acid, 3-nitro-)	121-92-6	**	10.31±0.2	EI	3973
	$C_6H_4(NO_2)COOH$ (Benzoic acid, 4-nitro-)	62-23-7	**	10.18±0.2	EI	3973
$C_8H_7NO_4^+$	$C_6H_4(NO_2)OOCCH_3$ (Acetic acid, 3-nitrophenyl ester)	1523-06-4	**	9.43±0.2	EI	3484
	$C_6H_4(NO_2)OOCCH_3$ (Acetic acid, 4-nitrophenyl ester)	830-03-5	**	9.48±0.2	EI	3484
$C_{10}H_{11}NO_4^+$	$C_6H_2(OCH_3)_3(C\equiv NO)$ (Benzonitrile, 2,4,6-trimethoxy-N-oxide)	2904-59-8	**	7.95 (V)	PE	4719
	$C_3(OCH_3)_2O_2NC_5H_5$ (Pyridinium,2-methoxy-1-(methoxycarbonyl)-2-oxoethylide)	1291-37-8	**	7.83	CTS	5591
$C_{13}H_9NO_4^+$	$C_6H_5COOC_6H_4NO_2$ (Benzoic acid, 4-nitrophenyl ester)	959-22-8	**	9.3	EI	5631
$C_{14}H_{13}NO_4^+$	$C_3(OCH_3)_2O_2NC_9H_7$ (Isoquinolium, 2-methoxy-1-(methoxycarbonyl)-2-oxoethylide)	17870-65-4	**	7.67	CTS	5591
	$C_3(OCH_3)_2O_2NC_9H_7$ (Quinolinium,1-(2-methoxy-1-(methoxycarbonyl)-2-oxoethyl]-hydroxide, inner salt)	17870-64-3	**	7.67	CTS	5591
$C_{16}H_{28}NO_4^+$	$C_{20}H_{36}N_2O_6$ (L-Alanine,N-[N-(1-oxodecyl)-L-α-glutamyl]-dimethyl ester)	55728-16-0		9.7±0.1	PI	5279

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{17}H_9NO_4^+$						
	$C_{17}H_9NO_4$ (Naptho[2,3-*f*]quinoline-7,12-dione, 5,6-dihydroxy-)	568-02-5	**	7.35	PI	3586
$C_6H_4N_2O_4^+$						
	$C_6H_4(NO_2)_2$ (Benzene, 1,2-dinitro-)	528-29-0	**	10.71 (V)	PE	4892
	$C_6H_4(NO_2)_2$ (Benzene,1,3-dinitro-)	99-65-0	**	10.43±0.02	PI	5505
			**	10.40 (V)	PE	4892
			**	10.62±0.1	EI	3447
	$C_6H_4(NO_2)_2$ (Benzene,1,4-dinitro-)	100-25-4	**	10.50±0.02	PI	5552
			**	10.3±0.1	PE	4401
			**	10.65 (V)	PE	4892
			**	10.63±0.1	EI	3447
$C_{10}H_{18}N_2O_4^+$						
	trans-$(CH_3C{=}OOC(CH_3)_2)_2N{=}N$	55204-45-0	**	8.74 (V)	PE	4429
$C_{11}H_{20}N_2O_4^+$						
	$C_{11}H_{20}N_2O_4$ (L-Alanine,N-(N-acetyl-L-valyl)-methyl ester)	55728-13-7	**	8.6±0.1	PI	5279
$C_{13}H_{10}N_2O_4^+$						
	$(C_6H_4NO_2)_2CH_2$ (Benzene, 1,1′-methylenebis[4-nitro-)	1817-74-9	**	9.98±0.05	EI	3806
$C_{13}H_{14}N_2O_4^+$						
	$C_5H_3NH(=O)_2NC_8H_8(=O)_2$ (1H-Isoindole-1,3(2H)-dione,2-(2,6-dioxo-3-piperidinyl)-4,5,6,7-tetrahydro-)	60242-08-2	**	9.50 (V)	PE	5614
$C_{14}H_{12}N_2O_4^+$						
	$C_6H_4(NO_2)CH_2CH_2C_6H_4NO_2$ (Benzene, 1,1′-(1,2-ethanediyl)bis[4-nitro-)	736-30-1	**	9.77±0.05	EI	3806
$C_{15}H_{14}N_2O_4^+$						
	$C_3(OCH_3)_2O_2(NC_5H_4)_2$ (4,4′-Bipyridinium,2-methoxy-1-(methoxycarbonyl)-2-oxoethylidide)	59805-15-1	**	7.50	CTS	5591
$C_{16}H_{29}N_2O_4^+$						
	$C_{20}H_{34}N_4O_4$ (L-Histidine,N-[N-(1-oxodecyl)-L-alanyl]-methyl ester)	31944-64-6		9.6±0.1	PI	5279
$C_{18}H_{30}N_2O_4^+$						
	$C_4(N(C_2H_5)_2)_2(COOC_2H_5)_2$ (1,3-Cyclobutadiene-1,3-dicarboxylic acid, 2,4-bis(diethylamino)-, diethyl ester)	20913-35-3	**	7.55 (V)	PE	3885
$C_{19}H_{36}N_2O_4^+$						
	$C_{19}H_{36}N_2O_4$ (Glycine,N-[N-(1-oxodecyl)-L-leucyl]-methyl ester)	55728-14-8	**	8.9±0.1	PI	5279
$C_6H_5N_3O_4^+$						
	$C_6H_3NH_2(NO_2)_2$ (Benzenamine,2,5-dinitro-)	619-18-1	**	8.89±0.01	PI	5552
$C_{16}H_{11}N_3O_4^+$						
	$C_3H_3(CN)((C_6H_4)NO_2)_2$ (Cyclopropanecarbonitrile, 1,2-bis(*p*-nitrophenyl)-)	28752-28-5	**	9.30±0.05	EI	3575

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$C_{20}H_{28}N_3O_4^+$	$C_{27}H_{40}N_4O_8S$ (L-Cysteine,S-(2-methoxy-2-oxoethyl)-N-[N-[N-[N-(1-oxopropyl)-L-phenylalanyl]-L-leucyl]glycyl]-methyl ester)	35146-63-5		9.2±0.1	PI	5279
$C_{25}H_{37}N_3O_4^+$	$C_{25}H_{37}N_3O_4$ (L-Tryptophan,N-[N-(1-oxodecyl)-L-alanyl]-methyl ester)	55728-17-1	**	7.5±0.1	PI	5279
$C_{20}H_{31}N_4O_4^+$	$C_{20}H_{34}N_4O_4$ (L-Histidine,N-[N-(1-oxodecyl)-L-alanyl]-methyl ester)	31944-64-6	**	8.7±0.1	PI	5279
$C_{26}H_{37}N_4O_4^+$	$C_{30}H_{45}N_5O_6$ (L-Alanine,N-[N-[N-[N-(1-oxodecyl)glycyl]-L-tryptophyl]-L-alanyl]-methyl ester)	19716-78-0		9.5±0.1	PI	5279
$C_6H_4N_2O_5^+$	$C_6H_3(NO_2)_2OH$ (Phenol, 2,4-dinitro-)	51-28-5	**	9.57	PE	5093
$C_7H_6N_2O_5^+$	$C_6H_3(NO_2)_2OCH_3$ (Benzene,1-methoxy-2,4-dinitro-)	119-27-7	**	9.30	PE	5093
$C_{17}H_{32}N_2O_5^+$	$C_{17}H_{32}N_2O_5$ (L-Serine,N-[N-(1-oxodecyl)-L-alanyl]-methyl ester)	55728-15-9		9.1±0.1	PI	5279
$C_{20}H_{37}N_3O_5^+$	$C_{20}H_{37}N_3O_5$ (L-Alanine,N-[N-[N-(1-oxodecyl)-L-alanyl]-L-alanyl]-methyl ester)	55728-11-5	**	8.6±0.1	PI	5279
$C_{23}H_{43}N_3O_5^+$	$C_{23}H_{43}N_3O_5$ (L-Alanine,N-[N-[N-(1-oxodecyl)-L-alanyl]-L-leucyl]-methyl ester)	55728-12-6	**	8.4±0.1	PI	5279
$C_{20}H_{36}N_2O_6^+$	$C_{20}H_{36}N_2O_6$ (L-Alanine,N-[N-(1-oxodecyl)-L-α-glutamyl]-dimethyl ester)	55728-16-0	**	9.1±0.1	PI	5279
$C_6H_3N_3O_6^+$	$C_6H_3(NO_2)_3$ (Benzene,1,3,5-trinitro-)	99-35-4	**	10.96±0.02	PI	5505
$C_7H_5N_3O_6^+$	$C_6H_2(NO_2)_3CH_3$ (Benzene,2-methyl-1,3,5-trinitro-)	118-96-7	**	10.59±0.04	PI	5552
$C_{30}H_{45}N_5O_6^+$	$C_{30}H_{45}N_5O_6$ (L-Alanine,N-[N-[N-[N-(1-oxodecyl)glycyl]-L-tryptophyl]-L-alanyl]-methyl ester)	19716-78-0	**	7.7±0.1	PI	5279
$BC_6H_{10}NO^+$	$C_5H_4N(OCH_3)\cdot BH_3$ (Pyridine, 4-methoxy-, compound with borane(1:1))	56898-50-1	**	9.30 (V)	PE	4536
$B_2C_4H_{12}N_2O^+$	$N_2B_2O(CH_3)_4$ (1,2,4,3,5-Oxadiazadiborolidine, 2,3,4,5-tetramethyl-)	57877-89-1	**	8.39 (V)	PE	4526
	$N_2B_2O(CH_3)_4$ (1,3,4,2,5-Oxadiazadiborolidine, 2,3,4,5-tetramethyl-)	40392-38-9	**	7.88 (V)	PE	4526

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
CF^+						
	$CFCl_3$	75-69-4	Cl_2+Cl	15.7	PI	5196
			3Cl	18.35	PI	5196
C_3F^+						
	C_6F_6	6733-01-3		22.4±0.5	EI	4961
	(Bicyclo[2.2.0]hexa-2,5-diene, 1,2,3,4,5,6-hexafluoro-)					
C_5F^+						
	$CF_3C{\equiv}CC{\equiv}CCF_3$	10524-09-1		23.7±0.5	EI	4961
CF_2^+						
($^2A_1$)	CF_2	2154-59-8	**	11.4±0.3	EI	4544
			**	11.54±0.1	EI	4554
			**	11.42±0.01	PE	4239
($^2B_2$)			**	16.40 (V)	PE	4239
($^2A_2$)			**	17.4(V)	PE	4239
($^2A_1$)			**	19.2 (V)	PE	4239
($^2B_1$)			**	20.83 (V)	PE	4239
($^2B_2$)			**	22.2 (V)	PE	4239
($^2A_1$)			**	24.0 (V)	PE	4239
			**	11.54±0.10	EI	3818
			**	9.74	OTH	3930
	C_2F_4	116-14-3	CF_2	15.2±0.1	EI	3539
	CF_3NO	XXXXX-XX-X	FNO	16.7±0.2	EI	5220
	CF_3Cl	75-72-9	F^-+Cl	15.90±0.3	PI	5399
			$F+Cl^-$	16.00±0.1	PI	5399
			F+Cl	18.84	PI	4757
			F+Cl	18.85±0.05	PI	5399
			F+Cl	18.85	PI	5196
	CF_2Cl_2	75-71-8	Cl_2	14.90±0.3	PI	5399
			Cl+Cl	16.98	PI	4757
			2Cl	17.22	PI	5196
$C_2F_2^+$						
	C_2F_2	689-99-6	**	11.18	PE	4681
			**	11.18	PE	5313
$C_3F_2^+$						
	$CF_3C{\equiv}CC{\equiv}CCF_3$	10524-09-1	$F+C_3F_3$	14.9±0.4	EI	4961
	C_6F_6	392-56-3		15.8±0.1	EI	4961
	(Benzene, hexafluoro-)					
	C_6F_6	6733-01-3		13.5±0.5	EI	4961
	(Bicyclo[2.2.0]hexa-2,5-diene, 1,2,3,4,5,6-hexafluoro-)					
$C_4F_2^+$						
	$(CF{\equiv}C)_2$	64788-23-4	**	10.05	PE	5313
			**	10.35 (V)	PE	4681
	$CF_3C{\equiv}CC{\equiv}CCF_3$	10524-09-1		18.9±0.5	EI	4961
	C_6F_6	392-56-3		19.8±0.5	EI	4961
	(Benzene, hexafluoro-)					
	C_6F_6	6733-01-3		16.0±0.5	EI	4961
	(Bicyclo[2.2.0]hexa-2,5-diene, 1,2,3,4,5,6-hexafluoro-)					
$C_5F_2^+$						
	$CF_3C{\equiv}CC{\equiv}CCF_3$	10524-09-1		21.2±0.5	EI	4961
	C_6F_6	392-56-3		20.7±0.1	EI	4961
	(Benzene, hexafluoro-)					
			F_2+CF_2	24.8±0.4	EI	4961
			$F+CF_3$	24.8±0.4	EI	4961
	C_6F_6	6733-01-3		17.8±0.5	EI	4961
	(Bicyclo[2.2.0]hexa-2,5-diene, 1,2,3,4,5,6-hexafluoro-)					

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5F_2^+$						
	C_6F_6	6733-01-3	F_2+CF_2	25.±0.4	EI	4961
			$F+CF_3$	25.±0.4	EI	4961
CF_3^+						
	CF_3	2264-21-3	**	9.5	OTH	5554
	CF_4	75-73-0	F	14.7±0.3	PI	5175
	$CF_3C{\equiv}CC{\equiv}CCF_3$	10524-09-1		17.6±0.5	EI	4961
	C_6F_6 (Benzene, hexafluoro-)	392-56-3		15.3±0.5	EI	4961
			$CF+C_4F_2$	21.3±0.4	EI	4961
			$CF+C_3+CF_2$	25.2±0.4	EI	4961
	C_6F_6 (Bicyclo[2.2.0]hexa-2,5-diene, 1,2,3,4,5,6-hexafluoro-)	6733-01-3		16.5±0.5	EI	4961
			$CF+C_4F_2$	19.4±0.4	EI	4961
			$CF+C_3+CF_2$	22.7±0.4	EI	4961
	CH_3CF_3	420-46-2	CH_3	13.94±0.1	EI	3478
	$(CF_2{=}CH)_2$	407-70-5	C_3H_2F	13.9±0.1	EI	5554
	$(CF_3)_2CO$	684-16-2		13.8	EI	3550
	CH_3COCF_3	421-50-1		14.6	EI	3550
	CF_3NO	XXXXX-XX-X	NO	12.6±0.1	EI	5220
	CF_3Cl	75-72-9	Cl	12.55	PI	5196
			Cl	12.65	PI	4757
	C_2F_5I	354-64-3	CF_2,I	13.73±0.1	EI	4862
$C_2F_3^+$						
	C_2F_3Cl	79-38-9	Cl	15.4±0.1	EI	4070
$C_3F_3^+$						
	$CF_3C{\equiv}CC{\equiv}CCF_3$	10524-09-1		15.0±0.2	EI	4961
	C_6F_6 (Benzene, hexafluoro-)	392-56-3	C_3F_3	16.5±0.4	EI	4961
				17.1±0.2	EI	4961
			$CF+C_2F_2$	21±0.4	EI	4961
	C_6F_6 (Bicyclo[2.2.0]hexa-2,5-diene, 1,2,3,4,5,6-hexafluoro-)	6733-01-3		15.0±0.2	EI	4961
			C_3F_3	15.6±0.4	EI	4961
			$CF+C_2F_2$	19.6±0.4	EI	4961
$C_4F_3^+$						
	C_6F_6 (Bicyclo[2.2.0]hexa-2,5-diene, 1,2,3,4,5,6-hexafluoro-)	6733-01-3		16.8±0.2	EI	4961
$C_5F_3^+$						
	$CF_3C{\equiv}CC{\equiv}CCF_3$	10524-09-1		14.8±0.2	EI	4961
			CF_3	15.±0.4	EI	4961
			$F+CF_2$	18.4±0.4	EI	4961
			$F+CF_2$	18.5±0.4	EI	4961
			$CF+F_2$	23.6±0.4	EI	4961
	C_6F_6 (Benzene, hexafluoro-)	392-56-3		15.8±0.1	EI	4961
			CF_3	16.1±0.4	EI	4961
			$F+CF_2$	18.8±0.4	EI	4961
			$F+CF_2$	18.8±0.4	EI	4961
	C_6F_6 (Bicyclo[2.2.0]hexa-2,5-diene, 1,2,3,4,5,6-hexafluoro-)	6733-01-3		13.8±0.1	EI	4961
			CF_3	15.±0.4	EI	4961
			$F+CF_2$	17.5±0.4	EI	4961
			$F+CF_2$	17.7±0.4	EI	4961
CF_4^+						
	CF_4	75-73-0	**	16.25±0.04 (V)	PE	3880

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2F_4^+$						
	C_2F_4	116-14-3	**	10.10	PE	3649
			**	10.14	PE	5408
			**	10.32	PE	3589
			**	10.52 (V)	PE	4084
			**	10.56±0.02 (V)	PE	5017
	$C_4H_4F_4$ (Cyclobutane, 1,1,2,2-tetrafluoro-)	374-12-9	C_2H_4	12.60	EI	4553
$C_3F_4^+$						
	1,2-C_3F_4	461-68-7	**	11.24 (V)	PE	5105
$C_4F_4^+$						
	$CF_2=C=C=CF_2$	2252-95-1	**	9.30 (V)	PE	4738
$C_5F_4^+$						
	$CF_3C{\equiv}CC{\equiv}CF$	64788-24-5	**	10.85 (V)	PE	4681
	$CF_3C{\equiv}CC{\equiv}CCF_3$	10524-09-1		14.2±0.2	EI	4961
			CF_2	15.5±0.4	EI	4961
	C_6F_6 (Benzene, hexafluoro-)	392-56-3	CF_2	16.3±0.4	EI	4961
				16.4±0.2	EI	4961
	C_6F_6 (Bicyclo[2.2.0]hexa-2,5-diene, 1,2,3,4,5,6-hexafluoro-)	6733-01-3		13.8±0.2	EI	4961
			CF_2	14.8±0.4	EI	4961
$C_6F_4^+$						
	$CF_3C{\equiv}CC{\equiv}CCF_3$	10524-09-1		20.2±0.2	EI	4961
$C_2F_5^+$						
	C_2F_5I	354-64-3	I	11.71±0.1	EI	4862
$C_3F_5^+$						
	C_6F_6 (Benzene, hexafluoro-)	392-56-3		16.4±0.2	EI	4961
	C_6F_6 (Bicyclo[2.2.0]hexa-2,5-diene, 1,2,3,4,5,6-hexafluoro-)	6733-01-3		18.5±0.2	EI	4961
$C_6F_5^+$						
	$CF_3C{\equiv}CC{\equiv}CCF_3$	10524-09-1		14.8±0.2	EI	4961
			F	15.1±0.4	EI	4961
	C_6F_6 (Benzene, hexafluoro-)	392-56-3	F	16.86±0.05	EI	4127
				17.2±0.2	EI	4961
	C_6F_6 (Bicyclo[2.2.0]hexa-2,5-diene, 1,2,3,4,5,6-hexafluoro-)	6733-01-3		14.6±0.2	EI	4961
	C_6F_5Cl (Benzene, chloropentafluoro-)	344-07-0	Cl	15.85±0.05	EI	4127
	C_6F_5Br (Benzene, bromopentafluoro-)	344-04-7	Br	14.93±0.05	EI	4127
	C_6F_5I (Benzene, pentafluoroiodo-)	827-15-6	I	13.21±0.05	EI	4127
$C_2F_6^+$						
	C_2F_6	76-16-4	**	14.6 (V)	PE	4321
$C_3F_6^+$						
	$CF_3CF=CF_2$	116-15-4	**	10.62	PE	3589
			**	10.62	PE	4165
$C_4F_6^+$						
	$CF_3C{\equiv}CCF_3$	692-50-2	**	12.31	PE	3589

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_4F_6^+$						
	$CF_3C{\equiv}CCF_3$	692-50-2	**	12.35±0.01	PE	4633
$C_6F_6^+$						
	$CF_3C{\equiv}CC{\equiv}CCF_3$	10524-09-1	**	10.99±0.01	PE	4633
			**	11.5±0.1	EI	4961
	C_6F_6 (Benzene, hexafluoro-)	392-56-3	**	9.90±0.01	S	3559
			**	9.90±0.05	PE	4821
			**	9.90 (V)	PE	3873
			**	9.91	PE	5408
			**	9.93	PE	3637
			**	10.09 (V)	PE	4884
			**	10.14 (V)	PE	5252
			**	10.2±0.1	EI	4961
			**	10.09 (V)	PE	4472
	C_6F_6 (Bicyclo[2.2.0]hexa-2,5-diene,1,2,3,4,5,6-hexafluoro-)	6733-01-3	**	10.08±0.05	PE	4414
			**	10.4 (V)	PE	4453
			**	10.4±0.1	EI	4961
$C_4F_8^+$						
	cis-2-C_4F_8	1516-65-0	**	11.46 (V)	PE	4084
	trans-2-C_4F_8	1516-64-9	**	11.55 (V)	PE	3649
			**	11.55 (V)	PE	4084
$C_7F_8^+$						
	$C_6F_5CF_3$ (Benzene,pentafluoro(trifluoromethyl)-)	434-64-0	**	9.9	PE	5521
			**	9.9 (V)	PE	5461
$C_{10}F_8^+$						
	$C_{10}F_8$ (Naphthalene, octafluoro-)	313-72-4	**	8.85	PE	3637
			**	8.90±0.05	PE	4821
$C_{12}F_8^+$						
	$C_{12}F_8$ (Acenaphthylene, octafluoro-)	1554-93-4	**	9.1±0.1 (V)	PE	4821
$C_8F_{10}^+$						
	$C_6F_4(CF_3)_2$ (Benzene,1,2,4,5-tetrafluoro-3,6-bis(trifluoromethyl)-)	651-89-8	**	9.9	PE	5521
			**	9.9 (V)	PE	5461
$C_{12}F_{10}^+$						
	$(C_6F_5)_2$ (1,1'-Biphenyl, decafluoro-)	434-90-2	**	9.40±0.02	PE	3702
$C_{14}F_{10}^+$						
	$C_{14}F_{10}$ (Anthracene, decafluoro-)	1580-19-4	**	8.28±0.05	PE	4821
	$C_{14}F_{10}$ (Phenanthrene, decafluoro-)	1580-20-7	**	8.75±0.05	PE	4821
$C_{16}F_{10}^+$						
	$C_{16}F_{10}$ (Pyrene, decafluoro-)	1493-68-1	**	8.36±0.05	PE	4821
$C_6F_{12}^+$						
	$(CF_3)_2C{=}C(CF_3)_2$	360-57-6	**	12.61 (V)	PE	4084

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
CHF^+						
	cis-CHF=CHF	1630-77-9	CHF	18.1±0.2	PI	5241
	trans-CHF=CHF	1630-78-0	CHF	18.1±0.2	PI	5241
CH_2F^+						
	CH_2F	3744-29-4	**	8.90	EI	3732
			**	9.16±0.02	OTH	3930
	CH_2F_2	75-10-5	F	14.06	EI	3732
	$CH_2=CF_2$	75-38-7	CF	14.84±0.02	PI	3930
	cis-CHF=CHF	1630-77-9	CF	14.3±0.1	PI	5241
	trans-CHF=CHF	1630-78-0	CF	14.3±0.1	PI	5241
C_2HF^+						
	C_2HF	2713-09-9	**	11.26	PE	5313
	C_2H_3F	75-02-5	H_2	13.72±0.02	PI	3930
				13.72	PI	5352
			H_2	13.70±0.1	PE	4993
	$CH_2=CF_2$	75-38-7	HF	14.18±0.03	PI	3930
	trans-CHF=CHF	1630-78-0	HF	13.7±0.1	PI	5241
$C_2H_2F^+$						
	C_2H_3F	75-02-5	H	13.56±0.04	PI	3930
			H	13.56	PI	5352
			H	13.55	PE	4993
	$CH_2=CF_2$	75-38-7	F	14.37±0.02	PI	3930
	cis-CHF=CHF	1630-77-9	F	13.9±0.1	PI	5241
	trans-CHF=CHF	1630-78-0	F	13.9±0.1	PI	5241
	$CH_2=CFCl$	2317-91-1	Cl	13.7±0.1	EI	4070
$C_2H_3F^+$						
	C_2H_3F	75-02-5	**	10.35±0.01	PI	3930
			**	10.363±0.015	PI	5616
			**	10.3	PE	4993
			**	10.36	PE	5408
			**	10.37	PE	5352
			**	10.56±0.02 (V)	PE	5017
	$(CH_3)_2CHF$	420-26-8	CH_4	11.53±0.03	PI	5003
$C_2H_4F^+$						
	CH_3CHF	29526-61-2	**	7.93	PI	5003
	C_2H_5F	353-36-6	H	12.04±0.03	PI	5003
	$(CH_3)_2CHF$	420-26-8	CH_3	11.75±0.03	PI	5003
	CH_3CHF_2	75-37-6	F	14.80±0.1	EI	3478
$C_2H_5F^+$						
	C_2H_5F	353-36-6	**	12.43 (V)	PE	3984
			**	12.43 (V)	PE	4321
			**	12.43 (V)	PE	5088
C_3HF^+						
	$CHF_2C{\equiv}CH$	18371-25-0	HF	12.6±0.15	EI	3769
$C_3H_2F^+$						
	$CHF_2C{\equiv}CH$	18371-25-0	F	14.2±0.2	EI	3769
	$(CF_2=CH)_2$	407-70-5	CF_3	12.4±0.1	EI	5554
$C_3H_3F^+$						
	$CH_2FC{\equiv}CH$	2805-22-3	**	10.95 (V)	PE	4684
$C_3H_4F^+$						
	$C_4H_4F_4$ (Cyclobutane, 1,1,2,2-tetrafluoro-)	374-12-9	CF_3	12.85	EI	4553

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_3H_5F^+$						
	$CH_2=CHCH_2F$	818-92-8	**	10.11	PE	3863
			**	10.38 (V)	PE	4260
			**	10.56 (V)	PE	4091
$C_3H_6F^+$						
	$(CH_3)_2CF$	14665-81-7	**	7.14	PI	5003
	$(CH_3)_2CHF$	420-26-8	H	11.23±0.03	PI	5003
$C_3H_7F^+$						
	$(CH_3)_2CHF$	420-26-8	**	11.08±0.02	PI	5003
	n-C_3H_7F	460-13-9	**	11.96 (V)	PE	3984
C_4HF^+						
	CF≡CC≡CH	XXXXX-XX-X	**	10.10	PE	5313
$C_6H_4F^+$						
	C_6H_4(F)COOH (Benzoic acid, 3-fluoro-)	455-38-9	CO+OH	15.25±0.2	EI	3973
	C_6H_4(F)COOH (Benzoic acid, 4-fluoro-)	456-22-4	CO+OH	15.33±0.2	EI	3973
	$C_6H_4FNO_2$ (Benzene, 1-fluoro-3-nitro-)	402-67-5	NO_2	12.22±0.1	EI	3447
	$C_6H_4FNO_2$ (Benzene, 1-fluoro-4-nitro-)	350-46-9	NO_2	12.37±0.1	EI	3447
$C_6H_5F^+$						
	C_6H_5F (Benzene, fluoro-)	462-06-6	**	9.20	S	3559
			**	9.11	PE	3955
			**	9.17	PE	4621
			**	9.19 (V)	PE	3873
			**	9.22	PE	5408
			**	9.22 (V)	PE	5125
			**	9.35±0.03 (V)	PE	3713
			**	9.37 (V)	PE	4884
			**	9.75	EI	4834
	$C_6H_4FOCH_3$ (Benzene, 1-fluoro-3-methoxy-)	456-49-5	CH_2O	11.76±0.1	EI	3446
	$C_6H_4FOCH_3$ (Benzene, 1-fluoro-4-methoxy-)	459-60-9	CH_2O	11.55±0.1	EI	3446
$C_7H_6F^+$						
	$C_6H_4FC_4H_9$ (Benzene, 1-butyl-3-fluoro-)	20651-66-5		11.69±0.1	EI	3629
	$C_6H_4FC_4H_9$ (Benzene, 1-butyl-4-fluoro-)	20651-65-4		11.25±0.1	EI	3629
$C_7H_7F^+$						
	$C_6H_5CH_2F$ (Benzene, (fluoromethyl)-)	350-50-5	**	9.55 (V)	PE	3992
	$C_6H_4FC_4H_9$ (Benzene, 1-butyl-3-fluoro-)	20651-66-5	$CH_2=CHCH_3$	10.21±0.1	EI	3629
	$C_6H_4FC_4H_9$ (Benzene, 1-butyl-4-fluoro-)	20651-65-4	$CH_2=CHCH_3$	10.29±0.1	EI	3629
$C_{10}H_{13}F^+$						
	$C_6H_4FC_4H_9$ (Benzene, 1-butyl-3-fluoro-)	20651-66-5	**	9.19±0.1	EI	3629
	$C_6H_4FC_4H_9$ (Benzene, 1-butyl-4-fluoro-)	20651-65-4	**	9.15±0.1	EI	3629

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{10}H_{15}F^+$						
	$C_{10}H_{15}F$ (Tricyclo[3.3.1.1^{3,7}]decane, 2-fluoro-)	16668-83-0	**	9.46	PE	3886
$C_{11}H_9F^+$						
	$C_{11}H_9(F)$ (1,4-Methanonaphthalene, 5-fluoro-1,4-dihydro-)	61346-81-4	**	8.66±0.05 (V)	PE	5019
	$C_{11}H_9(F)$ (1,4-Methanonaphthalene, 6-fluoro-1,4-dihydro-)	58653-71-7	**	8.62±0.05 (V)	PE	5019
$C_{12}H_9F^+$						
	$C_6H_5C_6H_4F$ (1,1'-Biphenyl, 2-fluoro-)	321-60-8	**	8.20±0.02	PE	3702
	$C_6H_5C_6H_4F$ (1,1'-Biphenyl, 4-fluoro-)	324-74-3	**	8.00±0.02	PE	3702
$C_{14}H_9F^+$						
	$C_{14}H_9F$ (Anthracene, 9-fluoro-)	529-85-1	**	7.46±0.03 (V)	PE	4887
CHF_2^+						
	CHF_2	2670-13-5	**	⩽8.90	EI	3732
			**	9.45	OTH	5554
	CH_2F_2	75-10-5	H	13.11	EI	3732
	$CHF_2C{\equiv}CH$	18371-25-0	C_2H	13.8±0.1	EI	3769
	$(CF_2{=}CH)_2$	407-70-5	C_3F_2H	14.3±0.1	EI	5554
$C_2HF_2^+$						
	$CH_2{=}CF_2$	75-38-7	H	15.80±0.04	PI	3930
	cis-CHF=CHF	1630-77-9	H	14.9±0.2	PI	5241
	trans-CHF=CHF	1630-78-0	H	15.4±0.2	PI	5241
$C_2H_2F_2^+$						
	$CH_2{=}CF_2$	75-38-7	**	10.29±0.01	PI	3930
			**	10.29	PE	5408
			**	10.69±0.02 (V)	PE	5017
	cis-CHF=CHF	1630-77-9	**	10.23	PE	5408
			**	10.43 (V)	PE	3649
			**	10.44±0.02 (V)	PE	5017
	trans-CHF=CHF	1630-78-0	**	10.21	PE	5408
			**	10.38±0.02 (V)	PE	5017
			**	10.38 (V)	PE	3649
	$(CH_3)_2CF_2$	420-45-1	CH_4	11.57±0.03	PI	5003
	$C_4H_4F_4$ (Cyclobutane, 1,1,2,2-tetrafluoro-)	374-12-9	$C_2H_2F_2$	12.15	EI	4553
$C_2H_3F_2^+$						
	CH_3CF_2	40640-67-3	**	7.92	PI	5003
	CH_3CHF_2	75-37-6	H	12.18±0.03	PI	5003
	$(CH_3)_2CF_2$	420-45-1	CH_3	11.81±0.03	PI	5003
	CH_3CF_3	420-46-2	F	15.14±0.1	EI	3478
$C_2H_4F_2^+$						
	CH_3CHF_2	75-37-6	**	12.8 (V)	PE	4321
$C_3HF_2^+$						
	$CHF_2C{\equiv}CH$	18371-25-0	H	12.9±0.1	EI	3769
	$(CF_2{=}CH)_2$	407-70-5	CF_2H	14.0±0.1	EI	5554
$C_3H_2F_2^+$						
	$CF_2{=}C{=}CH_2$	430-64-8	**	9.79±0.03	PE	4833
	$CHF_2C{\equiv}CH$ (1,2-Propadiene, 1,1-difluoro-)	18371-25-0	**	11.6±0.1	EI	3769

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_3H_2F_2^+$						
	$(CF_2=CH)_2$	407-70-5	CF_2	14.4±0.2	EI	5554
$C_3H_6F_2^+$						
	$(CH_3)_2CF_2$	420-45-1	**	11.42±0.02	PI	5003
$C_6H_4F_2^+$						
	$C_6H_4F_2$ (Benzene, 1,2-difluoro-)	367-11-3	**	9.30	S	4271
			**	9.30 (V)	PE	3873
			**	9.6±0.03 (V)	PE	3713
	$C_6H_4F_2$ (Benzene, 1,3-difluoro-)	372-18-9	**	9.35	S	4271
			**	9.32 (V)	PE	3873
			**	9.6±0.03 (V)	PE	3713
	$C_6H_4F_2$ (Benzene, 1,4-difluoro-)	540-36-3	**	9.18	S	4271
			**	9.15 (V)	PE	3873
			**	9.29	PE	5408
			**	9.4±0.03 (V)	PE	3713
$C_{12}H_8F_2^+$						
	$(C_6H_4F)_2$ (1,1'-Biphenyl, 2,2'-difluoro-)	388-82-9	**	8.35±0.02	PE	3702
	$(C_6H_4F)_2$ (1,1'-Biphenyl, 3,3'-difluoro-)	396-64-5	**	8.35±0.02	PE	3702
	$(C_6H_4F)_2$ (1,1'-Biphenyl, 4,4'-difluoro-)	398-23-2	**	8.00±0.02	PE	3702
CHF_3^+						
	CF_3H	75-46-7	**	14.8±0.05 (V)	PE	5419
$C_2HF_3^+$						
	C_2HF_3	359-11-5	**	10.14	PE	5408
			**	10.53 (V)	PE	3649
			**	10.54±0.02 (V)	PE	5017
$C_2H_3F_3^+$						
	CH_3CF_3	420-46-2	**	13.26±0.1	EI	3478
			**	13.8 (V)	PE	4321
$C_3HF_3^+$						
	$CF_3C\equiv CH$	661-54-1	**	11.83	PE	3589
			**	11.96±0.02	PE	4765
$C_4H_2F_3^+$						
	$(CF_2=CH)_2$	407-70-5	F	15.2±0.1	EI	5554
$C_4H_4F_3^+$						
	$C_4H_4F_4$ (Cyclobutane, 1,1,2,2-tetrafluoro-)	374-12-9	F^-	13.5±1	EI	4553
$C_6H_3F_3^+$						
	$C_6H_3F_3$ (Benzene, 1,3,5-trifluoro-)	372-38-3	**	9.26 (V)	PE	3873
			**	9.64	PE	3764
			**	9.64	PE	5408
$C_7H_5F_3^+$						
	$C_6H_5CF_3$ (Benzene, (trifluoromethyl)-)	98-08-8	**	9.68	PE	4621

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_9H_9F_3^+$						
	$C_6F_3(CH_3)_3$ (Benzene,1,3,5-trifluoro-2,4,6-trimethyl-)	363-64-4	**	8.76±0.02	PE	5521
			**	8.76 (V)	PE	5461
$C_4H_2F_4^+$						
	$(CF_2=CH)_2$	407-70-5	**	10.6±0.1	EI	5554
$C_6H_2F_4^+$						
	$C_6H_2F_4$ (Benzene, 1,2,3,4-tetrafluoro-)	551-62-2	**	9.56 (V)	PE	3873
			**	9.60	PE	5408
	$C_6H_2F_4$ (Benzene, 1,2,3,5-tetrafluoro-)	2367-82-0	**	9.56 (V)	PE	3873
	$C_6H_2F_4$ (Benzene, 1,2,4,5-tetrafluoro-)	327-54-8	**	9.36 (V)	PE	3873
$C_7H_4F_4^+$						
	$C_6HF_4CH_3$ (Benzene,1,2,4,5-tetrafluoro-3-methyl-)	5230-78-4	**	9.16±0.02	PE	5521
			**	9.16 (V)	PE	5461
$C_6HF_5^+$						
	C_6HF_5 (Benzene, pentafluoro-)	363-72-4	**	9.82	S	3559
			**	9.64 (V)	PE	3873
			**	9.73	PE	5408
			**	9.90 (V)	PE	5252
$C_7H_3F_5^+$						
	$C_6F_5CH_3$ (Benzene,pentafluoromethyl-)	771-56-2	**	9.4	PE	5521
			**	9.4 (V)	PE	5461
			**	9.81 (V)	PE	5252
$C_8H_3F_5^+$						
	$C_6F_5CH=CH_2$ (Benzene, ethenylpentafluoro-)	653-34-9	**	9.18±0.02	PE	3854
$C_{16}H_8F_8^+$						
	$C_{16}H_8F_8$ (Tricyclo[8.2.2.2^{4,7}]hexadeca-4,6,10,12,13,15-hexaene, 2,2,3,3,8,8,9,9,-octafluoro-)	3345-29-7	**	8.90	PE	4158
$BCH_3F_2^+$						
	CH_3BF_2 (Borane,difluoromethyl)	373-64-8	**	13.16 (V)	PE	5485
$BC_2H_6F^+$						
	$(CH_3)_2BF$	353-46-8	**	11.22 (V)	PE	4243
			**	11.25 (V)	PE	5485
$BC_6H_5F_2^+$						
	$C_6H_5BF_2$ (Borane, difluorophenyl-)	368-98-9	**	9.61 (V)	PE	4956
$BC_{21}H_{15}F_4^+$						
	$C_3(C_6H_5)_3BF_4$ (Cyclopropenium, triphenyl-,tetrafluoroborate(1-))	741-16-2	**	8.65±0.05	EI	4628
NF^+						
	NF_2	3744-07-8	F^-	11.86±0.2	EI	3785

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
NF^+						
	NF_2	3744-07-8	F	15.46±0.2	EI	3785
	N_2F_4	10036-47-2	NF_2+F	16.6	EI	3785
	$(CH_3)_2C(NF_2)_2$	19309-63-8		13.9±0.3	EI	3634
	$(CH_2NF_2)_2CH_2$	21298-22-6		13.0±0.3	EI	3634
N_2F^+						
	N_2F_4	10036-47-2	F_2+F	14.2±0.3	EI	3785
			3F	16.7±0.3	EI	3785
NF_2^+						
($^1A_1$)	NF_2	3744-07-8	**	12.1±0.1 (V)	PE	3671
($^1A_1$)			**	12.1	PE	3693
($^3B_1$)			**	14.6±0.1 (V)	PE	3671
($^3B_1$)			**	14.6	PE	3693
($^1B_1$,$^3B_2$,$^3A_2$,$^1A_2$)			**	16.4	PE	3693
($^1B_2$)			**	17.6	PE	3693
			**	11.76±0.1	EI	3785
	N_2F_4	10036-47-2	F^-+NF	12.40±0.1	EI	3785
			NF_2	12.70±0.1	EI	3785
	$(CH_3)_2C(NF_2)_2$	19309-63-8		13.9±0.4	EI	3634
	$(CH_2NF_2)_2CH_2$	21298-22-6		14.8±0.4	EI	3634
$N_2F_2^+$						
	trans-N_2F_2	13776-62-0	**	12.8	PE	3649
	N_2F_4	10036-47-2	2F	16.0±0.1	EI	3785
NF_3^+						
	NF_3	7783-54-2	**	12.97±0.04	PE	3641
			**	13.18±0.1	EI	3578
$N_2F_4^+$						
	N_2F_4	10036-47-2	**	12.00±0.1	EI	3785
HNF_2^+						
	HNF_2	10405-27-3	**	11.53±0.08	PE	5253
$HBNF^+$						
	H_2NBF_2	50673-31-9	HF	14.0±0.2	EI	4522
H_2BNF^+						
	H_2NBF_2	50673-31-9	F	16.1±0.4	EI	4522
$H_2BNF_2^+$						
	H_2NBF_2	50673-31-9	**	12.4±0.4	EI	4522
$H_3B_3N_3F_3^+$						
	$B_3H_3N_3F_3$ (Borazine, 2,4,6-trifluoro-)	13779-24-3	**	10.46	PE	3637
			**	10.66 (V)	PE	3673
			**	10.66 (V)	PE	3943
CNF^+						
	FCN	1495-50-7	**	13.34±0.02	PE	4676
			**	14.48±0.02	PE	4676
			**	19.3±0.1 (V)	PE	4676
			**	22.6±0.1 (V)	PE	4676
C_3NF^+						
	CF≡CCN	32038-83-8	**	11.51±0.02	PE	4765

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$CHNF_2^+$						
	$(CH_3)_2C(NF_2)_2$	19309-63-8		13.2±0.3	EI	3634
	$(CH_2NF_2)_2CH_2$	21298-22-6		13.7±0.3	EI	3634
$CH_2NF_2^+$						
	$CH_2(NF_2)CH(NF_2)CH_3$	15403-25-5		13.1±0.2	EI	3634
	$(CH_2NF_2)_2CH_2$	21298-22-6		13.6±0.3	EI	3634
$C_2H_6NF_2^+$						
	$CH_2(NF_2)CH(NF_2)CH_3$	15403-25-5		10.8±0.2	EI	3634
	$(CH_3)_2C(NF_2)_2$	19309-63-8		11.1±0.3	EI	3634
	$(CH_2NF_2)_2CH_2$	21298-22-6		11.8±0.3	EI	3634
$C_6H_5NF_2^+$						
	$C_6H_3F_2NHCOCH_3$ (Acetamide, *N*-(2,4-difluorophenyl)-)	399-36-0	$CH_2=C=O$	9.70±0.03	EI	3480
	$C_6H_3F_2NHCOCH_3$ (Acetamide, *N*-(2,6-difluorophenyl)-)	3896-29-5	$CH_2=C=O$	9.52±0.03	EI	3480
$C_4H_2N_2F_2^+$						
	$C_4H_2F_2N_2$ (Pyrazine,2,3-difluoro-)	52751-15-2	**	10.35 (V)	PE	5530
	$C_4H_2F_2N_2$ (Pyrazine,2,6-difluoro-)	33873-09-5	**	10.30 (V)	PE	5530
	$C_4H_2F_2N_2$ (Pyridazine,3,6-difluoro-)	33097-39-1	**	10.17	PE	5530
	$C_4H_2F_2N_2$ (Pyrimidine,2,4-difluoro-)	2802-61-1	**	10.65 (V)	PE	5530
	$C_4H_2F_2N_2$ (Pyrimidine,4,6-difluoro-)	2802-62-2	**	10.95 (V)	PE	5530
$C_8H_4N_2F_2^+$						
	$C_8H_4N_2F_2$ (1,8-Naphthyridine, 2,7-difluoro-)	56595-11-0	**	9.26 (V)	PE	4523
	$C_8H_4N_2F_2$ (Quinazoline, 2,4-difluoro-)	56595-10-9	**	9.30 (V)	PE	4523
	$C_8H_4N_2(F)_2$ (Quinoxaline, 2,3-difluoro-)	7066-36-6	**	9.30 (V)	PE	3959
$C_9H_9N_3F_2^+$						
	$C_6H_3F_2NC_3H_4N_2H_2$ (Imidazolidine,2-(2,6-difluorophenylimino)-)	XXXXX-XX-X	**	8.12 (V)	PE	5545
$C_6H_4NF_3^+$						
	$C_5H_4N(CF_3)$ (Pyridine, 4-(trifluoromethyl)-)	XXXXX-XX-X	**	10.1 (V)	PE	4536
$C_{14}H_{10}NF_3^+$						
	$C_6H_4CF_3C(=CH_2)C_5H_4N$ (Pyridine,2-[1-[3-trifluoromethyl)phenyl]ethenyl]-)	XXXXX-XX-X	**	9.02	EI	5570
	$C_6H_4CF_3C(=CH_2)C_5H_4N$ (Pyridine,2-[1-[4-trifluoromethyl)phenyl]ethenyl]-)	XXXXX-XX-X	**	8.97	EI	5570
$C_4HN_2F_3^+$						
	$C_4HF_3N_2$ (Pyrimidine,2,4,6-trifluoro-)	696-82-2	**	10.93 (V)	PE	5530
$C_8H_3NF_4^+$						
	$C_6F_4C_2H_2NH$ (1H-Indole,4,5,6,7-tetrafluoro-)	16264-67-8	**	8.30±0.015 (V)	PE	5522

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_2N_2F_4^+$						
	$C_8H_2N_2F_4$ (2,7-Naphthyridine, 1,3,6,8-tetrafluoro-)	56595-13-2	**	9.55 (V)	PE	4523
	$C_8H_2N_2(F)_4$ (Quinoxaline, 5,6,7,8-tetrafluoro-)	33319-19-6	**	9.50 (V)	PE	3959
$C_6H_2NF_5^+$						
	$C_6F_5NH_2$ (Benzenamine, 2,3,4,5,6-pentafluoro-)	771-60-8	**	8.40±0.02	PE	3890
$C_9H_6N_3F_5^+$						
	$C_6F_5NC_3H_4N_2H_2$ (Imidazolidine,2-(pentafluorophenylimino)-)	XXXXX-XX-X	**	8.60 (V)	PE	5545
$C_3HNF_6^+$						
	$(CF_3)_2C{=}NH$	1645-75-6	**	11.8 (V)	PE	4814
$C_6H_7NF_6^+$						
	$(CH_3)_2NC(CF_3){=}C(CF_3)H$	35186-00-6	**	8.22	PE	3589
$BC_4H_{12}N_2F^+$						
	$((CH_3)_2N)_2BF_2$	383-90-4	**	8.04	PE	3584
$BC_2H_6NF_2^+$						
	$(CH_3)_2NBF_2$	359-18-2	**	9.71	PE	3584
$B_2C_4H_{12}N_2F_2^+$						
	$(F(CH_3)BNCH_3)_2$	73775-17-1	**	9.34 (V)	PE	5628
$BC_6H_7NF_3^+$						
	$C_5H_4N(CF_3)\cdot BH_3$ (Pyridine, 4-trifluoromethyl)-, compound with borane (1:1))	56898-54-5	**	10.04 (V)	PE	4536
$B_3C_3H_9N_3F_3^+$						
	$C_3H_9B_3N_3F_3$ (Borazine, 2,4,6-trifluoro-1,3,5-trimethyl-)	13722-15-1	**	9.48 (V)	PE	3943
OF^+						
	FO	12061-70-0	**	12.77	PE	5425
			**	12.79±0.1	OTH	3920
	OF_2	7783-41-7	F	⩽14.438	PI	3920
OF_2^+						
	OF_2	7783-41-7	**	13.11±0.01	PI	3920
($^2B_2$)			**	13.11	PE	3649
($^2B_1$)			**	13.26 (V)	PE	3694
($^2A_1$)			**	15.74	PE	3649
($^2B_2$)			**	16.17 (V)	PE	3694
($^2B_1$)			**	16.44 (V)	PE	3649
($^2A_2$)			**	16.47 (V)	PE	3694
($^2A_2$)			**	17.9	PE	3649
($^2B_2$)			**	20.7 (V)	PE	3649
HOF^+						
	HOF	14034-79-8	**	12.71±0.01	PI	3932
($^2A''$)			**	12.69±0.03	PE	3831
($^2A'$)			**	14.50±0.03	PE	3831
($^2A'$)			**	15.9±0.05	PE	3831
BOF^+						
	BOF	23361-56-0	**	14±1	EI	4054

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
BOF_2^+						
	BOF_2	12006-82-5	**	17±1	EI	4054
COF^+						
	CF_2O	353-50-4	F	14.85±0.2	PI	5041
COF_2^+						
	CF_2O	353-50-4	**	13.02	PE	3649
			**	13.04	PE	3726
			**	13.6 (V)	PE	5041
			**	14.09	PE	3649
			**	19.15	PE	3649
			**	19.8 (V)	PE	3649
			**	21.1 (V)	PE	3649
			**	~22.7	PE	3649
$C_2O_2F_2^+$						
	$(COF)_2$	359-40-0	**	12.20±0.02	PE	4696
$C_2OF_3^+$						
	$(CF_3)_2CO$	684-16-2		11.65	EI	3550
COF_3^+						
	CF_3OF	373-91-1	**	13.6 (V)	PE	3941
$C_6O_2F_4^+$						
	$C_6F_4O_2$ (2,5-Cyclohexadiene,1,4-dione,2,3,5,6-tetrafluoro-)	527-21-9	**	10.96±0.05 (V)	PE	5558
$C_3OF_5^+$						
	$(CF_3)_2CO$	684-16-2		16	EI	3550
$C_3OF_6^+$						
	$(CF_3)_2CO$	684-16-2	**	11.44	PE	3649
			**	12.09±0.02 (V)	PE	4524
$CHOF^+$						
($^2A'$)	HFCO	1493-02-3	**	12.37±0.02	PE	4496
$C_2H_3OF^+$						
	CH_3CFO	557-99-3	**	11.51±0.02	PE	4220
$C_2H_5OF^+$						
	CH_2FCH_2OH	371-62-0	**	10.98 (V)	PE	5088
$C_3H_5OF^+$						
	CH_3COCH_2F	430-51-3	**	10.20±0.02 (V)	PE	4524
	$C_2H_3OCH_2F$ (Oxirane, (fluoromethyl)-)	503-09-3	**	10.78 (V)	PE	4747
$C_3H_7OF^+$						
	$CH_2FCH_2OCH_3$	627-43-0	**	10.18 (V)	PE	5088
$C_6H_4OF^+$						
	$C_6H_4FOCH_3$ (Benzene, 1-fluoro-3-methoxy-)	456-49-5	CH_3	12.53±0.1	EI	3446
	$C_6H_4FOCH_3$ (Benzene, 1-fluoro-4-methoxy-)	459-60-9	CH_3	11.99±0.1	EI	3446
	$C_6H_4FNO_2$ (Benzene, 1-fluoro-3-nitro-)	402-67-5	NO	10.25±0.1	EI	3447
	$C_6H_4FNO_2$ (Benzene, 1-fluoro-4-nitro-)	350-46-9	NO	10.64±0.1	EI	3447

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_5OF^+$						
	$C_6H_4(F)(OH)$ (Phenol, 2-fluoro-)	367-12-4	**	8.95 (V)	PE	4891
			**	8.97±0.02 (V)	PE	5184
	$C_6H_4(F)(OH)$ (Phenol, 3-fluoro-)	372-20-3	**	8.99 (V)	PE	4891
			**	9.05±0.02 (V)	PE	5184
	$C_6H_4(F)(OH)$ (Phenol, 4-fluoro-)	371-41-5	**	8.77 (V)	PE	4891
			**	8.79±0.02 (V)	PE	5184
	$C_6H_4FOOCCH_3$ (Phenol, 2-fluoro-, acetate)	29650-44-0	$CH_2=C=O$	9.17±0.03	EI	3483
	$C_6H_4FOOCCH_3$ (Phenol, 4-fluoro-, acetate)	405-51-6	$CH_2=C=O$	9.55±0.03	EI	3483
$C_7H_4OF^+$						
	$FC_6H_4COCH_3$ (Ethanone,1-(4-fluorophenyl)	403-42-9	CH_3	10.39±0.03	EI	5059
	$C_6H_4(F)COOH$ (Benzoic acid, 3-fluoro-)	455-38-9	OH	12.50±0.2	EI	3973
	$C_6H_4(F)COOH$ (Benzoic acid, 4-fluoro-)	456-22-4	OH	12.33±0.2	EI	3973
$C_7H_7OF^+$						
	$C_6H_4FOCH_3$ (Benzene, 1-fluoro-3-methoxy-)	456-49-5	**	8.70±0.1	EI	3446
	$C_6H_4FOCH_3$ (Benzene, 1-fluoro-4-methoxy-)	459-60-9	**	8.58±0.1	EI	3446
$C_8H_9OF^+$						
	$C_6H_5OCH_2CH_2F$ (Benzene,2-fluoroethoxy-)	405-97-0	**	8.63	EI	5083
$C_7H_5O_2F^+$						
	$C_6H_4(F)COOH$ (Benzoic acid, 3-fluoro-)	455-38-9	**	9.91±0.2	EI	3973
	$C_6H_4(F)COOH$ (Benzoic acid, 4-fluoro-)	456-22-4	**	9.91±0.2	EI	3973
$C_8H_7O_2F^+$						
	$C_6H_4FOOCCH_3$ (Phenol, 2-fluoro-, acetate)	29650-44-0	**	8.78±0.03	EI	3483
	$C_6H_4FOOCCH_3$ (Phenol, 4-fluoro-, acetate)	405-51-6	**	8.27±0.03	EI	3483
$C_6H_4OF_2^+$						
	$C_6H_3(OH)F_2$ (Phenol,2,4-difluoro-)	367-27-1	**	8.98±0.02 (V)	PE	5184
	$C_6H_3(OH)F_2$ (Phenol,2,5-difluoro-)	XXXXX-XX-X	**	9.10±0.02 (V)	PE	5184
	$C_6H_3(OH)F_2$ (Phenol,3,5-difluoro-)	XXXXX-XX-X	**	9.04±0.02 (V)	PE	5184
	$C_6H_3F_2OOCCH_3$ (Phenol, 2,4-difluoro-, acetate)	36914-77-9	$CH_2=C=O$	9.63±0.03	EI	3480
	$C_6H_3F_2OOCCH_3$ (Phenol, 2,6-difluoro-, acetate)	36914-78-0	$CH_2=C=O$	9.69±0.03	EI	3480
$C_8H_6O_2F_2^+$						
	$C_6H_3F_2OOCCH_3$ (Phenol, 2,4-difluoro-, acetate)	36914-77-9	**	8.60±0.03	EI	3480
	$C_6H_3F_2OOCCH_3$ (Phenol, 2,6-difluoro-, acetate)	36914-78-0	**	8.88±0.03	EI	3480

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_3OF_3^+$						
	CF_3CH_2OH	75-89-8	**	11.7 (V)	PE	3941
$C_3H_3OF_3^+$						
	CH_3COCF_3	421-50-1	**	11.00±0.02 (V)	PE	4524
$C_6H_3OF_3^+$						
	$C_6H_2(OH)F_3$ (Phenol,2,3,4-trifluoro-)	XXXXX-XX-X	**	9.19±0.02 (V)	PE	5184
	$C_6H_2(OH)F_3$ (Phenol,2,4,5-trifluoro-)	XXXXX-XX-X	**	9.10±0.02 (V)	PE	5184
$C_2HO_2F_3^+$						
	CF_3COOH	76-05-1	**	11.46	PE	3718
			**	12.00±0.03 (V)	PE	3734
			**	12.00 (V)	PE	3874
			**	12.06 (V)	PE	5251
			**	12.08±0.05 (V)	PE	4986
$C_3H_3O_2F_3^+$						
	$HCOOCH_2CF_3$	32042-38-9	**	11.31	PE	3718
$C_4H_5O_2F_3^+$						
	$CF_3COOC_2H_5$	383-63-1	**	11.6 (V)	PE	3718
	$CH_3COOCH_2CF_3$	406-95-1	**	10.84	PE	3718
$C_5H_5O_2F_3^+$						
	$CF_3COCH_2COCH_3$	367-57-7	**	9.92±0.07 (V)	PE	3682
$C_6H_3O_2F_3^+$						
	$C_4H_3OCOCF_3$ (Ethanone, 2,2,2-trifluoro-1-(2-furanyl)-)	18207-47-1	**	9.77±0.05	EI	3482
$C_8H_{11}O_2F_3^+$						
	$(CH_3)_3CCOCH_2COCF_3$	22767-90-4	**	9.87±0.07 (V)	PE	3682
$C_3H_2OF_4^+$						
	$(CHF_2)_2CO$	360-52-1	**	11.33±0.02 (V)	PE	4524
$C_6H_2OF_4^+$						
	$C_6H(OH)F_4$ (Phenol,2,3,5,6-tetrafluoro-)	769-39-1	**	9.40±0.02 (V)	PE	5184
$C_3H_3OF_5^+$						
	$C_2F_5CH_2OH$	422-05-9	**	11.68 (V)	PE	3941
$C_6HOF_5^+$						
	C_6F_5OH (Phenol,pentafluoro-)	771-61-9	**	9.37±0.02 (V)	PE	5184
			**	9.20±0.02	PE	3890
$C_7H_3OF_5^+$						
	$C_6F_5OCH_3$ (Benzene, pentafluoromethoxy-)	389-40-2	**	9.10±0.02	PE	3890
$C_3H_2OF_6^+$						
	$CF_3CH(OH)CF_3$	920-66-1	**	12.23 (V)	PE	3941
$C_5H_2O_2F_6^+$						
	$CF_3COCH_2COCF_3$	1522-22-1	**	10.74±0.07 (V)	PE	3682

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5HOF_{11}^+$						
	$CF_3CF_2CF_2OCHFCF_3$	3330-15-2	**	12.6	PE	4424
$C_8HO_2F_{17}^+$						
	$F(CF(CF_3)CF_2O)_2CHFCF_3$	3330-14-1	**	12.78 (V)	PE	4424
$C_{11}HO_3F_{23}^+$						
	$F(CF(CF_3)CF_2O)_3CHFCF_3$	3330-16-3	**	12.96 (V)	PE	4424
$C_{14}HO_4F_{29}^+$						
	$F(CF(CF_3)CF_2O)_4CHFCF_3$	26738-51-2	**	13.47 (V)	PE	4424
$BeC_{10}H_2O_4F_{12}^+$						
	$(CF_3COCHCOCF_3)_2Be$ (Beryllium, bis(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato-*O,O'*)-, (*T*-4)-)	19648-82-9	**	10.39±0.07 (V)	PE	3682
NOF^+						
($^2A'$)	ONF	7789-25-5	**	12.63±0.03	PE	4420
($^2A'$)			**	12.66	PE	4404
NO_2F^+						
	NO_2F	10022-50-1	**	13.09	PE	4404
NOF_3^+						
	NOF_3	13847-65-9	**	13.36±0.01	PE	3641
$CNOF_3^+$						
	CF_3NO	XXXXX-XX-X	**	10.5±0.1	EI	5220
	CF_3NO	334-99-6		11.06±0.05 (V)	PE	5298
$C_2NOF_6^+$						
	$(CF_3)_2NO$	2154-71-4	**	10.7±0.1 (V)	PE	3671
$C_7H_6NOF^+$						
	$C_6H_4(F)(CONH_2)$ (*Benzamide, 4-fluoro-*)	824-75-9	**	9.50 (V)	PE	4918
$C_8H_8NOF^+$						
	$C_6H_4FNHCOCH_3$ (Acetamide, N-(2-fluorophenyl)-)	399-31-5	**	8.65	EI	4834
			**	8.27±0.03	EI	3483
	$C_6H_4FNHCOCH_3$ (Acetamide, *N*-(4-fluorophenyl)-)	351-83-7	**	8.20±0.03	EI	3483
$C_{12}H_8NOF^+$						
	$C_6H_4FCOC_5H_4N$ (Methanone, (2-fluorophenyl)-2-pyridinyl-)	XXXXX-XX-X	**	9.11	EI	5459
$C_4H_3N_2OF^+$						
	$C_4H_3N_2F(=O)$ (2(1H)-Pyrimidinone,5-fluoro-)	2022-78-8	**	10.08±0.05	EI	5159
$C_5H_5N_2OF^+$						
	$C_4H_2N_2FOCH_3$ (Pyrimidine,5-fluoro-2-methoxy-)	17148-49-1	**	9.65±0.05	EI	5159
	$C_4H_2N_2F(=O)CH_3$ (2(1H)-Pyrimidinone,5-fluoro-1-methyl-)	63331-05-5	**	9.21±0.05	EI	5159
$C_7H_7N_2OF^+$						
	$C_6H_4FNHCONH_2$ (Urea, (2-fluorophenyl)-)	656-31-5	**	8.50	EI	4834

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_4NO_2F^+$						
	$C_6H_4(F)(NO_2)$ (Benzene, 1-fluoro-2-nitro-)	1493-27-2	**	9.86 (V)	PE	4892
	$C_6H_4(F)(NO_2)$ (Benzene, 1-fluoro-3-nitro-)	402-67-5	**	9.88	PE	4892
			**	9.93±0.1	EI	3447
	$C_6H_4(F)(NO_2)$ (Benzene, 1-fluoro-4-nitro-)	350-46-9	**	9.90	PE	4892
			**	10.00±0.1	EI	3447
$C_{12}H_9N_4O_2F^+$						
	$C_{10}H_3N_4(F)(=O)_2(CH_3)_2$ (Benzo[*g*]pteridine-2,4(3H,10H)-dione, 3,10-dimethyl-7-fluoro-)	XXXXX-XX-X	**	8.51 (V)	PE	4992
$C_8H_7NOF_2^+$						
	$C_6H_3F_2NHCOCH_3$ (Acetamide, *N*-(2,4-difluorophenyl)-)	399-36-0	**	8.21±0.03	EI	3480
	$C_6H_3F_2NHCOCH_3$ (Acetamide, *N*-(2,6-difluorophenyl)-)	3896-29-5	**	8.52±0.03	EI	3480
$C_6H_4NOF_3^+$						
	$C_4H_4NCOCF_3$ (Ethanone, 2,2,2-trifluoro-1-(1*H*-pyrrol-2-yl)-)	2557-70-2	**	9.18±0.05	EI	3482
	$C_5H_4N(O)CF_3$ (Pyridine, 4-(trifluoromethyl)-1-oxide-)	XXXXX-XX-X	**	8.90 (V)	PE	4536
$C_8H_6NOF_3^+$						
	$C_6H_5NHCO(CF_3)$ (Acetamide, 2,2,2-trifluoro-N-phenyl-)	404-24-0	**	8.93±0.05 (V)	PE	5013
$C_9H_8NOF_3^+$						
	$C_6H_3(CH_3)NHCO(CF_3)$ (Acetamide, 2,2,2-trifluoro-N-(2-methylphenyl)-)	2727-68-6	**	8.84±0.05 (V)	PE	5013
	$C_6H_3(CH_3)NHCO(CF_3)$ (Acetamide, 2,2,2-trifluoro-N-(3-methylphenyl)-)	2727-69-7	**	8.73±0.05 (V)	PE	5013
	$C_6H_3(CH_3)NHCO(CF_3)$ (Acetamide, 2,2,2-trifluoro-N-(4-methylphenyl)-)	350-96-9	**	8.61±0.05 (V)	PE	5013
$C_{10}H_{10}NOF_3^+$						
	$C_6H_3(CH_3)_2NHCO(CF_3)$ (Acetamide, N-(2,3-dimethylphenyl)-2,2,2-trifluoro-)	14719-31-4	**	8.62±0.05 (V)	PE	5013
	$C_6H_3(CH_3)_2NHCO(CF_3)$ (Acetamide, N-(3,4-dimethylphenyl)-2,2,2-trifluoro-)	XXXXX-XX-X	**	8.51±0.05 (V)	PE	5013
	$C_6H_3(CH_3)_2NHCO(CF_3)$ (Acetamide, N-(2,4-dimethylphenyl)-2,2,2-trifluoro-)	14618-47-4	**	8.56±0.05 (V)	PE	5013
	$C_6H_3(CH_3)_2NHCO(CF_3)$ (Acetamide, N-(3,5-dimethylphenyl)-2,2,2-trifluoro-)	14818-53-2	**	8.59±0.05 (V)	PE	5013
	$C_6H_3(CH_3)_2NHCO(CF_3)$ (Acetamide, N-(2,5-dimethylphenyl)-2,2,2-trifluoro-)	14618-48-5	**	8.70±0.05 (V)	PE	5013
	$C_6H_3(CH_3)_2NHCO(CF_3)$ (Acetamide, N-(2,6-dimethylphenyl)-2,2,2-trifluoro-)	7497-27-0	**	8.99±0.05 (V)	PE	5013
$C_5H_3N_2OF_3^+$						
	$C_5H_3N_2OF_3$ (1H-Imidazole,1-(trifluoroacetyl)-	1546-79-8	**	9.91 (V)	PE	5092
$C_{11}H_{16}NO_2F_3^+$						
	$C_{11}H_{16}NO_2F_3$ (2,4-Azetidinedione, 3,3-bis(1-methylethyl)-1-(2,2,2-trifluoroethyl)-)	56519-50-7	**	9.50	EI	4660
Ne^+						
($^2P_{3/2}$)	Ne	7440-01-9	**	21.56471±0.00001 S		3754

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
Ne^+						
(^2P)	Ne	7440-01-9	**	21.59 (V)	PE	4970
(^2P)			**	22.0	PE	4623
(^2S)			**	48.49±0.01 (V)	PE	4970
(^2S)			**	49.0	PE	4623
Ne^{+2}						
	Ne	7440-01-9	**	62.8±0.2	EI	4503
Na^+						
	Na	7440-23-5	**	5.2	EI	4912
			**	5.3±0.2	EI	3609
			**	5.55±0.2	EI	5588
			**	5.6±0.3	EI	4518
	$NaBO_2$	XXXXX-XX-X	BO_2	9.66±0.15	EI	4663
	NaF	7681-49-4	F	9.98±0.15	EI	4663
				~12	EI	3464
Na_2^+						
	Na_2	25681-79-2	**	4.866±0.014	PI	4914
			**	4.9	EI	4912
Na_3^+						
	Na_3	37279-42-8	**	3.97±0.05	PI	4914
Na_4^+						
	Na_4	39297-86-4	**	4.27±0.05	PI	4914
Na_5^+						
	Na_5	39297-87-5	**	4.05±0.05	PI	4914
Na_6^+						
	Na_6	39297-88-6	**	4.12±0.05	PI	4914
Na_7^+						
	Na_7	39297-89-7	**	4.04±0.05	PI	4914
Na_8^+						
	Na_8	39297-90-0	**	4.10±0.05	PI	4914
Na_9^+						
	Na_9	66457-73-6	**	4.0±0.01	PI	4914
Na_{10}^+						
	Na_{10}	XXXXX-XX-X	**	3.9±0.1	PI	4914
Na_{11}^+						
	Na_{11}	66457-74-7	**	3.8±0.1	PI	4914
Na_{12}^+						
	Na_{12}	XXXXX-XX-X	**	3.6±0.1	PI	4914
Na_{13}^+						
	Na_{13}	66457-75-8	**	3.6±0.1	PI	4914
Na_{14}^+						
	Na_{14}	66457-76-9	**	3.5±0.1	PI	4914
$LiNa^+$						
	NaLi	12333-49-2	**	4.94±0.10	EI	4912

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
ONa^+						
	NaO	12401-86-4	**	12.9	EI	4518
BO_2Na^+						
	$NaBO_2$	XXXXX-XX-X	**	9.18±0.10	EI	4663
$BO_2Na_2^+$						
	$(NaBO_2)_2$	XXXXX-XX-X	BO_2	10.15±0.12	EI	4663
	Na_2BO_2F	XXXXX-XX-X	F^-	6.18±0.10	EI	4663
	Na_2BO_2F	XXXXX-XX-X	F	10.15±0.12	EI	4663
FNa_2^+						
	Na_2F_2	12285-64-2	F^-	5.86±0.10	EI	4663
			F	10.00±0.10	EI	4663
	Na_2BO_2F	XXXXX-XX-X	BO_2^-	5.86±0.10	EI	4663
	Na_2BO_2F	XXXXX-XX-X	BO_2	10.00±0.10	EI	4663
Mg^+						
	Mg	7439-95-4	**	7.63±0.08	EI	4114
			**	7.72±0.05	EI	5342
	$(C_5H_5)_2Mg$ (Magnesium, bis(η^5-2,4-cyclopentadien-1-yl)-)	1284-72-6		13.9±0.5	EI	3793
$C_5H_5Mg^+$						
	$(C_5H_5)_2Mg$ (Magnesium, bis(η^5-2,4-cyclopentadien-1-yl)-)	1284-72-6		11.0±0.2	EI	3793
$C_{10}H_{10}Mg^+$						
	$(C_5H_5)_2Mg$ (Magnesium, bis(η^5-2,4-cyclopentadien-1-yl)-)	1284-72-6	**	8.11 (V)	PE	3688
			**	8.0±0.1	EI	3793
$C_{12}H_{14}Mg^+$						
	$(C_5H_4CH_3)_2Mg$ (Magnesocene, 1,1′-dimethyl-)	40672-08-0	**	7.78 (V)	PE	3688
$C_{36}H_{44}N_4Mg^+$						
	$((C_2H_5)_2C_4NCH)_4Mg$ (Magnesium,[2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-N^{21},N^{22},N^{23},N^{24}]-(SP-4-1)-)	20910-35-4	**	6.19±0.03 (V)	PE	5476
$C_{44}H_{28}N_4Mg^+$						
	$C_{20}H_8N_4(C_6H_5)_4Mg$ (Magnesium, [5,10,15,20-tetraphenyl-21H,23H-porphinato(2-)-N^{21},N^{22},N^{23},N^{24}]-(SP-4-1)-)	14640-21-2	**	5.91±0.2	OTH	4962
			**	6.48 (V)	PE	4557
$C_{10}H_{14}O_4Mg^+$						
	$(CH_3COCHCOCH_3)_2Mg$ (Magnesium, bis(2,4-pentanedionato-O,O′)-(T-4)-)	14024-56-7	**	8.42 (V)	PE	4384
$C_{55}H_{72}N_4O_5Mg^+$						
	$C_{34}H_{33}N_4O_3MgCOOC_{20}H_{39}$ (Chlorophyll a)	42617-16-3	**	6.1±0.2	OTH	5278
$C_{10}H_2O_4F_{12}Mg^+$						
	$(CF_3COCHCOCF_3)_2Mg$ (Magnesium, bis(1,1,1,5,5,5 hexafluoro-2,4-pentanedionato-O,O′)-(T-4)-)	19648-85-2	**	10.28 (V)	PE	4384
Al^+						
	Al	7429-90-5	**	6.0±0.3	PE	4860

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
Al^+						
	Al	7429-90-5	**	6.0±0.2	EI	5171
			**	6.0±0.3	EI	5067
			**	6.0±1	EI	4687
			**	6.0	EI	4872
			**	6.6±0.6	EI	3440
Al^{2+}						
	Al^+	14903-36-7	**	18.82873±0.0001	S	5081
Al_2^+						
	Al_2	32752-94-6	**	5.4±1.0	EI	4005
			**	5.4±1.0	EI	4014
	Al_2O	12004-36-3		15.2±0.5	EI	4005
$H_{12}B_3Al^+$						
	$Al(BH_4)_3$	13771-22-7	**	12.9±0.1 (V)	PE	4825
			**	12.9 (V)	PE	4888
C_2Al^+						
	AlC_2	37297-57-7	**	9.3±1.0	EI	4014
$C_2Al_2^+$						
	Al_2C_2	12122-01-9	**	8.0±0.5	EI	4014
$C_3H_9Al^+$						
	$(CH_3)_3Al$	75-24-1	**	9.76 (V)	PE	4398
$C_{18}H_{15}Al^+$						
	$(C_6H_5)_3Al$ (Aluminum, triphenyl-)	841-76-9	**	8.53±0.03	PI	4055
OAl^+						
	AlO	14457-64-8	**	9.5±0.2	EI	5171
			**	9.5±1	EI	3617
			**	9.5	EI	4872
			**	9.53±0.15	EI	3816
			**	9.9±0.5	EI	4678
			**	10.3±1	EI	4687
			**	9±1	EI	3463
			**	10±1	EI	3620
	Al_2O	12004-36-3		15.1±0.3	EI	4005
O_2Al^+						
	AlO_2	11092-32-3	**	10.5±1.0	EI	5171
			**	10±1	EI	3463
			**	10±1	EI	3617
OAl_2^+						
	Al_2O	12004-36-3	**	7.7±0.2	EI	4005
			**	7.7±0.5	EI	3985
			**	8.0±0.5	EI	4678
			**	8.1±1	EI	4687
			**	8.20±0.15	EI	3816
			**	8.5±0.2	EI	5171
			**	8.5±1	EI	3617
			**	9±1	EI	3620
$O_2Al_2^+$						
	Al_2O_2	12252-63-0	**	9.9±0.5	EI	5171
			**	10.0±1	EI	4687
			**	10±1	EI	3617

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
FAl$^+$						
	AlF	13595-82-9	**	9.86±0.05	S	4229
			**	9	EI	3606
F$_2$Al$^+$						
	AlF$_2$	13569-23-8	**	10	EI	3606
OFAl$^+$						
	AlOF	13596-12-8	**	10.5±1	EI	3462
			**	11	EI	3606
OF$_2$Al$^+$						
	AlOF$_2$	38344-66-0	**	13±1	EI	3606
C$_{15}$H$_{12}$O$_6$F$_9$Al$^+$						
	(CF$_3$COCHCOCH$_3$)$_3$Al	14354-59-7	**	9.22±0.07 (V)	PE	3682
	(Aluminum, tris(1,1,1-trifluoro-2,4-pentanedionato-*O,O'*)-)					
C$_{15}$H$_3$O$_6$F$_{18}$Al$^+$						
	(CF$_3$COCHCOCF$_3$)$_3$Al	15306-18-0	**	10.33±0.07 (V)	PE	3682
	(Aluminum, tris(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato-*O,O'*)-, (*OC*-6-11)-)					
Si$^+$						
	Si	7440-21-3	**	8.15172±0.00003	S	4582
			**	8.1±0.5	EI	3969
			**	8.2±0.5	EI	4200
			**	8.5±0.5	EI	3610
	SiH$_3$	7803-62-5		13.3	EI	3813
	CH$_3$SiH$_3$	992-94-9		12.1	EI	4625
	CH$_3$SiD$_3$	1066-43-9		11.8	EI	4625
HSi$^+$						
($^1\Sigma^+$)	SiH	13774-94-2	**	7.91	OTH	3564
	SiH$_4$	7803-62-5		14.7	EI	3813
	CH$_3$SiH$_3$	992-94-9		14.8	EI	4625
H$_2$Si$^+$						
	SiH$_4$	7803-62-5	H$_2$	11.8	EI	3813
			H$_2$	11.9±0.1	EI	5276
			2H?	16.2	EI	3813
	Si$_2$H$_6$	1590-87-0	SiH$_4$	11.95±0.1	EI	5276
	CH$_3$SiH$_3$	992-94-9	CH$_4$	11.5±0.1	EI	5276
				11.7	EI	4625
D$_2$Si$^+$						
	CH$_3$SiD$_3$	1066-43-9		11.6	EI	4625
H$_3$Si$^+$						
	SiH$_4$	7803-62-5	H	12.2	EI	3813
			H	12.3±0.1	EI	5276
	Si$_2$H$_6$	1590-87-0	SiH$_3$	11.75±0.1	EI	5276
	CH$_3$SiH$_3$	992-94-9		12.5	EI	4625
D$_3$Si$^+$						
	CH$_3$SiD$_3$	1066-43-9		12.4	EI	4625
H$_4$Si$^+$						
	SiH$_4$	7803-62-5	**	12.3 (V)	PE	4972
			**	11.60	PE	3716
			**	11.7	PE	5276

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$H_5Si_2^+$						
	Si_2H_6	1590-87-0	H	11.4±0.1	EI	5276
$H_6Si_2^+$						
	Si_2H_6	1590-87-0	**	10.0	PE	5276
			**	10.53 (V)	PE	4160
			**	10.53 (V)	PE	4558
$H_8Si_3^+$						
	Si_3H_8	7783-26-8	**	9.87 (V)	PE	4558
$H_{10}Si_4^+$						
	n-Si_4H_{10}	7783-29-1	**	9.62 (V)	PE	4558
$H_{12}Si_5^+$						
	n-Si_5H_{12}	14868-53-2	**	9.36 (V)	PE	4558
$H_{11}B_5Si^+$						
	$B_5H_8(SiH_3)$ (Pentaborane(9), 2,3-μ-silyl-)	22044-27-5	**	10.17 (V)	PE	4519
$H_{11}B_5Si^+$						
	$B_5H_8(SiH_3)$ (Pentaborane(9), 1-silyl-)	28556-29-8	**	10.40 (V)	PE	4519
	$B_5H_8(SiH_3)$ (Pentaborane(9), 2-silyl-)	22142-52-5	**	10.42 (V)	PE	4519
C_2Si^+						
	SiC_2	12071-27-1	**	10.1±0.5	EI	4005
			**	10.3±0.5	EI	3969
CSi_2^+						
	Si_2C	XXXXX-XX-X	**	9.0±0.5	EI	4005
	Si_2C	XXXXX-XX-X	**	9.5±0.5	EI	3969
CH_3Si^+						
	CH_3SiH_3	992-94-9		12.8	EI	4625
	CH_3SiD_3	1066-43-9		12.1	EI	4625
	$CH_2{=}CHSi(CH_3)_3$	754-05-2		15	EI	3809
CH_2DSi^+						
	CH_3SiD_3	1066-43-9		11.4	EI	4625
CH_4Si^+						
	CH_3SiH_3	992-94-9		11.3	EI	4625
			H_2	11.4±0.1	EI	5276
	$(CH_3)_2SiH_2$	1111-74-6	CH_4	11.1±0.1	EI	5276
CH_3DSi^+						
	CH_3SiD_3	1066-43-9	2D	11.5	EI	4625
$CH_2D_2Si^+$						
	CH_3SiD_3	1066-43-9	H,D	11.4	EI	4625
CH_5Si^+						
	CH_3SiH_3	992-94-9	H	11.8±0.1	EI	5276
			H	11.8	EI	4625
	$(CH_3)_2SiH_2$	1111-74-6	CH_3	11.5±0.1	EI	5276
	$CH_2{=}CHSi(CH_3)_3$	754-05-2		15	EI	3809
	$((CH_3)H_2Si)_2$	870-26-8	CH_3SiH_2	11.4±0.1	EI	5276

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$CH_3D_2Si^+$						
	CH_3SiD_3	1066-43-9	D	11.8	EI	4625
CH_6Si^+						
	CH_3SiH_3	992-94-9	**	10.7	PE	5276
			**	11.6 (V)	PE	4972
$C_2H_4Si^+$						
	$CH{\equiv}CSiH_3$	1066-27-9	**	10.73 (V)	PE	4160
$C_2H_6Si^+$						
	$CH_2{=}CHSiH_3$	7291-09-0	**	10.37 (V)	PE	3950
			**	10.4 (V)	PE	3940
	$(CH_3)_2SiH_2$	1111-74-6	H_2	10.7±0.1	EI	5276
	$(CH_3)_3SiH$	993-07-7	CH_4	10.5±0.1	EI	5276
	$(CH_3)_2HSiSiH_2CH_3$	814-74-4	CH_3SiH_3	10.75±0.1	EI	5276
	$((CH_3)_2HSi)_2$	814-98-2	$(CH_3)_2SiH_2$	10.7±0.1	EI	5276
$C_2H_7Si^+$						
	$(CH_3)_2SiH_2$	1111-74-6	H	11.1±0.1	EI	5276
	$(CH_3)_3SiH$	993-07-7	CH_3	10.9±0.1	EI	5276
	$CH_2{=}CHSi(CH_3)_3$	754-05-2		13	EI	3809
	$((CH_3)H_2Si)_2$	870-26-8	SiH_3	10.3±0.1	EI	5276
	$(CH_3)_2HSiSiH_2CH_3$	814-74-4	CH_3SiH_2	10.75±0.1	EI	5276
	$((CH_3)_2HSi)_2$	814-98-2	$(CH_3)_2SiH$	10.8±0.1	EI	5276
$C_2H_8Si^+$						
	$(CH_3)_2SiH_2$	1111-74-6	**	10.3	PE	5276
			**	11.2 (V)	PE	4972
$C_3H_8Si^+$						
	$(CH_3)_2Si{=}CH_2$	4112-23-6	**	7.5±0.3	OTH	5287
	$CH_2{=}CHCH_2SiH_3$	18191-59-8	**	9.49 (V)	PE	3950
	C_3H_8Si (*Silacyclobutane*)	287-29-6	**	10.05 (V)	PE	4077
	$CH_2{=}CHSi(CH_3)_3$	754-05-2	C_2H_4	10	EI	3809
	$C_3H_6Si(CH_3)_2$ (Silacyclobutane,1,1-dimethyl-)	2295-12-7	C_2H_4	9.61	PI	5287
$C_3H_9Si^+$						
	$(CH_3)_3SiH$	993-07-7	H	10.5±0.1	EI	5276
	$(CH_3)_4Si$	75-76-3	CH_3	10.03±0.04	PI	4907
			CH_3	10.25±0.1	EI	5276
			CH_3	10.53±0.20	EI	3548
			CH_3	10.63±0.05	EI	4126
	$CH_2{=}CHSi(CH_3)_3$	754-05-2	C_2H_3	11	EI	3809
	$(CH_3)_3SiC_2H_5$	3439-38-1	C_2H_5	10.0±0.1	EI	5276
	$(CH_3)_2HSiSiH_2CH_3$	814-74-4	SiH_3	9.8±0.1	EI	5276
	$(CH_3)_3SiSiH_3$	18365-32-7	SiH_3	9.7±0.1	EI	5276
	$((CH_3)_2HSi)_2$	814-98-2	CH_3SiH_2	10.1±0.1	EI	5276
	$(CH_3)_3SiSiH(CH_3)_2$	812-15-7	$(CH_3)_2SiH$	10.0	EI	5276
			$(CH_3)_2SiH$	10.2±0.1	EI	5276
	$(CH_3)_6Si_2$	1450-14-2	$(CH_3)_3Si$	9.9	EI	5276
	$(CH_3)_6Si_2$	1450-14-2	$(CH_3)_3Si$	10.22±0.18	EI	3548
	$C_6H_5Si_2(CH_3)_5$ (Disilane, pentamethylphenyl-)	1130-17-2	$C_6H_5Si(CH_3)_2$	10.08±0.09	EI	3549
	$(C_6H_5)_2SiCH_3Si(CH_3)_3$ (Disilane, 1,1,1,2-tetramethyl-2,2-diphenyl-)	1450-16-4		10.59±0.03	EI	3549
	$(C_6H_5(CH_3)_2Si)_2$ (Disilane, 1,1,2,2-tetramethyl-1,2-diphenyl-)	1145-98-8	$(C_6H_5)_2SiCH_3$	11.04±0.03	EI	3549
	$(C_6H_5)_3SiSi(CH_3)_3$ (Disilane, 1,1,1-trimethyl-2,2,2-triphenyl-)	1450-18-6	$(C_6H_5)_3Si$	10.83±0.09	EI	3549

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_3H_9Si^+$						
	$(CH_3)_2NCH_2Si(CH_3)_3$	18182-40-6	C_3H_8N	9.76	PI	5543
	$(CH_3)_3SiOSi(CH_3)_3$	107-46-0		15.4±0.2	EI	3444
	$(CH_3)_3SiOSi(CH_3)_2OSi(CH_3)_3$	107-51-7		15.8±0.2	EI	3444
	$(CH_3)_3SiOSi(CH_3)(C_2H_3)OSi(CH_3)_3$	5356-85-4		15.4±0.2	EI	3444
	$(CH_3)_3SiOSi(CH_3)(C_2H_5)OSi(CH_3)_3$	17861-60-8		15.3±0.2	EI	3444
	$C_6H_5SSi(CH_3)_3$ (Silane, trimethyl(phenylthio)-)	4551-15-9		10.18±0.1	EI	4198
	$(CH_3)_3SiCl$	30687-62-8	Cl	11.6±0.1	EI	5276
	$((CH_3)_3Si)(CO)_5Mn$	26500-16-3		9.81±0.11	EI	5321
	$(CH_3)_3SiGe(CH_3)_3$	31608-80-7	$(CH_3)_3Ge$	10.19±0.12	EI	3548
	$((CH_3)_3Si)(CH_3)_3Sn$	16393-88-7	$(CH_3)_3Sn$	10.18±0.26	EI	3548
$C_3H_{10}Si^+$						
	$(CH_3)_3SiH$	993-07-7	**	9.9	PE	5276
			**	10.8 (V)	PE	4972
$C_4H_7Si^+$						
	$(CH_3)_3SiC{\equiv}CH$	1066-54-2	CH_3	10.79±0.04	EI	4126
$C_4H_8Si^+$						
	C_4H_8Si (Silacyclopent-3-ene)	XXXXX-XX-X	**	9.21 (V)	PE	4517
$C_4H_9Si^+$						
	$CH_2{=}CHSi(CH_3)_3$	754-05-2	CH_3	.9	EI	3809
$C_4H_{10}Si^+$						
	$(C_2H_5)_2SiH_2$	542-91-6	H_2	10.0±0.1	EI	5276
	$(C_2H_5)_3SiH$	617-86-7	C_2H_6	9.75±0.1	EI	5276
$C_4H_{12}Si^+$						
	$(CH_3)_4Si$	75-76-3	**	9.80±0.03	PI	4907
			**	9.42±0.1	PE	3677
			**	9.6	PE	5276
			**	9.79±0.04	PE	3880
			**	10.4 (V)	PE	4972
			**	10.57 (V)	PE	5368
($^2A_1$)			**	15.62 (V)	PE	3503
			**	9.85±0.16	EI	3548
			**	9.99±0.03	EI	4126
	$(C_2H_5)_2SiH_2$	542-91-6	**	9.8	PE	5276
			**	10.3 (V)	PE	4972
$C_5H_5Si^+$						
	$(CH_3)_2Si(C{\equiv}CH)_2$	1675-60-1	CH_3	12.05±0.05	EI	4126
$C_5H_6Si^+$						
	C_5H_5SiH (Silabenzene)	289-77-0	**	8.0 (V)	PE	5107
$C_5H_8Si^+$						
	$C_5H_5(SiH_3)$ (Silane, 2,4-cyclopentadien-1-yl-)	33618-25-6	**	8.7 (V)	PE	4373
			**	8.7 (V)	PE	4179
$C_5H_{10}Si^+$						
	$(CH_3)_3SiC{\equiv}CH$	1066-54-2	**	9.9±0.1	PE	4002
			**	10.40±0.02	EI	4126
$C_5H_{12}Si^+$						
	$(CH_3)_3SiCH{=}CH_2$	754-05-2	**	9.8 (V)	PE	3908

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_{12}Si^+$						
	$(CH_3)_3SiCH=CH_2$	754-05-2	**	9.8 (V)	PE	3940
			**	9.2	EI	3809
	$C_3H_6Si(CH_3)_2$ (Silacyclobutane, 1,1-dimethyl-)	2295-12-7	**	9.40 (V)	PE	4077
$C_5H_{14}Si^+$						
	$(CH_3)_3SiC_2H_5$	3439-38-1	**	9.6	PE	5276
$C_6H_3Si^+$						
	$CH_3Si(C\equiv CH)_3$	1849-39-4	CH_3	12.81±0.07	EI	4126
$C_6H_8Si^+$						
	$(CH_3)_2Si(C\equiv CH)_2$	1675-60-1	**	10.85±0.10	EI	4126
	$C_5H_5SiCH_3$ (Silabenzene,1-methyl-)	63878-65-9	**	7.7 (V)	PE	5216
	$C_6H_5SiH_3$ (Silane, phenyl-)	694-53-1	**	9.09	PE	3868
			**	9.25	PE	3922
$C_6H_{12}Si^+$						
	$(C_2H_3)_2Si(CH_3)_2$	10519-87-6	**	9.8 (V)	PE	3994
			**	9.8 (V)	PE	5089
	$C_6H_{12}Si$ (Silacyclopent-2-ene,1,1-dimethyl-)	18187-50-3	**	9.27±0.03 (V)	PE	5389
	$C_4H_6Si(CH_3)_2$ (Silacyclopent-3-ene,1,1-dimethyl-)	16054-12-9	**	9.0 (V)	PE	5550
			**	9.1±0.03 (V)	PE	5389
$C_6H_{14}Si^+$						
	$(CH_3)_3SiCH_2CH=CH_2$	762-72-1	**	9.0 (V)	PE	3908
			**	9.0 (V)	PE	3940
	$C_3H_5Si(CH_3)_3$ (Silacyclobutane, 1,1,2-trimethyl-)	30681-90-4	**	9.20 (V)	PE	4077
	$C_4H_8Si(CH_3)_2$ (Silacyclopentane, 1,1-dimethyl-)	1072-54-4	**	9.75 (V)	PE	4077
$C_6H_{15}Si^+$						
	$(C_2H_5)_3SiH$	617-86-7	H	10.4±0.1	EI	5276
	$(C_2H_5)_4Si$	631-36-7	C_2H_5	10.0±0.1	EI	5276
$C_6H_{16}Si^+$						
	$(C_2H_5)_3SiH$	617-86-7	**	9.5	PE	5276
			**	9.9 (V)	PE	4985
			**	10.0 (V)	PE	4972
$C_7H_6Si^+$						
	$CH_3Si(C\equiv CH)_3$	1849-39-4	**	11.06±0.03	EI	4126
$C_7H_9Si^+$						
	$C_6H_5SiH(CH_3)_2$ (Silane, dimethylphenyl-)	766-77-8	CH_3	8.72	EI	4125
$C_8H_4Si^+$						
	$Si(C\equiv CH)_4$	1849-38-3	**	11.34	EI	4126
$C_8H_{11}Si^+$						
	$C_6H_5Si(CH_3)_2H$ (Silane, dimethylphenyl-)	766-77-8	H	10.43±0.04	EI	3549
	$C_6H_4(CH_3)SiH(CH_3)_2$ (Silane, dimethyl(4-methylphenyl)-)	1432-39-9	CH_3	8.34	EI	4125
	$C_6H_5Si(CH_3)_3$ (Silane, trimethylphenyl-)	768-32-1	CH_3	10.26±0.03	EI	3549

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_{11}Si^+$						
	$C_6H_5Si_2(CH_3)_5$ (Disilane, pentamethylphenyl-)	1130-17-2	$Si(CH_3)_3$	9.86±0.06	EI	3549
	$(C_6H_5)_2SiCH_3Si(CH_3)_3$ (Disilane, 1,1,1,2-tetramethyl-2,2-diphenyl-)	1450-16-4	$C_6H_5Si(CH_3)_2$	9.75±0.04	EI	3549
	$(C_6H_5(CH_3)_2Si)_2$ (Disilane, 1,1,2,2-tetramethyl-1,2-diphenyl-)	1145-98-8	$C_6H_5Si(CH_3)_2$	9.87±0.08	EI	3549
	$(C_6H_5)_3SiSi(CH_3)_3$ (Disilane, 1,1,1-trimethyl-2,2,2-triphenyl-)	1450-18-6	$(C_6H_5)_2SiCH_3$	10.13±0.03	EI	3549
$C_8H_{12}Si^+$						
	$(C_2H_3)_4Si$	1112-55-6	**	9.7 (V)	PE	3994
	$C_6H_5Si(CH_3)_2H$ (Silane, dimethylphenyl-)	766-77-8	**	8.92±0.15	EI	3549
$C_8H_{14}Si^+$						
	$C_5H_5(Si(CH_3)_3)$ (Silane,2,4-cyclopentadien-1-yltrimethyl-)	3559-74-8	**	8.30 (V)	PE	5535
$C_8H_{20}Si^+$						
	$(C_2H_5)_4Si$	631-36-7	**	8.9	PE	5276
			**	9.8 (V)	PE	4985
$C_9H_{14}Si^+$						
	$C_6H_5Si(CH_3)_3$ (Silane,trimethylphenyl-)	768-32-1	**	9.0 (V)	PE	5380
			**	9.05 (V)	PE	4280
			**	8.81±0.15	EI	3549
			**	8.79	CTS	3922
$C_9H_{22}Si^+$						
	(*iso*-$C_3H_7)_3SiH$	6485-79-6	**	9.5 (V)	PE	4985
$C_{10}H_{10}Si^+$						
	$C_{10}H_7SiH_3$ (Silane, 1-naphthalenyl-)	38274-75-8	**	8.12	CTS	3922
$C_{10}H_{14}Si^+$						
	$C_8H_8Si(CH_3)_2$ (1-Silaindan, 1,1-dimethyl-)	17158-48-4	**	8.54	CTS	3546
	$C_8H_8Si(CH_3)_2$ (1*H*-2-Silaindene, 2,3-dihydro-2,2-dimethyl-)	2764-87-6	**	8.41	CTS	3546
$C_{10}H_{16}Si^+$						
	$C_6H_5CH_2Si(CH_3)_3$ (Silane,trimethyl(phenylmethyl))	770-09-2	**	8.35	PE	5574
			**	8.4	PE	4589
			**	8.42 (V)	PE	4280
			**	8.27	CTS	3922
			**	8.37	CTS	3546
$C_{11}H_{16}Si^+$						
	$C_6H_5CH=CHSi(CH_3)_3$ (Silane, trimethyl(2-phenylethenyl)-, (E)-)	19372-00-0	**	7.89±0.04	EI	4097
	$C_6H_5CH=CHSi(CH_3)_3$ (Silane, trimethyl(2-phenylethenyl)-, (Z)-)	19319-11-0	**	8.19±0.04	EI	4097
	$C_6H_5C(Si(CH_3)_3)=CH_2$ (Silane, trimethyl(1-phenylethenyl)-)	1923-01-9	**	8.23±0.04	EI	4097
$C_{12}H_{12}Si^+$						
	$(C_6H_5)_2SiH_2$ (Silane, diphenyl-)	775-12-2	**	9.23±0.05 (V)	PE	4620

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{12}H_{16}Si^+$						
	$C_9H_7Si(CH_3)_3$ (Silane, 1*H*-inden-1-yltrimethyl-))	18053-75-3	**	7.65±0.01	EI	3805
$C_{12}H_{18}Si^+$						
	$C_9H_9Si(CH_3)_3$ (Silane, (2,3-dihydro-1*H*-inden-1-yl)trimethyl-)	18036-88-9	**	7.87±0.01	EI	3805
			**	8.13	CTS	3546
	$C_6H_5CH=CHCH_2Si(CH_3)_3$ (Silane, trimethyl(3-phenyl-2-propenyl)-, (E)-)	40595-34-4	**	7.61±0.04	EI	4097
	$C_6H_5CH=CHCH_2Si(CH_3)_3$ (Silane, trimethyl(3-phenyl-2-propenyl)-, (Z)-)	40595-35-5	**	7.77±0.04	EI	4097
$C_{13}H_{13}Si^+$						
	$(C_6H_5)_2Si(CH_3)H$ (Silane, methyldiphenyl-)	776-76-1	H	10.97±0.12	EI	3549
	$(C_6H_5)_2SiCH_2Si(CH_3)_3$ (Disilane, 1,1,1,2-tetramethyl-2,2-diphenyl-)	1450-16-4	$(CH_3)_3Si$	9.63±0.02	EI	3549
	$(C_6H_5(CH_3)_2Si)_2$ (Disilane, 1,1,2,2-tetramethyl-1,2-diphenyl-)	1145-98-8	$(CH_3)_3Si$	9.60±0.02	EI	3549
	$((C_6H_5)_2CH_3Si)_2$ (Disilane, 1,2-dimethyl-1,1,2,2-tetraphenyl-)	1172-76-5	$(C_6H_5)_2SiCH_3$	9.51±0.05	EI	3549
$C_{13}H_{14}Si^+$						
	$(C_6H_5)_2Si(CH_3)H$ (Silane, methyldiphenyl-)	776-76-1	**	8.75±0.15	EI	3549
$C_{13}H_{16}Si^+$						
	$C_{10}H_7Si(CH_3)_3$ (Silane, trimethyl-1-naphthalenyl-)	18052-80-7	**	8.03	CTS	3758
$C_{14}H_{14}Si^+$						
	$C_{12}H_8Si(CH_3)_2$ (5*H*-Dibenzosilole, 5,5-dimethyl-)	13688-68-1	**	7.9 (V)	PE	4081
$C_{14}H_{18}Si^+$						
	$C_{10}H_7CH_2Si(CH_3)_3$ (Silane, trimethyl(1-naphthalenylmethyl)-)	18410-58-7	**	7.83	CTS	3758
			**	7.83	CTS	3922
$C_{17}H_{18}Si^+$						
	$C_9H_7Si(CH_3)_2C_6H_5$ (Silane, 1*H*-inden-1-yldimethylphenyl-)	27490-90-0	**	7.69±0.04	EI	3805
$C_{17}H_{20}Si^+$						
	$C_9H_9Si(CH_3)_2C_6H_5$ (Silane, (2,3-dihydro-1*H*-inden-1-yl)dimethylphenyl-)	41273-54-5	**	7.94±0.01	EI	3805
$C_{18}H_{15}Si^+$						
	$(C_6H_5)_3SiH$ (Silane, triphenyl-)	789-25-3	H	9.58±0.08	EI	3549
	$(C_6H_5)_4Si$ (Silane, tetraphenyl-)	1048-08-4	C_6H_5	9.7	PI	4055
			C_6H_5	9.93±0.08	EI	3549
	$(C_6H_5)_3SiSi(CH_3)_3$ (Disilane, 1,1,1-trimethyl-2,2,2-triphenyl-)	1450-18-6	$(CH_3)_3Si$	9.35±0.03	EI	3549
	$((C_6H_5)_2CH_3Si)_2$ (Disilane, 1,2-dimethyl-1,1,2,2-tetraphenyl-)	1172-76-5	$C_6H_5Si(CH_3)_2$	9.35±0.03	EI	3549
	$((C_6H_5)_3Si)_2$ (Disilane, hexaphenyl-)	1450-23-3	$(C_6H_5)_3Si$	9.61±0.09	EI	3549

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{18}H_{16}Si^+$						
	$(C_6H_5)_3SiH$ (Silane, triphenyl-)	789-25-3	**	9.13±0.05 (V)	PE	4620
			**	8.80±0.15	EI	3549
$C_{22}H_{20}Si^+$						
	$C_{10}H_7Si(CH_3)_2C_{10}H_7$ (Silane, dimethyl-di-1-naphthalenyl-)	18753-19-0	**	8.03	CTS	3758
$C_{24}H_{16}Si^+$						
	$C_{24}H_{16}Si$ (5,5′-Spirobi[5*H*-dibenzosilole])	159-68-2	**	7.85 (V)	PE	4081
$C_{24}H_{20}Si^+$						
	$(C_6H_5)_4Si$ (Silane, tetraphenyl-)	1048-08-4	**	8.50±0.03	PI	4055
			**	8.65±0.15	EI	3549
$C_2H_6Si_2^+$						
	$SiH_3C{\equiv}CSiH_3$	XXXXX-XX-X	**	10.46 (V)	PE	4160
$C_6H_{18}Si_2^+$						
	$(CH_3)_6Si_2$	1450-14-2	**	8.0	PE	5276
			**	8.69 (V)	PE	3504
			**	8.35±0.12	EI	3548
			**	8.46±0.15	EI	3549
$C_7H_{20}Si_2^+$						
	$((CH_3)_3Si)_2CH_2$	2117-28-4	**	9.5 (V)	PE	4457
$C_8H_{20}Si_2^+$						
	$C_8H_{20}Si_2$	18178-59-1	**	9.19 (V)	PE	4715
$C_8H_{22}Si_2^+$						
	$(CH_3)_3SiCH_2CH_2Si(CH_3)_3$	6231-76-1	**	8.78 (V)	PE	4457
$C_9H_{24}Si_2^+$						
	$(CH_3)_3Si(CH_2)_3Si(CH_3)_3$	2295-05-8	**	9.41 (V)	PE	4457
$C_{10}H_{18}Si_2^+$						
	$((CH_3)_3SiCC)_2$	4526-07-2	**	8.85 (V)	PE	5332
$C_{10}H_{22}Si_2^+$						
	$C_{10}H_{22}Si_2$	18081-31-7	**	8.45±0.04	EI	4274
	$CH_2{=}C(Si(CH_3)_3)C(Si(CH_3)_3){=}CH_2$	22472-36-2		8.65±0.04	EI	4274
	$C_{10}H_{22}Si_2$	22500-95-4	**	8.45±0.04	EI	4274
	trans,trans-$((CH_3)_3SiCH{=}CH)_2$	22430-47-3	**	8.43±0.04	EI	4274
$C_{10}H_{24}Si_2^+$						
	$C_{10}H_{24}Si_2$	XXXXX-XX-X	**	8.30 (V)	PE	5535
$C_{11}H_{20}Si_2^+$						
	$C_6H_5Si_2(CH_3)_5$ (Disilane, pentamethylphenyl-)	1130-17-2	**	8.35 (V)	PE	3946
			**	8.35±0.15	EI	3549
			**	8.37	CTS	3946
	$C_6H_4(SiH(CH_3)_2)Si(CH_3)_3$ (Silane,[4-(dimethylsilyl)phenyl]trimethyl-)	27856-24-2	**	8.4±0.2	EI	4121
$C_{11}H_{22}Si_2^+$						
	$C_5H_4(Si(CH_3)_3)_2$ (Silane,2,4-cyclopentadien-1-ylidenebis[trimethyl-)	33630-76-1	**	8.05 (V)	PE	5535

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{12}H_{10}Si_2^+$						
	$C_8H_8Si(CH_3)Si(CH_3)_3$ (2-Silaindan, 2-methyl-2-(trimethylsilyl)-)	27490-20-6	**	8.37	CTS	3546
$C_{12}H_{22}Si_2^+$						
	$C_6H_5CH_2Si_2(CH_3)_5$ (Disilane, pentamethyl(phenylmethyl)-)	3098-82-6	**	8.27	CTS	3546
	$C_6H_4(Si(CH_3)_3)_2$ (Silane,1,4-phenylenebis[trimethyl-)	13183-70-5	**	8.98 (V)	PE	5380
$C_{12}H_{24}Si_2^+$						
	$C_6H_6(Si(CH_3)_3)_2$ (Silane,2,5-cyclohexadiene-1,4-diylbis[trimethyl-*trans*-)	54380-47-1	**	7.70 (V)	PE	5535
$C_{12}H_{28}Si_2^+$						
	$C_{12}H_{28}Si_2$ (Silane,2,3-dimethyl-2-butene-1,4-diyl)bis[trimethyl-*trans*-)	XXXXX-XX-X	**	7.70 (V)	PE	5535
$C_{12}H_{30}Si_2^+$						
	(*tert*-$C_4H_9Si(CH_3)_2)_2$	63262-93-1	**	8.52 (V)	PE	4683
$C_{13}H_{22}Si_2^+$						
	$C_6H_5CH=CHSi_2(CH_3)_5$ (Disilane, pentamethyl(2-phenylethenyl)-, (E)-)	40595-36-6	**	7.73±0.04	EI	4097
$C_{13}H_{24}Si_2^+$						
	$C_6H_5CH(Si(CH_3)_3)_2$ (Silane,(phenylmethylene)bis[trimethyl)	14595-77-8	**	8.10	PE	5574
			**	8.10 (V)	PE	5012
$C_{14}H_{22}Si_2^+$						
	$C_{14}H_{22}Si_2$ (2,6-Disila-s-indacene,1,2,3,5,6,7-hexahydro-2,2,6,6-tetramethyl-)	69020-20-2	**	7.80 (V)	PE	5629
$C_{14}H_{24}Si_2^+$						
	$C_9H_9Si_2(CH_3)_5$ (Disilane, 1-indanylpentamethyl-)	27490-23-9	**	8.07	CTS	3546
	$C_6H_5CH=C(Si(CH_3)_3)_2$ (Silane, (phenylethenylidene)bis[trimethyl-)	18415-23-1	**	8.12±0.04	EI	4097
$C_{14}H_{26}Si_2^+$						
	$C_6H_4(CH_2Si(CH_3)_3)_2$ (Silane, [1,2-phenylenebis(methylene)bis[trimethyl-)	18412-14-1	**	8.05 (V)	PE	5012
			**	8.05 (V)	PE	5629
	$C_{14}H_{26}Si_2$ (Silane,[1,3-phenylenebis(methylene)]bis[trimethyl-)	18412-15-2	**	8.05 (V)	PE	5629
			**	8.10 (V)	PE	5012
	$C_6H_4(CH_2Si(CH_3)_3)_2$ (Silane,[1,4-phenylenebis(methylene)]bis[trimethyl)	17557-09-4	**	7.75	PE	5574
			**	7.75 (V)	PE	5012
$C_{14}H_{32}Si_2^+$						
	$C_{14}H_{32}Si_2$	XXXXX-XX-X	**	7.90 (V)	PE	5535
$C_{15}H_{22}Si_2^+$						
	$C_{10}H_7Si_2(CH_3)_5$ (Disilane, pentamethyl-1-naphthalenyl-)	38446-40-1	**	7.95	CTS	3758
$C_{15}H_{24}Si_2^+$						
	$C_6H_6(Si(CH_3)_3)_2$ (Silane, 1*H*-indene-1,2-diylbis[trimethyl-)	26205-36-7	**	7.54±0.01	EI	3805

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{16}H_{22}Si_2^+$						
	$(C_6H_5)_2SiCH_3Si(CH_3)_3$	1450-16-4	**	8.38±0.15	EI	3549
	(Disilane, 1,1,1,2-tetramethyl-2,2-diphenyl-)					
	$(C_6H_5(CH_3)_2Si)_2$	1145-98-8	**	8.11±0.15	EI	3549
	(Disilane, 1,1,2,2-tetramethyl-1,2-diphenyl-)					
$C_{16}H_{30}Si_2^+$						
	$C_{16}H_{30}Si_2$	69020-19-5	**	7.70 (V)	PE	5629
	(Silane,[(2,5-dimethyl-1,4-phenylene)bis(methylene)]bis[trimethyl-)					
	$C_{16}H_{30}Si_2$	62347-03-9	**	7.95 (V)	PE	5629
	(Silane,[(4,6-dimethyl-1,3-phenylene)bis(methylene)]bis[trimethyl-)					
$C_{18}H_{34}Si_2^+$						
	$C_{18}H_{34}Si_2$	69020-17-3	**	7.25 (V)	PE	5629
	(Silane[(2,3,5,6-tetramethyl-1,4-phenylene)bis(methylene)]bis[trimethyl-)					
$C_{20}H_{30}Si_2^+$						
	$(C_6H_4(CH_2Si(CH_3)_3))_2$	61342-05-0	**	7.60 (V)	PE	5012
	(Silane, [[1,1'-biphenyl]-4,4'-diylbis(methylene)] bis[trimethyl-)					
$C_{20}H_{38}Si_2^+$						
	$C_6H_4(CH_2Si(C_2H_5)_3)_2$	18724-34-0	**	7.75	PE	5574
	(Silane,[1,4-phenylenebis(methylene)bis]triethyl-)					
$C_{21}H_{24}Si_2^+$						
	$(C_6H_5)_3SiSi(CH_3)_3$	1450-18-6	**	8.30±0.15	EI	3549
	(Disilane, 1,1,1-trimethyl-2,2,2-triphenyl-)					
$C_{24}H_{26}Si_2^+$						
	$C_{10}H_7(Si(CH_3)_2)_2C_{10}H_7$	38446-41-2	**	7.91	CTS	3758
	(Disilane, 1,1,2,2-tetramethyl-1,2-di-1-naphthalenyl-)					
$C_{26}H_{26}Si_2^+$						
	$((C_6H_5)_2CH_3Si)_2$	1172-76-5	**	8.05±0.15	EI	3549
	(Disilane, 1,2-dimethyl-1,1,2,2-tetraphenyl-)					
$C_{36}H_{30}Si_2^+$						
	$((C_6H_5)_3Si)_2$	1450-23-3	**	8.16±0.15	EI	3549
	(Disilane, hexaphenyl-)					
$C_8H_{24}Si_3^+$						
	$Si_3(CH_3)_8$	3704-44-7	**	8.19 (V)	PE	3504
$C_{16}H_{32}Si_3^+$						
	$C_6H_5C(Si(CH_3)_3)_3$	14595-76-7	**	8.10	PE	5574
	(Silane,(phenylmethylidene)tris[trimethyl-)					
			**	8.10 (V)	PE	5012
$C_{17}H_{28}Si_3^+$						
	$C_{10}H_7Si_3(CH_3)_7$	38446-42-3	**	7.93	CTS	3758
	(Trisilane, 1,1,1,2,2,3,3-heptamethyl-3-(1-naphthalenyl)-)					
	$C_{10}H_7Si(Si(CH_3)_3)_2CH_3$	38446-43-4	**	7.85	CTS	3758
	(Trisilane, 1,1,1,2,3,3,3-heptamethyl-2-)(-naphthalenyl)-)					
$C_{18}H_{36}Si_3^+$						
	$C_6H_3(CH_2Si(CH_3)_3)_3$	59305-32-7		7.85 (V)	PE	5012
	(Silane, [1,3,5-benzenetriyltris(methylene)tris[trimethyl-)					
			**	7.85 (V)	PE	5629
$C_{21}H_{42}Si_3^+$						
	$C_{21}H_{42}Si_3$	69020-18-4	**	7.40 (V)	PE	5629
	(Silane,[(2,4,6-trimethyl-1,3,5-benzenetriyl)tris (methylene)]tris[trimethyl-)					

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{26}H_{32}Si_3^+$	$C_{10}H_7(Si(CH_3)_2)_3C_{10}H_7$ (Trisilane, 1,1,2,2,3,3-hexamthyl-1,3-di-1-naphthalenyl-)	38580-43-7	**	7.92	CTS	3758
$C_6H_{16}Si_4^+$	$C_6H_{16}Si_4$ (1,3,5,7-Tetrasilatricyclo[3.3.1.1^{3,7}]decane)	281-44-7	**	9.0±0.05	PE	3855
			**	9.7 (V)	PE	4000
$C_{10}H_{24}Si_4^+$	$C_6H_{12}Si_4(CH_3)_4$ (1,3,5,7-Tetrasilatricyclo[3.3.1.1^{3,7}]decane, 1,3,5,7-tetramethyl-)	17995-33-4	**	8.45±0.05	PE	3855
$C_{10}H_{30}Si_4^+$	n-$Si_4(CH_3)_{10}$	865-76-9	**	7.98 (V)	PE	3504
$C_{18}H_{38}Si_4^+$	$C_{18}H_{38}Si_4$ (Silane,1,2,4,5-benzenetetrayltetrakis[trimethyl-)	17156-61-5	**	8.30 (V)	PE	5319
$C_{18}H_{40}Si_4^+$	$C_6H_4(Si(CH_3)_3)_4$ (Silane,2,5-cyclohexadiene-1,4-diyltetrakis[trimethyl-)	XXXXX-XX-X	**	7.00 (V)	PE	5535
$C_{18}H_{44}Si_4^+$	$((CH_3)_3SiCH_2)_4C=C$	XXXXX-XX-X	**	7.15 (V)	PE	5535
$C_{20}H_{42}Si_4^+$	$C_6H_4(CH(Si(CH_3)_3)_2)_2$ (Silane(1,4-phenylenedimethylidene)tetrakis[trimethyl)	17557-10-7	**	7.40	PE	5574
			**	7.40 (V)	PE	5012
$C_{20}H_{48}Si_4^+$	(*tert*-$C_4H_9SiCH_3)_4$		**	7.42 (V)	PE	4683
$C_{22}H_{46}Si_4^+$	$C_6H_2(CH_2Si(CH_3)_3)_4$ (Silane, [1,2,4,5-benzenetetrayltetrakis(methylene)] tetrakis[trimethyl-)	64131-86-8		7.10 (V)	PE	5012
			**	7.10 (V)	PE	5629
$C_{22}H_{48}Si_4^+$	$C_{10}H_{12}(Si(CH_3)_3)_4$ (Silane,(1,2,3,4,5,6,7,8-octahydro-1,4,5,8-naphthalenetetrayl) tetrakis[trimethyl-)	XXXXX-XX-X	**	6.98 (V)	PE	5535
$C_{10}H_{30}Si_5^+$	$Si_5(CH_3)_{10}$ (Cyclopentasilane, decamethyl-)	13452-92-1	**	7.94 (V)	PE	3504
$C_{12}H_{36}Si_5^+$	$Si(Si(CH_3)_3)_4$	4098-98-0	**	8.24 (V)	PE	3504
$C_{12}H_{36}Si_6^+$	$Si_6(CH_3)_{12}$ (Cyclohexasilane, dodecamethyl-)	4098-30-0	**	7.79 (V)	PE	3504
$C_{22}H_{54}Si_6^+$	$(((CH_3)_3Si)_3CC)_2$	20932-80-3	**	7.60 (V)	PE	5332
$C_{26}H_{58}Si_6^+$	$C_6H_4(C(Si(CH_3)_3)_3)_2$ (Silane(1,4-phenylenedimethanetetrayl)hexakis)	17557-11-8	**	7.45	PE	5574

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{26}H_{58}Si_6^+$						
	$C_6H_4(C(Si(CH_3)_3)_3)_2$	17557-11-8	**	7.45 (V)	PE	5012
$C_{30}H_{66}Si_6^+$						
	$C_6(CH_2Si(CH_3)_3)_6$ (Silane, [1,2,3,4,5,6-benzenehexaylhexakis(methylene)] hexakis[trimethyl-)	64131-87-9	**	7.40 (V)	PE	5012
			**	7.40 (V)	PE	5629
$C_{16}H_{36}Si_7^+$						
	$C_{10}H_{18}Si_7(CH_3)_6$ (2*H*-1,5:8,12-Dimethano-3,6a,10-metheno-1,3,5,6a,8,10,12-heptasilaoctalene, dodecahydro-1, 3,5,8,10,12-hexamethyl-)	26393-20-4	**	7.9±0.05	PE	3855
NSi_2^+						
	Si_2N	12293-67-3	**	9.5±0.5	EI	3810
			**	9.3±0,5	EI	4200
$H_3N_3Si^+$						
	SiH_3N_3	13847-60-4	**	10.33±0.02 (V)	PE	3670
$H_9NSi_3^+$						
	$(SiH_3)_3N$	13862-16-3	**	9.7±0.1 (V)	PE	3661
$C_2H_9NSi^+$						
	$(CH_3)_2NSiH_3$	2875-98-1	**	8.5±0.1 (V)	PE	3661
$C_4H_{13}NSi^+$						
	$NH_2(CH_2Si(CH_3)_3)$	18166-02-4	**	9.07 (V)	PE	5102
$C_5H_{15}NSi^+$						
	$NH(CH_3)(CH_2Si(CH_3)_3)$	18135-05-2	**	8.55 (V)	PE	5102
$C_6H_{17}NSi^+$						
	$C_6H_{17}NSi$	13014-85-2	**	8.46 (V)	PE	5102
	$(CH_3)_2NCH_2Si(CH_3)_3$	18182-40-6	**	7.61	PI	5543
			**	7.63±0.05	PE	4192
			**	8.20 (V)	PE	5102
$C_7H_{19}NSi^+$						
	$C_7H_{19}NSi$ (*tert*-$C_4H_9NHSi(CH_3)_3$)	5577-67-3	**	8.41±0.05 (V)	PE	4725
$C_8H_{13}NSi^+$						
	$C_5H_4NS(CH_3)_3$ (Pyridine, 2-(trimethylsilyl)-)	13737-04-7	**	8.90±0.05 (V)	PE	3685
	$C_5H_4NS(CH_3)_3$ (Pyridine, 4-(trimethylsilyl)-)	18301-46-7	**	9.30±0.05 (V)	PE	3685
$C_8H_{21}NSi^+$						
	$C_8H_{21}NSi$	10545-36-5	**	7.93 (V)	PE	5102
$C_9H_{14}NSi^+$						
	$C_6H_4(N(CH_3)_2)SiH(CH_3)_2$ (Benzenamine, 4-(dimethylsilyl)-*N*,*N*-dimethyl-)	2516-75-8	CH_3	7.08	EI	4125
$C_9H_{21}NSi^+$						
	$C_5H_{10}NCH_2Si(CH_3)_3$ (Piperidine,1-[(trimethylsilyl)methyl]-	17877-17-7	**	8.18 (V)	PE	5102
$C_7H_{18}N_2Si^+$						
	tert-$C_4H_9N{=}NSi(CH_3)_3$	25811-66-9	**	7.6±0.2 (V)	PE	4581

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_{12}O_2Si^+$	$C_3H_6Si(OCH_3)_2$ (Silacyclobutane, 1,1-dimethoxy-)	33446-84-3	**	10.15 (V)	PE	4077
$C_{10}H_{16}O_2Si^+$	$CH_3OC_6H_4Si(CH_3)_2OCH_3$ (Silane,*methoxy(4-methoxyphenyl)*dimethyl-)	62244-48-8	**	8.62	EI	5421
$C_8H_{20}O_4Si^+$	$(C_2H_5O)_4Si$	78-10-4	**	9.77 (V)	PE	3503
$C_6H_{18}OSi_2^+$	$((CH_3)_3Si)_2O$	107-46-0	**	9.88 (V)	PE	4181
$C_{11}H_{20}OSi_2^+$	$C_6H_4(SiH(CH_3)_2)Si(CH_3)_2OCH_3$ (Silane, [3-(dimethylsilyl)phenyl]methoxydimethyl-)	XXXXX-XX-X	**	8.5±0.2	EI	4121
	$C_6H_4(SiH(CH_3)_2)Si(CH_3)_2OCH_3$ (Silane, [4-(dimethylsilyl)phenyl]methoxydimethyl-)	33546-26-8	**	8.6±0.2	EI	4121
$C_{12}H_{22}OSi_2^+$	$C_6H_4(OCH_3)Si_2(CH_3)_5$ (Disilane, (4-methoxphenyl)pentametyl-)	4199-03-5	**	7.85	CTS	3758
$C_7H_{19}O_2Si_2^+$	$(CH_3)_3SiO(CH_2)_2OSi(CH_3)_3$	7381-30-8	CH_3	9.5±0.1	EI	4300
$C_8H_{21}O_2Si_2^+$	$(CH_3)_3SiO(CH_2)_3OSi(CH_3)_3$	17887-80-8	CH_3	9.4±0.1	EI	4300
$C_9H_{23}O_2Si_2^+$	$(CH_3)_3SiO(CH_2)_4OSi(CH_3)_3$	18001-91-7	CH_3	9.3±0.1	EI	4300
$C_{10}H_{25}O_2Si_2^+$	$(CH_3)_3SiO(CH_2)_5OSi(CH_3)_3$	54494-06-3	CH_3	9.3±0.1	EI	4300
$C_{11}H_{20}O_2Si_2^+$	$C_6H_4(SiH(CH_3)_2)Si(OCH_3)_2CH_3$ (Silane, [3-(dimethylsilyl)phenyl]dimethoxymethyl-)	XXXXX-XX-X	**	8.8±0.2	EI	4121
	$C_6H_4(SiH(CH_3)_2)Si(OCH_3)_2CH_3$ (Silane, [4-(dimethylsilyl)phenyl]dimethoxymethyl-)	34239-01-5	**	8.5±0.2	EI	4121
$C_{11}H_{27}O_2Si_2^+$	$(CH_3)_3SiO(CH_2)_6OSi(CH_3)_3$	6222-22-6	CH_3	9.3±0.1	EI	4300
$C_{12}H_{29}O_2Si_2^+$	$(CH_3)_3SiO(CH_2)_7OSi(CH_3)_3$	54494-07-4	CH_3	9.4±0.1	EI	4300
$C_{11}H_{20}O_3Si_2^+$	$C_6H_4(SiH(CH_3)_2)Si(OCH_3)_3$ (Silane, [3-(dimethylsilyl)phenyl]trimethoxy-)	XXXXX-XX-X	**	9.0±0.2	EI	4121
$NOSi_2^+$	Si_2NO	12033-47-5	**	10.8±0.5	EI	3810
CH_3NOSi^+	SiH_3NCO	13730-13-7	**	11.10±0.02 (V)	PE	3670
$C_4H_9NOSi^+$	$(CH_3)_3SiNCO$	1118-02-1	**	10.3±0.1 (V)	PE	3670

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_{13}NOSi^+$						
	$C_5H_4N(O)Si(CH_3)_3$ (Pyridine, 4-(trimethylsilyl)-, 1-oxide)	28867-06-3	**	8.19 (V)	PE	4222
$C_{11}H_{19}NOSi^+$						
	$(CH_3)_2NC_6H_4Si(CH_3)_2OCH_3$ (Benzenamine,4-(methoxydimethylsilyl)-N,N-dimethyl-)	62244-49-9	**	7.45	EI	5421
$C_9H_{13}NO_2Si^+$						
	$NO_2C_6H_4Si(CH_3)_3$ (Silane,trimethyl(4-nitrophenyl)-)	4405-33-8	**	9.80 (V)	PE	5380
$C_6H_{13}NO_3Si^+$						
	$N(CH_2CH_2O)_3SiH$ (2,8,9-Trioxa-5-aza-silabicyclo[3.3.3]undecane)	283-60-3	**	~10.1	PE	4413
$C_7H_{15}NO_3Si^+$						
	$N(CH_2CH_2O)_3SiCH_3$ (2,8,9-Trioxa-5-aza-1-silabicyclo[3.3.3]undecane,1-methyl-)	2288-13-3	**	8.7 (V)	PE	4413
$C_9H_{13}NO_3Si^+$						
	$NO_2C_6H_4Si(CH_3)_2OCH_3$ (Silane,methoxydimethyl(4-nitrophenyl)-)	62244-50-2	**	9.44	EI	5421
$C_8H_{17}NO_4Si^+$						
	$N(CH_2CH_2O)_3SiOC_2H_5$ (2,8,9-Trioxa-5-aza-1-silabicyclo[3.3.3]undecane,1-ethoxy-)	3463-21-6	**	10.6 (V)	PE	4413
F_2Si^+						
($^2A_1$)	SiF_2	13966-66-0	**	10.78±0.05	PE	4138
($^2A_1$)			**	11.08 (V)	PE	4322
($^2A_2$,$^2B_2$)			**	15.57 (V)	PE	4322
($^2B_1$,$^2A_1$)			**	17.08 (V)	PE	4322
F_3Si^+						
	CH_3SiF_3	373-74-0	CH_3	13.33±0.05	PI	4907
F_4Si^+						
	SiF_4	7783-61-1	**	15.19	PI	4907
			**	16.45 (V)	PE	4322
			**	16.46±0.04 (V)	PE	3880
			**	15.4±1	EI	4894
$F_6Si_2^+$						
	Si_2F_6	13830-68-7	**	13.20±0.02 (V)	PE	4026
H_3FSi^+						
	SiH_3F	13537-33-2	**	12.58 (V)	PE	3511
			**	12.6±0.1 (V)	PE	3510
			**	16.1±0.1 (V)	PE	3502
			**	13.0±1	EI	4894
$H_2F_2Si^+$						
	SiH_2F_2	13824-36-7	**	12.85 (V)	PE	3511
			**	12.85 (V)	PE	3694
			**	12.9±0.1 (V)	PE	3510
			**	11.0±1	EI	4894
HF_3Si^+						
	$SiHF_3$	13465-71-9	**	14.48±0.02 (V)	PE	4026
			**	14.48±0.05 (V)	PE	5419
			**	11.0±1	EI	4894

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_6FSi^+$						
	$(CH_3)_3SiF$	420-56-4	CH_3	10.70±0.04	PI	4907
$C_3H_9FSi^+$						
	$(CH_3)_3SiF$	420-56-4	**	10.31±0.04	PI	4907
			**	11.0 (V)	PE	4972
$C_5H_9FSi^+$						
	$(CH_3)_3SiC{\equiv}CF$	38346-22-4	**	9.8±0.1	PE	4002
$C_6H_{15}FSi^+$						
	$(C_2H_5)_3SiF$	358-43-0	**	10.1 (V)	PE	4972
$C_7H_8FSi^+$						
	$C_6H_5Si(CH_3)_2F$ (Silane,fluorodimethylphenyl-)	454-57-9	CH_3	10.83	EI	5366
$C_8H_{10}FSi^+$						
	$CH_3C_6H_4Si(CH_3)_2F$ (Silane,fluorodimethyl(3-methylphenyl)-)	33664-04-9	CH_3	10.92	EI	5366
	$CH_3C_6H_4Si(CH_3)_2F$ (Silane,fluorodimethyl(4-methylphenyl)-)	33664-05-0	CH_3	10.82	EI	5366
$C_8H_{11}FSi^+$						
	$C_6H_5Si(CH_3)_2F$ (Silane,fluorodimethylphenyl-)	454-57-9	**	9.17	EI	5421
$C_9H_{13}FSi^+$						
	$CH_3C_6H_4Si(CH_3)_2F$ (Silane,fluorodimethyl(3-methylphenyl)-)	33664-04-9	**	8.86	EI	5421
	$CH_3C_6H_4Si(CH_3)_2F$ (Silane,fluorodimethyl(4-methylphenyl)-)	33664-05-0	**	8.86	EI	5421
	$FC_6H_4Si(CH_3)_3$ (Silane,(4-fluorophenyl)trimethyl-)	455-17-4	**	9.0 (V)	PE	5380
$CH_3F_2Si^+$						
	$(CH_3)_2SiF_2$	353-66-2	CH_3	11.70±0.03	PI	4907
$C_2H_6F_2Si^+$						
	$(CH_3)_2SiF_2$	353-66-2	**	11.03±0.03	PI	4907
			**	11.5 (V)	PE	4972
$C_4H_6F_2Si^+$						
	$C_4H_6SiF_2$ (Silacyclopent-3-ene, 1,1-difluoro-)	XXXXX-XX-X	**	9.62 (V)	PE	4517
$C_4H_{10}F_2Si^+$						
	$(C_2H_5)_2SiF_2$	358-06-5	**	10.5 (V)	PE	4972
$CH_3F_3Si^+$						
	CH_3SiF_3	373-74-0	**	12.48±0.04	PI	4907
			**	13.2 (V)	PE	4972
			**	13.24±0.02 (V)	PE	4026
$C_5H_5F_3Si^+$						
	$C_5H_5(SiF_3)$ (Silane, 2,4-cyclopentadien-1-yl trifluoro-)	55765-70-3	**	9.1 (V)	PE	4373
$C_7H_{10}F_6Si^+$						
	cis-$(CH_3)_3SiC(CF_3)=C(CF_3)H$	35186-03-9	**	9.86	PE	3589

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{10}H_{17}FSi_2^+$						
	$C_6H_4(SiF(CH_3)_2)SiH(CH_3)_2$ (Silane, [4–(dimethylsilyl)phenyl]fluorodimethyl–)	33546–29–1	**	8.5±0.2	EI	4121
$C_9H_{14}F_2Si_2^+$						
	$C_6H_4(SiF_2CH_3)SiH(CH_3)_2$ (Silane, 1,1–difluoro[4–(dimethylsilyl)phenyl]methyl–)	XXXXX–XX–X	**	8.7±0.2	EI	4121
$C_8H_{11}F_3Si_2^+$						
	$C_6H_4(SiF_3)SiH(CH_3)_2$ (Silane, trifluoro[4–(dimethylsilyl)phenyl]–)	XXXXX–XX–X	**	9.2±0.2	EI	4121
$C_6H_{12}F_4Si_4^+$						
	$C_6H_{12}Si_4F_4$ (1,3,5,7–Tetrasilatricyclo[3.3.1.1^{3,7}]decane, 1,3,5,7–tetrafluoro–)	33664–21–0	**	9.8±0.05	PE	3855
$C_9H_{13}NFSi^+$						
	$(CH_3)_2NC_6H_4Si(CH_3)_2F$ (Benzenamine,4–(fluorodimethylsilyl)–N,N–dimethyl–)	62244–56–8	CH_3	11.59	EI	5366
$C_{10}H_{16}NFSi^+$						
	$(CH_3)_2NC_6H_4Si(CH_3)_2F$ (Benzenamine,4–(fluorodimethylsilyl)–N,N–dimethyl–)	62244–56–8	**	7.55	EI	5421
$C_2H_6NF_3Si^+$						
	$F_3SiN(CH_3)_2$	812–14–6	**	9.60±0.05 (V)	PE	5419
$C_8H_{10}OFSi^+$						
	$CH_3OC_6H_4Si(CH_3)_2F$ (Silane,fluoro(4–methoxyphenyl)dimethyl–)	62244–55–7	CH_3	11.03	EI	5366
$C_9H_{13}OFSi^+$						
	$CH_3OC_6H_4Si(CH_3)_2F$ (Silane,fluoro(4–methoxyphenyl)dimethyl–)	62244–55–7	**	8.42	EI	5421
$C_7H_7NO_2FSi^+$						
	$NO_2C_6H_4Si(CH_3)_2F$ (Silane,fluorodimethyl(4–nitrophenyl)–)	62244–57–9	CH_3	10.71	EI	5366
$C_8H_{10}NO_2FSi^+$						
	$NO_2C_6H_4Si(CH_3)_2F$ (Silane,fluorodimethyl(4–nitrophenyl)–)	62244–57–9	**	9.77	EI	5421
$AlSi^+$						
	SiAl	12042–55–6	**	6.5±1.0	EI	4005
$OAlSi^+$						
	SiAlO	37361–47–0	**	6.3±1.0	EI	4005
			**	8.0±1	EI	3985
P^+						
	P_2	12185–09–0		15.9	EI	3472
	PH_3	7803–51–2	H_2+H	16.3	EI	3811
	PCl_3	7719–12–2	Cl_2+Cl	18.5±0.7	EI	3556
	PBr_3	7789–60–8	Br_2+Br	16.7±0.7	EI	3556
	$LaPO_4$	XXXXX–XX–X		13.0±0.6	EI	5603
P_2^+						
	P_2	12185–09–0	**	10.7±0.1	S	3567
($^2\Pi_u$)			**	10.60	PE	3695
($^2\Pi_u$)			**	10.62±0.01 (V)	PE	4597
($^2\Sigma_g$)			**	10.81±0.01 (V)	PE	4597

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
P_2^+						
($^2\Sigma_g$)	P_2	12185-09-0	**	10.84 (V)	PE	3695
($^2\Sigma_u$)			**	15.52±0.01 (V)	PE	4597
			**	9.7±0.5	EI	3458
			**	9.7	EI	4001
			**	10.3±0.5	EI	4120
			**	11.2	EI	3472
			**	11.4±0.5	EI	4098
			**	11.8±0.5	EI	3555
	P_4	12185-10-3		12.85±0.01	PI	4936
($^2\Sigma_g^+$)			P_2	12.85±0.03	PI	4924
P_3^+						
	P_3	55030-78-9	**	7.85±0.2	PI	4924
	P_4	12185-10-3		12.54±0.01	PI	4936
($^3\Sigma_1^-$)			P	12.54±0.03	PI	4924
P_4^+						
	P_4	12185-10-3	**	9.25	PI	4924
			**	9.34	PI	4936
			**	9.10±0.05	PE	3683
			**	9.2	PE	3643
			**	10.0±0.5	EI	4098
			**	10.8±0.3	EI	3555
HP^+						
	PH_3	7803-51-2	H_2	12.9	EI	3811
H_2P^+						
	PH_3	7803-51-2	H	13.4	EI	3811
H_3P^+						
	PH_3	7803-51-2	**	9.96±0.01	PE	3703
			**	9.96	PE	3719
			**	9.96	PE	5516
			**	10.59±0.05 (V)	PE	5419
			**	10.0	EI	3811
$H_4P_2^+$						
	P_2H_4	13445-50-6	**	9.69 (V)	PE	4584
BP^+						
	BP	20205-91-8	**	<13±2	EI	3619
CP^+						
	PC	12326-85-1	**	10.5±0.5	EI	3458
C_2P^+						
	C_2P	12602-39-0	**	10.9±0.5	EI	3458
CP_2^+						
	CP_2	12601-93-3	**	9.4±0.5	EI	3458
CHP^+						
($^2\Pi$)	HCP	6829-52-3	**	10.79±0.01	PE	3840
($^2\Sigma$)			**	12.86±0.01	PE	3840
CH_5P^+						
	CH_3PH_2	593-54-4	**	9.12±0.07	PE	4152
			**	9.12	PE	5516
			**	9.6±0.1 (V)	PE	3661
			**	9.70 (V)	PE	4474

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_3P^+$						
	$CH_3C{\equiv}P$	34627-31-1	**	9.89±0.01 (V)	PE	5033
$C_2H_5P^+$						
	C_2H_5P (Phosphirane)	6569-82-0	**	9.4±0.1	PE	4990
$C_2H_7P^+$						
	$(CH_3)_2PH$	676-59-5	**	8.47±0.07	PE	4152
			**	8.47	PE	5516
			**	8.5±0.1	PE	4990
			**	9.10 (V)	PE	4474
			**	9.13 (V)	PE	4185
$C_3H_9P^+$						
	$(CH_3)_3P$	594-09-2	**	8.01±0.07	PE	4152
			**	8.11±0.1	PE	5042
			**	8.11	PE	5516
			**	8.6±0.1 (V)	PE	3661
			**	8.6 (V)	PE	5378
			**	8.60 (V)	PE	4226
			**	8.60 (V)	PE	4579
			**	8.60 (V)	PE	5368
			**	8.65 (V)	PE	4474
			**	8.79	PE	5602
$C_4H_{11}P^+$						
	$(C_2H_5)_2PH$	627-49-6	**	8.69	PE	3589
	$(CH_3)_3P{=}CH_2$	14580-91-7	**	6.81 (V)	PE	4579
			**	6.81 (V)	PE	5442
			**	6.87 (V)	PE	4181
	$(CH_3)_3P{=}CH_2$	29218-61-9	**	6.81 (V)	PE	5368
	tert-$C_4H_9PH_2$	2501-94-2	**	9.30 (V)	PE	4474
$C_5H_5P^+$						
	C_5H_5P (Phosphorin)	289-68-9	**	9.2 (V)	PE	3832
$C_6H_7P^+$						
	$C_6H_5PH_2$ (Phosphine, phenyl-)	638-21-1	**	8.47±0.01	PE	4154
$C_6H_9P^+$						
	$(C_2H_3)_3P$	3746-01-8	**	7.52 (V)	PE	5526
$C_6H_{13}P^+$						
	$(CH_3)_3P{=}CHCH{=}CH_2$	30417-65-3	**	6.20 (V)	PE	4579
$C_6H_{15}P^+$						
	$(C_2H_5)_3P$	554-70-1	**	7.44 (V)	PE	5526
			**	8.52	PE	5602
$C_7H_{11}P^+$						
	$C_4H_2(CH_3)_2P(CH_3)$ (1H-Phosphole,1,3,4-trimethyl-)	37739-99-4	**	8.25 (V)	PE	5618
$C_7H_{15}P^+$						
	$(CH_3)_2P{=}CHC(CH_3){=}CH_2$	29218-65-3	**	6.20 (V)	PE	4579
	$(CH_3)_2P{=}CHCH{=}CHCH_3$	61169-15-1	**	6.02 (V)	PE	4579
$C_8H_{11}P^+$						
	$(C_6H_5)(CH_3)_2P$ (Phosphine,dimethyl phenyl)	672-66-2	**	7.58±0.05	PI	5278

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{21}H_{21}P^+$						
	$(CH_3C_6H_4)_3P$ (Phosphine,tris(2-methylphenyl)-)	6163-58-2	**	7.64 (V)	PE	5438
	$(CH_3C_6H_4)_3P$ (Phosphine,tris(3-methylphenyl)-)	6224-63-1	**	7.68 (V)	PE	5438
	$(CH_3C_6H_4)_3P$ (Phosphine,tris(4-methylphenyl)-)	1038-95-9	**	7.6 (V)	PE	5438
	$(C_6H_5)_3P=C(CH_3)_2$ (Phosphorane, (1-methylethylidene)triphenyl-)	16666-80-1	**	6.04 (V)	PE	4579
$C_{22}H_{21}P^+$						
	$(C_6H_5)_3P=CHCH=CHCH_3$ (Phosphorane, 2-butenylidenetriphenyl-(E)-)	56374-57-3	**	5.95 (V)	PE	4579
$C_{23}H_{17}P^+$						
	$C_5H_2P(C_6H_5)_3$ (Phosphorin,2,4,6-triphenyl)	13497-36-4	**	7.80 (V)	PE	5271
$C_{23}H_{19}P^+$						
	$(C_6H_5)_3P=C_5H_4$ (Phosphorane, 2,4-cyclopentadien-1-ylidenetriphenyl-)	2224-32-0	**	6.91 (V)	PE	4579
$C_{25}H_{21}P^+$						
	$(C_6H_5)_3P=CHC_6H_5$ (Phosphorane, triphenyl(phenylmethylene)-)	16721-45-2	**	6.01 (V)	PE	4579
$C_{25}H_{23}P^+$						
	$C_5H_2P(C_6H_5)_3(CH_3)_2$ (Phosphorin,1,1-dihydro-1,1-dimethyl-2,4,6-triphenyl-)	25959-36-8	**	5.90 (V)	PE	5271
$C_{27}H_{33}P^+$						
	(*iso*-$C_3H_7C_6H_4)_3P$ (Phosphine,tris[4-(1-methylethyl)phenyl]-)	29949-82-4	**	7.53 (V)	PE	5438
$C_{29}H_{25}P^+$						
	$C_9H_6P(C_6H_5)(CH_2C_6H_5)_2$ (Phosphinoline, 1,1-dihydro-2-phenyl-1,1-bis(phenylmethyl)-)	39767-95-8	**	6.00	PE	4066
$C_{30}H_{39}P^+$						
	(*tert*-$C_4H_9C_6H_4)_3P$ (Phosphine,tris[4-(1,1-dimethylethyl)phenyl]-)	54409-77-7	**	7.52 (V)	PE	5438
$C_{35}H_{27}P^+$						
	$C_5H_2P(C_6H_5)_5$ (Phosphorin,1,1-dihydro-1,1,2,4,6-pentaphenyl-)	22605-15-8	**	5.90 (V)	PE	5271
$C_4H_{12}P_2^+$						
	$((CH_3)_2P)_2$-*trans*	3676-91-3	**	7.88 (V)	PE	4191
			**	7.88 (V)	PE	4185
	$((CH_3)_2P)_2$-*gauche*	3676-91-3	**	8.79 (V)	PE	4185
$C_{10}H_{16}P_2^+$						
	$C_6H_4(P(CH_3)_2)_2$ (Phosphine,1,4-phenylenebis[dimethyl-)	10498-57-4	**	8.2 (V)	PE	5382
$C_{16}H_{36}P_4^+$						
	(*tert*-$C_4H_9P)_4$ (Tetraphosphetane, tetrabutyl-)	13969-03-4	**	7.39 (V)	PE	4942
$C_{24}H_{44}P_4^+$						
	$(C_6H_{11}P)_4$ (Tetraphosphetane, tetracyclohexyl-)	3040-71-9	**	7.28 (V)	PE	4942

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_{15}P_5^+$						
	$(CH_3P)_5$ (Pentaphospholane, pentamethyl-)	1073-98-9	**	7.58 (V)	PE	4942
$C_{10}H_{25}P_5^+$						
	$(C_2H_5P)_5$ (Pentaphospholane, pentaethyl-)	4141-67-7	**	7.41 (V)	PE	4942
$C_{15}H_{35}P_5^+$						
	$(n\text{-}C_3H_7P)_5$ (Pentaphospholane, pentapropyl-)	55019-74-4	**	7.26 (V)	PE	4942
NP^+						
($^2\Sigma_g^+$)	NP	17739-47-8	**	11.85	PE	4498
($^2\Sigma^+$)			**	11.88±0.01	PE	4685
($^2\Pi$)			**	12.30±0.01	PE	4685
($^2\Pi_\mu$)			**	12.34	PE	4498
($^2\Sigma^+$)			**	15.74±0.01	PE	4685
$C_3H_{10}NP^+$						
	$(CH_3)_3P{=}NH$	15107-02-5	**	8.19 (V)	PE	4181
			**	8.29 (V)	PE	5442
$C_4H_{12}NP^+$						
	$(CH_3)_3PNCH_3$	42437-75-2	**	7.67 (V)	PE	5442
$C_7H_{18}NP^+$						
	$(CH_3)_3PN(tert\text{-}C_4H_9)$	71328-66-0	**	7.56 (V)	PE	5442
$C_9H_{14}NP^+$						
	$(CH_3)_3PNC_6H_5$ (Benzenamine,N-trimethylphosphoranylidene)-)	57114-54-2	**	7.05 (V)	PE	5442
$C_{10}H_{16}NP^+$						
	$C_6H_4(N(CH_3)_2)(P(CH_3)_2)$ (Benzenamine,4-(dimethylphosphino)-N,N-dimethyl-)	1199-66-2	**	7.30 (V)	PE	5382
$C_{18}H_{16}NP^+$						
	$(C_6H_5)_3PNH$ (Phosphine imide,P,P,P-triphenyl-)	2240-47-3	**	7.95 (V)	PE	5442
$C_{19}H_{18}NP^+$						
	$(C_6H_5)_3PNCH_3$ (Methanamine,N-(triphenylphosphoranylidene)-)	17986-01-5	**	7.54 (V)	PE	5442
$C_{20}H_{20}NP^+$						
	$(C_6H_5)_3PNC_2H_5$ (Ethanamine,N-triphenylphosphoranylidene)-)	47182-04-7	**	7.43 (V)	PE	5442
$C_{20}H_{32}NP^+$						
	$(CH_3)_2NC_6H_4P(C_6H_{11})_2$ (Benzenamine,4-(dicyclohexylphosphino)-N,N-dimethyl-)	40438-64-0	**	7.25 (V)	PE	5417
$C_{21}H_{22}NP^+$						
	$(C_6H_5)_3PN(iso\text{-}C_3H_7)$ (2-Propanamine,N-(triphenylphosphoranylidene)-)	40168-14-7	**	7.38 (V)	PE	5442
$C_{22}H_{24}NP^+$						
	$(C_6H_5)_3PN(tert\text{-}C_4H_9)$ (2-Propanamine,2-methyl-N-(triphenylphosphoranylidene)-)	13989-64-5	**	7.35 (V)	PE	5442

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{24}H_{20}NP^+$						
	$(C_6H_5)_3PNC_6H_5$ (Benzenamine,N-(triphenylphosphoranylidene)-)	2325-27-1	**	6.95 (V)	PE	5442
$C_{24}H_{26}NP^+$						
	$(C_6H_5)_3PNC_6H_{11}$ (Cyclohexanamine,N-(triphenylphosphoranylidene)-)	66949-28-8	**	7.37 (V)	PE	5442
$C_{31}H_{37}N_2P^+$						
	$C_5H_2P(C_6H_5)_3(N(C_2H_5)_2)_2$ (Phosphorin,1,1-bis(diethylamino)-1,1-dihydro-2,4,6-triphenyl-)	36231-67-1	**	5.95 (V)	PE	5271
$C_6H_{16}N_3P^+$						
	$C_2H_4N_2P(CH_3)_2N(CH_3)_2$ (1,3,2-Diazaphospholidin-2-amine, N,N,1,3-tetramethyl-)	6069-38-1	**	7.61 (V)	PE	5477
$C_6H_{18}N_3P^+$						
	$((CH_3)_2N)_3P$	1608-26-0	**	7.30 (V)	PE	4474
			**	7.61 (V)	PE	3825
			**	10.01	PE	5602
	$(((CH_3)_2N)_3P)_2(CO)_4Mo$	27342-90-1		10.1±0.05	EI	3952
$C_8H_{18}N_3P^+$						
	$(((CH_3)_2N)_3P)_2(CO)_4Mo$	27342-90-1		10.1±0.05	EI	3952
$C_8H_{20}N_3P^+$						
	$C_2H_4N_2P(CH_3)_2N(C_2H_5)_2$ (1,3,2-Diazaphospholidin-2-amine, N,N,-diethyl-1,3-dimethyl)	65173-82-2	**	7.50 (V)	PE	5477
$C_{10}H_{24}N_3P^+$						
	$C_2H_4N_2P(CH_3)_2N(iso\text{-}C_3H_7)_2$ (1,3,2-Diazaphospholidin-2-amine,1,3-dimethyl-N,N-bis(1-methylethyl)-)	65173-83-3	**	7.40 (V)	PE	5477
$C_{24}H_{30}N_3P^+$						
	$((CH_3)_2NC_6H_4)_3P$ (Benzenamine,4,4',4''-phosphinidynetris[N,N-dimethyl-)	1104-21-8	**	6.9-7.0 (V)	PE	5438
$B_2C_6H_{18}N_3P^+$						
	$N_3B_2(CH_3)_4P(CH_3)_2$ (1,2,4,3,5-Triazadiborolidine, 1-(dimethylphosphino)-2,3,4,5-tetramethyl-)	53246-20-1	**	7.64 (V)	PE	4526
	$N_3B_2(CH_3)_4P(CH_3)_2$ (1,2,4,3,5-Triazadiborolidine, 4-(dimethylphosphino)-1,2,3,5-tetramethyl-)	53246-15-4	**	7.70 (V)	PE	4526
$B_2C_8H_{24}N_5P^+$						
	$C_8H_{24}B_2N_5P$ (Phosphonous diamide, N,N,N',N'-tetramethyl-P-(1,2,3,5-tetramethyl-1,2,4,3,5-triazaborolidin-4-yl)-) (RX $N_3B_2(CH_3)_4P(N(CH_3)_2)_2$	53246-16-5	**	7.57 (V)	PE	4526
OP^+						
	PO	14452-66-5	**	8.231	S	3762
			**	8.373	S	5136
			**	8.38	S	3560
			**	8.5±1	EI	3819
			**	9.1±0.5	EI	4678
			**	9.5±0.5	EI	4098
			**	10.7	EI	4518
	P_2O_3	1314-24-5		13.5±1.0	EI	4098
	$(CH_3O)_3PO$	512-56-1	$O+CH_3O+2H$	18.90±0.50	EI	3989
	$LaPO_4$	XXXXX-XX-X		11.5±0.5	EI	5603

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
O_2P^+						
	PO_2	12164-97-5	**	10.5±0.1	EI	4518
			**	10.5±1	EI	3819
			**	11.5±0.5	EI	4098
	P_2O_3	1314-24-5		15.4±1.0	EI	4098
	$LaPO_4$	XXXXX-XX-X		10.4±0.5	EI	5603
$O_3P_2^+$						
	P_2O_3	1314-24-5	**	10.4±0.5	EI	4098
$O_4P_2^+$						
	P_2O_4	XXXXX-XX-X	**	10.8±1.0	EI	4098
$O_5P_2^+$						
	P_2O_5	1314-56-3	**	12.0±1.0	EI	4098
$O_6P_3^+$						
	P_3O_6	XXXXX-XX-X	**	12.3±1.0	EI	4098
$O_7P_3^+$						
	P_4O_9	XXXXX-XX-X		15.0±1.0	EI	4098
$O_6P_4^+$						
	P_4O_6 (2,4,6,8,9,10-Hexaoxa-1,3,5,7-tetraphosphatricyclo[3.3.1.1^{3,7}]decane)	10248-58-5	**	10.55 (V)	PE	5343
$O_7P_4^+$						
	P_4O_7	12065-80-4	**	11.4±0.5	EI	4098
$O_8P_4^+$						
	P_4O_8	12037-06-8	**	11.9±0.5	EI	4098
$O_9P_4^+$						
	P_4O_9	XXXXX-XX-X	**	12.4±0.5	EI	4098
$O_{10}P_4^+$						
	P_4O_{10} (2,4,6,8,9,10-Hexaoxa-1,3,5,7-tetraphosphatricyclo[3.3.1.1^{3,7}] decane,1,3,5,7-tetraoxide)	16752-60-6	**	13.0±0.5	EI	4098
			**	13.0±0.5	EI	4098
CH_4OP^+						
	$(CH_3O)_2P(CH_3S)S$	2953-29-9		13.40±0.30	EI	3989
$C_2H_7OP^+$						
	$(CH_3)_2P(O)H$	7211-39-4	**	10.32 (V)	PE	5523
$C_3H_9OP^+$						
	$(CH_3)_3PO$	676-96-0	**	9.88 (V)	PE	5442
			**	9.89 (V)	PE	5368
			**	9.9	PE	5529
$C_{19}H_{29}OP^+$						
	$CH_3OC_6H_4P(C_6H_{11})_2$ (Phosphine,dicyclohexyl(4-methoxyphenyl)-)	40438-63-9	**	7.88 (V)	PE	5417
$CH_4O_2P^+$						
	$(CH_3O)_3PO$	512-56-1	2HCHO+H	14.90±0.20	EI	3989
	$(CH_3O)_2P(CH_3S)O$	152-20-5	CH_3S+HCHO	12.25±0.20	EI	3989
	$(CH_3O)_2P(CH_3S)S$	2953-29-9	CH_3S+HCHS	12.75±0.20	EI	3989
	$(CH_3S)_2P(CH_3O)O$	22608-53-3	CH_3S+HCHS	11.90±0.10	EI	3989

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$CH_5O_2P^+$						
	$(CH_3O)_3PO$	512-56-1	2HCHO	12.91±0.10	EI	3989
	$(CH_3O)_2P(CH_3S)O$	152-20-5	HCHS+HCHO	12.35±0.20	EI	3989
$C_2H_6O_2P^+$						
	$(CH_3O)_2P(CH_3S)S$	2953-29-9		10.40±0.10	EI	3989
$C_6H_{11}PO_2^+$						
	$PO(CH=CH_2)_2(OC_2H_5)$	30594-15-1	**	10.23 (V)	PE	5021
$C_7H_{15}PO_2^+$						
	$C_7H_{15}PO_2$	71431-36-2	**	10.04 (V)	PE	5021
$C_{19}H_{35}O_2P^+$						
	$C_5H_2P(OCH_3)_2(C_4H_9)_3$ (Phosphorin, 2,4,6-tris(1,1-dimethylethyl)-1,1-dihydro-1,1-dimethoxy-)	37912-85-9	**	6.7 (V)	PE	4053
$C_{21}H_{31}O_2P^+$						
	$C_2H_5COOC_6H_4P(C_6H_{11})_2$ (Benzoic acid, 4-(dicyclohexylphosphino)-ethyl ester)	40438-59-3	**	8.12 (V)	PE	5417
$C_{25}H_{23}O_2P^+$						
	$C_5H_2P(C_6H_5)_3(OCH_3)_2$ (Phosphorin,1,1-dihydro-1,1-dimethoxy-2,4,6-triphenyl-)	20995-67-9	**	6.60 (V)	PE	5271
$CH_4O_3P^+$						
	$(CH_3O)_3PO$	512-56-1	$HCHO+CH_3$	13.90±0.20	EI	3989
	$(CH_3O)_2P(CH_3S)O$	152-20-5	$HCHS+CH_3$	13.20±0.20	EI	3989
$C_2H_6O_3P^+$						
	$(CH_3O)_2PO$	31682-64-1	**	11.0 (V)	PE	5190
	$(CH_3O)_3PO$	512-56-1	HCHO+H	14.1±0.20	EI	3989
	$(CH_3O)_2P(CH_3S)O$	152-20-5	CH_3S	11.90±0.10	EI	3989
$C_2H_7O_3P^+$						
	$HPO(OCH_3)_2$	868-85-9	**	10.53	PE	5032
	$(CH_3O)_3PO$	512-56-1	HCHO	11.62±0.10	EI	3989
	$(CH_3O)_2P(CH_3S)O$	152-20-5	HCHS	11.00±0.10	EI	3989
$C_3H_7O_3P^+$						
	$C_2H_4O_2P(OCH_3)$ (1,3,2-Dioxaphospholane, 2-methoxy-)	XXXXX-XX-X	**	9.06±0.1	PE	5042
$C_3H_9O_3P^+$						
	$P(OCH_3)_3$	121-45-9	**	8.50	PE	5516
			**	9.0 (V)	PE	5190
			**	9.21	PE	5602
			**	9.22 (V)	PE	4705
	$CH_3PO(OCH_3)_2$	756-79-6	**	10.00	PE	5032
$C_4H_7O_3P^+$						
	$C_4H_7O_3P$ (2,6,7-Trioxa-1-phosphabicyclo[2.2.2]octane)	280-45-5	**	9.42±0.1	PE	5042
$C_4H_9O_3P^+$						
	$C_3H_6O_2P(OCH_3)$ (1,3,2-Dioxaphosphorinane, 2-methoxy-)	XXXXX-XX-X	**	8.74±0.1	PE	5042
	$PO(OCH_3)_2(CH=CH_2)$	4645-32-3	**	10.94 (V)	PE	5021
$C_4H_{11}O_3P^+$						
	$HPO(OC_2H_5)_2$	762-04-9	**	10.31	PE	5032

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_{11}O_3P^+$						
	$PO(OCH_3)_2(CH_2CH=CH_2)$	757-54-0	**	9.96 (V)	PE	5021
$C_6H_{13}O_3P^+$						
	$C_3H_4O_2P(CH_3)_2(OCH_3)$ (1,3,2-Dioxaphosphorinane, 2-methoxy-4,6-dimethyl-(2α,4α,6α)-)	7735-82-2	**	8.34±0.1	PE	5042
	$C_3H_4O_2P(CH_3)_2(OCH_3)$ (1,3,2-Dioxaphosphorinane, 2-methoxy-4,6-dimethyl-(2β,4α,6α)-)	41821-91-4	**	8.69±0.1	PE	5042
	$PO(OC_2H_5)_2(CH=CH_2)$	682-30-4	**	10.6 (V)	PE	5021
			**	10.6 (V)	PE	5328
$C_6H_{15}O_3P^+$						
	$(C_2H_5O)_3P$	122-52-1	**	8.8 (V)	PE	5190
			**	8.92 (V)	PE	4705
			**	9.15	PE	5602
$C_9H_{21}O_3P^+$						
	$(iso\text{-}C_3H_7O)_3P$	116-17-6	**	8.76 (V)	PE	5139
$C_{18}H_{15}O_3P^+$						
	$(C_6H_5O)_3P$ (Phosphorous acid triphenyl ester)	101-02-0	**	8.80 (V)	PE	5139
$C_{21}H_{21}O_3P^+$						
	$(CH_3OC_6H_4)_3P$ (Phosphine,tris(2-methoxyphenyl)-)	4731-65-1	**	7.37 (V)	PE	5438
	$(CH_3OC_6H_4)_3P$ (Phosphine,tris(3-methoxyphenyl)-)	29949-84-6	**	7.72 (V)	PE	5438
	$(CH_3OC_6H_4)_3P$ (Phosphine,tris(4-methoxyphenyl)-)	855-38-9	**	7.48 (V)	PE	5438
$C_3H_8O_4P^+$						
	$(CH_3O)_3PO$	512-56-1	H	12.73±0.20	EI	3989
$C_3H_9O_4P^+$						
	$(CH_3O)_3PO$	512-56-1	**	9.99	PE	5516
			**	10.8 (V)	PE	5190
			**	10.81 (V)	PE	5624
			**	10.82 (V)	PE	4705
			**	10.70±0.10	EI	3989
$C_6H_{15}O_4P^+$						
	$(C_2H_5O)_3PO$	78-40-0	**	9.79	PE	5516
			**	10.4 (V)	PE	5190
			**	10.54 (V)	PE	5624
$H_6N_3OP^+$						
	$(NH_2)_3PO$	13597-72-3	**	10.00±0.05	EI	4759
$C_5H_{13}N_2OP^+$						
	$C_2H_4N_2P(CH_3)_2OCH_3$ (1,3,2-Diazapholidine,2-methoxy-1,3-dimethyl-)	7137-86-2	**	8.12 (V)	PE	5477
$C_2H_{10}N_3OP^+$						
	$((CH_3)_2N)(NH_2)_2PO$	19316-37-1	**	8.85±0.05	EI	4759
$C_3H_{12}N_3OP^+$						
	$(CH_3NH)_3PO$	6326-72-3	**	9.10±0.05	EI	4759
$C_4H_{14}N_3OP^+$						
	$((CH_3)_2N)_2(NH_2)PO$	3732-86-3	**	8.60±0.05	EI	4759
	$((CH_3)_2N)(CH_3NH)_2PO$	16853-36-4	**	8.75±0.05	EI	4759

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_{16}N_3OP^+$						
	$((CH_3)_2N)_2(CH_3NH)PO$	10159-46-3	**	8.55±0.05	EI	4759
$C_6H_{18}N_3OP^+$						
	$OP(N(CH_3)_2)_3$	630-31-9	**	7.82 (V)	PE	5624
	$((CH_3)_2N)_3PO$	680-31-9	**	8.7 (V)	PE	5190
			**	8.35±0.05	EI	4759
$C_{18}H_{26}NO_2P^+$						
	$NO_2C_6H_4P(C_6H_{11})_2$ (Phosphine,dicyclohexyl(4-nitrophenyl)-)	40438-56-0	**	8.39 (V)	PE	5417
$C_2H_8N_2O_2P^+$						
	$OP(OC_2H_5)NHNH_2$	XXXXX-XX-X	**	7.95	PE	5627
$C_8H_{20}NO_3P^+$						
	$(N(C_2H_5)_2)PO(OC_2H_5)_2$	3167-69-9	**	8.69	PE	5032
$C_4H_{13}N_2O_3P^+$						
	$OP(OC_2H_5)_2NHNH_2$	56183-69-8	**	10.90 (V)	PE	5627
FP^+						
	PF_3	7783-55-3	2F	21.0±0.3	EI	4543
	PF_2CN	14118-40-2	F+CN	19.1±0.2	EI	4543
F_2P^+						
	PF_3	7783-55-3	F	13.5±0.1	EI	4305
			F	15.4±0.2	EI	4543
	P_2F_4	13824-74-3	PF_2	10.9±0.1	EI	4305
	PF_2H	14984-74-8	H	11.7±0.1	EI	4305
	PF_2CN	14118-40-2	CN	13.4±0.2	EI	4543
	PF_2I	13819-11-9	I	10.8±0.1	EI	4305
F_3P^+						
	PF_3	7783-55-3	**	11.5±0.1	PI	4543
			**	11.56	PE	5453
			**	11.57±0.01	PE	3703
			**	11.66±0.01	PE	3641
			**	12.20 (V)	PE	5602
			**	12.23±0.02 (V)	PE	3662
			**	12.28 (V)	PE	5539
			**	11.4±0.2	EI	4543
			**	11.6±0.1	EI	4305
				11.65	EI	5462
			**	11.72±0.1	EI	3578
F_5P^+						
	PF_5	7647-19-0	**	15.54 (V)	PE	3872
			**	15.6 (V)	PE	3669
$F_4P_2^+$						
	P_2F_4	13824-74-3	**	9.64 (V)	PE	3662
			**	9.3±0.1	EI	4305
HF_2P^+						
	PF_2H	14984-74-8	**	11.0±0.1 (V)	PE	3662
			**	10.5±0.1	EI	4305
$H_3BF_3P^+$						
	$(PF_3)(BH_3)$	14931-39-6	**	11.02±0.03	PE	3699

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$H_5B_3F_3P^+$						
	$B_3H_7PF_3$	11126-95-7		10.8±0.3	EI	3652
CFP^+						
($^2\Pi$)	FC≡P	65756-42-5	**	10.57±0.01	PE	4836
$C_3F_9P^+$						
	$(CF_3)_3P$	432-04-2	**	11.70 (V)	PE	4191
			**	11.70 (V)	PE	4371
			**	11.70 (V)	PE	4261
$C_4F_{12}P_2^+$						
	$((CF_3)_2P)_2$–*trans*	2714-60-5	**	10.71 (V)	PE	4191
			**	10.71 (V)	PE	4185
	$((CF_3)_2P)_2$–*gauche*		**	11.57 (V)	PE	4185
$C_6F_{12}P_2^+$						
	$C_2P_2(CF_3)_4$	2375-86-2	**	10.97 (V)	PE	4191
	(1,2-Diphosphete, 1,2-dihydro-1,2,3,4-tetrakis(trifluoromethyl)-)					
$C_6F_{15}P_3^+$						
	$(C_2F_5P)_3$	29634-17-1	**	10.39 (V)	PE	4942
	(Tetraphosphirane, tris(pentafluoroethyl)-)					
$C_4F_{12}P_4^+$						
	$P_4(CF_3)_4$	393-02-2	**	10.18 (V)	PE	4191
	(Tetraphosphetane, tetrakis(trifluoromethyl)-)					
			**	10.18 (V)	PE	4942
$C_8F_{20}P_4^+$						
	$(C_2F_5P)_4$	35449-91-3	**	9.99 (V)	PE	4942
	(Tetraphosphetane, tetrakis(pentafluoroethyl)-)					
$C_5F_{15}P_5^+$						
	$P_5(CF_3)_5$	745-23-3	**	9.71 (V)	PE	4191
	(Pentaphospholane, pentakis(trifluoromethyl)-)					
			**	9.79 (V)	PE	4942
$C_2H_6FP^+$						
	$(CH_3)_2PF$	507-15-3	**	9.35 (V)	PE	4474
$C_8H_{18}FP^+$						
	(*tert*-$C_4H_9)_2PF$	29146-24-5	**	8.50 (V)	PE	4474
$CH_3F_2P^+$						
	CH_3PF_2	753-59-3	**	10.35 (V)	PE	4474
$C_4H_9F_2P^+$						
	tert-$C_4H_9PF_2$	29149-32-4	**	9.65 (V)	PE	4474
$C_5H_5F_2P^+$						
	$C_5H_5(PF_2)$	36917-22-3	**	9.2 (V)	PE	4373
	(Phosphonous difluoride, 2,4-cyclopentadien-1-yl-)					
$C_{23}H_{17}F_2P^+$						
	$C_5H_2P(C_6H_5)_3F_2$	40425-79-4	**	7.15 (V)	PE	5271
	(Phosphorin,1,1-difluoro-1,1-dihydro-2,4,6-triphenyl-)					
$CH_2F_3P^+$						
	H_2PCF_3	420-52-0	**	11.15±0.05 (V)	PE	5419
			**	11.18 (V)	PE	4371

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{18}H_{12}F_3P^+$						
	$(FC_6H_4)_3P$ (Phosphine,tris(3-fluorophenyl)-)	23039-94-3	**	8.32 (V)	PE	5438
	$(FC_6H_4)_3P$ (Phosphine,*tris*(4-*fluorophenyl*)-)	18437-78-0	**	8.12 (V)	PE	5438
$C_2HF_6P^+$						
	$(CF_3)_2PH$	460-96-8	**	11.50 (V)	PE	4371
			**	11.51 (V)	PE	4185
$C_{21}H_{12}F_9P^+$						
	$(CF_3C_6H_4)_3P$ (Phosphine,tris[2-(2-trifluoromethyl)phenyl]-)	25688-42-0	**	8.30 (V)	PE	5438
	$(CF_3C_6H_4)_3P$ (Phosphine,*tris*(4-*trifluoromethyl*)*phenyl*]-)	13406-29-6	**	8.65 (V)	PE	5438
$C_4H_6F_6P_2^+$						
	$(CH_3)_2PP(CF_3)_2$	666-62-6	**	9.37 (V)	PE	4191
$NF_5P_2^+$						
	$PF_2(NPF_3)$	34118-39-3	**	11.2 (V)	PE	5398
$NF_6P_3^+$						
	$(F_2P)_3N$	56564-56-8	**	11.2±0.1 (V)	PE	4378
$N_3F_6P_3^+$						
	$N_3P_3F_6$	XXXXX-XX-X	**	11.4	PE	5295
$H_2NF_2P^+$						
	F_2PNH_2	25757-74-8	**	10.9±0.1 (V)	PE	4378
			**	10.9 (V)	PE	3662
$H_5N_2F_2P^+$						
	$PHF_2(NH_2)_2$	60448-09-1	**	10.7 (V)	PE	4622
$HNF_4P_2^+$						
	$(F_2P)_2NH$	34326-59-5	**	11.3±0.1 (V)	PE	4378
$HNF_6P_2^+$						
	$NH(PF_2)(PF_4)$	71481-55-5	**	11.6 (V)	PE	5398
$HBNF_4P^+$						
	$BF_2[NH(PF_2)]$	60073-67-8	**	11.5±0.1 (V)	PE	4504
$CNFP^+$						
	PF_2CN	14118-40-2	F	15.7±0.2	EI	4543
CNF_2P^+						
	PF_2CN	14118-40-2	**	11.9±0.1 (V)	PE	3662
			**	11.7±0.2	EI	4543
$C_{27}H_{27}NFP^+$						
	$C_5H_2P(C_6H_5)_3(N(C_2H_5)_2)F$ (Phosphorin,1-(diethylamino)-1-fluoro-1,1-dihydro-2,4,6-triphenyl-)	40425-24-9	**	6.50 (V)	PE	5271
$C_4H_{12}N_2FP^+$						
	$((CH_3)_2N)_2PF$	1735-82-6	**	8.18 (V)	PE	3825
$C_2H_6NF_2P^+$						
	$(CH_3)_2NPF_2$	814-97-1	**	9.58 (V)	PE	3825
			**	9.6 (V)	PE	3662
			**	9.60 (V)	PE	4474

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_6NF_2P^+$						
	$(CH_3)_2NPF_2$	814-97-1	**	10.2±0.3	EI	3652
$C_4H_{10}NF_2P^+$						
	$(C_2H_5)_2NPF_2$	363-84-8	**	9.45 (V)	PE	4474
$C_6H_{18}N_3F_2P^+$						
	$((CH_3)_2N)_3PF_2$	7549-83-9	**	8.04 (V)	PE	3825
$C_4H_{12}N_2F_3P^+$						
	$((CH_3)_2N)_2PF_3$	1735-83-7	**	8.84 (V)	PE	3825
$C_2H_6NF_4P^+$						
	$(CH_3)_2NPF_4$	2353-98-2	**	10.35 (V)	PE	3825
$C_4H_6NF_6P^+$						
	$(CH_3)_2NP(CF_3)_2$	432-01-9	**	9.56 (V)	PE	4261
$CH_3NF_4P_2^+$						
	$CH_3N(PF_2)_2$	17648-18-9	**	10.95 (V)	PE	5376
$C_2H_6N_2P_2F_6^+$						
	$(CH_3NPF_3)_2$ (1,3,2,4-Diazadiphosphetidine, 2,2,2,4,4,4-hexafluoro-2,2,4,4-tetrahydro-1,3-dimethyl-)	3880-04-4	**	9.80	EI	5462
$C_{24}H_{20}N_3F_2P_3^+$						
	$(C_6H_5)_4P_3N_3F_2$ (1,3,5,2,4,6-Triazatriphosphorine,2,4-difluoro-2,2,4,4,6,6-hexahydro-2,4,6,6-tetraphenyl-)	73502-98-4	**	8.59	PE	5443
$C_{12}H_{10}N_3F_4P_3^+$						
	$(C_6H_5)_2P_3N_3F_4$ (1,3,5,2,4,6-Triazatriphosphorine,2,2,4,6-tetrafluoro-2,2,4,4,6,6-hexahydro-4,4-diphenyl-)	XXXXX-XX-X	**	9.64 (V)	PE	5443
	cis-$(C_6H_5)_2P_3N_3F_4$ (1,3,5,2,4,6-Triazatriphosphorine,2,2,4,6-tetrafluoro-2,2,4,4,6,6-hexahydro-4,6-diphenyl-)	73502-97-3	**	9.62 (V)	PE	5443
$C_6H_5N_3F_5P_3^+$						
	$C_6H_5P_3N_3F_5$ (1,3,5,2,4,6-Triazatriphosphorine,2,2,4,4,6-pentafuoro-2,2,4,4,6,6-hexahydro-6-phenyl-)	2713-48-6	**	10.07 (V)	PE	5443
$C_8H_{10}N_4F_5P_3^+$						
	$(C_6H_4N(CH_3)_2)P_3N_3F_5$ (1,3,5,2,4,6-Triazatriphosphorine,2-[4-(dimethylamino) phenyl]-2,4,4,6,6-pentafluoro-2,2,4,4,6,6-hexahydro-)	53968-86-8	**	7.88 (V)	PE	5443
$BC_2H_9NF_2P^+$						
	$(CH_3)_2NF_2PBH_3$?	2851-73-2	**	12.2±0.3	EI	3652
$B_3C_2H_{11}NF_2P^+$						
	$(CH_3)_2NF_2PB_3H_7$	11126-93-5		10.4±0.3	EI	3652
$B_3C_2H_{12}NF_2P^+$						
	$(CH_3)_2NF_2PB_3H_7$	11126-93-5	H	10.5±0.3	EI	3652
$B_4C_2H_{12}NF_2P^+$						
	$(CH_3)_2NF_2PB_4H_8$	12602-24-3		10.0±0.3	EI	3652

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$B_4C_2H_{14}NF_2P^+$						
	$(CH_3)_2NF_2PB_4H_8$	12602-24-3	**	9.6±0.3	EI	3652
OF_3P^+						
	POF_3	13478-20-1	**	12.77±0.04	PE	3641
$OF_4P_2^+$						
	PF_2OPF_2	13812-07-2	**	11.2 (V)	PE	3662
$CH_3O_2F_2P^+$						
	$PF_2O(OCH_3)$	22382-13-4	**	12.64 (V)	PE	4699
$C_6H_6O_3F_9P^+$						
	$(CF_3CH_2O)_3P$	370-69-4	**	10.37 (V)	PE	4705
$CNOF_2P^+$						
	PF_2NCO	461-59-6	**	11.05±0.02 (V)	PE	3662
$C_5H_{12}N_2OFP^+$						
	$CN_2P(=O)F(CH_3)_4$ (1,3,2-Diazaphosphetidin-4-one, 2-fluoro-2,2-dihydro-1,2,2,3-tetramethyl-)	32707-18-9	**	8.70±0.1	EI	5462
$C_4H_9N_2OF_2P^+$						
	$CN_2P(=O)F_2(CH_3)_3$ (1,3,2-Diazaphosphetidin-4-one, 2,2-difluoro-2,2-dihydro-1,2,3-trimethyl-)	31053-08-4	**	9.00±0.1	EI	5462
$C_5H_{11}N_2OF_2P^+$						
	$CN_2P(=O)F_2(CH_3)_2C_2H_5$ (1,3,2-Diazaphosphetidin-4-one, 2-ethyl-2,2-difluoro-2,2-dihydro-1,3-dimethyl-)	31053-09-5	**	8.90±0.1	EI	5462
$C_9H_{11}N_2OF_2P^+$						
	$C_6H_5CN_2P(=O)F_2(CH_3)_2$ (1,3,2-Diazaphosphetidin-4-one, 2,2-difluoro-2,2-dihydro-1,2-dimethyl-3-phenyl-)	31053-06-2	**	8.15±0.1	EI	5462
	$C_6H_5F_2CN_2P(=O)(CH_3)_2$ (1,3,2-Diazaphosphetidin-4-one, 2,2-difluoro-2,2-dihydro-1,3-dimethyl-2-phenyl-)	32707-15-6	**	8.80±0.1	EI	5462
$C_{10}H_{13}N_2OF_2P^+$						
	$C_{10}H_{13}N_2OF_2P$ (1,3,2-Diazaphosphetidin-4-one, 2-ethyl-2,2-difluoro-2,2-dihydro-1-methyl-3-phenyl-)	31053-07-3	**	8.00±0.1	EI	5462
$C_7H_{16}N_3OF_2P^+$						
	$C_7H_{16}N_3OF_2P$ (1,3,2-Diazaphosphetidin-4-one, 2-(diethylamino)-2,2-difluoro-2,2-dihydro-1,3-dimethyl-)	32707-17-8	**	8.85±0.1	EI	5462
$C_3H_6N_2OF_3P^+$						
	$CN_2P(=O)F_3(CH_3)_2$ (1,3,2-Diazaphosphetidin-4-one, 2,2,2-trifluoro-2,2-dihydro-1,3-dimethyl-)	32707-12-3	**	9.60±0.1	EI	5462
$ONaP^+$						
	NaPO	56730-08-6	**	7.7±0.5	EI	4518
O_2NaP^+						
	$NaPO_2$	XXXXX-XX-X	**	5.3±0.5	EI	4518
	$NaPO_2$	XXXXX-XX-X	**	8.6	EI	4098

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
O_3NaP^+						
	$NaPO_3$	XXXXX-XX-X	**	10.16±0.04 (V)	PE	4840
	$NaPO_3$	XXXXX-XX-X	**	5.0±0.8	EI	4518
SiP^+						
	PSi	12137-64-3	**	9.1±0.5	EI	4102
Si_2P^+						
	PSi_2	37347-46-9	**	8.4±0.5	EI	4102
SiP_2^+						
	P_2Si	12137-68-7	**	9.0±0.5	EI	4102
H_5SiP^+						
	SiH_3PH_2	14616-47-8	**	9.9±0.1 (V)	PE	3661
$H_9Si_3P^+$						
	$(SiH_3)_3P$	15110-33-5	**	9.3±0.1 (V)	PE	3661
$CSiP^+$						
	CSiP	37342-74-8	**	8.9±0.5	EI	4102
$C_7H_{19}SiP^+$						
	$(CH_3)_3P=CHSi(CH_3)_3$	3272-86-4	**	6.80	PE	3782
			**	6.81 (V)	PE	4181
			**	6.81 (V)	PE	5368
$C_{22}H_{25}SiP^+$						
	$(CH_3)_3SiCH=P(C_6H_5)_3$ (Phosphorane, triphenyl[(trimethylsilyl)methylene]-)	3739-97-7	**	6.71 (V)	PE	4579
$C_9H_{25}Si_2P^+$						
	$(CH_3)_3SiSi(CH_3)_2CH=P(CH_3)_3$	29947-67-9	**	6.85 (V)	PE	4181
			**	6.87	PE	3782
$C_{10}H_{27}Si_2P^+$						
	$((CH_3)_3Si)_2C=P(CH_3)_3$	3607-03-2	**	6.92 (V)	PE	4181
			**	6.92 (V)	PE	5368
$C_{27}H_{39}Si_3P^+$						
	$((CH_3)_3SiC_6H_4)_3P$ (Phosphine,tris[4-trimethylsilyl)phenyl]-)	18848-96-9	**	7.67 (V)	PE	5438
$C_{14}H_{36}Si_3P_2^+$						
	$C_2Si_3(CH_3)_6(=P(CH_3)_3)_2$ (Phosphorane, (1,1,2,2,4,4-hexamethyl-1,2,4-trisilacyclopentane-3,5-diylidene)bis[trimethyl-)	51685-13-3	**	6.11 (V)	PE	4181
$C_6H_{18}NSiP^+$						
	$(CH_3)_3SiN=P(CH_3)_3$	6063-72-5	**	8.30 (V)	PE	4181
			**	8.30 (V)	PE	5442
$C_{21}H_{24}NSiP^+$						
	$(C_6H_5)_3PNSi(CH_3)_3$ (Silanamine,1,1,1-trimethyl-N-(triphenylphosphoranylidene)-)	13892-06-3	**	8.05 (V)	PE	5442
$C_{11}H_{31}NSi_2P_2^+$						
	$C_{11}H_{31}NSi_2P_2^+$	39980-56-8	**	6.18 (V)	PE	4181
$H_2F_3SiP^+$						
	H_2PSiF_3	51518-19-5	**	11.06±0.05 (V)	PE	5419

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$H_6NF_2SiP^+$						
	$PF_2[N(SiH_3)_2]$	71579-71-0	**	10.8 (V)	PE	4988
$H_3NF_4P_2Si^+$						
	$N(PF_2)_2(SiH_3)$	71579-72-1	**	11.2 (V)	PE	4988
S^+						
	S	7704-34-9	**	10.36	S	4864
			**	10.3±0.3	EI	3449
			**	10.4±0.3	EI	4486
			**	10.4±0.3	EI	4874
			**	10.5±0.3	EI	3616
			**	10.5±0.3	EI	4580
			**	10.5±0.3	EI	4864
			**	10.5	EI	4544
			**	~11±0.5	EI	3448
	S_2	23550-45-0	S	13.5±0.5	EI	5229
	H_2S	7783-06-4	H_2	13.5	EI	3967
	CS_2	75-15-0		14.80±0.02	PI	4936
			CS	14.80±0.02	PI	5435
(^4S_u)			CS	14.88±0.05	EI	4905
(^4S_u)			$CS(X^1\Sigma^+)$	13.35	EI	4897
				13.40±0.08	EI	5242
			CS	15±1	EI	3812
			CS	17±1	EI	3812
	SO_2	7446-09-5	SO	16.334	PE	5388
(^4S_u)	COS	463-58-1	CO	13.52±0.05	EI	4905
			CO	13.7	EI	3779
	SCl_2	10545-99-0		13.0±0.2	EI	4287
S_2^+						
	S_2	23550-45-0	**	9.42±0.10	EI	3616
			**	9.8±0.3	EI	4874
			**	9.8±0.5	EI	3615
($^2\Pi_{g,1/2}$)			**	9.30	PE	5475
($^2\Pi_{3/2,g}$)			**	9.38±0.01	PE	4370
			**	9.55 (V)	PE	4550
($^2\Pi_{g,3/2}$)			**	9.56 (V)	PE	5475
($^4\Pi_u$)			**	11.28	PE	5475
($^4\Sigma_g^-$)			**	13.06	PE	5475
			**	9.36±0.02	EI	4920
			**	9.42±0.1	EI	4554
			**	9.8±0.3	EI	4486
			**	10.1±0.3	EI	5229
			**	9.38±0.03	OTH	5435
	CS_2	75-15-0	C	16.82±0.02	PI	5435
				16.88±0.02	PI	4936
	$C_3H_6S_2$ (1,3-Dithiolane)	4829-04-3	$CH_2=CHCH_3$	10.7±0.1	EI	3598
	S_2F_2	13709-35-8		17.6±0.4	EI	3738
S_8^+						
	S_8	10544-50-0	**	9.23 (V)	PE	3846
			**	9.40 (V)	PE	4411
HS^+						
	H_2S	7783-06-4	H	14.4	EI	3967
			H	14.7±0.2	EI	4610
H_2S^+						
($^2B_1$)	H_2S	7783-06-4	**	10.466±0.002	S	5060
($^2A_1$)			**	12.777±0.005	S	5060

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
H_2S^+						
($^2B_2$)	H_2S	7783-06-4	**	14.643	S	5060
($^2B_1$)			**	10.5	PI	5479
($^2A_1$)			**	12.8	PI	5479
($^2B_2$)			**	14.8	PI	5479
($^2B_1$)			**	10.43	PE	4073
			**	10.43 (V)	PE	4276
($^2B_1$)			**	10.47	PE	3719
($^2A_1$)			**	12.752	PE	3515
($^2A_1$)			**	12.78	PE	3719
($^2B_2$)			**	14.78	PE	3719
($^2A_1$)			**	22.0±0.2 (V)	PE	5269
($^2A_1$)			**	22.2 (V)	PE	3719
($^2A_1$)			**	23.3±0.2 (V)	PE	5269
			**	10.45	EI	3967
			**	10.56±0.05	EI	4610
H_3S^+						
	C_2H_5SH	75-08-1		12.41.0.02	EI	3487
	$(CH_3)_2S$	75-18-3		14.14±0.02	EI	3487
$H_2S_2^+$						
	H_2S_2	13465-07-1	**	10.01 (V)	PE	4276
HBS^+						
($^2\Pi$)	HBS	14457-85-3	**	11.11±0.03	PE	3982
			**	11.12	PE	3871
($^2\Sigma^+$)			**	13.54±0.03	PE	3982
($^2\Sigma^+$)			**	15.83±0.1	PE	3982
$H_9B_9S^+$						
	SB_9H_9 (1-Thiadecaborane(9))	41646-56-4	**	10.3 (V)	PE	5324
$H_{11}B_9S^+$						
	6-SB_9H_{11} (6-Thiadecaborane(11))	12447-77-7	**	9.8 (V)	PE	5324
$H_{11}B_{11}S^+$						
	$SB_{11}H_{11}$ (1-Thiadodecaborane(11))	56464-75-6	**	11.1 (V)	PE	5324
CS^+						
	CS	2944-05-0	**	11.33±0.01	PI	4936
($^2\Sigma_g^+$)			**	11.33±0.01	PE	3691
			**	11.33±0.02	PE	3696
($^2\Sigma_g^+$)			**	11.33±0.02	PE	5208
($^2\Sigma$)			**	11.34±0.02	PE	3690
($^2\pi$)			**	12.78±0.02	PE	3690
($^2\pi_u$)			**	12.79±0.01	PE	3691
($^2\Pi_u$)			**	12.79±0.02	PE	5208
($^2\Sigma$)			**	15.83±0.02	PE	3690
($^2\Sigma_u^+$)			**	15.84±0.01	PE	3691
($^2\Sigma_u^+$)			**	18.00±0.01	PE	3691
($^2\Sigma$)			**	18.03±0.02	PE	3690
			**	11.0±0.03	EI	4920
			**	11.39±0.1	EI	4554
			**	11.39±0.10	EI	3616
	CS_2	75-15-0	S^-	13.64±0.02	PI	4936
				15.75±0.02	PI	4936
			S	15.75±0.02	PI	5435
($^2\Sigma^+$)			S^-	13.90±0.1	EI	4905

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
CS^+						
($^2\Sigma^+$)	CS_2	75-15-0	S	15.94±0.07	EI	4905
				14.10±0.08	EI	5242
($^2\Sigma^+$,$^2\Pi$)			$S^-(^2P_u)$	14.5	EI	4897
($^2\Sigma^+$)			$S(^3P_g)$	14.7	EI	4897
			S	16.3±1	EI	3812
($^2\Sigma^+$)	COS	463-58-1	O	18.7±0.5	EI	4905
			O^-?	16.7	EI	3779
CS_2^+						
($^2\Pi_{g3/2}$)	CS_2	75-15-0	**	10.0685±0.0020	S	5439
($^2\Pi_{g1/2}$)			**	10.1230±0.0020	S	5439
($^2\Pi_{1/2u}$)			**	12.586	S	3573
($^2\Pi_u$)			**	12.713	S	5048
($^2\Pi_{3/2}$)			**	10.070±0.006	PI	5299
($^2\Pi_{q3/2}$)			**	10.074±0.005	PI	4936
($^2\Pi_{g3/2}$)			**	10.076±0.005	PI	5435
($^2\Pi_g$)			**	10.077	PI	4994
($^2\Pi_{1/2}$)			**	10.125	PI	5299
($^2\Pi_{q1/2}$)			**	10.131±0.005	PI	4936
($^2\Pi_{g1/2}$)			**	10.132±0.005	PI	5435
($^2\Pi_u$)			**	12.696	PI	4994
($^2\Sigma_u^+$)			**	14.479	PI	4994
($^2\Sigma_u^+$)			**	14.48±0.02	PI	5435
($^2\Sigma_u^+$)			**	14.480±0.005	PI	4936
($^2\Sigma_g^+$)			**	16.184±0.005	PI	4936
($^2\Sigma_g^+$)			**	16.19±0.02	PI	5435
($^2\Sigma_g^+$)			**	16.192	PI	4994
($^2\Sigma_u^+$)			**	16.53±0.02	PI	4936
($^2\Pi_g$)			**	10.06±0.01	PE	3965
			**	10.06	PE	3697
($^2\Pi_{3/2}$)			**	10.06	PE	4073
($X^2\Pi_{g3/2}$)			**	10.074.0.002	PE	4979
			**	10.079±0.003	PE	5256
			**	10.10 (V)	PE	5055
($^2\Pi_u$)			**	12.67±0.01	PE	3965
($^2\Sigma_u^+$)			**	14.47±0.01	PE	3965
($^2\Sigma_g^+$)			**	16.18±0.01	PE	3965
			**	10.06±0.025	EI	5027
			**	10.05±0.08	EI	5242
			**	10.07±0.1	EI	4554
			**	10.07±0.10	EI	3616
($^2\Pi_u$)			**	12.620	OTH	5029
$C_2S_4^+$						
	$(CS_2)_2$	XXXXX-XX-X	**	9.36±0.02	PI	5439
	$(CS_2)_2$	XXXXX-XX-X	**	~9.63	PI	5299
$C_3S_6^+$						
	$(CS_2)_3$	XXXXX-XX-X	**	9.22±0.02	PI	5439
$C_4S_8^+$						
	$(CS_2)_4$	XXXXX-XX-X	**	9.10±0.02	PI	5439
$C_5S_{10}^+$						
	$(CS_2)_5$	XXXXX-XX-X	**	9.04±0.02	PI	5439
CHS^+						
	C_4H_4S (Thiophene)	110-02-1	C_3H_3	13.19±0.04	PE	5283
	$C_3H_6S_2$ (1,3-Dithiolane)	4829-04-3	$CHS+CH_4$?	13±0.4	EI	3598

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
CHS^+						
	$(CH_3)_2SO$	67-68-5	H_2O+CH_3	11.55±0.2	EI	5311
	C_3H_6OS (1,3-Oxathiolane)	2094-97-5		12.9±0.2	EI	3598
CH_2S^+						
	HCHS	865-36-1	**	9.0 (V)	PE	4467
			**	9.33 (V)	PE	4323
			**	9.338±0.010	PE	3697
			**	9.38 (V)	PE	4680
	CH_3SH	74-93-1	H_2	10.8±0.1	PI	4025
	$(CH_3)_2S$	75-18-3	CH_4	10.46±0.08	PI	4025
	$(C_2H_5)_2S$	352-93-2	$C_2H_4+CH_4$	11.75±0.03	PI	4025
	$C_3H_6S_2$ (1,3-Dithiolane)	4829-04-3		11±0.4	EI	3598
	C_3H_6OS (1,3-Oxathiolane)	2094-97-5		12.5±0.2	EI	3598
CH_3S^+						
	CH_3SH	74-93-1	H	11.37±0.05	PI	4025
	$(CH_3)_2S$	75-18-3	CH_3	10.79±0.04	PI	4025
	$(C_2H_5)_2S$	352-93-2	$C_2H_4+CH_3$	12.00±0.05	PI	4025
	$(CH_3CH_2)_2CHSH$	616-31-9	$C_2H_5+C_2H_4$	12.1	EI	5316
	$CH_3SCH(CH_3)C_2H_5$	10359-64-5	$C_2H_5+C_2H_4$	12.9	EI	5316
	$C_3H_6S_2$ (1,3-Dithiolane)	4829-04-3		11.4±0.4	EI	3598
	$C_2H_5SOCH_3$	1669-98-3	C_2H_4+OH	12.23±0.32	EI	5311
	$(CH_3O)_2P(CH_3S)O$	152-20-5		13.1±0.30	EI	3989
	$(CH_3S)_2P(CH_3O)O$	22608-53-3		12.60±0.20	EI	3989
CH_4S^+						
	CH_3SH	74-93-1	**	9.44±0.01	PI	4025
			**	9.415	PE	3697
			**	9.42	PE	3678
($^2A''$)			**	9.44	PE	4032
			**	9.44	PE	4087
			**	9.44 (V)	PE	3656
			**	9.44 (V)	PE	5632
$C_2H_2S^+$						
	$CH_2=C=S$	18282-77-4	**	8.89 (V)	PE	4698
	C_4H_4S (Thiophene)	110-02-1	C_2H_2	12.1±0.1	PE	5283
$C_2H_3S^+$						
	$C_3H_6S_2$ (1,3-Dithiolane)	4829-04-3	CH_3S	10.8±0.4	EI	3598
	C_3H_6OS (1,3-Oxathiolane)	2094-97-5	CH_2O+H	12.3±0.1	EI	3598
$C_2H_4S^+$						
	CH_3CHS	6851-93-0	**	8.98±0.02 (V)	PE	4212
			**	9.3 (V)	PE	4467
	C_2H_4S (Thiirane)	420-12-2	**	9.051±0.006	S	3882
			**	8.9±0.1	PE	4990
			**	9.00	PE	3861
			**	9.05 (V)	PE	3837
	$(C_2H_5)_2S$	352-93-2	C_2H_6	9.89±0.3	PI	4025
	$C_3H_6S_2$ (1,3-Dithiolane)	4829-04-3	CH_2S	11.2±0.3	EI	3598
	C_3H_6OS (1,3-Oxathiolane)	2094-97-5	CH_2O	10.5±0.1	EI	3598

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_5S^+$						
	$(CH_3)_2S$	75-18-3	H	10.93±0.02	PI	4025
	$(CH_3)_2CHSH$	75-33-2	CH_3	11.0±0.15	EI	5058
	$(C_2H_5)_2S$	352-93-2	C_2H_5	10.23±0.03	PI	4025
	$HSCH_2CH_2SH$	26914-40-9	SH	10.4±0.15	EI	5058
	$C_3H_6S_2$ (1,3-Dithiolane)	4829-04-3	CHS	11.4±0.3	EI	3598
	$(CH_3S)_2CH_2$	1618-26-4	SCH_3	10.1±0.15	EI	5058
	C_3H_6OS (1,3-Oxathiolane)	2094-97-5	CHO	10.4±0.1	EI	3598
	$BrCH_2CH_2SH$	24276-77-5	Br	10.1±0.15	EI	5058
$C_2H_6S^+$						
	C_2H_5SH	75-08-1	**	9.29	PE	4032
	$(CH_3)_2S$	75-18-3	**	8.687	S	4238
			**	8.706±0.010	S	3970
			**	8.69±0.01	PI	4025
			**	7.59 (V)	PE	5526
			**	8.5±0.1	PE	4990
			**	8.57±0.04	PE	3842
			**	8.65 (V)	PE	3678
			**	8.67	PE	3867
			**	8.67 (V)	PE	4276
			**	8.67 (V)	PE	5632
			**	8.7	PE	4104
			**	8.71 (V)	PE	3656
			**	8.71 (V)	PE	4884
			**	8.71 (V)	PE	5538
	$(C_2H_5)_2S$	352-93-2	C_2H_4	9.90±0.03	PI	4025
C_3HS^+						
	C_4H_4S (Thiophene)	110-02-1	CH_3	12.95±0.05	PE	5283
$C_3H_5S^+$						
	$C_3H_6S_2$ (1,3-Dithiolane)	4829-04-3	SH	10.5±0.1	EI	3598
$C_3H_6S^+$						
	$CH_2=CHCH_2SH$	870-23-5	**	9.25	PE	3864
			**	9.25 (V)	PE	5427
	$CH_2=CHSCH_3$	1822-74-8	**	8.44 (V)	PE	4246
			**	8.45 (V)	PE	4291
			**	8.45 (V)	PE	4638
			**	8.45 (V)	PE	5632
	$(CH_3)_2CS$	4756-05-2	**	8.6 (V)	PE	4467
			**	8.60±0.05 (V)	PE	4212
	C_3H_6S (Thietane)	287-27-4	**	8.65±0.01	PI	5531
	$C_2H_3SCH_3$ (Thiirane, methyl-)	1072-43-1	**	8.88 (V)	PE	4747
$C_3H_7S^+$						
	$(CH_3)_3CSH$	75-66-1	CH_3	11.4±0.15	EI	5316
	$(C_2H_5)_2S$	352-93-2	CH_3	10.16±0.05	PI	4025
			CH_3	10.7±0.15	EI	5316
	$(CH_3CH_2)_2CHSH$	616-31-9	C_2H_5	10.6±0.15	EI	5316
	$CH_3SCH(CH_3)C_2H_5$	10359-64-5	C_2H_5	10.3±0.15	EI	5316
	$BrCH_2CH_2CH_2SH$	XXXXX-XX-X	Br	9.5±0.15	EI	5316
$C_3H_8S^+$						
	$C_2H_5SCH_3$	624-89-5	**	8.46	CTS	4272

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_3H_8S^+$						
	n-C_3H_7SH	107-03-9	**	9.19	PE	4032
	iso-C_3H_7SH	75-33-2	**	9.14	PE	4032
$C_4H_3S^+$						
	C_4H_4S (Thiophene)	110-02-1	H	12.93±0.07	PE	5283
$C_4H_4S^+$						
	C_4H_4S (Thiophene)	110-02-1	**	8.874±0.005	S	3731
			**	8.86±0.01	PI	4058
			**	8.85 (V)	PE	4690
			**	8.87±0.01	PE	5283
			**	8.87 (V)	PE	3858
			**	8.90	PE	4017
			**	8.90 (V)	PE	5405
			**	~8.8	EI	4656
			**	8.80±0.05	EI	4316
			**	9.05	CTS	3787
			**	9.12±0.05	EI	3482
$C_4D_4S^+$						
	C_4D_4S (Thiophene-d_4)	2036-39-7	**	8.874±0.005	S	3731
$C_4H_6S^+$						
	$(CH_2=CH)_2S$	627-51-0	**	8.25±0.01	PI	5531
			**	7.61 (V)	PE	5526
	$C_2H_3SCH=CH_2$ (Thiirane, ethenyl-)	5954-75-6	**	8.89 (V)	PE	4747
	C_4H_6S (Thiophene, 2,5-dihydro-)	1708-32-3	**	8.54 (V)	PE	3995
$C_4H_8S^+$						
	$CH_2=CHSC_2H_5$	627-50-9	**	8.21±0.01	PI	5531
	$CH_3SCH_2CH=CH_2$	10152-76-8	**	8.6	PE	4104
			**	8.65 (V)	PE	4211
	C_4H_8S (Thiophene, tetrahydro-)	110-01-0	**	8.40 (V)	PE	3995
			**	8.42 (V)	PE	4145
			**	8.62±0.05	EI	3498
			**	8.62	EI	5292
$C_4H_9S^+$						
	$(C_2H_5)_2S$	352-93-2	H	10.2±0.1	PI	4025
$C_4H_{10}S^+$						
	$(C_2H_5)_2S$	352-93-2	**	8.42±0.01	PI	4025
			**	7.45 (V)	PE	5526
			**	8.44 (V)	PE	4276
			**	8.44 (V)	PE	5632
			**	8.41	CTS	4272
	n-C_4H_9SH	109-79-5	**	9.15	PE	4032
	sec-C_4H_9SH	513-53-1	**	9.10	PE	4032
	iso-C_4H_9SH	513-44-0	**	9.12	PE	4032
	$tert$-C_4H_9SH	75-66-1	**	9.03	PE	4032
$C_5H_6S^+$						
	$C_4H_3SCH_3$ (Thiophene,2-methyl-)	554-14-3	**	8.59 (V)	PE	5323

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_6S^+$						
	$C_4H_3SCH_3$	554-14-3	**	8.63±0.05	EI	3482
			**	8.61	CTS	3787
	$C_4H_3SCH_3$ (Thiophene, 3-methyl-)	616-44-4	**	8.72	EI	3787
			**	8.84	CTS	3787
			**	8.70 (V)	PE	5323
	C_5H_6S (4H-Thiopyran)	289-70-3	**	8.0±0.1 (V)	PE	4841
$C_5H_{10}S^+$						
	$CH_2=CHS(iso\text{-}C_3H_7)$	18888-46-5	**	8.15±0.01	PI	5531
	$CH_2=CHCH_2SC_2H_5$	5296-62-8	**	8.51±0.01	PI	5531
	$CH_2=CHSC_3H_7$	16330-21-5	**	8.16±0.01	PI	5531
	$C_5H_{10}S$ (2*H*-Thiopyran, tetrahydro-)	1613-51-0	**	8.39	PE	4246
			**	8.45 (V)	PE	3733
$C_5H_{12}S^+$						
	$C_2H_5S(iso\text{-}C_3H_7)$	5145-99-3	**	8.35±0.01	PI	5531
	$(CH_3)_3CSCH_3$	6163-64-0	**	8.38±0.05	PE	4153
	$n\text{-}C_3H_7SC_2H_5$	4110-50-3	**	8.37	CTS	4272
$C_6H_4S^+$						
	$cis\text{-}C_2H_2S(C{\equiv}CH)_2$ (Thiirane, *cis*-2,3-diethynyl-)	50555-56-1	**	8.80	PE	4374
	$trans\text{-}C_2H_2S(C{\equiv}CH)_2$ (Thiirane, *trans*-2,3-diethynyl-)	50555-55-0	**	8.85	PE	4374
$C_6H_6S^+$						
	C_6H_5SH (Benzenethiol)	108-98-5	**	8.28	PE	3678
			**	8.39	PE	4621
			**	8.47 (V)	PE	4327
			**	8.95±0.1	EI	3817
			**	8.36	CTS	4272
$C_6H_8S^+$						
	$C_4H_2S(CH_3)_2$ (Thiophene, 2,5-dimethyl-)	638-02-8	**	8.10	EI	3787
			**	8.18	CTS	3787
	$C_4H_3SC_2H_5$ (Thiophene, 2-ethyl-)	872-55-9	**	8.67±0.05	EI	3482
			**	8.57	CTS	3787
$C_6H_{10}S^+$						
	$HC{\equiv}CS(iso\text{-}C_4H_9)$	50351-47-8	**	8.62±0.01	PI	5531
	$(CH_2=CHCH_2)_2S$	592-88-1	**	8.52±0.01	PI	5531
	$C_6H_{10}S$ (7-Thiabicyclo[2.2.1]heptane)	279-59-4	**	8.28±0.04	PE	3842
	$C_5H_7SCH_3$ (2H-Thiopyran, 3,4-dihydro-6-methyl-)	13042-79-0	**	7.95 (V)	PE	4569
$C_6H_{12}S^+$						
	$CH_2=CHS(tert\text{-}C_4H_9)$	14094-13-4	**	8.07±0.01	PI	5531
	$CH_2=CHSC_4H_9$	4789-70-2	**	8.15±0.01	PI	5531
$C_6H_{14}S^+$						
	$(n\text{-}C_3H_7)_2S$	111-47-7	**	8.34 (V)	PE	4276
			**	8.34 (V)	PE	5632
	$(iso\text{-}C_3H_7)_2S$	625-80-9	**	8.25±0.01	PI	5531
			**	8.26 (V)	PE	4276

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_{14}S^+$						
	$(iso\text{-}C_3H_7)_2S$	625-80-9	**	8.26 (V)	PE	5632
$C_7H_8S^+$						
	$C_6H_5CH_2SH$ (Benzenemethanethiol)	100-53-8	**	8.85 (V)	PE	3678
	$C_6H_5SCH_3$ (Benzene,(methylthio)-)	100-68-5	**	7.92±0.02	PI	5552
			**	7.96±0.01	PI	5531
			**	8.02 (V)	PE	4479
			**	8.04 (V)	PE	4884
			**	8.07 (V)	PE	3781
			**	8.07 (V)	PE	4327
			**	8.07 (V)	PE	5632
			**	8.60 (V)	PE	4327
			**	8.08	CTS	4272
			**	7.93	PE	4621
	$C_6H_4(SH)CH_3$ (Benzenethiol, 2-methyl-)	137-06-4	**	8.31 (V)	PE	4327
	$C_6H_4(SH)CH_3$ (Benzenethiol, 3-methyl-)	108-40-7	**	8.44 (V)	PE	4327
	$C_6H_4(SH)CH_3$ (Benzenethiol, 4-methyl-)	106-45-6	**	8.33 (V)	PE	4327
	C_7H_8S (2-Thiabicyclo[3.2.1]octa-3,6-diene)	39066-37-0	**	8.03-8.12 (V)	PE	5481
$C_7H_{10}S^+$						
	$C_7H_{10}S$ (2-Thiabicyclo[3.2.1]oct-3-ene)	71017-55-5	**	7.92 (V)	PE	5481
$C_7H_{12}S^+$						
	$CH_3C{\equiv}CS(iso\text{-}C_4H_9)$	56444-80-5	**	8.15±0.01	PI	5531
	$C_7H_{12}S$ (2-Thiabicyclo[3.2.1]octane)	279-81-2	**	8.43-8.52 (V)	PE	5481
	$C_5H_6S(CH_3)_2$ (2*H*-Thiopyran, 3,4-dihydro-4,4-dimethyl-)	53520-28-8	**	8.06 (V)	PE	4246
$C_8H_6S^+$						
	$C_6H_4C_2H_2S$ (Benzothiophene)	11095-43-5	**	8.13±0.015 (V)	PE	5522
	C_8H_6S (Benzo[*b*]thiophene)	95-15-8	**	8.20	PE	4017
			**	8.73±0.05	EI	4316
	C_8H_6S (Benzo[*c*]thiophene)	270-82-6	**	7.75	PE	4017
$C_8H_8S^+$						
	$C_6H_5SCH{=}CH_2$ (Benzene,(ethenylthio)-)	1822-73-7	**	7.96±0.01	PI	5531
	$C_6H_5CSCH_3$ (Ethanethione, 1-phenyl-)	16696-68-7	**	8.1 (V)	PE	4467
	C_8H_8S (9-Thiabicyclo[4.2.1]nona-2,4,7-triene)	35783-97-2	**	8.39 (V)	PE	4326
$C_8H_{10}S^+$						
	$C_6H_5SC_2H_5$ (Benzene,(ethylthio)-)	622-38-8	**	7.88±0.02	PI	5531
			**	8.0 (V)	PE	4327
			**	8.53 (V)	PE	4327
	$C_6H_4(CH_3)SCH_3$ (Benzene, 1-methyl-3-(methylthio)-)	4886-77-5	**	8.00 (V)	PE	4327
			**	8.50 (V)	PE	4327

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_{10}S^+$						
	$C_6H_4(CH_3)SCH_3$ (Benzene, 1-methyl-4-(methylthio)-)	623-13-2	**	7.87 (V)	PE	4327
			**	7.9±0.05 (V)	PE	4389
			**	8.50 (V)	PE	4327
	$C_6H_5CH_2SCH_3$ (Benzene, [(methylthio)methyl]-)	766-92-7	**	9.01 (V)	PE	3781
	$C_8H_{10}S$ (9-Thiabicylo[4.2.1]nona-2,4-diene)	50669-04-0	**	8.26 (V)	PE	4326
$C_8H_{12}S^+$						
	$C_4H_3S(tert\text{-}C_4H_9)$ (Thiophene,2-(1,1-dimethylethyl)-)	1689-78-7	**	8.48	CTS	4382
			**	8.54±0.05	EI	3482
	$C_4H_3S(tert\text{-}C_4H_9)$ (Thiophene, 3-(1,1-dimethylethyl)-)	1689-79-8	**	8.57	CTS	4382
	$C_8H_{12}S$ (9-Thiabicyclo[3.3.1]-non-1-ene)	50436-33-4	**	8.35 (V)	PE	4569
	$C_8H_{12}S$ (9-Thiabicyclo[4.2.1]non-7-ene)	13350-64-6	**	8.20 (V)	PE	4326
	$C_4S(CH_3)_4$ (Thiophene, tetramethyl-)	14503-51-6	**	7.93	CTS	4382
$C_8H_{14}S^+$						
	$C_8H_{14}S$ (9-Thiabicyclo[3.3.1]nonane)	281-15-2	**	8.20 (V)	PE	4569
	$C_8H_{14}S$ (9-Thiabicyclo[4.2.1]nonane)	6522-54-9	**	8.16 (V)	PE	4326
$C_8H_{18}S^+$						
	$(n\text{-}C_4H_9)_2S$	544-40-1	**	8.22 (V)	PE	4276
	$(iso\text{-}C_4H_9)_2S$	592-65-4	**	8.32	CTS	4272
	$(tert\text{-}C_4H_9)_2S$	107-47-1	**	8.07 (V)	PE	4276
			**	8.07 (V)	PE	5632
			**	8.07 (V)	PE	5632
			**	8.18±0.05 (V)	PE	4153
			**	8.19±0.1	EI	4198
$C_9H_{10}S^+$						
	$C_6H_5CH=CHSCH_3$ (Benzene, [2-(methylthio)ethenyl]-(Z)-)	35822-50-5	**	7.75 (V)	PE	3781
			**	8.75 (V)	PE	5632
	$C_6H_5SCH_2CH=CH_2$ (Benzene,(2-propenylthio)-)	5296-64-0	**	7.91±0.01	PI	5531
$C_9H_{11}S^+$						
	$C_6H_5S(tert\text{-}C_4H_9)$ (Benzene, [(1,1-dimethylethyl)thio]-)	3019-19-0	CH_3	12.1±0.1	EI	4198
$C_9H_{12}S^+$						
	$C_6H_5S(n\text{-}C_3H_7)$ (Benzene,(propylthio)-)	874-79-3	**	7.81±0.03	PI	5552
	$C_6H_4(CH_3)SC_2H_5$ (Benzene, 1-(ethylthio)-3-methyl-)	34786-24-8	**	7.92 (V)	PE	4327
			**	8.42 (V)	PE	4327
	$C_6H_4(CH_3)SC_2H_5$ (Benzene, 1-(ethylthio)-4-methyl-)	622-63-9	**	7.9 (V)	PE	4327
			**	8.45 (V)	PE	4327
	$C_6H_5SCH(CH_3)_2$ (Benzene, [(1-methylethyl)thio]-)	3019-20-3	**	8.46 (V)	PE	4327
$C_{10}H_8S^+$						
	$C_6H_5C_4H_3S$ (Thiophene, 2-phenyl)	825-55-8	**	8.06	CTS	4382

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{10}H_{14}S^+$						
	$C_6H_5S(tert\text{-}C_4H_9)$ (Benzene, [(1,1-dimethylethyl)thio]-)	3019-19-0	**	8.38±0.05	PE	4589
			**	8.17±0.1	EI	4198
			**	8.40 (V)	PE	4327
	$C_6H_4(CH_3)SCH(CH_3)_2$ (Benzene, 1-methyl-3-[(1-methylethyl)thio]-)	14905-80-7	**	8.38 (V)	PE	4327
	$C_6H_4(CH_3)SCH(CH_3)_2$ (Benzene, 1-methyl-4-[(1-methylethyl)thio]-)	14905-81-8	**	8.38 (V)	PE	4327
$C_{10}H_{16}S^+$						
	$C_7H_7(=S)(CH_3)_3$ (Bicyclo[2.2.1]heptane-2-thione, 1,3,3-trimethyl-)	875-06-9	**	8.41 (V)	PE	4323
	$C_6H_4S(CH_3)_4$ (Thiepin, 4,5-didehydro-2,3,6,7-tetrahydro-3,3,6,6-tetramethyl-)	26825-18-3	**	8.19 (V)	PE	4362
	$C_{10}H_{15}SH$ (Tricyclo[3.3.1.$1^{3,7}$]decane-1-thiol)	34301-54-7	**	8.78 (V)	PE	5395
$C_{10}H_{20}S^+$						
	$C_6H_8S(CH_3)_4$ (1-Thiacycloheptane, 3,3,6,6-tetramethyl-)	XXXXX-XX-X	**	8.15 (V)	PE	4362
$C_{11}H_{10}S^+$						
	$C_{10}H_7SCH_3$ (Naphthalene, 1-(methylthio)-)	10075-72-6	**	7.67 (V)	PE	3781
	$C_{10}H_7SCH_3$ (Naphthalene, 2-(methylthio)-)	7433-79-6	**	7.71 (V)	PE	3781
			**	7.71 (V)	PE	5632
$C_{11}H_{16}S^+$						
	$C_6H_4(SCH_3)(tert\text{-}C_4H_9)$ (Benzene, 1-(1,1-dimethylethyl)-4-(methylthio)-)	7252-86-0	**	7.83±0.05 (V)	PE	4627
	$C_6H_4(CH_3)SC(CH_3)_3$ (Benzene, 1-[(1,1-dimethylethyl)thio]-3-methyl-)	34786-26-0	**	8.35 (V)	PE	4327
	$C_6H_4(CH_3)SC(CH_3)_3$ (Benzene, 1-[(1,1-dimethylethyl)thio]-4-methyl-)	7439-10-3	**	8.31 (V)	PE	4327
$C_{12}H_8S^+$						
	$C_{12}H_8S$ (Dibenzothiophene)	132-65-0	**	7.90±0.03	PI	5552
			**	7.93 (V)	PE	5619
			**	8.01 (V)	PE	3852
			**	8.34	EI	3787
			**	8.44	EI	4228
			**	8.23	CTS	3787
$C_{12}H_{10}S^+$						
	$(C_6H_5)_2S$ (Benzene,1,1'-thiobis-)	139-66-2	**	7.81±0.03	PI	5552
			**	7.92±0.01	PI	5531
			**	7.8	PE	4228
			**	7.86 (V)	PE	4667
			**	7.88±0.05	EI	3498
			**	7.88	EI	5292
			**	8.45±0.1	EI	3817
			**	8.04	CTS	4272
	$C_4H_3SCH{=}CHC_6H_5$ (Thiophene, 2-(2-phenylethenyl)-)	3783-65-1	**	7.55	EI	3787
			**	7.78	CTS	3787
$C_{12}H_{18}S^+$						
	$C_6H_6(C_2H_4S)C_4H_8$ (4α,8α-(Methanothiomethano)naphthalene,1,2,3,4,5,8-hexahydro-)	17853-64-4	**	8.07 (V)	PE	5194

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{12}H_{20}S^+$						
	$C_4H_2S(C_4H_9)_2$ (Thiophene, 2,5-bis(1,1-dimethylethyl)-)	1689-77-6	**	7.85 (V)	PE	4324
$C_{13}H_8S^+$						
	$C_{14}H_{12}S$ (Dibenzo[*b,e*]thiepin,6,11-dihydro-)	1207-93-8	CH_3	10.80	EI	5414
$C_{13}H_{10}S^+$						
	$(C_6H_4)_2CH_2SC(=O)$ (Dibenz[*b,e*]thiepin-11(6H)-one)	1531-77-7	CO	9.75	EI	5340
$C_{13}H_{12}S^+$						
	$C_6H_4(CH_3)SC_6H_5$ (Benzene, 1-methyl-2-(phenylthio)-)	13963-35-4	**	8.01	CTS	4272
	$C_6H_4(CH_3)SC_6H_5$ (Benzene, 1-methyl-3-(phenylthio)-)	13865-48-0	**	7.99	CTS	4272
	$C_6H_4(CH_3)SC_6H_5$ (Benzene, 1-methyl-4-(phenylthio)-)	3699-01-2	**	7.95	CTS	4272
	$C_6H_5CH_2SC_6H_5$ (Benzene,[(phenylmethyl)thio]-)	831-91-4	**	7.87±0.02	PI	5552
$C_{14}H_{10}S^+$						
	$C_{14}H_{10}S$ (Dibenzo[*b,f*] thiepin)	257-13-6	**	7.96 (V)	PE	4611
$C_{14}H_{11}S^+$						
	$C_{14}H_{12}S$ (Dibenzo[*b,e*]thiepin,6,11-dihydro-)	1207-93-8	H	11.40	EI	5414
	$C_{13}H_8S(CH_3)_2$ (9H-Thioxanthene, 9,9-dimethyl-)	19019-10-4	CH_3	8.3±0.1	EI	4664
$C_{14}H_{12}S^+$						
	$C_{14}H_{12}S$ (Dibenzo[*b,e*]thiepin,6,11-dihydro-)	1207-93-8	**	8.77	EI	5414
$C_{14}H_{14}S^+$						
	$C_6H_3(CH_3)_2SC_6H_5$ (Benzene, 1,2-dimethyl-4-(phenylthio)-)	2828-65-1	**	7.89	CTS	4272
	$C_6H_4(CH_3)SC_6H_4CH_3$ (Benzene, 1,1′-thiobis[2-methyl-)	4537-05-7	**	7.94	CTS	4272
	$C_6H_4(CH_3)SC_6H_4CH_3$ (Benzene, 1,1′-thiobis[4-methyl-)	620-94-0	**	7.83	CTS	4272
	$(C_6H_5CH_2)_2S$ (Benzene,1,1′[thiobis(methylene)bis-)	538-74-9	**	8.05±0.02	PI	5552
$C_{15}H_{10}S^+$						
	$C_3(=S)(C_6H_5)_2$ (2-Cyclopropen-1-thione, 2,3-diphenyl-)	2570-01-6	**	11.25 (V)	PE	4856
$C_{15}H_{14}S^+$						
	$C_{13}H_8S(CH_3)_2$ (9H-Thioxanthene, 9,9-dimethyl-)	19019-10-4	**	7.7±0.1	EI	4664
$C_{16}H_{18}S^+$						
	$C_6H_3(CH_3)_2SC_6H_3(CH_3)_2$ (Benzene, 1,1′-thiobis[2,6-dimethyl-)	52805-90-0	**	8.36	CTS	4272
$C_{18}H_{16}S^+$						
	$C_{10}H_6(CH_2CH_2)_2C_4H_2S$ (8,11-Epithio-5,14-ethenobenzocyclododecene,6,7,12,13-tetrahydro-)	53539-29-0	**	7.50 (V)	PE	5575

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$CH_2S_2^+$						
	$C_3H_6S_2$ (1,3-Dithiolane)	4829-04-3	C_2H_4	10.8±0.2	EI	3598
$CH_4S_2^+$						
	$HSCH_2SH$	6725-64-0	**	9.9 (V)	PE	4405
$C_2H_6S_2^+$						
	$(CH_3S)_2$	624-92-0	**	8.3	PE	4188
			**	8.82 (V)	PE	3697
			**	8.96 (V)	PE	5068
			**	8.97 (V)	PE	4276
			**	8.97 (V)	PE	5538
			**	8.97 (V)	PE	5632
			**	8.98 (V)	PE	4218
			**	9. (V)	PE	4410
$C_3H_5S_2^+$						
	$C_3H_6S_2$ (1,3-Dithiolane)	4829-04-3	H	11.2±0.2	EI	3598
$C_3H_6S_2^+$						
	$CH_3C{=}SSCH_3$	2168-84-5	**	8.50 (V)	PE	4427
	$C_3H_6S_2$ (1,3-Dithiolane)	4829-04-3	**	8.75 (V)	PE	4418
			**	8.77 (V)	PE	4756
			**	9.0±0.05	EI	3598
$C_3H_8S_2^+$						
	$CH_3SCH_2SCH_3$	1618-26-4	**	8.65 (V)	PE	5632
			**	8.67 (V)	PE	4405
$C_4H_4S_2^+$						
	$C_4H_4S_2$ (1,4-Dithiin)	290-79-9	**	8.1±0.1 (V)	PE	4841
$C_4H_8S_2^+$						
	$CH_2{=}C(SCH_3)_2$	51102-74-0	**	8.2 (V)	PE	4291
	cis-$CH_3SCH{=}CHSCH_3$	764-44-3	**	7.80 (V)	PE	4291
	trans-$CH_3SCH{=}CHSCH_3$	764-45-4	**	7.85 (V)	PE	4291
			**	7.96 (V)	PE	5632
	$C_4H_8S_2$ (1,2-Dithiane)	505-20-4	**	8.36 (V)	PE	4276
			**	8.36 (V)	PE	5632
	$C_4H_8S_2$ (1,3-Dithiane)	505-23-7	**	8.33 (V)	PE	4756
			**	8.33 (V)	PE	5632
			**	8.54 (V)	PE	3733
	$C_4H_8S_2$ (1,4-Dithiane)	505-29-3	**	8.46 (V)	PE	5632
			**	8.58 (V)	PE	3733
$C_4H_{10}S_2^+$						
	$(C_2H_5S)_2$	110-81-6	**	8.70 (V)	PE	4276
			**	8.70 (V)	PE	5632
			**	8.77 (V)	PE	4410
			**	8.85 (V)	PE	4218
	$CH_3SCH_2CH_2SCH_3$	6628-18-8	**	8.64 (V)	PE	5632
$C_5H_4S_2^+$						
	$C_5H_4S(=S)$ (4H-Thiopyran-4-thione)	1120-94-1	**	7.96±0.05 (V)	PE	5002

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_6S_2^+$						
	$C_4H_3SSCH_3$ (Thiophene, 2-(methylthio)-)	5780-36-9	**	8.63±0.05 (V)	PE	4626
			**	8.10±0.05	EI	3482
	$C_4H_2S(SH)CH_3$ (2-Thiophenethiol, 5-methyl-)	3970-28-3	**	8.48±0.05	EI	4706
$C_5H_{12}S_2^+$						
	$C_2H_5SCH_2SC_2H_5$	4396-19-4	**	8.66 (V)	PE	4756
			**	8.22±0.02	PI	5531
$C_6H_4S_2^+$						
	$C_6H_4S_2$ (Thieno[2,3-*b*]thiophene)	250-84-0	**	8.32	PE	4017
			**	8.32 (V)	PE	5405
			**	8.45 (V)	PE	5478
	$C_6H_4S_2$ (Thieno[3,2-*b*]thiophene)	251-41-2	**	8.10	PE	4017
			**	8.10 (V)	PE	5405
	$C_6H_4S_2$ (Thieno[3,2-*b*]thiophene)	251-41-1	**	8.14 (V)	PE	3852
$C_6H_8S_2^+$						
	$C_4H_2S(CH_3)SCH_3$ (Thiophene, 2-methyl-5-(methylthiol)-)	40990-29-2	**	8.13±0.05	EI	4706
	$C_4HS(SH)(CH_3)_2$ (3-Thiophenethiol, 2,5-dimethyl-)	29874-05-3	**	8.22±0.05	EI	4706
$C_6H_{10}S_2^+$						
	cis,cis-$CH_3SCH{=}CHCH{=}CHSCH_3$	35822-49-2	**	7.48 (V)	PE	5632
$C_6H_{14}S_2^+$						
	$(n\text{-}C_3H_7S)_2$	629-19-6	**	8.62 (V)	PE	4276
			**	8.62 (V)	PE	5632
	$(iso\text{-}C_3H_7S)_2$	4253-89-8	**	8.54 (V)	PE	4276
			**	8.54 (V)	PE	5632
			**	8.51 (V)	PE	4410
$C_7H_6S_2^+$						
	$C_7H_6S_2$ (Thieno[2,3-*b*]thiophene,2-methyl-)	13393-75-4	**	8.12 (V)	PE	5478
	$C_7H_6S_2$ (Thieno[2,3-*b*]thiophene,3-methyl-)	1723-34-8	**	8.04 (V)	PE	5478
$C_7H_{10}S_2^+$						
	$C_4HS(CH_3)_2SCH_3$ (Thiophene, 2,5-dimethyl-3-(methylthiol)-)	63359-64-8	**	7.96±0.05	EI	4706
$C_8H_6S_2^+$						
	$(C_4H_3S)_2$ (3,3′-Bithiophene)	3172-56-3	**	8.2 (V)	PE	5422
$C_8H_8S_2^+$						
	$C_8H_8S_2$ (1,6-Dithiecin, 3,4,8,9-tetradehydro-2,5,7,10-tetrahydro-)	53690-50-9	**	8.73±0.02 (V)	PE	4180
$C_8H_{10}S_2^+$						
	$C_6H_4(SCH_3)_2$ (Benzene,1,2-bis(methylthio)-)	2388-68-3	**	8.0 (V)	PE	5403
	$C_6H_4(SCH_3)_2$ (Benzene,1,3-bis(methylthio)-)	2388-69-4	**	8.0 (V)	PE	5403
	$C_6H_4(SCH_3)_2$ (Benzene, 1,4-bis(methylthio)-)	699-20-7	**	7.93 (V)	PE	3781

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_{10}S_2^+$						
	$C_6H_4(SCH_3)_2$	699-20-7	**	7.93 (V)	PE	5403
$C_8H_{12}S_2^+$						
	$C_4(=S)_2(CH_3)_4$ (1,3-Cyclobutanedithione, 2,2,4,4-tetramethyl-)	10181-56-3	**	8.35 (V)	PE	5499
$C_8H_{18}S_2^+$						
	n-C_4H_9SSn-C_4H_9	629-45-8	**	8.51 (V)	PE	4410
	($tert$-$C_4H_9S)_2$	110-06-5	**	8.15 (V)	PE	4410
			**	8.17 (V)	PE	4276
			**	8.17 (V)	PE	5632
			**	8.20 (V)	PE	4218
$C_{10}H_6S_2^+$						
	$C_{10}H_6S_2$ (Naphtho[1,8-cd]-1,2-dithole)	209-22-3	**	7.15 (V)	PE	4782
$C_{10}H_{12}S_2^+$						
	$C_{10}H_{12}S_2$ (1,3-Benzodithiole-2-ethyl-2-methyl-)	58657-45-7	**	7.85 (V)	PE	5410
$C_{12}H_{12}S_2^+$						
	$(C_4H_2SCH_2CH_2)_2$ (13,14-Dithiatricyclo[8.2.1.1^{4,7}]tetradeca-4,6,10,12-tetraene)	73650-69-8	**	7.95	PE	5575
	$C_{10}H_6(SCH_3)_2$ (Naphthalene, 1,4-bis(methylthio)-)	10075-73-7	**	7.58 (V)	PE	5204
			**	7.58 (V)	PE	5612
	$C_{10}H_6(SCH_3)_2$ (Naphthalene,1,5-bis(methylthio)-)	10075-74-8	**	7.66 (V)	PE	5204
	$C_{10}H_6(SCH_3)_2$ (Naphthalene,1,8-bis(methylthio)-)	7343-31-9	**	7.55 (V)	PE	5204
	$C_{10}H_6(SCH_3)_2$ (Naphthalene,2,6-bis(methylthio)-)	10075-77-1	**	7.59 (V)	PE	5204
			**	7.59 (V)	PE	5612
$C_{16}H_{14}S_2^+$						
	$C_{14}H_8S_2(CH_3)_2$ (Anthracene-9,10-bis(methylthio)-)	10075-83-9	**	7.44 (V)	PE	5612
$C_{20}H_{30}S_2^+$						
	$(C_{10}H_{15}S)_2$ (Disulfide,bis(tricyclo[3.3.1.1^{3,7}]dec-1-yl))	34895-45-9	**	7.86 (V)	PE	5395
$C_{20}H_{32}S_2^+$						
	$C_{12}H_8S_2(CH_3)_8$ (Cyclobuta[1,2-d:3,4-d']bisthiepin, 1,2,4,5,6,7,9,10-octahydro-1,1,5,5,6,6,10,10-octameth yl-)	40219-42-9		6.89 (V)	PE	4304
$C_{30}H_{20}S_2^+$						
	$C_6S_2(C_6H_5)_4$ (Thieno[3,4-c]thiophene-2,5-5^{IV}, 1,3,4,6-tetraphenyl-)	36516-81-1	**	6.19 (V)	PE	4838
$C_2H_2S_3^+$						
	$C_2H_2S_2(=S)$ (1,3-Dithietane-2-thione)	18555-26-5	**	8.83 (V)	PE	4549
$C_2H_4S_3^+$						
	$C_2H_4S_3$ (1,2,4-Trithiolane)	289-16-7	**	8.72±0.2 (V)	PE	5415
			**	8.72 (V)	PE	4410

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	*Ionization or* appearance potential (eV)	Method	Ref.
$C_3H_2S_3^+$						
	$C_3H_2S_3$ (1,3-Dithiole-2-thione)	930-35-8	**	8.26 (V)	PE	5410
			**	8.3 (V)	PE	4549
	$(C_3H_2S_2)=S$ (3H-1,2-Dithiole-3-thione)	534-25-8	**	8.42 (V)	PE	4403
$C_3H_4S_3^+$						
	$C_3H_4S_2S$ (1,3-Dithiolane-2-thione)	822-38-8	**	8.40 (V)	PE	4407
			**	8.40 (V)	PE	4323
$C_3H_6S_3^+$						
	$(CH_3S)_2CS$	2314-48-9	**	8.5 (V)	PE	4323
	$C_3H_6S_3$ (1,3,5-Trithiane)	291-21-4	**	8.76 (V)	PE	3733
			**	8.83±0.05 (V)	PE	4212
$C_4H_4S_3^+$						
	$(C_3HS_2)=S(CH_3)$ (3H-1,2-Dithiole-3-thione, 4-methyl-)	3354-41-4	**	8.23 (V)	PE	4403
	$(C_3HS_2)=S(CH_3)$ (3H-1,2-Dithiole-3-thione, 5-methyl-)	3354-40-3	**	8.25 (V)	PE	4403
$C_4H_6S_3^+$						
	$C_4H_6S_2=S$ (1,3-*Dithiane-2-thione*)	1748-15-8	**	8.40 (V)	PE	4323
$C_5H_4S_3^+$						
	$C_5H_4S_3$ ([1,2]Dithiolo[1,5-*b*][1,2]dithiole-7-S^{IV})	252-09-5	**	8.11 (V)	PE	3569
$C_6H_6S_3^+$						
	$C_5H_3S_3CH_3$ ([1,2]Dithiolo[1,5-*b*][1,2]dithiole-7-S^{IV}, 2-methyl-)	20718-55-2	**	7.83 (V)	PE	3569
$C_6H_{12}S_3^+$						
	$C_3H_3S_3(CH_3)_3$ (1,3,5-Trithiane, 2,4,6-trimethyl-)	2765-04-0	**	8.39±0.05 (V)	PE	4212
	$C_6H_{12}S_3$ (1,2,4-Trithiolane,3,3,5,5-tetramethyl-)	38348-31-1	**	8.12±0.2 (V)	PE	5415
			**	8.12 (V)	PE	4410
$C_7H_4S_3^+$						
	$C_7H_4S_3$ (1,3-Benzodithiole-2-thione)	934-36-1	**	8.14 (V)	PE	5410
	$(C_7H_4S_2)=S$ (3H-1,2-Benzodithiole-3-thione)	3354-42-5	**	8.10 (V)	PE	4403
$C_7H_8S_3^+$						
	$C_5H_2S_3(CH_3)_2$ ([1,2]Dithiolo[1,5-*b*][1,2]dithiole-7-S^{IV}, 2,5-dimethyl-)	2080-35-5	**	7.73 (V)	PE	3569
	$C_5H_2S_3(CH_3)_2$ ([1,2]Dithiolo[1,5-*b*][1,2]dithiole-7-S^{IV}, 3,4-dimethyl-)	29977-00-2	**	7.63 (V)	PE	3569
$C_7H_{10}S_3^+$						
	$(C_3HS_2)=S(tert\text{-}C_4H_9)$ (3H-1,2-Dithiole-3-thione, 5-(1,1-dimethylethyl)-	29507-64-0	**	8.15 (V)	PE	4403
$C_8H_4S_3^+$						
	$C_8H_4S_3$ (Dithieno[2,3-*b*:3′,2′-*d*]thiophene)	236-63-5	**	7.86 (V)	PE	5405

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_4S_3^+$						
	$C_8H_4S_3$ (Dithieno[3,2-*b*:2′,3′-*d*]thiophene)	3593-75-7	**	7.8 (V)	PE	5405
	$C_8H_4S_3$ (Dithieno[3,4-*b*:3′,4′-*d*]thiophene)	13090-49-8	**	7.88 (V)	PE	5405
$C_8H_6S_3^+$						
	$(C_4H_3S)_2S$ (Thiophene,2,2′-thiobis-)	3988-99-6	**	8.40 (V)	PE	5356
	$(C_4H_3S)_2S$ (Thiophene,3,3′-thiobis-)	3807-38-3	**	8.06 (V)	PE	5356
$C_9H_6S_3^+$						
	$(C_3HS_2)=S(C_6H_5)$ (3H-1,2-Dithiole-3-thione, 5-phenyl-)	3445-76-9	**	8.11 (V)	PE	4403
$C_9H_{18}S_3^+$						
	$C_3S_3(CH_3)_6$ (1,3,5-Trithiane, 2,2,4,4,6,6-hexamethyl-)	828-26-2	**	7.95±0.05 (V)	PE	4212
$C_{10}H_8S_3^+$						
	$(C_3HS_2)=S(C_6H_4CH_3)$ (3H-1,2-Dithiole-3-thione, 5-(4-methylphenyl)-)	6921-83-1	**	8.10 (V)	PE	4403
	$(C_4H_2S)_2C_2H_4S$ (4H,6H-Dithieno[3,4-*c*:3′,4′-*e*]thiepin)	42850-82-8	**	8.4 (V)	PE	5422
	$(C_4H_2S)_2C_2H_4S$ (Dithieno[2,3-*c*:3′,2′-*e*]thiepin,4,6-dihydro-)	63286-55-5	**	8.15 (V)	PE	5422
$C_{10}H_{12}S_3^+$						
	$C_8H_6S_3(CH_3)_2$ (3*H*-[1,2]Dithiolo[4,5,1-*hi*][1,2]benzodithiole-8-S^{IV}, 4,5-dihydro-2,6-dimethyl-)	35437-21-9	**	7.34 (V)	PE	3569
$C_{12}H_{16}S_3^+$						
	$C_8H_6S_3(C_2H_5)_2$ (3*H*-[1,2]Dithiolo[4,5,1-*hi*][1,2]benzodithiole-8-S^{IV}, 2,6-diethyl-4,5-dihydro-)	35505-46-5	**	7.33 (V)	PE	3569
$C_{14}H_{20}S_3^+$						
	$C_8H_6S_3(C_3H_7)_2$ (3*H*-[1,2]Dithiolo[4,5,1-*hi*][1,2]benzodithiole-8-S^{IV}, 4,5-dihydro-2,6-bis(1-methylethyl)-)	35505-47-6	**	7.19 (V)	PE	3569
$C_{17}H_{12}S_3^+$						
	$C_5H_2S_3(C_6H_5)_2$ ([1,2]Dithiolo[1,5-*b*][1,2]dithiole-7-S^{IV}, 3,4-diphenyl-)	25730-47-6	**	7.57 (V)	PE	3569
$C_5H_8S_4^+$						
	$C_5H_8S_4$ (1,4,6,9-Tetrathiaspiro[4.4]nonane)	13145-46-5	**	8.26 (V)	PE	4756
			**	8.35 (V)	PE	4418
$C_5H_{12}S_4^+$						
	$C(SCH_3)_4$	6156-25-8	**	8.29 (V)	PE	4756
$C_6H_4S_4^+$						
	$(C_3H_2S_2)_2$ (1,3-Dithiole-2-(1,3-dithiole-2-ylidene)-)	31366-25-3	**	7.00	CTS	5622
			**	6.83 (V)	PE	3981
			**	6.83 (V)	PE	4481
			**	6.92±0.03 (V)	PE	4155
$C_6H_8S_4^+$						
	$(C_3H_4S_2)_2$ (1,3-Dithiolane, 2-(1,3-dithiolan-2-ylidene)-)	24719-68-4	**	7.05±0.03 (V)	PE	4155

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_8S_4^+$						
	$(C_3H_4S_2)_2$	24719-68-4	**	7.17 (V)	PE	4481
$C_6H_{10}S_4^+$						
	$C_6H_{10}S_4$ (2,2-Bi-1,3-dithiolane)	6784-47-0	**	8.6-9.0 (V)	PE	4481
$C_6H_{12}S_4^+$						
	$(CH_3S)_2C=C(SCH_3)_2$	13046-50-9	**	7.75 (V)	PE	4291
	$C_2S_4(CH_3)_4$ (1,2,4,5-Tetrathiane, 3,3,6,6-tetramethyl-)	4475-72-3	**	8.23±0.02 (V)	PE	4402
$C_7H_{12}S_4^+$						
	$C_7H_{12}S_4$ (1,5,7,11-Tetrathiaspiro[5.5]undecane)	180-97-2	**	8.09 (V)	PE	4756
$C_{10}H_{12}S_4^+$						
	$C_6S_4(CH_3)_4$ (1,3-Dithiole, 2-(4,5-dimethyl-1,3-dithiol-2-ylidene)-4,5-dimethyl-)	50708-37-7	**	6.40 (V)	PE	4481
$C_{10}H_{16}S_4^+$						
	$C_{10}H_{16}S_4$ (6,7,13,14-Tetrathiadispiro[4.2.4.2]tetradecane)	184-05-4	**	8.17±0.02 (V)	PE	4402
$C_{12}H_{20}S_4^+$						
	$C_{12}H_{20}S_4$ (7,8,15,16-Tetrathiadispiro[5.2.5.2]hexadecane)	183-85-7	**	7.98±0.02 (V)	PE	4402
$C_{14}H_8S_4^+$						
	$(C_6H_4S_2C)_2$ (1,3-Benzodithiole, 2-(1,3-benzodithiol-2-ylidene)-)	24648-13-2	**	6.81 (V)	PE	4461
$C_{10}H_{18}S_6^+$						
	$C_4H_8S_2$ (1,4-Dithiane)	505-29-3	**	8.46 (V)	PE	5632
$B_9CH_{11}S^+$						
	$SB_9H_8(CH_3)$ (1-Thiadecaborane(9),10-methyl-)	64173-76-8	**	10.0 (V)	PE	5324
$BC_3H_9S^+$						
	$(CH_3)_2BSCH_3$	19163-05-4	**	9.40 (V)	PE	4065
$BC_{12}H_{19}S^+$						
	$C_6H_5SB(n\text{-}C_3H_7)_2$ (Borinic acid, dipropylthio-phenyl ester)	4443-46-3	**	8.77±0.05 (V)	PE	4848
$BC_{13}H_{21}S^+$						
	$C_6H_4(CH_3)SB(n\text{-}C_3H_7)_2$ (Borinic acid, dipropylthio-3-methylphenyl ester)	64503-47-5	**	8.59±0.05 (V)	PE	4848
	$C_6H_4(CH_3)SB(n\text{-}C_3H_7)_2$ (Borinic acid, dipropylthio-4-methylphenyl ester)	64503-46-4	**	8.48±0.05 (V)	PE	4848
$BC_3H_9S_2^+$						
	$(CH_3S)_2BCH_3$	19163-08-7	**	8.74 (V)	PE	4065
$B_2C_2H_6S_3^+$						
	$B_2S_3(CH_3)_2$ (1,2,4,3,5-Trithiadiborolane, 3,5-dimethyl-)	25592-09-0	**	9.04 (V)	PE	4526
$BC_3H_9S_3^+$						
	$B(SCH_3)_3$	997-49-9	**	8.74 (V)	PE	4065

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
NS^+						
($^2\Pi$)	NS	51801-08-2	**	8.87±0.01 (V)	PE	4657
	$(SN)_2$	XXXXX-XX-X		13.0±0.6	EI	4870
	$(SN)_4$	XXXXX-XX-X		14.1±0.6	EI	4870
NS_2^+						
	$(SN)_2$	XXXXX-XX-X		12.2±0.6	EI	4870
$N_2S_2^+$						
	$(SN)_2$	XXXXX-XX-X	**	11.5±0.6	EI	4870
	S_2N_2	25474-92-4	**	10.41	PE	4718
	S_2N_2 (Sulfur nitride)	45346-74-5	**	10.51 (V)	PE	5355
	$(SN)_4$	XXXXX-XX-X		13.7±0.6	EI	4870
$N_3S_3^+$						
	$(SN)_4$	XXXXX-XX-X		12.3±0.6	EI	4870
$N_4S_4^+$						
	$(SN)_4$	XXXXX-XX-X	**	10.4±0.6	EI	4870
	S_4N_4 (Nitrogen sulfide)	28950-34-7	**	9.36 (V)	PE	5355
$C_2N_2S^+$						
	$S(C{\equiv}N)_2$	627-52-1	**	11.32 (V)	PE	4476
$C_2N_2S_2^+$						
	$(SCN)_2$	505-14-6	**	11.05±0.02	PE	5363
$CHNS^+$						
	HNCS	3129-90-6	**	9.94±0.02 (V)	PE	3670
CH_2NS^+						
	$NH(CH_3)CSNH_2$	598-52-7		12.45	EI	4878
CH_3NS^+						
	$HCSNH_2$	115-08-2	**	8.69	PE	4469
$C_2H_3NS^+$						
	CH_3NCS	556-61-6	**	9.37±0.02 (V)	PE	3670
	CH_3SCN	556-64-9	**	9.96±0.05 (V)	PE	5026
$C_2H_4NS^+$						
	$(NHCH_3)_2CS$	534-13-4		12.20	EI	4878
	$N(CH_3)_2CSNHCH_3$	2489-77-2		11.25	EI	4878
$C_2H_5NS^+$						
	CH_3CSNH_2	62-55-5	**	8.33 (V)	PE	4323
			**	8.36	PE	4469
$C_3H_3NS^+$						
	C_3H_3NS (Isothiazole)	288-16-4	**	9.55	PE	3587
			**	9.62 (V)	PE	5213
			**	9.80	EI	3587
	C_3H_3NS (Thiazole)	288-47-1	**	9.50 (V)	PE	5213
$C_3H_5NS^+$						
	C_2H_5NCS	542-85-8	**	9.12±0.05 (V)	PE	5026
	C_2H_5SCN	542-90-5	**	9.77±0.05 (V)	PE	5026

Ion - (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_3H_6NS^+$						
	$((CH_3)_2N)_2CS$	2782-91-4		11.20	EI	4878
$C_3H_7NS^+$						
	$HCSN(CH_3)_2$	758-16-7	**	8.16	PE	4469
			**	8.2 (V)	PE	4323
$C_4H_5NS^+$						
	$C_3H_2NS(CH_3)$ (Isothiazole, 3-methyl-)	693-92-5	**	9.60	EI	3587
	$C_3H_2NS(CH_3)$ (Isothiazole, 4-methyl-)	693-90-3	**	9.25	PE	3587
	$C_3H_2NS(CH_3)$ (Isothiazole, 5-methyl-)	693-97-0	**	9.65	EI	3587
$C_4H_9NS^+$						
	$CH_3CSN(CH_3)_2$	631-67-4	**	7.86	PE	4469
$C_5H_3NS^+$						
	C_4H_3SCN (2-Thiophenecarbonitrile)	1003-31-2	**	9.83±0.05	EI	3482
			**	10.00	CTS	4382
$C_5H_5NS^+$						
	$C_5H_4N(SH)$ (2-Pyridinethiol)	73018-10-7	**	8.79±0.03 (V)	PE	4711
			**	8.92±0.02	EI	3636
	$C_5H_4N(SH)$ (3-Pyridinethiol)	16133-26-9	**	8.89±0.03 (V)	PE	4711
			**	9.41±0.02	EI	3636
	$C_5H_4N(SH)$ (4-Pyridinethiol)	4556-23-4	**	9.25±0.03 (V)	PE	4711
			**	9.50±0.02	EI	3636
	$C_5H_4NH(=S)$ (2(1H)-Pyridinethione)	2637-34-5	**	7.80±0.03 (V)	PE	4711
$C_5H_9NS^+$						
	n-C_4H_9NCS	592-82-5	**	9.02±0.05 (V)	PE	5026
	n-C_4H_9SCN	628-83-1	**	9.64±0.05 (V)	PE	5026
$C_5H_{11}NS^+$						
	$CH_2=C(SCH_3)N(CH_3)_2$	24854-14-6	**	7.8 (V)	PE	4291
$C_6H_7NS^+$						
	$C_5H_4N(SCH_3)$ (Pyridine, 2-(methylthio)-)	18438-38-5	**	8.24±0.03 (V)	PE	4711
			**	8.47±0.02	EI	3636
	$C_5H_4N(SCH_3)$ (Pyridine, 3-(methylthio)-)	18794-33-7	**	8.41±0.03 (V)	PE	4711
			**	8.93±0.02	EI	3636
	$C_5H_4N(SCH_3)$ (Pyridine, 4-(methylthio)-)	22581-72-2	**	8.73±0.03 (V)	PE	4711
			**	9.00±0.02	EI	3636
	$C_5H_4N(=S)CH_3$ (2(1H)-Pyridinethione, 1-methyl-)	2044-27-1	**	7.69±0.03 (V)	PE	4711
			**	7.84±0.02	EI	3636
	$C_5H_4N(=S)CH_3$ (4(1H)-Pyridinethione, 1-methyl-)	6887-59-8	**	7.6±0.03 (V)	PE	4711
			**	7.54±0.02	EI	3636
$C_7H_5NS^+$						
	C_6H_5NCS (Benzene, isothiocyanato-)	103-72-0	**	8.53 (V)	PE	4495

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_5NS^+$						
	C_7H_5NS (Benzothiazole)	95-16-9	**	8.85 (V)	PE	4437
$C_7H_9NS^+$						
	$C_6H_4(SCH_3)NH_2$ (Benzenamine,4-(methylthio)-)	104-96-1	**	7.6 (V)	PE	5403
			**	7.60±0.01 (V)	PE	4389
$C_8H_7NS^+$						
	$C_7H_4NS(CH_3)$ (Benzothiazole, 2-methyl-)	120-75-2	**	8.65 (V)	PE	4437
$C_8H_8NS^+$						
	$C_6H_5NHCSCH_3$ (Ethanethioamide, N-phenyl-)	637-53-6	H	9.60	EI	4834
	$C_6H_4FNHCSCH_3$ (Ethanethioamide, N-(2-fluorophenyl)-)	39184-82-2	F	9.50	EI	4834
	$C_6H_4ClNHCSCH_3$ (Ethanethioamide, N-(2-chlorophenyl)-)	39184-83-3	Cl	8.65	EI	4834
			Cl	8.65	EI	4834
	$C_6H_4BrNHCSCH_3$ (Ethanethioamide, N-(2-bromophenyl)-)	62635-46-5	Br	8.50	EI	4834
	$C_6H_4INHCSCH_3$ (Ethanethioamide, N-(2-iodophenyl)-)	39184-84-4	I	8.55	EI	4834
$C_8H_9NS^+$						
	$C_6H_5NHCSCH_3$ (Ethanethioamide, N-phenyl-)	637-53-6	**	8.20	EI	4834
$C_9H_{13}NS^+$						
	$C_6H_4(SCH_3)N(CH_3)_2$ (Benzenamine, N,N-dimethyl-4-(methylthio)-)	2388-51-4	**	7.29±0.01 (V)	PE	4389
$C_{10}H_9NS^+$						
	$C_6H_5CH_2(C_3H_2NS)$ (Isothiazole, 4-(phenylmethyl)-)	36412-26-7	**	9.05	PE	3587
			**	9.35	EI	3587
$C_{12}H_9NS^+$						
	$C_{12}H_9NS$ (10H-Phenothiazine)	92-84-2	**	7.26±0.08 (V)	PE	4667
			**	6.74±0.07	CTS	4079
			**	6.87	CTS	4035
$C_{12}H_{16}NS^+$						
	$C_6H_4ClNHCSCH_2C(CH_3)_3$ (Butanethioamide, N-(2-chlorophenyl)-3,3-dimethyl-)	62635-54-5		8.65	EI	4834
$C_{13}H_{11}NS^+$						
	$C_{12}H_8NS(CH_3)$ (10H-Phenothiazine, 10-methyl-)	1207-72-3	**	7.15±0.07 (V)	PE	4667
			**	6.73±0.07	CTS	4079
$C_{14}H_{11}NS^+$						
	$C_{13}H_7(=S)NHCH_3$ (Phenalene,1-thione-9-methylamino-)	XXXXX-XX-X	**	7.21±0.04 (V)	PE	5595
$C_{16}H_{15}NS^+$						
	$C_{13}H_7(=S)NH(iso\text{-}C_3H_7)$ (Phenalene,1-thione-9-(methylethyl)amino-)	XXXXX-XX-X	**	7.17±0.04 (V)	PE	5595

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$CH_4N_2S^+$						
	$(NH_2)_2CS$	62-56-6	**	7.9	PE	4221
			**	8.41±0.03 (V)	PE	4253
			**	8.41 (V)	PE	4323
			**	8.50 (V)	PE	4469
			**	8.50	EI	4834
$C_2H_8N_2S^+$						
	$(CH_3)_2S(=NH)_2$	13904-95-5	**	8.87 (V)	PE	4827
			**	8.87 (V)	PE	5207
$C_3H_6N_2S^+$						
	$C_3H_6N_2=S$ (2-Imidazolidinethione)	96-45-7	**	8.15±0.03 (V)	PE	4253
	$C_2H_3N_2SCH_3$ (1,2,5-Thia(S^{IV})diazole, 3,4-dihydro-3-methyl-)	24692-43-1	**	8.92 (V)	PE	4024
$C_3H_8N_2S^+$						
	$(CH_3NH)_2CS$	534-13-4	**	8.08±0.03 (V)	PE	4253
$C_4H_2N_2S^+$						
	$C_3H_2NS(CN)$ (4-Isothiazolecarbonitrile)	3912-37-6	**	10.55	EI	3587
$C_4H_6N_2S^+$						
	$C_3H_3N_2(=S)CH_3$ (2*H*-Imidazole-2-thione, 1,3-dihydro-1-methyl-)	60-56-0	**	7.41±0.03 (V)	PE	4253
$C_4H_8N_2S^+$						
	$C_2H_2N_2S(CH_3)_2$ (1,2,5-Thia(S^{IV})diazole, 3,4-dihydro-3,3-dimethyl-)	24692-45-3	**	9.62 (V)	PE	4024
$C_5H_8N_2S^+$						
	$C_3H_2N_2(=S)(CH_3)_2$ (2*H*-Imidazole-2-thione, 1,3-dihydro-1,3-dimethyl-)	6596-81-2	**	7.27±0.03 (V)	PE	4253
	$C_3H_2N_2(=S)(CH_3)_2$ (3H-Pyrazole-3-thione,1,2-dihydro-1,2-dimethyl-)	55833-07-3	**	7.55 (V)	PE	5309
$C_5H_{10}N_2S^+$						
	$C_3H_4N_2(=S)(CH_3)_2$ (2-Imidazolidinethione, 1,3-dimethyl-)	13461-16-0	**	7.95±0.03 (V)	PE	4253
$C_5H_{12}N_2S^+$						
	$((CH_3)_2N)_2CS$	2782-91-4	**	7.82±0.03	PE	4253
			**	7.82 (V)	PE	4323
			**	7.84 (V)	PE	4469
	$C_3H_6N_2S(CH_3)_2$ (2H-1,3,4-Thiadiazine, tetrahydro-3,4-dimethyl-)	66175-24-4	**	8.18 (V)	PE	5215
$C_6H_4N_2S^+$						
	$C_6H_4N_2S$ (1,2,3-Benzothiadiazole)	273-77-8	**	9.15 (V)	PE	3852
			**	9.50±0.05	EI	4316
	$C_6H_4N_2S$ (2,1,3-Benzothiadiazole)	273-13-2	**	8.98	PE	4017
			**	9.00 (V)	PE	3852
$C_6H_{10}N_2S^+$						
	$C_3HN_2(=S)(CH_3)_3$ (3H-Pyrazole-3-thione,1,2-dihydro-1,2,4-trimethyl-)	66187-19-7	**	7.60 (V)	PE	5309

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_{12}N_2S^+$						
	$C_4H_6N_2(=S)(CH_3)_2$ (2(1*H*)-Pyrimidinethione, tetrahydro-1,3-dimethyl-)	16597-35-6	**	7.58 (V)	PE	4323
$C_7H_7N_2S^+$						
	$C_6H_5NHCSNH_2$ (Thiourea, phenyl-)	103-85-5	H	9.65	EI	4834
	$C_6H_4(CH_3)NHCSNH_2$ (Thiourea, (2-methylphenyl)-)	614-78-8	CH_3	9.60	EI	4834
	$C_6H_4(OCH_3)NHCSNH_2$ (Thiourea, (2-methoxyphenyl)-)	1516-37-6	**	8.95	EI	4834
	$C_6H_4(NO_2)NHCSNH_2$ (Thiourea, (2-nitrophenyl)-)	51039-84-0	NO_2	8.60	EI	4834
	$C_6H_4FNHCSNH_2$ (Thiourea, (2-fluorophenyl)-)	656-32-6	F	9.60	EI	4834
	$C_6H_4ClNHCSNH_2$ (Thiourea, (2-chlorophenyl)-)	5344-82-1	Cl	8.50	EI	4834
	$C_6H_4BrNHCSNH_2$ (Thiourea, (2-bromophenyl)-)	5391-30-0	Br	8.35	EI	4834
	$C_6H_4INHCSNH_2$ (Thiourea, (2-iodophenyl)-)	62635-52-3	I	8.55	EI	4834
$C_7H_8N_2S^+$						
	$C_6H_5NHCSNH_2$ (Thiourea, phenyl-)	103-85-5	**	8.10	EI	4834
$C_8H_8N_2S^+$						
	$C_7H_3NS(NH_2)CH_3$ (6-Benzothiazolamine, 2-methyl-)	2941-62-0	**	7.70 (V)	PE	4437
$C_8H_9N_2S^+$						
	$C_6H_5N(CH_3)CSNH_2$ (Thiourea, N-methyl-N-phenyl-)	4104-75-0		9.70	EI	4834
	$C_6H_4ClNHCSNHCH_3$ (Thiourea, N-(2-chlorophenyl)-N′-methyl-)	30954-73-5	Cl	8.35	EI	4834
$C_8H_{10}N_2S^+$						
	$C_6H_5N(CH_3)CSNH_2$ (Thiourea, N-methyl-N-phenyl-)	2724-69-8	**	8.00	EI	4834
			**	8.05±0.05	EI	4834
	$C_6H_4(CH_3)NHCSNH_2$ (Thiourea, (2-methylphenyl)-)	614-78-8	**	8.20	EI	4834
$C_8H_{18}N_2S^+$						
	$((CH_3)_3CN)_2S$	2056-74-8	**	8.65 (V)	PE	4024
$C_9H_6N_2S^+$						
	$C_7H_3NS(CN)CH_3$ (6-Benzothiazolecarbonitrile, 2-methyl-)	42474-60-2	**	9.15 (V)	PE	4437
$C_9H_{10}N_2S^+$						
	$C_7H_4N_2(S)(CH_3)_2$ (2H-Benzimidazole-2-thione, 1,3-dihydro-1,3-dimethyl-)	3418-46-0	**	7.46	PE	4555
$C_9H_{11}N_2S^+$						
	$C_6H_4ClNHCSNHC_2H_5$ (Thiourea, N-(2-chlorophenyl)-N′-ethyl-)	19384-08-8	Cl	8.35	EI	4834
$C_9H_{12}N_2S^+$						
	$C_6H_5NHCSNHC_2H_5$ (Thiourea, N-ethyl-N′-phenyl-)	2741-06-2	**	7.95±0.05	EI	4834

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_9H_{14}N_2S^+$						
	$C_5H_2N_2S(CH_3)_4$	52353-57-8	**	6.44 (V)	PE	4406
	(Isothiazolo[5,1-*e*]isothiazole-7-S^{IV},1,6-dihydro-1,2,5,6-tetramethyl-)					
$C_{10}H_{13}N_2S^+$						
	$C_6H_4ClNHCSNHCH(CH_3)_2$	62635-49-8	Cl	8.25	EI	4834
	(Thiourea, N-(2-chlorophenyl)-N′-(1-methylethyl)-)					
$C_{10}H_{14}N_2S^+$						
	$C_6H_5NHCSNHCH(CH_3)_2$	15093-36-4	**	7.90±0.05	EI	4834
	(Thiourea, N-(1-methylethyl)-N′-phenyl-)					
$C_{11}H_{15}N_2S^+$						
	$C_6H_4ClNHCSNHC(CH_3)_3$	62635-50-1	Cl	8.10	EI	4834
	(Thiourea, N-(2-chlorophenyl)-N′-(1,1-dimethylethyl)-)					
$C_{11}H_{16}N_2S^+$						
	$C_6H_5NHCSNHC(CH_3)_3$	14327-04-9	**	7.85±0.05	EI	4834
	(Thiourea, N-(1,1-dimethylethyl)-N′-phenyl-)					
$C_{12}H_{12}N_2S^+$						
	$(C_6H_4NH_2)_2S$	139-65-1	**	6.75	PI	4328
	(Benzenamine, 4,4′-thiobis-)					
$C_{12}H_{20}N_2S^+$						
	$C_{12}H_{20}N_2S$	28037-21-0	**	8.57 (V)	PE	4429
	(7-Thia-14,15-diazadispiro[5.1.5.2]pentadec-14-ene)					
$C_{16}H_{18}N_2S^+$						
	$C_{12}H_8NSCH_2CH_2N(CH_3)_2$	522-24-7	**	8.25±0.07	CTS	4079
	(10*H*-Phenothiazine-10-ethanamine, *N*,*N*-dimethyl-)					
$C_{17}H_{20}N_2S^+$						
	$C_{12}H_8NS(CH_2)_3N(CH_3)_2$	58-40-2	**	7.20±0.06 (V)	PE	4667
	(10*H*-Phenothiazine-10-propanamine, *N*,*N*-dimethyl-)					
			**	8.22±0.07	CTS	4079
$C_{18}H_{22}N_2S^+$						
	$C_{12}H_8NSCH_2CH_2N(C_2H_5)_2$	60-91-3	**	7.85±0.07	CTS	4079
	(10*H*-Phenothiazine-10-ethanamine, *N*,*N*-diethyl-)					
$C_4H_7N_3S^+$						
	$C_2HN_3(=S)(CH_3)_2$	64808-28-2	**	7.97 (V)	PE	5309
	(4*H*-1,2,3-Triazole-4-thione,2,3-dihydro-2,3-dimethyl-)					
	$C_2HN_3(S)(CH_3)_2$	34618-67-2	**	7.25 (V)	PE	5309
	(1*H*-1,2,3-Triazolium,4-mercapto-1,3-dimethyl-hydroxide,inner salt)					
$C_5H_9N_3S^+$						
	$C_2N_3(=S)(CH_3)_3$	37526-42-4	**	7.63 (V)	PE	4439
	(3*H*-1,2,4-Triazole-3-thione, 2,4-dihydro-2,4,5-trimethyl-)					
	$C_2N_3(S)(CH_3)_3$	64808-27-1	**	7.95 (V)	PE	5309
	(4H-1,2,3-Triazole-4-thione,2,3-dihydro-2,3,5-trimethyl-)					
	$C_2N_3(S)(CH_3)_3$	66187-20-0	**	7.02 (V)	PE	5309
	(1H-1,2,3-Triazolium,4-mercapto-1,3,5-trimethyl-hydroxide,inner salt)					
$C_7H_9N_3S^+$						
	$C_6H_4(NH_2)NHCSNH_2$	3394-09-0	**	8.10	EI	4834
	(Thiourea, (2-aminophenyl)-)					
$C_9H_9N_3S^+$						
	$C_6H_3C_2HN_3(=S)CH_3$	38942-51-7	**	7.78 (V)	PE	4439
	(3H-1,2,4-Triazole-3-thione,2,4-dihydro-4-methyl-5-phenyl-)					

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{10}H_{11}N_3S^+$	$C_6H_5C_2N_3(=S)(CH_3)_2$ (3H-1,2,4-Triazole-3-thione, 2,4-dihydro-2,4-dimethyl-5-phenyl-)	7112-00-7	**	7.59 (V)	PE	4439
$C_{20}H_{25}N_3S^+$	$C_{12}H_8NS(CH_2)_3C_4H_8N_2CH_3$ (10*H*-Phenothiazine, 10-[3-(4-methyl-1-piperazinyl)propyl]-)	84-97-9	**	6.87±0.07	CTS	4079
$C_3H_3NS_2^+$	$C_3H_3NS=S$ (2(3*H*)-Thiazolethione)	5685-05-2	**	7.74±0.03 (V)	PE	4253
$C_3H_5NS_2^+$	$C_3H_5NS=S$ (2-Thiazolidinethione)	96-53-7	**	8.25±0.03 (V)	PE	4253
$C_4H_5NS_2^+$	$C_3H_2NS(=S)CH_3$ (2(3*H*)-Thiazolethione, 3-methyl-)	5685-07-4	**	7.68±0.03 (V)	PE	4253
$C_4H_7NS_2^+$	$C_3H_4NS(=S)CH_3$ (2-Thiazolidinethione, 3-methyl-)	1908-87-8	**	8.04±0.03	PE	4253
$C_4H_9NS_2^+$	$(CH_3)_2NCSSCH_3$	3735-92-0	** **	8.01±0.03 8.01 (V)	PE PE	4253 4323
$C_5H_7NS_2^+$	$C_3HNS(=S)(CH_3)_2$ (2(3H)-Thiazolethione, 3,4-dimethyl-)	5316-79-0	**	7.55±0.03 (V)	PE	4253
	$C_3HNS(=S)(CH_3)_2$ (2(3H)-Thiazolethione, 4,5-dimethyl-)	5351-51-9	**	7.56±0.03 (V)	PE	4253
$C_5H_9NS_2^+$	$C_3H_3NS(=S)(CH_3)_2$ (2-Thiazolidinethione, 4,4-dimethyl-)	1908-88-9	**	8.18±0.03 (V)	PE	4253
$C_6H_9NS_2^+$	$C_3NS(=S)(CH_3)_3$ (2(3H)-Thiazolethione, 3,4,5-trimethyl-)	21364-38-5	**	7.45±0.03 (V)	PE	4253
$C_7H_5NS_2^+$	$C_7H_5NS(S)$ (2(3H)-Benzothiazolethione)	149-30-4	**	7.99	PE	4555
$C_8H_7NS_2^+$	$C_7H_4NS(S)(CH_3)$ (2(3H)-Benzothiazolethione, 3-methyl-)	2254-94-6	**	7.81	PE	4555
$C_8H_{11}NS_2^+$	$C_5H_2NS_2(CH_3)_3$ (Methanamine, N-[1-methyl-2-(5-methyl-3H-1,2-dithiol-3-ylidene)ethylidene]-)	57254-27-0	**	7.17 (V)	PE	4406
$C_{12}H_{13}NS_2^+$	$(C_4H_2S)_2C_2H_4NC_2H_5$ (4H-Dithieno[2,3-*c*:3′,2′-*e*]azepine,5-ethyl-5,6-dihydro-)	64504-69-4	**	7.9 (V)	PE	5422
$C_{16}H_{13}NS_2^+$	$(C_4H_2S)_2C_2H_4NC_6H_5$ (4H-Dithieno[2,3-*c*:3′,2′-*e*]azepine,5,6-dihydro-5-phenyl-)	40306-87-4	**	7.9 (V)	PE	5422
	$(C_4H_2S)_2C_2H_4NC_6H_5$ (4H-Dithieno[3,4-*c*:3′,4′-*e*]azepine,5,6-dihydro-5-phenyl-)	64504-70-7	**	7.5 (V)	PE	5422

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{23}H_{15}NS_2^+$	$C_5S_2N(C_6H_5)_3$ (Thieno[3,4–*c*]isothiazole–5–S^{IV},3,4,6–triphenyl–)	61164–97–4	**	6.9 (V)	PE	5341
$C_2H_6N_2S_2^+$	$NH_2NHC(=S)SCH_3$	5397–03–5	**	8.81	PE	5285
$C_3H_4N_2S_2^+$	$C_2HN_2S(=S)CH_3$ (1,3,4–Thiadiazole–2(3H)–thione, 5–methyl–)	29490–19–5	**	8.33 (V)	PE	4439
$C_3H_8N_2S_2^+$	$NH_2N(CH_3)C(=S)SCH_3$	20184–94–5	**	8.39	PE	5285
$C_4H_6N_2S_2^+$	$C_2N_2S(=S)(CH_3)_2$ (1,3,4–Thiadiazole–2(3H)–thione,3,5–dimethyl–)	7111–96–8	**	7.97 (V)	PE	4439
$C_4H_{10}N_2S_2^+$	$N(CH_3)_2NHC(=S)SCH_3$	25554–63–6	**	8.37	PE	5285
$C_8H_6N_2S_2^+$	$C_6H_5C_2HN_2S(=S)$ (1,3,4–Thiadiazole–2(3H)–thione,5–phenyl–)	5585–19–3	**	8.13 (V)	PE	4439
$C_8H_{10}N_2S_2^+$	$NH(C_6H_5)NHC(=S)SCH_3$ (Hydrazinecarbodithioic acid,2–phenyl–methyl ester)	50878–38–1	**	8.47	PE	5285
$C_9H_8N_2S_2^+$	$C_6H_5C_2N_2S(=S)CH_3$ (1,3,4–Thiadiazole–2(3H)–thione,3–methyl–5–phenyl–)	5770–97–8	**	7.87 (V)	PE	4439
$C_{12}H_{20}N_2S_2^+$	$H_2(CH_3C(=S)CH_2C(CH_3)NCH)_2$	40006–83–5	**	7.60 (V)	PE	5446
$C_{14}H_{14}N_2S_2^+$	$N(C_6H_5)_2NHC(=S)SCH_3$ (Hydrazinecarbodithioic acid,2,2–diphenyl–methyl ester)	50878–39–2	**	7.47	PE	5285
$C_{16}H_{14}N_2S_2^+$	$(C_6H_4N(CH_3)CS)_2$ (Benzothiazole,2,3–dihydro–3–methyl–2–(3–methyl–2(3H)–benzothiazolylidene)–)	2786–70–1	**	5.75±0.2	OTH	5278
$C_{21}H_{26}N_2S_2^+$	$C_{21}H_{26}N_2S_2$	50–52–2	**	7.00±0.08 (V)	PE	4667
$C_5H_3NS_3^+$	$(C_3S_2)=S(CN)(CH_3)$ (3H–1,2–Dithiole–4–carbonitrile, 5–methyl–3–thioxo–)	24045–79–2	**	8.70 (V)	PE	4403
$B_2C_3H_{10}N_2S^+$	$N_2B_2SH(CH_3)_3$ (1,3,4,2,5–Thiadiazadiborolidine, 2,3,5–trimethyl–)	57877–85–7	**	8.32 (V)	PE	4526
$B_2C_4H_{12}N_2S^+$	$N_2B_2S(CH_3)_4$ (1,3,4,2,5–Thiadiazadiborolidine, 2,3,4,5–tetramethyl–)	40392–37–8	**	8.00 (V)	PE	4526
$B_2C_2H_7NS_2^+$	$NB_2S_2H(CH_3)_2$ (1,2,4,3,5–Dithiazadiborolidine, 3,5–dimethyl–)	57877–87–9	**	8.69 (V)	PE	4526

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$B_2C_3H_9NS_2^+$						
	$NB_2S_2(CH_3)_3$ (1,2,4,3,5-Dithiazadiborolidine, 3,4,5-trimethyl-)	57877-88-0	**	8.58 (V)	PE	4526
$B_2C_5H_{15}N_3S_2^+$						
	$N_3B_2(CH_3)_3(SCH_3)_2$ (1,2,4,3,5-Triazadiborolidine, 1,2,4-trimethyl-3,5-bis(methylthio)-)	40392-36-7	**	7.74 (V)	PE	4526
$B_2C_6H_{18}N_4S_2^+$						
	$B_2N_4(CH_3)_4(SCH_3)_2$ (1,2,4,5,3,6-Tetrazadiborine, hexahydro-1,2,4,5-tetramethyl-3,6-bis(methylthio)-)	54154-14-2	**	7.39 (V)	PE	4299
OS^+						
($^2\Pi_{3/2g}$)	$SO(^3\Sigma^-)$	13827-32-2	**	10.29±0.01	PE	4230
			**	10.31	PE	4186
($^2\Pi$)			**	10.32	PE	3701
($^2\Pi_{1/2g}$)				10.33±0.01	PE	4230
($^4\Pi$)			**	11.3	PE	3701
($^4\Pi_u$)			**	13.50±0.05	PE	4230
($^2\Pi_u$)			**	~14.4	PE	4230
($^4\Sigma_g^-$)			**	14.94±0.01	PE	4230
($^4\Sigma^-$)			**	14.96	PE	3701
($^2\Sigma_g^-$)			**	16.44±0.01	PE	4230
($^2\Pi_u$)			**	~19.6	PE	4230
			**	10.20±0.03	EI	4920
			**	10.28±0.02	EI	3816
	SO_2	7446-09-5	O	15.930±0.005	PE	5388
	S_2O	20901-21-7	**	13.745±0.006	PI	4762
	COS	463-58-1	C	19.8	EI	3779
O_2S^+						
($^2A_1$)	SO_2	7446-09-5	**	12.3	PE	3865
($^2A_1$)			**	12.31	PE	4092
($^2A_1$)			**	12.50 (V)	PE	3879
($^2A_1$)			**	12.54 (V)	PE	4024
($^2A_2$)			**	13.01 (V)	PE	4092
($^2A_2$)			**	13.24 (V)	PE	3879
($^2A_2$)			**	13.25 (V)	PE	4024
($^2B_2$)			**	13.30 (V)	PE	4092
($^2B_2$)			**	13.47 (V)	PE	3879
($^2B_2$)			**	13.56 (V)	PE	4024
($^2B_1$)			**	15.99	PE	3879
($^2B_2$)			**	15.992±0.003	PE	3865
($^2A_1$)			**	16.324±0.004	PE	3865
($^2A_1$)			**	16.33	PE	3879
($^2B_1$)			**	16.498±0.004	PE	3865
($^2B_1$)			**	16.57 (V)	PE	4092
			**	20.06±0.05	PE	3865
O_3S^+						
	SO_3	7446-11-9	**	12.73±0.05	PE	4388
			**	12.81±0.03	PE	4485
($^2A_2'$)			**	12.82±0.01	PE	4516
			**	12.82±0.03	PE	4149
			**	13.75±0.03	PE	4485
			**	~14.5 (V)	PE	4485
			**	14.83±0.03	PE	4485
			**	17.86±0.03	PE	4485
OS_2^+						
	S_2O	20901-21-7	**	10.58±0.01	PI	4762
($^2A'$)			**	10.52	PE	4092
($^2A'$)			**	10.52 (V)	PE	4244

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
OS_2^+						
($^2A'$)	S_2O	20901-21-7	**	10.53±0.02	PE	3841
($^2A'$)			**	10.62	PE	3692
($^2A''$)			**	11.22	PE	4092
($^2A'$)			**	11.22 (V)	PE	4244
($^2A'$)			**	11.25±0.02	PE	3841
($^2A''$)			**	11.31±0.02	PE	3841
($^2A'$)			**	11.32	PE	3692
($^2A'$)			**	11.34	PE	4092
($^2A''$)			**	11.34 (V)	PE	4244
($^2A''$)			**	11.37	PE	3692
($^2A'$)			**	14.3±0.02	PE	3841
($^2A''$)			**	14.3	PE	3692
($^2A''$)			**	14.62 (V)	PE	4092
($^2A'$)			**	14.62 (V)	PE	4244
($^2A''$)			**	14.82 (V)	PE	4244
($^2A'$)			**	14.84 (V)	PE	4092
($^2A''$)			**	14.9±0.02	PE	3841
($^2A'$)			**	15.5±0.02	PE	3841
($^2A'$)			**	15.5	PE	3692
($^2A'$)			**	15.80 (V)	PE	4092
($^2A'$)			**	15.80 (V)	PE	4244
($^2A'$)			**	18.5 (V)	PE	4244
($^2A'$)			**	18.50 (V)	PE	4092
COS^+						
($^2\Pi$)	COS	463-58-1	**	11.190	PI	4994
($^2\Pi$)			**	15.075	PI	4994
($^2\Sigma^+$)			**	16.043	PI	4994
($^2\Sigma^+$)			**	17.955	PI	4994
			**	11.177±0.002	PE	5256
($^2\Pi$)			**	11.18±0.01	PE	3965
			**	11.19 (V)	PE	5055
($^2\Pi_{3/2}$)			**	11.22	PE	4073
($^2\Pi$)			**	15.09±0.01	PE	3965
($^2\Sigma^+$)			**	16.05±0.01	PE	3965
($^2\Sigma^+$)			**	17.96±0.01	PE	3965
($^2\Pi$)			**	11.19±0.05	EI	5027
			**	11.3	EI	3779
CH_2OS^+						
	C_3H_6OS (1,3-Oxathiolane)	2094-97-5	C_2H_4	10.4±0.3	EI	3598
CH_3OS^+						
	$(CH_3)_2SO$	67-68-5	CH_3	10.91±0.16	EI	5311
	$(C_2H_5)_2SO$	70-29-1	$C_2H_4+CH_3$	12.04±0.08	EI	5311
CH_4OS^+						
	$C_2H_5SOCH_3$	1669-98-3	C_2H_4	10.00±0.11	EI	5311
	(*iso*-C_3H_7)$SOCH_3$	XXXXX-XX-X	C_3H_6	9.28±0.03	EI	5311
$C_2H_4OS^+$						
	CH_3COSH	507-09-5	**	10.06 (V)	PE	4769
	C_2H_4SO (Thiirane, 1-oxide)	7117-41-1	**	9.66 (V)	PE	3646
			**	9.66 (V)	PE	4295
$C_2H_6OS^+$						
	$(CH_3)_2SO$	67-68-5	**	9.01 (V)	PE	3646
			**	9.01 (V)	PE	4295
			**	9.11 (V)	PE	3705

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_6OS^+$						
	$(CH_3)_2SO$	67-68-5	**	9.08±0.09	EI	5311
			**	9.20	EI	5292
			**	9.20±0.05	EI	3498
	$(C_2H_5)_2SO$	70-29-1	C_2H_4	9.86±0.08	EI	5311
$C_3H_5OS^+$						
	C_3H_6OS (1,3-Oxathiolane)	2094-97-5	H	10.8±0.1	EI	3598
$C_3H_6OS^+$						
	$CH_3C{=}OSCH_3$	1534-08-3	**	9.65 (V)	PE	4427
	$C_2H_3S(CH_3)O$	10258-86-3	**	9.02 (V)	PE	4295
	C_3H_6OS (1,3-Oxathiolane)	2094-97-5	**	9±0.05	EI	3598
$C_3H_8OS^+$						
	$C_2H_5SOCH_3$	1669-98-3	**	8.89±0.08	EI	5311
$C_4H_4OS^+$						
	$C_4H_4S(=O)$ (2(5H)-Thiophenone)	3354-32-3	**	9.78±0.05	EI	4666
$C_4H_8OS^+$						
	$CH_3COSC_2H_5$	625-60-5	**	9.44 (V)	PE	4769
	$CH_3C{=}SOC_2H_5$	926-67-0	**	8.82 (V)	PE	4427
	C_4H_8OS (1,4-Oxathiane)	15980-15-1	**	8.67 (V)	PE	3733
	$C_2H_3SCH_2OCH_3$ (Thiirane, methoxymethyl-)	19858-14-1	**	8.77 (V)	PE	4747
	C_4H_8SO (Thiophene, tetrahydro-1-oxide)	1600-44-8	**	8.77 (V)	PE	3646
			**	8.77 (V)	PE	4295
			**	9.07±0.05	EI	3498
			**	9.07	EI	5292
$C_4H_{10}OS^+$						
	$(CH_3CH_2)_2SO$	70-29-1	**	8.76 (V)	PE	3646
			**	8.76 (V)	PE	4295
			**	8.75±0.03	EI	5311
	$(iso\text{-}C_3H_7)SOCH_3$	XXXXX-XX-X	**	8.71±0.04	EI	5311
	$(iso\text{-}C_3H_7)_2SO$	2211-89-4	C_3H_6	9.22±0.18	EI	5311
$C_5H_3OS^+$						
	$C_6H_5COC_4H_3S$ (Methanone,phenyl-2-thienyl-)	135-00-2	C_6H_5	11.8±0.1	EI	5493
$C_5H_4OS^+$						
	$C_5H_4O(=S)$ (4H-Pyran-4-thione)	1120-93-0	**	8.10±0.05 (V)	PE	5002
	C_4H_3SCHO (2-Thiophene carboxaldehyde)	98-03-3	**	9.37±0.05 (V)	PE	4626
			**	9.55±0.05	EI	3482
	$C_5H_4S(=O)$ (4H-Thiopyran-4-one)	1003-41-4	**	8.97±0.05 (V)	PE	5002
$C_5H_6OS^+$						
	$C_4H_3S(OCH_3)$ (Thiophene, 2-methoxy-)	16839-97-7	**	8.14±0.05	EI	4666
			**	8.30±0.05	EI	3482
			**	8.08	CTS	4382
	$C_4H_3OSCH_3$ (Furan, 2-(methylthio)-)	13129-38-9	**	8.58±0.05 (V)	PE	4626

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_6OS^+$						
	$C_4H_2O(SH)CH_3$ (2-Furanthiol, 5-methyl-)	60965-60-8	**	8.45±0.05	EI	4706
	$C_4H_3S(=O)(CH_3)$ (2(5H)-Thiophenone, 3-methyl-)	33687-85-3	**	9.60±0.05	EI	4666
	$C_4H_3S(=O)(CH_3)$ (2(5H)-Thiophenone, 5-methyl-)	7210-64-2	**	9.16±0.05	EI	4666
$C_5H_8OS^+$						
	$C_5H_8S(=O)$ (4H-Thiopyran-4-one, tetrahydro-)	1072-72-6	**	8.90±0.05	PE	5002
$C_5H_{12}OS^+$						
	$C_2H_5S(CH_2)_2OCH_3$	56444-81-6	**	8.33±0.02	PI	5531
$C_6H_6OS^+$						
	$C_4H_3SCOCH_3$ (Ethanone, 1-(2-thienyl)-)	88-15-3	**	9.20±0.05	EI	3482
	$C_4H_3SCOCH_3$ (Ethanone, 1-(3-thienyl)-)	1468-83-3	**	9.32±0.05	EI	3482
$C_6H_8OS^+$						
	$C_4H_2S(CH_3)(OCH_3)$ (Thiophene, 2-methoxy-3-methyl-)	33687-87-5	**	8.05±0.05	EI	4666
	$C_4H_2S(CH_3)(OCH_3)$ (Thiophene, 2-methoxy-5-methyl-)	31053-55-1	**	8.01±0.05	EI	4666
	$C_4H_2O(CH_3)SCH_3$ (Furan, 2-methyl-5-(methylthiol)-)	13678-59-6	**	8.15±0.05	EI	4706
	$C_4HO(SH)(CH_3)_2$ (3-Furanthiol, 2,5-dimethyl-)	55764-23-3	**	8.23±0.05	EI	4706
	$C_4H_2S(=O)(CH_3)_2$ (2(3H)-Thiophenone, 3,3-dimethyl-)	33687-82-0	**	8.77±0.05	EI	4666
	$C_4H_2S(=O)(CH_3)_2$ (2(5H)-Thiophenone, 3,4-dimethyl-)	33922-75-7	**	9.44±0.05	EI	4666
	$C_4H_2S(=O)(CH_3)_2$ (2(5H)-Thiophenone, 3,5-dimethyl-)	33687-84-2	**	9.35±0.05	EI	4666
	$C_4H_2S(=O)(CH_3)_2$ (2(5H)-Thiophenone, 4,5-dimethyl-)	35983-76-7	**	9.13±0.05	EI	4666
	$C_4H_2S(=O)(CH_3)_2$ (3(2H)-Thiophenone, 2,5-dimethyl-)	3760-59-6	**	8.55±0.05	EI	4673
	$C_4H_3S(=O)(C_2H_5)$ (2(5H)-Thiophenone, 5-ethyl-)	56761-30-9	**	9.08±0.05	EI	4666
$C_6H_{11}OS^+$						
	$C_4H_5OS(CH_3)_3$ (1,3-Oxathiane, 2,4,6-trimethyl-, (2α,4α,6α)-)	22521-88-6	CH_3	8.54±0.01	EI	3803
	$C_4H_5OS(CH_3)_3$ (1,3-Oxathiane, 2,4,6-trimethyl-, (2α,4α,6β)-)	22425-91-8	CH_3	8.67	EI	3803
	$C_4H_5OS(CH_3)_3$ (1,3-Oxathiane, 2,4,6-trimethyl-, (2α,4β,6α)-)	22425-90-7	CH_3	8.64	EI	3803
$C_6H_{12}OS^+$						
	$C_4H_6OS(CH_3)_2$ (1,3-Oxathiane, 4,6-dimethyl-, *cis*-)	22452-25-1	**	8.75	EI	3803
	$C_4H_6OS(CH_3)_2$ (1,3-Oxathiane, 4,6-dimethyl-, *trans*-)	22452-26-2	**	8.67±0.01	EI	3803
$C_6H_{14}OS^+$						
	$(n\text{-}C_3H_7)_2SO$	4253-91-2	**	8.60 (V)	PE	4295
	$(iso\text{-}C_3H_7)_2SO$	2211-89-4	**	8.46 (V)	PE	4295
			**	8.46 (V)	PE	3646
			**	8.54±0.08	EI	5311

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_{14}OS^+$						
	(*iso*-C_5H_{11})$SOCH_3$	55860-10-1	**	8.55±0.05	EI	5311
$C_7H_8OS^+$						
	$C_6H_5S(CH_3)O$ (Benzene, (methylsulfinyl)-)	1193-82-4	**	8.79 (V)	PE	4295
$C_7H_{10}OS^+$						
	$C_4HS(CH_3)_2(OCH_3)$ (Thiophene, 2-methoxy-3,5-dimethyl-)	57556-17-9	**	7.78±0.05	EI	4666
	$C_4HO(CH_3)_2SCH_3$ (Furan, 2,5-dimethyl-3-(methylthiol)-)	63359-63-7	**	7.91±0.05	EI	4706
	$C_4HS(CH_3)_2OCH_3$ (Thiophene, 3-methoxy-2,5-dimethyl-)	57556-08-8	**	7.89±0.05	EI	4673
	$C_4H_2S(=O)(CH_3)C_2H_5$ (3(2H)-Thiophenone, 2-ethyl-5-methyl-)	57556-06-6	**	8.22±0.05	EI	4673
	$C_4H_2S(=O)(CH_3)C_2H_5$ (3(2H)-Thiophenone, 5-ethyl-2-methyl-)	57556-03-3	**	8.34±0.05	EI	4673
	$C_4HS(=O)(CH_3)_3$ (2(3H)-Thiophenone, 3,3,5-trimethyl-)	33687-83-1	**	8.53±0.05	EI	4666
	$C_4HS(=O)(CH_3)_3$ (3(2H)-Thiophenone, 2,2,5-trimethyl-)	57556-09-9	**	8.49±0.05	EI	4673
$C_7H_{13}OS^+$						
	$C_4H_4OS(CH_3)_4$ (1,3-Oxathiane, 2,2,4,6-tetramethyl-, *cis*-)	34560-79-7	CH_3	8.63±0.01	EI	3803
	$C_4H_4OS(CH_3)_4$ (1,3-Oxathiane, 2,2,4,6-tetramethyl, *trans*-)	34560-78-6	CH_3	8.54±0.01	EI	3803
$C_7H_{14}OS^+$						
	$C_4H_5OS(CH_3)_3$ (1,3-Oxathiane, 2,4,6-trimethyl-, (2α,4α,6α)-)	22521-88-6	**	8.55	EI	3803
	$C_4H_5OS(CH_3)_3$ (1,3-Oxathiane, 2,4,6-trimethyl-, (2α,4α,6β)-)	22425-91-8	**	8.54	EI	3803
	$C_4H_5OS(CH_3)_3$ (1,3-Oxathiane, 2,4,6-trimethyl-, (2α,4β,6α)-)	22425-90-7	**	8.58	EI	3803
$C_8H_{10}OS^+$						
	$C_6H_4(SCH_3)(OCH_3)$ (Benzene,1-methoxy-2-(methylthio)-)	2388-73-0	**	8.05 (V)	PE	5403
	$C_6H_4(SCH_3)(OCH_3)$ (Benzene,1-methoxy-4-(methylthio)-)	1879-16-9	**	7.80 (V)	PE	5403
			**	7.80±0.01 (V)	PE	4389
$C_8H_{12}OS^+$						
	$C_4H_3S(=O)(tert\text{-}C_4H_9)$ (2(5H)-Thiophenone, 3-(2,2-dimethylethyl)-)	XXXXX-XX-X	**	9.25±0.05	EI	4666
	$C_8H_{12}OS$ (3(2H)-Thiophenone, 2-methyl-5-(1-methylethyl)-)	57556-04-4	**	8.21±0.05	EI	4673
$C_8H_{16}OS^+$						
	$C_4H_4OS(CH_3)_4$ (1,3-Oxathiane, 2,2,4,6-tetramethyl-, *cis*-)	34560-79-7	**	8.48±0.02	EI	3803
	$C_4H_4OS(CH_3)_4$ (1,3-Oxathiane, 2,2,4,6-tetramethyl, *trans*-)	34560-78-6	**	8.45±0.01	EI	3803
$C_8H_{18}OS^+$						
	$((CH_3)_3C)_2SO$	2211-92-9	**	8.18 (V)	PE	3646
			**	8.18 (V)	PE	4295
$C_9H_6OS^+$						
	$C_6H_4C_3H_2S(=O)$ (4H-1-Benzothiopyran-4-one)	491-39-4	**	8.68 (V)	PE	5491

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_9H_8OS^+$						
	$C_6H_4C_3H_4S(=O)$	3528-17-4	**	8.53 (V)	PE	5491
	(4H-1-Benzothiopyran-4-one,2,3-dihydro-)					
$C_9H_{14}OS^+$						
	$C_9H_{14}OS$	57556-16-8	**	7.67±0.05	EI	4666
	(Thiophene, 3-(1,1-dimethylethyl)-2-methoxy-)					
	$C_9H_{14}OS$	57556-18-0	**	8.38±0.05	EI	4666
	(2(3H)-Thiophenone, 3-(1,1-dimethylethyl)-3-methyl-)					
	$C_9H_{14}OS$	57556-15-7	**	9.07±0.05	EI	4666
	(2(5H)-Thiophenone, 3-(1,1-dimethylethyl)-5-methyl-)					
	$C_9H_{14}OS$	57556-07-7	**	8.09±0.05	EI	4673
	(3(2H)-Thiophenone, 2-(1,1-dimethylethyl)-5-methyl-)					
	$C_9H_{14}OS$	57556-05-5	**	8.10±0.05	EI	4673
	(3(2H)-Thiophenone, 5-(1,1-dimethylethyl)-2-methyl-)					
$C_{11}H_8OS^+$						
	$C_6H_5COC_4H_3S$	135-00-2	**	9.2±0.1	EI	5493
	(Methanone, phenyl-2-thienyl-)					
$C_{12}H_8OS^+$						
	$C_{12}H_8SO$	1013-23-6	**	8.43 (V)	PE	4295
	(Dibenzothiophene, 5-oxide)					
	$C_{12}H_8OS$	262-20-4	**	7.72±0.05 (V)	PE	4743
	(Phenoxathiin)					
$C_{12}H_{10}OS^+$						
	$(C_6H_5)_2SO$	945-51-7	**	9.02±0.05	EI	3498
			**	8.58 (V)	PE	4295
			**	9.02	EI	5292
$C_{12}H_{12}OS^+$						
	$C_6H_4(C_2H_4SO)C_4H_4$	64776-55-2	**	8.44 (V)	PE	5194
	(4α,8α-(Methanothiomethano)naphthalene-10-oxide)					
$C_{12}H_{16}OS^+$						
	$C_6H_4(C_2H_4SO)C_4H_8$	71656-72-9	**	8.71 (V)	PE	5194
	(4α,8α-(Methanothiomethano)naphthalene,1,2,3,4-tetrahydro-10-oxide)					
	$C_6H_6(C_2H_4SO)C_4H_6$	17853-53-1	**	8.52 (V)	PE	5194
	(4α,8α-(Methanothiomethano)naphthalene,1,4,5,8-tetrahydro-10-oxide)					
$C_{12}H_{18}OS^+$						
	$C_6H_6(C_2H_4SO)C_4H_8$	71600-20-9	**	8.50 (V)	PE	5194
	(4α,8α-(Methanothiomethano)naphthalene,1,2,3,4,5,8-hexahydro-10-oxide)					
$C_{13}H_8OS^+$						
	$C_{13}H_7(=O)SH$	XXXXX-XX-X	**	7.76±0.04 (V)	PE	5595
	(Phenalen-1-one,9-mercapto-)					
$C_{13}H_{12}OS^+$						
	$C_6H_4(OCH_3)SC_6H_5$	30723-54-7	**	8.02	CTS	4272
	(Benzene, 1-methoxy-3-(phenylthio)-)					
	$C_6H_4(OCH_3)SC_6H_5$	5633-57-8	**	7.89	CTS	4272
	(Benzene, 1-methoxy-4-(phenylthio)-)					
$C_{14}H_9OS^+$						
	$(C_6H_4)_2CH_2SC(=O)$	1531-77-7	H	10.4	EI	5340
	(Dibenzo[b,e]thiepin-11(6H)-one)					
$C_{14}H_{10}OS^+$						
	$(C_6H_4)_2CH_2SC(=O)$	1531-77-7	**	9.21	EI	5340
	(Dibenzo[b,e]thiepin-11(6H)-one)					

Ion (state)	Reactant	CAS Registry Number	Other products	*Ionization or appearance potential* (eV)	Method	Ref.
$C_{14}H_{10}OS^+$						
	$C_2S(=O)(C_6H_5)_2$ (Thiirene, diphenyl-1-oxide)	31247-21-9	**	10.86 (V)	PE	4856
$C_{14}H_{11}OS^+$						
	$C_{14}H_{12}SO_2$ (Dibenzo[*b*,*e*]thiepin,6,11-dihydro-5,5-dioxide-)	23772-26-1	OH	10.30	EI	5414
$C_{14}H_{14}OS^+$						
	$C_6H_5O(CH_2)_2SC_6H_5$ (Benzene,[(2-phenoxyethyl)thio]-)	17414-04-9	**	8.20±0.05	EI	5484
$C_{15}H_{16}OS^+$						
	$C_6H_5O(CH_2)_3SC_6H_5$ (Benzene,[(3-phenoxypropyl)thio]-)	59950-10-6	**	8.21±0.05	EI	5484
$C_{16}H_{18}OS^+$						
	$C_6H_5O(CH_2)_4SC_6H_5$ (Benzene,[(4-phenoxybutyl)thio]-)	59950-11-7	**	8.25±0.05	EI	5484
$C_{17}H_{20}OS^+$						
	$C_6H_5O(CH_2)_5SC_6H_5$ (Benzene,[(5-phenoxypentyl)thio]-)	59950-12-8	**	8.27±0.05	EI	5484
$C_{18}H_{22}OS^+$						
	$C_6H_5O(CH_2)_6SC_6H_5$ (Benzene,[(6-phenoxyhexyl)thio]-)	59950-13-9	**	8.26±0.05	EI	5484
$C_2H_4O_2S^+$						
	$C_2H_4SO_2$ (Thiirane 1,1-dioxide)	1782-89-4	**	10.20 (V)	PE	4827
$C_2H_6O_2S^+$						
	$(CH_3)_2SO_2$	67-71-0	**	10.65 (V)	PE	4827
			**	10.65 (V)	PE	5207
			**	10.80 (V)	PE	3993
			**	10.97 (V)	PE	3705
$C_3H_2O_2S^+$						
	$C_3H_2O_2(=S)$ (1,3-Dioxole-2-thione)	37635-87-3	**	9.05 (V)	PE	4549
$C_3H_4O_2S^+$						
	$C_2HS(O_2)(CH_3)$ (Thiirene, methyl-1,1-dioxide-)	14491-01-1	**	10.40 (V)	PE	4508
	$C_3H_4O_2(=S)$ (1,3-Dioxolane-2-thione)	20628-59-5	**	8.88 (V)	PE	4549
$C_3H_6O_2S^+$						
	$(CH_3O)_2CS$	1115-13-5	**	8.99 (V)	PE	4323
	$(CH_3)(CH_2=CH)SO_2$	3680-02-2	**	10.65 (V)	PE	4827
			**	10.82 (V)	PE	3993
$C_4H_6O_2S^+$						
	$(CH_2=CH)_2SO_2$	77-77-0	**	10.56 (V)	PE	4827
			**	10.62 (V)	PE	3993
	$C_2S(O_2)(CH_3)_2$ (Thiirene, dimethyl-1,1-dioxide-)	30646-57-2	**	9.89 (V)	PE	4508
	$C_4H_6SO_2$ (Thiophene, 2,5-dihydro-1,1-dioxide)	77-79-2	**	10.44 (V)	PE	4827
			**	10.44 (V)	PE	5207

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_4H_8O_2S^+$						
	$C_2H_2S(O_2)(CH_3)_2$ (Thiirane, 2,3-dimethyl-1,1-dioxide,*cis*-)	54697-52-8	**	9.82 (V)	PE	4508
	$C_4H_8SO_2$ (Thiophene, tetrahydro-1,1-dioxide)	126-33-0	**	9.91±0.07	PI	5040
			**	10.24 (V)	PE	4324
$C_4H_{10}O_2S^+$						
	$(C_2H_5)_2SO_2$	597-35-3	**	9.96±0.03	PI	5040
$C_5H_4O_2S^+$						
	$C_5H_4SO_2$ ([1,2]Oxathiolo[2,3-*b*][1,2]oxathiole-7-S^{IV})	40159-76-0	**	8.58 (V)	PE	4406
	C_4H_3SCOOH (2-Thiophenecarboxylic acid)	527-72-0	**	9.14±0.05 (V)	PE	4626
			**	9.35	EI	3804
$C_5H_6O_2S^+$						
	$C_3O_2(=S)(CH_3)_2$ (1,3-Dioxole-2-thione, 4,5-dimethyl-)	37528-00-0	**	8.4 (V)	PE	4549
$C_6H_6O_2S^+$						
	$C_4H_3SCOOCH_3$ (2-Thiophenecarboxylic acid methyl ester)	5380-42-7	**	8.98±0.05 (V)	PE	4626
			**	9.22±0.05	EI	3482
$C_7H_8O_2S^+$						
	$(C_6H_5)(CH_3)SO_2$ (Benzene, (methylsulfonyl)-)	3112-85-4	**	9.74 (V)	PE	4827
$C_8H_4O_2S^+$						
	$C_8H_4S(=O)_2$ (Benzo[*b*]thiophene-2,3-dione)	493-57-2	**	9.14±0.05 (V)	PE	4708
	$C_8H_4S(=O)_2$ (Benzo[*c*]thiophene-1,3-dione)	5698-59-9	**	9.85±0.05 (V)	PE	4708
$C_8H_{18}O_2S^+$						
	(*iso*-$C_4H_9)_2SO_2$	10495-45-1	**	9.54±0.05	PI	5040
$C_9H_6O_2S^+$						
	$C_6H_4C_3H_2S(=O)_2$ 5491 (4H-1-Benzothiopyran-4-one-1-oxide)	37682-92-1	**	9.24 (V)	PE	5491
$C_9H_{12}O_2S^+$						
	$(C_6H_5)(n\text{-}C_3H_7)SO_2$ (Benzene,(propylsulfonyl)-)	13596-75-3	**	9.21±0.03	PI	5040
$C_{10}H_{16}O_2S^+$						
	$C_6H_4S(=O)_2(CH_3)_4$ (1,2-Cycloheptanedione-7-thia,3,3,7,7-tetramethyl-)	XXXXX-XX-X	**	8.75 (V)	PE	5090
$C_{11}H_{10}O_2S^+$						
	$C_6H_4C_3O_2S(CH_3)_2$ (Sulfonium,dimethyl-2,3-dihydro-1,3-dioxo-1H-inden-2-ylide)	5508-42-9	**	8.05	CTS	5592
$C_{12}H_8O_2S^+$						
	$C_{12}H_8SO_2$ (Dibenzothiophene 5,5-dioxide)	1016-05-3	**	8.90 (V)	PE	4827
			**	9.28	EI	4228

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{12}H_{10}O_2S^+$						
	$(C_6H_5)_2SO_2$	127-63-9	**	9.16±0.03	PI	5040
	(Benzene, 1,1′-sulfonylbis-)					
			**	9.37 (V)	PE	4827
			**	9.7	EI	4228
$C_{12}H_{12}O_2S^+$						
	$C_6H_4(C_2H_4SO_2)C_4H_4$	23695-63-8	**	8.7 (V)	PE	5194
	(4α,8α-(Methanothiomethano)naphthalene-10,10-dioxide)					
$C_{12}H_{16}O_2S^+$						
	$C_6H_6(C_2H_4SO_2)C_4H_6$	17853-54-2	**	9.2 (V)	PE	5194
	(4α,8α-(Methanothiomethano)naphthalene,1,4,5,8-tetrahydro-10,10-dioxide)					
$C_{12}H_{20}O_2S^+$						
	$C_4H_2S(C_4H_9)_2O_2$	6407-02-9	**	8.64 (V)	PE	4324
	(Thiophene, 2,5-bis(1,1-dimethylethyl)- 1,1-dioxide)					
$C_{14}H_9O_2S^+$						
	$C_6H_4(COSC_6H_5)_2$	42797-33-1	C_6H_5S	10.3±0.2	EI	4062
	(1,2-Benzenedicarbothioic acid *S*,*S*-diphenyl ester)					
	$C_8H_4O(=O)(SC_6H_5)_2$	4792-31-8	C_6H_5S	10.3±0.2	EI	4062
	(1(3*H*)-Isobenzofuranone, 3,3-bis(phenylthio)-)					
$C_{14}H_{12}O_2S^+$						
	$C_{14}H_{12}SO_2$	23772-26-1	**	9.85	EI	5414
	(Dibenzo[*b*,*e*]thiepin,6,11-dihydro-5,5-dioxide-)					
$C_{14}H_{14}O_2S^+$						
	$(C_6H_4CH_3)_2SO_2$	599-66-6	**	8.66±0.04	PI	5040
	(Benzene, 1,1′-sulfonylbis[4-methyl-)					
$C_{15}H_{11}O_2S^+$						
	$C_6H_4(COSC_6H_4CH_3)_2$	42797-34-2	$C_6H_4(S)CH_3$	10.1±0.2	EI	4062
	(1,2-Benzenedicarbothioic acid *S*,*S*-bis(4-methylphenyl)ester)					
	$C_8H_4O(=O)(SC_6H_4CH_3)_2$	42797-36-4	$C_6H_4(S)CH_3$	9.9±0.2	EI	4062
	(1(3*H*)-Isobenzofuranone, 3,3-bis[(4-methylphenyl)thio]-)					
$C_2H_4O_3S^+$						
	$SO(OCH_2)_2$	3741-38-6	**	10.30	EI	5292
			**	10.93 (V)	PE	3646
			**	10.93 (V)	PE	4295
			**	10.30±0.05	EI	3498
$C_2H_6O_3S^+$						
	$(CH_3O)_2SO$	616-42-2	**	10.25 (V)	PE	3646
			**	10.25 (V)	PE	4295
$C_6H_4O_3S^+$						
	$C_6H_4O_3S$	6255-58-9	**	9.1 (V)	PE	4616
	(1,3,2-Benzodioxathiole-2-oxide)					
$C_9H_6O_3S^+$						
	$C_6H_4C_3H_2S(=O)_3$	22810-27-1	**	9.93 (V)	PE	5491
	(4H-1-Benzothiopyran-4-one-1,1-dioxide)					
$C_{14}H_{10}O_3S^+$						
	$C_{14}H_{10}SO_3$	33301-21-2	**	9.70	EI	5414
	(Dibenzo[*b*,*e*]thiepin-11(6H)-one-5,5-dioxide)					
$C_{16}H_{24}O_4S^+$						
	$C_8O_3S(O)(CH_3)_8$	54196-16-6	**	7.48±0.03 (V)	PE	4292
	(Spiro[furan-3(2*H*),2′-furo[3,4-*d*][1,3]oxathiol]-4(5H)-one, 4′,6′-dihydro-2,2,4′,4′,5,5,6′,6′-octamethyl-)					

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{16}H_{26}O_4S^+$						
	$C_8HO_3S(OH)(CH_3)_8$ (Spiro[furan-3(2*H*),2′-furo[3,4-*d*][1,3]oxathiol]-4-ol, 4,4′,5,6′-tetrahydro-2,2,4′,4′,5,5, 6′,6′,-octamethyl-)	54739-35-4	**	7.47±0.03 (V)	PE	4292
$C_3H_4OS_2^+$						
	$C_3H_4S_2O$ (1,3-Dithiolan-2-one)	2080-58-2	**	9.50 (V)	PE	4407
			**	9.58 (V)	PE	4549
$C_3H_6OS_2^+$						
	$CH_3SCSOCH_3$	19708-81-7	**	8.71 (V)	PE	4323
$C_7H_8OS_2^+$						
	$C_5H_2S_2O(CH_3)_2$ (2-Propanone,1-(5-methyl-3H-1,2-dithiol-3-ylidene)-)	1005-55-6	**	7.68 (V)	PE	4406
$C_{10}H_8OS_2^+$						
	$(C_4H_2S)_2C_2H_4O$ (4H,6H-Dithieno[3,4-*c*:3′,4′-*e*]oxepin)	23062-34-2	**	8.3 (V)	PE	5422
	$(C_4H_2S)_2C_2H_4O$ (Dithieno[2,3-*c*:3′,2′-*e*]oxepin,4,6-dihydro-)	63286-53-3	**	8.15 (V)	PE	5422
$C_{14}H_{16}OS_2^+$						
	$(C_4H_2S)_2C_2(CH_3)_4O$ (Dithieno[2,3-*c*:3′,2′-*e*]oxepin,4,6-dihydro-4,4,6,6-tetramethyl-)	64504-71-8	**	7.8 (V)	PE	5422
	$(C_4H_2S)_2C_2(CH_3)_4O$ (4H,6H-Dithieno[3,4-*c*:3′,4′-*e*]oxepin,4,4,6,6-tetramethyl-)	64504-72-9	**	8.0 (V)	PE	5422
$C_6H_6O_2S_2^+$						
	$C_4(=O)_2(CH_3S)_2$ (3-Cyclobutene-1,2-dione, 3,4-bis(methylthio)-)	54131-97-4	**	8.18 (V)	PE	4861
$C_8H_{14}O_2S_2^+$						
	$C_3H_5S_2(CH_2)_4COOH$ (1,2-Dithiolane-3-pentanoic acid)	62-46-4	**	8.02 (V)	PE	4410
$C_{10}H_8OS_3^+$						
	$(C_3HS_2)=S(C_6H_4OCH_3)$ (3H-1,2-Dithiole-3-thione, 5-(4-methoxyphenyl)-)	532-11-6	**	8.11 (V)	PE	4403
$C_8H_4O_2S_3^+$						
	$C_8H_4S_2(SO_2)$ (Dithieno[2,3-*b*:3′,2′-*d*]thiophene,7,7-dioxide-)	28504-86-1	**	8.5 (V)	PE	5405
	$C_8H_4S_2(SO_2)$ (Dithieno[3,2-*b*:2′,3′-*d*]thiophene,4,4-dioxide-)	3807-53-2	**	8.4 (V)	PE	5405
	$C_8H_4S_2(SO_2)$ (Dithieno[3,4-*b*:3′,4′-*d*]thiophene,4,4-dioxide-)	28504-85-0	**	8.7 (V)	PE	5405
$BC_{13}H_{21}OS^+$						
	$C_{13}H_{21}BOS$ (Borinic acid, dipropylthio-4-methoxyphenyl ester)	64503-45-3	**	8.17±0.05 (V)	PE	4848
$HNOS^+$						
	$HN=S=O$	13817-04-4	**	11.60 (V)	PE	5386
$C_2H_7NOS^+$						
	$(CH_3)_2S(NH)O$	1520-31-6	**	9.5 (V)	PE	5207
			**	9.50 (V)	PE	4827
$C_3H_5NOS^+$						
	$C_3H_5NO=S$ (2-Oxazolidinethione)	5840-81-3	**	8.37±0.03 (V)	PE	4253

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_4H_3NOS^+$						
	$C_3H_2NS(CHO)$ (5-Isothiazolecarboxaldehyde)	5242-57-9	**	10.25	EI	3587
$C_4H_9NOS^+$						
	$(CH_3)_3CNSO$	38662-39-	**	10.54 (V)	PE	4024
$C_5H_7NOS^+$						
	$C_3HNO(=S)(CH_3)_2$ (2(3*H*)-Oxazolethione, 4,5-dimethyl-)	6670-14-0	**	7.74±0.03 (V)	PE	4253
$C_6H_7NOS^+$						
	$C_5H_2NH(=S)(OH)CH_3$ (2(1*H*)-Pyridinethione, 3-hydroxy-6-methyl-)	22989-67-9	**	8.04±0.05	EI	3635
	$C_5H_3N(OH)SCH_3$ (3-Pyridinol, 2-(methylthio)-)	32637-37-9	**	8.53±0.05	EI	3977
$C_6H_9NOS^+$						
	$C_3NO(S)(CH_3)_3$ (2(3H)-Oxazolethione, 3,4,5-trimethyl-)	25444-93-3	**	7.51	PE	4555
			**	7.54±0.03 (V)	PE	4253
$C_6H_{11}NOS^+$						
	$C_6H_{11}NSO$ (Cyclohexanamine, *N*-sulfinyl-)	30980-11-1	**	10.0 (V)	PE	4024
$C_7H_5NOS^+$						
	$C_7H_5NO(S)$ (2(3H)-Benzoxazolethione)	2382-96-9	**	8.14	PE	4555
	$C_7H_5NS(O)$ (Thiazolo[3,2-*a*]pyridinium, 3-hydroxy-, hydroxide, inner salt)	42715-25-3	**	6.92±0.05	EI	3977
$C_7H_7NOS^+$						
	$C_5H_3N(O)SC_2H_4$ (Thiazolo[3,2-*a*]pyridinium,2,3-dihydro-8-hydroxy-hydroxide, inner salt)	23003-45-4	**	7.12±0.05	EI	5416
	$C_5H_3N(=O)SC_2H_4$ (5H-Thiazolo[3,2-*a*]pyridin-5-one,2,3-dihydro-)	66201-75-0	**	7.91±0.05	EI	5416
$C_7H_9NOS^+$						
	$C_5H_2N(OH)(CH_3)SCH_3$ (3-Pyridinol, 6-methyl-2-(methylthio)-)	23003-25-0	**	8.24±0.05	EI	3635
	$C_4H_3SCON(CH_3)_2$ (2-Thiophenecarboxamide, N,N-dimethyl-)	30717-57-8	**	8.84±0.05 (V)	PE	4626
$C_8H_7NOS^+$						
	$C_7H_4NO(S)(CH_3)$ (2(3H)-Benzoxazolethione, 3-methyl-)	13673-63-7	**	7.94	PE	4555
	$C_5H_3N(O)SC_2H(CH_3)$ (Thiazolo[3,2-*a*]pyridinium,8-hydroxy-3-methyl-hydroxide, inner salt)	30276-99-4	**	7.12±0.05	EI	5416
	$C_7H_4NS(O)CH_3$ (Thiazolo[3,2-*a*]pyridinium, 3-hydroxy-2-methyl-, hydroxide, inner salt)	35143-56-7	**	6.82±0.05	EI	3977
	$C_7H_4NS(O)CH_3$ (Thiazolo[3,2-*a*]pyridinium, 8-hydroxy-5-methyl-, hydroxide, inner salt)	30277-17-9	**	7.03±0.05	EI	3635
	$C_5H_3N(=O)SC_2H(CH_3)$ (5*H*-Thiazolo[3,2-*a*]pyridin-5-one,3-methyl-)	71310-14-0	**	7.44	EI	5416
$C_8H_9NOS^+$						
	$C_7H_6NOS(CH_3)$ (1,4-Oxathiino[3,2-*b*]pyridine, 2,3-dihydro-6-methyl-)	35688-70-1	**	8.03±0.05	EI	3635
	$C_5H_2(=O)(CH_3)NC_2H_4S$ (Cyclopent[2,3]azirino[2,1-*b*]thiazol-7(4aH)-one, 2,3-dihydro-4a-methyl-)	71310-16-2	**	7.93	EI	5416

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_9NOS^+$						
	$C_5H_2N(=S)(OH)(CH_3)C_2H_3$	35688-69-8	**	7.73±0.05	EI	3635
	(2(1*H*)-Pyridinethione, 1-ethenyl-3-hydroxy-6-methyl-)					
	$C_5H_2N(O)(CH_3)SC_2H_4$	23003-43-2	**	6.95±0.05	EI	5416
	(Thiazolo[3,2-*a*]pyridinium,2,3-dihydro-8-hydroxy-5-methyl-hydroxide, inner salt)					
			**	7.35±0.05	EI	3635
	$C_5H_2N(=O)(CH_3)SC_2H_4$	71310-13-9	**	7.69±0.05	EI	5416
	(5H-*Thiazolo*[3,2-*a*]*pyridin*-5-*one*,2,3-*dihydro*-8-*methyl*-)					
$C_8H_{11}NOS^+$						
	$C_5H_2N(=S)(OH)(CH_3)C_2H_5$	24207-15-6	**	7.75±0.05	EI	3635
	(2(1*H*)-Pyridinethione, 1-ethyl-3-hydroxy-6-methyl-)					
$C_9H_9NOS^+$						
	$C_5H_2N(O)(CH_3)SC_2H(CH_3)$	30277-00-0	**	6.84±0.05	EI	5416
	(Thiazolo[3,2-*a*]pyridinium,8-hydroxy-3,5-dimethyl-hydroxide, inner salt)					
	$C_5H_2N(=O)(CH_3)SC_2H(CH_3)$	71310-15-1	**	7.32	EI	5416
	(5H-Thiazolo[3,2-*a*]pyridin-5-one,3,8-dimethyl-)					
$C_{11}H_{11}NOS^+$						
	$C_{11}H_{11}NOS$	61759-58-8	**	~8.18 (V)	PE	4803
	(Carbamothioic acid, 1,3-butadienyl-S-phenyl ester, (E)-)					
$C_{13}H_9NOS^+$						
	$C_7H_4NS(O)C_6H_5$	32044-03-4	**	6.70±0.05	EI	3977
	(Thiazolo[3,2-*a*]pyridinium, 3-hydroxy-2-phenyl-, hydroxide, inner salt)					
$C_4H_{10}N_2OS^+$						
	$C_2H_4N_2S(O)(CH_3)_2$	15108-72-2	**	8.2 (V)	PE	4295
	(1,2,5-*Thiadiazolidine*, 2,5-*dimethyl*-, 1-*oxide*)					
$C_4H_{12}N_2OS^+$						
	$((CH_3)_2N)_2SO$	3768-60-3	**	8.53 (V)	PE	3646
			**	8.53 (V)	PE	4295
$C_7H_8N_2OS^+$						
	$C_6H_4(OH)NHCSNH_2$	1520-26-9	**	8.20	EI	4834
	(Thiourea, (2-hydroxyphenyl)-)					
$C_8H_{10}N_2OS^+$						
	$C_6H_4(OCH_3)NHCSNH_2$	1516-37-6	**	7.80	EI	4834
	(Thiourea, (2-methoxyphenyl)-)					
$C_{15}H_{20}N_2OS^+$						
	$C_{15}H_{20}N_2OS$	67139-54-2	**	8±0.3	EI	5401
	(Carbamothioic acid,phenyl-0-(8-methyl-8-azabicyclo[3.2.1]oct-3-yl)ester,*endo*-)					
	$C_{15}H_{20}N_2OS$	67139-55-3	**	8±0.3	EI	5401
	(Carbamothioic acid,phenyl-0-(8-methyl-8-azabicyclo[3.2.1]oct-3-yl)ester,*exo*-)					
$C_{17}H_{18}N_2OS^+$						
	$C_{12}H_8NSCOCH_2CH_2N(CH_3)_2$	3576-44-1	**	8.26±0.07	CTS	4079
	(10*H*-Phenothiazine, 10-[3-(dimethylamino)-1-oxopropyl]-)					
$C_{18}H_{22}N_2OS^+$						
	$C_{18}H_{22}N_2OS$	7624-74-0	**	8.18±0.07	CTS	4079
	(10*H*-Phenothiazine-10-ethanamine, 2-methoxy-*N*,*N*,α-trimethyl-)					
$C_{19}H_{22}N_2OS^+$						
	$C_{12}H_8NSCOCH_2CH_2N(C_2H_5)_2$	3576-47-4	**	7.85±0.07	CTS	4079
	(10*H*-Phenothiazine, 10-[3-(diethylamino)-1-oxopropyl]-)					

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{20}H_{24}N_2OS^+$	$C_{12}H_8NSCO(CH_2)_3N(C_2H_5)_2$ (10*H*-Phenothiazine, 10-[4-(diethylamino)-1-oxobutyl]-)	51307-45-0	**	7.88±0.07	CTS	4079
$C_6H_5N_3OS^+$	$C_5H_2N_3SOCH_3$ ([1,2,3]Thiadiazolo[5,4-*b*]pyridine, 5-methoxy-)	54459-90-4	**	9.01±0.05	EI	4316
$C_{19}H_{23}N_3OS^+$	$C_{12}H_7NS(CH_3)NHCOCH_2N(C_2H_5)_2$ (Acetamide, 2-(diethylamino)-*N*-(10-methyl-10*H*-phenothiazin-3-yl)-)	1952-62-1	**	7.13±0.07	CTS	4079
$C_{22}H_{27}N_3OS^+$	$C_{22}H_{27}N_3OS$ (Ethanone, 1-[10-[3-(4-methyl-1-piperazinyl)propyl]-10*H*-phenothiazin-2-yl]-)	1053-74-3	**	9.05±0.07	CTS	4079
$C_{23}H_{29}N_3OS^+$	$C_{23}H_{29}N_3OS$ (1-Propanone, 1-[10-[3-(4-methyl-1-piperazinyl)propyl]-10*H*-phenothiazin-2-yl]-)	20686-45-7	**	9.08±0.07	CTS	4079
$C_3H_7NO_2S^+$	$SHCH_2CH(NH_2)COOH$	3374-22-9	**	~9	PI	3766
$C_4H_3NO_2S^+$	$C_4H_3SNO_2$ (Thiophene, 2-nitro-)	609-40-5	**	9.73±0.05 (V)	PE	4626
			**	9.77±0.05	EI	3482
$C_5H_{11}NO_2S^+$	$CH_3SCH_2CH_2CH(NH_2)COOH$	59-51-8	**	~9	PI	3766
$C_7H_3NO_2S^+$	$C_7H_3NS(=O)_2$ (Thieno[3,4-*b*]pyridine-5,7-dione)	69094-37-7	**	10.05±0.05 (V)	PE	4889
$C_7H_5NO_2S^+$	$C_7H_4NS(O)OH$ (Thiazolo[3,2-*a*]pyridinium, 3,8-dihydroxy-, hydroxide, inner salt)	35143-55-6	**	8.70±0.05	EI	3977
$C_7H_7NO_2S^+$	$C_6H_4(NO_2)SCH_3$ (Benzene, 1-(methylthiol)-4-nitro-)	701-57-5	**	8.59±0.01 (V)	PE	4389
$C_8H_7NO_2S^+$	$C_7H_3NS(O)(OH)CH_3$ (Thiazolo[3,2-*a*]pyridinium, 3,8-dihydroxy-2-methyl-, hydroxide, inner salt)	35191-20-9	**	8.60±0.05	EI	3977
$C_8H_9NO_2S^+$	$C_5H_3N(SCH_3)OCOCH_3$ (3-Pyridinol, 2-(methylthio)- acetate (ester))	42715-30-0	**	7.91±0.05	EI	3977
$C_{12}H_{19}NO_2S^+$	$C_{12}H_{19}NO_2S$ (Benzeneethanamine, 2,5-dimethoxy-α-methyl-4-(methylthio)-(±)-)	69519-59-1	**	7.64±0.06 (V)	PE	4758
$C_{13}H_9NO_2S^+$	$C_7H_3NS(O)(OH)C_6H_5$ (Thiazolo[3,2-*a*]pyridinium, 3,8-dihydroxy-2-phenyl-, hydroxide, inner salt)	35143-57-8	**	8.42±0.05	EI	3977
$C_{13}H_{13}NO_2S^+$	$C_7H_8SO_2C_6H_5$ (2-Azabicyclo[3.2.1]octa-3,6-diene,2-(phenylsulfonyl)-)	2063-88-9	**	8.11 (V)	PE	5481

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{13}H_{15}NO_2S^+$	$C_7H_{10}NSO_2C_6H_5$ (2-Azabicyclo[3.2.1]oct-3-ene,2-(phenylsulfonyl)-)	2063-89-0	**	8.18 (V)	PE	5481
	$C_7H_{10}NSO_2C_6H_5$ (2-Azabicyclo[3.2.1]oct-6-ene,2-(phenylsulfonyl)-)	71017-42-0	**	8.79	PE	5481
$C_{13}H_{17}NO_2S^+$	$C_7H_{12}NSO_2C_6H_5$ (2-Azabicyclo[3.2.1]octane,2-(phenylsulfonyl)-)	5503-65-1	**	8.72 (V)	PE	5481
$C_3H_2N_2O_2S^+$	$C_3H_2NS(NO_2)$ (Isothiazole, 4-nitro-)	931-07-7	**	10.45	PE	3587
$C_8H_6N_2O_2S^+$	$C_7H_3NS(NO_2)CH_3$ (Benzothiazole, 2-methyl-6-nitro-)	2941-63-1	**	9.15 (V)	PE	4437
$C_{12}H_{12}N_2O_2S^+$	$(C_6H_4NH_2)_2SO_2$ (Benzenamine, 4,4′-sulfonylbis-)	80-08-0	**	7.25±0.05	PI	5040
			**	7.25	PI	4328
$C_{20}H_{24}N_2O_2S^+$	$C_{20}H_{24}N_2O_2S$ (Phenol, 2,2′-[thiobis(3,1-propanediylnitrilomethylidyne)]bis-)	52279-44-4	**	8.51±0.10	EI	4213
$C_7H_7N_3O_2S^+$	$C_6H_4(NO_2)NHCSNH_2$ (Thiourea, (2-nitrophenyl)-)	51039-84-0	**	8.30	EI	4834
$C_9H_{17}NO_3S^+$	$C_9H_{17}NO_3S$ (8-Azabicyclo[3.2.1]octan-3-ol,8-methyl-methanesulfonate(ester),*exo*-)	35136-87-9	**	7.7±0.15	EI	5401
$C_{15}H_{11}NO_3S^+$	$C_7H_3NOS(OCOCH_3)C_6H_5$ (Thiazolo[3,2-*a*]pyridinium, 8-(acetyloxy)-3-hydroxy-2-phenyl-, hydroxide, inner salt)	32002-92-9	**	6.27±0.05	EI	3977
$C_{15}H_{28}NO_3S^+$	$C_{20}H_{40}N_2O_7S$ (L-Tyrosine,N-[S-(2-methoxy-2-oxoethyl)-N-(1-oxodecyl)-L-cysteinyl]-methyl ester)	32886-16-1		8.7±0.1	PI	5279
$C_{16}H_{28}NO_4S^+$	$C_{20}H_{40}N_2O_7S$ (L-Tyrosine,N-[S-(2-methoxy-2-oxoethyl)-N-(1-oxodecyl)-L-cysteinyl]-methyl ester)	32886-16-1		9.0±0.1	PI	5279
$C_{26}H_{40}N_2O_7S^+$	$C_{20}H_{40}N_2O_7S$ (L-Tyrosine,N-[S-(2-methoxy-2-oxoethyl)-N-(1-oxodecyl)-L-cysteinyl]-methyl ester)	32886-16-1	**	8.3±0.1	PI	5279
$C_{27}H_{40}N_4O_8S^+$	$C_{27}H_{40}N_4O_8S$ (L-Cysteine,S-(2-methoxy-2-oxoethyl)-N-[N-[N-[N-(1-oxopropyl)-L-phenylalanyl]-L-leucyl]glycyl]-methyl ester)	35146-63-5	**	8.3±0.1	PI	5279
$C_{22}H_{30}N_4O_2S_2^+$	$C_{22}H_{30}N_4O_2S_2$ (10*H*-Phenothiazine-2-sulfonamide, *N*,*N*-dimethyl-10[3-(4-methyl-1-piperazinyl)propyl]-)	316-81-4	**	6.81±0.07	CTS	4079
$B_2C_3H_9NOS^+$	$NB_2SO(CH_3)_3$ (1,3,5,2,4-Oxathiazadiborolidine, 2,4,5-trimethyl-)	57877-90-4	**	9.00 (V)	PE	4526

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
FS^+						
	SF	16068-96-5	**	10.0±0.3	EI	4580
			**	10.0	EI	4544
			**	10.09±0.10	EI	3818
			**	10.2±0.3	EI	4864
	SF_6	2551-62-4		30.5±0.5	EI	3818
				37.6±3.0	EI	4645
F_2S^+						
	SF_2	13814-25-0	**	10.08	PE	5073
			**	10.29±0.10	EI	3818
	SF_4	7783-60-0		17.4±0.5	EI	3818
	SF_6	2551-62-4		27.0±0.3	EI	4645
				27.5±0.5	EI	3818
	S_2F_2	13709-35-8		16.2±0.4	EI	3738
F_3S^+						
	SF_4	7783-60-0	F	12.63±0.10	EI	3818
	SF_6	2551-62-4		19.4±0.5	PI	4917
				19.6±0.5	EI	4645
				20.0±0.5	EI	3818
F_4S^+						
	SF_4	7783-60-0	**	12.03±0.05	EI	3578
			**	12.08±0.10	EI	3818
	SF_6	2551-62-4		19.1±0.5	PI	4917
			2F	18.44±0.10	EI	3818
				19.6±1.0	EI	4645
F_5S^+						
	SF_6	2551-62-4		15.3±0.2	PI	4917
			F	15.50±0.10	EI	3818
			F	16.2±0.2	EI	4645
F_6S^+						
	SF_6	2551-62-4	**	15.7	PE	5232
FS_2^+						
	S_2F_2	13709-35-8		14.0±0.4	EI	3738
$F_2S_2^+$						
	S_2F_2	13709-35-8	**	10.68 (V)	PE	4332
			**	10.84 (V)	PE	4332
			**	11.6±0.4	EI	3738
CF_2S^+						
	F_2CS	420-32-6	**	10.45±0.01	PE	3708
			**	10.52	PE	4080
			**	10.64 (V)	PE	3746
			**	10.53±0.10	EI	3818
$C_2F_4S_2^+$						
	$S{=}C(F)SCF_3$	371-73-3	**	10.12 (V)	PE	4345
$C_3F_6S_3^+$						
	$S{=}C(SCF_3)_2$	461-08-5	**	9.25 (V)	PE	4345
$C_{10}F_{12}S_4^+$						
	$C_6S_4(CF_3)_4$ (1,3-Dithiole, 2-(4,5-di-trifluoromethyl-1,3-dithiol-2-ylidene)-4,5-di-trifluoromethyl-)	26393-26-0	**	7.95 (V)	PE	4481

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$CH_2F_4S^+$						
	$CH_2{=}SF_4$	66793-25-7	**	10.65 (V)	PE	4984
$C_9H_5FS_3^+$						
	$(C_3HS_2){=}S(C_6H_4F)$ (3H-1,2-Dithiole-3-thione, 5-(4-fluorophenyl)-)	54290-50-5	**	8.14 (V)	PE	4403
NFS^+						
($^2A'$)	NSF	18820-63-8	**	11.49±0.02	PE	3665
($^2A'$)			**	11.54±0.01	PE	3666
($^2A'$)			**	11.82 (V)	PE	3660
($^2A'$)			**	13.382±0.004	PE	3666
($^2A'$)			**	13.39±0.02	PE	3665
($^2A'$)			**	13.50 (V)	PE	3660
($^2A''$)			**	13.775±0.005	PE	3666
($^2A''$)			**	13.78±0.02	PE	3665
($^2A''$)			**	13.87 (V)	PE	3660
($^2A'$)			**	14.93±0.01	PE	3666
($^2A'$)			**	15.35±0.02	PE	3665
($^2A'$)			**	15.61 (V)	PE	3660
($^2A''$)			**	16.56±0.03 (V)	PE	3666
($^2A'$)			**	17.24±0.08 (V)	PE	3666
($^2A'$)			**	21.1±0.1 (V)	PE	3666
NF_3S^+						
	NSF_3	15930-75-3	**	12.50 (V)	PE	3660
$C_8H_6NFS^+$						
	$C_6H_4FNHCSCH_3$ (Ethanethioamide, N-(2-fluorophenyl)-)	39184-82-2	**	8.30	EI	4834
$C_7H_7N_2FS^+$						
	$C_6H_4FNHCSNH_2$ (Thiourea, (2-fluorophenyl)-)	656-32-6	**	8.15	EI	4834
$C_{21}H_{24}N_3F_3S^+$						
	$C_{12}H_7NS(CF_3)(CH_2)_3C_4H_8N_2CH_3$ (10*H*-Phenothiazine, 10-[3-(4-methyl-1-piperazinyl)propyl]-2-(trifluoromethyl)-)	117-89-5	**	7.10±0.07	CTS	4079
			**	7.31±0.08 (V)	PE	4667
O_2FS^+						
	SO_2F_2	2699-79-8		14.8±0.5	EI	4921
	SO_2FCl	13637-84-8	**	13.0±0.5	EI	4921
O_3FS^+						
	SO_3F	21549-02-0	**	12.85±0.1 (V)	PE	3671
OF_2S^+						
	SOF_2	7783-42-8	**	12.19	PE	3705
			**	12.25	PE	3879
			**	12.58 (V)	PE	3646
			**	12.58 (V)	PE	4295
			**	12.6 (V)	PE	3694
			**	12.58±0.10	EI	3818
$O_2F_2S^+$						
	SO_2F_2	2699-79-8	**	~13.0	PE	3879
			**	13.04±0.01	PE	3675
			**	13.43 (V)	PE	3705
			**	13.55 (V)	PE	3694
			**	13.75 (V)	PE	4827

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$O_2F_2S^+$						
	SO_2F_2	2699-79-8	**	13.75 (V)	PE	5207
$CH_3O_2FS^+$						
	$(CH_3)SO_2(F)$	558-25-8	**	12.53 (V)	PE	4827
			**	12.53 (V)	PE	5207
			**	12.61 (V)	PE	3705
$C_6H_3OF_3S^+$						
	$C_4H_3SCOCF_3$ (Ethanone, 2,2,2-trifluoro-1-(2-thienyl)-)	651-70-7	**	9.70±0.05	EI	3482
	$C_4H_3SCOCF_3$ (Ethanone, 2,2,2-trifluoro-1-(3-thienyl)-)	30933-31-4	**	9.63±0.05	EI	3482
$C_{20}H_{21}N_2OF_3S^+$						
	$C_{12}H_7NS(CF_3)COCH_2CH_2N(C_2H_5)_2$ (10*H*-Phenothiazine, 10-[3-(diethylamino)-1-oxopropyl]-2-(trifluoromethyl)-)	30223-48-4	**	7.89±0.07	CTS	4079
$C_{22}H_{26}N_3OF_3S^+$						
	$C_{22}H_{26}N_3OF_3S$ (1-Piperazineethanol, 4-[3-[2-(trifluoromethyl)-10*H*-phenothiazin-10-yl]propyl]-)	69-23-8	**	8.64±0.07	CTS	4079
$C_{20}H_{19}N_2O_2F_3S^+$						
	$C_{12}H_7NS(CF_3)COCH_2CH_2C_4H_8NO$ (10*H*-Phenothiazine, 10-[3-(4-morpholinyl)-1-oxopropyl]-2-(trifluoromethyl)-)	33414-29-8	**	8.54±0.07	CTS	4079
$C_{22}H_{24}N_3O_2F_3S^+$						
	$C_{22}H_{24}N_3O_2F_3S$ (10*H*-Phenothiazine, 10-[3-[4-(2-hydroxyethyl)-1-piperazinyl]-1-oxopropyl]-2-(trifluoromethyl)-)	33414-36-7	**	8.71±0.07	CTS	4079
H_4SiS^+						
	SiH_3SH	14044-97-4	**	9.97 (V)	PE	3656
$H_6Si_2S^+$						
	$(SiH_3)_2S$	16544-95-9	**	9.59 (V)	PE	3867
			**	9.70 (V)	PE	3656
CH_6SiS^+						
	$(CH_3S)_2$	16643-15-5	**	9.10 (V)	PE	3867
$C_4H_{12}SiS^+$						
	$(CH_3)_3SiSCH_3$	3908-55-2	**	8.69±0.05 (V)	PE	4153
$C_8H_{11}SiS^+$						
	$C_6H_5SSi(CH_3)_3$ (Silane, trimethyl(phenylthio)-)	4551-15-9	CH_3	9.93±0.1	EI	4198
$C_9H_{14}SiS^+$						
	$C_6H_5SSi(CH_3)_3$ (Silane, trimethyl(phenylthio)-)	4551-15-9	**	8.67±0.05	PE	4589
			**	8.28±0.1	EI	4198
$C_{10}H_{16}SiS^+$						
	$C_6H_4(SCH_3)Si(CH_3)_3$ (Silane, trimethyl[4-(methylthio)phenyl]-)	22515-25-9	**	7.93±0.05 (V)	PE	4627
	$C_6H_5SCH_2Si(CH_3)_3$ (Silane, trimethyl [(phenylthio)methyl]-)	17873-08-4	**	7.81±0.05 (V)	PE	4627
$C_{11}H_{18}SiS^+$						
	$C_{11}H_{18}SiS$ (Silane, trimethyl[[4-(methylthio)phenyl]methyl]-)	59163-55-2	**	7.72±0.05 (V)	PE	4627

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{13}H_{11}SiS^+$						
	$C_{12}H_8SiS(CH_3)_2$ (10H-Phenothiasilin, 10,10-dimethyl-)	61431-08-1	CH_3	8.5±0.1	EI	4664
$C_{14}H_{11}SiS^+$						
	$C_{12}H_8SiS(CH_3)_2$ (10H-Phenothiasilin, 10,10-dimethyl-)	61431-08-1	**	7.8±0.1	EI	4664
$C_6H_{18}Si_2S^+$						
	$((CH_3)_3Si)_2S$	3385-94-2	**	8.74±0.05 (V)	PE	4153
			**	8.70±0.1	EI	4198
CH_3NSiS^+						
	SiH_3NCS	14311-54-7	**	9.54±0.02 (V)	PE	3670
$C_4H_9NSiS^+$						
	$(CH_3)_3SiNCS$	2290-65-5	**	9.3±0.1 (V)	PE	3670
$B_2C_5H_{16}N_2SiS^+$						
	$N_2B_2SH(CH_3)_2Si(CH_3)_3$ (1,3,4,2,5-Thiadiazadiborolidine, 2,5-dimethyl-3-(trimethylsilyl)-)	57877-86-8	**	8.25 (V)	PE	4526
H_3NOSiS^+						
	SiH_3NSO	57251-86-2	**	10.55 (V)	PE	4409
PS^+						
	SP	12281-36-6	**	9.0	EI	4001
P_4S^+						
	P_4S		**	10.6±0.5	EI	3615
$P_4S_2^+$						
	P_4S_2	12165-70-7	**	10.6±0.5	EI	3615
$P_4S_3^+$						
	P_4S_3	1314-85-8	**	9.01 (V)	PE	4704
			**	9.7±0.5	EI	3615
$P_4S_4^+$						
	P_4S_4	XXXXX-XX-X	**	10.1±0.5	EI	3615
$P_4S_5^+$						
	P_4S_5	12137-70-1	**	10.4±0.5	EI	3615
$P_4S_6^+$						
	P_4S_6	XXXXX-XX-X	**	10.0±0.5	EI	3615
$P_4S_7^+$						
	P_4S_7	12037-82-0	**	10.1±0.5	EI	3615
$P_4S_8^+$						
	P_4S_8	37295-14-0	**	9.8±0.5	EI	3615
$P_4S_9^+$						
	P_4S_9	25070-46-6	**	9.8±0.5	EI	3615
$P_4S_{10}^+$						
	P_4S_{10}	12066-62-5	**	9.6±0.5	EI	3615
CH_2PS^+						
	$(CH_3O)_2P(CH_3S)S$	2953-29-9	H+HCHO+HS	14.05±0.30	EI	3989

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_7PS^+$						
	$(CH_3)_2P(S)H$	6591-05-5	**	8.78 (V)	PE	5523
$C_3H_9PS^+$						
	$(CH_3)_3PS$	2404-55-9	**	8.48±0.035 (V)	PE	5529
			**	8.48 (V)	PE	5442
$C_6H_{15}PS_2^+$						
	$C_2H_5S_2P(C_2H_5)_2$	5745-32-4	**	8.68 (V)	PE	5569
$C_6H_{18}N_3PS^+$						
	$PS(N(CH_3)_2)_3$	3732-82-9	**	7.66±0.003	PE	4086
			**	7.66±0.02	PE	4279
			**	8.05 (V)	PE	5627
$C_2H_6OPS^+$						
	$(CH_3O)_2P(CH_3S)S$	2953-29-9	HCHO+HS	11.70±0.20	EI	3989
$C_7H_{17}OPS^+$						
	$(C_3H_7O)(C_2H_5)_2PS$	54867-58-2	**	8.08±0.04	PE	4279
			**	8.53 (V)	PE	5627
$C_2H_6O_2PS^+$						
	$(CH_3O)_2P(CH_3S)O$	152-20-5	CH_3O	11.82±0.20	EI	3989
	$(CH_3O)_2P(CH_3S)S$	2953-29-9	CH_3S	10.10±0.10	EI	3989
	$(CH_3S)_2P(CH_3O)O$	22608-53-3	CH_3S	10.50±0.10	EI	3989
$C_2H_7O_2PS^+$						
	$(CH_3O)_2P(CH_3S)O$	152-20-5	HCHO	10.51±0.10	EI	3989
	$(CH_3O)_2P(CH_3S)S$	2953-29-9	HCHS	10.35±0.10	EI	3989
	$(CH_3S)_2P(CH_3O)O$	22608-53-3	HCHS	10.10±0.10	EI	3989
$C_2H_6O_3PS^+$						
	$(CH_3O)_2P(CH_3S)O$	152-20-5	CH_3	10.03±0.10	EI	3989
$C_3H_9O_3PS^+$						
	$(CH_3O)_3PS$	152-18-1	**	9.16 (V)	PE	4705
	$(CH_3O)_2P(CH_3S)O$	152-20-5	**	9.55±0.10	EI	3989
$C_6H_{15}O_3PS^+$						
	$(C_2H_5O)_3PS$	126-68-1	**	8.49±0.02	PE	4279
			**	8.96 (V)	PE	5514
	$SP(OC_2H_5)_3$	1186-09-0	**	8.96 (V)	PE	5627
$C_{12}H_{27}O_3PS^+$						
	$SP(OC_4H_9)_3$	12408-16-1	**	8.02	PE	5627
$C_2H_6OPS_2^+$						
	$(CH_3O)_2P(CH_3S)S$	2953-29-9	CH_3O	10.20±0.30	EI	3989
	$(CH_3S)_2P(CH_3O)O$	22608-53-3	CH_3O	10.15±0.10	EI	3989
$C_2H_7OPS_2^+$						
	$(CH_3O)_2P(CH_3S)S$	2953-29-9	HCHO	10.00±0.10	EI	3989
	$(CH_3S)_2P(CH_3O)O$	22608-53-3	HCHO	9.90±0.20	EI	3989
$C_2H_6O_2PS_2^+$						
	$(CH_3O)_2P(CH_3S)S$	2953-29-9	CH_3	9.65±0.20	EI	3989
	$(CH_3S)_2P(CH_3O)O$	22608-53-3	CH_3	9.47±0.10	EI	3989
$C_3H_9O_2PS_2^+$						
	$(CH_3O)_2P(CH_3S)S$	2953-29-9	**	9.0±0.10	EI	3989
	$(CH_3S)_2P(CH_3O)O$	22608-53-3	**	9.20±0.10	EI	3989

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_4H_{11}O_2PS_2^+$						
	$HS_2P(OC_2H_5)_2$	298-06-6	**	9.1 (V)	PE	4636
$C_8H_{19}O_2PS_3^+$						
	$(C_2H_5O)_2P(=S)SCH_2CH_2SC_2H_5$	XXXXX-XX-X	**	9.0 (V)	PE	5190
F_3PS^+						
	F_3PS	2404-52-6	**	11.05±0.035 (V)	PE	5529
CNF_2PS^+						
	PF_2NCS	461-60-9	**	10.2±0.1 (V)	PE	3662
Cl^+						
($^3P_2$)	$Cl(^2P^o_{3/2})$	22537-15-1	**	12.97±0.02	PE	5087
($^3P_2$)			**	12.97	PE	5214
($^3P_1$)			**	13.06±0.02	PE	5087
($^3P_1$)			**	13.06	PE	5214
($^3P_0$)			**	13.1	PE	5214
($^1D_2$)			**	14.41±0.02	PE	5087
($^1D_2$)			**	14.412	S	5209
($^1D_2$)			**	14.42	PE	5214
($^1S_0$)			**	16.42	PE	5214
	CH_2Cl_2	75-09-2	CH_2Cl	17.4±0.1	EI	3442
			CH_2Cl	17.4	EI	3490
	$COCl_2$	75-44-5	Cl,CO	16.5±0.2	PI	5041
	$(CH_3)_2CClNO$	2421-26-3		22.70	EI	4809
	CF_3Cl	75-72-9	CF_3	19.66±0.1	PI	5399
	CF_2Cl_2	75-71-8	$CFCl_2^-$	16.40±0.2	PI	5399
	$CFCl_3$	75-69-4	$F^- + CCl_2$	13.7±0.5	PI	5399
			$F^- + CCl_2$	15.20±0.1	PI	5399
			$Cl^- + CFCl$	15.6±0.1	PI	5399
	Ag_3Cl_3	12444-97-2		~15.5	EI	3605
Cl^{+2}						
	Cl^+	14835-24-6	**	23.8137±0.0002	S	3756
			**	23.8138±0.0002	S	4175
Cl_2^+						
($^2\Pi_g$)	Cl_2	7782-50-5	**	11.49	PE	3507
($^2\Pi_u$)			**	14.43 (V)	PE	3507
($^2\Sigma^+$)			**	16.10 (V)	PE	3507
	CF_2Cl_2	75-71-8	CF_2	15.40±0.1	PI	5399
HCl^+						
	HCl	7647-01-0	**	12.72±0.03	PI	5307
	$(CH_3)_2CClNO$	2421-26-3		13.35	EI	4809
H_2Cl^+						
	$(HCl)_2$	XXXXX-XX-X	Cl	12.32±0.03	PI	5307
$H_2Cl_2^+$						
	$(HCl)_2$	XXXXX-XX-X	**	11.91±0.05	PI	5307
$LiCl^+$						
	LiCl	7447-41-8	**	9.57	PI	5509
			**	10.01±0.02 (V)	PE	4950
$Li_2Cl_2^+$						
	$(LiCl)_2$	12345-57-2	**	10.20	PI	5509
			**	~10.70 (V)	PE	4950

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$Li_3Cl_3^+$						
	$(LiCl)_3$	59217-69-5	**	10.17	PI	5509
$BeCl_2^+$						
	$BeCl_2$	7787-47-5	**	12.5±1.0	EI	4113
BCl^+						
	BCl	20583-55-5	**	12±1	EI	3465
BCl_2^+						
	BCl_2	13842-52-9	**	12±1.0	EI	3465
BCl_3^+						
	BCl_3	10294-34-5	**	11.62 (V)	PE	3704
$B_2Cl_4^+$						
	B_2Cl_4	13701-67-2	**	≤10.42±0.02	PE	3709
$H_8B_5Cl^+$						
	B_5H_8Cl (Pentaborane(9), 1-chloro-)	19469-13-7	**	10.03 (V)	PE	4519
	B_5H_8Cl (Pentaborane(9), 2-chloro-)	19469-14-8	**	10.24 (V)	PE	4519
CCl^+						
	C_2F_3Cl	79-38-9	CF_3	16.9±0.1	EI	4070
	CF_2Cl_2	75-71-8	$FCl+F^-$	14.80±0.2	PI	5399
	CFCl=CFCl	598-88-9	CF_2Cl	16.4±0.2	EI	4070
	$CFCl_3$	75-69-4	2Cl+F	20.00±0.2	PI	5399
				20.5	PI	5196
CCl_2^+						
	CFCl=CFCl	598-88-9	CF_2	13.8±0.1	EI	4070
	$CFCl_3$	75-69-4	FCl	17.0	PI	5196
			Cl+F	17.12±0.04	PI	4757
$C_4Cl_2^+$						
	ClC≡CC≡CCl	51104-87-1	**	9.34±0.02	PE	4162
CCl_3^+						
	CCl_3	3170-80-7	**	8.28	EI	3732
	CCl_4	56-23-5	Cl	11.28±0.03	PI	4308
			Cl	11.37	EI	3732
	$(CCl_3)_2CO$	116-16-5		11.75	EI	3550
	$CFCl_3$	75-69-4	F	13.25±0.04	PI	4757
			F	13.50	PI	5196
$C_6Cl_4^+$						
	C_6Cl_4 (1,3-Cyclohexadien-5-yne, 1,2,3,4-tetrachloro-)	13280-72-3	**	10.66±0.2	EI	3583
	$C_8O_3Cl_4$ (1,3-Isobenzofurandione, 4,5,6,7-tetrachloro-)	117-08-8		14.31±0.2	EI	3583
	C_6Cl_5I (Benzene, pentachloroiodo-)	16478-18-5		14.51±0.2	EI	3583
	$C_6Cl_4I_2$ (Tetrachloro-1,2-diiodobenzene)	XXXXX-XX-X		12.85±0.2	EI	3583
$C_2Cl_6^+$						
	C_2Cl_6	67-72-1	**	11.22 (V)	PE	4547
$C_6Cl_6^+$						
	C_6Cl_6 (Benzene, hexachloro-)	118-74-1	**	9.20 (V)	PE	3873

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_7Cl^+$						
	$C_6H_5CH_2Cl$	25168-05-2	**	9.14±0.01	PI	5557
	$C_6H_5CH_2Cl$	100-44-7	**	9.30 (V)	PE	3992
	(Benzene, (chloromethyl)-)					
	$C_6H_4ClCH_3$	95-49-8	**	8.72±0.1	EI	3777
	(Benzene, 1-chloro-2-methyl-)					
	$C_6H_4ClCH_3$	108-41-8	**	8.67±0.1	EI	3777
	(Benzene, 1-chloro-3-methyl-)					
	$C_6H_4ClCH_3$	106-43-4	**	8.78±0.1	EI	3777
	(Benzene, 1-chloro-4-methyl-)					
$C_8H_5Cl^+$						
	$C_6H_5C{\equiv}CCl$	1483-82-5	**	8.70 (V)	PE	4334
	(Benzene, (chloroethynyl)-)					
	$C_6H_4(Cl)C{\equiv}CH$	873-73-4	**	8.75 (V)	PE	4334
	(Benzene, 1-chloro-4-ethynyl-)					
$C_8H_7Cl^+$						
	$C_6H_4ClCH_2CH_2OCOCH_3$	33709-41-0		8.90	EI	3590
	(Phenethyl alcohol, *m*-chloro-, acetate)					
$C_9H_9Cl^+$						
	$CH_3C_6H_4CH_2Cl$	620-19-9	**	8.82±0.03	PI	5557
	(Benzene,1-(chloromethyl)-3-methyl-)					
	$CH_3C_6H_4CH_2Cl$	104-82-5	**	8.79±0.03	PI	5557
	(Benzene,1-(chloromethyl)-4-methyl-)					
$C_9H_9Cl^+$						
	$C_6H_4(Cl)C_3H_5$	1798-84-1	**	8.64 (V)	PE	4815
	(Benzene, 1-chloro-4-cyclopropyl-)					
$C_9H_{11}Cl^+$						
	$(CH_3)_2C_6H_3CH_2Cl$	2745-54-2	**	8.63±0.03	PI	5557
	(Benzene,1-(chloromethyl)-3,5-dimethyl-)					
$C_{10}H_{11}Cl^+$						
	$C_6H_4(Cl)C_3H_4(CH_3)$	63340-05-6	**	8.67 (V)	PE	4815
	(Benzene, 1-chloro-4-(1-methylcyclopropyl)-)					
$C_{10}H_{13}Cl^+$						
	$C_6H_4Cl(tert\text{-}C_4H_9)$	3972-56-3	**	8.82 (V)	PE	4438
	(Benzene, 1-chloro-4-(1,1-dimethylethyl-)					
$C_{10}H_{15}Cl^+$						
	$C_{10}H_{15}Cl$	935-56-8	**	9.30	PE	3886
	(Tricyclo[3.3.1.1^{3,7}]decane, 1-chloro-)					
$C_{11}H_{13}Cl^+$						
	$C_6H_4(Cl)C_3H_4(C_2H_5)$	63340-06-7	**	8.64 (V)	PE	4815
	(Benzene, 1-chloro-4-(1-ethylcyclopropyl)-)					
$C_{11}H_{15}Cl^+$						
	$(tert\text{-}C_4H_9)C_6H_4CH_2Cl$	38580-79-9	**	8.71±0.03	PI	5557
	(Benzene,1-(chloromethyl)-3-dimethylethyl)-)					
	$(tert\text{-}C_4H_9)C_6H_4CH_2Cl$	19692-45-6	**	8.60±0.03	PI	5557
	(Benzene,1-(chloromethyl)-4-dimethylethyl)-)					
$C_{12}H_9Cl^+$						
	$C_6H_5C_6H_4Cl$	2051-60-7	**	8.20±0.02	PE	3702
	(1,1'-Biphenyl, 2-chloro-)					
	$C_6H_5C_6H_4Cl$	2051-62-9	**	8.10±0.02	PE	3702
	(1,1'-Biphenyl, 4-chloro-)					

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{12}H_{15}Cl^+$						
	$C_{12}H_{15}Cl$ (Benzene, 1-chloro-4-[1-(1-methylethyl)cyclopropyl]-)	63340-07-8	**	8.64 (V)	PE	4815
$C_{13}H_{17}Cl^+$						
	$C_{13}H_{17}Cl$ (Benzene, 1-chloro-4-[1-(1,1-dimethylethyl)cyclopropyl]-)	63340-08-9	**	8.64 (V)	PE	4815
$C_{14}H_9Cl^+$						
	$C_{14}H_9Cl$ (Anthracene, 9-chloro-)	716-53-0	**	7.45±0.03 (V)	PE	4887
$C_{15}H_{23}Cl^+$						
	(*tert*-C_4H_9)$_2C_6H_3CH_2Cl$ (Benzene,1-(chloromethyl)-3,5-bis(1,1-dimethylethyl)-)	51625-14-0	**	8.29±0.03	PI	5557
$C_{21}H_{15}Cl^+$						
	$C_3(C_6H_5)_3Cl$ (Cyclopropenylium, triphenyl-,chloride)	58090-78-1	**	7.75±0.05	EI	4628
$CHCl_2^+$						
	$CHCl_2$	3474-12-2	**	8.45	EI	3732
	$CHCl_3$	67-66-3	Cl	11.49±0.02	PI	4308
			Cl	11.52	EI	3732
	$CHCl_2CH_2Cl$	79-00-5	CH_2Cl	11.80	EI	3732
$CH_2Cl_2^+$						
	CH_2Cl_2	75-09-2	**	11.32±0.01	PI	4308
			**	11.28	EI	3732
$C_2H_2Cl_2^+$						
	$CH_2=CCl_2$	75-35-4	**	10.00 (V)	PE	4303
			**	9.99±0.02 (V)	PE	4880
	cis-CHCl=CHCl	156-59-2	**	9.80 (V)	PE	4303
	trans-CHCl=CHCl	156-60-5	**	9.72 (V)	PE	3648
			**	9.80 (V)	PE	4303
			**	11.92 (V)	PE	4022
$C_2H_4Cl_2^+$						
	CH_3CHCl_2	75-34-3	**	11.06	PI	5501
			**	11.02	PE	5501
			**	11.23±0.02 (V)	PE	4547
	CH_2ClCH_2Cl	107-06-2	**	11.05	PI	5501
			**	11.04	PE	5501
			**	11.13±0.10 (V)	PE	4732
			**	11.22±0.02 (V)	PE	4367
			**	11.39±0.03 (V)	PE	4144
			**	11.40±0.10 (V)	PE	4732
$C_5H_6Cl_2^+$						
	$C_5H_6Cl_2$ (Cyclopentene, 4,4-dichloro-)	XXXXX-XX-X	**	9.78 (V)	PE	4517
$C_6H_2Cl_2^+$						
	$C_6H_2Cl_2$ (1,3-Cyclohexadien-5-yne, 1,2-dichloro-)	24634-92-2	**	9.66±0.2	EI	3583
	$C_6H_2Cl_2$ (1,3-Cyclohexadien-5-yne, 1,3-dichloro-)	24634-94-4	**	9.97±0.2	EI	3583
	$C_6H_2Cl_2$ (1,3-Cyclohexadien-5-yne, 1,4-dichloro-)	XXXXX-XX-X	**	9.11±0.2	EI	3583
	$C_6H_2Cl_2$ (1,3-Cyclohexadien-5-yne, 2,3-dichloro-)	24634-93-3	**	9.58±0.2	EI	3583

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_2Cl_2^+$						
	$C_8H_2O_3Cl_2$ (1,3-Isobenzofurandione, 4,7-dichloro-)	4466-59-5		13.60±0.2	EI	3583
	$C_8H_2O_3Cl_2$ (1,3-Isobenzofurandione, 5,6-dichloro-)	942-06-3		14.06±0.2	EI	3583
	$C_6H_2Cl_2I_2$ (3,4-Dichloro-1,2-diiodobenzene)	XXXXX-XX-X		14.11±0.2	EI	3583
	$C_6H_2Cl_2I_2$ (3,5-Dichloro-1,2-diiodobenzene)	XXXXX-XX-X		14.43±0.2	EI	3583
	$C_6H_2Cl_2I_2$ (4,5-Dichloro-1,2-diiodobenzene)	XXXXX-XX-X		14.11±0.2	EI	3583
$C_6H_4Cl_2^+$						
	$C_6H_4Cl_2$ (Benzene,1,2-dichloro-)	95-50-1	**	9.06±0.02	PE	5138
			**	9.08 (V)	PE	3873
	$C_6H_4Cl_2$ (Benzene,1,3-dichloro-)	541-73-1	**	9.12±0.02	PE	5138
			**	9.15 (V)	PE	3873
	$C_6H_4Cl_2$ (Benzene,1,4-dichloro-)	106-46-7	**	8.98±0.02	PE	5138
			**	8.988 (V)	PE	5257
			**	9.00 (V)	PE	3873
$C_7H_6Cl_2^+$						
	$C_6H_3Cl_2CH_3$ (Benzene,1,3-dichloro-2-methyl-)	118-69-4	**	8.73 (V)	PE	5461
	$C_6H_3Cl_2CH_3$ (Benzene,1,3-dichloro-5-methyl-)	25186-47-4	**	9.99±0.02	PE	5521
			**	9.99 (V)	PE	5461
	$C_6H_3Cl_2CH_3$ (Benzene,1,4-dichloro-2-methyl-)	19398-61-9	**	8.75±0.02	PE	5521
$C_8H_6Cl_2^+$						
	$C_6H_3(Cl)_2CH=CH_2$ (Benzene, 1,3-dichloro-2-ethenyl-)	28469-92-3	**	8.70±0.02	PE	3854
$C_8H_8Cl_2^+$						
	$C_6H_5CH_2CHCl_2$ (Benzene, (2,2-dichloroethyl)-)	4412-39-9	**	9.27 (V)	PE	4927
$C_9H_8Cl_2^+$						
	$C_6H_5C_3H_3Cl_2$ (Benzene, (2,2-dichlorocyclopropyl)-)	2415-80-7	**	8.97 (V)	PE	4927
$C_{10}H_6Cl_2^+$						
	$C_{10}H_6Cl_2$ (Azulene,1,3-dichloro-)	14658-94-7	**	7.45 (V)	PE	5397
$C_{14}H_8Cl_2^+$						
	$C_{14}H_8Cl_2$ (Anthracene, 9,10-dichloro-)	605-48-1	**	7.58	PE	4364
$C_{15}H_{10}Cl_2^+$						
	$C_{15}H_{10}Cl_2$ (1H-Cyclopropa[*l*]phenanthrene, 1,1-dichloro-1a,9b-dihydro-)	37608-29-0	**	8.06 (V)	PE	4927
$CHCl_3^+$						
	$CHCl_3$	67-66-3	**	11.37±0.02	PI	4308
			**	11.48 (V)	PE	4146
			**	11.41	EI	3732

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_3Cl_3^+$						
	CH_3CCl_3	71-55-6	**	11.25 (V)	PE	4547
$C_6H_3Cl_3^+$						
	$C_6H_3Cl_3$ (Benzene, 1,2,3-trichloro-)	87-61-6	**	9.22 (V)	PE	3873
	$C_6H_3Cl_3$ (Benzene,1,3,5-trichloro-)	108-70-3	**	9.34±0.02	PE	5138
			**	9.36 (V)	PE	3873
$C_2H_2Cl_4^+$						
	CH_2ClCCl_3	630-20-6	**	11.45 (V)	PE	4547
$C_6H_2Cl_4^+$						
	$C_6H_2Cl_4$ (Benzene, 1,2,3,4-tetrachloro-)	634-66-2	**	9.11 (V)	PE	3873
	$C_6H_2Cl_4$ (Benzene, 1,2,3,5-tetrachloro-)	634-90-2	**	9.16 (V)	PE	3873
	$C_6H_2Cl_4$ (Benzene, 1,2,4,5-tetrachloro-)	95-94-3	**	9.06 (V)	PE	3873
			**	9.20±0.05 (V)	PE	5558
$C_2HCl_5^+$						
	$CHCl_2CCl_3$	76-01-7	**	11.28 (V)	PE	4547
$C_6HCl_5^+$						
	C_6HCl_5 (Benzene, pentachloro-)	608-93-5	**	9.11 (V)	PE	3873
$BeC_5H_5Cl^+$						
	$(C_5H_5)BeCl$ (Beryllium,chloro(η^5-2,4-cyclopentadien-1-yl)-)	36346-97-1	**	9.60 (V)	PE	5384
$BC_2H_6Cl^+$						
	$(CH_3)_2BCl$ (Borane,chlorodimethyl)	1803-36-7	**	10.78 (V)	PE	5485
$B_4C_2H_5Cl^+$						
	$C_2B_4H_5Cl$ (1,6-Dicarbahexaborane(6),2-chloro-)	33616-59-0	**	9.53 (V)	PE	5553
$BCH_3Cl_2^+$						
	CH_3BCl_2 (Borane,dichloromethyl)	7318-78-7	**	11.51	PE	5485
$B_4C_2H_4Cl_2^+$						
	$C_2B_4H_4Cl_2$ (1,6-Dicarbahexaborane(6),2,4-dichloro-)	XXXXX-XX-X	**	9.38 (V)	PE	5553
$BC_6H_5Cl_2^+$						
	$C_6H_5BCl_2$ (Borane, dichlorophenyl-)	873-51-8	**	9.52 (V)	PE	4956
N_3Cl^+						
	ClN_3	13973-88-1	**	10.20±0.01	PE	5001
NCl_3^+						
	NCl_3	10025-85-1	**	10.12±0.1	PE	4737
H_2NCl^+						
	NH_2Cl	10599-90-3	**	9.85±0.02	PE	4763
			**	10.60 (V)	PE	5544

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$HNCl_2^+$						
	$NHCl_2$	3400-09-7	**	9.98±0.05	PE	4737
			**	10.52 (V)	PE	5544
$H_3B_3N_3Cl_3^+$						
	$B_3H_3N_3Cl_3$ (Borazine,2,4,6-trichloro-)	933-18-6	**	10.55 (V)	PE	3673
			**	10.55 (V)	PE	3943
C_3NCl^+						
	ClC≡CCN	2003-31-8	**	10.95±0.02	PE	4765
$C_5NCl_5^+$						
	$C_5N(Cl)_5$ (Pyridine, pentachloro-)	2176-62-7	**	9.44 (V)	PE	4275
CH_4NCl^+						
	CH_3NHCl	6154-14-9	**	9.19±0.02	PE	4737
			**	9.70±0.10 (V)	PE	4741
$C_2H_2NCl^+$						
	CH_2ClCN	107-14-2	**	11.95±0.01	PE	4679
			**	11.98 (V)	PE	4684
$C_2H_6NCl^+$						
	$(CH_3)_2NCl$	1585-74-6	**	8.67±0.02	PE	4737
			**	9.25 (V)	PE	5304
$C_3H_2NCl^+$						
	$CH_2=C(Cl)CN$	920-37-6	**	10.58±0.05 (V)	PE	4859
$C_5H_4NCl^+$						
	ClC_5H_4N (Pyridine,2-chloro-)	109-09-1	**	9.54 (V)	PE	5258
			**	9.9±0.1	EI	4302
	ClC_5H_4N (Pyridine,3-chloro-)	626-60-8	**	9.58 (V)	PE	5258
			**	9.75±0.1	EI	4302
	ClC_5H_4N (Pyridine,4-chloro-)	626-61-9	**	10.2 (V)	PI	5566
			**	9.86 (V)	PE	5258
			**	10.0±0.1	EI	4302
$C_5H_{10}NCl^+$						
	$C_5H_{10}NCl$ (Piperidine,1-chloro-)	2156-71-0	**	9.00±0.10 (V)	PE	5308
$C_6H_6NCl^+$						
	$C_6H_4ClNH_2$ (Benzeneamine, 2-chloro-)	95-51-2	**	8.50	EI	4834
	$C_6H_4ClNHCOCH_3$ (Acetamide, N-(2-chlorophenyl)-)	533-17-5		11.05	EI	4834
			$CH_2=C=O$	10.76±0.03	EI	3483
	$C_6H_4ClNHCOCH_3$ (Acetamide, *N*-(4-chlorophenyl)-)	539-03-7	$CH_2=C=O$	10.11±0.03	EI	3483
	$C_6H_4ClNHCOC_2H_5$ (Propanamide, N-(2-chlorophenyl)-)	2760-32-9		10.75	EI	4834
	$C_6H_4ClNHCOCH_2CH_2CH_3$ (Butanamide, N-(2-chlorophenyl)-)	33694-15-4		10.70	EI	4834
	$C_6H_4ClNHCOC(CH_3)_3$ (Propanamide, N-(2-chlorophenyl)-2,2-dimethyl)-)	62662-74-2		10.70	EI	4834
	$C_6H_4ClNHCOCH_2C(CH_3)_3$ (Butanamide, N-(2-chlorophenyl)-3,3-dimethyl-)	XXXXX-XX-X		10.45	EI	4834

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_6NCl^+$						
	$C_6H_4ClNHCONH_2$ (Urea, (2-chlorophenyl)-)	114-38-5		9.15	EI	4834
	$C_6H_4ClNHCONHCH_3$ (Urea, N-(2-chlorophenyl)-N'-methyl-)	15500-96-6		10.20	EI	4834
	$C_6H_4ClNHCONHC_2H_5$ (Urea, N-(2-chlorophenyl)-N'-ethyl-)	62635-53-4		10.05	EI	4834
	$C_6H_4ClNHCONHCH(CH_3)_2$ (Urea, N-(2-chlorophenyl)-N'-(1-methylethyl)-)	62635-47-6		9.80	EI	4834
	$C_6H_4ClNHCONHC(CH_3)_3$ (Urea, N-(2-chlorophenyl)-N'-(1,1-dimethylethyl)-)	62635-48-7		9.70	EI	4834
	$C_6H_4ClNHCSCH_3$ (Ethanethioamide, N-(2-chlorophenyl)-)	39184-83-3		11.00	EI	4834
	$C_6H_4ClNHCSCH_2C(CH_3)_3$ (Butanethioamide, N-(2-chlorophenyl)-3,3-dimethyl-)	62635-54-5		11.00	EI	4834
$C_7H_{12}NCl^+$						
	$C_7H_{12}NCl$ (1-Azabicyclo[2.2.2]octane, 4-chloro-)	5960-95-2	**	8.55±0.015 (V)	PE	4286
$C_8H_{10}NCl^+$						
	$C_6H_4ClN(CH_3)_2$ (Benzenamine, 4-chloro-N,N-dimethyl-)	698-69-1	**	7.2±0.1	PE	4401
$C_8H_{14}NCl^+$						
	$C_8H_{14}NCl$ (9-Azabicyclo[3.3.1]nonane,9-chloro-)	73322-95-9	**	8.55 (V)	PE	5091
	$C_8H_{14}NCl$ (8-Azabicyclo[3.2.1]octane,3-chloro-8-methyl-*endo*-)	13514-03-9	**	8.1±0.15	EI	5401
	$C_8H_{14}NCl$ (8-Azabicyclo[3.2.1]octane,3-chloro-8-methyl-*exo*-)	2292-12-8	**	8.3±0.15	EI	5401
$C_9H_{18}NCl^+$						
	$C_5H_6N(CH_3)_4Cl$ (Piperidine, 1-chloro-2,2,6,6-tetramethyl-)	32579-76-3	**	7.64	PE	4278
$C_{13}H_{10}NCl^+$						
	$C_6H_4ClC(=CH_2)C_5H_4N$ (Pyridine,2-[1-(2-chlorophenyl)ethenyl]-)	XXXXX-XX-X	**	8.55	EI	5570
	$C_6H_4ClC(=CH_2)C_5H_4N$ (Pyridine,2-[1-(4-chlorophenyl)ethenyl]-)	XXXXX-XX-X	**	8.58	EI	5570
$C_{16}H_{12}NCl^+$						
	$C_6H_4(Cl)C_3H_3(CN)C_6H_5$ (Cyclopropanecarbonitrile, 1-(*p*-chlorophenyl)-2-phenyl-)	32589-55-2	**	8.18±0.10	EI	3575
$C_{32}H_{21}NCl^+$						
	$C_5(C_6H_5)_2(NC_5H_5)(C_{10}H_6)Cl$ (Cyclopenta-1,3-diene,1,4-diphenyl-5-pyridinium-2,3-(naphtha-1,8-diyl),chloride)	XXXXX-XX-X	**	6.75	CTS	5593
$C_{36}H_{23}NCl^+$						
	$C_5(C_6H_5)_2(NC_9H_7)(C_{10}H_6)Cl$ (Cyclopenta-1,3-diene,1,4-diphenyl-5-quinolinium-2,3-(naphtha-1,8-diyl),chloride)	XXXXX-XX-X	**	6.70	CTS	5593
	$C_5(C_6H_5)_2(NC_9H_7)(C_{10}H_6)Cl$ (Cyclopenta-1,3-diene,1,4-diphenyl-5-isoquinolinium-2,3-(naphtha-1,8-diyl),chloride)	XXXXX-XX-X	**	6.72	CTS	5593
$C_6H_{11}N_2Cl^+$						
	$C_3H_2N_2Cl(CH_3)_3$ (3H-Pyrazole, 3-chloro-4,5-dihydro-3,5,5-trimethyl-)	55204-46-1	**	9.04 (V)	PE	4429
$C_7H_5N_2Cl^+$						
	$C_6H_4CN_2HCl$ (1H-Indazole,3-chloro-)	29110-74-5	**	8.41 (V)	PE	5396

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_9H_{10}N_2Cl^+$						
	$C_6H_4(Cl)N{=}CHN(CH_3)_2$ (Methanimidamide, *N'*-(2-chlorophenyl)-*N*,*N*-dimethyl-)	2103-49-3	H	8.9	EI	4337
$C_9H_{11}N_2Cl^+$						
	$C_6H_4(Cl)N{=}CHN(CH_3)_2$ (Methanimidamide, *N'*-(2-chlorophenyl)-*N*,*N*-dimethyl-)	2103-49-3	**	7.3±0.1	EI	4359
			**	7.3	EI	4337
$C_{10}H_{13}N_2Cl^+$						
	$C_6H_3(Cl)(CH_3)N{=}CHN(CH_3)_2$ (Methanimidamide, *N'*(2-chloro-4-methylphenyl)-*N*,*N*-dimethyl-)	53666-35-6	**	7.1±0.1	EI	4359
	$C_6H_3(Cl)(CH_3)N{=}CHN(CH_3)_2$ (Methanimidamide, *N'*-(2-chloro-5-methylphenyl)-*N*,*N*-dimethyl-)	53666-41-4	**	7.1±0.1	EI	4359
$C_{12}H_9N_2Cl^+$						
	$C_6H_5NNC_6H_4Cl$ (Diazine,(4-chlorophenyl)phenyl-(E)-)	6141-95-3	**	8.55±0.05 (V)	PE	5320
$C_{33}H_{20}N_2Cl^+$						
	$C_5(C_6H_5)_2(NC_5H_4CN)(C_{10}H_6)Cl$ (Cyclopenta-1,3-diene,1,4-diphenyl-5-(4-cyanopyridinium)-2,3-(naphtha-1,8-diyl),chloride)	XXXXX-XX-X	**	6.72	CTS	5593
$C_2H_2N_3Cl^+$						
	$C_2H_2N_3Cl$ (1H-1,2,4-Triazole,3-chloro-)	6818-99-1	**	10.1 (V)	PE	5228
$C_3H_4N_3Cl^+$						
	$C_2N_3Cl(CH_3)$ (1H-1,2,4-Triazole,3-chloro-5-methyl-)	15285-15-1	**	9.6 (V)	PE	5228
	$C_2HN_3Cl(CH_3)$ (1H-1,2,4-Triazole,3-chloro-1-methyl-)	56616-92-3	**	9.7 (V)	PE	5228
	$C_2HN_3Cl(CH_3)$ (1H-1,2,4-Triazole,5-chloro-1-methyl-)	56616-99-0	**	9.75 (V)	PE	5228
	$C_2HN_3Cl(CH_3)$ (4H-1,2,4-Triazole,3-chloro-4-methyl-)	56616-87-6	**	9.8 (V)	PE	5228
$C_4H_6N_3Cl^+$						
	$C_2N_3Cl(CH_3)_2$ (1H-1,2,4-Triazole,3-chloro-1,5-dimethyl-)	56616-94-5	**	9.4 (V)	PE	5228
	$C_2N_3Cl(CH_3)_2$ (1H-1,2,4-Triazole,5-chloro-1,3-dimethyl-)	56616-97-8	**	9.35 (V)	PE	5228
	$C_2N_3Cl(CH_3)_2$ (4H-1,2,4-Triazole,3-chloro-4,5-dimethyl-)	56616-85-4	**	9.3 (V)	PE	5228
$C_6H_4N_3Cl^+$						
	$C_4H_2N_2ClC_2H_2N$ (Imidazo[1,2-*b*]pyridazine,6-chloro-)	6775-78-6	**	8.55 (V)	PE	5396
$C_9H_{10}N_3Cl^+$						
	$C_6H_4ClNC_3H_4N_2H_2$ (Imidazolidine,2-(2-chlorophenylimino)-)	XXXXX-XX-X	**	7.96 (V)	PE	5545
$C_{11}H_{16}N_3Cl^+$						
	$C_6H_3(Cl)(N(CH_3)_2)N{=}CHN(CH_3)_2$ (Methanimidamide, *N'*-[2-chloro-4-(dimethylamino)phenyl]-*N*,*N*-dimethyl-)	53666-30-1	**	6.4±0.1	EI	4359
	$C_6H_3(Cl)(N(CH_3)_2)N{=}CHN(CH_3)_2$ (Methanimidamide, *N'*-[2-chloro-5-(dimethylamino)phenyl]-*N*,*N*-dimethyl-)	53666-39-0	**	6.4±0.1	EI	4359
$C_{12}H_8N_3Cl^+$						
	$C_4H_2N_2ClC_2HNC_6H_5$ (Imidazo[1,2-*b*]pyridazine,6-chloro-2-phenyl-)	1844-53-7	**	8.09 (V)	PE	5396

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$CH_3NCl_2^+$						
	CH_3NCl_2	7651-91-4	**	9.35±0.02	PE	4737
			**	10.06±0.10 (V)	PE	4741
$C_5H_3NCl_2^+$						
	$Cl_2C_5H_3N$ (Pyridine,3,5-dichloro-)	2457-47-8	**	9.88 (V)	PE	5527
$C_6H_5NCl_2^+$						
	$C_6H_3(Cl)_2NH_2$ (Benzenamine, 2,6-dichloro-)	608-31-1	**	7.60±0.02	PE	3890
	$C_6H_3Cl_2NHCOCH_3$ (Acetamide, *N*-(2,4-dichlorophenyl)-)	6975-29-7	$CH_2=C=O$	10.09±0.03	EI	3480
	$C_6H_3Cl_2NHCOCH_3$ (Acetamide, *N*-(2,6-dichlorophenyl)-)	17700-54-8	$CH_2=C=O$	9.93±0.03	EI	3480
$C_8H_{10}N_2Cl_2^+$						
	$C_6Cl_2(CH_3)_2(NH_2)_2$ (1,4-Benzenediamine,2,5-dichloro-3,6-dimethyl-)	40200-66-6	**	6.86±0.03	PI	5552
$C_{10}H_{10}N_2Cl_2^+$						
	$C_6H_3(Cl)_2CH_2C_3H_5N_2$ (1H-Imidazole,2-[(2,6-dichlorophenyl)methyl]-4,5-dihydro-)	52115-81-8	**	8.42 (V)	PE	5096
$C_{11}H_{12}N_2Cl_2^+$						
	$C_{11}H_{12}N_2Cl_2$ (1H-Imidazole,2-[(2,6-dichlorophenyl)methyl]-4,5-dihydro-1-methyl-)	65248-67-1	**	8.21 (V)	PE	5096
$C_9H_9N_3Cl_2^+$						
	$C_6H_3Cl_2NC_3H_4N_2H_2$ (Imidazolidine,2-(2,6-dichlorophenylimino)-)	XXXXX-XX-X	**	8.01 (V)	PE	5545
$C_{11}H_{13}N_3Cl_2^+$						
	$C_6H_3Cl_2NC_3H_4N_2(CH_3)_2$ (Imidazolidine,2-(2,6-dichlorophenylimino)-1,3-dimethyl-)	XXXXX-XX-X	**	7.84 (V)	PE	5545
$BC_5H_7NCl^+$						
	$C_5H_4N(Cl)\cdot BH_3$ (Pyridine, 4-chloro-, compound with borane (1:1))	56898-52-3	**	9.71 (V)	PE	4536
$BC_4H_{12}N_2Cl^+$						
	$B(N(CH_3)_2)_2Cl$	6562-41-0	**	8.15 (V)	PE	3704
			**	8.08	PE	3584
$BC_2H_6NCl_2^+$						
	$(CH_3)_2NBCl_2$	1113-31-1	**	9.56	PE	3584
			**	9.68 (V)	PE	3704
$B_2C_4H_{12}N_2Cl_2^+$						
	$(ClCH_3BNCH_3)_2$	73775-16-3	**	9.48 (V)	PE	5628
$B_2C_3H_9N_3Cl_2^+$						
	$N_3B_2Cl_2(CH_3)_3$ (1,2,4,3,5-Triazadiborolidine, 3,5-dichloro-1,2,4-trimethyl-)	53246-09-6	**	8.22 (V)	PE	4526
$B_2C_4H_{12}N_4Cl_2^+$						
	$B_2N_4(CH_3)_4Cl_2$ (1,2,4,5,3,6-Tetrazadiborine, 3,6-dichlorohexahydro-1,2,4,5-tetramethyl-)	54196-15-5	**	7.61 (V)	PE	4299
$B_3C_3H_9N_3Cl_3^+$						
	$(CH_3)_3B_3N_3Cl_3$ (Borazine, 2,4,6-trichloro-1,3,5-trimethyl-)	703-86-6	**	9.45 (V)	PE	3943

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
OCl^+						
($^3\Sigma^-$)	ClO	14989-30-1	**	11.01±0.01 (V)	PE	4944
O_2Cl^+						
	ClO_2	10049-04-4	**	10.36±0.02	PE	3499
($^2A_1$)			**	10.5±0.1 (V)	PE	3671
($^1B_2$)			**	15.5±0.1 (V)	PE	3671
OCl_2^+						
($^2B_1$)	Cl_2O	7791-21-1	**	11.02 (V)	PE	3694
($^2B_2$)			**	12.37 (V)	PE	3694
($^2A_1$)			**	12.65 (V)	PE	3694
($^2A_2$)			**	12.79 (V)	PE	3694
			**	15.9 (V)	PE	4763
($^2B_1$)			**	15.90 (V)	PE	3694
			**	16.6 (V)	PE	4763
$HOCl^+$						
($^2A''$)	HOCl	7790-92-3	**	11.12±0.01	PE	4763
($^2A'$)			**	12.09±0.01	PE	4763
($^2A''$)			**	14.6±0.1 (V)	PE	4763
($^2A'$)			**	15.6±0.1 (V)	PE	4763
$COCl^+$						
($^1\Sigma^+$)	$COCl_2$	75-44-5	Cl	11.2±0.2	PI	5041
$COCl_2^+$						
	$COCl_2$	75-44-5	**	~11.2	PE	3726
			**	11.55±0.02	PE	3667
			**	11.84 (V)	PE	5041
$C_2OCl_2^+$						
	$Cl_2C{=}C{=}O$	4591-28-0	**	9.07±0.02 (V)	PE	5030
$C_2O_2Cl_2^+$						
	$(COCl)_2$	79-37-8	**	10.91±0.05	PE	4696
			**	11.26 (V)	PE	5549
$C_4O_2Cl_2^+$						
	$C_4(Cl)_2(=O)_2$ (3-Cyclobutene-1,2-dione, 3,4-dichloro-)	2892-63-9	**	9.89 (V)	PE	4861
$C_2OCl_3^+$						
	$(CCl_3)_2CO$	116-16-5		12.0	EI	3550
$C_2OCl_4^+$						
	CCl_3COCl	76-02-8	**	11.31 (V)	PE	4547
$C_6O_2Cl_4^+$						
	$C_6Cl_4O_2$ (2,5-Cyclohexadiene,1,4-dione,2,3,5,6-tetrachloro-)	118-75-2	**	9.90±0.05 (V)	PE	5558
$C_8O_3Cl_4^+$						
	$C_8O_3Cl_4$ (1,3-Isobenzofurandione, 4,5,6,7-tetrachloro-)	117-08-8	**	10.77±0.2	EI	3583
C_2HOCl^+						
	$CHCl{=}C{=}O$	29804-89-5	**	9.35 (V)	PE	5610
$C_2H_3OCl^+$						
	CH_3COCl	75-36-5	**	10.85±0.05	PE	4220
			**	11.03 (V)	PE	4513

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_3OCl^+$						
	CH_3COCl	75-36-5	**	11.03 (V)	PE	4547
	CH_2ClCHO	107-20-0	**	10.61 (V)	PE	4513
			**	10.61 (V)	PE	4547
$C_2H_5OCl^+$						
	CH_2ClCH_2OH	107-07-3	**	10.90 (V)	PE	5088
$C_2H_7OCl^+$						
	$(CH_3)_2O{\cdot}HCl$	XXXXX-XX-X	**	10.6±0.2 (V)	PE	4774
$C_3H_5OCl^+$						
	CH_3COCH_2Cl	78-95-5	**	9.91±0.03	PI	3765
			**	9.93±0.02 (V)	PE	4524
	$C_2H_3OCH_2Cl$ (Oxirane, (chloromethyl)-)	106-89-8	**	10.60 (V)	PE	4747
$C_3H_7OCl^+$						
	$CH_2ClCH_2OCH_3$	627-42-9	**	10.05 (V)	PE	5088
$C_6H_4OCl^+$						
	$C_6H_4ClOCH_3$ (Benzene, 1-chloro-3-methoxy-)	2845-89-8	CH_3	11.89±0.1	EI	3446
	$C_6H_4ClOCH_3$ (Benzene, 1-chloro-4-methoxy-)	623-12-1	CH_3	11.84±0.1	EI	3446
	$C_6H_4ClNO_2$ (Benzene, 1-chloro-3-nitro-)	121-73-3	NO	10.31±0.1	EI	3447
	$C_6H_4ClNO_2$ (Benzene, 1-chloro-4-nitro-)	100-00-5	NO	10.61±0.1	EI	3447
$C_6H_5OCl^+$						
	$C_6H_4ClOOCCH_3$ (Acetic acid, 2-chlorophenyl ester)	4525-75-1	$CH_2=C=O$	9.19±0.03	EI	3483
	$C_6H_4ClOOCCH_3$ (Acetic acid, 3-chlorophenyl ester)	13031-39-5	$CH_2=C=O$	10.11±0.2	EI	3484
	$C_6H_4ClOOCCH_3$ (Acetic acid, 4-chlorophenyl ester)	876-27-7	$CH_2=C=O$	9.60±0.03	EI	3483
			$CH_2=C=O$	10.17±0.2	EI	3484
$C_7H_4OCl^+$						
	$ClC_6H_4COCH_3$ (Ethanone,1-(4-chlorophenyl)	99-91-2	CH_3	10.34±0.03	EI	5059
	$C_6H_5COC_6H_4Cl$ (Methanone, (2-chlorophenyl)phenyl-)	5162-03-8		11.4±0.1	EI	4335
				11.4±0.1	EI	4358
	$C_6H_5COC_6H_4Cl$ (Methanone, (3-chlorophenyl)phenyl-)	1016-78-0	**	11.75±0.1	EI	4335
				11.75±0.1	EI	4358
	$C_6H_5COC_6H_4Cl$ (Methanone, (4-chlorophenyl)phenyl-)	134-85-0		11.65±0.1	EI	4358
			**	11.65±0.2	EI	4335
$C_7H_5OCl^+$						
	C_6H_5COCl (Benzoyl chloride)	98-88-4	**	9.85	EI	3792
$C_7H_7OCl^+$						
	$C_6H_4ClOCH_3$ (Benzene, 1-chloro-3-methoxy-)	2845-89-8	**	8.72±0.1	EI	3446
	$C_6H_4ClOCH_3$ (Benzene, 1-chloro-4-methoxy-)	623-12-1	**	8.18	EI	3845
			**	8.52±0.1	EI	3446

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_{11}OCl^+$						
	$C_6H_8ClO(CH_3)$ (Cyclohexanone,2-chloro-2-methyl-)	10409-46-8	**	9.41	PE	5085
$C_8H_7OCl^+$						
	$C_6H_4(Cl)COCH_3$ (Ethanone, 1-(4-chlorophenyl)-)	99-91-2	**	9.60±0.05 (V)	PE	5097
$C_8H_9OCl^+$						
	$C_6H_5OCH_2CH_2Cl$ (Benzene,2-chloroethoxy-)	622-86-6	**	8.50	EI	5083
$C_{10}H_{17}OCl^+$						
	$C_6H_8ClO(tert\text{-}C_4H_9)$ (Cyclohexanone, cis-2-chloro-4-(1,1-dimethylethyl)-)	16508-33-1	**	9.48	PE	5085
$C_{13}H_9OCl^+$						
	$C_6H_5COC_6H_4Cl$ (Methanone, (2-chlorophenyl)phenyl-)	5162-03-8	**	9.55±0.1	EI	4335
			**	9.55±0.1	EI	4358
	$C_6H_5COC_6H_4Cl$ (Methanone, (3-chlorophenyl)phenyl-)	1016-78-0	**	9.55±0.1	EI	4335
			**	9.55±0.1	EI	4358
	$C_6H_5COC_6H_4Cl$ (Methanone, (4-chlorophenyl)phenyl-)	134-85-0	**	9.6±0.1	EI	4335
			**	9.6±0.1	EI	4358
$C_{13}H_{11}OCl^+$						
	$C_6H_5CH_2OC_6H_4Cl$ (Benzene,1-chloro-4-(phenylmethoxy)-)	7700-27-8	**	8.34	CTS	5336
$C_2H_3O_2Cl^+$						
	$CH_2ClCOOH$	79-11-8	**	10.99 (V)	PE	3874
$C_8H_7O_2Cl^+$						
	$C_6H_4ClOOCCH_3$ (Acetic acid, 2-chlorophenyl ester)	4525-75-1	**	8.67±0.03	EI	3483
	$C_6H_4ClOOCCH_3$ (Acetic acid, 3-chlorophenyl ester)	13031-39-5	**	8.83±0.2	EI	3484
	$C_6H_4ClOOCCH_3$ (Acetic acid, 4-chlorophenyl ester)	876-27-7	**	8.42±0.03	EI	3483
			**	8.79±0.2	EI	3484
$C_4H_5O_3Cl^+$						
	$C_2H_5O(CO)_2Cl$	XXXXX-XX-X	**	10.77 (V)	PE	5549
$C_2H_2OCl_2^+$						
	$CHCl_2CHO$	79-02-7	**	10.83 (V)	PE	4547
	$CH_2ClCOCl$	79-04-9	**	10.30 (V)	PE	4547
$C_6H_4OCl_2^+$						
	$C_6H_3(Cl)_2OH$ (Phenol, 2,6-dichloro-)	87-65-0	**	8.65±0.02	PE	3890
	$C_6H_3Cl_2OOCCH_3$ (Phenol, 2,4-dichloro-, acetate)	6341-97-5	$CH_2=C=O$	9.37±0.03	EI	3480
	$C_6H_3Cl_2OOCCH_3$ (Phenol, 2,6-dichloro-, acetate)	28165-71-1	$CH_2=C=O$	9.88±0.03	EI	3480
$C_4H_2O_2Cl_2^+$						
	$C_4H_2Cl_2O_2$ (2,5-Cyclohexadiene-1,4-dione,2,5-dichloro-)	XXXXX-XX-X	**	10.24±0.03	PI	5505

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_6O_2Cl_2^+$						
	$C_6H_3Cl_2OOCCH_3$ (Phenol, 2,4–dichloro–, acetate)	6341–97–5	**	8.16±0.03	EI	3480
	$C_6H_3Cl_2OOCCH_3$ (Phenol, 2,6–dichloro–, acetate)	28165–71–1	**	8.68±0.03	EI	3480
$C_2HOCl_3^+$						
	CCl_3CHO	75–87–6	**	10.88 (V)	PE	4547
	$CHCl_2COCl$	79–36–7	**	11.27 (V)	PE	4547
$C_6H_2O_2Cl_4^+$						
	$C_6Cl_4(OH)_2$ (1,4–Benzenediol,2,3,5,6–tetrachloro–)	87–87–6	**	8.30±0.05	PI	5552
$NOCl^+$						
($^2A'$,$^2A''$)	NOCl	2696–92–6	**	10.87±0.01	PE	4422
($^2A'$,$^2A''$)			**	10.90±0.5	PE	4420
($^2A'$,$^2A''$,$^2A'$)			**	10.94	PE	4404
NO_2Cl^+						
	$ClNO_2$	13444–90–1	**	11.84	PE	4404
$CNOCl^+$						
	ClNCO	13858–09–8	**	10.72±0.01	PE	5001
$C_8N_2O_2Cl_2^+$						
	$C_6Cl_2O_2(CN)_2$ (1,4–Cyclohexadiene,1,2–dicarbonitrile,4,5–dichloro–3,6–dioxo–)	84–58–2	**	10.58±0.05 (V)	PE	5558
$CNOCl_3^+$						
	CCl_3NO	3711–49–7		10.30±0.05 (V)	PE	5298
$C_5NOCl_5^+$						
	$C_5N(O)(Cl)_5$ (Pyridine, pentachloro–, 1–oxide)	17573–93–2	**	8.72±0.02 (V)	PE	4275
$C_3H_6NOCl^+$						
	$C(CH_3)_2(Cl)NO$	2421–26–3	**	9.13±0.1 (V)	PE	4465
$C_4H_8NOCl^+$						
	$C_2H_5C(CH_3)(Cl)NO$	681–01–6	**	9.29±0.1 (V)	PE	4465
$C_5H_4NOCl^+$						
	$C_5H_4N(O)Cl$ (Pyridine, 4–chloro–, 1–oxide)	1121–76–2	**	8.42±0.02 (V)	PE	4275
$C_6H_4NOCl^+$						
	$C_6H_4(Cl)(NO)$ (Benzene, 1–chloro–4–nitroso–)	932–98–9	**	9.02±0.1 (V)	PE	4465
$C_6H_{10}NOCl^+$						
	$C_6H_{10}(Cl)(NO)$ (Cyclohexane, 1–chloro–1–nitroso–)	695–64–7	**	9.28 (V)	PE	4465
	trans–$C_6H_{10}(Cl)(NO)$ (Cyclohexane, *trans*–1–chloro–2–nitroso–)	1809–72–9	**	9.13 (V)	PE	4465
$C_7H_4NOCl^+$						
	$C_6H_4(Cl)(C{\equiv}NO)$ (Benzonitrile, 4–chloro–N–oxide)	15500–74–0	**	8.65 (V)	PE	4719
	$C_6H_4(Cl)NCO$ (Benzene, 1–chloro–3–isocyanato–)	2909–38–8	**	9.0±0.1 (V)	PE	5026
	$C_6H_4(Cl)NCO$ (Benzene, 1–chloro–4–isocyanato–)	104–12–1	**	8.8±0.1 (V)	PE	5026

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_6NOCl^+$						
	$C_6H_4(Cl)(CONH_2)$ (Benzamide, 3-chloro-)	618-48-4	**	9.34 (V)	PE	4918
	$C_6H_4(Cl)(CONH_2)$ (Benzamide, 4-chloro-)	619-56-7	**	9.35 (V)	PE	4918
	$C_6H_4(Cl)NHCHO$ (Formamide, *N*-(2-chlorophenyl)-)	2596-93-2	**	8.4±0.1	EI	4359
$C_8H_7NOCl^+$						
	$C_6H_3Cl_2NHCOCH_3$ (Acetamide, *N*-(2,4-dichlorophenyl)-)	6975-29-7		8.81±0.03	EI	3480
	$C_6H_3Cl_2NHCOCH_3$ (Acetamide, *N*-(2,6-dichlorophenyl)-)	17700-54-8		8.79±0.03	EI	3480
$C_8H_8NOCl^+$						
	$C_6H_4ClNHCOCH_3$ (Acetamide, N-(2-chlorophenyl)-)	533-17-5	**	8.55	EI	4834
			**	8.07±0.03	EI	3483
	$C_6H_4ClNHCOCH_3$ (Acetamide, *N*-(4-chlorophenyl)-)	539-03-7	**	8.07±0.03	EI	3483
	$C_6H_3(Cl)(CH_3)NHCHO$ (Formamide, *N*-(2-chloro-4-methylphenyl)-)	18931-77-6	**	8.1±0.1	EI	4359
	$C_6H_3(Cl)(CH_3)NHCHO$ (Formamide, *N*-(2-chloro-5-methylphenyl)-)	18931-82-3	**	8.2±0.1	EI	4359
$C_9H_{10}NOCl^+$						
	$C_6H_4ClNHCOC_2H_5$ (Propanamide, N-(2-chlorophenyl)-)	2760-32-9	**	8.45±0.05	EI	4834
$C_9H_{16}NOCl^+$						
	$C_5H_4N(O)(CH_3)_4Cl$ (4-Piperidinone, 1-chloro-2,2,6,6-tetramethyl-)	38951-83-6	**	8.01	PE	4278
$C_{10}H_{12}NOCl^+$						
	$C_6H_4ClNHCOCH_2CH_2CH_3$ (Butanamide, N-(2-chlorophenyl)-)	33694-15-4	**	8.50±0.05	EI	4834
$C_{10}H_{14}NOCl^+$						
	$C_{10}H_{14}(Cl)(NO)$ (Tricyclo[3.3.1.1^{3,7}]decane,2-chloro-2-nitroso-)	33673-34-6	**	9.02 (V)	PE	4465
$C_{11}H_{14}NOCl^+$						
	$C_{11}H_{14}NOCl$ (Butanamide, N-(2-chlorophenyl)-3-methyl-)	62635-51-2	**	8.50±0.05	EI	4834
$C_{12}H_8NOCl^+$						
	$C_6H_4ClCOC_5H_4N$ (Methanone, (2-chlorophenyl)-2-pyridinyl-)	1694-57-1	**	8.98	EI	5459
$C_{12}H_{16}NOCl^+$						
	$C_6H_4ClNHCOCH_2C(CH_3)_3$ (Butanamide, N-(2-chlorophenyl)-3,3-dimethyl-)	XXXXX-XX-X	**	8.40±0.05	EI	4834
$C_{17}H_{14}NOCl^+$						
	$C_6H_4(Cl)C_3H_3(CN)C_6H_4(OCH_3)$ (Cyclopropanecarbonitrile, 1-(*p*-chlorophenyl)-2-(*p*-methoxyphenyl)-)	32589-54-1	**	7.70±0.05	EI	3575
$C_4H_3N_2OCl^+$						
	$C_4H_3N_2Cl(=O)$ (2(1H)-Pyrimidinone,5-chloro-)	54326-16-8	**	9.78±0.05	EI	5159

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_5N_2OCl^+$						
	$C_5H_3N(O)(Cl)NH_2$ (2-Pyridinamine, 5-chloro-, 1-oxide)	52132-34-0	**	7.98±0.05	EI	4117
	$C_4H_2N_2ClOCH_3$ (Pyrimidine,5-chloro-2-methoxy-)	38373-44-3	**	9.36±0.05	EI	5159
	$C_4H_2N_2Cl(=O)CH_3$ (*2(1H)-Pyrimidinone*,5-chloro-1-methyl-)	63331-06-6	**	9.03±0.05	EI	5159
$C_6H_7N_2OCl^+$						
	$C_5H_3N(O)(Cl)NHCH_3$ (2-Pyridinamine, 5-chloro-*N*-methyl-, 1-oxide)	54818-75-6	**	7.61±0.05	EI	4117
	$C_5H_3N(Cl)(=NH)OCH_3$ (2(1*H*)-Pyridinimine, 5-chloro-1-methoxy-)	54818-77-8	**	7.40±0.05	EI	4117
$C_7H_7N_2OCl^+$						
	$C_6H_4ClNHCONH_2$ (Urea, (2-chlorophenyl)-)	114-38-5	**	8.45	EI	4834
$C_8H_5N_2OCl^+$						
	$ClC_6H_4C(=O)CHN_2$ (Ethanone,1-(2-chlorophenyl)-2-diazo-)	XXXXX-XX-X	**	8.60±0.05 (V)	PE	5326
	$ClC_6H_4C(=O)CHN_2$ (Ethanone,1-(4-chlorophenyl)-2-diazo-)	3282-33-5	**	9.02±0.05 (V)	PE	5326
$C_8H_9N_2OCl^+$						
	$C_6H_4ClNHCONHCH_3$ (Urea, N-(2-chlorophenyl)-N'-methyl-)	15500-96-6	**	8.35±0.05	EI	4834
$C_9H_{11}N_2OCl^+$						
	$C_6H_3(Cl)(N(CH_3)_2)NHCHO$ (Formamide, *N*-[2-chloro-5-(dimethylamino)phenyl]-)	53666-46-9	**	6.7±8.1	EI	4359
	$C_6H_4ClNHCONHC_2H_5$ (Urea, N-(2-chlorophenyl)-N'-ethyl-)	62635-53-4	**	8.25±0.05	EI	4834
$C_{10}H_{13}N_2OCl^+$						
	$C_6H_3(Cl)(OCH_3)N=CHN(CH_3)_2$ (Methanimidamide, *N'*-(2-chloro-4-methoxyphenyl)-*N*,*N*-dimethyl-)	53666-34-5	**	7.0±0.1	EI	4359
	$C_6H_3(Cl)(OCH_3)N=CHN(CH_3)_2$ (Methanimidamide, *N'*-(2-chloro-5-methoxyphenyl)-*N*,*N*-dimethyl-)	53666-40-3	**	7.1±0.1	EI	4359
	$C_6H_4ClNHCONHCH(CH_3)_2$ (Urea, N-(2-chlorophenyl)-N'-(1-methylethyl)-)	62635-47-6	**	8.15±0.05	EI	4834
$C_{11}H_{15}N_2OCl^+$						
	$C_6H_4ClNHCONHC(CH_3)_3$ (Urea, N-(2-chlorophenyl)-N'-(1,1-dimethylethyl)-)	62635-48-7	**	8.05±0.05	EI	4834
$C_{12}H_7N_2OCl^+$						
	$C_{12}H_7N_2OCl$ (Phenazine, 2-chloro-10-oxide)	1019-15-4	**	8.16 (V)	PE	4590
	$C_{12}H_7N_2OCl$ (Phenazine, 2-chloro-5-oxide)	1211-09-2	**	8.20 (V)	PE	4590
$C_4H_4NO_2Cl^+$						
	$C_4H_4N(=O)_2(Cl)$ (2,5-Pyrrolidinedione, 1-chloro-)	128-09-6	**	10.29 (V)	PE	4742
			**	10.29 (V)	PE	4810
$C_5H_8NO_2Cl^+$						
	$C_3H_2NO(=O)(Cl)(CH_3)_2$ (2-Oxazolidinone, 3-chloro-4,4-dimethyl-)	58629-01-9	**	9.68 (V)	PE	4742

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2F_2Cl^+$						
	C_2F_3Cl	79-38-9	F	15.9±0.2	EI	4070
	CFCl=CFCl	598-88-9	Cl	14.8±0.1	EI	4070
CF_3Cl^+						
	CF_3Cl	75-72-9	**	12.39	PI	4757
			**	12.45	PI	5196
			**	13.0 (V)	PE	3914
			**	13.08±0.01 (V)	PE	4916
			**	13.08±0.02 (V)	PE	4026
$C_2F_3Cl^+$						
	C_2F_3Cl	79-38-9	**	9.76	S	3776
			**	9.82	PE	3589
			**	10.26 (V)	PE	4303
			**	10.6±0.1	EI	4070
$C_3F_3Cl^+$						
	$CF_3C{\equiv}CCl$	673-93-8	**	11.14±0.02	PE	4765
$C_2F_5Cl^+$						
	CF_3CF_2Cl	76-15-3	**	12.96 (V)	PE	4366
$C_6F_5Cl^+$						
	C_6F_5Cl (Benzene,chloropentafluoro-)	344-07-0	**	9.72±0.02	PE	5305
			**	9.94 (V)	PE	5252
$CFCl_2^+$						
	CF_2Cl_2	75-71-8	F^-	12.07±0.05	PI	5399
			F	13.30±0.05	PI	5399
			F	13.81	PI	4757
			F	14.15	PI	5796
	CFCl=CFCl	598-88-9	CF	14.3±0.1	EI	4070
	$CFCl_3$	75-69-4	Cl	11.57±0.04	PI	4757
			Cl	11.65	PI	5196
$C_2FCl_2^+$						
	CFCl=CFCl	598-88-9	F	15.7±0.1	EI	4070
$CF_2Cl_2^+$						
	CF_2Cl_2	75-71-8	**	11.75±0.04	PI	4757
			**	11.75	PI	5196
			**	12.24±0.01 (V)	PE	4916
			**	12.3 (V)	PE	3914
			**	12.27±0.02 (V)	EI	4880
$C_2F_2Cl_2^+$						
	$CF_2{=}CCl_2$	79-35-6	**	9.62	PE	3589
			**	9.82±0.02 (V)	EI	4880
	CFCl=CFCl	598-88-9	**	10.2±0.1	EI	4070
$C_2F_4Cl_2^+$						
	$(CF_2Cl)_2$	76-14-2	**	12.47 (V)	PE	4613
			**	12.85 (V)	PE	4366
$CFCl_3^+$						
	$CFCl_3$	75-69-4	**	11.77±0.01	PE	4365
			**	11.85 (V)	PE	5196
			**	11.9 (V)	PE	3914
			**	11.76±0.01 (V)	PE	4916

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2F_3Cl_3^+$						
	$CFCl_2CF_2Cl$	76-13-1	**	12.05 (V)	PE	4366
$C_6F_3Cl_3^+$						
	$C_6F_3Cl_3$ (Benzene,1,3,5-trichloro-2,4,6-trifluoro-)	319-88-0	**	9.48±0.02	PE	5305
CH_2FCl^+						
	CH_2FCl	593-70-4	**	11.74	PE	3914
C_2HFCl^+						
	$CH_2=CFCl$	2317-91-1	H	16.2±0.2	EI	4070
$C_2H_2FCl^+$						
	$CH_2=CFCl$	2317-91-1	**	9.97	S	3776
			**	10.7±0.2	EI	3539
			**	10.7±0.2	EI	4070
$C_6H_4FCl^+$						
	C_6H_4FCl (Benzene, 1-chloro-2-fluoro-)	348-51-6	**	9.16 (V)	PE	4567
			**	9.18±0.02	PE	5305
	C_6H_4FCl (Benzene,1-chloro-3-fluoro-)	625-98-9	**	9.22±0.02	PE	5305
			**	9.25 (V)	PE	4567
	C_6H_4FCl (Benzene, 1-chloro-4-fluoro-)	352-33-0	**	9.05 (V)	PE	4567
			**	9.08±0.02	PE	5305
CHF_2Cl^+						
	CHF_2Cl	75-45-6	**	12.6 (V)	PE	3914
$C_2HF_2Cl^+$						
	$CF_2=CHCl$	359-10-4	**	9.76	S	3776
$C_2H_3F_2Cl^+$						
	CH_3CF_2Cl	75-68-3	**	12.50 (V)	PE	4366
$C_6H_3F_2Cl^+$						
	$C_6H_3F_2Cl$ (Benzene,1-chloro-2,4-difluoro-)	1435-44-5	**	9.17±0.02	PE	5305
	$C_6H_3F_2Cl$ (Benzene,1-chloro-3,5-difluoro-)	1435-43-4	**	9.40±0.02	PE	5305
	$C_6H_3F_2Cl$ (Benzene,2-chloro-1,3-difluoro-)	38361-37-4	**	9.37±0.02	PE	5305
	$C_6H_3F_2Cl$ (Benzene,2-chloro-1,4-difluoro-)	2367-91-1	**	9.19±0.02	PE	5305
	$C_6H_3F_2Cl$ (Benzene,4-chloro-1,2-difluoro-)	696-02-6	**	9.24±0.02	PE	5305
$C_6H_2F_3Cl^+$						
	$C_6H_2F_3Cl$ (Benzene,1-chloro-2,3,4-trifluoro-)	36556-42-0	**	9.42±0.02	PE	5305
	$C_6H_2F_3Cl$ (Benzene,1-chloro-2,4,5-trifluoro-)	XXXXX-XX-X	**	9.27±0.02	PE	5305
	$C_6H_2F_3Cl$ (Benzene,2-chloro-1,3,4-trifluoro-)	39153-73-6	**	9.39±0.02	PE	5305
$C_7H_4F_3Cl^+$						
	$C_6H_4ClCF_3$ (Benzene, 1-chloro-2-trifluoromethyl-)	88-16-4	**	9.47 (V)	PE	4567
	$C_6H_4ClCF_3$ (Benzene, 1-chloro-3-trifluoromethyl-)	98-15-7	**	9.50 (V)	PE	4567

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_4F_3Cl^+$						
	$C_6H_4ClCF_3$ (Benzene, 1-chloro-4-trifluoromethyl-)	98-56-6	**	9.56 (V)	PE	4567
$C_6HF_4Cl^+$						
	C_6HF_4Cl (Benzene,3-chloro-1,2,4,5-tetrafluoro-)	1835-61-6	**	9.58±0.02	PE	5305
$CHFCl_2^+$						
	$CHFCl_2$	75-43-4	**	12.0 (V)	PE	3914
$C_6H_3FCl_2^+$						
	$C_6H_3FCl_2$ (Benzene,1,2-dichloro-3-fluoro-)	36556-50-0	**	9.29±0.02	PE	5305
	$C_6H_3FCl_2$ (Benzene,1,2-dichloro-4-fluoro-)	1435-49-0	**	9.16±0.02	PE	5305
	$C_6H_3FCl_2$ (Benzene,1,3-dichloro-2-fluoro-)	2268-05-5	**	9.32±0.02	PE	5305
	$C_6H_3FCl_2$ (Benzene,1,3-dichloro-5-fluoro-)	1435-46-7	**	9.39±0.02	PE	5305
	$C_6H_3FCl_2$ (Benzene,1,4-dichloro-2-fluoro-)	348-59-4	**	9.09±0.02	PE	5305
	$C_6H_3FCl_2$ (Benzene,2,4-dichloro-1-fluoro-)	1435-48-9	**	9.12±0.02	PE	5305
$C_6H_2F_2Cl_2^+$						
	$C_6H_2F_2Cl_2$ (Benzene,1,2-dichloro-3,4-difluoro-)	36556-39-5	**	9.33±0.02	PE	5305
	$C_6H_2F_2Cl_2$ (Benzene,1,3-dichloro-2,4-difluoro-)	36556-37-3	**	9.27±0.02	PE	5305
	$C_6H_2F_2Cl_2$ (Benzene,1,3-dichloro-2,5-difluoro-)	2367-80-8	**	9.32±0.02	PE	5305
	$C_6H_2F_2Cl_2$ (Benzene,1,4-dichloro-2,5-difluoro-)	XXXXX-XX-X	**	9.17±0.02	PE	5305
	$C_6H_2F_2Cl_2$ (Benzene,2,3-dichloro-1,4-difluoro-)	36556-54-4	**	9.32±0.02	PE	5305
$C_2HF_3Cl_2^+$						
	$CF_2ClCHFCl$	354-23-4	**	12.00 (V)	PE	4366
$C_6HF_3Cl_2^+$						
	$C_6HF_3Cl_2$ (Benzene,2,4-dichloro-1,3,5-trifluoro-)	2368-53-8	**	9.37±0.02	PE	5305
$C_6H_2FCl_3^+$						
	$C_6H_2FCl_3$ (Benzene,1,2,3-trichloro-4-fluoro-)	36556-36-2	**	9.20±0.02	PE	5305
	$C_6H_2FCl_3$ (Benzene,1,2,4-trichloro-5-fluoro-)	XXXXX-XX-X	**	9.16±0.02	PE	5305
	$C_6H_2FCl_3$ (Benzene,1,3,5-trichloro-2-fluoro-)	36556-33-9	**	9.23±0.02	PE	5305
	$C_6H_2FCl_3$ (Benzene,2,3,5-trichloro-1-fluoro-)	3107-20-8	**	9.24±0.02	PE	5305
$C_6HFCl_4^+$						
	C_6HFCl_4 (Benzene,1,2,3,4-tetrachloro-5-fluoro-)	2691-93-2	**	9.20±0.02	PE	5305
	C_6HFCl_4 (Benzene,1,2,4,5-tetrachloro-3-fluoro-)	319-97-1	**	9.19±0.02	PE	5305
O_3FCl^+						
	ClO_3F	7616-94-6	**	12.945±0.005	PE	3675

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_3OF_3Cl^+$						
	$CClF_2COCF_3$	79-53-8	**	11.71±0.02 (V)	PE	4524
$C_3OF_3Cl_2^+$						
	$CCl_2FCOCClF_2$	79-52-7	**	11.21±0.02 (V)	PE	4524
	CF_3COCCl_3	758-42-9	**	11.24±0.02 (V)	PE	4524
$C_3HOF_4Cl^+$						
	$CClF_2COCHF_2$	920-64-9	**	11.33±0.02 (V)	PE	4524
$CNOF_2Cl^+$						
	CF_2ClNO	421-13-6		10.81±0.05 (V)	PE	5298
$CNOFCl_2^+$						
	$CFCl_2NO$	1495-28-9		10.58±0.05 (V)	PE	5298
$NaCl^+$						
($^2P_{3/2}$)	NaCl	7647-14-5	**	8.93±0.1	PE	4344
($^2P_{3/2}$)			**	8.93±0.1	PE	5035
			**	9.0 (V)	PE	4307
($^2P_{1/2}$)			**	9.80±0.04 (V)	PE	5035
$Na_2Cl_2^+$						
	$(NaCl)_2$	12258-98-9	**	10.30 (V)	PE	4344
			**	10.30 (V)	PE	5035
$MgCl_2^+$						
	$MgCl_2$	7786-30-3	**	10.5 (V)	PE	4761
$AlCl^+$						
	AlCl	13595-81-8	**	9.4	PE	4860
$AlCl_3^+$						
	$AlCl_3$	7446-70-0	**	12.01 (V)	PE	4398
			**	12.01 (V)	PE	4256
$Al_2Cl_6^+$						
	$(AlCl_3)_2$	13845-12-0	**	12.18 (V)	PE	4559
			**	12.18 (V)	PE	4256
$C_2H_6AlCl^+$						
	$(CH_3)_2ClAl$	1184-58-3	**	10.25 (V)	PE	4398
$C_4H_{12}Al_2Cl_2^+$						
	$((CH_3)_2ClAl)_2$	12073-96-0	**	10.09 (V)	PE	4559
$H_4NAlCl_4^+$						
	NH_4AlCl_4	7784-14-7	**	10.56±0.06 (V)	PE	5238
$OAlCl^+$						
	AlOCl	13596-11-7	**	12±1	EI	3462
$SiCl^+$						
	$SiCl_2$	13569-32-9	Cl	12.50±0.10	EI	5188
	$SiCl_4$	35880-05-8		19.20±0.10	EI	5188
	$Cl_3SiCo(Co)_2(PF_3)_2$	37769-29-2		16.4±0.5	EI	3653
	$Cl_3SiCo(CO)_3PF_3$	37769-28-1		16.2±0.5	EI	3653
$SiCl_2^+$						
	$SiCl_2$	13569-32-9	**	10.93±0.10	EI	5188
	$SiCl_4$	35880-05-8		17.64±0.10	EI	5188

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$SiCl_3^+$						
	$SiCl_4$	15056-28-7	Cl	12.6±0.1	EI	5276
	Si_2Cl_6	13465-77-5	$SiCl_3$	11.4±0.1	EI	5276
	$SiHCl_3$	10025-78-2	H	11.9±0.1	EI	5276
	$C_6H_5SSiCl_3$ (Silane, trichloro(phenylthio)-)	7579-91-1		11.43±0.1	EI	4198
$SiCl_4^+$						
	$SiCl_4$	10026-04-7	**	12.06 (V)	PE	3514
			**	11.8	PE	5276
			**	11.44±0.10	EI	5188
$Si_2Cl_6^+$						
	Si_2Cl_6	13465-77-5	**	10.4	PE	5276
			**	11.0±0.3	EI	5188
H_3SiCl^+						
	SiH_3Cl	13465-78-6	**	11.61±0.02 (V)	PE	3510
			**	11.61±0.05 (V)	PE	3502
			**	11.65 (V)	PE	3511
$H_2SiCl_2^+$						
	SiH_2Cl_2	4109-96-0	**	11.64±0.02 (V)	PE	3510
			**	11.70 (V)	PE	3511
			**	11.70 (V)	PE	3694
$HSiCl_3^+$						
	$SiHCl_3$	10025-78-2	**	11.94 (V)	PE	3511
			**	11.94 (V)	PE	4146
$C_2H_6SiCl^+$						
	$C_6H_5SSi(CH_3)_2Cl$ (Silane, chlorodimethyl(phenylthio)-)	52548-11-5		10.79±0.1	EI	4198
$C_3H_9SiCl^+$						
	$(CH_3)_3SiCl$	75-77-4	**	10.76 (V)	PE	3503
			**	10.84 (V)	PE	4683
			**	10.0	PE	5276
$C_4H_9SiCl^+$						
	$C_3H_6Si(Cl)CH_3$ (Silacyclobutane, 1-chloro-1-methyl-)	2351-34-0	**	9.95 (V)	PE	4077
$C_4H_{11}SiCl^+$						
	$(CH_3)_3SiCH_2Cl$	2344-80-1	**	10.17±0.1 (V)	PE	3830
$C_5H_9SiCl^+$						
	$(CH_3)_3SiC{\equiv}CCl$	7652-06-4	**	9.4±0.1	PE	4002
$C_6H_{15}SiCl^+$						
	(*tert*-$C_4H_9Si(CH_3)_2Cl$)	18162-48-6	**	9.77 (V)	PE	4683
$C_7H_8SiCl^+$						
	$C_6H_4(Cl)SiH(CH_3)_2$ (Silane, (3-chlorophenyl)dimethyl-)	2083-13-8	CH_3	8.90	EI	4125
	$C_6H_4(Cl)SiH(CH_3)_2$ (Silane, (4-chlorophenyl)dimethyl-)	1432-31-1	CH_3	8.84	EI	4125
$C_9H_{13}SiCl^+$						
	$ClC_6H_4Si(CH_3)_3$ (Silane,(4-chlorophenyl)trimethyl-)	10557-71-8	**	9.01 (V)	PE	5380
			**	9.03 (V)	PE	4438

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{10}H_{17}Si_2Cl^+$						
	$C_6H_4(SiCl(CH_3)_2)SiH(CH_3)_2$ (Silane, chloro[3-(dimethylsilyl)phenyl]dimethyl-)	34259-70-6	**	8.5±0.2	EI	4121
	$C_6H_4(SiCl(CH_3)_2)SiH(CH_3)_2$ (Silane, chloro[4-(dimethylsilyl)phenyl]dimethyl-)	17873-29-9	**	8.6±0.2	EI	4121
$CH_3SiCl_2^+$						
	CH_3SiHCl_2	20156-50-7	**	11.47	S	5183
$C_2H_6SiCl_2^+$						
	$(CH_3)_2SiCl_2$	75-78-5	**	10.99 (V)	PE	3503
$C_3H_6SiCl_2^+$						
	$C_3H_6SiCl_2$ (Silacyclobutane, 1,1-dichloro-)	2351-33-9	**	10.50 (V)	PE	4077
$C_4H_6SiCl_2^+$						
	$C_4H_6SiCl_2$ (Silacyclopent-3-ene, 1,1-dichloro-)	XXXXX-XX-X	**	9.63 (V)	PE	4517
$C_8H_{18}Si_2Cl_2^+$						
	$C_8H_{18}Si_2Cl_2$	65411-94-1	**	8.96 (V)	PE	4715
$C_9H_{14}Si_2Cl_2^+$						
	$C_6H_4(SiCl_2CH_3)SiH(CH_3)_2$ (Silane, 1,1-dichloro[3-(dimethylsilyl)phenyl]methyl]-)	34259-71-7	**	8.6±0.2	EI	4121
$C_5H_5SiCl_3^+$						
	$C_5H_5(SiCl_3)$ (Silane, 5-trichloro-2,4-cyclopentadien-1-yl-)	13688-63-6	**	9.0 (V)	PE	4373
$C_8H_{11}Si_2Cl_3^+$						
	$C_6H_4(SiCl_3)SiH(CH_3)_2$ (Silane, trichloro[3-(dimethylsilyl)phenyl]-)	34259-72-8	**	9.1±0.2	EI	4121
	$C_6H_4(SiCl_3)SiH(CH_3)_2$ (Silane, trichloro[4-(dimethylsilyl)phenyl]-)	XXXXX-XX-X	**	9.3±0.2	EI	4121
$C_6H_{12}Si_4Cl_4^+$						
	$C_6H_{12}Si_4Cl_4$ (1,3,5,7-Tetrasilatricyclo[3.3.1.1^{3,7}]decane, 1,3,5,7-tetrachloro-)	18222-89-4	**	9.4±0.05	PE	3855
$C_4H_{12}N_2SiCl_2^+$						
	$((CH_3)_2N)_2SiCl_2$	13328-30-8	**	8.81 (V)	PE	3503
$C_2H_6NSiCl_3^+$						
	$((CH_3)_2N)SiCl_3$	13307-04-5	**	9.30 (V)	PE	3503
$C_9H_{13}OSiCl^+$						
	$ClC_6H_4Si(CH_3)_2OCH_3$ (Silane,(3-chlorophenyl)methoxydimethyl-)	62244-45-5	**	9.20	EI	5421
	$ClC_6H_4Si(CH_3)_2OCH_3$ (Silane,(4-chlorophenyl)methoxydimethyl-)	62244-44-4	**	9.20	EI	5421
$C_6H_{15}O_3SiCl^+$						
	$(C_2H_5O)_3SiCl$	4667-99-6	**	10.52 (V)	PE	3503
$C_4H_{10}O_2SiCl_2^+$						
	$(C_2H_5O)_2SiCl_2$	4667-38-3	**	10.78 (V)	PE	3503
$C_2H_5OSiCl_3^+$						
	$(C_2H_5O)SiCl_3$	1825-82-7	**	11.30 (V)	PE	3503

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
F_3SiCl^+						
	SiF_3Cl	14049-36-6	**	13.44±0.02 (V)	PE	4026
$C_7H_7FSiCl^+$						
	$ClC_6H_4Si(CH_3)_2F$ (Silane,(3-chlorophenyl)fluorodimethyl-)	62244-52-4	CH_3	11.13	EI	5366
	$ClC_6H_4Si(CH_3)_2F$ (Silane,(4-chlorophenyl)fluorodimethyl-)	62244-51-3	CH_3	11.00	EI	5366
$C_8H_{10}FSiCl^+$						
	$ClC_6H_4Si(CH_3)_2F$ (Silane,(3-chlorophenyl)fluorodimethyl-)	62244-52-4	**	9.09	EI	5421
	$ClC_6H_4Si(CH_3)_2F$ (Silane,(4-chlorophenyl)fluorodimethyl-)	62244-51-3	**	9.15	EI	5421
PCl^+						
	PCl_3	7719-12-2		16.0±0.2	EI	3556
PCl_2^+						
	PCl_3	7719-12-2	Cl	11.9±0.1	EI	3556
	PCl_2Br	13536-48-6	Br	11.3±0.1	EI	3556
PCl_3^+						
	PCl_3	7719-12-2	**	10.5 (V)	PE	5190
			**	10.51 (V)	PE	4023
			**	10.52±0.03 (V)	PE	3669
			**	10.52 (V)	PE	4146
			**	10.54 (V)	PE	5539
			**	10.5±0.1	EI	3556
PCl_5^+						
	PCl_5	10026-13-8	**	10.7 (V)	PE	5190
			**	10.88 (V)	PE	3669
$CPCl_5^+$						
	CCl_3PCl_2	3582-11-4	**	10.25 (V)	PE	4474
$C_2H_6PCl^+$						
	$(CH_3)_2PCl$	811-62-1	**	9.20 (V)	PE	4474
$C_8H_{18}PCl^+$						
	(*tert*-$C_4H_9)_2PCl$	13716-10-4	**	8.45 (V)	PE	4474
$C_{18}H_{26}PCl^+$						
	$ClC_6H_4P(C_6H_{11})_2$ (Phosphine, (4-chlorophenyl)dicyclohexyl-)	40438-62-8	**	8.14 (V)	PE	5417
$C_{45}H_{31}PCl^+$						
	$C_{45}H_{31}PCl$ (Cyclopenta-1,3-diene,1,4-diphenyl-5-triphenylphosphinylium-2,3-(naphtha-1,8-diyl),chloride)	XXXXX-XX-X	**	6.82	CTS	5593
$CH_3PCl_2^+$						
	CH_3PCl_2	676-83-5	**	9.85 (V)	PE	4474
$C_2H_5PCl_2^+$						
	$C_2H_5PCl_2$	1498-40-4	**	9.70±0.05 (V)	PE	5033
$C_4H_9PCl_2^+$						
	tert-$C_4H_9PCl_2$	25979-07-1	**	9.30 (V)	PE	4474

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_5PCl_2^+$						
	$C_6H_5PCl_2$ (Phosphonous dichloride,phenyl-)	644-97-3	**	9.7 (V)	PE	5190
			**	9.10±0.01	PE	4154
$C_{23}H_{17}PCl_2^+$						
	$C_5H_2P(C_6H_5)_3Cl_2$ (Phosphorin,1,1-dichloro-1,1-dihydro-2,4,6-triphenyl-)	40425-71-6	**	7.05 (V)	PE	5271
$CH_2PCl_3^+$						
	$(CH_2Cl)PCl_2$	2155-78-4	**	9.58	PE	5627
$C_2H_4PCl_3^+$						
	$(CH_2Cl)_2PCl$	22402-95-5	**	9.38	PE	5627
$C_{18}H_{12}PCl_3^+$						
	$(ClC_6H_4)_3P$ (Phosphine,tris(4-chlorophenyl)-)	1159-54-2	**	8.18 (V)	PE	5438
$N_3P_3Cl_6^+$						
	$N_3P_3Cl_6$	940-71-6	**	10.43	PE	5295
$C_4H_{12}N_2PCl^+$						
	$((CH_3)_2N)_2PCl$	3348-44-5	**	8.25 (V)	PE	4474
$C_2H_6NPCl_2^+$						
	$(CH_3)_2NPCl_2$	683-85-2	**	9.45 (V)	PE	4261
			**	9.50 (V)	PE	4474
$OPCl^+$						
(^2E)	POCl	21295-50-1	**	11.85 (V)	PE	4023
($^2A_2$)			**	12.35 (V)	PE	4023
($^2E_{3/2}$)			**	12.93 (V)	PE	4023
($^2E_{1/2}$)			**	12.98 (V)	PE	4023
($^2A_1$)			**	13.48 (V)	PE	4023
(^2E)			**	13.85 (V)	PE	4023
($^2A_1$)			**	15.37 (V)	PE	4023
(^2E)			**	16.53 (V)	PE	4023
$OPCl_3^+$						
	$POCl_3$	10025-87-3	**	11.36±0.02	PE	3835
			**	11.49 (V)	PE	5624
			**	11.58±0.05	PE	3641
			**	11.89±0.03 (V)	PE	3669
			**	12.0 (V)	PE	5190
	$POCl_3$	63736-95-8	**	11.89±0.02 (V)	PE	4730
$C_2H_6OPCl^+$						
	$(CH_3)_2P(O)Cl$	1111-92-8	**	10.77 (V)	PE	5523
$C_4H_8OPCl^+$						
	$POCl(C_2H_5)(CH=CH_2)$	61752-99-6	**	10.62 (V)	PE	5021
$C_4H_{10}O_3PCl^+$						
	$OPCl(OC_2H_5)_2$	814-49-3	**	10.29	PE	5627
$C_6H_{14}O_3PCl^+$						
	$OPCl(OC_3H_7)_2$	2510-89-6	**	10.89	PE	5627
$CH_3OPCl_2^+$						
	CH_3OPCl_2	676-97-1	**	10.92	PE	5627
			**	11.4 (V)	PE	5190

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$CH_3OPCl_2^+$						
	CH_3OPCl_2	676-97-1	**	11.43 (V)	PE	5523
			**	11.45 (V)	PE	5021
			**	11.49 (V)	PE	5328
$C_2H_3OPCl_2^+$						
	$POCl_2(CH=CH_2)$	1438-74-0	**	10.81	PE	5032
			**	11.24 (V)	PE	5021
			**	11.24 (V)	PE	5328
$C_3H_5OPCl_2^+$						
	$POCl_2(CH_2CH=CH_2)$	1498-47-1	**	10.54 (V)	PE	5021
	$POCl_2(C(CH_3)=CH_2)$	3944-27-2	**	10.86 (V)	PE	5021
$C_6H_5OPCl_2^+$						
	$C_6H_5(POCl_2)$ (Phosphonic dichloride, phenyl-)	824-72-6	**	9.95 (V)	PE	5021
$CH_3O_2PCl_2^+$						
	$PCl_2O(OCH_3)$	677-24-7	**	11.50 (V)	PE	4699
$C_2H_5O_2PCl_2^+$						
	$PCl_2O(OC_2H_5)$	1498-51-7	**	11.42 (V)	PE	4699
			**	11.46 (V)	PE	5624
$C_4H_9O_2PCl_2^+$						
	$(CH_2Cl)_2(OC_2H_5)PO$	13274-84-5	**	10.19	PE	5627
$C_6H_5O_2PCl_2^+$						
	$OPCl_2OC_6H_5$ (Phosphorodichloridic acid, phenyl ester)	770-12-7	**	9.1	PE	5627
$C_4H_7O_4PCl_2^+$						
	$(CH_3O)_2P(=O)OCHCCl_2$	62-73-7	**	9.4 (V)	PE	5190
$C_2H_4OPCl_3^+$						
	$(CH_2Cl)_2PClO$	13482-64-9	**	10.46	PE	5627
$C_8H_{14}O_5PCl_3^+$						
	$(CH_3O)_2P(=O)CH(CCl_3)OCOC_3H_7$	XXXXX-XX-X	**	10.3 (V)	PE	5190
$C_4H_{12}N_2OPCl^+$						
	$OPCl(N(CH_3)_2)_2$	1605-65-8	**	8.61	PE	5627
$C_2H_6NOPCl_2^+$						
	$(CH_3)_2NPCl_2O$	677-43-0	**	9.31 (V)	PE	5624
$C_3H_6N_2OPCl_3^+$						
	$CN_2P(=O)Cl_3(CH_3)_2$ (1,3,2-Diazaphosphetidin-4-one, 2,2,2-trichloro-2,2-dihydro-1,3-dimethyl-)	3576-20-3	**	9.20±0.1	EI	5462
F_2PCl^+						
	PF_2Cl	14335-40-1	**	12.8±0.1 (V)	PE	3662
$C_2F_6PCl^+$						
	$(CF_3)_2PCl$	650-52-2	**	11.13 (V)	PE	4371
			**	11.13 (V)	PE	4261
$CF_3PCl_2^+$						
	CF_3PCl_2	421-58-9	**	10.70 (V)	PE	4371
			**	10.70 (V)	PE	4261

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$CF_2PCl_3^+$						
	CCl_3PF_2	1112-03-4	**	10.65 (V)	PE	4474
$C_3H_6NF_3PCl^+$						
	$(CH_3)_2NP(Cl)CF_3$	3135-63-5	**	9.56 (V)	PE	4261
$C_2H_6SiPCl_3^+$						
	$Cl_3SiP(CH_3)_2$	XXXXX-XX-X	**	9.1±0.05 (V)	PE	5419
SCl^+						
	SCl_2	10545-99-0	Cl	12.2±0.1	EI	4287
S_2Cl^+						
	S_2Cl_2	10025-67-9	Cl	12.2±0.2	EI	4287
SCl_2^+						
($^2B_2$)	SCl_2	10545-99-0	**	9.49	PE	4188
($^2B_1$)			**	9.67 (V)	PE	4150
($^2A_1$,$^2B_2$)			**	12.19 (V)	PE	4150
($^2A_2$)			**	12.45 (V)	PE	4150
			**	9.7±0.1	EI	4287
$S_2Cl_2^+$						
	S_2Cl_2	10025-67-9	**	9.4	PE	4188
			**	11.3±0.2	EI	4287
$BSCl^+$						
($^2\Pi_{3/2}$)	ClB=S	55753-38-3	**	10.51±0.1	PE	4857
$CSCl_2^+$						
	CCl_2S	463-71-8	**	9.61±0.02	PE	3667
			**	9.68	PE	4080
			**	9.80 (V)	PE	3746
$C_2S_2Cl_4^+$						
	$C_2S_2Cl_4$ (1,3-Dithietane,2,2,4,4-tetrachloro)	20464-23-7	**	9.69 (V)	PE	5572
$C_2H_5SCl^+$						
	CH_3SCH_2Cl	2373-51-5	**	7.74 (V)	PE	5526
$C_4H_3SCl^+$						
	C_4H_3SCl (Thiophene, 2-chloro-)	96-43-5	**	8.89±0.05 (V)	PE	4626
			**	9.06±0.05	EI	3482
			**	8.83	CTS	3787
$C_5H_5SCl^+$						
	$C_4H_3SCH_2Cl$ (Thiophene, 2-(chloromethyl)-)	765-50-4	**	8.89±0.05 (V)	PE	4626
$C_{12}H_9SCl^+$						
	$C_6H_4(Cl)SC_6H_5$ (Benzene, 1-chloro-3-(phenylthio)-)	38700-88-8	**	8.16	CTS	4272
	$C_6H_4(Cl)SC_6H_5$ (Benzene, 1-chloro-4-(phenylthio)-)	13343-26-5	**	8.07	CTS	4272
$C_9H_5S_3Cl^+$						
	$(C_3HS_2)=S(C_6H_4Cl)$		**	8.15 (V)	PE	4403
(3/2)g	Ar_2	5761-16-0	**	15.675±0.02 (V)	PE	4885

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_8SCl_2^+$						
	CCl_2=CHS(*iso*-C_3H_7)	19284-67-4	**	8.14±0.01	PI	5531
$C_{12}H_8SCl_2^+$						
	C_6H_4(Cl)SC_6H_4Cl (Benzene, 1,1′-thiobis[4-chloro-)	5181-10-2	**	8.13	CTS	4272
$BC_{12}H_{18}SCl^+$						
	C_6H_4(Cl)SB(*n*-C_3H_7)$_2$ (Borinic acid, dipropylthio-3-chlorophenyl ester)	64541-68-0	**	8.87±0.05 (V)	PE	4848
	C_6H_4(Cl)SB(*n*-C_3H_7)$_2$ (Borinic acid, dipropylthio-4-chlorophenyl ester)	64503-48-6	**	8.73±0.05 (V)	PE	4848
$NSCl^+$						
	NSCl	17178-58-4	**	10.61±0.01	PE	4604
(^{2}A′)			**	10.96 (V)	PE	3660
			**	11.38±0.02	PE	4604
(^{2}A′,^{2}A″)			**	11.80 (V)	PE	3660
(^{2}A′)			**	13.73±0.02	PE	4604
(^{2}A′)			**	13.77 (V)	PE	3660
(^{2}A′)			**	14.28±0.02	PE	4604
(^{2}A′)			**	14.46 (V)	PE	3660
(^{2}A′)			**	16.5±0.01	PE	4604
$C_8H_6NSCl^+$						
	C_7H_3NS(Cl)CH_3 (Benzothiazole, 6-chloro-2-methyl-)	4146-24-1	**	8.50 (V)	PE	4437
$C_8H_8NSCl^+$						
	C_6H_4ClNHCSCH_3 (Ethanethioamide, N-(2-chlorophenyl)-)	39184-83-3	**	8.10	EI	4834
$C_{12}H_{16}NSCl^+$						
	C_6H_4ClNHCS$CH_2C(CH_3)_3$ (Butanethioamide, N-(2-chlorophenyl)-3,3-dimethyl-)	62635-54-5	**	8.00±0.05	EI	4834
$C_7H_7N_2SCl^+$						
	C_6H_4ClNHCSNH_2 (Thiourea, (2-chlorophenyl)-)	5344-82-1	**	8.05	EI	4834
$C_8H_9N_2SCl^+$						
	C_6H_4ClNHCSNHCH_3 (Thiourea, N-(2-chlorophenyl)-N′-methyl-)	30954-73-5	**	7.85±0.05	EI	4834
$C_9H_{11}N_2SCl^+$						
	C_6H_4ClNHCSNHC_2H_5 (Thiourea, N-(2-chlorophenyl)-N′-ethyl-)	19384-08-8	**	7.85±0.05	EI	4834
$C_{10}H_{13}N_2SCl^+$						
	C_6H_4ClNHCSNHCH$(CH_3)_2$ (Thiourea, N-(2-chlorophenyl)-N′-(1-methylethyl)-)	62635-49-8	**	7.80±0.05	EI	4834
$C_{11}H_{15}N_2SCl^+$						
	C_6H_4ClNHCSNH$C(CH_3)_3$ (Thiourea, N-(2-chlorophenyl)-N′-(1,1-dimethylethyl)-)	62635-50-1	**	7.75±0.05	EI	4834
$C_{17}H_{19}N_2SCl^+$						
	$C_{17}H_{19}N_2SCl$ (10H-Phenothiazine-10-propanamine, 2-chloro-N,N-dimethyl-)	50-53-3	**	7.16±0.08 (V)	PE	4667
	$C_{17}H_{19}N_2SCl$ (10*H*-Phenothiazine-10-propanamine, 2-chloro-*N*,*N*-dimethyl-)	50-53-3	**	8.25±0.07	CTS	4079

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_2N_3SCl^+$						
	$C_5H_2N_3SCl$ ([1,2,3]Thiadiazolo[5,4-*b*]pyridine, 5-chloro-)	54459-89-1	**	9.57±0.05	EI	4316
$C_{20}H_{24}N_3SCl^+$						
	$C_{12}H_7NS(Cl)(CH_2)_3C_4H_8N_2CH_3$ (10*H*-Phenothiazine, 2-chloro-10-[3-(4-methyl-1-piperazinyl)propyl]-)	58-38-8	**	7.03±0.07	CTS	4079
O_2SCl^+						
	SO_2Cl_2	7791-25-5	**	11.8±0.5	EI	4921
$OSCl_2^+$						
	Cl_2SO	7719-09-7	**	11.07 (V)	PE	4295
			**	11.12 (V)	PE	3705
			**	11.13 (V)	PE	3646
			**	11.3 (V)	PE	3694
			**	11.3 (V)	PE	3879
$O_2SCl_2^+$						
	SO_2Cl_2	7791-25-5	**	12.05	PE	3879
			**	12.4 (V)	PE	3694
			**	12.41 (V)	PE	4827
			**	12.41 (V)	PE	5207
			**	12.42 (V)	PE	3705
			**	11.4±0.5	EI	4921
$OSCl_3^+$						
	$SOCl_3$	XXXXX-XX-X	**	9.63±0.02	PE	3835
$C_{13}H_{11}OSCl^+$						
	$C_6H_4(OCH_3)SC_6H_4Cl$ (Benzene, 1-chloro-4-[(4-methoxyphenyl)thio]-)	20912-69-0	**	7.91	CTS	4272
$CH_3O_2SCl^+$						
	$(CH_3)SO_2(Cl)$	124-63-0	**	11.6 (V)	PE	4827
			**	11.6 (V)	PE	5207
			**	11.74 (V)	PE	3705
$C_{17}H_{17}N_2OSCl^+$						
	$C_{12}H_7NS(Cl)COCH_2CH_2N(CH_3)_2$ (10*H*-Phenothiazine, 2-chloro-10-[3-(dimethylamino)-1-oxopropyl]-)	3576-45-2	**	8.24±0.07	CTS	4079
$C_{19}H_{21}N_2OSCl^+$						
	$C_{12}H_7NS(Cl)COCH_2CH_2N(C_2H_5)_2$ (10*H*-Phenothiazine, 2-chloro-10-[3-(diethylamino)-1-oxopropyl]-)	800-22-6	**	7.87±0.07	CTS	4079
$C_{21}H_{26}N_3OSCl^+$						
	$C_{21}H_{26}N_3OSCl$ (1-Piperazineethanol, 4-[3-(2-chloro-10*H*-phenothiazin-10-yl)propyl]-)	58-39-9	**	8.63±0.07	CTS	4079
F_5SCl^+						
	SF_5Cl	13780-57-9	**	12.335±0.005	PE	3655
$CFSCl^+$						
	FClCS	1495-18-7	**	10.20 (V)	PE	3746
$C_2F_3S_2Cl^+$						
	$S=C(Cl)SCF_3$	1540-66-5	**	9.57 (V)	PE	4345
O_2SFCl^+						
	SO_2FCl	13637-84-8	**	12.61 (V)	PE	3705
			**	12.3±0.5	EI	4921

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_{11}SiSCl^+$						
	$C_6H_5SSi(CH_3)_2Cl$ (Silane, chlorodimethyl(phenylthio)–)	52548-11-5	**	8.76±0.1	EI	4198
$C_6H_5SiSCl_3^+$						
	$C_6H_5SSiCl_3$ (Silane, trichloro(phenylthio)–)	7579-91-1	**	9.03±0.1	EI	4198
$PSCl_3^+$						
	$PSCl_3$	3982-91-0	**	9.71±0.003	PE	4086
			**	9.71±0.03	PE	4279
			**	10.11 (V)	PE	4023
			**	10.13±0.03 (V)	PE	3669
			**	10.15 (V)	PE	5514
			**	10.15 (V)	PE	5627
$C_2H_6PSCl^+$						
	$(CH_3)_2P(S)Cl$	993-12-4	**	9.12 (V)	PE	5523
$CH_3PSCl_2^+$						
	$CH_3P(S)Cl_2$	676-98-2	**	9.73 (V)	PE	5523
$C_6H_5PSCl_2^+$						
	$C_6H_5P(Cl)_2S$ (Phosphonothioic dichloride, phenyl–)	3497-00-5	**	9.02±0.03	PE	4279
			**	9.02	PE	5514
			**	9.47 (V)	PE	5627
$C_2H_4PSCl_3^+$						
	$(CH_2Cl)_2PSCl$	20459-66-9	**	9.16	PE	5627
$C_4H_{12}N_2PSCl^+$						
	$((CH_3)_2N)_2ClPS$	3732-81-8	**	8.23±0.003	PE	4086
			**	8.23±0.02	PE	4279
			**	8.75 (V)	PE	5627
$C_2H_6NPSCl_2^+$						
	$PSCl_2N(CH_3)_2$	1498-65-3	**	8.97±0.003	PE	4086
			**	8.97±0.04	PE	4279
			**	9.35 (V)	PE	5627
$C_4H_{10}O_2PSCl^+$						
	$(C_2H_5O)_2ClPS$	2524-04-1	**	8.83±0.02	PE	4279
			**	9.41 (V)	PE	5514
			**	9.41 (V)	PE	5627
$CH_3OPSCl_2^+$						
	$PCl_2S(OCH_3)$	2523-94-6	**	9.85 (V)	PE	4699
	$Cl_2P(O)SCH_3$	18281-76-0	**	10.20 (V)	PE	5328
$C_2H_5OPSCl_2^+$						
	$SPCl_2(OC_2H_5)$	1498-64-2	**	9.81 (V)	PE	5627
			**	9.32±0.03	PE	4279
			**	9.81 (V)	PE	5514
Ar^+						
($^2P_{3/2}$)	Ar	7440-37-1	**	15.75973±0.00001	S	3923
($^2P_{3/2}$)			**	15.753±0.002	PE	3525
($^2P_{1/2}$)			**	15.930±0.002	PE	3525
($^2P_{3/2}$)			**	15.713±0.003	PEN	3541
			**	15.7	EI	5022

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
Ar^{+2}						
	Ar	7440-37-1	**	~43	EI	3445
			**	43.5±0.2	EI	4503
			**	43.7±0.5	EI	3625
	Ar^+	XXXXX-XX-X	**	~17	EI	5022
Ar_2^+						
	Ar_2	12595-59-4	**	14.44	PI	5195
			**	14.54±0.02	PI	4923
(1/2)u			**	15.55±0.025 (V)	PE	4885
(3/2)g			**	15.675±0.02 (V)	PE	4885
(1/2)u			**	15.87±0.015 (V)	PE	4885
(1/2)g			**	15.99±0.03 (V)	PE	4885
			**	15.2±0.2	EI	5350
			**	15.675±0.02 (V)	PE	4885
K^+						
	K	7440-09-7	**	4.34	PE	4642
			**	4.1±0.3	EI	4873
			**	4.4	EI	4912
($^2P_{3/2}$)	KI	7681-11-0	I^-	25.14±0.04 (V)	PE	5035
($^2P_{1/2}$)				25.50±0.04 (s)	PE	5035
	KF	7789-23-3	F	9.54±0.20	EI	4663
	K_2	25681-80-5	K	4.85	PI	4914
($^2P_{3/2}$)	KCl	7447-40-7	Cl^-	24.98±0.04 (V)	PE	5035
($^2P_{1/2}$)				25.22±0.04 (s)	PE	5035
($^2P_{3/2}$)	KBr	7758-02-3	Br^-	25.04±0.04 (V)	PE	5035
($^2P_{1/2}$)				25.36±0.04 (s)	PE	5035
	KBO_2	XXXXX-XX-X	BO_2	9.47±0.20	EI	4663
	NaK	12056-29-0	Na	4.96	PI	4914
K_2^+						
	K_2	25681-80-5	**	4.059±0.001	PI	4914
($^2\Sigma_g^+$)			**	4.06073±0.00016	PI	1395
			**	3.9	EI	4912
K_3^+						
	K_3	37279-39-3	**	3.3±0.1	PI	4914
K_4^+						
	K_4	39297-76-2	**	3.6±0.1	PI	4914
K_5^+						
	K_5	39297-77-3	**	3.3±0.1	PI	4914
K_7^+						
	K_7	39297-79-5	**	3.3±0.1	PI	4914
K_8^+						
	K_8	39297-80-8	**	3.4±0.1	PI	4914

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
LiK^+						
	KLi	12030-83-0	**	4.69±0.10	EI	4912
CNK^+						
	KCN	151-50-8	**	9.3±0.3	EI	4875
CNK_2^+						
	$(KCN)_2$	XXXXX-XX-X		10.3±0.3	EI	4875
$C_2N_2K_3^+$						
	$(KCN)_3$	XXXXX-XX-X		10. ±1	EI	4875
OK^+						
	KO	12401-70-6	**	7.1±0.2	EI	4745
			**	8.±1	EI	4745
OK_2^+						
	K_2O	12136-45-7	**	7.5±0.1	EI	4745
			**	7.5±0.2	EI	4745
			**	10.7±0.3	EI	4873
BO_2K^+						
	KBO_2	XXXXX-XX-X	**	8.62±0.14	EI	4663
$BO_2K_2^+$						
	$(KBO_2)_2$	XXXXX-XX-X	BO_2	9.97±0.18	EI	4663
	K_2BO_2F	XXXXX-XX-X	F^-	5.91±0.10	EI	4663
	K_2BO_2F	XXXXX-XX-X	F	9.97±0.18	EI	4663
$CO_3K_2^+$						
	K_2CO_3	XXXXX-XX-X	**	7.4±0.3	EI	4873
NO_3K^+						
	KNO_3	XXXXX-XX-X	**	8.96±0.03 (V)	PE	5354
FK_2^+						
	K_2F_2	12285-62-0	F^-	5.48±0.12	EI	4663
			F	9.44±0.15	EI	4663
	K_2BO_2F	XXXXX-XX-X	BO_2^-	5.48±0.12	EI	4663
	K_2BO_2F	XXXXX-XX-X	BO_2	9.44±0.15	EI	4663
NaK^+						
	NaK	12056-29-0	**	4.52±0.05	PI	4914
			**	4.57±0.20	EI	4912
NaK_2^+						
	NaK_2	12532-69-3	**	3.6±0.1	PI	4914
Na_2K^+						
	Na_2K	12286-02-1	**	3.7±0.1	PI	4914
$Na_2K_2^+$						
	Na_2K_2	66459-14-1	**	4.0±0.1	PI	4914
Na_3K^+						
	Na_3K	66419-70-3	**	4.1±0.05	PI	4914
Na_4K^+						
	Na_4K	66419-71-4	**	4.0±0.1	PI	4914

Ion (state)	Reactant	CAS Registry Number	Other products	*Ionization or* appearance potential (eV)	Method	Ref.
Na_5K^+						
	Na_5K	66419-72-5	**	4.1±0.1	PI	4914
F_4AlK^+						
	$KAlF_4$	14484-69-6	**	13.02±0.05 (V)	PE	5238
O_3PK^+						
	KPO_3	XXXXX-XX-X	**	9.44±0.03 (V)	PE	4840
ClK^+						
($^2P_{3/2}$)	KCl	7447-40-7	**	8.44±0.1	PE	4344
($^2P_{3/2}$)			**	8.44±0.1	PE	5035
			**	8.7 (V)	PE	4307
$Cl_2K_2^+$						
	$(KCl)_2$	12258-97-8	**	9.60 (V)	PE	4344
			**	9.60 (V)	PE	5035
$AlCl_4K^+$						
	$KAlCl_4$	13821-13-1	**	10.96±0.05 (V)	PE	5238
Ca^+						
($^2S_{1/2}$)	Ca	7440-70-2	**	6.11321±0.00002	S	4583
			**	6.0	PE	4860
			**	6.0±0.3	EI	5067
			**	6.06±0.05	EI	4114
			**	6.08±0.06	EI	5342
			**	~6.1	EI	3486
Ca^{+2}						
	Ca	7440-70-2	**	18	EI	3486
HCa^+						
	CaH	14452-75-6	**	5.86±0.09	S	4216
OCa^+						
	CaO	1305-78-8	**	6.5±1	EI	4881
Cl_2Ca^+						
	$CaCl_2$	10043-52-4	**	10.2 (V)	PE	4761
Sc^+						
	Sc	7440-20-2	**	6.7±0.5	EI	5349
C_2Sc^+						
	ScC_2	XXXXX-XX-X	**	7.6±0.5	EI	5349
	ScC_2	12175-91-6	**	7.7±0.2	EI	3470
$C_{15}H_3O_6F_{18}Sc^+$						
	$(CF_3COCHCOCF_3)_3Sc$	18990-42-6	**	10.13±0.07 (V)	PE	3682
	(Scandium, tris(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato-*O,O'*)-, (*OC*-6-11)-)					
Ti^+						
	Ti	7440-32-6	**	6.6±0.5	EI	3449
			**	6.7	EI	4872
			**	6.78±0.02	EI	5342
			**	6.8±0.1	EI	4114
			**	7.3±0.6	EI	4206
			**	7.3±0.6	EI	5635
			**	7.4±0.5	EI	3594
	TiO	12137-20-1		14.5±0.7	EI	3594
			O	14.51±0.36	EI	4103

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
C_2Ti^+						
	TiC_2	12071-32-8	**	8.2±0.6	EI	4206
			**	8.2±0.6	EI	5635
			**	8.7±0.5	EI	4112
C_4Ti^+						
	TiC_4	12547-96-5	**	9.0±1.0	EI	4112
$C_{12}H_{12}Ti^+$						
	$C_7H_7Ti(C_5H_5)$ (Titanium, (η^7-cycloheptatrienylium)(η^5-2,4-cyclopentadien-1-yl)-)	51203-49-7	**	6.83±0.05 (V)	PE	4132
	$(C_6H_6)_2Ti$ (Titanium, bis(η^6-benzene)-)	52462-43-8	**	5.5-6.0 (V)	PE	4393
$C_{13}H_{13}Ti^+$						
	$C_8H_8Ti(C_5H_5)$ (Titanium, (η^8-1,3,5,7-cyclooctatetraene)(η^5-2,4-cyclopentadien-1-yl)-)	11065-40-0	**	5.67±0.05 (V)	PE	4132
$C_{14}H_{16}Ti^+$						
	$(C_6H_5CH_3)_2Ti$ (Titanium, bis[(1,2,3,4,5,6-η)-methylbenzene]-)	55527-82-7	**	5.4-7.2 (V)	PE	4393
$C_{20}H_{44}Ti^+$						
	$((CH_3)_3CCH_2)_4Ti$	36945-13-8	**	8.33±0.1 (V)	PE	4242
$C_{13}H_{33}N_3Ti^+$						
	$(N(C_2H_5)_2)_3(CH_3)Ti$	25483-56-1	**	7.6 (V)	PE	4734
$C_8H_{24}N_4Ti^+$						
	$(N(CH_3)_2)_4Ti$	XXXXX-XX-X	**	7.13 (V)	PE	4588
$C_{16}H_{40}N_4Ti^+$						
	$(N(C_2H_5)_2)_4Ti$	XXXXX-XX-X	**	6.83 (V)	PE	4588
OTi^+						
	TiO	12137-20-1	**	6.4±0.1	EI	4114
			**	6.7±0.1	EI	5471
			**	6.7	EI	4872
			**	6.8±0.5	EI	3449
			**	6.8±0.5	EI	4678
			**	7.22±0.35	EI	4103
			**	7.3±0.5	EI	3594
O_2Ti^+						
	TiO_2	13463-67-7	**	8.5±0.5	EI	3594
			**	9.54±0.1	EI	5471
			**	10.2±0.2	EI	4114
			**	11.56±0.14	EI	4103
$C_{12}H_{10}O_2Ti^+$						
	$(C_5H_5)_2(CO)_2Ti$ (Titanium,dicarbonylbis(η^5-2,4-cyclopentadien-1-yl)-)	12129-51-0	**	6.35 (V)	PE	5217
$C_{10}H_{24}O_3Ti^+$						
	(n-$C_3H_7O)_3(CH_3)Ti$	64516-16-1	**	9.4 (V)	PE	4734
$C_{10}H_{24}O_4Ti^+$						
	(n-$C_3H_7O)_3(CH_3O)Ti$	64516-17-2	**	9.1 (V)	PE	4734
$N_4O_{12}Ti^+$						
	$(NO_3)_4Ti$	12372-56-4	**	12.35±0.11 (V)	PE	4999

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{10}H_{10}F_2Ti^+$						
	$(\eta$-$C_5H_5)_2TiF_2$	309-89-7	**	8.1±0.1 (V)	PE	4987
	(Titanium,bis(η^5-2,4-cyclopentadien-1-yl)difluoro-)					
$C_{15}H_3O_6F_{18}Ti^+$						
	$(CF_3COCHCOCF_3)_3Ti$	22854-59-7	**	7.94±0.07 (V)	PE	3682
	(Titanium, tris(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato-*O,O'*)-, (*OC*-6-11)-)					
			**	7.98 (V)	PE	3681
$C_{16}H_{44}Si_4Ti^+$						
	$((CH_3)_3SiCH_2)_4Ti$	33948-28-6	**	8.58±0.1 (V)	PE	4242
STi^+						
	TiS	12039-07-5	**	7.1±0.3	EI	3449
Cl_4Ti^+						
	$TiCl_4$	7550-45-0	**	11.70 (V)	PE	5148
			**	11.76 (V)	PE	4694
$C_{10}H_{10}Cl_2Ti^+$						
	$(\eta$-$C_5H_5)_2TiCl_2$	1271-19-8	**	8.5±0.1 (V)	PE	4987
	(Titanium dichlorobis(η^5-2,4-cyclopentadien-1-yl)-)					
	$(\eta$-$C_5H_5)_2TiCl_2$	1271-19-8	**	8.46±0.05 (V)	PE	4375
	Titanium, dichlorobis (η^5-2,4-cyclopentadien-1-yl)-)					
$CH_3Cl_3Ti^+$						
	$Ti(CH_3)Cl_3$	2747-38-8	**	10.8 (V)	PE	4734
V^+						
	V	7440-62-2	**	~7.5	EI	4202
			**	7±1	EI	3801
	VOF_3	13709-31-4	3F+O	31.26±0.19	EI	4546
	$VOCl_3$	7727-18-6	3Cl+O	26.83±0.39	EI	4546
V^{+5}						
	V^{+4}	22541-76-0	**	65.2812±0.0006	S	4264
$C_{10}H_{10}V^+$						
	$(C_5H_5)_2V$	1277-47-0	**	6.78 (V)	PE	5507
	(Vanadocene)					
			**	6.81 (V)	PE	5394
$C_{12}H_{12}V^+$						
	$C_7H_7V(C_5H_5)$	12636-68-9	**	6.42±0.05 (V)	PE	4132
	(Vanadium, (η^7-cycloheptatrienylium)(η^5-2,4-cyclopentadien-1-yl)-)					
$C_{12}H_{14}V^+$						
	$(C_5H_4CH_3)_2V$	12146-93-9	**	6.60 (V)	PE	5507
	(Vanadocene,1,1'-dimethyl-)					
$C_{18}H_{24}V^+$						
	$(C_6H_3(CH_3)_3)_2V$	1272-71-5	**	5.61±0.05 (V)	PE	4132
	(Vanadium, bis[(1,2,3,4,5,6-η)-1,3,5-trimethylbenzene]-)					
$C_{20}H_{30}V^+$						
	$(C_5(CH_3)_5)_2V$	XXXXX-XX-X	**	5.87 (V)	PE	5394
	(Vanadocene,decamethyl-)					
NV^+						
	VN	24646-85-3	**	8±1	EI	3801

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_{21}N_4V^+$						
	$(N(CH_3)_2)_4V$	XXXXX-XX-X	**	6.2 (V)	PE	4588
OV^+						
	VO	12035-98-2	**	8±1	EI	3620
	VOF_3	13709-31-4	3F	24.41±0.10	EI	4546
	$VOCl_3$	7727-18-6	3Cl	19.77±0.09	EI	4546
O_2V^+						
	VO_2	12036-21-4	**	12.7±0.2	EI	4131
			**	10±2	EI	3620
$O_8V_4^+$						
	V_4O_8	12503-87-6	**	13±1	EI	3620
$O_{10}V_4^+$						
	V_4O_{10}	12503-98-9	**	11.8±0.3	EI	4131
			**	12±1	EI	3620
$N_3O_{10}V^+$						
	$(NO_3)_3VO$	16017-37-1	**	12.33±0.04 (V)	PE	4999
FV^+						
	VOF_3	13709-31-4	2F+O	25.75±0.26	EI	4546
F_2V^+						
	VOF_3	13709-31-4	F+O	20.83±0.19	EI	4546
F_3V^+						
	VOF_3	13709-31-4	O	16.76±0.05	EI	4546
OFV^+						
	VOF_3	13709-31-4	2F	19.92±0.06	EI	4546
OF_2V^+						
	VOF_3	13709-31-4	F	15.31±0.06	EI	4546
OF_3V^+						
	VOF_3	13709-31-4	**	13.88±0.05	EI	4546
$C_{15}H_3O_6F_{18}V^+$						
	$(CF_3COCHCOCF_3)_3V$	15695-77-9	**	8.68±0.07 (V)	PE	3682
	(Vanadium, tris(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato-*O*,*O*')-, (*OC*-6-11)-)					
			**	8.68 (V)	PE	3681
SV^+						
	VS	12166-27-7	**	~9	EI	4202
ClV^+						
	$VOCl_3$	7727-18-6	2Cl+O	22.16±0.07	EI	4546
Cl_2V^+						
	$VOCl_3$	7727-18-6	Cl+O	18.98±0.20	EI	4546
Cl_3V^+						
	$VOCl_3$	7727-18-6	O	16.48±0.28	EI	4546
$OClV^+$						
	$VOCl_3$	7727-18-6	Cl_2	14.05±0.06	EI	4546
			2Cl	16.31±0.05	EI	4546

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
OCl_2V^+						
	$VOCl_3$	7727-18-6	Cl	13.25±0.05	EI	4546
OCl_3V^+						
	$VOCl_3$	7727-18-6	**	11.84 (V)	PE	5148
			**	11.90±0.05	EI	4546
Cr^+						
(^6S)	Cr	7440-47-3	**	6.76	PE	4858
(^6D)			**	8.29	PE	4858
			**	6.76 (V)	OTH	5286
	$(CO)_6Cr$	13007-92-6	6CO	15.36±0.03	EI	5291
	$(C_6H_6)(CO)_3Cr$	12082-08-5	C_6H_6+3CO	12.2±0.2	EI	3786
	(Chromium, (η^6-benzene)tricarbonyl-)					
			C_6H_6+3CO	13.50±0.1	EI	3788
	$(C_7H_8)(CO)_3Cr$	12125-72-3	C_7H_8+3CO	13.3±0.2	EI	5210
	(Chromium,tricarbonyl[(1,2,3,4,5,6-η)-1,3,5-cycloheptatriene]-)					
	$(C_6H_5CH_3)(CO)_3Cr$	12083-24-8	$C_6H_5CH_3$+3CO	13.42±0.1	EI	3788
	(Chromium, tricarbonyl[(1,2,3,4,5,6-η)-methylbenzene]-)					
			$C_6H_5CH_3$+3CO	13.5±0.2	EI	5210
	$(C_6H_4(CH_3)_2)(CO)_3Cr$	12129-29-2		13.06±0.1	EI	3788
	(Chromium, tricarbonyl[(1,2,3,4,5,6-η)-1,2-dimethylbenzene]-)					
	$(C_6H_3(CH_3)_3)(CO)_3Cr$	12129-67-8		13.90±0.1	EI	3788
	(Chromium, tricarbonyl[(1,2,3,4,5,6-η)-1,3,5-trimethylbenzene]-)					
	$(C_6(CH_3)_6)(CO)_3Cr$	12088-11-8		13.00±0.1	EI	3788
	(Chromium, tricarbonyl[(1,2,3,4,5,6-η)-hexamethylbenzene]-)					
	$(C_6H_5CH_2OH)(CO)_3Cr$	12116-45-9		14.01±0.1	EI	3788
	(Chromium, [(1,2,3,4,5,6-η)-benzenemethanol]tricarbonyl-)					
	$(C_6H_5OCH_3)(CO)_3Cr$	12116-44-8		12.65±0.1	EI	3788
	(Chromium, tricarbonyl[(1,2,3,4,5,6-η)-methoxybenzene]-)					
	$(C_6H_5COOCH_3)(CO)_3Cr$	12125-87-0		14.00±0.1	EI	3788
	(Chromium, tricarbonyl[(1,2,3,4,5,6-η)-methylbenzoate]-)					
	$(C_6H_5NH_2)(CO)_3Cr$	12108-11-1	$C_6H_5NH_2$+3CO	13.17±0.1	EI	3788
	(Chromium, (η^6-benzenamine)tricarbonyl-)					
	$(((CH_3)_2N)_3P)(CO)_5Cr$	XXXXX-XX-X		22.3±0.05	EI	3952
	$(((CH_3)_2N)_3P)_2(CO)_4Cr$	19976-85-3		22.2±0.05	EI	3952
	$CS(CO)_5Cr$	50358-90-2	5CO+CS	16.16±0.07	EI	5291
	$(C_6H_5Cl)(CO)_3Cr$	12082-03-0	C_6H_5Cl+3CO	14.10±0.1	EI	3788
	(Chromium, tricarbonyl(η^6-chlorobenzene)-)					
$C_5H_5Cr^+$						
	$(C_5H_5)(CO)_2(NO)Cr$	36312-04-6	2CO+NO	12.79±0.1	EI	5348
	(Chromium,dicarbonyl(η^5-2,4-cyclopentadien-1-yl)nitrosyl-)					
	$(C_5H_5)(CO)_2(NS)Cr$	66539-91-1	2CO+NS	13.45±0.1	EI	5348
	(Chromium,dicarbonyl(η^5-2,4-cyclopentadien-1-yl)thionitrosyl-)					
$C_6H_6Cr^+$						
	$(C_6H_6)(CO)_3Cr$	12082-08-5	3CO	9.0±0.2	EI	3786
	(Chromium, (η^6-benzene)tricarbonyl-)					
			3CO	10.34±0.1	EI	3788
$C_7H_8Cr^+$						
	$(C_7H_8)(CO)_3Cr$	12125-72-3	3CO	10.2±0.2	EI	5210
	(Chromium,tricarbonyl[(1,2,3,4,5,6-η)-1,3,5-cycloheptatriene]-)					
	$(C_6H_5CH_3)(CO)_3Cr$	12083-24-8	3CO	10.04±0.1	EI	3788
	(Chromium, tricarbonyl[(1,2,3,4,5,6-η)-methylbenzene]-)					
			3CO	10.1±0.2	EI	5210
$C_8H_{10}Cr^+$						
	$(C_6H_4(CH_3)_2)(CO)_3Cr$	12129-29-2	3CO	9.60±0.1	EI	3788
	(Chromium, tricarbonyl[(1,2,3,4,5,6-η)-1,2-dimethylbenzene]-)					

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_9H_{12}Cr^+$						
	$(C_6H_3(CH_3)_3)(CO)_3Cr$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-1,3,5-trimethylbenzene]-)	12129-67-8	3CO	10.35±0.1	EI	3788
$C_{10}H_{10}Cr^+$						
	$(C_5H_5)_2Cr$ (Chromocene)	1271-24-5	**	5.50	PE	3725
			**	5.70 (V)	PE	5394
			**	5.71 (V)	PE	5507
$C_{11}H_{11}Cr^+$						
	$C_6H_6Cr(C_5H_5)$ (Chromium, (η^6-benzene)(η^5-2,4-cyclopentadien-1-yl)-)	12093-16-2	**	7.15±0.05 (V)	PE	4132
			**	6.20±0.1 (V)	PE	3686
$C_{12}H_{12}Cr^+$						
	$C_7H_7Cr(C_5H_5)$ (Chromium, (η^7-cycloheptatrienylium)(η^5-2,4-cyclopentadien-1-yl)-)	12093-81-1	**	5.59±0.05 (V)	PE	4132
	$(C_6H_6)_2Cr$ (Chromium, bis(benzene)-)	1271-54-1	**	5.4±0.1 (V)	PE	3686
			**	5.45±0.02 (V)	PE	4447
$C_{12}H_{14}Cr^+$						
	$(C_5H_4CH_3)_2Cr$ (Chromocene,1,1'-dimethyl-)	12146-92-8	**	5.53 (V)	PE	5507
$C_{12}H_{18}Cr^+$						
	$(C_6(CH_3)_6)(CO)_3Cr$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-hexamethylbenzene]-)	12088-11-8	3CO	9.82±0.1	EI	3788
$C_{14}H_{16}Cr^+$						
	$(C_6H_5CH_3)_2Cr$ (Chromium, bis(η^6-methyl benzene)-)	12087-58-0	**	5.24±0.1 (V)	PE	3686
$C_{18}H_{24}Cr^+$						
	$(C_6H_3(CH_3)_3)_2Cr$ (Chromium, bis[(1,2,3,4,5,6-η)-1,3,5-trimethylbenzene]-)	1274-07-3	**	5.01±0.05 (V)	PE	4132
$C_{20}H_{30}Cr^+$						
	$(C_5(CH_3)_5)_2Cr$ (Chromocene,decamethyl-)	XXXXX-XX-X	**	4.93 (V)	PE	5394
$C_{20}H_{44}Cr^+$						
	$((CH_3)_3CCH_2)_4Cr$	37007-84-4	**	7.25±0.1 (V)	PE	3830
$C_{24}H_{36}Cr^+$						
	$(C_6(CH_3)_6)_2Cr$ (Chromium,bis[(1,2,3,4,5,6-η)-hexamethylbenzene]-)	12243-39-9	**	4.68 (V)	PE	5286
$C_6H_7NCr^+$						
	$(C_6H_5NH_2)(CO)_3Cr$ (Chromium, (η^6-benzenamine)tricarbonyl-)	12108-11-1	3CO	9.96±0.1	EI	3788
$C_{18}H_{42}N_3Cr^+$						
	$(N(iso\text{-}C_3H_7)_2)_3Cr$	XXXXX-XX-X	**	6.3 (V)	PE	5036
$C_{16}H_{40}N_4Cr^+$						
	$(N(C_2H_5)_2)_4Cr$	XXXXX-XX-X	**	5.9 (V)	PE	5036
$COCr^+$						
	$(CO)_6Cr$	13007-92-6	5CO	14.03±0.04	EI	5291
	$CS(CO)_5Cr$	50358-90-2	4CO+CS	14.94±0.08	EI	5291

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2O_2Cr^+$						
	$(CO)_6Cr$	13007-92-6	4CO	12.51±0.04	EI	5291
	$CS(CO)_5Cr$	50358-90-2	3CO+CS	13.52±0.08	EI	5291
$C_3O_3Cr^+$						
	$(CO)_6Cr$	13007-92-6	3CO	11.35±0.03	EI	5291
	$CS(CO)_5Cr$	50358-90-2	2CO+CS	12.06±0.05	EI	5291
$C_4O_4Cr^+$						
	$(CO)_6Cr$	13007-92-6	2CO	10.45±0.03	EI	5291
	$CS(CO)_5Cr$	50358-90-2	CO+CS	11.12±0.05	EI	5291
$C_5O_5Cr^+$						
	$(CO)_6Cr$	13007-92-6	CO	9.85±0.03	EI	5291
	$CS(CO)_5Cr$	50358-90-2	CS	10.58±0.07	EI	5291
$C_6O_6Cr^+$						
	$(CO)_6Cr$	13007-92-6	**	8.40±0.02 (V)	PE	3979
			**	8.40 (V)	PE	4456
			**	8.40 (V)	PE	5333
			**	8.41 (V)	PE	4692
			**	8.19±0.1	EI	3582
			**	8.20	EI	5453
			**	8.30±0.05	EI	4600
			**	8.42±0.03	EI	5291
$C_7H_6OCr^+$						
	$(C_6H_6)(CO)_3Cr$ (Chromium, (η^6-benzene)tricarbonyl-)	12082-08-5	2CO	7.9±0.2	EI	3786
			2CO	8.09±0.1	EI	3788
$C_7H_8OCr^+$						
	$(C_6H_5CH_2OH)(CO)_3Cr$ (Chromium, [(1,2,3,4,5,6-η)-benzenemethanol]tricarbonyl-)	12116-45-9	3CO	10.35±0.1	EI	3788
	$(C_6H_5OCH_3)(CO)_3Cr$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-methoxybenzene]-)	12116-44-8	3CO	9.90±0.1	EI	3788
$C_8H_8OCr^+$						
	$(C_6H_5CH_3)(CO)_3Cr$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-methylbenzene]-)	12083-24-8	2CO	8.11±0.1	EI	3788
$C_9H_{10}OCr^+$						
	$(C_6H_4(CH_3)_2)(CO)_3Cr$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-1,2-dimethylbenzene]-)	12129-29-2	2CO	7.85±0.1	EI	3788
$C_{10}H_{12}OCr^+$						
	$(C_6H_3(CH_3)_3)(CO)_3Cr$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-1,3,5-trimethylbenzene]-)	12129-67-8	2CO	8.00±0.1	EI	3788
$C_{13}H_{18}OCr^+$						
	$(C_6(CH_3)_6)(CO)_3Cr$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-hexamethylbenzene]-)	12088-11-8	2CO	7.70±0.1	EI	3788
$C_8H_6O_2Cr^+$						
	$(C_6H_6)(CO)_3Cr$ (Chromium, (η^6-benzene)tricarbonyl-)	12082-08-5	CO	7.25±0.1	EI	3788
			CO	7.4±0.2	EI	3786
$C_8H_8O_2Cr^+$						
	$(C_6H_5CH_2OH)(CO)_3Cr$ (Chromium, [(1,2,3,4,5,6-η)-benzenemethanol]tricarbonyl-)	12116-45-9	2CO	8.19±0.1	EI	3788
	$(C_6H_5OCH_3)(CO)_3Cr$ (Chromium, tricarbonyl[(1,2,3,4,5,6-η)-methoxybenzene]-)	12116-44-8	2CO	7.90±0.1	EI	3788

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_8O_2Cr^+$						
	$(C_6H_5COOCH_3)(CO)_3Cr$	12125-87-0	3CO	9.1	EI	5448
	(Chromium,tricarbonyl[(1,2,3,4,5,6-η)-methylbenzoate]-)					
			3CO	10.00±0.1	EI	3788
	$C_{11}H_8O_4SCr$	52140-27-9	2CO+CS	11.3	EI	5448
	(Chromium,(carbonothioyl)dicarbonyl[(1,2,3,4,5,6-η)-methylbenzoate]-)					
$C_9H_8O_2Cr^+$						
	$(C_6H_5CH_3)(CO)_3Cr$	12083-24-8	CO	7.09±0.1	EI	3788
	(Chromium, tricarbonyl[(1,2,3,4,5,6-η)-methylbenzene]-)					
$C_{10}H_{10}O_2Cr^+$						
	$(C_6H_4(CH_3)_2)(CO)_3Cr$	12129-29-2	CO	7.00±0.1	EI	3788
	(Chromium, tricarbonyl[(1,2,3,4,5,6-η)-1,2-dimethylbenzene]-)					
$C_{11}H_{12}O_2Cr^+$						
	$(C_6H_3(CH_3)_3)(CO)_3Cr$	12129-67-8	CO	6.69±0.1	EI	3788
	(Chromium, tricarbonyl[(1,2,3,4,5,6-η)-1,3,5-trimethylbenzene]-)					
$C_{14}H_{18}O_2Cr^+$						
	$(C_6(CH_3)_6)(CO)_3Cr$	12088-11-8	CO	6.45±0.1	EI	3788
	(Chromium, tricarbonyl[(1,2,3,4,5,6-η)-hexamethylbenzene]-)					
$C_9H_6O_3Cr^+$						
	$C_6H_6(CO)_3Cr$	12082-08-5	**	7.42±0.03 (V)	PE	4447
	(Chromium, (η^6-benzene)tricarbonyl-)					
			**	6.74±0.1	EI	3788
			**	7.0±0.2	EI	3786
			**	7.28	CTS	4029
$C_9H_8O_3Cr^+$						
	$(C_6H_5CH_2OH)(CO)_3Cr$	12116-45-9	CO	7.32±0.1	EI	3788
	(Chromium, [(1,2,3,4,5,6-η)-benzenemethanol]tricarbonyl-)					
	$(C_6H_5OCH_3)(CO)_3Cr$	12116-44-8	CO	6.95±0.1	EI	3788
	(Chromium, tricarbonyl[(1,2,3,4,5,6-η)-methoxybenzene]-)					
	$(C_6H_5COOCH_3)(CO)_3Cr$	12125-87-0	2CO	7.7	EI	5448
	(Chromium,tricarbonyl[(1,2,3,4,5,6-η)-methylbenzoate]-)					
			2CO	8.27±0.1	EI	3788
$C_{10}H_8O_3Cr^+$						
	$C_7H_8(CO)_3Cr$	12125-72-3	**	7.18 (V)	PE	5206
	(Chromium,tricarbonyl[1,2,3,4,5,6-η)-1,3,5-cycloheptatriene]-)					
			**	7.30±0.05 (V)	PE	4724
			**	6.9±0.2	EI	5210
	$(C_6H_5CH_3)(CO)_3Cr$	12083-24-8	**	6.6±0.2	EI	5210
	(Chromium,tricarbonyl[(1,2,3,4,5,6-η)-methylbenzene]-)					
			**	6.69±0.1	EI	3788
			**	7.29	CTS	4029
$C_{11}H_{10}O_3Cr^+$						
	$(C_6H_4(CH_3)_2)(CO)_3Cr$	12129-29-2	**	6.70±0.1	EI	3788
	(Chromium, tricarbonyl[(1,2,3,4,5,6-η)-1,2-dimethylbenzene]-)					
			**	7.29	CTS	4029
$C_{12}H_{12}O_3Cr^+$						
	$(C_6H_3(CH_3)_3)(CO)_3Cr$	12129-67-8	**	7.20±0.05 (V)	PE	4724
	(Chromium, tricarbonyl[(1,2,3,4,5,6-η)-1,3,5-trimethylbenzene]-)					
			**	7.20 (V)	PE	5286
			**	7.20 (V)	PE	5367
			**	6.60±0.1	EI	3788
			**	7.29	CTS	4029

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{15}H_{18}O_3Cr^+$						
	$(C_6(CH_3)_6)(CO)_3Cr$	12088-11-8	**	7.00 (V)	PE	5286
	(Chromium,tricarbonyl[(1,2,3,4,5,6-η)-hexamethylbenzene]-)					
			**	6.35±0.1	EI	3788
$C_{10}H_8O_4Cr^+$						
	$(C_6H_5CH_2OH)(CO)_3Cr$	12116-45-9	**	6.92±0.1	EI	3788
	(Chromium, [(1,2,3,4,5,6-η)-benzenemethanol]tricarbonyl-)					
	$(C_6H_5OCH_3)(CO)_3Cr$	12116-44-8	**	6.75±0.1	EI	3788
	(Chromium, tricarbonyl[(1,2,3,4,5,6-η)-methoxybenzene]-)					
			**	7.32	CTS	4029
	$(C_6H_5COOCH_3)(CO)_3Cr$	12125-87-0	CO	7.60±0.1	EI	3788
	(Chromium, tricarbonyl[(1,2,3,4,5,6-η)-methylbenzoate]-)					
$C_{11}H_8O_4Cr^+$						
	$(C_7H_8)(CO)_4Cr$	12146-36-0	**	7.28 (V)	PE	5367
	(Chromium,[(2,3,5,6-η)-bicyclo[2.2.1]hepta-2,5-diene]tetracarbonyl-)					
$C_{11}H_8O_5Cr^+$						
	$(C_6H_5COOCH_3)(CO)_3Cr$	12125-87-0	**	7.02±0.1	EI	3788
	(Chromium, tricarbonyl[(1,2,3,4,5,6-η)-methylbenzoate]-)					
			**	7.1	EI	5448
$C_8H_6O_6Cr^+$						
	$CH_3C(OCH_3)(CO)_5Cr$	20540-69-6	**	7.47 (V)	PE	4692
			**	7.46±0.1	EI	3582
$C_{13}H_8O_6Cr^+$						
	$C_6H_5C(OCH_3)(CO)_5Cr$	27436-93-7	**	7.39 (V)	PE	4692
	(Chromium, pentacarbonyl(methoxyphenylmethylene)-(OC-6-21)-)					
			**	7.26±0.1	EI	3582
$C_{14}H_{10}O_6Cr^+$						
	$(C_6H_4(CH_3)COCH_3)(CO)_5Cr$	29160-36-9	**	7.13±0.1	EI	3582
	(Chromium, pentacarbonyl(methoxy(4-methylphenyl)methylene)-, (*OC*-6-21)-)					
$C_{15}H_{21}O_6Cr^+$						
	$(CH_3COCHCOCH_3)_3Cr$	21679-31-2	**	7.46±0.07 (V)	PE	3682
	(Chromium, tris(2,4-pentanedionato-*O*,*O'*)-, (*OC*-6-11)-)					
$C_{11}H_6O_7Cr^+$						
	$C_4H_3OC(OCH_3)(CO)_5Cr$	34741-93-0	**	7.37 (V)	PE	4692
	(Chromium, pentacarbonyl(2-furanylmethoxymethylene)-(OC-6-21)-)					
$C_{14}H_{10}O_7Cr^+$						
	$(C_6H_4(OCH_3)COCH_3)(CO)_5Cr$	27436-99-3	**	7.05±0.1	EI	3582
	(Chromium, pentacarbonyl(*o*,α-dimethoxybenzylidene)-)					
$C_8H_{12}O_8Cr_2^+$						
	$Cr_2(O_2CCH_3)_4$	15020-15-2	**	8.65±0.05 (V)	PE	4986
$C_{12}H_{20}O_8Cr_2^+$						
	$Cr_2(O_2CC_2H_5)_4$	XXXXX-XX-X	**	8.104±0.05 (V)	PE	4986
$C_5H_5NOCr^+$						
	$(C_5H_5)(CO)_2(NO)Cr$	36312-04-6	2CO	10.53±0.1	EI	5348
	(Chromium,dicarbonyl(η^5-2,4-cyclopentadien-1-yl)nitrosyl-)					
$C_7H_7NOCr^+$						
	$(C_6H_5NH_2)(CO)_3Cr$	12108-11-1	2CO	7.84±0.1	EI	3788
	(Chromium, (η^6-benzenamine)tricarbonyl-)					

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_5NO_2Cr^+$						
	$(C_5H_5)(CO)_2(NO)Cr$	36312-04-6	CO	9.37±0.1	EI	5348
	(Chromium,dicarbonyl(η^5-2,4-cyclopentadien-1-yl)nitrosyl-)					
$C_8H_7NO_2Cr^+$						
	$(C_6H_5NH_2)(CO)_3Cr$	12108-11-1	CO	6.75±0.1	EI	3788
	(Chromium, (η^6-benzenamine)tricarbonyl-)					
$C_7H_5NO_3Cr^+$						
	$(C_5H_5)(NO)(CO)_2Cr$	36312-04-6	**	7.80	EI	3579
	(Chromium, dicarbonyl(η^5-2,4-cyclopentadien-1-yl)nitrosyl-)					
			**	8.51±0.1	EI	5348
$C_9H_7NO_3Cr^+$						
	$(C_6H_5NH_2)(CO)_3Cr$	12108-11-1	**	6.52±0.1	EI	3788
	(Chromium, (η^6-benzenamine)tricarbonyl-)					
$C_{11}H_{11}NO_3Cr^+$						
	$C_6H_5N(CH_3)_2Cr(CO)_3$	12109-10-3	**	7.38	CTS	4029
	(Chromium, tricarbonyl(*N*,*N*-dimethylbenzenamine)-)					
$C_5H_3NO_5Cr^+$						
	$(CO)_5NH_3Cr$	15228-27-0	**	7.56 (V)	PE	4252
			**	7.56 (V)	PE	5540
$C_7H_3NO_5Cr^+$						
	$(CO)_5CNCH_3Cr$	33726-04-4	**	7.61 (V)	PE	4252
$C_7H_5NO_5Cr^+$						
	$CH_3C(NH_2)(CO)_5Cr$	22852-50-2	**	7.45 (V)	PE	4692
$C_8H_9NO_5Cr^+$						
	$(CO)_5N(CH_3)_3Cr$	15228-26-9	**	7.45 (V)	PE	4252
$C_9H_9NO_5Cr^+$						
	$CH_3C(N(CH_3)_2)(CO)_5Cr$	22852-52-4	**	7.12 (V)	PE	4692
$C_{10}H_5NO_5Cr^+$						
	$(C_5H_5N)(CO)_5Cr$	14740-77-3	**	7.30 (V)	PE	5566
	(Chromium,pentacarbonyl(pyridine)-(OC-6-22)-)					
$C_{10}H_{11}NO_5Cr^+$						
	$(C_5H_{10}NH)(CO)_5Cr$	15710-39-1	**	7.39 (V)	PE	5540
	(Chromium,pentacarbonyl(piperidine)-(OC-6-22))					
$C_{11}H_7NO_5Cr^+$						
	$(CH_3C_5H_4N)(CO)_5Cr$	64914-26-7	**	7.22 (V)	PE	5566
	(Chromium,pentacarbonyl(4-methylpyridine)-(OC-6-22)-)					
$C_{12}H_7NO_5Cr^+$						
	$C_6H_5C(NH_2)(CO)_5Cr$	32370-44-8	**	7.25 (V)	PE	4692
	(Chromium, (aminophenylmethylene)pentacarbonyl-(OC-6-21)-)					
$C_{14}H_{11}NO_5Cr^+$						
	$C_6H_5C(N(CH_3)_2)(CO)_5Cr$	30971-68-7	**	7.02 (V)	PE	4692
	(Chromium, pentacarbonyl[(dimethylamino)phenylmethylene]-(OC-6-21)-)					
$C_{14}H_{13}NO_5Cr^+$						
	(*tert*-$C_4H_9C_5H_4N)(CO)_5Cr$	64914-25-6	**	7.17 (V)	PE	5566
	(Chromium,pentacarbonyl[4-(1,1-dimethylethyl)pyridine]-(OC-6-22)-)					

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_4N_2O_5Cr^+$						
	$(C_3H_4N_2)(CO)_5Cr$	71127-65-6	**	7.40 (V)	PE	5213
	(Chromium,pentacarbonyl(1H-pyrazole-N^2)-(OC-6-22)-)					
$C_{12}H_{14}N_2O_5Cr^+$						
	$(C_3H_4N_2(C_2H_5)_2)(CO)_5Cr$	XXXXX-XX-X	**	7.12 (V)	PE	5601
$C_8H_3NO_6Cr^+$						
	$(C_3H_3NO)(CO)_5Cr$	71127-67-8	**	7.42 (V)	PE	5213
	(Chromium,pentacarbonyl(isoxazole-N^2)-(OC-6-22)-)					
$C_{10}H_5NO_6Cr^+$						
	$C_4H_3OC(NH_2)(CO)_5Cr$	29130-96-9	**	7.22 (V)	PE	4692
	(Chromium, (amino-2-furanylmethylene)pentacarbonyl-(OC-6-21)-)					
$C_{11}H_7NO_6Cr^+$						
	$(CH_3OC_5H_4N)(CO)_5Cr$	64914-33-6	**	7.18 (V)	PE	5566
	(Chromium,pentacarbonyl(4-methoxypyridine-N^1)-(OC-6-22)-)					
$C_{12}H_7NO_6Cr^+$						
	$(CH_3COC_5H_4N)(CO)_5Cr$	64914-29-0	**	7.5 (V)	PI	5566
	(Chromium,pentacarbonyl[1-(4-pyridinyl)ethanone-N]-(OC-6-22)-)					
$C_{24}H_{24}N_4O_4Cr_2^+$						
	$(C_5H_3N(O)CH_3)_4Cr_2$	67634-82-6	**	6.8 (V)	PE	5191
	(Chromium,tetrakis[μ-(6-methyl-2(1H)-pyridinonato-N^1:O^2)]di-(*Cr-Cr*), stereoisomer)					
FCr^+						
	CrF	13943-42-5	**	9.3±0.4	EI	5440
	CrF_2	10049-10-2	F	14.7±0.5	EI	5440
F_2Cr^+						
	CrF_2	10049-10-2	**	10.6±0.3	EI	5440
	CrF_3	7788-97-8	F	14.8±0.5	EI	5440
F_3Cr^+						
	CrF_3	7788-97-8	**	12.5±0.3	EI	5440
$C_{13}H_7O_6FCr^+$						
	$(C_6H_4FCOCH_3)(CO)_5Cr$	27436-94-8	**	7.32±0.1	EI	3582
	(Chromium, pentacarbonyl[(4-fluorophenyl)methoxymethylene]-, (*OC-6-21*)-)					
$C_{14}H_7O_6F_3Cr^+$						
	$(C_6H_4(CF_3)COCH_3)(CO)_5Cr$	32011-10-2	**	7.34±0.1	EI	3582
	(Chromium, pentacarbonyl[α-methoxy-*o*-(trifluoromethyl)benzylidene]-)					
	$(C_6H_4(CF_3)COCH_3)(CO)_5Cr$	27637-27-0	**	7.42±0.1	EI	3582
	(Chromium, pentacarbonyl[methoxy[4-(trifluoromethyl)phenyl]methylene]-, (*OC-6-21*)-)					
$C_{15}H_{12}O_6F_9Cr^+$						
	$(CF_3COCHCOCH_3)_3Cr$	14592-89-3	**	8.58±0.07 (V)	PE	3682
	(Chromium, tris(1,1,1-trifluoro-2,4-pentanedionato-*O,O'*)					
$C_{15}H_3O_6F_{18}Cr^+$						
	$(CF_3COCHCOCF_3)_3Cr$	14592-80-4	**	9.53 (V)	PE	3681
	(Chromium, tris(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato-*O,O'*)-, (*OC-6-11*)-)					
			**	9.57±0.07 (V)	PE	3682
$C_{16}H_{44}Si_4Cr^+$						
	$((CH_3)_3SiCH_2)_4Cr$	35394-18-4	**	7.26±0.1 (V)	PE	3830

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{15}H_{24}O_6Si_2Cr^+$						
	$C_{15}H_{24}O_6Si_2Cr$	XXXXX-XX-X	**	7.57 (V)	PE	5601
$C_{12}H_{27}PCr^+$						
	$((n\text{-}C_4H_9)_3P)(CO)_5Cr$	18497-59-1	5CO	11.05	EI	5564
$C_{18}H_{15}PCr^+$						
	$((C_6H_5)_3P)(CO)_5Cr$	14917-12-5	5CO	10.9	EI	5564
	(Chromium,pentacarbonyl(triphenylphosphine)-(OC-6-22))					
$C_6H_{18}N_3PCr^+$						
	$(((CH_3)_2N)_3P)(CO)_5Cr$	XXXXX-XX-X	5CO	12.5±0.05	EI	3952
	$(((CH_3)_2N)_3P)_2(CO)_4Cr$	19976-85-3		11.0±0.05	EI	3952
$C_{13}H_{27}OPCr^+$						
	$((n\text{-}C_4H_9)_3P)(CO)_5Cr$	18497-59-1	4CO	9.65	EI	5564
$C_{19}H_{15}OPCr^+$						
	$((C_6H_5)_3P)(CO)_5Cr$	14917-12-5	4CO	9.7	EI	5564
	(Chromium,pentacarbonyl(triphenylphosphine)-(OC-6-22))					
$C_{14}H_{27}O_2PCr^+$						
	$((n\text{-}C_4H_9)_3P)(CO)_5Cr$	18497-59-1	3CO	8.85	EI	5564
$C_{20}H_{15}O_2PCr^+$						
	$((C_6H_5)_3P)(CO)_5Cr$	14917-12-5	3CO	9.3	EI	5564
	(Chromium,pentacarbonyl(triphenylphosphine)-(OC-6-22))					
$C_3H_9O_3PCr^+$						
	$(P(OCH_3)_3)(CO)_5Cr$	18461-34-2	5CO	11.5	EI	5564
$C_6H_{15}O_3PCr^+$						
	$(P(OC_2H_5)_3)(CO)_5Cr$	18461-32-0	5CO	11.8	EI	5564
$C_{15}H_{27}O_3PCr^+$						
	$((n\text{-}C_4H_9)_3P)(CO)_5Cr$	18497-59-1	2CO	8.55	EI	5564
$C_{21}H_{15}O_3PCr^+$						
	$((C_6H_5)_3P)(CO)_5Cr$	14917-12-5	2CO	9.1	EI	5564
	(Chromium,pentacarbonyl(triphenylphosphine)-(OC-6-22))					
$C_4H_9O_4PCr^+$						
	$(P(OCH_3)_3)(CO)_5Cr$	18461-34-2	4CO	10.1	EI	5564
$C_7H_{15}O_4PCr^+$						
	$(P(OC_2H_5)_3)(CO)_5Cr$	18461-32-0	4CO	10.0	EI	5564
$C_{16}H_{27}O_4PCr^+$						
	$((n\text{-}C_4H_9)_3P)(CO)_5Cr$	18497-59-1	CO	8.25	EI	5564
$C_{22}H_{15}O_4PCr^+$						
	$((C_6H_5)_3P)(CO)_5Cr$	14917-12-5	CO	8.5	EI	5564
	(Chromium,pentacarbonyl(triphenylphosphine)-(OC-6-22))					
$C_5H_3O_5PCr^+$						
	$(CO)_5PH_3Cr$	18116-53-5	**	7.90 (V)	PE	4252
$C_5H_9O_5PCr^+$						
	$(P(OCH_3)_3)(CO)_5Cr$	18461-34-2	3CO	9.4	EI	5564
$C_8H_9O_5PCr^+$						
	$(CO)_5P(CH_3)_3Cr$	26555-09-9	**	7.58 (V)	PE	4252

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_9O_5PCr^+$						
	$(CO)_5P(CH_3)_3Cr$	26555-09-9	**	7.6	PE	5602
$C_8H_{15}O_5PCr^+$						
	$(P(OC_2H_5)_3)(CO)_5Cr$	18461-32-0	3CO	9.2	EI	5564
$C_{11}H_{15}O_5PCr^+$						
	$((C_2H_5)_3P)(CO)_5Cr$	21321-30-2	**	7.6	PE	5602
$C_{11}H_{17}O_5PCr^+$						
	$C_{13}H_{17}O_7PCr$ (Chromium,dicarbonyl[(1,2,3,4,5,6-η)-methylbenzoate](trimethyl phosphite-P)-)	53248-14-9	2CO	7.2	EI	5448
$C_{23}H_{15}O_5PCr^+$						
	$(C_6H_5)_3P(CO)_5Cr$ (Chromium, pentacarbonyl (triphenylphosphine)-(OC-6-22)-)	14917-12-5	**	7.30 (V)	PE	5139
			**	7.40±0.05	EI	4600
$C_{23}H_{33}O_5PCr^+$						
	$(C_6H_{11})_3P(CO)_5Cr$ (Chromium, pentacarbonyl (tricyclohexylphosphine)-(OC-6-22)-)	15603-93-7	**	7.24 (V)	PE	5139
$C_{26}H_{23}O_5PCr^+$						
	$C_{28}H_{23}O_7PCr$ (Chromium,dicarbonyl[(1,2,3,4,5,6-η)-methyl benzoate](triphenyl phosphite-P)-)	63928-77-8	2CO	7.2	EI	5448
$C_6H_6O_6PCr^+$						
	$(P(OCH_3)_3)(CO)_5Cr$	18461-34-2	OCH_3+CO	11.9	EI	5564
$C_6H_9O_6PCr^+$						
	$(P(OCH_3)_3)(CO)_5Cr$	18461-34-2	2CO	8.7	EI	5564
$C_9H_{15}O_6PCr^+$						
	$(P(OC_2H_5)_3)(CO)_5Cr$	18461-32-0	2CO	8.8	EI	5564
$C_7H_6O_7PCr^+$						
	$(P(OCH_3)_3)(CO)_5Cr$	18461-34-2	OCH_3	10.8	EI	5564
$C_7H_9O_7PCr^+$						
	$(P(OCH_3)_3)(CO)_5Cr$	18461-34-2	CO	8.25	EI	5564
$C_9H_{10}O_7PCr^+$						
	$(P(OC_2H_5)_3)(CO)_5Cr$	18461-32-0	OC_2H_5	11.1	EI	5564
$C_{10}H_{15}O_7PCr^+$						
	$(P(OC_2H_5)_3)(CO)_5Cr$	18461-32-0	CO	8.3	EI	5564
$C_{13}H_{17}O_7PCr^+$						
	$C_{13}H_{17}O_7PCr$ (Chromium,dicarbonyl[(1,2,3,4,5,6-η)-methylbenzoate](trimethyl phosphite-P)-)	53248-14-9	**	6.6	EI	5448
$C_{28}H_{23}O_7PCr^+$						
	$C_{28}H_{23}O_7PCr$ (Chromium,dicarbonyl[(1,2,3,4,5,6-η)-methyl benzoate](triphenyl phosphite-P)-)	63928-77-8	**	6.8	EI	5448
$C_8H_9O_8PCr^+$						
	$((CH_3O)_3P)(CO)_5Cr$	18461-34-2	**	8.0	PE	5602

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{11}H_{15}O_8PCr^+$						
	$((C_2H_5O)_3P)(CO)_5Cr$	18461-32-0	**	7.9	PE	5602
$C_{14}H_{21}O_8PCr^+$						
	iso-$C_3H_7O)_3P(CO)_5Cr$	XXXXX-XX-X	**	7.61 (V)	PE	5139
$C_{23}H_{15}O_8PCr^+$						
	$(C_6H_5O)_3P(CO)_5Cr$	18461-39-7	**	7.67 (V)	PE	5139
	(Chromium, pentacarbonyl (triphenyl phosphite-P)-(OC-6-22)-)					
$C_7H_{18}N_3OPCr^+$						
	$(((CH_3)_2N)_3P)(CO)_5Cr$	XXXXX-XX-X	4CO	9.8±0.05	EI	3952
$C_9H_{18}N_3O_3PCr^+$						
	$(((CH_3)_2N)_3P)(CO)_5Cr$	XXXXX-XX-X	2CO	8.6±0.05	EI	3952
$C_{10}H_{18}N_3O_4PCr^+$						
	$(((CH_3)_2N)_3P)(CO)_5Cr$	XXXXX-XX-X	CO	7.6±0.05	EI	3952
$C_{11}H_{18}N_3O_5PCr^+$						
	$(((CH_3)_2N)_3P)(CO)_5Cr$	15137-66-3	**	6.6±0.05	EI	3952
			**	7.6	PE	5602
$C_{16}H_{30}N_2O_3P_2Cr^+$						
	$C_{16}H_{30}N_2O_3P_2Cr$	XXXXX-XX-X	**	6.70 (V)	PE	5601
$C_{15}H_{36}N_6O_3P_2Cr^+$						
	$(((CH_3)_2N)_3P)_2(CO)_4Cr$	19976-85-3	CO	9.5±0.05	EI	3952
$C_{16}H_{36}N_6O_4P_2Cr^+$						
	$(((CH_3)_2N)_3P)_2(CO)_4Cr$	19976-85-3	**	6.5±0.05	EI	3952
$F_{18}P_6Cr^+$						
	$(PF_3)_6Cr$	26117-61-3	**	9.0	PE	4021
			**	9.29 (V)	PE	4456
$C_3H_9N_3F_{12}P_6Cr^+$						
	$(CH_3N(PF_2)_2)_3Cr$	63404-40-0	**	7.70 (V)	PE	5376
$C_5O_5F_3PCr^+$						
	$(PF_3)(CO)_5Cr$	18461-42-2	**	8.56 (V)	PE	5539
			**	8.7	PE	5602
			**	8.70	EI	5453
$C_4O_4F_6P_2Cr^+$						
	$(PF_3)_2(CO)_4Cr$	31616-42-9	**	8.85	EI	5453
$C_3O_3F_9P_3Cr^+$						
	$(PF_3)_3(CO)_3Cr$	31616-43-0	**	8.90	EI	5453
$CSCr^+$						
	$CS(CO)_5Cr$	50358-90-2	5CO	13.68±0.04	EI	5291
$C_5H_5NSCr^+$						
	$(C_5H_5)(CO)_2(NS)Cr$	66539-91-1	2CO	9.07±0.1	EI	5348
	(Chromium,dicarbonyl(η^5-2,4-cyclopentadien-1-yl)thionitrosyl-)					
C_2OSCr^+						
	$CS(CO)_5Cr$	50358-90-2	4CO	12.12±0.04	EI	5291
$C_3O_2SCr^+$						
	$CS(CO)_5Cr$	50358-90-2	3CO	11.12±0.04	EI	5291

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_4O_3SCr^+$						
	$CS(CO)_5Cr$	50358-90-2	2CO	10.22±0.04	EI	5291
$C_5O_4SCr^+$						
	$CS(CO)_5Cr$	50358-90-2	CO	9.39±0.04	EI	5291
$C_6O_5SCr^+$						
	$(CS)(CO)_5Cr$	50358-90-2	**	8.16 (V)	PE	5333
			**	8.16 (V)	PE	5518
			**	8.31±0.03	EI	5291
$C_9H_8O_2SCr^+$						
	$(C_6H_5COOCH_3)(CS)(CO)_2Cr$ (Chromium,(carbonothioyl)dicarbonyl[(1,2,3,4,5,6-η)-methylbenzoate]-)	52140-27-9	2CO	9.2	EI	5448
$C_{11}H_8O_4SCr^+$						
	$(C_6H_5COOCH_3)(CS)(CO)_2Cr$ (Chromium,(carbonothioyl)dicarbonyl[(1,2,3,4,5,6-η)-methylbenzoate]-)	52140-27-9	**	7.8	EI	5448
$C_8H_6O_5SCr^+$						
	$CH_3C(SCH_3)(CO)_5Cr$	35797-92-3	**	7.35 (V)	PE	4692
$C_9H_8O_5SCr^+$						
	$(S(CH_2)_4)(CO)_5Cr$ (Chromium,pentacarbonyl(tetrahydrothiophene)-)	15038-40-1	**	7.45	EI	5292
			**	7.45±0.05	EI	3498
$C_7H_6O_6SCr^+$						
	$(SO(CH_3)_2)(CO)_5Cr$	36083-80-4	**	7.64	EI	5292
			**	7.64±0.05	EI	3498
$C_7H_4O_8SCr^+$						
	$(SO(OCH_2)_2)(CO)_5Cr$	36252-44-5	**	7.80	EI	5292
			**	7.80±0.05	EI	3498
$C_6H_5NOSCr^+$						
	$(C_5H_5)(CO)_2(NS)Cr$ (Chromium,dicarbonyl(η^5-2,4-cyclopentadien-1-yl)thionitrosyl-)	66539-91-1	CO	8.15±0.1	EI	5348
$C_7H_5NO_2SCr^+$						
	$(C_5H_5)(CO)_2(NS)Cr$ (Chromium,dicarbonyl(η^5-2,4-cyclopentadien-1-yl)thionitrosyl-)	66539-91-1	**	7.83±0.1	EI	5348
$C_8H_3NO_5SCr^+$						
	$(C_3H_3NS)(CO)_5Cr$ (Chromium,pentacarbonyl(isothiazole-N^2)-(OC-6-22)-)	39554-14-8	**	7.32 (V)	PE	5213
	$(C_3H_3NS)(CO)_5Cr$ (Chromium,pentacarbonyl(thiazole-N^3)-(OC-6-22)-)	55293-31-7	**	7.36 (V)	PE	5213
$C_{27}H_{23}O_5PSCr^+$						
	$C_{28}H_{23}O_6PSCr$ (Chromium,(carbonothioyl)carbonyl[(1,2,3,4,5,6-η)-methyl benzoate](triphenyl phosphite-P)-)	57546-01-7	CO	8.8±0.3	EI	5448
$C_{28}H_{23}O_6PSCr^+$						
	$C_{28}H_{23}O_6PSCr$ (Chromium,(carbonothioyl)carbonyl[(1,2,3,4,5,6-η)-methyl benzoate](triphenyl phosphite-P)-)	57546-01-7	**	7.4	EI	5448
$C_{12}H_{30}O_6P_3S_6Cr^+$						
	$((C_2H_5)_2S_2PO_2)_3Cr$	14177-95-8	**	7.71 (V)	PE	5203

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
Cl_2Cr^+						
	$CrCl_2$	10049-05-5	**	9.97 (V)	PE	5172
$C_6H_5ClCr^+$						
	$(C_6H_5Cl)(CO)_3Cr$ (Chromium, tricarbonyl(η^6-chlorobenzene)-)	12082-03-0	3CO	10.10±0.1	EI	3788
$O_2Cl_2Cr^+$						
	CrO_2Cl_2	14977-61-8	**	11.8 (V)	PE	4455
			**	11.85±0.03 (V)	PE	5148
$C_7H_5OClCr^+$						
	$(C_6H_5Cl)(CO)_3Cr$ (Chromium, tricarbonyl(η^6-chlorobenzene)-)	12082-03-0	2CO	8.18±0.1	EI	3788
$C_8H_5O_2ClCr^+$						
	$(C_6H_5Cl)(CO)_3Cr$ (Chromium, tricarbonyl(η^6-chlorobenzene)-)	12082-03-0	CO	7.45±0.1	EI	3788
$C_9H_5O_3ClCr^+$						
	$(C_6H_5Cl)(CO)_3Cr$ (Chromium, tricarbonyl(η^6-chlorobenzene)-)	12082-03-0	**	7.00±0.1	EI	3788
$C_{13}H_7O_6ClCr^+$						
	$(C_6H_4ClCOCH_3)(CO)_5Cr$ (Chromium, pentacarbonyl[(4-chlorophenyl)methoxymethylene]-, (*OC*-6-21)-)	29160-37-0	**	7.34±0.1	EI	3582
$C_{10}H_4NO_5ClCr^+$						
	$(ClC_5H_4N)(CO)_5Cr$ (Chromium,pentacarbonyl(4-chloropyridine)-(OC-6-22)-)	64914-28-9	**	7.42 (V)	PI	5566
$C_5O_5PCl_3Cr^+$						
	$(PCl_3)(CO)_5Cr$	18461-41-1	**	8.32 (V)	PE	5539
			**	8.26	EI	5453
Mn^+						
($^7S_3$)	Mn	7439-96-5	**	7.434	S	5497
(^7S)			**	7.43	PE	4858
(^5S)			**	8.61	PE	4858
(^5D)			**	14.26	PE	4858
	$C_5H_5(CO)_3Mn$ (Manganese, tricarbonyl(η^5-2,4-cyclopentadien-1-yl)-)	12079-65-1	$3CO+C_5H_5$	15.32±0.02	EI	4661
	$C_5H_4(CH_3)(CO)_3Mn$ (Manganese, tricarbonyl[1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]-)	12108-13-3	$3CO+C_6H_7$	16.33±0.02	EI	4661
	$(CO)_5MnH$	16972-33-1		17.3	EI	3814
	$((CH_3)_3Si)(CO)_5Mn$	26500-16-3		21.7	EI	3814
	$((CH_3)_3Si)(CO)_4(PF_3)Mn$	33989-27-4		21.9	EI	3814
	$C_5H_5(CO)_2CSMn$ (Manganese, (carbonothioyl)dicarbonyl(η^5-2,4-cyclopentadien-1-yl)-)	31741-76-1	$2CO+CS+C_5H_5$	16.51±0.04	EI	4661
	$C_5H_4(CH_3)(CO)_2CSMn$ (Manganese, (carbonothioyl)dicarbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]-)	49716-52-1	$2CO+CS+C_6H_7$	16.22±0.02	EI	4661
	$(C_5H_5)_2(CS)_2(NO)_2Mn_2$ (Manganese,bis[μ-(carbonothioyl)bis(η^5-2,4-cyclopentadien-1-yl) dinitrosyldi-(*Mn-Mn*)-)	64090-73-9		26.71±0.03	EI	5423
	$(C_5H_5)(CS)(NO)MnI$ (Manganese,(carbonothioyl)(η^5-2,4-cyclopentadien-1-yl)iodonitrosyl-)	58450-74-1		16.57±0.03	EI	5561
	$(CH_3C_5H_4)(CS)(NO)MnI$ (Manganese,(carbonothioyl)](1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]iodonitrosyl-)	XXXXX-XX-X		15.57±0.07	EI	5561

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
Mn_2^+						
	$(C_5H_5)_2(CS)_2(NO)_2Mn_2$ (Manganese,bis[μ-(carbonothioyl)bis(η^5-2,4-cyclopentadien-1-yl) dinitrosyldi-(*Mn-Mn*)-)	64090-73-9		28.38±0.02	EI	5423
HMn^+						
	$(CO)_5MnH$	16972-33-1	5CO	13.8	EI	3814
$C_5H_5Mn^+$						
	$C_5H_5(CO)_3Mn$ (Manganese, tricarbonyl(η^5-2,4-cyclopentadien-1-yl)-)	12079-65-1	3CO	11.67±0.04	EI	4661
	$C_5H_5(CO)_2CSMn$ (Manganese, (carbonothioyl)dicarbonyl(η^5-2,4-cyclopentadien-1-yl)-)	31741-76-1	2CO+CS	12.25±0.03	EI	4661
	$(C_5H_5)_2(CS)_2(NO)_2Mn_2$ (Manganese,bis[μ-(carbonothioyl)bis(η^5-2,4-cyclopentadien-1-yl) dinitrosyldi-(*Mn-Mn*)-)	64090-73-9		21.33±0.16	EI	5423
	$(C_5H_5)(CS)(NO)MnI$ (Manganese,(carbonothioyl)(η^5-2,4-cyclopentadien-1-yl)iodonitrosyl-)	58450-74-1	NO+CS+I	12.84±0.03	EI	5561
$C_6H_7Mn^+$						
	$C_5H_4(CH_3)(CO)_3Mn$ (Manganese, tricarbonyl[1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]-)	12108-13-3	3CO	11.21±0.03	EI	4661
	$(CH_3C_5H_4)(CO)_2((C_6H_5)_3P)Mn$ (Manganese,dicarbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl] (triphenylphosphine)-)	12100-95-7		15.97±0.09	EI	5576
	$C_5H_4(CH_3)(CO)_2CSMn$ (Manganese, (carbonothioyl)dicarbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]-)	49716-52-1	2CO+CS	12.20±0.01	EI	4661
	$C_{26}H_{22}OPSMn$ (Manganese,(carbonothioyl)carbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl](triphenylphosphine)-)	70279-43-5		16.23±0.02	EI	5576
	$(CH_3C_5H_4)(CO)_2((C_6H_5)_3As)Mn$ (Manganese,dicarbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl](triphenylarsine)-)	XXXXX-XX-X		14.73±0.02	EI	5576
	$C_{26}H_{22}OSMnAs$ (Manganese,(carbonothioyl)carbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl](triphenylarsine)-)	XXXXX-XX-X		15.68±0.06	EI	5576
	$C_{26}H_{22}O_2MnSb$ (Manganese,dicarbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl](triphenylstibine)-)	XXXXX-XX-X		14.51±0.04	EI	5576
	$(CH_3C_5H_4)(CO)(CS)((C_6H_5)_3Sb)Mn$ (Manganese,(carbonothioyl)carbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl](triphenylstibine)-)	XXXXX-XX-X		14.95±0.10	EI	5576
	$(CH_3C_5H_4)(CS)(NO)MnI$ (Manganese,(carbonothioyl)](1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]iodonitrosyl-)	XXXXX-XX-X	NO+CS+I	13.19±0.04	EI	5561
$C_{10}H_{10}Mn^+$						
	$(C_5H_5)_2Mn$ (Manganocene)	1271-27-8	**	6.26 (V)	PE	5394
			**	6.26 (V)	PE	5507
			**	6.55	PE	3725
	$(C_5H_5)_2(CS)_2(NO)_2Mn_2$ (Manganese,bis[μ-(carbonothioyl)bis(η^5-2,4-cyclopentadien-1-yl) dinitrosyldi-(*Mn-Mn*)-)	64090-73-9		16.16±0.03	EI	5423
$C_{11}H_{11}Mn^+$						
	$(C_5H_5)(C_6H_6)Mn$ (Manganese, (η^6-benzene)(η^5-2,4-cyclopentadien-1-yl)-)	1271-43-8	**	6.36±0.1 (V)	PE	3686
$C_{12}H_{14}Mn^+$						
	$(C_5H_4CH_3)_2Mn$ (Manganocene,1,1'-dimethyl-)	32985-17-4	**	6.01 (V)	PE	5507

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{12}H_{14}Mn^+$						
	$(C_5H_4CH_3)_2Mn$	32985-17-4	**	6.06 (V)	PE	5394
$C_{20}H_{30}Mn^+$						
	$(C_5(CH_3)_5)_2Mn$ (Manganocene,decamethyl-)	XXXXX-XX-X	**	5.33 (V)	PE	5394
$C_{44}H_{28}N_4Mn^+$						
	$C_{20}H_8N_4(C_6H_5)_4Mn$ (Manganese, [5,10,15,20-tetraphenyl-21H,23H-porphinato(2-)-N^{21},N^{22},N^{23},N^{24}]-(SP-4-1)-)	31004-82-7	**	6.44 (V)	PE	4557
$C_{32}H_{16}N_8Mn^+$						
	$C_{32}H_{16}N_8Mn$ (Manganese, [29*H*,31*H*-phthalocyaninato(2$^-$)-N^{29},N^{30},N^{31},N^{32}]- (*SP*-4-1)-)	14325-24-7	**	7.26±0.10	EI	3829
$COMn^+$						
	$((CH_3)_3Si)(CO)_5Mn$	26500-16-3		17.9	EI	3814
$C_2O_2Mn^+$						
	$(CO)_5MnH$	16972-33-1		13.7	EI	3814
$C_3O_3Mn^+$						
	$(CO)_5MnH$	16972-33-1		13.2	EI	3814
$C_4O_4Mn^+$						
	$(CO)_5MnH$	16972-33-1		11.2	EI	3814
$C_{10}O_{10}Mn_2^+$						
	$(CO)_{10}Mn_2$	10170-69-1	**	8.02 (V)	PE	4492
$CHOMn^+$						
	$(CO)_5MnH$	16972-33-1	4CO	12.7	EI	3814
$C_6H_5OMn^+$						
	$C_5H_5(CO)_3Mn$ (Manganese, tricarbonyl(η^5-2,4-cyclopentadien-1-yl)-)	12079-65-1	2CO	9.28±0.01	EI	4661
$C_7H_7OMn^+$						
	$C_5H_4(CH_3)(CO)_3Mn$ (Manganese, tricarbonyl[1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]-)	12108-13-3	2CO	9.01±0.03	EI	4661
$C_2HO_2Mn^+$						
	$(CO)_5MnH$	16972-33-1	3CO	10.3	EI	3814
$C_7H_5O_2Mn^+$						
	$C_5H_5(CO)_3Mn$ (Manganese, tricarbonyl(η^5-2,4-cyclopentadien-1-yl)-)	12079-65-1	CO	8.37±0.01	EI	4661
$C_8H_7O_2Mn^+$						
	$C_5H_4(CH_3)(CO)_3Mn$ (Manganese, tricarbonyl[1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]-)	12108-13-3	CO	8.13±0.01	EI	4661
$C_3HO_3Mn^+$						
	$(CO)_5MnH$	16972-33-1	2CO	9.9	EI	3814
$C_8H_5O_3Mn^+$						
	$C_5H_5(CO)_3Mn$ (Manganese, tricarbonyl (η^5-2,4-cyclopentadien-1-yl)-)	12079-65-1	**	8.05 (V)	PE	4570
			**	8.06±0.01	EI	4661
			**	8.12±0.1	EI	3578
			**	8.12	EI	5453

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_9H_7O_3Mn^+$						
	$C_6H_7(CO)_3Mn$	12108-14-4	**	8.06±0.05 (V)	PE	4501
	(Manganese, tricarbonyl[1,2,3,4,5-η)-2,4-cyclohexadien-1-yl]-)					
	$C_5H_4(CH_3)(CO)_3Mn$	12108-13-3	**	~8.1	PE	4995
	(Manganese, tricarbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]-)					
			**	7.86±0.01	EI	4661
$C_{10}H_7O_3Mn^+$						
	$C_7H_7(CO)_3Mn$	53011-14-6	**	7.78±0.05 (V)	PE	4501
	(Manganese, tricarbonyl[(1,2,3,4,5-η)-2,4,6-cycloheptatrien-1-yl]-)					
$C_{10}H_9O_3Mn^+$						
	$C_7H_9(CO)_3Mn$	32798-86-0	**	7.86±0.05 (V)	PE	4501
	(Manganese, tricarbonyl[1,2,3,4,5-η)-2,4-cycloheptadien-1-yl]-)					
$C_4HO_4Mn^+$						
	$(CO)_5MnH$	16972-33-1	CO	8.7	EI	3814
$C_5HO_5Mn^+$						
	$(CO)_5MnH$	16972-33-1	**	8.85 (V)	PE	4448
			**	8.85 (V)	PE	4456
			**	8.5±0.1	EI	3814
$C_6H_3O_5Mn^+$						
	$CH_3(CO)_5Mn$	13601-24-6	**	8.65 (V)	PE	4110
$C_{15}H_{21}O_6Mn^+$						
	$(CH_3COCHCOCH_3)_3Mn$	14284-89-0	**	7.32±0.07 (V)	PE	3682
	(Manganese, tris(2,4-pentanedionato-*O*,*O*')-, (*OC*-6-11)-)					
$C_{16}H_{14}N_2O_2Mn^+$						
	$C_{16}H_{14}N_2O_2Mn$	XXXXX-XX-X	**	7.77±0.08	EI	4668
	(Manganese, [[2,2'-[1,2-ethanediylbis(nitrilomethylidyne)] bis[phenolato]](2-)-N,N',O,O']-)					
FMn^+						
	MnF	13569-25-0	**	8.51±0.2	EI	3623
	MnF_2	7782-64-1		13.60±0.2	EI	3623
F_2Mn^+						
	MnF_2	7782-64-1	**	11.38±0.2	EI	3623
	MnF_3	7783-53-1		14.79±0.2	EI	3623
F_3Mn^+						
	MnF_3	7783-53-1	**	12.57±0.2	EI	3623
	MnF_4	15195-58-1		15.50±0.2	EI	3623
F_4Mn^+						
	MnF_4	15195-58-1	**	13.46±0.2	EI	3623
O_3FMn^+						
	MnO_3F	15586-97-7	**	12.20±0.05 (V)	PE	4632
$C_6O_5F_3Mn^+$						
	$CF_3(CO)_5Mn$	13601-14-4	**	9.17 (V)	PE	4110
$C_{15}H_3O_6F_{18}Mn^+$						
	$(CF_3COCHCOCF_3)_3Mn$	14354-50-8	**	9.2 (V)	PE	3682
	(Manganese, tris(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato-*O*,*O*')-, (*OC*-6-11)-)					
$C_{19}H_3O_{10}F_{18}Mn^+$						
	$(CF_3COCHCOCF_3)_3(CO)_4Mn$	XXXXX-XX-X	**	8.11±0.07 (V)	PE	3682
	(Tris(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato)manganese tetracarbonyl)					

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_3H_9SiMn^+$						
	$((CH_3)_3Si)(CO)_5Mn$	26500-16-3		12.8	EI	3814
$C_4H_9OSiMn^+$						
	$((CH_3)_3Si)(CO)_5Mn$	26500-16-3	4CO	12.0	EI	3814
	$((CH_3)_3Si)(CO)_4(PF_3)Mn$	33989-27-4		12.7	EI	3814
$C_5H_9O_2SiMn^+$						
	$((CH_3)_3Si)(CO)_5Mn$	26500-16-3	3CO	10.8	EI	3814
	$((CH_3)_3Si)(CO)_4(PF_3)Mn$	33989-27-4		11.1	EI	3814
$C_6H_9O_3SiMn^+$						
	$((CH_3)_3Si)(CO)_5Mn$	26500-16-3	2CO	10.2	EI	3814
$C_7H_9O_4SiMn^+$						
	$((CH_3)_3Si)(CO)_5Mn$	26500-16-3	CO	9.2	EI	3814
	$((CH_3)_3Si)(CO)_4(PF_3)Mn$	33989-27-4	PF_3	9.9	EI	3814
$C_5H_3O_5SiMn^+$						
	$(SiH_3)(CO)_5Mn$	15770-61-3	**	8.99±0.02 (V)	PE	3827
$C_8H_9O_5SiMn^+$						
	$(Si(CH_3)_3)(CO)_5Mn$	XXXXX-XX-X	**	9.0±0.1 (V)	PE	3827
	$((CH_3)_3Si)(CO)_5Mn$	26500-16-3	**	8.47	PE	5321
			**	8.7±0.2	EI	3814
$C_{24}H_{22}PMn^+$						
	$(CH_3C_5H_4)(CO)_2((C_6H_5)_3P)Mn$ (Manganese,dicarbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl](triphenylphosphine)-)	12100-95-7	2CO	8.54±0.03	EI	5576
	$C_{20}H_{22}OPSMn$ (Manganese,(carbonothioyl)carbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl](triphenylphosphine)-)	70279-43-5	CO+CS	9.19±0.03	EI	5576
$C_{25}H_{22}OPMn^+$						
	$(CH_3C_5H_4)(CO)_2((C_6H_5)_3P)Mn$ (Manganese,dicarbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl](triphenylphosphine)-)	12100-95-7	CO	8.95±0.02	EI	5576
$C_7H_8O_2PMn^+$						
	$(C_5H_5)(PH_3)(CO)_2Mn$ (Manganese,dicarbonyl(η^5-2,4-cyclopentadien-1-yl)(phosphine)-)	12300-46-8	**	7.28	EI	5453
$C_{26}H_{22}O_2PMn^+$						
	$(CH_3C_5H_4)(CO)_2((C_6H_5)_3P)Mn$ (Manganese,dicarbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl](triphenylphosphine)-)	12100-95-7	**	6.55±0.03	EI	5576
$C_7H_4O_3PMn^+$						
	$C_4H_4P(CO)_3Mn$ (Phosphacymantrene)	XXXXX-XX-X	**	8.25 (V)	PE	4995
$C_9H_8O_3PMn^+$						
	$C_4H_2P(CH_3)_2(CO)_3Mn$ (Phosphacymantrene, 3,4-dimethyl-)	XXXXX-XX-X	**	8.13 (V)	PE	4995
$C_{11}H_{12}O_3PMn^+$						
	$C_{11}H_{12}O_3PMn$ (Phosphacymantrene, 3,4-dimethyl-2-ethyl-)	XXXXX-XX-X	**	8. (V)	PE	4995
$C_{11}H_{10}O_4PMn^+$						
	$C_{11}H_{10}O_4PMn$ (Phosphacymantrene, 2-acetyl-3,4-dimethyl-)	XXXXX-XX-X	**	8.2 (V)	PE	4995

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$HF_{15}P_5Mn^+$						
	$H(PF_3)_5Mn$	20558-69-4	**	9.47 (V)	PE	4456
$C_7H_5O_2F_3PMn^+$						
	$(C_5H_5)(PF_3)(CO)_2Mn$ (Manganese,dicarbonyl(η^5-2,4-cyclopentadien-1-yl)(phosphorus trichloride)-)	12275-47-7	**	8.24	EI	5453
$C_7H_9O_4F_3SiPMn^+$						
	$((CH_3)_3Si)(CO)_4PF_3Mn$	33989-27-4	**	8.7±0.2	EI	3814
$C_6H_9O_3F_6SiP_2Mn^+$						
	$((CH_3)_3Si)(CO)_3(PF_3)_2Mn$	36087-62-4	**	8.1±0.1	EI	3814
$C_5H_9O_2F_9SiP_3Mn^+$						
	$((CH_3)_3Si)(CO)_2(PF_3)_3Mn$	36087-61-3	**	9.1±0.2	EI	3814
$CSMn^+$						
	$C_5H_5(CO)_2CSMn$ (Manganese, (carbonothioyl)dicarbonyl(η^5-2,4-cyclopentadien-1-yl)-)	31741-76-1	$2CO+C_5H_5$	16.91±0.02	EI	4661
	$C_5H_4(CH_3)(CO)_2CSMn$ (Manganese, (carbonothioyl)dicarbonyl[(1,2,3,4,5-η)-1-methyl—2,4-cyclopentadien-1-yl]-)	49716-52-1	$2CO+C_6H_7$	17.97±0.01	EI	4661
	$(C_5H_5)(CS)(NO)MnI$ (Manganese,(carbonothioyl)(η^5-2,4-cyclopentadien-1-yl)iodonitrosyl-)	58450-74-1	C_5H_5+NO+I	17.74±0.03	EI	5561
	$(CH_3C_5H_4)(CS)(NO)MnI$ (Manganese,(carbonothioyl)](1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]iodonitrosyl-)	XXXXX-XX-X		18.00±0.05	EI	5561
$C_2S_2Mn_2^+$						
	$(C_5H_5)_2(CS)_2(NO)_2Mn_2$ (Manganese,bis[μ-(carbonothioyl)bis(η^5-2,4-cyclopentadien-1-yl) dinitrosyldi-(*Mn-Mn*)-)	64090-73-9		20.92±0.04	EI	5423
$C_6H_5SMn^+$						
	$C_5H_5(CO)_2CSMn$ (Manganese, (carbonothioyl)dicarbonyl(η^5-2,4-cyclopentadien-1-yl)-)	31741-76-1	2CO	9.25±0.01	EI	4661
	$(C_5H_5)_2(CS)_2(NO)_2Mn_2$ (Manganese,bis[μ-(carbonothioyl)bis(η^5-2,4-cyclopentadien-1-yl) dinitrosyldi-(*Mn-Mn*)-)	64090-73-9		13.00±0.02	EI	5423
	$(C_5H_5)(CS)(NO)MnI$ (Manganese,(carbonothioyl)(η^5-2,4-cyclopentadien-1-yl)iodonitrosyl-)	58450-74-1	NO+I	10.17±0.03	EI	5561
$C_7H_7SMn^+$						
	$C_5H_4(CH_3)(CO)_2CSMn$ (Manganese, (carbonothioyl)dicarbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]-)	49716-52-1	2CO	9.15±0.01	EI	4661
	$C_{26}H_{22}OPSMn$ (Manganese,(carbonothioyl)carbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl](triphenylphosphine)-)	70279-43-5	$CO+(C_6H_5)_3P$	12.54±0.50	EI	5576
	$C_{26}H_{22}OSMnAs$ (Manganese,(carbonothioyl)carbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl](triphenylarsine)-)	XXXXX-XX-X		11.78±0.30	EI	5576
	$(CH_3C_5H_4)(CO)(CS)((C_6H_5)_3Sb)Mn$ (Manganese,(carbonothioyl)carbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl](triphenylstibine)-)	XXXXX-XX-X		10.78±0.08	EI	5576
	$(CH_3C_5H_4)(CS)(NO)MnI$ (Manganese,(carbonothioyl)](1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]iodonitrosyl-)	XXXXX-XX-X	NO+I	10.21±0.03	EI	5561
$C_{10}H_{15}SMn^+$						
	$C_4H_8SC_5H_4CH_3Mn(CO)_2$ (Dicarbonyl((1,2,3,4,5-)-1-methyl-2,4-cyclopentadien-1-yl) (tetrahydrothiophene)manganese)	12153-94-5	2CO	7.9±0.1	EI	3498

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{18}H_{17}SMn^+$	$(C_6H_5)_2SC_5H_4CH_3Mn(CO)_2$ (Dicarbonyl((1,2,3,4,5-)-1-methyl-2,4-cyclopentadien-1-yl) (1,1′-thiobis(benzene)-*S*)manganese)	36154-47-9	2CO	8.0±0.1	EI	3498
$C_7H_4S_2Mn^+$	$(C_5H_5)_2(CS)_2(NO)_2Mn_2$ (*Manganese,bis*[*μ*-(carbonothioyl)bis(*η*^{5}-2,4-cyclopentadien-1-yl) dinitrosyldi-(*Mn-Mn*)-)	64090-73-9		15.61±0.16	EI	5423
$C_7H_5S_2Mn^+$	$(C_5H_5)_2(CS)_2(NO)_2Mn_2$ (Manganese,bis[*μ*-(carbonothioyl)bis(*η*^{5}-2,4-cyclopentadien-1-yl) dinitrosyldi-(*Mn-Mn*)-)	64090-73-9		16.02±0.05	EI	5423
$C_6H_5SMn_2^+$	$(C_5H_5)_2(CS)_2(NO)_2Mn_2$ (Manganese,bis[*μ*-(carbonothioyl)bis(*η*^{5}-2,4-cyclopentadien-1-yl) dinitrosyldi-(*Mn-Mn*))	64090-73-9		16.18±0.07	EI	5423
$C_{11}H_{10}SMn_2^+$	$(C_5H_5)_2(CS)_2(NO)_2Mn_2$ (Manganese,bis[*μ*-(carbonothioyl)bis(*η*^{5}-2,4-cyclopentadien-1-yl) dinitrosyldi-(*Mn-Mn*))	64090-73-9	CS+2NO	12.64±0.02	EI	5423
$C_7H_4S_2Mn_2^+$	$(C_5H_5)_2(CS)_2(NO)_2Mn_2$ (Manganese,bis[*μ*-(carbonothioyl)bis(*η*^{5}-2,4-cyclopentadien-1-yl) dinitrosyldi-(*Mn-Mn*)-)	64090-73-9		11.87±0.03	EI	5423
$C_7H_5S_2Mn_2^+$	$(C_5H_5)_2(CS)_2(NO)_2Mn_2$ (Manganese,bis[*μ*-(carbonothioyl)bis(*η*^{5}-2,4-cyclopentadien-1-yl) dinitrosyldi-(*Mn-Mn*))	64090-73-9	C_5H_5+2NO	12.89±0.02	EI	5423
$C_{12}H_{10}S_2Mn_2^+$	$(C_5H_5)_2(CS)_2(NO)_2Mn_2$ (Manganese,bis[*μ*-(carbonothioyl)bis(*η*^{5}-2,4-cyclopentadien-1-yl) dinitrosyldi-(*Mn-Mn*))	64090-73-9	2NO	8.99±0.02	EI	5423
$C_7H_5OSMn^+$	$C_5H_5(CO)_2CSMn$ (Manganese, (carbonothioyl)dicarbonyl(*η*^{5}-2,4-cyclopentadien-1-yl)-)	31741-76-1	CO	8.18±0.01	EI	4661
$C_8H_7OSMn^+$	$C_5H_4(CH_3)(CO)_2CSMn$ (Manganese, (carbonothioyl)dicarbonyl[(1,2,3,4,5-*η*)-1-methyl-2,4-cyclopentadien-1-yl]-)	49716-52-1	CO	7.95±0.02	EI	4661
$C_8H_{13}OSMn^+$	$C_5H_4CH_3Mn(CO)_2SO(CH_3)_2$ (Dicarbony((1,2,3,4,5-)-1-methyl-2,4-cyclopentadien-1-yl) (sulfinylbis(methane)-*S*)manganese)	12153-02-5	2CO	7.9±0.1	EI	3498
$C_{10}H_{15}OSMn^+$	$C_4H_8SOC_5H_4CH_3Mn(CO)_2$ (Dicarbonyl((1,2,3,4,5-)-1-methyl-2,4-cyclopentadiene-1-yl) (tetrahydrothiophene 1-oxide-*S*)manganese)	12153-95-6	2CO	7.5±0.1	EI	3498
$C_{18}H_{17}OSMn^+$	$(C_6H_5)_2SOC_5H_4CH_3Mn(CO)_2$ (Dicarbonyl((1,2,3,4,5-*η*)-1-methyl-2,4-cyclopentadien-1-yl) (1,1′-sulfinylbis(benzene)-*S*)manganese)	36154-49-1	2CO	7.8±0.1	EI	3498

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_5O_2SMn^+$						
	$(C_5H_5)(CO)_2(CS)Mn$	31741-76-1	**	7.81 (V)	PE	5518
	(Manganese,(carbonothioyl)dicarbonyl(η^5-2,4-cyclopentadien-1-yl)-)					
			**	7.78±0.01	EI	4661
$C_9H_7O_2SMn^+$						
	$C_5H_4(CH_3)(CO)_2CSMn$	49716-52-1	**	7.72±0.02	EI	4661
	(Manganese, (carbonothioyl)dicarbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]-)					
$C_{12}H_{15}O_2SMn^+$						
	$C_4H_8SC_5H_4CH_3Mn(CO)_2$	12153-94-5	**	6.45±0.05	EI	3498
	(Dicarbonyl(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl) (tetrahydrothiophene)manganese)					
			**	6.45	EI	5292
$C_{20}H_{17}O_2SMn^+$						
	$(C_6H_5)_2SC_5H_3CH_3Mn(CO)_2$	36154-47-9	**	6.27±0.05	EI	3498
	(Dicarbonyl((1,2,3,4,5-)-1-methyl-2,4-cyclopentadien-1-yl) (1,1'-thiobis(benzene)-*S*)manganese)					
			**	6.27	EI	5292
$C_8H_{11}O_3SMn^+$						
	$C_2H_4O_2SOC_5H_4CH_3Mn(CO)_2$	12152-97-5	2CO	7.75±0.1	EI	3498
	(Dicarbonyl(1,3,2-dioxathiolane 2-oxide-*S*)((1,2,3,4,5-η) -1-methyl-2,4-cyclopentadien-1-yl)manganese)					
$C_{10}H_{13}O_3SMn^+$						
	$C_5H_4CH_3Mn(CO)_2SO(CH_3)_2$	12153-02-5	**	7.19±0.05	EI	3498
	(Dicarbonyl((1,2,3,4,5-)-1-methyl-2,4-cyclopentadien-1-yl) (sulfinylbis(methane)-*S*)manganese)					
			**	7.19	EI	5292
$C_{12}H_{15}O_3SMn^+$						
	$C_4H_8SOC_5H_4CH_3Mn(CO)_2$	12153-95-6	**	6.79±0.05	EI	3498
	(Dicarbonyl((1,2,3,4,5-η)-1-methyl-2,4-cyclopentadiene-1-yl) (tetrahydrothiophene 1-oxide-*S*)manganese) *hydrothiophene-1-oxide-S-)-)*					
			**	6.79	EI	5292
$C_{20}H_{17}O_3SMn^+$						
	$(C_6H_5)_2SOC_5H_4CH_3Mn(CO)_2$	36154-49-1	**	6.76±0.05	EI	3498
	(Dicarbonyl((1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl) (1,1'-sulfinylbis(benzene)-*S*)manganese)					
			**	6.76	EI	5292
$C_{10}H_{11}O_5SMn^+$						
	$C_2H_4O_2SOC_5H_4CH_3Mn(CO)_2$	12152-97-5	**	7.38±0.05	EI	3498
	(Dicarbonyl(1,3,2-dioxathiolane 2-oxide-*S*)((1,2,3,4,5-η) -1-methyl-2,4-cyclopentadien-1-yl)manganese)					
			**	7.38	EI	5292
$C_6H_5NOSMn^+$						
	$(C_5H_5)_2(CS)_2(NO)_2Mn_2$	64090-73-9		11.04±0.03	EI	5423
	(Manganese,bis[μ-(carbonothioyl)bis(η^5-2,4-cyclopentadien-1-yl) dinitrosyldi-(*Mn-Mn*)-)					
	$(C_5H_5)(CS)(NO)MnI$	58450-74-1	I	8.77±0.04	EI	5561
	(Manganese,(carbonothioyl)(η^5-2,4-cyclopentadien-1-yl)iodonitrosyl-)					
$C_7H_7NOSMn^+$						
	$(CH_3C_5H_4)(CS)(NO)MnI$	XXXXX-XX-X	I	8.68±0.02	EI	5561
	(Manganese,(carbonothioyl)](1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]iodonitrosyl-)					

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_5NOS_2Mn^+$						
	$(C_5H_5)_2(CS)_2(NO)_2Mn_2$ (Manganese,bis[μ-(carbonothioyl)bis(η⁵-2,4-cyclopentadien-1-yl) dinitrosyldi-(*Mn-Mn*))	64090-73-9		9.03±0.04	EI	5423
$C_7H_5NOS_2Mn_2^+$						
	$(C_5H_5)_2(CS)_2(NO)_2Mn_2$ (Manganese,bis]μ-(carbonothioyl)bis(η⁵-2,4-cyclopentadien-1-yl) dinitrosyldi-(*Mn-Mn*))	64090-73-9	C_5H_5+NO	11.97±0.02	EI	5423
$C_{12}H_{10}NOS_2Mn_2^+$						
	$(C_5H_5)_2(CS)_2(NO)_2Mn_2$ (Manganese,*bis*[μ-(carbonothioyl)*bis*(η⁵-2,4-cyclopentadien-1-yl) dinitrosyldi-(*Mn-Mn*))	64090-73-9	NO	7.90±0.02	EI	5423
$C_{12}H_{10}N_2O_2S_2Mn^+$						
	$(C_5H_5)_2(CS)_2(NO)_2Mn_2$ (Manganese,bis[μ-(carbonothioyl)]bis(η⁵-2,4-cyclopentadien-1-yl) dinitrosyldi-(*Mn-Mn*)-)	64090-73-9	**	6.77±0.02	EI	5582
$C_{25}H_{22}PSMn^+$						
	$C_{26}H_{22}OPSMn$ (Manganese,(carbonothioyl)carbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl](triphenylphosphine)-)	70279-43-5	CO	7.37±0.02	EI	5576
$C_{26}H_{22}OPSMn^+$						
	$C_{26}H_{22}OPSMn$ (Manganese,(carbonothioyl)carbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl](*triphenylphosphine*)-)	70279-43-5	**	6.58±0.02	EI	5576
Cl_2Mn^+						
	$MnCl_2$	7773-01-5	**	11.03 (V)	PE	5172
$C_{44}H_{28}N_4ClMn^+$						
	$C_{20}H_8N_4(C_6H_5)_4MnCl$ (Manganese, chloro[5,10,15,20-tetraphenyl-21H,23H-porphinato(2-)-N^{21},N^{22},N^{23},N^{24}]-(SP-5-12)-)	32195-55-4	**	5.95±0.2	OTH	4962
O_3ClMn^+						
	MnO_3Cl	15605-27-3	**	11.98±0.05 (V)	PE	4632
$C_5O_5ClMn^+$						
	$(CO)_5MnCl$	14100-30-2	**	8.87±0.05 (V)	PE	4492
			**	8.94 (V)	PE	3866
$C_5O_5SiCl_3Mn^+$						
	$(CO)_5SiCl_3Mn$	38194-30-8	**	9.36±0.05	PE	4492
$C_7H_5O_2PCl_3Mn^+$						
	$(C_5H_5)(PCl_3)(CO)_2Mn$ (Manganese,dicarbonyl(η⁵-2,4-cyclopentadien-1-yl) (phosphorus trichloride)-)	12275-46-6	**	8.12	EI	5453
Fe^+						
	Fe	7439-89-6	**	7.7±0.2	EI	4618
			**	8.0±0.5	EI	4436
	$(C_5H_5)_2Fe$ (Ferrocene)	102-54-5		12.0±1.5	EI	3793
			$(C_5H_5)_2$	14.00±0.25	EI	3628
				14.10±0.15	EI	4072
	$(CO)_5Fe$	13463-40-6	5CO	16.2±0.2	EI	4618

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
Fe^+						
	$(((CH_3)_2N)_3P)(CO)_4Fe$	19372-47-5		17.0±0.05	EI	3952
	$(C_5H_5)_2(CS)(CO)_3Fe_2$ (Iron,μ-carbonothioyl-μ-carbonyldicarbonylbis(η^5-2,4-cyclopentadien-1-yl)di(*Fe-Fe*)-)	67113-80-8		20.94±0.03	EI	5423
	$(C_5H_5)_2(CS)_2(CO)_2Fe_2$ (Iron,bis[μ-(carbonothioyl)]dicarbonylbis(η^5-2,4-cyclopentadien-1-yl)di-(*Fe-Fe*)-)	67225-86-9		20.21±0.03	EI	5423
Fe^{2+}						
	Fe^+	7439-89-6	**	16.188±0.001	S	5233
Fe_2^+						
	$(C_5H_5)_2(CS)(CO)_3Fe_2$ (Iron,μ-carbonothioyl-μ-carbonyldicarbonylbis(η^5-2,4-cyclopentadien-1-yl)di-(*Fe-Fe*)-)	67113-80-8		26.71±0.06	EI	5423
	$(C_5H_5)_2(CS)_2(CO)_2Fe_2$ (Iron,bis[μ-(carbonothioyl)]dicarbonylbis(η^5-2,4-cyclopentadien-1-yl)di-(*Fe-Fe*)-)	67225-86-9		20.89±0.03	EI	5423
C_2Fe^+						
	$(CO)_5Fe$	13463-40-6		29.9±0.5	EI	4736
$C_5H_5Fe^+$						
	$(C_5H_5)_2Fe$ (Ferrocene)	102-54-5		17.75±0.2	EI	4072
				18.06±0.10	EI	3628
$C_5H_5Fe^+$						
	$(C_5H_5)_2Fe$ (Ferrocene)	102-54-5		12.95±0.15	EI	4072
				13.9±0.2	EI	3793
			C_5H_5	14.25±0.25	EI	3628
	$(C_5H_5)_2(CS)(CO)_3Fe_2$ (Iron,μ-carbonothioyl-μ-carbonyldicarbonylbis(η^5-2,4-cyclopentadien-1-yl)di-(*Fe-Fe*)-)	67113-80-8		15.82±0.03	EI	5423
	$(C_5H_5)_2(CS)_2(CO)_2Fe_2$ (Iron,bis[μ-(carbonothioyl)]dicarbonylbis(η^5-2,4-cyclopentadien-1-yl)di-(*Fe-Fe*)-)	67225-86-9		15.32±0.03	EI	5423
$C_{10}H_{10}Fe^+$						
	$(C_5H_5)_2Fe$ (Ferrocene)	102-54-5	**	6.90 (V)	PE	4565
			**	6.78±0.05	PI	3729
			**	6.72	PE	3725
			**	6.86 (V)	PE	5394
			**	6.88 (V)	PE	3688
			**	6.88 (V)	PE	5507
			**	~7.0 (V)	PE	3527
			**	7.10 (V)	PE	4072
			**	6.75±0.25	EI	3628
			**	6.9±0.1	EI	3793
			**	6.90±0.1	EI	4072
	$(C_5H_5)_2(CS)(CO)_3Fe_2$ (Iron,μ-carbonothioyl-μ-carbonyldicarbonylbis(η^5-2,4-cyclopentadien-1-yl)di-(*Fe-Fe*)-)	67113-80-8		9.03±0.03	EI	5423
	$(C_5H_5)_2(CS)_2(CO)_2Fe_2$ (Iron,bis[μ-(carbonothioyl)]dicarbonylbis(η^5-2,4-cyclopentadien-1-yl)di-(*Fe-Fe*)-)	67225-86-9		8.62±0.03	EI	5423
$C_{12}H_{12}Fe^+$						
	$(C_5H_5)(C_5H_4C_2H_3)Fe$ (Ferrocene, ethenyl-)	1271-51-8	**	6.75±0.05	PI	3729

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{12}H_{14}Fe^+$						
	$(C_5H_4CH_3)_2Fe$ (Ferrocene, 1,1′-dimethyl-)	1291-47-0	**	6.72 (V)	PE	3688
			**	6.72 (V)	PE	5507
	$(C_5H_5)(C_5H_4C_2H_5)Fe$ (Ferrocene, ethyl-)	1273-89-8	**	6.70±0.05	PI	3729
$C_{20}H_{30}Fe^+$						
	$(C_5(CH_3)_5)_2Fe$ (Ferrocene,decamethyl-)	12126-50-0	**	5.88 (V)	PE	5394
$C_{20}H_{16}Fe_2^+$						
	$(C_{10}H_8)_2Fe_2$ (1,1″:1′,1‴-Biferrocene)	11105-90-1	**	6.55 (V)	PE	5373
$C_{20}H_{18}Fe_2^+$						
	$(C_{10}H_8)(C_5H_5)_2Fe_2$ (1,1″-Biferrocene)	1287-38-3	**	6.6 (V)	PE	5373
$C_{36}H_{44}N_4Fe^+$						
	$((C_2H_5)_2C_4NCH)_4Fe$ (Iron,[2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-N^{21},N^{22},N^{23},N^{24}]-(SP-4-1)-)	61085-06-1	**	6.06±0.03 (V)	PE	5476
$C_{44}H_{28}N_4Fe^+$						
	$C_{20}H_8N_4(C_6H_5)_4Fe$ (Iron, [5,10,15,20-tetraphenyl-21H,23H-porphinato(2-)-N^{21},N^{22},N^{23},N^{24}]-(SP-4-1)-)	16591-56-3	**	6.50 (V)	PE	4557
$C_{32}H_{16}N_8Fe^+$						
	$C_{32}H_{16}N_8Fe$ (Iron, [29*H*,31*H*-phthalocyaninato(2⁻)-N^{29},N^{30},N^{31},N^{32}]- (*SP*-4-1)-)	132-16-1	**	7.22±0.10	EI	3829
OFe^+						
	FeO	1345-25-1	**	8.71±0.10	EI	4436
	$(CO)_5Fe$	13463-40-6		22.5±0.5	EI	4736
O_2Fe^+						
	FeO_2	12411-15-3	**	9.5±0.5	EI	4436
$COFe^+$						
	$(CO)_5Fe$	13463-40-6	4CO	14.0±0.2	EI	4618
C_2OFe^+						
	$(CO)_5Fe$	13463-40-6		20.2±0.5	EI	4736
$C_2O_2Fe^+$						
	$(CO)_5Fe$	13463-40-6	3CO	11.0±0.2	EI	4618
$C_3O_2Fe^+$						
	$(CO)_5Fe$	13463-40-6		18.2±0.5	EI	4736
$C_3O_3Fe^+$						
	$(CO)_5Fe$	13463-40-6	2CO	10.1±0.2	EI	4618
$C_3O_3Fe^{+2}$						
	$(CO)_5Fe$	13463-40-6		24.0±0.5	EI	4736
$C_4O_4Fe^+$						
	$(CO)_5Fe$	13463-40-6	CO	9.3±0.2	EI	4618
$C_5O_5Fe^+$						
	$(CO)_5Fe$	13463-40-6	**	8.6 (V)	PE	4376

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5O_5Fe^+$						
	$(CO)_5Fe$	13463-40-6	**	8.60 (V)	PE	4456
			**	8.4±0.2	EI	4618
$C_8H_8O_2Fe^+$						
	$C_5H_5(CO)_2(CH_3)Fe$ (Iron, dicarbonyl(η^5-2,4-cyclopentadien-1-yl)methyl-)	12080-06-7	**	7.65 (V)	PE	4565
			**	7.79 (V)	PE	4570
			**	7.91 (V)	PE	5358
$C_{10}H_{10}O_2Fe^+$						
	$(C_5H_5)(C_3H_5)(CO)_2Fe$ (Iron,dicarbonyl(η^5-2,4-cyclopentadien-1-yl)-2-propenyl-)	38960-10-0	**	7.97 (V)	PE	5358
$C_{12}H_{10}O_2Fe^+$						
	$(C_5H_5)_2(CO)_2Fe$ (Iron,dicarbonyl-2,4-cyclopentadiene-1-yl(η^5-2,4-cyclopentadien-1-yl)-)	12247-96-0	**	7.58 (V)	PE	5358
$C_7H_4O_3Fe^+$						
	$C_4H_4(CO)_3Fe$ (Iron, tricarbonyl(η^4-1,3-cyclobutadiene)-)	12078-17-0	**	7.65±0.02	PE	4412
			**	8.1 (V)	PE	4937
			**	8.15 (V)	PE	5005
$C_7H_6O_3Fe^+$						
	$(CH_2{=}CHCH{=}CH_2)(CO)_3Fe$	12078-32-9	**	8.16 (V)	PE	5551
			**	8.23 (V)	PE	5044
	(1,3-*n*-C_4H_6)$(CO)_3Fe$ (Iron, (η^4-1,3-butadiene)tricarbonyl-)	52610-59-0	**	8.22 (V)	PE	5005
	$(CH_2)_3C(CO)_3Fe$ (Trimethylenemethane-iron tricarbonyl-)	XXXXX-XX-X	**	8.63 (V)	PE	5005
$C_8H_8O_3Fe^+$						
	$C_8H_8O_3Fe$ (Iron, *tricarbonyl*[(1,2,3,4-η)-2-methyl-1,3-butadiene]-, stereoisomer)	32731-93-4	**	8.11 (V)	PE	5005
	$C_8H_8O_3Fe$ (Iron, tricarbonyl[(1,2,3,4-η)-1,3-pentadiene]-,(E)-)	XXXXX-XX-X	**	8.07 (V)	PE	5005
$C_9H_8O_3Fe^+$						
	$C_6H_8(CO)_3Fe$ (Iron, tricarbonyl[(1,2,3,4-η)-1,3-cyclohexadiene]-)	12152-72-6	**	7.96 (V)	PE	5005
			**	7.98 (V)	PE	5551
$C_9H_{10}O_3Fe^+$						
	$C_9H_{10}O_3Fe$ (Iron, tricarbonyl[(1,2,3,4-η)-2,3-dimethyl-1,3-butadiene]-)	31741-56-7	**	7.95 (V)	PE	5005
	$C_9H_{10}O_3Fe$ (Iron, tricarbonyl[(1,2,3,4-η)-2-methyl-1,3-pentadiene-,(*E*)-)	XXXXX-XX-X	**	7.94 (V)	PE	5005
$C_{10}H_8O_3Fe^+$						
	$C_7H_8(CO)_3Fe$ (Iron, [(2,3,5,6-η)-bicyclo 2.2.1]hepta-2,5-diene] tricarbonyl-)	12307-07-2	**	7.51 (V)	PE	5005
			**	7.51 (V)	PE	5367
	$(C_7H_8)(CO)_3Fe$ (Iron,tricarbonyl[(1,2,3,4-η)-1,3,5-cycloheptatriene]-)	36343-88-1	**	7.76 (V)	PE	5551
$C_{10}H_{10}O_3Fe^+$						
	$(C_7H_{10})(CO)_3Fe$ (Iron,tricarbonyl[(1,2,3,4-η)-1,3-cycloheptadiene]-)	40674-86-0	**	7.78 (V)	PE	5551

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{11}H_8O_3Fe^+$	$(C_8H_8)(CO)_3Fe$ (Iron,tricarbonyl[(1,2,3,4–η)–1,3,5,7–cyclooctatetraene]–)	12093–05–9	**	7.84 (V)	PE	5551
$C_{11}H_{12}O_3Fe^+$	$(C_8H_{12})(CO)_3Fe$ (Iron,tricarbonyl[(1,2,3,4–η)–1,3–cyclooctadiene]–)	33270–50–7	**	7.45 (V)	PE	5551
$C_4H_2O_4Fe^+$	$Fe(CO)_4H_2$	12002–28–7	**	9.65	PE	4372
$C_6H_4O_4Fe^+$	$(CH_2=CH_2)(CO)_4Fe$	32799–25–0	**	8.38 (V)	PE	4946
			**	8.4–8.6 (V)	PE	4376
$C_{11}H_{12}O_4Fe^+$	$(C_5(CH_3)_4)(CO)_4Fe$	12264–26–5	**	7.84 (V)	PE	5362
$C_7H_4O_5Fe^+$	$CH_2=CHCHO(CO)_4Fe$	12287–43–3	**	8.69 (V)	PE	4908
			**	9.35 (V)	PE	5559
$C_8H_6O_5Fe^+$	$CH_3CH=CHCHO(CO)_4Fe$	70520–16–0	**	8.60 (V)	PE	4908
$C_{11}H_{12}O_5Fe^+$	$C_{11}H_{12}O_5Fe$ (Iron, tricarbonyl[(1,2,3,4–η)–(2,4–hexadienoic acid ethyl ester, (E,E)–)–)	XXXXX–XX–X	**	8.19 (V)	PE	5005
$C_7H_3O_6Fe^+$	$CH_2=CHCOO(CO)_4Fe$	12287–44–4	**	8.66 (V)	PE	4908
$C_8H_6O_6Fe^+$	$CH_2=CHCOOCH_3(CO)_4Fe$	12287–67–1	**	8.50 (V)	PE	4908
$C_{15}H_{21}O_6Fe^+$	$(CH_3COCHCOCH_3)_3Fe$ (Iron, tris(2,4–pentanedionato–*O,O'*)–, (*OC*–6–11)–)	14024–18–1	**	8.10±0.07 (V)	PE	3682
$C_{33}H_{57}O_6Fe^+$	$((CH_3)_3CCOCHCOC(CH_3)_3)_3Fe$ (Iron, tris(2,2,6,6–tetramethyl–3,5–heptanedionato–*O,O'*)–)	14876–47–2	**	7.92±0.07 (V)	PE	3682
$C_{10}H_8O_8Fe^+$	$CH_3OOCCH=CHCOOCH_3(CO)_4Fe$	33248–78–1	**	8.68 (V)	PE	4908
$C_{14}H_{10}O_4Fe_2^+$	*trans*–$((C_5H_5)(CO)_2Fe)_2$ (Iron,di–μ–carbonyldicarbonylbis(η^5–2,4–cyclopentadien–1–yl) di–(*Fe–Fe*))	32757–46–3	**	6.95 (V)	PE	5317
$C_{21}H_{20}O_4Fe_4^+$	$(C_5H_5COFe)_4$ (Iron, tetra–μ3–carbonyltetrakis(η^5–2,4–cyclopentadien–1–yl)tetra–*tetrahedro*)	12203–87–1	**	6.45 (V)	PE	4565
$B_4C_3H_8O_3Fe^+$	$B_4H_8(CO)_3Fe$ (Iron, tricarbonyl[(1,2,3,4–η)–tetraborane(8)]–)	54748–47–9	**	8.6 (V)	PE	4937
$B_5C_3H_9O_3Fe^+$	$B_5H_9(CO)_3Fe$ (Iron, tricarbonyl [nonahydropentaborate (2–)]–)	61403–41–6	**	8.4 (V)	PE	4937

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$B_3C_5H_5O_3Fe^+$	$C_2H_5B_3(CO)_3Fe$ (Iron, tricarbonyl [η^4-pentahydrodicarbapentaborato(2-)]-)	53363-10-3	**	8.6 (V)	PE	4937
$B_3C_5H_7O_3Fe^+$	$C_2H_7B_3(CO)_3Fe$ (Iron, tricarbonyl [(1,2,3,4,5-η)-heptahydro-1,2-dicarbapentaborate (2-)]-)	36657-30-4	**	8.7	PE	4937
$B_5C_5H_3O_5Fe^+$	$B_5H_3(CO)_5Fe$ (Iron, tricarbonyl [(2,3,4,5-η)-dicarbonyltrihydropentaborato (2-)]-)	61525-93-7	**	8.0 (V)	PE	4937
$C_2N_2O_4Fe^+$	$(CO)_2(NO)_2Fe$	13682-74-1	**	8.16±0.04	PE	5225
$C_7H_3NO_4Fe^+$	$(CH_2{=}CHCN)(CO)_4Fe$	15602-77-4	**	8.90 (V)	PE	5559
$C_9H_5NO_4Fe^+$	$(C_5H_5N)(CO)_4Fe$ (Iron,tetracarbonyl(pyridine)-(TB-5-12)-)	53317-88-7	**	7.65 (V)	PE	5559
$C_{15}H_{12}O_6F_9Fe^+$	$(CF_3COCHCOCH_3)_3Fe$ (Iron, tris(1,1,1-trifluoro-2,4-pentanedionato-*O,O'*)-	14526-22-8	**	9.18±0.07 (V)	PE	3682
$C_{15}H_3O_6F_{18}Fe^+$	$(CF_3COCHCOCF_3)_3Fe$ (Iron, tris(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato-*O,O'*)-, (*OC*-6-11)-)	17786-67-3	**	10.13±0.07 (V)	PE	3682
$C_{13}H_{18}SiFe^+$	$(C_5H_5)(C_5H_4Si(CH_3)_3)Fe$ (Ferrocene, (trimethylsilyl)-)	12215-68-8	**	9.5±0.10	PI	3729
$C_6H_{18}N_3PFe^+$	$(((CH_3)_2N)_3P)(CO)_4Fe$	19372-47-5	4CO	10.2±0.05	EI	3952
$C_{12}H_{36}N_6P_2Fe^+$	$(((CH_3)_2N)_3P)_2(CO)_3Fe$	19372-46-4	3CO	11.7±0.05	EI	3952
$C_7H_9O_4PFe^+$	$(P(CH_3)_3)(CO)_4Fe$ (JC-Mean value of Jahn-Teller components)	18475-02-0	**	7.77 (V)	PE	5559
$C_{22}H_{15}O_4PFe^+$	$(P(C_6H_5)_3)(CO)_4Fe$ (Iron,tetracarbonyl(triphenylphosphine)-)	14649-69-5	**	7.55 (V)	PE	5559
$C_7H_{18}N_3OPFe^+$	$(((CH_3)_2N)_3P)(CO)_4Fe$	19372-47-5	3CO	10.2±0.05	EI	3952
$C_8H_{18}N_3O_2PFe^+$	$(((CH_3)_2N)_3P)(CO)_4Fe$	19372-47-5	2CO	9.8±0.05	EI	3952
$C_9H_{18}N_3O_3PFe^+$	$(((CH_3)_2N)_3P)(CO)_4Fe$	19372-47-5	CO	9.4±0.05	EI	3952
$C_{10}H_{18}N_3O_4PFe^+$	$(((CH_3)_2N)_3P)(CO)_4Fe$	19372-47-5	**	9.0±0.05	EI	3952

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{13}H_{36}N_6OP_2Fe^+$						
	$(((CH_3)_2N)_3P)_2(CO)_3Fe$	19372-46-4	2CO	10.2±0.05	EI	3952
$C_{14}H_{36}N_6O_2P_2Fe^+$						
	$(((CH_3)_2N)_3P)_2(CO)_3Fe$	19372-46-4	CO	9.7±0.05	EI	3952
$C_{15}H_{36}N_6O_3P_2Fe^+$						
	$(((CH_3)_2N)_3P)_2(CO)_3Fe$	19372-46-4	**	7.7±0.05	EI	3952
$F_{15}P_5Fe^+$						
	$(PF_3)_5Fe$	13815-34-4	**	8.9	PE	4021
			**	9.15 (V)	PE	4456
			**	8.83	EI	5453
$H_2F_{12}P_4Fe^+$						
	$FeH_2(PF_3)_4$	24899-55-6	**	9.78 (V)	PE	4720
$C_4O_4F_3PFe^+$						
	$PF_3Fe(CO)_4$	16388-47-9	**	8.75 (V)	PE	4753
$C_3O_3F_6P_2Fe^+$						
	$(PF_3)_2Fe(CO)_3$	16454-87-8	**	8.95 (V)	PE	4753
			**	8.47	EI	5453
$C_2O_2F_9P_3Fe^+$						
	$(PF_3)_3(CO)_2Fe$	16388-46-8	**	8.61	EI	5453
$COF_{12}P_4Fe^+$						
	$(PF_3)_4FeCO$	16388-45-7	**	9.18 (V)	PE	4753
			**	8.62	EI	5453
$CSFe^+$						
	$(C_5H_5)_2(CS)(CO)_3Fe_2$ (Iron,μ-carbonothioyl-μ-carbonyldicarbonylbis(η⁵-2,4-cyclopentadien-1-yl)di-(*Fe-Fe*)-)	67113-80-8		11.88±0.03	EI	5423
	$(C_5H_5)_2(CS)_2(CO)_2Fe_2$ (Iron,bis[μ-(carbonothioyl)]dicarbonylbis(η⁵-2,4-cyclopentadien-1-yl) di-(*Fe-Fe*)-)	67225-86-9		12.02±0.06	EI	5423
$CSFe_2^+$						
	$(C_5H_5)_2(CS)(CO)_3Fe_2$ (Iron,μ-carbonothioyl-μ-carbonyldicarbonylbis(η⁵-2,4-cyclopentadien-1-yl)di-(*Fe-Fe*)-)	67113-80-8		26.00±0.03	EI	5423
	$(C_5H_5)_2(CS)_2(CO)_2Fe_2$ (Iron,bis[μ-(carbonothioyl)]dicarbonylbis(η⁵-2,4-cyclopentadien-1-yl) di-(*Fe-Fe*)-)	67225-86-9		20.00±0.03	EI	5423
$C_2S_2Fe_2^+$						
	$(C_5H_5)_2(CS)(CO)_3Fe_2$ (Iron,μ-carbonothioyl-μ-carbonyldicarbonylbis (η⁵-2,4-cyclopentadien-1-yl)di-(*Fe-Fe*)-)	67113-80-8		26.00±0.03	EI	5582
	$(C_5H_5)_2(CS)_2(CO)_2Fe_2$ (Iron,bis[μ-(carbonothioyl)]dicarbonylbis(η⁵-2,4-cyclopentadien-1-yl) di-(*Fe-Fe*)-)	67225-86-9		22.53±0.03	EI	5423
$C_6H_5SFe^+$						
	$(C_5H_5)_2(CS)(CO)_3Fe_2$ (Iron,μ-carbonothioyl-μ-carbonyldicarbonylbis(η⁵-2,4-cyclopentadien-1-yl)di-(*Fe-Fe*)-)	67113-80-8		14.74±0.04	EI	5423
	$(C_5H_5)_2(CS)_2(CO)_2Fe_2$ (Iron,bis[μ-(carbonothioyl)]dicarbonylbis(η⁵-2,4-cyclopentadien-1-yl) di-(*Fe-Fe*)-)	67225-86-9		14.74±0.09	EI	5423

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_5SFe_2^+$						
	$(C_5H_5)_2(CS)(CO)_3Fe_2$ (Iron,μ-carbonothioyl-μ-carbonyldicarbonylbis(η⁵-2,4-cyclopentadien-1-yl)di-(*Fe-Fe*)-)	67113-80-8	C_5H_5+3CO	16.79±0.02	EI	5423
	$(C_5H_5)_2(CS)_2(CO)_2Fe_2$ (Iron,bis[μ-(carbonothioyl)]dicarbonylbis(η⁵-2,4-cyclopentadien-1-yl)di-(*Fe-Fe*)-)	67225-86-9		17.19±0.02	EI	5423
$C_{11}H_{10}SFe_2^+$						
	$(C_5H_5)_2(CS)(CO)_3Fe_2$ (Iron,μ-carbonothioyl-μ-carbonyldicarbonylbis(η⁵-2,4-cyclopentadien-1-yl)di-(*Fe-Fe*)-)	67113-80-8	3CO	10.44±0.04	EI	5423
	$(C_5H_5)_2(CS)_2(CO)_2Fe_2$ (Iron,bis[μ-(carbonothiolyl)]dicarbonylbis(η⁵-2,4-cyclopentadien-1-yl)di-(*Fe-Fe*)-)	67225-86-9	2CO+CS	12.61±0.04	EI	5423
$C_7H_5S_2Fe_2^+$						
	$(C_5H_5)_2(CS)_2(CO)_2Fe_2$ (Iron,bis[μ-(carbonothioyl)]dicarbonylbis(η⁵-2,4-cyclopentadien-1-yl)di-(*Fe-Fe*)-)	67225-86-9		13.23±0.02	EI	5423
$C_{12}H_{10}S_2Fe_2^+$						
	$(C_5H_5)_2(CS)_2(CO)_2Fe_2$ (Iron,bis[μ-(carbonothioyl)]dicarbonylbis(η⁵-2,4-cyclopentadien-1-yl)di-(*Fe-Fe*)-)	67225-86-9	2CO	8.89±0.03	EI	5423
$C_9H_{18}N_3S_6Fe^+$						
	$[S_2CN(CH_3)_2]_3Fe$	14484-64-1	**	7.72 (V)	PE	4710
$C_6O_6S_2Fe_2^+$						
	$(CO)_6Fe_2S_2$	14243-23-3	**	7.9 (V)	PE	5536
$C_7H_5OSFe^+$						
	$(C_5H_5)_2(CS)(CO)_3Fe_2$ (Iron,μ-carbonothioyl-μ-carbonyldicarbonylbis(η⁵-2,4-cyclopentadien-1-yl)di-(*Fe-Fe*)-)	67113-80-8		13.13±0.03	EI	5423
	$(C_5H_5)_2(CS)_2(CO)_2Fe_2$ (Iron,bis[μ-(carbonothioyl)]dicarbonylbis(η⁵-2,4-cyclopentadien-1-yl)di-(*Fe-Fe*)-)	67225-86-9		13.83±0.11	EI	5423
$C_{12}H_{10}OSFe_2^+$						
	$(C_5H_5)_2(CS)(CO)_3Fe_2$ (Iron,μ-carbonothioyl-μ-carbonyldicarbonylbis(η⁵-2,4-cyclopentadien-1-yl)di-(*Fe-Fe*)-)	67113-80-8	2CO	8.58±0.02	EI	5423
$C_{13}H_{10}O_2SFe_2^+$						
	$(C_5H_5)_2(CS)(CO)_3Fe_2$ (Iron,μ-carbonothioyl-μ-carbonyldicarbonylbis(η⁵-2,4-cyclopentadien-1-yl)di-(*Fe-Fe*)-)	67113-80-8	CO	7.62±0.02	EI	5423
$C_{14}H_{10}O_3SFe_2^+$						
	$(C_5H_5)_2(CS)(CO)_3Fe_2$ (Iron,μ-carbonothioyl-η-carbonyldicarbonylbis(η⁵-2,4-cyclopentadien-1-yl)di-(*Fe-Fe*)-)	67113-80-8	**	6.46±0.02	EI	5423
$C_{13}H_{10}OS_2Fe_2^+$						
	$(C_5H_5)_2(CS)_2(CO)_2Fe_2$ (Iron,bis[μ-(carbonothioyl)]dicarbonylbis(η⁵-2,4-cyclopentadien-1-yl)di-(*Fe-Fe*)-)	67225-86-9	CO	7.47±0.02	EI	5423
$C_{14}H_{10}O_2S_2Fe_2^+$						
	$(C_5H_5)_2(CS)_2(CO)_2Fe_2$ (Iron,bis[μ-(carbonothioyl)]dicarbonylbis(η⁵-2,4-cyclopentadien-1-yl)di-(*Fe-Fe*)-)	67225-86-9	**	6.76±0.04	EI	5423

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or *appearance* potential (eV)	Method	Ref.
$C_{12}H_{14}O_6S_2Fe_2^+$						
	(*iso*-$C_3H_7S)_2(CO)_6Fe_2$	26411-94-9	**	7.5 (V)	PE	5536
$C_8H_{12}N_2O_2S_4Fe^+$						
	$[S_2CN(CH_3)_2]_2(CO)_2Fe$	36309-89-4	**	8.51 (V)	PE	4710
$C_{14}H_{20}N_2O_2S_4Fe^+$						
	$[C_5H_{10}N(CS_2)]_2(CO)_2Fe$	35816-66-1	**	8.57 (V)	PE	4710
	(Iron, dicarbonylbis(1-piperidinecarbodithioato-S,S')-(OC-6-21)-)					
$C_{18}H_{16}N_2O_2S_4Fe^+$						
	$C_{18}H_{16}N_2O_2S_4Fe$	63796-70-3	**	7.77 (V)	PE	4710
	(Iron, dicarbonylbis(*methylphenylcarbamodithioato*-S,S')-(OC-6-21)-)					
$C_{18}H_{28}N_2O_2S_4Fe^+$						
	$C_{18}H_{28}N_2O_2S_4Fe$	63796-67-8	**	8.26 (V)	PE	4710
	(Iron, dicarbonylbis(2,6-dimethyl-1-piperidinecarbodithioato-S,S')-(OC-6-21)-)					
$C_{20}H_{20}N_2O_2S_4Fe^+$						
	$C_{20}H_{20}N_2O_2S_4Fe$	63796-69-0	**	7.76 (V)	PE	4710
	(Iron, dicarbonylbis(ethylphenylcarbamodithioato-S,S')-(OC-6-21)-)					
$C_{22}H_{24}N_2O_2S_4Fe^+$						
	$C_{22}H_{24}N_2O_2S_4Fe$	63796-64-5	**	7.90 (V)	PE	4710
	(Iron, dicarbonylbis[ethyl(phenylmethyl)carbamodithioato-S,S']-(OC-6-21)-)					
$C_{28}H_{20}N_2O_2S_4Fe^+$						
	$C_{28}H_{20}N_2O_2S_4Fe$	63796-68-9	**	7.58 (V)	PE	4710
	(Iron, dicarbonylbis(*diphenylcarbamodithioato*-S,S')-(OC-6-21)-)					
$C_{12}H_{16}N_2O_4S_4Fe^+$						
	$C_{12}H_{16}N_2O_2S_4Fe$	63796-66-7	**	8.64 (V)	PE	4710
	(Iron, dicarbonylbis(4-morpholinecarbodithioato-S,S')-(OC-6-21)-)					
$C_{10}H_9NO_6SFe_2^+$						
	(*tert*-$C_4H_9NS)(CO)_6Fe_2$	41812-87-7	**	7.8 (V)	PE	5536
Cl_2Fe^+						
	$FeCl_2$	7758-94-3	**	10.34 (V)	PE	5172
$C_{10}H_9ClFe^+$						
	$(C_5H_5)(C_5H_4Cl)Fe$	1273-74-1	**	6.83±0.05	PI	3729
	(Ferrocene, chloro-)					
$C_{10}H_8Cl_2Fe^+$						
	$(C_5H_4Cl)_2Fe$	1293-67-0	**	7.03 (V)	PE	3688
	(Ferrocene, 1,1'-dichloro-)					
$C_{44}H_{28}N_4ClFe^+$						
	$C_{20}H_8N_4(C_6H_5)_4FeCl$	16456-81-8	**	6.09±0.2	OTH	4962
	(Iron, chloro[5,10,15,20-tetraphenyl-21H,23H-porphinato(2-)-N^{21},N^{22},N^{23},N^{24}]-(SP-5-12)-)					
$C_7H_5O_2ClFe^+$						
	$C_5H_5(CO)_2FeCl$	12107-04-9	**	8.00 (V)	PE	4565
	(Iron, dicarbonylchloro(η^5-2,4-cyclopentadien-1-yl)-)					
			**	8.00 (V)	PE	4570
$C_6H_2O_4Cl_2Fe^+$						
	$CCl_2CH_2(CO)_4Fe$	52613-75-9	**	8.82 (V)	PE	4908
	trans-$C_2H_2Cl_2(CO)_4Fe$	52646-80-7	**	8.72 (V)	PE	4908

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
Co^+						
	$(C_5H_5)_2Co$ (Cobaltocene)	1277-43-6		14.10±0.15	EI	4072
	$Cl_3SiCo(CO)_3PF_3$	37769-28-1		18.9±0.5	EI	3653
	$Cl_3SiCo(CO)_2(PF_3)_2$	37769-29-2		18.9±0.4	EI	3653
$C_3H_3Co^+$						
	$(C_5H_5)_2Co$ (Cobaltocene)	1277-43-6		17.50±0.2	EI	4072
$C_5H_5Co^+$						
	$(C_5H_5)_2Co$ (Cobaltocene)	1277-43-6		13.20±0.2	EI	4072
				14.0±0.3	EI	3793
$C_{10}H_{10}Co^+$						
	$(C_5H_5)_2Co$ (Cobaltocene)	1277-43-6	**	5.55 (V)	PE	5394
			**	5.56 (V)	PE	5507
			**	5.7±0.2	EI	3793
			**	5.95±0.1	EI	4072
$C_{12}H_{14}Co^+$						
	$(C_5H_4CH_3)_2Co$ (Cobaltocenium, 1,1′-dimethyl-)	40759-60-2	**	5.37 (V)	PE	5507
$C_{20}H_{30}Co^+$						
	$(C_5(CH_3)_5)_2Co$ (Cobaltocene,decamethyl-)	XXXXX-XX-X	**	4.705 (V)	PE	5394
$C_2H_2Co_2^+$						
	$CH{\equiv}CH(CO)_6Co_2$ (Cobalt, hexacarbonyl(ethyne)di-)	12553-66-1	6CO	15.58±0.05	EI	4116
$C_4H_6Co_2^+$						
	$(CO)_6CH_3C{\equiv}CCH_3Co_2$ (Cobalt, (2-butyne)hexacarbonyldi-)	12282-08-5	6CO	15.60±0.05	EI	4116
$BC_{11}H_{13}Co^+$						
	$(C_5H_5)(C_5H_5BCH_3)Co$ (Cobalt, (η^5-2,4-cyclopentadien-1-yl)[(1,2,3,4,5,6-η)-1-methylboratabenzene]-)	36534-25-5	**	6.56±0.1	EI	3545
$B_2C_{12}H_{16}Co^+$						
	$(C_5H_5BCH_3)_2Co$ (Cobalt, bis[(1,2,3,4,5,6-η)-1-methylboratabenzene]-)	36534-27-7	**	7.15±0.1	EI	3545
$BC_{16}H_{15}Co^+$						
	$(C_5H_5)(C_5H_5BC_6H_5)Co$ (Cobalt, (η^5-2,4-cyclopentadien-1-yl)[(1,2,3,4,5,6-η)-1-phenylboratabenzene]-)	36682-12-9	**	6.63±0.1	EI	3545
$B_2C_{22}H_{20}Co^+$						
	$(C_5H_5BC_6H_5)_2Co$ (Cobalt, bis[(1,2,3,4,5,6-η)-1-phenylboratabenzene]-)	36534-31-3	**	7.25±0.1	EI	3545
$C_{16}H_{16}N_4Co^+$						
	$C_{16}H_{16}N_4Co$ (Cobalt, [N,N′-bis[(2-aminophenyl)methylene] -1,2-ethanediaminato(2-)-N,N′,N″,N‴]-)	21177-97-9	**	6.98±0.10	EI	4668
$C_{36}H_{44}N_4Co^+$						
	$((C_2H_5)_2C_4NCH)_4Co$ (Cobalt,[2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)- N^{21},N^{22},N^{23},N^{24}]-(SP-4-1)-)	17632-19-8	**	6.09±0.03 (V)	PE	5476

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{44}H_{28}N_4Co^+$						
	$C_{20}H_8N_4(C_6H_5)_4Co$ (Cobalt, [5,10,15,20-tetraphenyl-21H,23H-porphinato(2-)-N^{21},N^{22},N^{23},N^{24}]-(SP-4-1)-)	14172-90-8	**	6.12±0.2	OTH	4962
$C_{32}H_{16}N_8Co^+$						
	$C_{32}H_{16}N_8Co$ (*Cobalt, [29H,31H-phthalocyaninato(2-)-N^{29},N^{30},N^{31},N^{32}]- (SP-4-1)-*)	3317-67-7	**	7.46±0.10	EI	3829
$COCo^+$						
	$Cl_3SiCo(CO)_3PF_3$	37769-28-1		16.7±0.3	EI	3653
	$Cl_3SiCo(CO)_2(PF_3)_2$	37769-29-2		16.9±0.4	EI	3653
$C_2O_2Co^+$						
	$Cl_3SiCo(CO)_3PF_3$	37769-28-1		15.5±0.4	EI	3653
	$Cl_3SiCo(CO)_2(PF_3)_2$	37769-29-2		15.5±0.3	EI	3653
$C_4HO_4Co^+$						
	$(CO)_4CoH$	16842-03-8	**	8.90±0.02 (V)	PE	3827
			**	8.90 (V)	PE	4456
$C_{10}H_{14}O_4Co^+$						
	$(CH_3C(O)=CHCOCH_3)_2Co$	14024-48-7	**	8.50 (V)	PE	5100
$C_{22}H_{40}O_4Co^+$						
	$(((CH_3)_3CCO)_2CH_2)_2Co$	XXXXX-XX-X	**	7.92 (V)	PE	5568
$C_{15}H_{21}O_6Co^+$						
	$(C_5H_7O_2)_3Co$ (Cobalt, tris(2,4-pentanedionato-0,0')-(OC-6-11)-)	21679-46-9	**	7.52 (V)	PE	4965
			**	7.52±0.07 (V)	PE	3682
$C_3H_2OCo_2^+$						
	$CH{\equiv}CH(CO)_6Co_2$ (Cobalt, hexacarbonyl(ethyne)di-)	12553-66-1	5CO	14.11±0.05	EI	4116
$C_5H_6OCo_2^+$						
	$(CO)_6CH_3C{\equiv}CCH_3Co_2$ (Cobalt, (2-butyne)hexacarbonyldi-)	12282-08-5	5CO	13.85±0.05	EI	4116
$C_4H_2O_2Co_2^+$						
	$CH{\equiv}CH(CO)_6Co_2$ (Cobalt, hexacarbonyl(ethyne)di-)	12553-66-1	4CO	12.40±0.05	EI	4116
$C_6H_6O_2Co_2^+$						
	$(CO)_6CH_3C{\equiv}CCH_3Co_2$ (Cobalt, (2-butyne)hexacarbonyldi-)	12282-08-5	4CO	12.36±0.05	EI	4116
$C_3H_2O_3Co_2^+$						
	$CH{\equiv}CH(CO)_6Co_2$ (Cobalt, hexacarbonyl(ethyne)di-)	12553-66-1	3CO	10.96±0.05	EI	4116
$C_7H_6O_3Co_2^+$						
	$(CO)_6CH_3C{\equiv}CCH_3Co_2$ (Cobalt, (2-butyne)hexacarbonyldi-)	12282-08-5	3CO	10.98±0.05	EI	4116
$C_6H_2O_4Co_2^+$						
	$CH{\equiv}CH(CO)_6Co_2$ (Cobalt, hexacarbonyl(ethyne)di-)	12553-66-1	2CO	9.74±0.05	EI	4116

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_6O_4Co_2^+$	$(CO)_6CH_3C{\equiv}CCH_3Co_2$ (Cobalt, (2-butyne)hexacarbonyldi-)	12282-08-5	2CO	9.68±0.05	EI	4116
$C_7H_2O_5Co_2^+$	$CH{\equiv}CH(CO)_6Co_2$ (Cobalt, hexacarbonyl(ethyne)di-)	12553-66-1	CO	8.71±0.05	EI	4116
$C_9H_6O_5Co_2^+$	$(CO)_6CH_3C{\equiv}CCH_3Co_2$ (Cobalt, (2-butyne)hexacarbonyldi-)	12282-08-5	CO	8.62±0.05	EI	4116
$C_8H_2O_6Co_2^+$	$CH{\equiv}CH(CO)_6Co_2$ (Cobalt, hexacarbonyl(ethyne)di-)	12553-66-1	**	7.96±0.05	EI	4116
$C_{10}H_6O_6Co_2^+$	$(CO)_6CH_3C{\equiv}CCH_3Co_2$ (Cobalt, (2-butyne)hexacarbonyldi-)	12282-08-5	**	7.80±0.05	EI	4116
$C_{15}H_8O_6Co_2^+$	$(CO)_6CH_3C{\equiv}CC_6H_5Co_2$ (Cobalt, hexacarbonyl[μ-[(1,2-η:1,2-η)-1-propynylbenzene]]di-, (*Co-Co*))	53556-74-4	**	7.85±0.05	EI	4116
$B_2C_{12}H_{16}O_2Co^+$	$(C_5H_5BOCH_3)_2Co$ (Cobalt, bis[(1,2,3,4,5,6-η)-1-methoxyboratabenzene]-)	36534-20-0	**	7.02±0.1	EI	3545
$N_3O_9Co^+$	$(NO_3)_3Co$	55866-74-5	**	10.79±0.03 (V)	PE	4999
$C_3NO_4Co^+$	$(CO)_3NOCo$	14096-82-3	**	8.26±0.03	PE	5225
$C_{16}H_{14}N_2O_2Co^+$	$C_{16}H_{14}N_2O_2Co$ (Cobalt, [[2,2′-[1,2-ethanediylbis(nitrilomethylidyne)] bis[phenolato]](2-)-N,N′,O,O′]-)	14167-18-1	**	7.52±0.06	EI	4668
$C_{21}H_{24}N_2O_2Co^+$	$C_{21}H_{24}N_2O_2Co$ (Cobalt, [[2,2′-[1,7-heptanediylbis(nitrilomethylidyne)]bis[phenolato]](2-)-*N*,*N*′,O,O′]-, (*T*-4)-)	17084-78-5	**	7.78±0.08	EI	4213
$C_{20}H_{23}N_3O_2Co^+$	$C_{20}H_{23}N_3O_2Co$ (Cobalt, [[2,2′-[iminobis(3,1-propanediylnitrilomethylidyne)]bis[phenolato]](2-)-*N*,*N*′,*N*″, *O*,*O*′]-)	15306-22-6	**	7.31±0.07	EI	4213
$C_{20}H_{22}N_2O_3Co^+$	$C_{20}H_{22}N_2O_3Co$ (Cobalt, [[2,2′-[oxybis(3,1-propanediylnitrilomethylidyne)]bis[phenolato]](2-)-N^2,$N^{2'}$,*O*′, *O*″]-(T-4)-)	52279-51-3	**	7.53±0.10	EI	4213
$C_{15}H_{18}N_3O_{12}Co^+$	$(C_5H_6O_2NO_2)_3Co$ (*Cobalt, tris(3-nitro-2,4-pentanedionato-*O^2,O^4*)-(OC-6-11)-*)	15169-25-2	**	8.51 (V)	PE	4965
$C_4F_6Co_2^+$	$CF_3C{\equiv}CCF_3(CO)_6Co_2$ (Cobalt, hexacarbonyl(1,1,1,4,4,4-hexafluoro-2-butyne)di-)	12557-89-0	6CO	15.72±0.05	EI	4116

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_5Ni^+$						
	$(C_5H_5)_2Ni$ (Nickelocene)	1271-28-9		12.6±0.2	EI	3793
			C_5H_5	13.00±0.25	EI	3628
	C_5H_5NiNO (Nickel, (η^5-2,4-cyclopentadien-1-yl)nitrosyl-)	12071-73-7		10.5	EI	4015
$C_6H_{10}Ni^+$						
	$(C_5H_5)_2Ni$	12077-85-9	**	7.76 (V)	PE	5281
			**	7.33±0.04	PE	3711
			**	7.76 (V)	PE	4396
$C_8H_8Ni^+$						
	$(C_5H_5)_2Ni$ (Nickelocene)	1271-28-9	C_2H_2	12.6±0.1	EI	3628
$C_8H_{14}Ni^+$						
	$(CH_3CH=CHCH_2)_2Ni$ (Nickel, bis((1,2,3-η)-(1-methyl-2-propenyl))-)	12145-63-0	**	7.53 (V)	PE	4396
	$(CH_2=C(CH_3)CH_2)_2Ni$ (Nickel, bis(1,2,3-η)-2-methyl-2-propenyl-)-)	12261-14-2	**	7.53 (V)	PE	4396
			**	7.53 (V)	PE	5281
$C_{10}H_{10}Ni^+$						
	$(C_5H_5)_2Ni$ (Nickelocene)	1271-28-9	**	6.2	PE	3725
			**	6.50 (V)	PE	5394
			**	6.51 (V)	PE	5507
			**	6.50±0.25	EI	3628
			**	6.8±0.1	EI	3793
$C_{10}H_{18}Ni^+$						
	$(CH_3CH=CHCHCH_3)_2Ni$ (Nickel, bis[(1,2,3-η)-2-pentenyl]-)	43062-19-7	**	7.22 (V)	PE	4396
$C_{12}H_{14}Ni^+$						
	$(C_5H_4CH_3)_2Ni$ (Nickelocene,1,1'-dimethyl-)	1293-95-4	**	6.36 (V)	PE	5507
$C_{20}H_{30}Ni^+$						
	$(C_5(CH_3)_5)_2Ni$ (Nickelocene,decamethyl-)	XXXXX-XX-X	**	5.82 (V)	PE	5394
$C_{16}H_{16}N_4Ni^+$						
	$C_{16}H_{16}N_4Ni$ (Nickel, [N,N'-bis[(2-aminophenyl)methylene] -1,2-ethanediaminato(2-)-N,N',N'',N''']-)	15738-33-7	**	6.84±0.08	EI	4668
$C_{36}H_{44}N_4Ni^+$						
	$((C_2H_5)_2C_4NCH)_4Ni$ (Nickel,[2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)- N^{21},N^{22},N^{23},N^{24}]-(SP-4-1)-)	24803-99-4	**	6.38±0.03 (V)	PE	5476
$C_{44}H_{28}N_4Ni^+$						
	$C_{20}H_8N_4(C_6H_5)_4Ni$ (Nickel, [5,10,15,20-tetraphenyl-21H,23H-porphinato(2-)-N^{21},N^{22},N^{23},N^{24}]- (SP-4-1)-)	14172-92-0	**	6.29±0.2	OTH	4962
			**	6.44 (V)	PE	4557
$C_{32}H_{16}N_8Ni^+$						
	$C_{32}H_{16}N_8Ni$ (Nickel, [29*H*,31*H*-phthalocyaninato(2-)-N^{29},N^{30},N^{31},N^{32}]- (*SP*-4-1)-)	14055-02-8	**	7.45±0.10	EI	3829

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$CONi^+$						
	$(CO)_4Ni$	13463-39-3	3CO	12.6±0.2	EI	4618
$C_2O_2Ni^+$						
	$(CO)_4Ni$	13463-39-3	2CO	10.6±0.2	EI	4618
$C_3O_3Ni^+$						
	$(CO)_4Ni$	13463-39-3	CO	9.5±0.2	EI	4618
$C_4O_4Ni^+$						
	$(CO)_4Ni$	13463-39-3	**	8.21±0.03	PE	5225
			**	8.8±0.2	EI	4618
$C_{10}H_{14}O_4Ni^+$						
	$(CH_3COCHCOCH_3)_2Ni$ (Nickel, bis(2,4-pentanedionato-O,O')-(SP-4-1)-)	3264-82-2	**	7.40 (V)	PE	5100
			**	7.41 (V)	PE	4571
			**	7.61 (V)	PE	4384
$C_{10}H_{16}O_4Ni^+$						
	$((CH_3CO)_2CH_2)_2Ni$	XXXXX-XX-X	**	7.35 (V)	PE	5568
$C_{22}H_{40}O_4Ni^+$						
	$(((CH_3)_3CCO)_2CH_2)_2Ni$	XXXXX-XX-X	**	7.40 (V)	PE	5568
$C_5H_5NONi^+$						
	C_5H_5NONi (Nickel, (η^5-2,4-cyclopentadien-1-yl)nitrosyl-)	12071-73-7	**	8.29	PE	4234
			**	8.5	EI	4015
$C_6H_7NONi^+$						
	$C_5H_4(CH_3)NONi$ (Nickel, [(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]nitrosyl-)	32714-42-4	**	8.09	PE	4234
$C_{12}H_{18}N_2O_2Ni^+$						
	$C_{12}H_{18}O_2N_2Ni$ (Nickel, [[4,4'-(1,2-ethanediyldinitrilo)bis[2-pentanonato]](2$^-$)-*N,N',O,O'*]-)	13878-48-3	**	6.80 (V)	PE	3822
$C_{16}H_{14}N_2O_2Ni^+$						
	$C_{16}H_{14}N_2O_2Ni$ (Nickel,[[2,2'-[1,2-ethanediylbis(nitrilomethylidyne)] bis[phenolato]](2-)-N,N',O,O']-)	14167-20-5	**	7.57±0.09	EI	4668
$C_{21}H_{24}N_2O_2Ni^+$						
	$C_{21}H_{24}N_2O_2Ni$ (Nickel, [[2,2'-[1,7-heptanediylbis(nitrilomethylidyne)]bis[phenolato]](2-)-*N,N',O,O'*]-)	52358-03-9	**	7.69±0.09	EI	4213
$C_{20}H_{23}N_3O_2Ni^+$						
	$C_{20}H_{23}N_3O_2Ni$ (Nickel, [[2,2'-[iminobis(3,1-propanediylnitrilomethylidyne)]bis[phenolato]](2-)-*N,N',N''*, *O,O'*]-)	15391-40-9	**	7.41±0.08	EI	4213
$C_{20}H_{22}N_2O_3Ni^+$						
	$C_{20}H_{22}N_2O_3Ni$ (Nickel, [[2,2'-[oxybis(3,1-propanediylnitrilomethylidyne)]bis[phenolato]](2-)-*N*,N',*O,O'*, *O''*]-)	52279-52-4	**	7.61±0.06	EI	4213
$C_{10}H_8O_4F_6Ni^+$						
	$(CF_3COCHCOCH_3)_2Ni$ (Nickel, bis(1,1,1-trifluoro-2,4-pentanedionato-O,O')-)	14324-83-5	**	8.25 (V)	PE	4571

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{10}H_2O_4F_{12}Ni^+$						
	$(CF_3COCHCOCF_3)_2Ni$	14949-69-0	**	9.35 (V)	PE	4384
	(Nickel, bis(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato-O,O')-(SP-4-1)-)					
$F_{12}P_4Ni^+$						
	$(PF_3)_4Ni$	13859-65-9	**	8.77	PE	5453
			**	8.82±0.06	PE	4187
			**	8.81	EI	5453
$C_{10}H_{11}S_4Ni^+$						
	$(CH_3CSCHCSCH_3)_2Ni$	10170-79-3	**	6.90 (V)	PE	5100
	(Nickel, bis(2,4-pentanedithionato-S,S')-)					
			**	6.92 (V)	PE	4571
$C_{12}H_{18}N_2S_2Ni^+$						
	$(CH_3C(=S)CH_2C(CH_3)NCH)_2Ni$	41258-78-0	**	6.55 (V)	PE	5446
$C_8H_{18}N_4S_4Ni^+$						
	$(N(CH_3)_2N=C(S)SCH_3)_2Ni$	53809-97-5	**	7.33	PE	5285
$C_{10}H_{14}O_2S_2Ni^+$						
	$(CH_3CSCHCOCH_3)_2Ni$	14239-84-0	**	6.99 (V)	PE	4571
	(Nickel, bis(4-thioxo-2-pentanonato-O,S)-)					
			**	7.00 (V)	PE	5100
$C_{20}H_{22}N_2O_2SNi^+$						
	$C_{20}H_{22}N_2O_2SNi$	52279-55-7	**	7.44±0.07	EI	4213
	(Nickel, [[2,2'-[thiobis(3,1-propanediylnitrilomethylidyne)]bis[phenolato]](2-)-*N*,*N*',*O*,*O*',*S*]-)					
$C_{10}H_8F_6S_4Ni^+$						
	$(CF_3CSCHCSCH_3)_2Ni$	21609-15-4	**	7.65 (V)	PE	4571
	(Nickel, bis(1,1,1-trifluoro-2,4-pentanedithionato-S,S')-)					
$C_{10}H_8O_2F_6S_2Ni^+$						
	$(CF_3CSCHCOCH_3)_2Ni$	15744-66-8	**	7.80 (V)	PE	4571
	(Nickel, bis(1,1,1-trifluoro-4-thioxo-2-pentanonato-O,S)-)					
$C_8H_{20}O_4P_2S_4Ni^+$						
	$Ni(S_2P(OC_2H_5)_2)_2$	16743-23-0	**	7.24±0.05	PE	4636
Cl_2Ni^+						
	$NiCl_2$	7718-54-9	**	11.23 (V)	PE	5172
Cu^+						
	Cu	7440-50-8	**	7.72634±0.00002	S	4011
($^1S_0$)			**	7.72	PE	4858
($^3D_3$)			**	10.44	PE	4858
($^3D_2$)			**	10.55	PE	4858
($^3D_1$)			**	10.69	PE	4858
($^1D_2$)			**	10.98	PE	4858
			**	7.71±0.05	EI	3745
	Cu_3Cl_3	11093-65-5		17.9±0.5	EI	4236
	Cu_4Cl_4	11093-67-7		14.0±0.5	EI	4236
Cu_2^+						
	Cu_2	12190-70-4	**	7.8±0.4	EI	5296
			**	7.8	EI	3775
	Cu_3Cl_3	11093-65-5		18.1±0.5	EI	4236
$C_{16}H_{16}N_4Cu^+$						
	$C_{16}H_{16}N_4Cu$	21177-98-0	**	7.15±0.11	EI	4668
	(Copper, [N,N'-bis[(2-aminophenyl)methylene -1,2-ethanediaminato(2-)-N,N',N'',N''']-)					

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{36}H_{44}N_4Cu^+$						
	$((C_2H_5)_2C_4NCH)_4Cu$ (Copper,[2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-N^{21},N^{22},N^{23},N^{24}]-(SP-4-1)-)	14409-63-3	**	6.31±0.03 (V)	PE	5476
$C_{44}H_{28}N_4Cu^+$						
	$C_{20}H_8N_4(C_6H_5)_4Cu$ (Copper, [5,10,15,20-*tetraphenyl*-21H,23H-*porphinato*(2-)-N^{21},N^{22},N^{23},N^{24}]-(SP-4-1)-)	14172-91-9	**	6.24±0.2	OTH	4962
			**	6.49 (V)	PE	4557
$C_{32}H_{16}N_8Cu^+$						
	$C_{32}H_{16}N_8Cu$ (Copper, [29*H*,31*H*-phthalocyaninato(2-)-N^{29},N^{30},N^{31},N^{32}]- (*SP*-4-1)-)	147-14-8	**	7.37±0.10	EI	3829
$C_{10}H_{14}O_4Cu^+$						
	$(CH_3C(O)=CHCOCH_3)_2Cu$	46369-53-3	**	8.35 (V)	PE	5100
	$(CH_3COCHCOCH_3)_2Cu$ (Copper, bis(2,4-pentanedionato-O,O')-(SP-4-1)-)	13395-16-9	**	8.20 (V)	PE	4384
$N_2O_6Cu^+$						
	$(NO_3)_2Cu$	XXXXX-XX-X	**	10.47±0.04 (V)	PE	4999
$C_{12}H_{18}N_2O_2Cu^+$						
	$C_{12}H_{18}O_2N_2Cu$ (Copper, [[4,4'-(1,2-ethanediyldinitrilo)bis[2-pentanonato]](2-)-*N*,*N'*,*O*,*O'*]-)	14263-53-7	**	7.00 (V)	PE	3822
$C_{16}H_{14}N_2O_2Cu^+$						
	$C_{16}H_{14}N_2O_2Cu$ (Copper,[[2,2'-[1,2-ethanediylbis(nitrilomethylidyne)] bis[phenolato]](2-)-N,N',O,O']-)	14167-15-8	**	7.69±0.09	EI	4668
$C_{21}H_{24}N_2O_2Cu^+$						
	$C_{21}H_{24}N_2O_2Cu$ (Copper, [[2,2'-[1,7-heptanediylbis(nitrilomethylidyne)]bis[phenolato]](2-)-*N*,*N'*O,O']-)	52279-50-2	**	7.81±0.07	EI	4213
$C_{20}H_{23}N_3O_2Cu^+$						
	$C_{20}H_{23}N_3O_2Cu$ (Copper, [[2,2'-[iminobis(3,1-propanediylnitrilomethylidyne)]bis[phenolato]](2-)-*N*,*N'*,*N''*, O,O']-)	15391-22-7	**	7.54±0.08	EI	4213
$C_{20}H_{22}N_2O_3Cu^+$						
	$C_{20}H_{22}N_2O_3Cu$ (Copper, [[2,2'-[oxybis(3,1-propanediylnitrilomethylidyne)] bis[phenolato]](2-)-N^2,$N^{2'}$,O^1,$O^{1'}$]-, (SP-4-2)-)	52279-53-5	**	7.75±0.05	EI	4213
$C_{10}H_8O_4F_6Cu^+$						
	$(CF_3C(O)=CHCOCH_3)_2Cu$	14324-82-4	**	8.95 (V)	PE	5100
$C_{10}H_2O_4F_{12}Cu^+$						
	$(CF_3C(O)=CHCOCF_3)_2Cu$ (Copper, bis(1,1,1,5,5,5-hexafluoro-2,4-pentane-dionato-O,O')-(SP-4-1)-)	14781-45-4	**	10.20 (V)	PE	5100
			**	9.92 (V)	PE	4384
$C_{12}H_{18}N_2S_2Cu^+$						
	$(CH_3C(=S)CH_2C(CH_3)NCH)_2Cu$	41192-46-5	**	6.35 (V)	PE	5446
$C_{10}H_{14}O_2S_2Cu^+$						
	$(CH_3C(O)=CHCSCH_3)_2Cu$	27821-98-3	**	7.65 (V)	PE	5100

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{20}H_{22}N_2O_2SCu^+$						
	$C_{20}H_{22}N_2O_2SCu$ (Copper, [[2,2′-thiobis(3,1-propanediylnitrilomethylidyne)]bis[phenolato]](2-)-*N*,*N*′,*O*,*O*′]-, (*SP*-4-2)-)	52358-04-0	**	7.78±0.06	EI	4213
$ClCu^+$						
	CuCl	7758-89-6	**	10.7±0.3	EI	5634
	Cu_2Cl_2	11093-65-5	2CuCl	16.0±0.05	EI	4236
			Cu+Cl	20.0±0.5	EI	4236
			2Cu+2Cl	23.3±0.5	EI	4236
$ClCu_2^+$						
	Cu_2Cl_2	11093-65-5	$CuCl_2$	12.0±0.5	EI	3455
$Cl_2Cu_2^+$						
	Cu_2Cl_2	12258-96-7	**	9.6±0.03	EI	5634
	Cu_2Cl_2	11093-65-5	CuCl	13.5±0.5	EI	4236
			Cu+Cl	16.7±0.5	EI	4236
	Cu_4Cl_4	11093-67-7		14.0±0.5	EI	3455
$Cl_2Cu_3^+$						
	Cu_2Cl_2	11093-65-5	Cl	12.8±0.3	EI	5330
$Cl_3Cu_3^+$						
	Cu_2Cl_2	11093-65-5	**	9.52 (V)	PE	5297
			**	9.6±0.5	EI	4236
			**	9.9±0.5	EI	3455
			**	10.0±0.3	EI	5330
	Cu_4Cl_4	11093-67-7	CuCl	10.4±1.0	EI	4236
$Cl_3Cu_4^+$						
	Cu_4Cl_4	11093-67-7	Cl	12.2±0.5	EI	4236
				12.4±0.5	EI	3455
$Cl_4Cu_4^+$						
	Cu_4Cl_4	11093-67-7	**	9.6±0.5	EI	4236
			**	9.9±0.5	EI	3455
$Cl_4Cu_5^+$						
	Cu_5Cl_5	11093-68-8	Cl	10.5-1.0	EI	4236
				10.6±0.5	EI	3455
$Cl_5Cu_5^+$						
	Cu_5Cl_5	11093-68-8	**	9.2±1.0	EI	4236
			**	9.7±0.5	EI	3455
Zn^+						
	Zn	7440-66-6	**	9.394	S	5450
			**	9.57±0.07	EI	3745
$C_2H_6Zn^+$						
	$(CH_3)_2Zn$	544-97-8	**	9.4 (V)	PE	5300
$C_4H_{10}Zn^+$						
	$(C_2H_5)_2Zn$	557-20-0	**	8.6 (V)	PE	5300
$C_{36}H_{44}N_4Zn^+$						
	$((C_2H_5)_2C_4NCH)_4Zn$ (Zinc,[2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-N^{21},N^{22},N^{23},N^{24}]-(SP-4-1)-)	17632-18-7	**	6.29±0.03 (V)	PE	5476

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{44}H_{28}N_4Zn^+$						
	$C_{20}H_8N_4(C_6H_5)_4Zn$	14074-80-7	**	6.03±0.2	OTH	4962
	(Zinc, [5,10,15,20-tetraphenyl-21H,23H-porphinato(2-)-N^{21},N^{22},N^{23},N^{24}]-(SP-4-1)-)					
			**	6.42 (V)	PE	4557
$C_{32}H_{16}N_8Zn^+$						
	$C_{32}H_{16}N_8Zn$	14320-04-8	**	7.37±0.10	EI	3829
	(Zinc, [29*H*,31*H*-phthalocyaninato(2-)-N^{29},N^{30},N^{31},N^{32}]-(*SP*-4-1)-)					
$C_{10}H_{14}O_4Zn^+$						
	$(CH_3COCHCOCH_3)_2Zn$	14024-63-6	**	8.46 (V)	PE	4384
	(Zinc, bis(2,4-pentanedionato-O,O')-(T-4)-)					
$C_{22}H_{40}O_4Zn^+$						
	$(((CH_3)_3CCO)_2CH_2)_2Zn$	XXXXX-XX-X	**	8.15 (V)	PE	5568
F_2Zn^+						
	ZnF_2	7783-49-5	**	13.91±0.03	PE	5433
$C_{10}H_2O_4F_{12}Zn^+$						
	$(CF_3COCHCOCF_3)_2Zn$	14949-70-3	**	10.25 (V)	PE	4384
	(Zinc, bis(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato-O,O')-(T-4)-)					
$C_{12}H_{36}N_2Si_4Zn^+$						
	$(N(Si(CH_3)_3)_2)_2Zn$	3999-27-7	**	8.50±0.05 (V)	PE	4725
Cl_2Zn^+						
($^2\Pi_g$)	$ZnCl_2$	7646-85-7	**	11.7 (V)	PE	3963
($^2\Pi_{1/2g}$)			**	11.85 (V)	PE	4232
($^2\Pi_{3/2g}$)			**	11.85 (V)	PE	4232
($^2\Pi_u$)			**	11.87±0.05 (V)	PE	3833
($^2\Pi_u$)			**	12.3 (V)	PE	3963
($^2\Pi_u$)			**	12.39±0.05 (V)	PE	3833
($^2\Pi_{1/2u}$)			**	12.41 (V)	PE	4232
($^2\Pi_{3/2u}$)			**	12.41 (V)	PE	4232
($^2\Sigma_u$)			**	13.0 (V)	PE	3963
($^2\Sigma_u$)			**	13.07±0.05 (V)	PE	3833
($^2\Sigma_u$)			**	13.09 (V)	PE	4232
($^2\Sigma_g$)			**	14.0 (V)	PE	3963
($^2\Sigma_g$)			**	14.10±0.05 (V)	PE	3833
($^2\Sigma_g$)			**	14.13 (V)	PE	4232
($^*D_{5/2}^*$)			**	19.23 (V)	PE	4232
($^{*2}D_{3/2}^*$)			**	19.51 (V)	PE	4232
Ga^+						
	Ga	7440-55-3	**	6.0±0.3	EI	5067
			**	6.1±0.4	EI	4111
			**	6.1	EI	3472
	$(CH_3)_3Ga$	1445-79-0	$C_2H_6+CH_3$	13.24±0.03	EI	3474
	$(CH_2=CH)_3Ga$	1188-13-2	$C_4H_6+C_2H_3$	11.17±0.05	EI	3474
	Ga_2S	12259-25-5		9.2±0.3	EI	5229
Ga_2^+						
	Ga_2S	12259-25-5	S	11.5±0.5	EI	5229
CH_3Ga^+						
	$(CH_3)_3Ga$	1445-79-0	$2CH_3$	13.65±0.07	EI	3474
$C_2H_3Ga^+$						
	$(CH_2=CH)_3Ga$	1188-13-2	C_4H_6	10.95±0.05	EI	3474

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_4Ga^+$						
	$(CH_2=CH)_3Ga$	1188-13-2	$C_2H_3+C_2H_2$	11.85±0.05	EI	3474
$C_2H_6Ga^+$						
	$(CH_3)_3Ga$	1445-79-0	CH_3	10.16±0.03	EI	3474
$C_3H_9Ga^+$						
	$(CH_3)_3Ga$	1445-79-0	**	9.76 (V)	PE	4398
			**	9.87±0.02	EI	3474
$C_4H_6Ga^+$						
	$(CH_2=CH)_3Ga$	1188-13-2	C_2H_3	11.04±0.08	EI	3474
$C_6H_9Ga^+$						
	$(CH_2=CH)_3Ga$	1188-13-2	**	10.81±0.1	EI	3474
$C_{12}H_{10}Ga^+$						
	$(C_6H_5)_3Ga$ (Gallium, triphenyl-)	1088-02-4	C_6H_5	8.63	PI	4055
$C_{18}H_{15}Ga^+$						
	$(C_6H_5)_3Ga$ (Gallium, triphenyl-)	1088-02-4	**	8.46±0.03	PI	4055
$CNGa^+$						
	GaCN	51750-59-5	**	9±1	EI	4205
FGa^+						
	GaF	13966-78-4	**	10.7±0.6	EI	3613
F_2Ga^+						
	GaF_3	7783-51-9		15.1±0.5	EI	3613
$F_5Ga_2^+$						
	Ga_2F_6	38586-87-7		15.6±0.5	EI	3613
$C_{15}H_3O_6F_{18}Ga^+$						
	$(CF_3COCHCOCF_3)_3Ga$ (Gallium, tris(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato-*O,O'*)-, (*OC*-6-11)-)	19648-92-1	**	10.19±0.07 (V)	PE	3682
SGa^+						
	Ga_2S	12259-25-5	Ga	12.±0.5	EI	5229
SGa_2^+						
	Ga_2S	12259-25-5	**	7.7±0.3	EI	5229
Cl_3Ga^+						
	$GaCl_3$	13450-90-3	**	11.52	PE	4215
			**	11.96 (V)	PE	4398
			**	11.96 (V)	PE	4256
$Cl_6Ga_2^+$						
	$(GaCl_3)_2$	15654-66-7	**	11.81 (V)	PE	4559
			**	11.81 (V)	PE	4256
Ge^+						
($^2P^0_{1/2}$)	Ge	7440-56-4	**	7.899	S	5495
($^2P^0_{3/2}$)			**	8.1186	S	5495
			**	7.8±0.5	EI	4200
			**	8.0±0.3	EI	3610
	GeF_4	14929-46-5		29.4±0.2	EI	5154
	GeS	12024-10-1		13.51±0.03	PI	4936

Ion (state)	Reactant	CAS Registry Number	Other products	*Ionization or* appearance *potential* (eV)	Method	Ref.
Ge_2^+						
	Ge_2	12596-05-3	**	7.8	EI	3775
H_4Ge^+						
	GeH_4	7782-65-2	**	11.34	PE	3716
			**	12.0 (V)	PE	3508
$C_2H_8Ge^+$						
	$(CH_3)_2GeH_2$	1449-64-5	**	10.74 (V)	PE	5261
	$C_2H_5GeH_3$	1747-99-5	**	10.4 (V)	PE	4985
$C_3H_9Ge^+$						
	$(CH_3)_4Ge$	865-52-1	CH_3	10.05±0.14	EI	3548
			CH_3	10.07±0.07	EI	4126
	$(CH_3)_3CGe(CH_3)_3$	1184-91-4	$(CH_3)_3C$	9.91±0.22	EI	3548
	$((CH_3)_3Ge)_2$	993-52-2	$(CH_3)_3Ge$	9.96±0.16	EI	3548
	$(CH_3)_3SiGe(CH_3)_3$	31608-80-7	$(CH_3)_3Si$	9.99±0.14	EI	3548
	$C_6H_5SGe(CH_3)_3$	4848-62-8		9.83±0.1	EI	4198
	(Germane, trimethyl(phenylthio)-)					
	$(CH_3)_3GeCl$	1529-47-1	Cl	11.75±0.04	EI	3939
	$C_5H_5(CO)_3CrGe(CH_3)_3$	34962-34-0		9.06±0.1	EI	3495
	(Tricarbonyl(η^5-2,4-cyclopentadien-1-yl)(trimethylgermyl)chromium)					
	$C_5H_5(CO)_3MoGe(CH_3)_3$	33306-91-1		9.63±0.14	EI	3495
	(Tricarbonyl(η^5-2,4-cyclopentadien-1-yl)(trimethylgermyl)molybdenum)					
	$((CH_3)_3Ge)(CH_3)_3Sn$	16393-89-8	$(CH_3)_3Sn$	10.01±0.18	EI	3548
	$C_5H_5(CO)_3WGe(CH_3)_3$	33306-93-3		9.84±0.1	EI	3495
	(Tricarbonyl(η^5-2,4-cyclopentadien-1-yl)(trimethylgermyl)tungsten)					
$C_3H_{16}Ge^+$						
	$(C_2H_5)_3GeH$	1188-14-3	**	9.6 (V)	PE	4985
$C_4H_7Ge^+$						
	$(CH_3)_3GeC{\equiv}CH$	2290-58-6	CH_3	10.56±0.07	EI	4126
$C_4H_{12}Ge^+$						
	$(CH_3)_4Ge$	865-52-1	**	9.33±0.04	PE	3880
			**	9.38±0.1	PE	3677
			**	9.29±0.14	EI	3548
			**	9.56±0.06	EI	4126
	$(C_2H_5)_2GeH_2$	1631-46-5	**	9.8 (V)	PE	4985
$C_5H_5Ge^+$						
	$(CH_3)_2Ge(C{\equiv}CH)_2$	28056-58-8	CH_3	10.94±0.04	EI	4126
$C_5H_8Ge^+$						
	$C_5H_5(GeH_3)$	35682-28-1	**	8.5 (V)	PE	4373
	(Germane, 2,4-cyclopentadien-1-yl-)					
$C_5H_{10}Ge^+$						
	$(CH_3)_3GeC{\equiv}CH$	2290-58-6	**	9.77±0.04	EI	4126
$C_6H_3Ge^+$						
	$CH_3Ge(C{\equiv}CH)_3$	28056-56-6	CH_3	10.74±0.05	EI	4126
$C_6H_8Ge^+$						
	$(CH_3)_2Ge(C{\equiv}CH)_2$	28056-58-8	**	10.57±0.07	EI	4126
$C_6H_{12}Ge^+$						
	$C_4H_6Ge(CH_3)_2$	1731-10-8	**	9.0 (V)	PE	5550
	(Germacyclopent-3-ene,1,1-dimethyl-)					

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_{14}Ge^+$	$CH_2=CHCH_2Ge(CH_3)_3$	762-66-3	**	8.85 (V)	PE	4172
$C_7H_{18}Ge^+$	$(CH_3)_3CGe(CH_3)_3$	1184-91-4	**	8.98±0.12	EI	3548
$C_8H_4Ge^+$	$Ge(C\equiv CH)_4$	4531-35-5	**	11.04±0.05	EI	4126
$C_8H_{18}Ge^+$	$CH_2=CHGe(C_2H_5)_3$	6207-41-6	**	9.2 (V)	PE	3850
$C_8H_{20}Ge^+$	$(C_2H_5)_4Ge$	597-63-7	**	9.3 (V)	PE	3850
			**	9.4 (V)	PE	4985
$C_9H_{14}Ge^+$	$C_6H_5(CH_3)_3Ge$ (Germane, trimethylphenyl-)	1626-00-2	**	8.98±0.05	PE	4589
			**	9.00 (V)	PE	4280
			**	~8.75	CTS	3922
$C_9H_{20}Ge^+$	$CH_2=CHCH_2Ge(C_2H_5)_3$	1793-90-4	**	8.8 (V)	PE	3850
$C_{10}H_{14}Ge^+$	$C_8H_9Ge(CH_3)_2$ (1*H*-2-Benzogermole, 2,3-dihydro-2,2-dimethyl-)	27490-21-7	**	8.39	CTS	3546
$C_{10}H_{16}Ge^+$	$C_6H_5CH_2(CH_3)_3Ge$ (Germane, trimethyl(phenylmethyl)-)	2848-62-6	**	8.25 (V)	PE	4172
			**	8.36±0.05	PE	4589
			**	8.40 (V)	PE	4280
			**	8.19	CTS	3922
			**	8.26	CTS	3546
$C_{12}H_{18}Ge^+$	$C_9H_9Ge(CH_3)_3$ (Germane, 1-indanyltrimethyl-)	27490-24-0	**	8.02	CTS	3546
$C_{13}H_{15}Ge^+$	$C_{10}H_7Ge(CH_3)_3$ (Germane, trimethyl-1-naphthalenyl-)	XXXXX-XX-X	**	8.00	CTS	3922
$C_{13}H_{22}Ge^+$	$C_6H_5CH_2Ge(C_2H_5)_3$ (Germane, triethyl(phenylmethyl)-)	2945-41-7	**	8.1 (V)	PE	4172
$C_{14}H_{18}Ge^+$	$C_{10}H_7CH_2Ge(CH_3)_3$ (Germane, trimethyl(1-naphthalenylmethyl)-)	51220-35-0	**	7.78	CTS	3922
$C_{18}H_{16}Ge^+$	$(C_6H_5)_3GeH$ (Germane, triphenyl-)	2816-43-5	**	9.15±0.05 (V)	PE	4620
$C_{20}H_{44}Ge^+$	$((CH_3)_3CCH_2)_4Ge$	50654-36-9	**	9.01±0.1 (V)	PE	4242
$C_6H_{18}Ge_2^+$	$((CH_3)_3Ge)_2$	993-52-2	**	8.18±0.11	EI	3548

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
NGe_2^+						
	Ge_2N	53262-45-6	**	8.4±0.5	EI	4200
$H_3N_3Ge^+$						
	GeH_3N_3	21138-22-7	**	10.01±0.02 (V)	PE	3670
$H_9NGe_3^+$						
	$(GeH_3)_3N$	22856-27-5	**	9.2±0.1 (V)	PE	3661
$C_9H_{14}N_2Ge^+$						
	$C_6H_5N{=}NGe(CH_3)_3$ (Diazene, phenyl(trimethylgermyl)-)	34472-62-3	**	7.65±0.2 (V)	PE	4581
$C_8H_{24}N_4Ge^+$						
	$(N(CH_3)_2)_4Ge$	7344-40-3	**	8.48 (V)	PE	4588
OGe^+						
($^2\Sigma$)	GeO	20619-16-3	**	11.25±0.01 (V)	PE	4760
			**	11.25±0.01 (V)	PE	4883
			**	11.25 (V)	PE	4967
($^2\Pi$)			**	11.40±0.01 (V)	PE	4760
($^2\Sigma$)			**	15.17±0.01	PE	4760
			**	11.0±0.3	EI	3610
$O_2Ge_2^+$						
	Ge_2O_2	XXXXX-XX-X	**	10.76±0.02 (V)	PE	4760
$H_6OGe_2^+$						
	$(GeH_3)_2O$	14939-17-4	**	10.40 (V)	PE	3656
$C_5H_{12}OGe^+$						
	$(CH_3)_3(COCH_3)Ge$	53520-45-9	**	8.5 (V)	PE	4139
CH_3NOGe^+						
	GeH_3NCO	6928-42-3	**	10.76±0.02 (V)	PE	3670
$C_8H_{13}NOGe^+$						
	$C_5H_4N(O)Ge(CH_3)_3$ (Pyridine, 4-(trimethylgermyl)-, 1-oxide)	28867-08-5	**	8.12 (V)	PE	4222
FGe^+						
	GeF_4	14929-46-5		23.4±0.4	EI	5154
F_2Ge^+						
	GeF_2	13940-63-1	**	12.9±0.3	EI	3570
	GeF_4	14929-46-5		20.7±0.3	EI	5154
F_3Ge^+						
	GeF_4	14929-46-5	F	15.7±0.2	EI	5154
F_4Ge^+						
	GeF_4	7783-58-6	**	16.06±0.04 (V)	PE	3880
$F_4Ge_2^+$						
	Ge_2F_4	12332-08-0	**	13.1±0.3	EI	3570
H_3FGe^+						
	GeH_3F	13537-30-9	**	12.3±0.1 (V)	PE	3510
$H_2F_2Ge^+$						
	GeH_2F_2	14986-65-3	**	13.0±0.1 (V)	PE	3510

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_6F_2Ge^+$						
	$(CH_3)_2GeF_2$	811-70-1	**	10.45 (V)	PE	5261
OF_2Ge^+						
	$GeOF_2$	XXXXX-XX-X	**	12.3±0.3	EI	3570
$C_6H_{18}SiGe^+$						
	$(CH_3)_3SiGe(CH_3)_3$	31608-80-7	**	8.31±0.10	EI	3548
$C_{11}H_{38}Si_4Ge^+$						
	$(CH(Si(CH_3)_3)_2)_2Ge$	60111-69-5	**	7.75±0.05 (V)	PE	4725
$NSiGe^+$						
	GeSiN	53262-44-5	**	8.6±0.5	EI	4200
$C_{11}H_{36}N_2Si_2Ge^+$						
	$C_{11}H_{36}N_2Si_2Ge$	55147-81-4	**	7.24±0.05 (V)	PE	4725
	$(N(Si(CH_3)_3)(tert\text{-}C_4H_9))_2Ge$	XXXXX-XX-X	**	7.26 (V)	PE	4157
$C_{12}H_{36}N_2Si_4Ge^+$						
	$(N(Si(CH_3)_3)_2)_2Ge$	55290-25-0	**	7.71±0.05 (V)	PE	4725
			**	7.72 (V)	PE	4157
H_5PGe^+						
	GeH_3PH_2	13573-06-3	**	9.7±0.1 (V)	PE	3661
$H_9PGe_3^+$						
	$(GeH_3)_3P$	15587-38-9	**	9.0±0.1 (V)	PE	3661
SGe^+						
($^2\Pi$)	GeS	12025-32-0	**	9.98±0.02	PI	4936
($^2\Pi$)			**	10.18±0.03 (V)	PI	4936
($^2\Sigma^+$)			**	10.35±0.08 (V)	PI	4936
($^2\Pi$)			**	10.25-10.28 (V)	PE	4550
($^2\Pi_{1/2,3/2}$)			**	10.36 (V)	PE	4967
($^2\Sigma$)			**	10.39 (V)	PE	4550
			**	10.9±0.5 (V)	EI	4550
H_4SGe^+						
	GeH_3SH	21847-06-3	**	9.69 (V)	PE	3656
$H_6SGe_2^+$						
	$(GeH_3)_2S$	18852-54-5	**	9.25 (V)	PE	3656
$C_4H_{12}SGe^+$						
	$(CH_3)_3SCH_3Ge$	3860-84-2	**	8.50±0.05 (V)	PE	4153
$C_8H_{11}SGe^+$						
	$C_6H_5S(CH_3)_3Ge$ (Germane, trimethyl(phenylthio)-)	4848-62-8	CH_3	9.95±0.1	EI	4198
$C_9H_{14}SGe^+$						
	$C_6H_5S(CH_3)_3Ge$ (Germane, trimethyl(phenylthio)-)	4848-62-8	**	8.52±0.05	PE	4589
			**	8.08±0.1	EI	4198
$C_{10}H_{16}SGe^+$						
	$C_6H_4(SCH_3)(CH_3)_3Ge$ (Germane, *trimethyl[4-(methylthio)phenyl]*-)	59163-56-3	**	7.90±0.05 (V)	PE	4627
$C_{13}H_{11}SGe^+$						
	$C_{12}H_8SGe(CH_3)_2$ (10H-Phenothiagermanin, 10,10-dimethyl-)	63447-23-4	CH_3	8.7±0.1	EI	4664

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{11}H_{14}SGe^+$						
	$C_{12}H_8SGe(CH_3)_2$ (10H-Phenothiagermanin, 10,10-dimethyl-)	63447-23-4	**	8.0±0.1	EI	4664
$C_6H_{18}SGe_2^+$						
	$((CH_3)_3Ge)_2S$	6199-00-4	**	8.40±0.05 (V)	PE	4153
			**	8.60±0.1	EI	4198
CH_3NSGe^+						
	GeH_3NCS	16475-45-9	**	9.14±0.02 (V)	PE	3670
Cl_3Ge^+						
	$GeCl_4$	10038-98-9	Cl	12.12±0.04	EI	3939
	CH_3GeCl_3	993-10-2	CH_3	12.22±0.05	EI	3939
Cl_4Ge^+						
	$GeCl_4$	10038-98-9	**	11.68±0.05	EI	3939
H_3ClGe^+						
	GeH_3Cl	13637-65-5	**	11.30±0.02 (V)	PE	3510
			**	11.34±0.05 (V)	PE	3502
$H_2Cl_2Ge^+$						
	GeH_2Cl_2	15230-48-5	**	11.42±0.02 (V)	PE	3510
$C_2H_6ClGe^+$						
	$(CH_3)_3GeCl$	1529-47-1	CH_3	10.44±0.04	EI	3939
	$(CH_3)_2GeCl_2$	1529-48-2	Cl	11.56±0.04	EI	3939
$C_3H_9ClGe^+$						
	$(CH_3)_3GeCl$	1529-47-1	**	10.35 (V)	PE	4566
			**	9.62±0.04	EI	3939
$C_9H_{13}ClGe^+$						
	$C_6H_4(CH_3)_3GeCl$ (Germane, (4-chlorophenyl)trimethyl-)	56866-67-2	**	8.84 (V)	PE	4438
$CH_3Cl_2Ge^+$						
	$(CH_3)_2GeCl_2$	1529-48-2	CH_3	11.08±0.05	EI	3939
	CH_3GeCl_3	993-10-2	Cl	11.78±0.05	EI	3939
$C_2H_6Cl_2Ge^+$						
	$(CH_3)_2GeCl_2$	1529-48-2	**	10.65 (V)	PE	5261
			**	10.18±0.05	EI	3939
$CH_3Cl_3Ge^+$						
	CH_3GeCl_3	993-10-2	**	11.11±0.04	EI	3939
$C_8H_{14}CrGe^+$						
	$C_5H_5(CO)_3CrGe(CH_3)_3$ (Tricarbonyl(η^5-2,4-cyclopentadien-1-yl)(trimethylgermyl)chromium)	34962-34-0	3CO	10.57±0.24	EI	3495
$C_9H_{14}OCrGe^+$						
	$C_5H_5(CO)_3CrGe(CH_3)_3$ (Tricarbonyl(η^5-2,4-cyclopentadien-1-yl)(trimethylgermyl)chromium)	34962-34-0	2CO	9.53±0.15	EI	3495
$C_{10}H_{14}O_2CrGe^+$						
	$C_5H_5(CO)_3CrGe(CH_3)_3$ (Tricarbonyl(η^5-2,4-cyclopentadien-1-yl)(trimethylgermyl)chromium)	34962-34-0	CO	9.13±0.1	EI	3495
$C_{11}H_{14}O_3CrGe^+$						
	$C_5H_5(CO)_3CrGe(CH_3)_3$ (Tricarbonyl(η^5-2,4-cyclopentadien-1-yl)(trimethylgermyl)chromium)	34962-34-0	**	7.79±0.1	EI	3495

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_3O_5MnGe^+$						
	$(GeH_3)(CO)_5Mn$	25069-08-3	**	8.90±0.02 (V)	PE	3827
$C_4H_3O_4CoGe^+$						
	$(GeH_3)(CO)_4Co$	28360-37-4	**	8.80±0.02 (V)	PE	3827
$CuGe^+$						
	GeCu	12394-89-7	**	7.5	EI	3775
As^+						
	As	7440-38-2	**	>10.0	EI	3475
	AsF_3	7784-35-2	3F	27.0±0.4	EI	5016
	$AsCl_3$	7784-34-1	3Cl	20.4±0.4	EI	5016
As_2^+						
	As_2	23878-46-8	**	10.1±0.2	S	3567
			**	11.0±0.5	EI	3555
As_4^+						
	As_4	12187-08-5	**	9.9±0.2	EI	3555
H_3As^+						
	AsH_3	7784-42-1	**	9.89	PE	3719
			**	10.58±0.05 (V)	PE	5419
$C_2H_7As^+$						
	$(CH_3)_2AsH$	593-57-7	**	8.58	PE	3589
			**	9.14 (V)	PE	4185
$C_3H_9As^+$						
	$(CH_3)_3As$	593-88-4	**	8.65 (V)	PE	4226
			**	8.65 (V)	PE	5368
$C_4H_9As^+$						
	$(CH_2=CH)(CH_3)_2As$	13652-14-7	**	8.68 (V)	PE	5122
$C_4H_{11}As^+$						
	$(CH_3)_3As=CH_2$	19415-86-2	**	6.72 (V)	PE	5368
$C_5H_5As^+$						
	C_5H_5As (Arsenin)	289-31-6	**	8.8 (V)	PE	3832
$C_5H_{11}As^+$						
	$(CH_2=CHCH_2)(CH_3)_2As$	691-35-0	**	8.57 (V)	PE	5122
$C_6H_5As^+$						
	$(C_6H_5)_3As$ (Arsine, triphenyl-)	603-32-7		8.2±0.1	PI	4325
$C_8H_{11}As^+$						
	$(C_6H_5)(CH_3)_2As$ (Arsine,dimethylphenyl-)	696-26-4	**	8.67 (V)	PE	5122
$C_9H_{13}As^+$						
	$(C_6H_5CH_2)(CH_3)_2As$ (Arsine,dimethyl(phenylmethyl))	36678-76-9	**	8.45 (V)	PE	5122
$C_{12}H_{10}As^+$						
	$(C_6H_5)_3As$ (Arsine, triphenyl-)	603-32-7		9.35±0.1	PI	4325

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{12}H_{11}As^+$						
	$(C_6H_5)_2AsH$ (Arsine, diphenyl-)	829-83-4	**	7.87±0.01	PE	4154
$C_{12}H_{13}As^+$						
	$C_6H_5C_4H_2As(CH_3)_2$ (1*H*-Arsole, 2,5-dimethyl-1-phenyl-)	20527-10-0	**	8.0 (V)	PE	4090
$C_{18}H_{15}As^+$						
	$(C_6H_5)_3As$ (Arsine, triphenyl-)	603-32-7	**	7.32±0.05	PI	4325
			**	7.60±0.01	PE	4154
			**	8.03±0.05 (V)	PE	4368
			**	8.11 (V)	PE	5139
$C_{19}H_{13}As^+$						
	$C_{13}H_8AsC_6H_5$ (Acridarsine, 10-phenyl-)	28660-45-9	**	7.05 (V)	PE	5630
$C_4H_{12}As_2^+$						
	$((CH_3)_2As)_2$-trans	471-35-2	**	7.91 (V)	PE	4185
	$((CH_3)_2As)_2$-gauche		**	8.85 (V)	PE	4185
			**	8.85 (V)	PE	4185
$B_2C_6H_{18}N_3As^+$						
	$N_3B_2(CH_3)_4As(CH_3)_2$ (1,2,4,3,5-Triazadiborolidine, 4-(dimethylarsino)-1,2,3,5-tetramethyl-)	57877-84-6	**	7.5 (V)	PE	4526
$O_6As_4^+$						
	As_4O_6	12505-67-8	**	10.01±0.05 (V)	PE	4639
			**	10.05 (V)	PE	4704
			**	10.05 (V)	PE	5343
CH_2OAs^+						
	$As(OCH_3)_3$	6596-95-8		13.88	EI	4339
CH_3OAs^+						
	$As(OCH_3)_3$	6596-95-8		10.63	EI	4339
CH_4OAs^+						
	$As(OCH_3)_3$	6596-95-8		13.48	EI	4339
$C_2H_4OAs^+$						
	$As(OC_2H_5)_3$	3141-12-6		12.30	EI	4339
$C_2H_5OAs^+$						
	$As(OC_2H_5)_3$	3141-12-6		10.80	EI	4339
$C_2H_6OAs^+$						
	$As(OC_2H_5)_3$	3141-12-6		12.30	EI	4339
$C_3H_9OAs^+$						
	$(CH_3)_3As=O$	4964-14-1	**	9.08 (V)	PE	5368
$C_2H_5O_2As^+$						
	$As(OCH_3)_3$	6596-95-8	CH_3OH	8.98	EI	4339
$C_2H_6O_2As^+$						
	$As(OCH_3)_3$	6596-95-8	CH_3O	10.03	EI	4339
$C_2H_7O_2As^+$						
	$As(OCH_3)_3$	6596-95-8	CH_2O	8.80	EI	4339

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_4H_9O_2As^+$						
	$As(OC_2H_5)_3$	3141-12-6	C_2H_5OH	8.60	EI	4339
$C_4H_{10}O_2As^+$						
	$As(OC_2H_5)_3$	3141-12-6	C_2H_5O	10.03	EI	4339
$C_4H_{11}O_2As^+$						
	$As(OC_2H_5)_3$	3141-12-6	C_2H_4O	8.52	EI	4339
$C_3H_9O_3As^+$						
	$As(OCH_3)_3$	6596-95-8	**	9.73 (V)	PE	4705
			**	7.93	EI	4339
FAs^+						
	AsF_3	7784-35-2		19.6±0.1	EI	5016
	AsF_5	7784-36-3		23.8±0.2	EI	5016
F_2As^+						
	AsF_3	7784-35-2	F^-	12.80±0.1	EI	5016
	AsF_5	7784-36-3		15.8±0.2	EI	5016
F_3As^+						
	AsF_3	7784-35-2	**	12.3±0.05	EI	5016
			**	12.84±0.05	EI	3578
	AsF_5	7784-36-3	F_2^-	14.0±0.1	EI	5016
F_4As^+						
	AsF_5	7784-36-3	F^-	13.8±0.2	EI	5016
$C_4F_{12}As_2^+$						
	$((CF_3)_2As)_2$ (*Trans* conformer)	360-56-5	**	10.39 (V)	PE	4185
$CH_2F_3As^+$						
	H_2AsCF_3	XXXXX-XX-X	**	14.0±0.05 (V)	PE	5419
$C_6H_7F_6As^+$						
	cis-$(CH_3)_2AsC(CF_3)=C(CF_3)H$	4648-64-0	**	8.61	PE	3589
	trans-$(CH_3)_2AsC(CF_3)=C(CF_3)H$	4648-63-9	**	8.71	PE	3589
$C_8H_{11}F_6As^+$						
	$(C_2H_5)_2AsC(CF_3)=C(CF_3)H$	XXXXX-XX-X	**	8.44	PE	3589
$H_9Si_3As^+$						
	$(SiH_3)_3As$	15110-34-6	**	9.3±0.1 (V)	PE	3661
$C_7H_{19}SiAs^+$						
	$(CH_3)_3As=CHSi(CH_3)_3$	3607-04-3	**	6.56 (V)	PE	5368
$C_{10}H_{27}Si_2As^+$						
	$(CH_3)_3As=C(Si(CH_3)_3)_2$	58972-45-5	**	6.66 (V)	PE	5368
$H_2F_3SiAs^+$						
	F_3SiAsH_2	53098-12-7	**	10.90±0.05 (V)	PE	5419
$C_2H_6F_3SiAs^+$						
	$F_3SiAs(CH_3)_2$	60387-29-3	**	9.4±0.05 (V)	PE	5419
PAs^+						
	AsP	12255-33-3	**	10.5±0.6	EI	4120
			**	11.2±0.5	EI	3555

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
P_3As^+						
	AsP_3	12511-95-4	**	10.3±0.3	EI	3555
$P_2As_2^+$						
	As_2P_2	12512-03-7	**	10.3±0.3	EI	3555
PAs_3^+						
	As_3P	12512-11-7	**	10.0±0.3	EI	3555
$S_3As_3^+$						
	As_4S_4	12279-90-2		9.0±0.7	EI	3475
$S_3As_4^+$						
	As_4S_3	12512-13-9	**	9.01 (V)	PE	4704
$S_4As_4^+$						
	As_4S_4	12279-90-2	**	9.0±0.7	EI	3475
$ClAs^+$						
	$AsCl_3$	7784-34-1		17.7±0.2	EI	5016
Cl_2As^+						
	$AsCl_3$	7784-34-1	Cl^-	12.4±0.2	EI	5016
Cl_3As^+						
	$AsCl_3$	7784-34-1	**	10.55±0.025	PE	3626
			**	10.90 (V)	PE	5473
			**	10.57±0.03	EI	3626
			**	11.6±0.05	EI	5016
$C_2H_6SiCl_3As^+$						
	$Cl_3SiAs(CH_3)_2$	XXXXX-XX-X	**	9.20±0.05 (V)	PE	5419
$C_{24}H_{22}MnAs^+$						
	$(CH_3C_5H_4)(CO)_2((C_6H_5)_3As)Mn$ (Manganese,dicarbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl](triphenylarsine)-)	XXXXX-XX-X	2CO	8.44±0.03	EI	5576
	$C_{26}H_{22}OSMnAs^+$ (Manganese,(carbonothioyl)carbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl](triphenylarsine)-)	XXXXX-XX-X	CO+CS	9.01±0.02	EI	5576
$C_{25}H_{22}OMnAs^+$						
	$(CH_3C_5H_4)(CO)_2((C_6H_5)_3As)Mn$ (Manganese,dicarbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl](triphenylarsine)-)	XXXXX-XX-X	CO	8.53±0.04	EI	5576
$C_{26}H_{22}O_2MnAs^+$						
	$(CH_3C_5H_4)(CO)_2((C_6H_5)_3As)Mn$ (Manganese,dicarbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl](triphenylarsine)-)	XXXXX-XX-X	**	6.38+0.03	EI	5576
$C_{25}H_{22}SMnAs^+$						
	$C_{26}H_{22}OSMnAs$ (Manganese,(carbonothioyl)carbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl](triphenylarsine)-)	XXXXX-XX-X	CO	7.57±0.02	EI	5576
$C_{26}H_{22}OSMnAs^+$						
	$C_{26}H_{22}OSMnAs$ (Manganese,(carbonothioyl)carbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl](triphenylarsine)-)	XXXXX-XX-X	**	6.71±0.02	EI	5576

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{22}H_{15}O_4FeAs^+$						
	$As(C_6H_5)_3(CO)_4Fe$ (Iron,tetracarbonyl(triphenylarsine)–)	14375-84-9	**	7.50 (V)	PE	5559
Se^+						
	H_2Se	7783-07-5		12.6±0.1	EI	3633
	CSe_2	506-80-9		13.38±0.02	PI	4936
($^2\Sigma_u^+$)			CSe	13.4543	PI	5000
Se_2^+						
($^2\Pi_{g,1/2}$)	Se_2	12185-17-0	**	8.70±0.05	PE	4662
($^2\Pi_{g,3/2}$)			**	9.13 (V)	PE	4662
($^1\Pi_u$)			**	10.68 (V)	PE	4662
			**	11.27 (V)	PE	4662
($^1\Sigma_g^-$)			**	12.27 (V)	PE	4662
			**	12.81 (V)	PE	4662
($^2\Sigma_g^-$)			**	13.31 (V)	PE	4662
			**	14.00 (V)	PE	4662
	CSe_2	506-80-9		15.21±0.02	PI	4936
Se_5^+						
	Se_5	12597-28-3	**	7.83±0.02	PE	4662
Se_6^+						
	Se_6	12597-30-7	**	8.23±0.05	PE	4662
HSe^+						
	SeH	13940-22-2	**	9.79	S	3742
	H_2Se	7783-07-5	H	13.6±0.2	EI	4610
			H	13.8±0.2	EI	3633
H_2Se^+						
($^2B_1$)	H_2Se	7783-07-5	**	9.88	PE	3719
($^2B_1$)			**	9.93	PE	4073
($^2A_1$)			**	12.40	PE	3719
($^2B_2$)			**	14.11	PE	3719
($^2A_1$)			**	21.0 (V)	PE	3719
			**	10.00±0.05	EI	4610
CSe^+						
	CSe	16674-18-3	**	10.8±0.5	EI	4966
			**	10.943	OTH	5000
	CSe_2	506-80-9		14.37±0.02	PI	4936
			Se	14.586	PI	5000
CSe_2^+						
	CSe_2	506-80-9	**	9.25	S	5098
($^2\Sigma_u^+$)			**	13.6336	S	5000
($^3\Sigma_g^+$)			**	15.899	S	5000
($^2\Pi_{g,3/2}$)			**	9.258±0.0002	PI	5000
($\Pi_{3/2}$)			**	9.26±0.01	PI	4936
($^2\Pi_{1/2}$)			**	9.52±0.01	PI	4936
($^2\Pi_{g,1/2}$)			**	9.524	PI	5000
($^2\Sigma_u^+$)			**	13.63±0.02	PI	4936
($^2\Sigma_g^+$)			**	15.89±0.02	PI	4936
($^2\Pi_{3/2g}$)			**	9.26	PE	4309
($^2\Pi_{3/2}$)			**	9.27±0.01	PE	3965
($^2\Pi_{1/2g}$)			**	9.52	PE	4309
($^2\Pi_{1/2}$)			**	9.54±0.01	PE	3965
($^2\Pi_u$)			**	11.45	PE	4309
($^2\Pi_u$)			**	11.49±0.01	PE	3965
($^2\Sigma_u$)			**	13.61	PE	4309

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or* appearance potential (eV)	Method	Ref.
CSe_2^+						
($^2\Sigma_u^+$)	CSe_2	506-80-9	**	13.63±0.01	PE	3965
($^2\Sigma_g$)			**	15.87	PE	4309
($^2\Sigma_g^+$)			**	15.90±0.01	PE	3965
			**	9.4±0.5	EI	4966
$C_2H_2Se^+$						
	$CH_2=C=Se$	61134-37-0	**	8.72 (V)	PE	4982
$C_2H_5Se^+$						
	$CH_3SeCH_2CH_2CH(NH_2)COOH$	1464-42-2		12.03±0.06	EI	3443
$C_2H_6Se^+$						
	$(CH_3)_2Se$	593-79-3	**	8.400±0.010	S	3970
			**	8.40 (V)	PE	3656
$C_3H_7Se^+$						
	$CH_3SeCH_2CH_2CH(NH_2)COOH$	1464-42-2	$C_2H_1NO_2$	9.34±0.15	EI	3443
$C_4H_4Se^+$						
	C_4H_4Se (Selenophene)	288-05-1	**	8.776	S	5456
			**	8.80 (V)	PE	3858
			**	8.92 (V)	PE	4626
			**	⩽8.92 (V)	PE	3804
			**	9.01±0.05	EI	3482
			**	8.96	CTS	4382
$C_4H_8Se^+$						
	C_4H_8Se (Selenophene, tetrahydro-)	3465-98-3	**	8.14 (V)	PE	4145
$C_5H_6Se^+$						
	$C_4H_3SeCH_3$ (Selenophene, 2-methyl-)	7559-42-4	**	8.40±0.05 (V)	PE	4626
			**	8.38±0.1	EI	3804
$C_6H_4Se^+$						
	$C_5H_4=C=Se$ (Methaneselone,2,4-cyclopentadien-1-ylidine-)	72443-10-8	**	8.34 (V)	PE	4982
$C_8H_6Se^+$						
	C_8H_6Se (Benzo[b]selenophene)	272-30-0	**	8.03±0.05	PE	4435
$C_8H_{10}Se_2^+$						
	$C_6H_4(SeCH_3)_2$ (Benzene,1,4-bis(methylseleno)-)	40400-26-8	**	7.95 (V)	PE	5403
$C_6H_4Se_4^+$						
	$(C_3H_2Se_2)_2$ (1,3-Diselenole,2-(1,3-diselenol-2-ylidene)-)	54489-01-9	**	7.21	EI	5622
$C_{10}H_{12}Se_4^+$						
	$C_6Se_4(CH_3)_4$ (1,3-Diselenole, 2-(4,5-dimethyl-1,3-diselenol-2-ylidene)-4,5-dimethyl-)	55259-49-9	**	6.58 (V)	PE	4481
$C_3H_6NSe^+$						
	$CH_3SeCH_2CH_2CH(NH_2)COOH$	1464-42-2		10.33±0.07	EI	3443
$C_4H_{10}NSe^+$						
	$CH_3SeCH_2CH_2CH(NH_2)COOH$	1464-42-2	CO_2H	9.83±0.16	EI	3443

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_9NSe^+$						
	$C_6H_4(SeCH_3)NH_2$ (Benzenamine,2-(methylseleno)-)	70086-67-8	**	7.95 (V)	PE	5403
	$C_6H_4(SeCH_3)NH_2$ (Benzenamine,3-(methylseleno)-)	70086-66-7	**	7.83 (V)	PE	5403
	$C_6H_4(SeCH_3)NH_2$ (Benzenamine,4-(methylseleno)-)	35065-62-4	**	7.88 (V)	PE	5403
$C_2H_2N_2Se^+$						
	$C_2H_2N_2Se$ (1,2,3-Selenadiazole)	26223-16-5	**	9.69 (V)	PE	4982
$C_6H_4N_2Se^+$						
	$C_6H_4N_2Se$ (1,2,3-Benzoselenadiazole)	123-92-7	**	8.83 (V)	PE	4982
O_2Se^+						
($^2A_1$)	SeO_2	7446-08-4	**	11.76 (V)	PE	4817
($^2A_2+^2B_2$)			**	12.18 (V)	PE	4817
($^2B_2$)			**	14.56 (V)	PE	4817
($^2A_1+^2B_1$)			**	14.95 (V)	PE	4817
($^2A_1$)			**	19.90 (V)	PE	4817
$COSe^+$						
($^2\Pi_{3/2}$)	COSe	1603-84-5	**	10.36±0.01	PE	3965
($X^2\pi_{3/2,1/2}$)			**	10.37	PE	4383
($^2\Pi_{1/2}$)			**	10.57±0.01	PE	3965
($^2\Pi$)			**	14.58±0.01	PE	3965
($^2\Sigma^+$)			**	15.75±0.01	PE	3965
$C_5H_4OSe^+$						
	C_4H_3SeCHO (2-Selenophenecarboxaldehyde)	25109-26-6	**	9.47±0.05	EI	3482
$C_5H_6OSe^+$						
	$C_4H_3Se(=O)(CH_3)$ (2(5H)Selenophenone, 5-methyl-)	26562-65-2	**	8.84±0.05	EI	4666
$C_6H_6OSe^+$						
	$C_4H_3SeCOCH_3$ (Ethanone, 1-selenophene-2-yl-)	15429-03-5	**	9.30±0.05	EI	3482
$C_6H_8OSe^+$						
	$C_4H_2Se(=O)(CH_3)_2$ (3(2H)-Selenophenone, 2,5-dimethyl-)	57556-10-2	**	8.24±0.05	EI	4673
$C_7H_{10}OSe^+$						
	$C_4HSe(CH_3)_2OCH_3$ (Selenophene, 3-methoxy-2,5-dimethyl-)	57556-13-5	**	7.69±0.05	EI	4673
	$C_4HSe(=O)(CH_3)_3$ (2(3H)-Selenophenone, 3,3,5-trimethyl-)	57556-20-4	**	7.98±0.05	EI	4666
	$C_4HSe(=O)(CH_3)_3$ (3(2H)-Selenophenone, 2,2,5-trimethyl-)	57556-11-3	**	8.21±0.05	EI	4673
$C_8H_{10}OSe^+$						
	$C_6H_4(SeCH_3)(OCH_3)$ (Benzene,1-methoxy-2-(methylseleno)-)	1657-75-6	**	7.86 (V)	PE	5403
	$C_6H_4(SeCH_3)(OCH_3)$ (Benzene,1-methoxy-3-(methylseleno)-)	2726-42-3	**	7.93 (V)	PE	5403
	$C_6H_4(SeCH_3)(OCH_3)$ (Benzene,1-methoxy-4-(methylseleno)-)	1694-07-1	**	8.05 (V)	PE	5403

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{12}H_8OSe^+$	$C_{12}H_8OSe$ (Phenoxaselenin)	262-22-6	**	7.74±0.05 (V)	PE	4743
$C_5H_4O_2Se^+$	$C_4H_3SeCOOH$ (2-Selenophenecarboxylic acid)	22968-45-2	**	9.19±0.05 (V)	PE	4626
			**	9.25±0.1	EI	3804
$C_6H_6O_2Se^+$	$C_4H_3SeCOOCH_3$ (2-Selenophenecarboxylic acid methyl ester)	39697-33-1	**	9.05±0.05 (V)	PE	4626
$C_4H_6NOSe^+$	$CH_3SeCH_2CH_2CH(NH_2)COOH$	1464-42-2	H_2O+CH_3	10.00±0.05	EI	3443
$C_5H_9NOSe^+$	$CH_3SeCH_2CH_2CH(NH_2)COOH$	1464-42-2	H_2O	8.73±0.10	EI	3443
$C_7H_9NOSe^+$	$C_4H_3SeCON(CH_3)_2$ (2-Selenophenecarboxamide, N,N-dimethyl-)	55685-51-3	**	8.85±0.05 (V)	PE	4626
$C_4H_3NO_2Se^+$	$C_4H_3SeNO_2$ (*Selenophene, 2-nitro-*)	15429-04-6	**	9.64±0.05 (V)	PE	4626
$C_4H_8NO_2Se^+$	$CH_3SeCH_2CH_2CH(NH_2)COOH$	1464-42-2	CH_3	9.35±0.10	EI	3443
$C_5H_{11}NO_2Se^+$	$CH_3SeCH_2CH_2CH(NH_2)COOH$	1464-42-2	**	8.26±0.03	EI	3443
F_2Se^+	SeF_2	14017-34-6	**	10.20 (V)	PE	5074
$C_6H_3OF_3Se^+$	$C_4H_3SeCOCF_3$ (Ethanone, 2,2,2-trifluoro-1-(selenophene-2-yl)-)	26149-08-6	**	9.64±0.05	EI	3482
$H_6Si_2Se^+$	$(SiH_3)_2Se$	14939-45-8	**	9.18 (V)	PE	3656
PSe^+	SeP	12509-41-0	**	8.2	EI	4001
$P_4Se_3^+$	P_4Se_3	1314-86-9	**	8.71 (V)	PE	4704
$C_3H_9O_3PSe^+$	$(CH_3O)_3PSe$	152-19-2	**	8.67 (V)	PE	4705
SSe^+	SSe	7446-34-6	**	9.2±0.3	EI	4682
$CSSe^+$						
$(^2\Pi_{3/2})$	SCSe	5951-19-9	**	9.58±0.01	PE	3965
$(^2\pi_{3/2,1/2})$			**	9.58	PE	4383
$(X^2\Pi_{1/2})$			**	9.77±0.01	PE	3965
$C_4H_4SSe^+$	C_4H_4SSe (1,4-Thiaselenin)	290-82-4	**	8.1±0.1 (V)	PE	4841

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_6SSe^+$						
	$C_4H_2Se(SH)CH_3$ (2-Selenophenethiol, 5-methyl-)	63359-60-4	**	8.17±0.05	EI	4706
$C_6H_8SSe^+$						
	$C_4H_2Se(CH_3)SCH_3$ (Selenophene, 2-methyl-5-(methylthiol)-)	63359-62-6	**	7.84±0.05	EI	4706
	$C_4HSe(SH)(CH_3)_2$ (3-Selenophenethiol, 2,5-dimethyl-)	63359-61-5	**	7.90±0.05	EI	4706
$C_7H_{10}SSe^+$						
	$C_4HSe(CH_3)_2SCH_3$ (Selenophene, 2,5-dimethyl-3-(methylthiol)-)	63394-81-0	**	7.73±0.05	EI	4706
$C_8H_{10}SSe^+$						
	$C_6H_4(SeCH_3)(SCH_3)$ (Benzene, 1-(methylseleno)-4-(methylthio)-)	70086-65-6	**	7.90 (V)	PE	5403
$C_6H_4S_2Se_2^+$						
	$(C_3H_2SSe)_2$ (1,3-Thiaselenole,2-(1,3-thiaselenol-2-ylidene)-)		**	7.06	CTS	5622
Cl_2Se^+						
	$SeCl_2$	14457-70-6	**	9.50±0.2 (V)	PE	5023
			**	9.52 (V)	PE	5074
$Cl_2Se_2^+$						
	Se_2Cl_2	10025-68-0	**	9.81±0.2 (V)	PE	5023
$C_4H_3ClSe^+$						
	C_4H_3SeCl (Selenophene, 2-chloro-)	1449-67-8	**	8.83±0.05 (V)	PE	4626
			**	8.72	CTS	4382
$C_2H_6PClSe^+$						
	$(CH_3)_2P(Se)Cl$	XXXXX-XX-X	**	8.64 (V)	PE	5523
$CH_3PCl_2Se^+$						
	$CH_3P(Se)Cl_2$	2171-82-6	**	9.16 (V)	PE	5523
$C_6O_5SeCr^+$						
	$(CO)_5(CSe)Cr$	63356-87-6	**	8.03 (V)	PE	5333
$MnSe^+$						
	MnSe	1313-22-0		8.2±0.5	EI	4901
			**	8.2±0.5	EI	4966
$GeSe^+$						
($^2\Pi_{3/2}$)	SeGe	12065-10-0	**	9.8 (V)	PE	4967
($^2\Pi_{3/2}$,$^2\Pi_{1/2}$)			**	9.95 (V)	PE	4550
($^2\Sigma$)			**	10.20 (V)	PE	4550
($^2\Sigma$)			**	13.4 (V)	PE	4550
($^2\Sigma$)			**	14.9 (V)	PE	4550
			**	10.2±0.5 (V)	EI	4550
$H_6Ge_2Se^+$						
	$(GeH_3)_2Se$	24254-18-0	**	8.84 (V)	PE	3656
Br^+						
	Br	10097-32-2	**	11.81	S	5209
($^3P_2$)			**	11.81±0.02	PE	5087
($^3P_2$)			**	11.81	PE	5214

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
Br^+						
($^3P_1$)	Br	10097-32-2	**	12.20±0.02	PE	5087
($^3P_1$)			**	12.20	PE	5214
($^3P_0$)			**	12.28	PE	5214
($^3P_0$)			**	12.30±0.02	PE	5087
($^1D_2$)			**	13.28	PE	5214
($^1D_2$)			**	13.30±0.02	PE	5087
($^1S_0$)			**	15.26	PE	5214
($^1S_0$)			**	15.27±0.02	PE	5087
	CH_3Br	74-83-9	CH_3	15.8±0.5	EI	4533
	CH_2Br_2	74-95-3	CH_2Br	15.5±0.1	EI	3442
			CH_2Br	16.0	EI	3490
	$AsBr_3$	7784-33-0	$AsBr_2$	15.0±0.2	EI	5016
Br_2^+						
($^2\pi_{3/2g}$)	Br_2	7726-95-6	**	10.57 (V)	PE	4564
($^2\pi_{1/2g}$)			**	10.92 (V)	PE	4564
			**	10.8±0.2	EI	4906
	$AsBr_3$	7784-33-0	AsBr	13.4±0.1	EI	5016
HBr^+						
($^2\Sigma^+$)	HBr	10035-10-6	**	15.2964±0.0025	S	4343
			**	11.66±0.02	PI	5307
($^2\Pi_{3/2}$)			**	11.645±0.005	PE	3839
($^2\Pi_{1/2}$)			**	11.979±0.005	PE	3839
($^2\Sigma^+$)			**	15.288±0.005	PE	3839
	CH_3Br	74-83-9	CH_2	15.9±0.3	EI	4533
	C_2H_3Br	593-60-2		18.2±0.1	PI	5079
	$(CH_3)_2CBrNO$	7119-91-7		11.60	EI	4809
DBr^+						
($^2\Pi_{3/2}$)	DBr	13536-59-9	**	11.673±0.005	PE	3839
($^2\Pi_{1/2}$)			**	12.002±0.005	PE	3839
($^2\Sigma^+$)			**	15.284±0.005	PE	3839
H_2Br^+						
	$(HBr)_2$	XXXXX-XX-X	Br	11.42±0.03	PI	5307
$H_2Br_2^+$						
	$(HBr)_2$	XXXXX-XX-X	**	10.83±0.05	PI	5307
$LiBr^+$						
	LiBr	7550-35-8	**	9.43±0.05 (V)	PE	4950
			**	10.0 (V)	PE	4307
$Li_2Br_2^+$						
	$(LiBr)_2$	XXXXX-XX-X	**	10.05±0.08 (V)	PE	4950
$H_8B_5Br^+$						
	B_5H_8Br (Pentaborane(9), 1-bromo-)	23753-67-5	**	9.71 (V)	PE	4519
	B_5H_8Br (Pentaborane(9), 2-bromo-)	23753-64-2	**	10.04 (V)	PE	4519
CBr^+						
	CH_3Br	74-83-9	$H+H_2$	18.8±0.3	EI	4533
$C_4Br_2^+$						
	BrC≡CC≡CBr	36333-41-2	**	9.20±0.02	PE	4162
CBr_3^+						
	CBr_4	558-13-4	Br	10.47±0.02	PI	4308

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_9Br^+$						
	C_7H_9Br (Bicyclo[2.2.1]hept-2-ene, 5-bromo-, *exo*-)	5889-54-3	**	9.2	EI	5633
$C_8H_5Br^+$						
	$C_6H_5C{\equiv}CBr$ (Benzene, (bromoethynyl)-)	932-87-6	**	8.65 (V)	PE	4334
	$C_6H_4(Br)C{\equiv}CH$ (Benzene, 1-bromo-4-ethynyl-)	766-96-1	**	8.62 (V)	PE	4334
$C_{10}H_{15}Br^+$						
	$C_{10}H_{15}Br$ (Tricyclo[3.3.1.1^{3,7}]decane, 1-bromo-)	768-90-1	**	9.2	PE	3907
			**	9.30±0.06	PE	3886
	$C_{10}H_{15}Br$ (Tricyclo[3.3.1.1^{3,7}]decane, 2-bromo-)	7314-85-4	**	9.31±0.05	PE	3886
$C_{12}H_9Br^+$						
	$C_6H_5C_6H_4Br$ (1,1'-Biphenyl, 4-bromo-)	92-66-0	**	8.05±0.02	PE	3702
$C_{14}H_9Br^+$						
	$C_{14}H_9Br$ (Anthracene, 9-bromo-)	1564-64-3	**	7.48±0.03 (V)	PE	4887
$CHBr_2^+$						
	$CHBr_3$	75-25-2	**	10.70±0.02	PI	4640
$CH_2Br_2^+$						
	CH_2Br_2	74-95-3	**	10.52±0.05	PI	4640
$C_2H_2Br_2^+$						
	CBr_2CH_2	593-92-0	**	9.78±0.01	S	5123
			**	9.78 (V)	PE	4303
	cis-CHBrCHBr	590-11-4	**	9.63±0.01	S	5123
			**	9.32±0.02	PE	3659
			**	9.63 (V)	PE	4303
	trans-CHBr=CHBr	590-12-5	**	9.47±0.01	S	4653
			**	9.55±0.01	S	5123
			**	9.30±0.02	PE	3659
			**	9.55 (V)	PE	4303
			**	9.56 (V)	PE	3648
$C_2H_4Br_2^+$						
	CH_2BrCH_2Br	106-93-4	**	10.37	PI	5501
			**	10.42	PE	5501
			**	10.57±0.02 (V)	PE	4367
	CH_3CHBr_2	557-91-5	**	10.17	PI	5501
			**	10.17	PE	5501
$C_3H_6Br_2^+$						
	$Br(CH_2)_3Br$	109-64-8	**	10.26 (V)	PE	4482
$C_4H_8Br_2^+$						
	$Br(CH_2)_4Br$	110-52-1	**	10.27 (V)	PE	4482
	$CH_3(CHBr)_2CH_3$(erythro) (Butane, (R*,R*)-(±)-2,3-dibromo-)	598-71-0	**	10.12 (V)	PE	4482
	$CH_3(CHBr)_2CH_3$(threo) (Butane, (R*,S*)-2,3-dibromo-)	5780-13-2	**	10.16 (V)	PE	4482
$C_5H_8Br_2^+$						
	$C_5H_8Br_2$ (Cyclopentane, 1,2-dibromo-, *cis*-)	33547-17-0	**	10.02±0.02	PE	4003

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_8Br_2^+$						
	$C_5H_8Br_2$ (Cyclopentane, 1,2-dibromo-, *trans*-)	10230-26-9	**	10.08±0.02	PE	4003
			**	10.04 (V)	PE	4482
$C_5H_{10}Br_2^+$						
	$Br(CH_2)_5Br$	111-24-0	**	10.23 (V)	PE	4482
$C_6H_4Br_2^+$						
	$C_6H_4Br_2$ (Benzene, 1,2-dibromo-)	583-53-9	**	8.99±0.03 (V)	PE	4890
			**	9.02 (V)	PE	3873
	$C_6H_4Br_2$ (Benzene, 1,3-dibromo-)	108-36-1	**	9.05±0.03 (V)	PE	4890
			**	9.10 (V)	PE	3873
	$C_6H_4Br_2$ (Benzene, 1,4-dibromo-)	106-37-6	**	8.90±0.03 (V)	PE	4890
			**	8.909 (V)	PE	5257
			**	8.91 (V)	PE	3873
$C_6H_{10}Br_2^+$						
	$C_6H_{10}Br_2$ (Cyclohexane, 1,2-dibromo- *cis*-)	19246-38-9	**	9.94±0.02	PE	4003
	$C_6H_{10}Br_2$ (Cyclohexane, 1,2-dibromo-, *trans*-)	7429-37-0	**	10.02±0.02	PE	4003
			**	10.06±0.01 (V)	PE	5218
$C_{10}H_6Br_2^+$						
	$C_{10}H_6Br_2$ (Azulene,1,3-dibromo-)	14658-95-8	**	7.40 (V)	PE	5397
$C_{12}H_8Br_2^+$						
	$(C_6H_4Br)_2$ (1,1'-Biphenyl, 2,2'-dibromo-)	13029-09-9	**	8.40±0.02	PE	3702
$C_{14}H_8Br_2^+$						
	$C_{14}H_8Br_2$ (Anthracene, 9,10-dibromo-)	523-27-3	**	7.58	PE	4364
$CHBr_3^+$						
	$CHBr_3$	75-25-2	**	10.48±0.02	PI	4640
			**	10.47 (V)	PE	4146
$C_6H_3Br_3^+$						
	$C_6H_3Br_3$ (Benzene, 1,3,5-tribromo-)	626-39-1	**	8.91 (V)	PE	3873
			**	9.21±0.02	PE	5305
$BeC_5H_5Br^+$						
	$(C_5H_5)BeBr$ (Beryllium,bromo(η^5-2,4-cyclopentadien-1-yl)-)	52140-35-9	**	9.52 (V)	PE	5384
$BC_2H_6Br^+$						
	$(CH_3)_2BrB$	5158-50-9	**	10.35 (V)	PE	4398
			**	10.25	PE	5485
$B_4C_2H_5Br^+$						
	$C_2B_4H_5Br$ (1,6-Dicarbahexaborane(6),2-bromo-)	XXXXX-XX-X	**	9.43 (V)	PE	5553
$BCH_3Br_2^+$						
	CH_3Br_2B	17933-16-3	**	10.61 (V)	PE	4398

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$BCH_3Br_2^+$						
	CH_3Br_2B	17933-16-3	**	10.60	PE	5485
$B_1C_2H_1Br_2^+$						
	$C_2B_1H_1Br_2$ (1,6-Dicarbahexaborane(6),2,4-dibromo-)	XXXXX-XX-X	**	9.17 (V)	PE	5553
N_3Br^+						
	BrN_3	13973-87-0	**	10.00±0.01	PE	5001
H_2NBr^+						
	NH_2Br	14519-10-9	**	10.18±0.04 (V)	PE	4947
$HNBr_2^+$						
	$NHBr_2$	14519-03-0	**	10.1±0.2 (V)	PE	4948
C_3NBr^+						
	CBr≡CCN	3114-46-3	**	10.71±0.02	PE	4765
CH_4NBr^+						
	CH_3NHBr	10218-87-8	**	9.67 (V)	PE	4775
			**	9.12	PE	5329
$C_2H_2NBr^+$						
	CH_2BrCN	590-17-0	**	11.28 (V)	PE	4684
$C_2H_6NBr^+$						
	$(CH_3)_2NBr$	10218-90-3	**	9.15 (V)	PE	5304
			**	8.61	PE	5329
$C_5H_4NBr^+$						
	C_5H_4NBr (*Pyridine, 2-bromo-*)	109-04-6	**	9.7±0.1	EI	4302
	C_5H_4NBr (Pyridine, 3-bromo-)	626-55-1	**	9.75±0.1	EI	4302
	C_5H_4NBr (Pyridine, 4-bromo-)	1120-87-2	**	9.95±0.1	EI	4302
$C_5H_{10}NBr^+$						
	$C_5H_{10}NBr$ (Piperidine,1-bromo-)	60094-06-6	**	8.92±0.10 (V)	PE	5308
$C_6H_6NBr^+$						
	$C_6H_4BrNH_2$ (Benzenamine, 2-bromo-)	615-36-1	**	8.45	EI	4834
	$C_6H_4BrNHCOCH_3$ (Acetamide, *N*-(2-bromophenyl)-)	614-76-6	$CH_2=C=O$	11.17±0.03	EI	3483
	$C_6H_4BrNHCOCH_3$ (Acetamide, *N*-(4-bromophenyl)-)	103-88-8	$CH_2=C=O$	10.56±0.03	EI	3483
$C_7H_{12}NBr^+$						
	$C_7H_{12}NBr$ (1-Azabicyclo[2.2.2]octane, 4-bromo-)	2181-19-3	**	8.46±0.015 (V)	PE	4286
$C_8H_{14}NBr^+$						
	$C_8H_{14}NBr$ (8-Azabicyclo[3.2.1]octane,3-bromo-8-methyl-*exo*-)	2292-11-7	**	7.8±0.15	EI	5401
$C_{13}H_{10}NBr^+$						
	$C_6H_4BrC(=CH_2)C_5H_4N$ (Pyridine,2-[1-(2-bromophenyl)ethenyl]-)	XXXXX-XX-X	**	8.6	OTH	5570
	$C_6H_4BrC(=CH_2)C_5H_4N$ (Pyridine,2-[1-(4-bromophenyl)ethenyl]-)	XXXXX-XX-X	**	8.62	EI	5570

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{13}H_{10}NBr^+$	$C_6H_4(Br)CH=CHC_5H_4N$ (Pyridine, *trans*-3-[2-(4-bromophenyl)ethenyl]-)	5847-71-2	**	8.15±0.05 (V)	PE	4377
$C_9H_{10}N_2Br^+$	$C_6H_4(Br)N=CHN(CH_3)_2$ (Methanimidamide, *N'*-(2-bromophenyl)-*N*,*N*-dimethyl-)	53746-69-3	H	8.7	EI	4337
$C_9H_{11}N_2Br^+$	$C_6H_4(Br)N=CHN(CH_3)_2$ (Methanimidamide, *N'*-(2-bromophenyl)-*N*,*N*-dimethyl-)	53746-69-3	**	7.2	EI	4337
$C_{18}H_{17}N_2Br^+$	$C_6H_4(Br)C_3H_3(CN)C_6H_4N(CH_3)_2$ (Cyclopropanecarbonitrile, 1-(*p*-bromophenyl)-2-(*p*-(dimethylamino)phenyl)-)	32589-49-4	**	7.10±0.05	EI	3575
$C_2H_2N_3Br^+$	$C_2H_2N_3Br$ (1H-1,2,4-Triazole,5-bromo-)	XXXXX-XX-X	**	9.9 (V)	PE	5228
$C_3H_4N_3Br^+$	$C_2HN_3Br(CH_3)$ (1H-1,2,4-Triazole,3-bromo-1-methyl-)	56616-91-2	**	9.55 (V)	PE	5228
	$C_2HN_3Br(CH_3)$ (1H-1,2,4-Triazole,5-bromo-1-methyl-)	16681-72-4	**	9.6 (V)	PE	5228
	$C_2HN_3Br(CH_3)$ (1H-1,2,4-Triazole,5-bromo-3-methyl-)	XXXXX-XX-X	**	9.6 (V)	PE	5228
	$C_2HN_3Br(CH_3)$ (4H-1,2,4-Triazole,3-bromo-4-methyl-)	16681-73-5	**	9.7 (V)	PE	5228
$C_4H_6N_3Br^+$	$C_2N_3Br(CH_3)_2$ (1H-1,2,4-Triazole,3-bromo-1,5-dimethyl-)	56616-93-4	**	9.3 (V)	PE	5228
	$C_2N_3Br(CH_3)_2$ (1H-1,2,4-Triazole,5-bromo-1,3-dimethyl-)	56616-96-7	**	9.4 (V)	PE	5228
	$C_2N_3Br(CH_3)_2$ (4H-1,2,4-Triazole,3-bromo-4,5-dimethyl-)	56616-84-3	**	9.25 (V)	PE	5228
$CH_3NBr_2^+$	CH_3NBr_2	10218-83-4	**	9.68 (V)	PE	4775
			**	9.15	PE	5329
$C_5H_{13}NBr_2^+$	$(C_2H_5)_2NCH_3Br_2$	59777-81-0	**	10.60 (V)	PE	4564
$C_6H_5NBr_2^+$	$C_6H_3Br_2NHCOCH_3$ (Acetamide, *N*-(2,4-dibromophenyl)-)	23373-04-8	$CH_2=C=O$	10.24±0.03	EI	3480
	$C_6H_3Br_2NHCOCH_3$ (Acetamide, *N*-(2,6-dibromophenyl)-)	33098-80-5	$CH_2=C=O$	10.02±0.03	EI	3480
$C_6H_{15}NBr_2^+$	$(C_2H_5)_3NBr_2$	56348-00-6	**	10.60 (V)	PE	4564
$C_9H_{21}NBr_2^+$	$(n\text{-}C_3H_7)_3NBr_2$	59777-82-1	**	10.77 (V)	PE	4564
$C_{12}H_{27}NBr_2^+$	$(n\text{-}C_4H_9)_3NBr_2$	59777-83-2	**	10.66 (V)	PE	4564
$BC_5H_7NBr^+$	$C_5H_4N(Br)\cdot BH_3$ (Pyridine, 4-bromo-, compound with borane (1:1))	56898-53-4	**	9.71 (V)	PE	4536

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$BC_4H_{12}N_2Br^+$						
	$((CH_3)_2N)_2BBr$	6990-27-8	**	8.13	PE	3584
			**	8.16 (V)	PE	3704
$BC_2H_6NBr_2^+$						
	$(CH_3)_2NBBr$	7360-64-7	**	9.55 (V)	PE	3704
			**	9.60	PE	3584
$B_2C_4H_{12}N_2Br_2^+$						
	$(BrCH_3BNCH_3)_2$	73775-15-2	**	9.58 (V)	PE	5628
$B_2C_3H_9N_3Br_2^+$						
	$N_3B_2Br_2(CH_3)_3$ (1,2,4,3,5-Triazadiborolidine, 3,5-dibromo-1,2,4-trimethyl-)	53246-10-9	**	8.14 (V)	PE	4526
OBr^+						
($X^3\Sigma^-$)	$BrO(X^2\Pi_{3/2})$	14380-62-2	**	10.29±0.01 (V)	PE	5222
$COBr_2^+$						
	CBr_2O	593-95-3	**	11.0 (V)	PE	3726
$C_2O_2Br_2^+$						
	$(COBr)_2$	15219-34-8	**	10.49±0.1	PE	4696
$C_2H_3OBr^+$						
	CH_3CBrO	506-96-7	**	10.68±0.05 (V)	PE	4220
$C_2H_3OBr^+$						
	CH_2BrCH_2OH-gauche	XXXXX-XX-X	**	10.75 (V)	PE	5088
	trans-CH_2BrCH_2OH	XXXXX-XX-X	**	10.65 (V)	PE	5088
$C_3H_7OBr^+$						
	$CH_2BrCH_2OCH_3$-gauche	XXXXX-XX-X	**	10.13 (V)	PE	5088
	trans-$CH_2BrCH_2OCH_3$	XXXXX-XX-X	**	10.20 (V)	PE	5088
$C_4H_3OBr^+$						
	C_4H_3OBr (Furan, 3-bromo-)	22037-28-1	**	9.14	CTS	4382
$C_5H_9OBr^+$						
	$C_5H_8(Br)OH$ (Cyclopentanol, 2-bromo-, *cis*-)	28435-62-3	**	10.19±0.02	PE	4003
	$C_5H_8(Br)OH$ (Cyclopentanol, 2-bromo-, *trans*-)	20377-79-1	**	10.11±0.02	PE	4003
$C_6H_5OBr^+$						
	$C_6H_4BrOCH_3$ (Benzene, 1-bromo-3-methoxy-)	2398-37-0	CH_3	12.29±0.1	EI	3446
	$C_6H_4BrOCH_3$ (Benzene, 1-bromo-4-methoxy-)	104-92-7	CH_3	11.89±0.1	EI	3446
	$C_6H_4BrNO_2$ (Benzene, 1-bromo-3-nitro-)	585-79-5	NO	10.26±0.1	EI	3447
	$C_6H_4BrNO_2$ (Benzene, 1-bromo-4-nitro-)	586-78-7	NO	10.55±0.1	EI	3447
$C_6H_5OBr^+$						
	$C_6H_4(OH)Br$ (Phenol, 2-bromo-)	95-56-7	**	9.09±0.1	EI	3553
	$C_6H_4BrOOCCH_3$ (Phenol, 2-bromo-, acetate)	1829-37-4	$CH_2=C=O$	9.62±0.03	EI	3483
	$C_6H_4BrOOCCH_3$ (Phenol, 3-bromo-, acetate)	35065-86-2	$CH_2=C=O$	10.02±0.2	EI	3484

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_5OBr^+$						
	$C_6H_4BrOOCCH_3$ (Phenol, 4-bromo-, acetate)	1927-95-3	$CH_2=C=O$	9.84±0.03	EI	3483
			$CH_2=C=O$	10.08±0.2	EI	3484
$C_7H_4OBr^+$						
	$C_6H_4(Br)COOH$ (Benzoic acid, 3-bromo-)	585-76-2	OH	12.23±0.2	EI	3973
	$C_6H_4(Br)COOH$ (Benzoic acid, 4-bromo-)	586-76-5	OH	12.34±0.2	EI	3973
$C_7H_7OBr^+$						
	$C_6H_4BrOCH_3$ (Benzene, 1-bromo-3-methoxy-)	2398-37-0	**	8.69±0.1	EI	3446
	$C_6H_4(Br)OCH_3$ (Benzene, 1-bromo-4-methoxy-)	104-92-7	**	8.11	PE	4621
			**	8.39±0.1	EI	3446
$C_8H_7OBr^+$						
	$C_6H_4Br(COCH_3)$ (Ethanone, 1-(4-bromophenyl)-)	99-90-1	**	9.0±0.1	PE	4401
$C_8H_9OBr^+$						
	$C_6H_5OCH_2CH_2Br$ (Benzene,2-bromoethoxy-)	589-10-6	**	8.42	EI	5083
			**	8.49±0.05	EI	5484
$C_9H_{12}OBr^+$						
	$C_6H_5OC_3H_7Br$ (Benzene,(3-bromopropoxy)-)	XXXXX-XX-X	**	8.56±0.05	EI	5484
$C_{10}H_{11}OBr^+$						
	$C_6H_5OC_4H_9Br$ (Benzene,4-bromobutoxy)-)	XXXXX-XX-X	**	8.54±0.05	EI	5484
$C_{11}H_{16}OBr^+$						
	$C_6H_5OC_5H_{11}Br$ (Benzene,[(5-bromopentyl)oxy]-)	XXXXX-XX-X	**	8.59±0.05	EI	5484
$C_{12}H_{18}OBr^+$						
	$C_6H_5OC_6H_{13}Br$ (Benzene,[(6-bromohexyl)oxy]-)	XXXXX-XX-X	**	8.60±0.05	EI	5484
$C_2H_3O_2Br^+$						
	$CH_2BrCOOH$	79-08-3	**	11.0 (V)	PE	3874
$C_7H_5O_2Br^+$						
	$C_6H_4(Br)COOH$ (Benzoic acid, 3-bromo-)	585-76-2	**	9.66±0.2	EI	3973
	$C_6H_4(Br)COOH$ (Benzoic acid, 4-bromo-)	586-76-5	**	9.72±0.2	EI	3973
$C_7H_{11}O_2Br^+$						
	$C_5H_8(Br)OCOCH_3$ (Cyclopentanol, 2-bromo-, acetate, *cis*-)	53093-41-7	**	10.00±0.02	PE	4003
	$C_5H_8(Br)OCOCH_3$ (Cyclopentanol, 2-bromo-, acetate, *trans*-)	53093-42-8	**	10.07±0.02	PE	4003
$C_8H_7O_2Br^+$						
	$C_6H_4BrOOCCH_3$ (Phenol, 2-bromo-, acetate)	1829-37-4	**	8.66±0.03	EI	3483
	$C_6H_4BrOOCCH_3$ (Phenol, 3-bromo-, acetate)	35065-86-2	**	8.79±0.2	EI	3484

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_7O_2Br^+$						
	$C_6H_4BrOOCCH_3$ (Phenol, 4-bromo-, acetate)	1927-95-3	**	8.42±0.03	EI	3483
			**	8.61±0.2	EI	3484
$C_6H_4OBr_2^+$						
	$C_6H_3Br_2OOCCH_3$ (Phenol, 2,4-dibromo-, acetate)	36914-79-1	$CH_2=C=O$	9.45±0.03	EI	3480
	$C_6H_3Br_2OOCCH_3$ (Phenol, 2,6-dibromo-, acetate)	28165-72-2	$CH_2=C=O$	9.74±0.03	EI	3480
$C_8H_6O_2Br_2^+$						
	$C_6H_3Br_2OOCCH_3$ (Phenol, 2,4-dibromo-, acetate)	36914-79-1	**	8.21±0.03	EI	3480
	$C_6H_3Br_2OOCCH_3$ (Phenol, 2,6-dibromo-, acetate)	28165-72-2	**	8.42±0.03	EI	3480
$NOBr^+$						
($^2A',^2A''$)	NOBr	13444-87-6	**	10.17	PE	4404
($^2A',^2A''$)			**	10.20±0.05	PE	4420
$CNOBr^+$						
	BrNCO	3644-72-2	**	10.46±0.01	PE	5001
$CNOBr_3^+$						
	CBr_3NO	XXXXX-XX-X		9.96±0.05 (V)	PE	5298
$C_5H_4NOBr^+$						
	$C_5H_4N(O)Br$ (Pyridine, 4-bromo-, 1-oxide)	14248-50-1	**	8.44 (V)	PE	4222
$C_6H_{12}NOBr^+$						
	$C_6H_{12}NOBr$	52761-86-1	**	9.06±0.1 (V)	PE	4465
$C_8H_7NOBr^+$						
	$C_6H_3Br_2NHCOCH_3$ (Acetamide, *N*-(2,4-dibromophenyl)-)	23373-04-8		8.84±0.03	EI	3480
	$C_6H_3Br_2NHCOCH_3$ (Acetamide, *N*-(2,6-dibromophenyl)-)	33098-80-5		8.88±0.03	EI	3480
$C_8H_8NOBr^+$						
	$C_6H_4BrNHCOCH_3$ (Acetamide, N-(2-bromophenyl)-)	614-76-6	**	8.50	EI	4834
			**	8.17±0.03	EI	3483
	$C_6H_4BrNHCOCH_3$ (Acetamide, *N*-(4-bromophenyl)-)	103-88-8	**	8.17±0.03	EI	3483
$C_{12}H_8NOBr^+$						
	$C_6H_4BrCOC_5H_4N$ (Methanone, (2-bromophenyl)-2-pyridinyl-)	XXXXX-XX-X	**	8.93	EI	5459
$C_4H_3N_2OBr^+$						
	$C_4H_3N_2Br(=O)$ (2(1H)-Pyrimidinone,5-bromo-)	38353-06-9	**	9.47±0.05	EI	5159
$C_5H_5N_2OBr^+$						
	$C_5H_2N_2BrOCH_3$ (Pyrimidine,5-bromo-2-methoxy-)	14001-66-2	**	9.11±0.05	EI	5159
	$C_5H_2N_2Br(=O)CH_3$ (2(1H)Pyrimidinone,5-bromo-1-methyl-)	14248-01-2	**	8.78±0.05	EI	5159

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_7H_7N_2OBr^+$						
	$C_6H_4BrNHCONH_2$ (Urea, (2-bromophenyl)-)	13114-90-4	**	8.45	EI	4834
$C_4H_4NO_2Br^+$						
	$C_4H_4N(Br)(=O)_2$ (2,5-Pyrrolidinedione, 1-bromo-)	128-08-5	**	10.12 (V)	PE	4742
			**	10.12 (V)	PE	4810
$C_5H_8NO_2Br^+$						
	$C_3H_2NO(=O)(Br)(CH_3)_2$ (2-Oxazolidinone, 3-bromo-4,4-dimethyl-)	60491-95-4	**	9.45 (V)	PE	4742
$C_6H_4NO_2Br^+$						
	$C_6H_4BrNO_2$ (Benzene, 1-bromo-3-nitro-)	585-79-5	**	9.82±0.1	EI	3447
	$C_6H_4BrNO_2$ (Benzene, 1-bromo-4-nitro-)	586-78-7	**	9.76±0.1	EI	3447
$C_{11}H_{16}NO_2Br^+$						
	$C_{11}H_{16}NO_2Br$ (Benzeneethanamine, 4-bromo-2,5-dimethoxy-α-methyl-(±)-)	64638-07-9	**	7.94±0.06	PE	4758
$C_8H_7NOBr_2^+$						
	$C_6H_3Br_2NHCOCH_3$ (Acetamide, *N*-(2,4-dibromophenyl)-)	23373-04-8	**	8.08±0.03	EI	3480
	$C_6H_3Br_2NHCOCH_3$ (Acetamide, *N*-(2,6-dibromophenyl)-)	33098-80-5	**	8.32±0.03	EI	3480
FBr^+						
($^2\Pi_{3/2}$)	BrF	13863-59-7	**	11.77±0.01	PE	4755
($^2\Pi_{3/2}$)			**	11.78±0.01	PE	3680
($^2\Pi_{1/2}$)			**	12.09±0.01	PE	3680
($^2\Pi_{1/2}$)			**	12.10±0.01	PE	4755
($^2\Pi$,$^2\Sigma$)			**	15.92±0.01 (V)	PE	4755
F_3Br^+						
	BrF_3	7787-71-5	**	12.15±0.04	PE	3680
F_5Br^+						
	BrF_5	7789-30-2	**	13.172±0.005	PE	3655
CF_3Br^+						
	CF_3Br	75-63-8	**	12.0 (V)	PE	3914
			**	12.08±0.05 (V)	PE	4727
			**	12.12±0.02 (V)	PE	4026
$C_2F_3Br^+$						
	C_2F_3Br	598-73-2	**	9.67	PE	3589
			**	10.11 (V)	PE	4303
$C_3F_3Br^+$						
	$CF_3C{\equiv}CBr$	819-01-2	**	10.81±0.02	PE	4765
$C_6F_5Br^+$						
	C_6F_5Br (Benzene,bromopentafluoro-)	344-04-7	**	9.57 (V)	PE	5252
			**	9.67±0.02	PE	5305
$CF_2Br_2^+$						
	CF_2Br_2	75-61-6	**	11.18 (V)	PE	5470

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2F_4Br_2^+$						
	$(CF_2Br)_2$	124-73-2	**	11.44±0.01 (V)	PE	4613
$C_6F_4Br_2^+$						
	$C_6F_4Br_2$ (Benzene,1,2-dibromo-3,4,5,6-tetrafluoro-)	827-08-7	**	9.50±0.02	PE	5305
	$C_6F_4Br_2$ (Benzene,1,3-dibromo-2,4,5,6-tetrafluoro-)	27516-63-8	**	9.45±0.02	PE	5305
	$C_6F_4Br_2$ (Benzene,1,4-dibromo-2,3,5,6-tetrafluoro-)	344-03-6	**	9.42±0.02	PE	5305
$CFBr_3^+$						
	$CFBr_3$	353-54-8	**	10.67±0.01	PE	4365
$C_6F_3Br_3^+$						
	$C_6F_3Br_3$ (Benzene,1,3,5-tribromo-2,4,6-trifluoro-)	XXXXX-XX-X	**	9.33±0.02	PE	5305
$C_2H_2FBr^+$						
	cis-CHF=CHBr	2366-31-6	**	9.75 (V)	PE	4303
$C_2H_4FBr^+$						
	CH_2FCH_2Br	762-49-2	**	10.57 (V)	PE	4482
$C_3H_6FBr^+$						
	$CH_2FCH_2CH_2Br$	352-91-0	**	10.38 (V)	PE	4482
	CH_3CHFCH_2Br	1871-72-3	**	10.44 (V)	PE	4482
$C_4H_8FBr^+$						
	$CH_3CH_2CHFCH_2Br$	1871-73-4	**	10.32 (V)	PE	4482
	$(CH_3)_2CFCH_2Br$	19869-78-4	**	10.28 (V)	PE	4482
	$CH_3CHFCHBrCH_3$(erythro)	57302-15-5	**	10.91 (V)	PE	4482
	$CH_3CHFCHBrCH_3$(threo)	5780-13-2	**	10.21 (V)	PE	4482
$C_5H_8FBr^+$						
	C_5H_8FBr (Cyclopentane, 1-bromo-2-fluoro-, *cis*-)	51422-72-1	**	10.10±0.02	PE	4003
	C_5H_8FBr (Cyclopentane, 1-bromo-2-fluoro-, *trans*-)	51422-73-2	**	10.25±0.02	PE	4003
$C_6H_4FBr^+$						
	C_6H_4FBr (Benzene,1-bromo-2-fluoro-)	1072-85-1	**	9.11±0.02	PE	5305
			**	9.14 (V)	PE	4567
	C_6H_4FBr (Benzene,1-bromo-3-fluoro-)	1073-06-9	**	9.11±0.02	PE	5305
			**	9.25 (V)	PE	4567
	C_6H_4FBr (Benzene,1-bromo-4-fluoro-)	460-00-4	**	9.02±0.02	PE	5305
			**	9.03 (V)	PE	4567
$C_6H_{10}FBr^+$						
	$C_6H_{10}FBr$ (Cyclohexane, 1-bromo-2-fluoro-, *cis*-)	51422-74-3	**	10.04±0.02	PE	4003
			**	10.06 (V)	PE	4482
	$C_6H_{10}FBr$ (Cyclohexane, 1-bromo-2-fluoro-, *trans*-)	17170-96-6	**	10.18±0.02	PE	4003
			**	10.05 (V)	PE	4482
$C_{12}H_8FBr^+$						
	$C_6H_4(Br)C_6H_4F$ (1,1'-Biphenyl, 4-bromo-4'-fluoro-)	398-21-0	**	8.10±0.02	PE	3702

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_3F_2Br^+$						
	$C_6H_3F_2Br$ (Benzene,1-bromo-2,4-difluoro-)	348-57-2	**	9.16±0.02	PE	5305
	$C_6H_3F_2Br$ (Benzene,2-bromo-1,4-difluoro-)	399-94-0	**	9.18±0.02	PE	5305
	$C_6H_3F_2Br$ (Benzene,4-bromo-1,2-difluoro-)	348-61-8	**	9.19±0.02	PE	5305
$C_6H_2F_3Br^+$						
	$C_6H_2F_3Br$ (Benzene,1-bromo-2,4,5-trifluoro-)	327-52-6	**	9.25±0.02	PE	5305
	$C_6H_2F_3Br$ (Benzene,2-bromo-1,3,5-trifluoro-)	2367-76-2	**	9.34±0.02	PE	5305
$C_7H_4F_3Br^+$						
	$C_6H_4BrCF_3$ (Benzene, 1-bromo-2-trifluoromethyl-)	392-83-6	**	9.38 (V)	PE	4567
	$C_6H_4BrCF_3$ (Benzene, 1-bromo-3-trifluoromethyl-)	401-78-5	**	9.36 (V)	PE	4567
	$C_6H_4BrCF_3$ (Benzene, 1-bromo-4-trifluoromethyl-)	402-43-7	**	9.48 (V)	PE	4567
$C_6HF_4Br^+$						
	C_6HF_4Br (Benzene,1-bromo-2,3,4,5-tetrafluoro-)	1074-91-5	**	9.50±0.02	PE	5305
	C_6HF_4Br (Benzene,2-bromo-1,3,4,5-tetrafluoro-)	1559-86-0	**	9.46±0.02	PE	5305
	C_6HF_4Br (Benzene,3-bromo-1,2,4,5-tetrafluoro-)	1559-88-2	**	9.45±0.02	PE	5305
$C_6H_3FBr_2^+$						
	$C_6H_3FBr_2$ (Benzene,2,4-dibromo-1-fluoro-)	XXXXX-XX-X	**	9.05±0.02	PE	5305
$C_2H_2F_2Br_2^+$						
	CF_2BrCH_2Br	75-82-1	**	10.86±0.01 (V)	PE	4613
$C_6H_2F_2Br_2^+$						
	$C_6H_2F_2Br_2$ (Benzene,1,2-dibromo-4,5-difluoro-)	XXXXX-XX-X	**	9.13±0.02	PE	5305
	$C_6H_2F_2Br_2$ (Benzene,1,4-dibromo-2,5-difluoro-)	XXXXX-XX-X	**	9.09±0.02	PE	5305
$C_3H_2OF_3Br^+$						
	$CH_2BrCOCF_3$	431-35-6	**	10.92±0.02 (V)	PE	4524
$NaBr^+$						
($^2P_{3/2}$)	NaBr	7647-15-6	**	8.31±0.1	PE	4344
($^2P_{3/2}$)			**	8.31±0.1	PE	5035
			**	8.7 (V)	PE	4307
($^2P_{1/2}$)			**	9.45±0.04 (V)	PE	5035
$AlBr^+$						
	AlBr	22359-97-3	**	9.3	PE	4860
$AlBr_3^+$						
	$AlBr_3$	7727-15-3	**	10.91 (V)	PE	4398
			**	10.91 (V)	PE	4256
$Al_2Br_6^+$						
	$(AlBr_3)_2$	18898-34-5	**	10.97 (V)	PE	4559
			**	10.97 (V)	PE	4256

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_2H_6AlBr^+$						
	$(CH_3)_2BrAl$	3017-85-4	**	9.90 (V)	PE	4398
$CH_3AlBr_2^+$						
	CH_3Br_2Al	3017-75-2	**	10.65 (V)	PE	4398
$C_4H_{12}Al_2Br_2^+$						
	$((CH_3)_2BrAl)_2$	15218-96-9	**	9.68 (V)	PE	4559
$SiBr^+$						
	SiBr	14791-57-2	**	7.3	S	3558
			**	9.0±1.	EI	5166
$SiBr_2^+$						
	$SiBr_2$	14877-32-8	**	12.0±1.	EI	5166
$SiBr_3^+$						
	$SiBr_3$	13842-48-3	**	12.5±1.	EI	5166
$SiBr_4^+$						
	$SiBr_4$	7789-66-4	**	14.0±1.	EI	5166
H_3SiBr^+						
	SiH_3Br	13465-73-1	**	10.90 (V)	PE	3511
			**	11.03	S	4697
			**	10.96±0.02 (V)	PE	3510
			**	11.03±0.05 (V)	PE	3502
$H_2SiBr_2^+$						
	SiH_2Br_2	13768-94-0	**	10.92±0.02 (V)	PE	3510
$C_3H_9SiBr^+$						
	$(CH_3)_3SiBr$	2857-97-8	**	10.23 (V)	PE	4566
$C_5H_9SiBr^+$						
	$(CH_3)_3SiC{\equiv}CBr$	18243-59-9	**	9.4±0.1	PE	4002
$C_9H_{13}SiBr^+$						
	$BrC_6H_4Si(CH_3)_3$ (Silane,(4-bromophenyl)trimethyl-)	6999-03-7	**	8.67 (V)	PE	5380
$C_8H_{18}Si_2Br_2^+$						
	$C_8H_{18}Si_2Br_2$	65411-95-2	**	8.83 (V)	PE	4715
$C_9H_{13}OSiBr^+$						
	$BrC_6H_4Si(CH_3)_2OCH_3$ (Silane,(3-bromophenyl)methoxydimethyl-)	62244-46-6	**	9.22	EI	5421
	$BrC_6H_4Si(CH_3)_2OCH_3$ (Silane,(4-bromophenyl)methoxydimethyl-)	17021-92-0	**	9.16	EI	5421
F_3SiBr^+						
	SiF_3Br	14049-39-9	**	12.46±0.02 (V)	PE	4026
$C_7H_7FSiBr^+$						
	$BrC_6H_4Si(CH_3)_2F$ (Silane,(3-bromophenyl)fluorodimethyl-)	62244-54-6	CH_3	11.11	EI	5366
	$BrC_6H_4Si(CH_3)_2F$ (Silane,(4-bromophenyl)fluorodimethyl-)	62244-53-5	CH_3	10.91	EI	5366
$C_8H_{10}FSiBr^+$						
	$BrC_6H_4Si(CH_3)_2F$ (Silane,(3-bromophenyl)fluorodimethyl-)	62244-54-6	**	9.11	EI	5421

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_8H_{10}FSiBr^+$						
	$BrC_6H_4Si(CH_3)_2F$ (Silane,(4-bromophenyl)fluorodimethyl-)	62244-53-5	**	9.01	EI	5421
PBr^+						
	PBr_3	7789-60-8		14.2±0.2	EI	3556
PBr_2^+						
	PBr_3	7789-60-8	Br	11.2±0.1	EI	3556
PBr_3^+						
	PBr_3	7789-60-8	**	9.96 (V)	PE	4023
			**	9.99 (V)	PE	5539
			**	10.0 (V)	PE	5190
			**	10.00±0.03 (V)	PE	3669
			**	10.00 (V)	PE	4146
			**	10.1±0.1	EI	3556
$OPBr_3^+$						
	$POBr_3$	7789-59-5	**	10.75±0.02	PE	3835
			**	10.99 (V)	PE	4023
			**	11.03±0.03 (V)	PE	3669
$CH_3O_2PBr_2^+$						
	$PBr_2O(OCH_3)$	63560-73-6	**	9.97 (V)	PE	4699
F_2PBr^+						
	PF_2Br	15597-40-7	**	11.08±0.1 (V)	PE	3662
SBr_2^+						
	SBr_2	14312-20-0	**	9.33±0.05 (V)	PE	5031
			**	9.4 (V)	PE	5466
$S_2Br_2^+$						
	S_2Br_2	13172-31-1	**	9.5	PE	4188
$H_8B_9SBr^+$						
	$SB_9H_8(Br)$ (1-Thiadecaborane(9),10-bromo-)	58568-92-6	**	9.52 (V)	PE	5324
	$SB_9H_8(Br)$ (1-Thiadecaborane(9),6-bromo-)	58575-43-2	**	9.51 (V)	PE	5324
$C_4SBr_4^+$						
	C_4SBr_4 (Thiophene, tetrabromo-)	3958-03-0	**	8.53 (V)	PE	4690
$C_6S_2Br_4^+$						
	$C_6S_2Br_4^+$ (Thieno[2,3-*b*]thiophene,2,3,4,5-tetrabromo-)	53255-86-0	**	8.39 (V)	PE	5478
$C_4H_3SBr^+$						
	C_4H_3SBr (Thiophene, 2-bromo-)	1003-09-4	**	8.60 (V)	PE	4690
			**	8.664±0.005	PE	3911
			**	8.664	PE	3645
			**	8.82±0.05 (V)	PE	4626
			**	8.93±0.05	EI	3482
			**	8.80	CTS	3787
	C_4H_3SBr (Thiophene, 3-bromo-)	872-31-1	**	8.812±0.005	PE	3911
			**	8.812	PE	3645
			**	8.97 (V)	PE	4690

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_4H_3SBr^+$						
	C_4H_3SBr	872-31-1	**	9.02±0.05	EI	3482
			**	8.87	CTS	4382
$C_7H_7SBr^+$						
	$C_6H_4(Br)SCH_3$ (Benzene, 1-bromo-4-(methylthio)-)	104-95-0	**	8.17±0.05 (V)	PE	4627
$C_6H_3S_2Br^+$						
	$C_6H_3S_2Br$ (Thieno[2,3-*b*]thiophene,2-bromo-)	25121-81-7	**	8.35 (V)	PE	5478
	$C_6H_3S_2Br$ (Thieno[2,3-*b*]thiophene,3-bromo-)	25121-84-0	**	8.43 (V)	PE	5478
$C_4H_2SBr_2^+$						
	$C_4H_2SBr_2$ (Thiophene, 2,5-dibromo-)	3141-27-3	**	8.49 (V)	PE	4690
	$C_4H_2SBr_2$ (Thiophene, 3,4-dibromo-)	3141-26-2	**	8.94 (V)	PE	4690
$C_6H_2S_2Br_2^+$						
	$C_6H_2S_2Br_2$ (Thieno[2,3-*b*]thiophene,2,5-dibromo-)	25121-86-2	**	8.19 (V)	PE	5478
	$C_6H_2S_2Br_2$ (Thieno[2,3-*b*]thiophene,3,4-dibromo-)	53255-78-0	**	8.30 (V)	PE	5478
$C_8H_4S_3Br_2^+$						
	$(C_4H_2S(Br))_2S$ (Thiophene,2,2′-thiobis[3-bromo-)	28504-80-5	**	8.50 (V)	PE	5356
	$(C_4H_2S(Br))_2S$ (Thiophene,2,2′-thiobis[4-bromo-)	65828-00-4	**	8.60 (V)	PE	5356
	$(C_4H_2S(Br))_2S$ (Thiophene,3,3′-thiobis[2-bromo-)	65827-99-8	**	8.10 (V)	PE	5356
	$(C_4H_2S(Br))_2S$ (Thiophene,3,3′-thiobis[4-bromo-)	28504-81-6	**	8.20 (V)	PE	5356
$C_6HS_2Br_3^+$						
	$C_6HS_2Br_3$ (Thieno[2,3-*b*]thiophene,2,3,4-tribromo-)	53255-84-8	**	8.35 (V)	PE	5478
	$C_6HS_2Br_3$ (Thieno[2,3-*b*]thiophene,2,3,5-tribromo-)	53255-85-9	**	8.28 (V)	PE	5478
$BC_{12}H_{18}SBr^+$						
	$C_6H_4(Br)SB(n\text{-}C_3H_7)_2$ (Borinic acid, dipropylthio-4-bromophenyl ester)	64503-49-7	**	8.67±0.05 (V)	PE	4848
$C_8H_6NSBr^+$						
	$C_7H_3NS(Br)CH_3$ (Benzothiazole, 6-bromo-2-methyl-)	5304-21-2	**	8.55 (V)	PE	4437
$C_8H_8NSBr^+$						
	$C_6H_4BrNHCSCH_3$ (Ethanethioamide, N-(2-bromophenyl)-)	62635-46-5	**	8.05	EI	4834
$C_7H_7N_2SBr^+$						
	$C_6H_4BrNHCSNH_2$ (Thiourea, (2-bromophenyl)-)	5391-30-0	**	8.10	EI	4834
$OSBr_2^+$						
	$SOBr_2$	507-16-4	**	10.54 (V)	PE	3646
			**	10.54 (V)	PE	4295
			**	10.63 (V)	PE	3705

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$OSBr_3^+$						
	$SOBr_3$	XXXXX-XX-X	**	9.41±0.02	PE	3835
$C_{12}H_8O_2SBr_2^+$						
	$(C_6H_4Br)_2SO_2$ (Benzene, 1,1′-sulfonylbis[4-bromo-)	2050-48-8	**	8.84±0.05	PI	5040
$PSBr_3^+$						
	$PSBr_3$	3931-89-3	**	9.82 (V)	PE	4023
			**	9.89±0.03 (V)	PE	3669
$C_2H_6PSBr^+$						
	$(CH_3)_2P(S)Br$	6839-93-6	**	8.18 (V)	PE	5523
$CH_3PSBr_2^+$						
	$CH_3P(S)Br_2$	5827-24-7	**	9.53 (V)	PE	5523
F_2PSBr^+						
	$F_2P(S)Br$	13706-09-7	**	10.58 (V)	PE	5523
$FPSBr_2^+$						
	$FP(S)Br_2$	13706-10-0	**	10.23 (V)	PE	5523
$CCl_2Br_2^+$						
	CBr_2Cl_2	594-18-3	**	10.67±0.02 (V)	PE	4880
$C_2H_4ClBr^+$						
	CH_2BrCH_2Cl	107-04-0	**	10.55	PI	5501
			**	10.52	PE	5501
			**	10.65±0.01 (V)	PE	4613
	trans-CH_2BrCH_2Cl		**	10.67±0.1 (V)	PE	4751
	CH_2BrCH_2Cl-gauche		**	10.52±0.1 (V)	PE	4751
	$CH_3CHClBr$	593-96-4	**	10.42	PI	5501
			**	10.37	PE	5501
$C_5H_8ClBr^+$						
	C_5H_8ClBr (Cyclopentane, 1-bromo-2-chloro-, *cis*-)	37722-39-7	**	10.13±0.02	PE	4003
	C_5H_8ClBr (Cyclopentane, 1-bromo-2-chloro-, *trans*-)	14376-82-0	**	10.23±0.02	PE	4003
$C_6H_{10}ClBr^+$						
	$C_6H_{10}ClBr$ (Cyclohexane, 1-bromo-2-chloro-, *cis*-)	51422-75-4	**	10.03±0.02	PE	4003
	$C_6H_{10}ClBr$ (Cyclohexane, 1-bromo-2-chloro-, *trans*-)	13898-96-9	**	10.13±0.02	PE	4003
$CNOCl_2Br^+$						
	CCl_2BrNO	XXXXX-XX-X		10.22±0.05 (V)	PE	5298
$CNOClBr_2^+$						
	$CClBr_2NO$	XXXXX-XX-X		10.02±0.05 (V)	PE	5298
CF_2ClBr^+						
	CF_2BrCl	353-59-3	**	11.83 (V)	PE	5470
$PClBr^+$						
	$PClBr_2$	13550-32-8	Br	11.3±0.1	EI	3556
PCl_2Br^+						
	PCl_2Br	13536-48-6	**	10.4±0.1	EI	3556

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$PClBr_2^+$						
	$PClBr_2$	13550-32-8	**	10.2±0.1	EI	3556
KBr^+						
($^2P_{3/2}$)	KBr	7758-02-3	**	7.85±0.1	PE	4344
($^2P_{3/2}$)			**	7.85±0.1	PE	5035
			**	8.1 (V)	PE	4307
($^2P_{1/2}$)			**	8.82±0.04 (V)	PE	5035
$CaBr^+$						
	CaBr	10024-43-8	**	5.6	PE	4860
$TiBr_1^+$						
	$TiBr_1$	7789-68-6	**	10.55 (V)	PE	5148
			**	10.59 (V)	PE	4694
$C_{10}H_{10}TiBr_2^+$						
	(η-C_5H_5)$_2$$TiBr_2$ (Titanium dibromobis(η^5-2,4-cyclopentadien-1-yl)-)	1293-73-8	**	8.8±0.1 (V)	PE	4987
$C_{10}H_4NO_5CrBr^+$						
	(BrC_5H_4N)$(CO)_5Cr$ (Chromium,(4-bromopyridine)pentacarbonyl-(OC-6-22)-)	64914-27-8	**	7.37 (V)	PE	5566
$C_5O_5PCrBr_3^+$						
	(PBr_3)$(CO)_5Cr$	22466-06-4	**	8.32 (V)	PE	5539
$C_5O_5MnBr^+$						
	$(CO)_5MnBr$	14516-54-2	**	8.83±0.05 (V)	PE	4492
			**	8.86 (V)	PE	3866
$C_6H_3NO_4MnBr^+$						
	cis-$(CO)_4(CCH_3)MnBr$	37474-14-9	**	8.26 (V)	PE	3866
$C_7H_5O_2PMnBr_3^+$						
	(C_5H_5)(PBr_3)$(CO)_2Mn$ (Manganese,dicarbonyl(η^5-2,4-cyclopentadien-1-yl) (phosphorus tribromide)-)	XXXXX-XX-X	**	8.01	EI	5453
$C_4O_4FeBr_2^+$						
	$(CO)_4FeBr_2$	18475-84-8	**	8.68 (V)	PE	4431
$C_7H_5O_2FeBr^+$						
	$C_5H_5(CO)_2FeBr$ (Iron, bromodicarbonyl (η^5-2,4-cyclopentadien-1-yl)-)	12078-20-5	**	7.93 (V)	PE	4570
			**	7.95 (V)	PE	4565
$C_6H_2O_4FeBr_2^+$						
	trans-$C_2H_2Br_2(CO)_4Fe$	52646-68-1	**	8.74 (V)	PE	4908
$C_{15}H_{18}O_6CoBr_3^+$						
	($C_5H_6O_2Br$)$_3$Co (Cobalt, tris(3-bromo-2,4-pentanedionato-0,0')-(OC-6-11)-)	15218-44-7	**	7.58 (V)	PE	4965
$Cu_3Br_3^+$						
	Cu_3Br_3	37190-22-0	**	9.7	EI	3954
			**	9.50±0.02 (V)	PE	4839
$Cu_4Br_3^+$						
	Cu_4Br_4	XXXXX-XX-X		10.4	EI	3954
$Cu_4Br_1^+$						
	Cu_4Br_4	XXXXX-XX-X	**	9.2	EI	3954

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$ZnBr_2^+$						
($^2\Pi_{3/2g}$)	$ZnBr_2$	7699-45-8	**	10.89±0.05 (V)	PE	3833
($^2\Pi_{1/2g}$)			**	11.22±0.05 (V)	PE	3833
($^2\Pi_u$)			**	11.40±0.05 (V)	PE	3833
($^2\Sigma_u^+$)			**	12.28±0.05 (V)	PE	3833
($^2\Sigma_g^+$)			**	13.55±0.05 (V)	PE	3833
($^2\Pi_{3/2g}$)			**	10.8 (V)	PE	3963
($^2\Pi_{3/2g}$)			**	10.90 (V)	PE	4232
($^2\Pi_{3/2u}$)			**	11.1 (V)	PE	3963
($^2\Pi_{1/2g}$)			**	11.2 (V)	PE	3963
($^2\Pi_{1/2g}$)			**	11.285 (V)	PE	4232
($^2\Pi_{1/2u}$)			**	11.4 (V)	PE	3963
($^2\Pi_{3/2u}$)			**	11.46 (V)	PE	4232
($^2\Pi_{1/2u}$)			**	11.625 (V)	PE	4232
($^2\Sigma_u^+$)			**	12.3 (V)	PE	3963
($^2\Sigma_u^+$)			**	12.33 (V)	PE	4232
($^2\Sigma_g^+$)			**	13.0 (V)	PE	3963
($^2\Sigma_g^+$)			**	13.55 (V)	PE	4232
($^2D_{5/2}$)			**	18.89 (V)	PE	4232
($^2D_{3/2}$)			**	19.19 (V)	PE	4232
$GaBr_3^+$						
	$GaBr_3$	13450-88-9	**	10.40	PE	4215
			**	10.94 (V)	PE	4398
			**	10.94 (V)	PE	4256
H_3GeBr^+						
	GeH_3Br	13569-43-2	**	10.72±0.05 (V)	PE	3502
$H_2GeBr_2^+$						
	GeH_2Br_2	13769-36-3	**	10.69±0.02 (V)	PE	3510
$C_{18}H_{15}GeBr^+$						
	$(C_6H_5)_3GeBr$ (Germane, bromotriphenyl-)	3005-32-1	**	9.17±0.05 (V)	PE	4620
$AsBr^+$						
	$AsBr_3$	7784-33-0		12.5±0.2	EI	5016
$AsBr_2^+$						
	$AsBr_3$	7784-33-0	Br^-	8.4±0.2	EI	5016
$AsBr_3^+$						
	$AsBr_3$	7784-33-0	**	10.19 (V)	PE	5473
			**	10.21±0.04 (V)	PE	4635
			**	8.7±0.05	EI	5016
$SeBr_2^+$						
	$SeBr_2$	22987-45-7	**	9.07 (V)	PE	5074
			**	9.17±0.05 (V)	PE	5031
Kr^+						
($^2P^o_{3/2}$)	Kr	7439-90-9	**	13.9997±0.00001	S	5162
($^2P_{3/2}$)			**	14.0010±0.0012	S	3881
($^2P^o_{1/2}$)			**	14.6655±0.00002	S	5162
($^2P_{3/2}$)			**	13.992±0.002	PE	3525
($^2P_{1/2}$)			**	14.661±0.002	PE	3525
($^2P_{3/2}$)			**	13.974±0.004	PEN	3541
	KrF_2	13773-81-4	$F+F^-$	11.517	PI	4998
Kr^{+2}						
	Kr	7439-90-9	**	38.4±0.2	EI	4503
Kr_2^+						
	Kr_2	12596-40-6	**	12.86±0.015	PI	4923
(1/2)u			**	13.76±0.02 (V)	PE	4885

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
Kr_2^+						
(3/2)g	Kr_2	12596-40-6	**	13.90±0.015 (V)	PE	4885
(1/2)u			**	14.57±0.015 (V)	PE	4885
			**	13.45±0.3	EI	5350
FKr^+						
	KrF_2	13773-81-4	F	~13.38	PI	4998
F_2Kr^+						
($^2\Pi_u$)	KrF_2	13773-81-4	**	13.06-13.16	PE	3642
($^2\Pi_{3/2u}$)			**	13.34 (V)	PE	3501
($^2\Pi_{1/2u}$)			**	13.47 (V)	PE	3501
($^2\Sigma_g$)			**	13.75	PE	3642
($^2\Sigma_g$)			**	13.90 (V)	PE	3501
($^2\Pi_g$)			**	14.0	PE	3642
($^2\Pi_g$)			**	14.37 (V)	PE	3501
($^2\Pi_u$)			**	16.25	PE	3642
($^2\Pi_u$)			**	16.92 (V)	PE	3501
($^2\Sigma_u$)			**	17.7 (V)	PE	3501
($^2\Sigma_u$)			**	17.7 (V)	PE	3642
($^2\Sigma_g$)			**	23.0 (V)	PE	3501
$ArKr^+$						
	KrAr	51184-77-1	**	13.425±0.02	PI	4926
			**	14.0±0.2	EI	5350
Rb^+						
	Rb	7440-17-7	**	4.18	PE	4642
	RbOH	1310-82-3	OH	~10	EI	3461
	RbCl	7791-11-9	Cl	8.695±0.03	PI	3536
($^2P_{3/2}$)			Cl^-	21.17±0.04 (V)	PE	5035
($^2P_{1/2}$)				22.00±0.04 (V)	PE	5035
	RbBr	7789-39-1	Br	8.12±0.03	PI	3536
($^2P_{3/2}$)			Br^-	21.10±0.04 (s)	PE	5035
($^2P_{1/2}$)				21.77±0.04 (s)	PE	5035
	RbI	7790-29-6	I	7.53±0.03	PI	3536
($^2P_{3/2}$)			I^-	21.33±0.04 (V)	PE	5035
($^2P_{1/2}$)				22.21±0.04 (V)	PE	5035
			I	9.4±0.4	EI	5239
Rb^{2+}						
	Rb^+	22537-38-8	**	27.285±0.003	S	3924
			**	27.2898±0.0001	S	5180
NO_3Rb^+						
	$RbNO_3$	XXXXX-XX-X	**	8.89±0.03 (V)	PE	5354
O_3PRb^+						
	$RbPO_3$	XXXXX-XX-X	**	9.70.0.04 (V)	PE	4840
$ClRb^+$						
	RbCl	7791-11-9	**	8.50±0.03	PI	3536
($^2P_{3/2}$)			**	8.26±0.1	PE	4344
($^2P_{3/2}$)			**	8.26±0.1	PE	5035
			**	8.7 (V)	PE	4307
$Cl_2Rb_2^+$						
	$(RbCl)_2$	12265-61-1	**	9.30 (V)	PE	5035
			**	9.30 (V)	PE	4344
$AlCl_4Rb^+$						
	$RbAlCl_4$	17992-02-8	**	10.39±0.05 (V)	PE	5238

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	*Ionization or* appearance potential (eV)	Method	Ref.
$BrRb^+$						
	RbBr	7789-39-1	**	7.935±0.03	PI	3536
($^2P_{3/2}$)			**	7.75±0.1	PE	4344
($^2P_{3/2}$)			**	7.75±0.1	PE	5035
			**	8.0 (V)	PE	4307
($^2P_{1/2}$)			**	8.62±0.04 (V)	PE	5035
$BrRb_2^+$						
	Rb_2Br_2	12409-58-4	Br	8.485±0.05	PI	3536
Sr^+						
	Sr	7440-24-6	**	5.5	PE	4860
			**	5.5±0.3	EI	5067
			**	~5.7	EI	3486
Sr^{+2}						
	Sr	7440-24-6	**	16	EI	3486
OSr^+						
	SrO	1314-11-0	**	6.5±1	EI	4881
$ClSr^+$						
	SrCl	14989-33-4	**	5.10±0.06	EI	3526
Cl_2Sr^+						
	$SrCl_2$	10476-85-4	**	10.2 (V)	PE	4761
$BrSr^+$						
	SrBr	14519-13-2	**	5.5	PE	4860
Y^+						
	Y	7440-65-5	**	6.35±0.10	EI	5342
			**	6.4±0.5	EI	5349
			**	6.45±0.15	EI	4114
			**	6.5±0.5	EI	4528
			**	6.6±0.6	EI	4902
			**	6.9±0.1	EI	4147
	YO	12036-00-9		~13	EI	4147
C_2Y^+						
	YC_2	12071-35-1	**	6.0±1.0	EI	5349
OY^+						
	YO	12036-00-9	**	5.85±0.15	EI	4114
			**	6.0±0.1	EI	4147
SY^+						
	YS	12210-79-6	**	6.0	EI	4001
			**	6.5±0.5	EI	4528
			**	7.2±0.6	EI	4902
Zr^+						
	Zr	7440-67-7	**	5.8±0.2	EI	4483
			**	6.4±0.1	EI	4114
			**	6.48±0.07	EI	5342
$H_{16}B_4Zr^+$						
	$Zr(BH_4)_4$	12370-59-1	**	11.6±0.1 (V)	PE	4825
C_2Zr^+						
	ZrC_2	12340-54-4	**	7.5±0.5	EI	4112

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{12}H_{12}Zr^+$	$(C_7H_7)(C_5H_5)Zr$ (Zirconium, (η^7-cycloheptatrienylium)(η^5-2,4-cyclopentadien-1-yl)-)	54006-95-0	**	6.94±0.05 (V)	PE	4428
$C_{20}H_{44}Zr^+$	$((CH_3)_3CCH_2)_4Zr$	38010-72-9	**	8.33±0.1 (V)	PE	4242
$C_8H_{24}N_4Zr^+$	$(N(CH_3)_2)_4Zr$	XXXXX-XX-X	**	7.23 (V)	PE	4588
$C_{16}H_{40}N_4Zr^+$	$(N(C_2H_5)_2)_4Zr$	XXXXX-XX-X	**	6.76 (V)	PE	4588
OZr^+	ZrO	12036-01-0	**	5.8±0.2	EI	4483
			**	6.2±0.1	EI	4114
O_2Zr^+	ZrO_2	1314-23-4	**	9.4±0.2	EI	4483
			**	9.55±0.1	EI	4114
$C_{20}H_{28}O_8Zr^+$	$((CH_3CO)_2CH)_4Zr$	17501-44-9	**	7.95 (V)	PE	5338
$C_{16}H_{44}Si_4Zr^+$	$((CH_3)_3SiCH_2)_4Zr$	32665-18-2	**	8.64±0.1 (V)	PE	4242
$ClZr^+$	$ZrCl_4$	10026-11-6		21.9	EI	3783
Cl_2Zr^+	$ZrCl_4$	10026-11-6		16.8	EI	3783
Cl_3Zr^+	$ZrCl_4$	10026-11-6		12.3	EI	3783
Cl_4Zr^+	$ZrCl_4$	10026-11-6	**	11.94 (V)	PE	4694
			**	10.6	EI	3783
$C_{10}H_{10}Cl_2Zr^+$	(η-$C_5H_5)_2ZrCl_2$ (Zirconium,dichlorobis(η^5-2,4-cyclopentadien-1-yl)-)	1291-32-3	**	8.6±0.1 (V)	PE	4987
			**	8.60±0.05 (V)	PE	4375
$C_{20}H_{30}Cl_2Zr^+$	$(C_5(CH_3)_5)_2ZrCl_2$ (Zirconium,dichlorobis[(1,2,3,4,5)-η)-1-(1-ethylpropyl)-2,4-cyclopentadien-1-yl]-)	58628-41-4	**	7.55 (V)	PE	5560
Br_4Zr^+	$ZrBr_4$ (JC-Mean value of Jahn-Teller components)	13777-25-8	**	10.86 (V)	PE	4694
$C_{10}H_{10}Br_2Zr^+$	(η-$C_5H_5)ZrBr_2$ (Zirconium dibromobis(η^5-2,4-cyclopentadien-1-yl)-)	1294-67-3	**	8.9±0.1 (V)	PE	4987
Nb^+	Nb	7440-03-1	**	6.61±0.05	EI	5342
			**	10.1±1.0	EI	4900

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{12}H_{12}Nb^+$						
	$(C_7H_7)(C_5H_5)Nb$	54360-38-2	**	5.98±0.05 (V)	PE	4428
	(Niobium, (η^7-cycloheptatrienylium)(η^5-2,4-cyclopentadien-1-yl)-)					
$C_{13}H_{15}Nb^+$						
	$(C_5H_5)_2(CH_2CH=CH_2)Nb$	39413-65-5	**	5.7±0.1 (V)	PE	4425
	(Niobium, bis(η^5-2,4-cyclopentadien-1-yl)(η^3-2-propenyl)-)					
$C_{10}H_{30}N_5Nb^+$						
	$(N(CH_3)_2)_5Nb$	XXXXX-XX-X	**	6.77 (V)	PE	5036
$ClNb^+$						
	$NbCl_5$	10026-12-7		24.2	EI	3783
Cl_2Nb^+						
	$NbCl_5$	10026-12-7		19.5	EI	3783
Cl_3Nb^+						
	$NbCl_5$	10026-12-7		14.6	EI	3783
Cl_4Nb^+						
	$NbCl_5$	10026-12-7		10.7	EI	3783
Cl_5Nb^+						
	$NbCl_5$	10026-12-7	**	10.97 (s)	PE	4764
$C_{12}H_{14}Cl_2Nb^+$						
	(η-$CH_3C_5H_4)_2NbCl_2$	12793-14-5	**	6.4±0.1 (V)	PE	4987
	(Niobium,dichlorobis(η^5-2,4-cyclopentadien-1-yl)-)					
Mo^+						
	Mo	7439-98-7	**	7.10	S	4864
			**	7.0±0.3	EI	4864
			**	7.22±0.06	EI	5342
			**	10.5±1.0	EI	4900
	$(CO)_6Mo$	13939-06-5	6CO	18.24±0.06	EI	5291
	$(((CH_3)_2N)_3P)(CO)_5Mo$	14971-43-8		18.4±0.05	EI	3952
	$(((CH_3)_2N)_3P)_2(CO)_4Mo$	27342-90-1		15.3±0.05	EI	3952
	$CS(CO)_5Mo$	50358-91-3	5CO+CS	19.12±0.30	EI	5291
	$MoCl_5$	10241-05-1		23.1	EI	3783
Mo_2^+						
	Mo_2	12596-54-2	**	8.0±0.1	EI	4900
$C_{10}H_{12}Mo^+$						
	$(C_5H_5)_2H_2Mo$	1291-40-3	**	6.4±0.1 (V)	PE	4425
	(Molybdenum, bis(η^5-2,4-cyclopentadien-1-yl)dihydro-)					
$C_{12}H_{12}Mo^+$						
	$(C_6H_6)_2Mo$	12129-68-9	**	5.52±0.05 (V)	PE	4132
	(Molybdenum, bis(η^6-benzene)-)					
	$(C_7H_7)(C_5H_5)Mo$	12301-35-8	**	5.87±0.05 (V)	PE	4428
	(Molybdenum, (η^7-cycloheptatrienylium)(η^5-2,4-cyclopentadien-1-yl)-)					
$C_{12}H_{11}Mo^+$						
	$(C_5H_5)_2(\eta$-$CH_2=CH_2)Mo$	37343-05-8	**	6.0±0.1 (V)	PE	4425
	(Molybdenum, bis(η^5-2,4-cyclopentadien-1-yl)(η^2-ethene)-)					
$C_{12}H_{16}Mo^+$						
	$(C_5H_5)_2(CH_3)_2Mo$	39333-52-3	**	6.1±0.1 (V)	PE	4425
	(Molybdenum, bis(η^5-2,4-cyclopentadien-1-yl)dimethyl-)					

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{14}H_{16}Mo^+$						
	$(C_6H_5CH_3)_2Mo$	12131-22-5	**	5.32±0.05 (V)	PE	4132
	(Molybdenum, bis[(1,2,3,4,5,6-η)-methylbenzene]-)					
$C_{18}H_{24}Mo^+$						
	$(C_6H_3(CH_3)_3)_2Mo$	12131-50-9	**	5.13±0.05 (V)	PE	4132
	(Molybdenum, bis[(1,2,3,4,5,6-η)-1,3,5-trimethylbenzene]-)					
$C_8H_{24}N_4Mo^+$						
	$(N(CH_3)_2)_4Mo$	XXXXX-XX-X	**	5.30 (V)	PE	5036
$C_{16}H_{40}N_4Mo^+$						
	$(N(C_2H_5)_2)_4Mo$	XXXXX-XX-X	**	5.3 (V)	PE	5036
$C_{12}H_{36}N_6Mo_2^+$						
	$(N(CH_3)_2)_6Mo_2$	51956-20-8	**	6.74 (V)	PE	5565
$COMo^+$						
	$(CO)_6Mo$	13939-06-5	5CO	16.52±0.03	EI	5291
	$CS(CO)_5Mo$	50358-91-3	4CO+CS	17.54±0.30	EI	5291
$C_2O_2Mo^+$						
	$(CO)_6Mo$	13939-06-5	4CO	14.86±0.02	EI	5291
	$CS(CO)_5Mo$	50358-91-3	3CO+CS	15.82±0.30	EI	5291
$C_3O_3Mo^+$						
	$(CO)_6Mo$	13939-06-5	3CO	13.29±0.02	EI	5291
	$CS(CO)_5Mo$	50358-91-3	2CO+CS	14.05±0.20	EI	5291
$C_4O_4Mo^+$						
	$(CO)_6Mo$	13939-06-5	2CO	11.61±0.02	EI	5291
	$CS(CO)_5Mo$	50358-91-3	CO+CS	12.39±0.20	EI	5291
$C_5O_5Mo^+$						
	$(CO)_6Mo$	13939-06-5	CO	10.02±0.02	EI	5291
	$CS(CO)_5Mo$	50358-91-3	CS	10.96±0.20	EI	5291
$C_6O_6Mo^+$						
	$(CO)_6Mo$	13939-06-5	**	8.50±0.02 (V)	PE	3979
			**	8.50 (V)	PE	4456
			**	8.46±0.01	EI	5291
			**	8.50±0.05	EI	4600
$C_{11}H_{10}OMo^+$						
	$(C_5H_5)_2COMo$	12701-85-8	**	5.9±0.1 (V)	PE	4425
	(Molybdenum, carbonylbis(η^5-2,4-cyclopentadien-1-yl)-)					
$C_{10}H_8O_3Mo^+$						
	$C_7H_8(CO)_3Mo$	12125-77-8	**	7.44 (V)	PE	5206
	(Molybdenum,tricarbonyl[(1,2,3,4,5,6,-η)-1,3,5-cycloheptatriene]-)					
			**	7.46±0.05 (V)	PE	4724
$C_{12}H_{12}O_3Mo^+$						
	$(C_6H_3(CH_3)_3)(CO)_3Mo$	12089-15-5	**	7.35±0.05 (V)	PE	4724
	(Molybdenum, tricarbonyl[(1,2,3,4,5,6-η)-1,3,5-trimethylbenzene]-)					
			**	7.37 (V)	PE	5367
$C_{11}H_8O_4Mo^+$						
	$(C_7H_8)(CO)_4Mo$	XXXXX-XX-X	**	7.48 (V)	PE	5367
	(Molybdenum,[(2,3,5,6-η)-bicyclo[2.2.1]hepta-2,5-diene]tetracarbonyl-)					

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_4H_4O_8Mo_2^+$						
	$Mo_2(O_2CH)_4$	51329-49-8	**	7.60±0.05 (V)	PE	4986
			**	7.5 (V)	PE	4426
$C_8H_{12}O_8Mo_2^+$						
	$Mo_2(O_2CCH_3)_4$	14221-06-8	**	6.92±0.05 (V)	PE	4986
			**	6.8 (V)	PE	4426
$C_{20}H_{36}O_8Mo_2^+$						
	$Mo_2(O_2CC(CH_3)_3)_4$	XXXXX-XX-X	**	6.75±0.05 (V)	PE	4986
	$Mo_2(COOC(CH_3)_3)_4$	55946-68-4	**	6.7 (V)	PE	4426
	(Molybdenum, tetrakis[μ-(2,2-dimethylpropanoato-0:0']di-(Mo-Mo))					
$C_{12}H_{14}N_2O_5Mo^+$						
	$(C_5H_4N_2(C_2H_5)_2)(CO)_5Mo$	XXXXX-XX-X	**	6.90 (V)	PE	5601
$C_{24}H_{24}N_4O_4Mo_2^+$						
	$(C_5H_3N(O)CH_3)_4Mo_2$	67634-80-4	**	5.89 (V)	PE	5191
	(Molybdenum,tetrakis[μ-(6-methyl-2(1H)-pyridinonato-N^1:O^2)]di-(*Mo-Mo*),stereoisomer)					
$C_{16}H_{20}N_2O_6Mo_2^+$						
	$C_{16}H_{20}N_2O_6Mo_2$	XXXXX-XX-X	**	6.24±0.04	PE	5596
FMo^+						
	MoF	60388-18-3	**	8.0±0.3	EI	4864
F_2Mo^+						
	MoF_2	20205-60-1	**	9.00±0.15	EI	4864
	MoF_3	20193-58-2	F	14.3±1.0	EI	5424
	MoF_4	XXXXX-XX-X		19.0±1.0	EI	5424
F_3Mo^+						
	MoF_3	20193-58-2	**	9.88±0.10	EI	4864
			**	10.2±0.5	EI	5424
	MoF_4	23412-45-5	F	14.01±0.5	EI	5424
F_4Mo^+						
	MoF_4	23412-45-5	**	9.74±0.2	EI	5424
			**	10.11±0.10	EI	4864
F_5Mo^+						
	MoF_5	13819-84-6	**	10.60±0.10	EI	4864
			**	10.81±0.2	EI	5424
	MoF_6	7783-77-9	F	15.2±0.2	EI	4864
F_6Mo^+						
	MoF_6	7783-77-9	**	14.5±0.1	PE	4989
OF_3Mo^+						
	$MoOF_3$	22529-29-9	**	11.0±0.5	EI	5434
$C_8F_{12}O_8Mo_2^+$						
	$Mo_2(O_2CCF_3)_4$	36608-07-8	**	8.67±0.05 (V)	PE	4986
$O_4Na_2Mo^+$						
	Na_2MoO_4	XXXXX-XX-X	**	7.2	EI	4578
$C_{15}H_{24}O_6Si_2Mo^+$						
	$C_{15}H_{24}O_6Si_2Mo$	XXXXX-XX-X	**	7.27 (V)	PE	5601

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_{18}N_3PMo^+$						
	$(((CH_3)_2N)_3P)(CO)_5Mo$	14971-43-8	5CO	10.3±0.05	EI	3952
	$(((CH_3)_2N)_3P)_2(CO)_4Mo$	27342-90-1		16.1±0.05	EI	3952
$C_{12}H_{36}N_6P_2Mo^+$						
	$(((CH_3)_2N)_3P)_2(CO)_4Mo$	27342-90-1	4CO	14.8±0.05	EI	3952
$C_8H_9O_5PMo^+$						
	$((CH_3O)_3P)(CO)_5Mo$	16917-96-7	**	7.7	PE	5602
$C_{11}H_{15}O_5PMo^+$						
	$((C_2H_5O)_3P)(CO)_5Mo$	19217-79-9	**	7.7	PE	5602
$C_{23}H_{15}O_5PMo^+$						
	$(C_6H_5)_3(CO)_5PMo$	14971-42-7	**	7.70±0.05	EI	4600
	(Molybdenum, pentacarbonyl(triphenylphosphine)-)					
$C_{23}H_{33}O_5PMo^+$						
	$(C_6H_{11})_3P(CO)_5Mo$	15603-94-8	**	7.44 (V)	PE	5139
	(Molybdenum, pentacarbonyl (tricyclohexylphosphine)-(OC-6-22)-)					
$C_8H_9O_8PMo^+$						
	$((CH_3O)_3P)(CO)_5Mo$	15631-20-6	**	8.1	PE	5602
$C_{11}H_{15}O_8PMo^+$						
	$((C_2H_5O)_3P)(CO)_5Mo$	15603-75-5	**	8.0	PE	5602
$C_{40}H_{30}O_4P_2Mo^+$						
	$C_{40}H_{30}O_4P_2Mo$	16244-53-4	**	7.60±0.05	EI	4600
	(Molybdenum, tetracarbonylbis(triphenylphosphine)-(OC-6-12)-)					
$C_7H_{18}N_3OPMo^+$						
	$(((CH_3)_2N)_3P)(CO)_5Mo$	14971-43-8	4CO	12.1±0.05	EI	3952
$C_8H_{18}N_3O_2PMo^+$						
	$(((CH_3)_2N)_3P)(CO)_5Mo$	14971-43-8	3CO	9.9±0.05	EI	3952
$C_9H_{18}N_3O_3PMo^+$						
	$(((CH_3)_2N)_3P)(CO)_5Mo$	14971-43-8	2CO	9.6±0.05	EI	3952
$C_{10}H_{18}N_3O_4PMo^+$						
	$(((CH_3)_2N)_3P)(CO)_5Mo$	14971-43-8	CO	7.8±0.05	EI	3952
$C_{11}H_{18}N_3O_5PMo^+$						
	$(((CH_3)_2N)_3P)(CO)_5Mo$	14971-43-8	**	7.8	PE	5602
			**	5.7±0.05	EI	3952
$C_{13}H_{36}N_6OP_2Mo^+$						
	$(((CH_3)_2N)_3P)_2(CO)_4Mo$	27342-90-1	3CO	14.0±0.05	EI	3952
$C_{14}H_{36}N_6O_2P_2Mo^+$						
	$(((CH_3)_2N)_3P)_2(CO)_4Mo$	27342-90-1	2CO	11.2±0.05	EI	3952
$C_{15}H_{36}N_6O_3P_2Mo^+$						
	$(((CH_3)_2N)_3P)_2(CO)_4Mo$	27342-90-1	CO	11.1±0.05	EI	3952
$C_{16}H_{36}N_6O_4P_2Mo^+$						
	$(((CH_3)_2N)_3P)_2(CO)_4Mo$	27342-90-1	**	6.8±0.05	EI	3952
$F_{18}P_6Mo^+$						
	$(PF_3)_6Mo$	15339-46-5	**	9.17 (V)	PE	4456

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_3H_9N_3F_{12}P_6Mo^+$						
	$(CH_3N(PF_2)_2)_3Mo$	63353-75-3	**	7.93 (V)	PE	5376
$C_5O_5F_3PMo^+$						
	$(PF_3)(CO)_5Mo$	15322-05-1	**	8.55 (V)	PE	5539
			**	8.8	PE	5602
$CSMo^+$						
	$CS(CO)_5Mo$	50358-91-3	5CO	16.07±0.09	EI	5291
C_2OSMo^+						
	$CS(CO)_5Mo$	50358-91-3	4CO	14.46±0.05	EI	5291
$C_3O_2SMo^+$						
	$CS(CO)_5Mo$	50358-91-3	3CO	12.39±0.09	EI	5291
$C_4O_3SMo^+$						
	$CS(CO)_5Mo$	50358-91-3	2CO	11.02±0.05	EI	5291
$C_5O_4SMo^+$						
	$CS(CO)_5Mo$	50358-91-3	CO	9.36±0.05	EI	5291
$C_6O_5SMo^+$						
	$CS(CO)_5Mo$	50358-91-3	**	8.18±0.02	EI	5291
$ClMo^+$						
	$MoCl_5$	10241-05-1		20.3	EI	3783
Cl_2Mo^+						
	$MoCl_5$	10241-05-1		17.1	EI	3783
Cl_3Mo^+						
	$MoCl_5$	10241-05-1		12.9	EI	3783
Cl_4Mo^+						
	$MoCl_5$	10241-05-1		10.1	EI	3783
Cl_5Mo^+						
	$MoCl_5$	10241-05-1	**	9.27 (V)	PE	4764
			**	9.2	EI	3783
$C_{12}H_{14}Cl_2Mo^+$						
	$(\eta$-$CH_3C_5H_4)_2MoCl_2$ (Molybdenum,dichlorobis[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]-)	63374-10-7	**	6.8±0.1 (V)	PE	4987
$O_2Cl_2Mo^+$						
	MoO_2Cl_2	XXXXX-XX-X	**	11.93±0.02	PE	5148
$C_5O_5PCl_3Mo^+$						
	$(PCl_3)(CO)_5Mo$	19212-18-1	**	8.36 (V)	PE	5539
$C_8H_{12}O_8CrMo^+$						
	$CrMo(O_2CCH_3)_4$	XXXXX-XX-X	**	7.06±0.05 (V)	PE	4986
$C_{21}H_{21}N_4O_4CrMo^+$						
	$(C_5H_3N(O)CH_3)_4MoCr$ (Molybdenum,(chromium)tetrakis[μ-(6-methyl-2(1H)-pyridinonato-N^1:O^2)]-(*Cr-Mo*))	72070-57-6	**	6.0 (V)	PE	5191
$C_{23}H_{15}O_5AsMo^+$						
	$(C_6H_5)_3(CO)_5AsMo$ (Molybdenum, pentacarbonyl(triphenylarsine)-(OC-6-22)-)	19212-22-7	**	7.80±0.05	EI	4600

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{12}H_{11}Br_2Mo^+$						
	(η-$CH_3C_5H_4)_2MoBr_2$	63984-91-8	**	6.9±0.1 (V)	PE	4987
	(Molybdenum,dibromobis[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]-)					
$C_5O_5PBr_3Mo^+$						
	$(PBr_3)(CO)_5Mo$	22466-07-5	**	8.33 (V)	PE	5539
Ru^+						
	Ru	7440-18-8	**	7.16±0.07	EI	5342
	$(C_5H_5)_2Ru$	1287-13-4	$(C_5H_5)_2$	16.50±0.25	EI	3628
	(Ruthenocene)					
$C_3H_3Ru^+$						
	$(C_5H_5)_2Ru$	1287-13-4		19.6±0.2	EI	3628
	(Ruthenocene)					
$C_5H_5Ru^+$						
	$(C_5H_5)_2Ru$	1287-13-4	C_5H_5	14.75±0.25	EI	3628
	(Ruthenocene)					
$C_8H_8Ru^+$						
	$(C_5H_5)_2Ru$	1287-13-4	C_2H_2	14.6±0.2	EI	3628
	(Ruthenocene)					
$C_{10}H_{10}Ru^+$						
	$(C_5H_5)_2Ru$	1287-13-4	**	7.45 (V)	PE	3688
	(Ruthenocene)					
			**	7.45 (V)	PE	5394
			**	7.50±0.25	EI	3628
$C_{12}H_{14}Ru^+$						
	$(C_5H_4CH_3)_2Ru$	33292-37-4	**	7.25 (V)	PE	3688
	(Ruthenocene, 1,1'-dimethyl-)					
O_4Ru^+						
	RuO_4	20427-56-9	**	12.09	PE	3836
			**	12.15	PE	4166
			**	12.15 ±0.02 (V)	PE	5148
			**	12.16	PE	3838
$C_{12}O_{12}Ru_3^+$						
	$(CO)_{12}Ru_3$	15243-33-1	**	7.7±0.2 (V)	PE	4882
	(Ruthenium, dodecacarbonyltri-)					
			**	7.91 (V)	PE	5189
$C_9H_8O_3Ru^+$						
	$(C_6H_8)(CO)_3Ru$	12108-25-7	**	8.01 (V)	PE	5551
	(Ruthenium,tricarbonyl[(1,2,3,4-η)-1,3-cyclohexadiene]-)					
$C_{10}H_{10}O_3Ru^+$						
	$(C_7H_{10})(CO)_3Ru$	41550-67-8	**	7.96 (V)	PE	5551
	(Ruthenium,tricarbonyl[(1,2,3,4-η)-1,3-cycloheptadiene]-)					
$C_{15}H_3O_6F_{18}Ru^+$						
	$(CF_3COCHCOCF_3)_3Ru$	16827-63-7	**	8.85±0.07 (V)	PE	3682
	(Ruthenium, tris(1,1,1,5,5,5-hexafluoropentanedionato-*O,O'*)-, (*OC*-6-11)-)					
$F_{15}P_3Ru^+$						
	$Ru(CO)_5$	19702-30-8	**	9.17 (V)	PE	4456
Rh^+						
	Rh	7440-16-6	**	7.1±0.6	EI	4909

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
Rh^+						
	Rh	7440-16-6	**	7.42±0.08	EI	5342
Rh_2^+						
	Rh_2	12596-98-4	**	7.1±1.0	EI	4206
CRh^+						
	RhC	12127-42-3	**	7.2±0.5	EI	4909
			**	9.2±1.0	EI	5349
			**	8.1±0.6	EI	3978
			**	8.6±0.4	EI	4206
			**	8.6±0.4	EI	5635
C_2Rh^+						
	RhC_2	37306-47-1	**	8.1±0.4	EI	5635
$C_7H_7O_4Rh^+$						
	$(CH_3COCHCOCH_3)Rh(CO)_2$ (Dicarbonyl(2,4-pentanedionato)rhodium)	14874-82-9	**	8.6±0.1	EI	3497
$C_{12}H_9O_4Rh^+$						
	$(CH_3COCHCOC_6H_5)Rh(CO)_2$ (Dicarbonyl(1-phenyl-1,3-butanedionato)rhodium)	24151-55-1	**	8.4±0.1	EI	3497
$C_{17}H_{11}O_4Rh^+$						
	$(C_6H_5COCHCOC_6H_5)Rh(CO)_2$ (Dicarbonyl(1,3-diphenyl-1,3-propanedionato)rhodium)	24151-56-2	**	8.4±0.1	EI	3497
$C_{15}H_{21}O_6Rh^+$						
	$(CH_3COCHCOCH_3)_3Rh$ (Tris(2,4-pentanedionato)rhodium)	14284-92-5	**	7.34±0.01	EI	3496
			**	7.75±0.05	EI	3497
$C_{15}H_{20}NO_8Rh^+$						
	$((CH_3CO)_2CH)_2Rh(NO_2C(OCCH_3)_2)$ (*OC*-6-22-(3-Nitro-2,4-pentanedionato-O^2,O^4)bis(2,4-pentanedionato-O,O')rhodium)	36530-11-7	**	7.65±0.02	EI	3496
$C_{15}H_{19}N_2O_{10}Rh^+$						
	$((CH_3CO)_2CNO_2)_2Rh(CH(OCCH_3)_2)$ (*OC*-6-21-Bis(3-nitro-2,4-pentanedionato-O^2,O^4)(2,4-pentanedionato-O,O')rhodium)	36530-12-8	**	7.97±0.03	EI	3496
$C_{15}H_{18}N_3O_{12}Rh^+$						
	$(CH_3COC(NO_2)COCH_3)_3Rh$ (*OC*-6-11-Tris(3-nitro-2,4-pentanedionato-O^2,O^4)rhodium)	36530-13-9	**	8.39±0.04	EI	3496
$C_{21}H_{36}N_4O_4Rh_2^+$						
	$(C_5H_5N(CH_3)OH)_4Rh_2$ (Rhenium,tetrakis(6-methyl-2-pyridinol)-)	XXXXX-XX-X	**	6.49±0.02	PE	5579
$C_7H_4O_4F_3Rh^+$						
	$(CH_3COCHCOCF_3)Rh(CO)_2$ (Dicarbonyl(1,1,1-trifluoro-2,4-pentanedionato)rhodium)	18517-13-0	**	8.85±0.05	EI	3497
$C_7HO_4F_6Rh^+$						
	$(CF_3COCHCOCF_3)Rh(CO)_2$ (Dicarbonyl(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato)rhodium)	18517-12-9	**	9.2±0.1	EI	3497
P_2Rh^+						
	RhP_2	11092-25-4	**	7.7±1.0	EI	4532
$HF_{12}P_4Rh^+$						
	$H(PF_3)_4Rh$	16842-03-8	**	9.70 (V)	PE	4456

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$HF_{12}P_1Rh^+$						
	$(PF_3)_1RhH$	16949-48-7	**	9.7	PE	4021
$C_{12}H_{30}O_6P_3S_6Rh^+$						
	$((C_2H_5)_2S_2PO_2)_3Rh$	33991-54-7	**	7.70 (V)	PE	5203
$C_1O_1Cl_2Rh_2^+$						
	$((CO)_2RhCl)_2$	14404-25-2	**	8.89±0.03 (V)	PE	5255
	$(CO)_1Rh_2Cl_2$	14523-22-9		9.01 (V)	PE	5327
$F_{12}P_1Cl_2Rh_2^+$						
	$(PF_3)_1Rh_2Cl_2$	14876-98-3		9.0 (V)	PE	5327
$ScRh^+$						
	RhSc	12166-12-0	**	8.0±1.0	EI	5349
$TiRh^+$						
	RhTi	12600-90-7	**	8.2±1.0	EI	4206
Ti_2Rh^+						
	$RhTi_2$	12067-05-9	**	7.9±1.0	EI	4206
YRh^+						
	RhY	XXXXX-XX-X	**	7.2±1.0	EI	5349
Pd^+						
	Pd	7440-05-3	**	8.0±0.4	EI	3597
			**	8.35±0.05	EI	5342
$C_6H_{10}Pd^+$						
	$(C_3H_5)_2Pd$	12240-87-8	**	7.56 (V)	PE	5281
			**	7.24±0.03	PE	3711
$C_8H_{14}Pd^+$						
	$(CH_2C(CH_3)CH_2)_2Pd$	41348-25-8	**	7.33 (V)	PE	5281
$C_{36}H_{44}N_4Pd^+$						
	$((C_2H_5)_2C_4NCH)_4Pd$ (Palladium,[2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-N^{21},N^{22},N^{23},N^{24}]-(SP-4-1)-)	24804-00-0	**	6.37±0.03 (V)	PE	5476
$C_{10}H_{16}O_4Pd^+$						
	$((CH_3CO)_2CH_2)_2Pd$	XXXXX-XX-X	**	7.79 (V)	PE	5568
$C_{22}H_{40}O_4Pd^+$						
	$(((CH_3)_3CCO)_2CH_2)_2Pd$	XXXXX-XX-X	**	7.67 (V)	PE	5568
$C_{12}H_{18}N_2O_2Pd^+$						
	$C_{12}H_{18}O_2N_2Pd$ (Palladium, [[4,4′-(1,2-ethanediyldinitrilo)bis[2-pentanonato]](2⁻)-*N*,*N*′,*O*,*O*′]- (*SP*-4-2)-)	38337-62-1	**	6.88 (V)	PE	3822
$F_{12}P_1Pd^+$						
	$Pd(PF_3)_4$	13815-33-3	**	9.9±0.1 (V)	PE	4187
$C_{12}H_{18}N_2S_2Pd^+$						
	$(CH_3C(=S)CH_2C(CH_3)NCH)_2Pd$	41391-03-1	**	6.70 (V)	PE	5446
$C_8H_{20}O_4P_2S_4Pd^+$						
	$Pd(S_2P(OC_2H_5)_2)_2$	21312-72-1	**	7.90±0.05	PE	4636
Ag^+						
($^2p^0$)	Ag	7440-22-4	**	7.576	S	5494

Ion (state)	Reactant	CAS Registry Number	Other products	*Ionization or* appearance potential (eV)	Method	Ref.
Ag^+						
($^1S_0$)	Ag	7440-22-4	**	7.57	PE	4858
($^3D_3$)			**	12.43	PE	4858
($^3D_2$)			**	12.62	PE	4858
($^3D_1$)			**	12.80	PE	4858
($^1D_2$)			**	13.28	PE	4858
			**	7.5±0.3	EI	4865
			**	7.51±0.07	EI	3574
			**	7.6	EI	3472
			**	7.62±0.07	EI	5342
			**	7.8±0.2	EI	3609
	AgCl	7783-90-6		11.1±0.3	EI	3622
	Ag_3Cl_3	12444-97-2		14.5	EI	3622
	AgBr	7785-23-1	Br	11.3±0.1	EI	4313
Ag_2^+						
	Ag_2	12187-06-3	**	6.4±0.7	EI	3440
			**	7.35±0.05	EI	3574
			**	7.4±0.8	EI	3597
			**	8.0±1.0	EI	3609
	Ag_3Cl_3	12444-97-2		18.0±0.5	EI	3622
Ag_3^+						
	Ag_3Cl_3	12444-97-2		18.4±0.5	EI	3605
FAg^+						
	AgF	7775-41-9	**	11.0±0.3	EI	4865
$NaAg^+$						
	NaAg	38782-42-2	**	7.0±1.5	EI	4919
$AlAg^+$						
	AgAl	12379-67-8	**	7.8±0.5	EI	3796
O_2PAg^+						
	$AgPO_2$	XXXXX-XX-X	**	9.3	EI	4098
$ClAg^+$						
($^2\Pi_{3/2}$)	AgCl	7783-90-6	**	10.08 (V)	PE	5297
($^2\Pi_{1/2}$)			**	10.14 (V)	PE	5297
($^2\Sigma_{1/2}$)			**	10.62 (V)	PE	5297
($^2\Sigma^+$)			**	11.03±0.1 (V)	PE	4778
($E_{5/2}$)			**	13.50 (V)	PE	5297
($E_{3/2}$)			**	13.68 (V)	PE	5297
($E_{1/2}$)			**	13.80 (V)	PE	5297
($E_{3/2}$)			**	14.15 (V)	PE	5297
($E_{1/2}$)			**	14.26 (V)	PE	5297
			**	10.8±0.4	EI	3622
			**	11.3±0.5	EI	3605
	Ag_3Cl_3	12444-97-2		14.2	EI	3622
$ClAg_2^+$						
	Ag_3Cl_3	12444-97-2		12.9	EI	3622
$Cl_2Ag_2^+$						
	Ag_2Cl_2	XXXXX-XX-X	**	10.3±0.5	EI	3605
$ClAg_3^+$						
	Ag_3Cl_3	12444-97-2		14.9±0.5	EI	3605
$Cl_2Ag_3^+$						
	Ag_3Cl_3	12444-97-2		11.1±0.3	EI	3622

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$Cl_2Ag_3^+$						
	Ag_3Cl_3	12444-97-2		11.1±0.5	EI	3605
$Cl_3Ag_3^+$						
	Ag_3Cl_3	12444-97-2	**	11.44±0.04 (V)	PE	5297
			**	10.0±0.5	EI	3605
			**	10.4±0.3	EI	3622
			**	10.4±0.3	EI	5330
	$(AgCl)_3$	67244-69-3	**	10.14±0.02 (V)	PE	4839
$Cl_3Ag_4^+$						
	Ag_4Cl_4	XXXXX-XX-X		10.9±0.5	EI	3605
$Cl_4Ag_4^+$						
	Ag_4Cl_4	XXXXX-XX-X	**	9.6±1.0	EI	3605
$Cl_2Cu_2Ag^+$						
	$AgCu_2Cl_3$	XXXXX-XX-X	Cl	12.0±0.4	EI	5330
$Cl_3Cu_2Ag^+$						
	$AgCu_2Cl_3$	XXXXX-XX-X	**	10.3±0.3	EI	5330
$Cl_2CuAg_2^+$						
	Ag_2CuCl_3	XXXXX-XX-X	Cl	11.4±0.3	EI	5330
$Cl_3CuAg_2^+$						
	Ag_2CuCl_3	XXXXX-XX-X	**	10.1±0.3	EI	5330
$BrAg^+$						
($^2\Pi_{3/2}$)	AgBr	7785-23-1	**	9.59 (V)	PE	5297
($^2\Pi_{1/2}$)			**	9.85 (V)	PE	5297
($^2\Sigma_{1/2}$)			**	10.47 (V)	PE	5297
($^2\Sigma^+$)			**	11.15±0.1 (V)	PE	4778
($E_{5/2}$)			**	13.27 (V)	PE	5297
($E_{3/2}$)			**	13.39 (V)	PE	5297
($E_{1/2}$)			**	13.485 (V)	PE	5297
($E_{3/2}$)			**	13.98 (V)	PE	5297
($E_{1/2}$)			**	14.15 (V)	PE	5297
			**	9.1±0.1	EI	4313
			**	9.5±0.3	EI	3467
$BrAg_2^+$						
	Ag_3Br_3	11078-33-4		11.9±0.6	EI	4313
$Br_2Ag_3^+$						
	Ag_3Br_2	11078-32-3	**	10.0±0.2	EI	3467
	Ag_3Br_3	11078-33-4	Br	9.8±0.2	EI	4313
$Br_3Ag_3^+$						
	Ag_3Br_3	11078-33-4	**	9.60 (V)	PE	4981
			**	11.46±0.04 (V)	PE	5297
			**	9.6±0.3	EI	5330
			**	9.6±0.3	EI	4313
			**	9.8±0.2	EI	3467
$Cl_2BrAg_3^+$						
	Ag_3Cl_2Br	XXXXX-XX-X	**	10.35±0.2	EI	5330
$ClBr_2Ag_3^+$						
	$AgClBr_2$	XXXXX-XX-X	**	9.8±0.3	EI	5330

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
Cd^+						
	Cd	7440-43-9	**	8.993	S	5450
($^2S_{1/2}$)			**	8.99	PEN	3537
($^2P_{1/2}$)			**	14.5	PEN	3537
($^2P_{3/2}$)			**	14.9	PEN	3537
($^2D_{3/2}$)			**	17.6	PEN	3537
($^2D_{3/2}$)			**	18.4	PEN	3537
($^2D_{3/2}$)			**	20.2	PEN	3537
			**	9.07±0.07	EI	3745
$C_2H_6Cd^+$						
	$(CH_3)_2Cd$	506-82-1	**	8.8 (V)	PE	5300
			**	17.349 (V)	PE	4822
$C_4H_{10}Cd^+$						
	$(C_2H_5)_2Cd$	592-02-9	**	8.2 (V)	PE	5300
$C_6H_{14}Cd^+$						
	$(n\text{-}C_3H_7)_2Cd$	5905-48-6	**	8.2 (V)	PE	5300
F_2Cd^+						
	CdF_2	7790-79-6	**	13.18±0.04	PE	5433
$C_8H_{22}Si_2Cd^+$						
	$((CH_3)_3SiCH_2)_2Cd$	XXXXX-XX-X	**	8.8 (V)	PE	5300
Cl_2Cd^+						
($^2\Pi_g$)	$CdCl_2$	10108-64-2	**	11.3 (V)	PE	3963
($^2\Pi_{3/2g}$)			**	11.42 (V)	PE	4232
($^2\Pi_{1/2g}$)			**	11.42 (V)	PE	4232
($^2\Pi_u$)			**	11.44±0.05 (V)	PE	3833
($^2\Pi_u$)			**	11.8 (V)	PE	3963
($^2\Pi_{1/2u}$)			**	11.92 (V)	PE	4232
($^2\Pi_{3/2u}$)			**	11.92 (V)	PE	4232
($^2\Pi_u$)			**	11.93±0.05 (V)	PE	3833
($^2\Sigma_u$)			**	12.4 (V)	PE	3963
($^2\Sigma_u$)			**	12.46 (V)	PE	4232
($^2\Sigma_u$)			**	12.53±0.05 (V)	PE	3833
($^2\Sigma_g$)			**	13.1 (V)	PE	3963
($^2\Sigma_g$)			**	13.12±0.05 (V)	PE	3833
($^2\Sigma_g$)			**	13.29 (V)	PE	4232
($^2D_{5/2}$)			**	19.55 (V)	PE	4232
($^2D_{3/2}$)			**	20.27 (V)	PE	4232
Br_2Cd^+						
($^2\Pi_{3/2g}$)	$CdBr_2$	7789-42-6	**	10.3 (V)	PE	3963
($^2\Pi_{3/2g}$)			**	10.58±0.05 (V)	PE	3833
($^2\Pi_{3/2g}$)			**	10.59 (V)	PE	4232
($^2\Pi_{3/2u}$)			**	10.6 (V)	PE	3963
($^2\Pi_{1/2g}$)			**	10.7 (V)	PE	3963
($^2\Pi_{1/2u}$)			**	10.8 (V)	PE	3963
($^2\Pi_{1/2g}$)			**	10.94±0.05 (V)	PE	3833
($^2\Pi_{1/2g}$)			**	10.965 (V)	PE	4232
($^2\Pi_u$)			**	11.15±0.05 (V)	PE	3833
($^2\Pi_{1/2u}$)			**	11.31 (V)	PE	4232
($^2\Sigma_u$)			**	11.7 (V)	PE	3963
($^2\Sigma_u$)			**	11.85±0.05 (V)	PE	3833
($^2\Sigma_u$)			**	11.85 (V)	PE	4232
($^2\Sigma_g$)			**	12.4 (V)	PE	3963
($^2\Sigma_g$)			**	12.78±0.05 (V)	PE	3833
($^2\Sigma_g$)			**	12.84 (V)	PE	4232
($^2D_{5/2}$)			**	19.31 (V)	PE	4232

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
Br_2Cd^+						
($^2D_{3/2}$)	$CdBr_2$	7789-42-6	**	19.95 (V)	PE	4232
In^+						
($^1S_0$)	In	7440-74-6	**	5.78±0.03	PE	5052
($^3P_0$)			**	11.01±0.06	PE	5052
($^3P_1$)			**	11.15±0.04	PE	5052
($^1P_1$)			**	13.56±0.05	PE	5052
($^3P_2$)			**	24.27±0.03	PE	5052
($^3F_2$)			**	24.88±0.04	PE	5052
($^3P_0$)			**	24.96±0.04	PE	5052
($^3D_3$)			**	25.06±0.03	PE	5052
($^1P_1$)			**	25.32	PE	5052
($^3D_1$)			**	25.91±0.04	PE	5052
			**	5.85±0.07	EI	3745
	$InBO_2$	XXXXX-XX-X	BO_2	10.65±0.11	EI	5587
$C_5H_5In^+$						
	C_5H_5In (Indium, (η^5-2,4-cyclopentadien-1-yl)-)	34822-89-4	**	8.28 (V)	PE	4777
			**	8.3±0.1 (V)	PE	4853
OIn_2^+						
	In_2O	12030-22-7	**	8.3±0.3	EI	3491
BO_2In^+						
	$InBO_2$	XXXXX-XX-X	**	9.65±0.08	EI	5587
$C_{12}H_{30}O_6P_3S_6In^+$						
	$((C_2H_5)_2S_2PO_2)_3In$	21602-84-6	**	8.3 (V)	PE	5203
$ClIn^+$						
($^2\Sigma$)	InCl	13465-10-6	**	9.51	PE	3640
($^2\Sigma_{1/2}$)			**	9.71 (V)	PE	4713
($^2\Pi$)			**	10.17	PE	3640
($^2\Pi_{3/2}+{}^2\Pi_{1/2}$)			**	10.85 (V)	PE	4713
($^2\Sigma$)			**	12.82	PE	3640
($^2\Sigma_{1/2}$)			**	13.11 (V)	PE	4713
($^2D_{5/2}$)			**	25.30 (V)	PE	5035
($^2D_{5/2}$)			**	25.31 (V)	PE	4713
($^2D_{5/2}$)			**	25.46 (V)	PE	4713
($^2D_{3/2}$)			**	26.20 (V)	PE	5035
($^2D_{3/2}$)			**	26.24 (V)	PE	4713
($^2D_{3/2}$)			**	26.46 (V)	PE	4713
Cl_3In^+						
	$InCl_3$	10025-82-8	**	~11.4 (V)	PE	4398
			**	11.45	PE	4215
$BrIn^+$						
($^2\Pi$)	InBr	14280-53-6	**	6.62	PE	3640
($^2\Sigma$)			**	9.09	PE	3640
($^2\Sigma_{1/2}$)			**	9.35 (V)	PE	4713
($^2\Pi_{3/2}$)			**	9.90 (V)	PE	4713
($^2\Pi_{1/2}$)			**	10.13 (V)	PE	4713
($^2\Sigma$)			**	12.38	PE	3640
($^2\Sigma_{1/2}$)			**	12.78 (V)	PE	4713
($^2D_{5/2}$)			**	25.19 (V)	PE	4713
($^2D_{5/2}$)			**	25.26 (V)	PE	5035
($^2D_{5/2}$)			**	25.30 (V)	PE	4713
($^2D_{3/2}$)			**	26.07 (V)	PE	4713
($^2D_{3/2}$)			**	26.14 (V)	PE	5035

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$BrIn^+$						
($^2D_{3/2}$)	InBr	14280-53-6	**	26.18 (V)	PE	4713
($^2\Sigma_{1/2}$)			**	26.40 (V)	PE	4713
Br_3In^+						
	$InBr_3$	13465-09-3	**	10.3 (V)?	PE	4398
			**	10.32	PE	4215
Sn^+						
($^2P''_{1/2}$)	Sn	7440-31-5	**	7.344	S	5496
($^2P''_{3/2}$)			**	7.871	S	5496
			**	7.28±0.07	EI	3745
H_4Sn^+						
	SnH_4	2406-52-2	**	10.75	PE	3716
$C_3H_9Sn^+$						
	$(CH_3)_4Sn$	594-27-4	CH_3	9.58±0.19	EI	3548
	(*tert*-C_4H_9)$(CH_3)_3Sn$	3531-47-3	$(CH_3)_3C$	9.32±0.16	EI	3548
	$((CH_3)_3Sn)_2$	661-69-8	$(CH_3)_3Sn$	9.51±0.22	EI	3548
	$((CH_3)_3Si)(CH_3)_3Sn$	16393-88-7	$(CH_3)_3Si$	9.80±0.24	EI	3548
	$C_6H_5SSn(CH_3)_3$	1007-27-8		9.42±0.1	EI	4198
	(Stannane, trimethyl(phenylthio)-)					
	$C_5H_5(CO)_3CrSn(CH_3)_3$	31854-87-2		9.09±0.1	EI	3495
	(Tricarbonyl(η^5-2,4-cyclopentadien-1-yl)(trimethylstannyl)chromium)					
	$((CH_3)_3Sn)(CO)_5Mn$	14126-94-4		8.85±0.13	EI	5321
	$((CH_3)_3Sn)(CO)_4Co$	13964-90-4		9.06±0.15	EI	5321
	$((CH_3)_3Ge)(CH_3)_3Sn$	16393-89-8	$(CH_3)_3Ge$	9.85±0.22	EI	3548
	$(C_5H_5)_2(Sn(CH_3)_3)MoH$	51159-64-9		9.19±0.15	EI	5321
	(Molybdenum,bis(η^5-2,4-cyclopentadien-1-yl)hydro(trimethylstannyl)-)					
	$C_5H_5(CO)_3MoSn(CH_3)_3$	12214-92-5		9.85±0.1	EI	3495
	(Tricarbonyl(η^5-2,4-cyclopentadien-1-yl)(trimethylstannyl)molybdenum)					
	$C_{19}H_{26}O_4SnMo$	51231-85-7		9.44±0.13	EI	5321
	(Molybdenum,bis(η^5-2,4-cyclopentadien-1-yl)[3-methoxy-1-(methoxycarbonyl)-3-oxo-1-propenyl](trimethylstannyl)-)					
	$(C_5H_5)_2(Sn(CH_3)_3)MoCl$	51231-83-5		9.30±0.14	EI	5321
	(Molybdenum,chlorobis(η^5-2,4-cyclopentadien-1-yl)(trimethylstannyl)-)					
	$(C_5H_5)_2(Sn(CH_3)_3)MoBr$	51231-84-6		9.36±0.12	EI	5321
	(Molybdenum,bromobis(η^5-2,4-cyclopentadien-1-yl)(trimethylstannyl)-)					
	$(C_5H_5)_2(Sn(CH_3)_3)MoI$	51249-26-4		9.42±0.15	EI	5321
	(Molybdenum,bis(η^5-2,4-cyclopentadien-1-yl)iodo(trimethylstannyl)-)					
	$(C_5H_5)_2(Sn(CH_3)_3)TaH_2$	51192-04-2		9.46±0.11	EI	5321
	(Tantalum,bis(η^5-2,4-cyclopentadien-1-yl)dihydro(trimethylstannyl)-)					
	$(C_5H_5)_2(Sn(CH_3)_3)WH$	51192-18-8		9.73±0.12	EI	5321
	(Tungsten,bis(η^5-2,4-cyclopentadien-1-yl)hydro(trimethylstannyl)-)					
	$C_5H_5(CO)_3WSn(CH_3)_3$	12093-29-7		10.05±0.15	EI	3495
	(Tricarbonyl(η^5-2,4-cyclopentadien-1-yl)(trimethylstannyl)tungsten)					
	$((CH_3)_3Sn)(CO)_5Re$	15219-90-6		9.59±0.13	EI	5321
$C_3H_{10}Sn^+$						
	$(CH_3)_3SnH$	1631-73-8	**	9.9 (V)	PE	4985
$C_4H_7Sn^+$						
	$(CH_3)_3SnC{\equiv}CH$	1112-00-1	CH_3	9.84±0.08	EI	4126
$C_4H_{12}Sn^+$						
	$(CH_3)_4Sn$	594-27-4	**	8.85±0.1	PE	3677
			**	8.93±0.04	PE	3880
			**	9.7 (V)	PE	5571
			**	9.75 (V)	PE	4457
			**	9.75 (V)	PE	4241
			**	8.76±0.12	EI	3548

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_{12}Sn^+$						
	$CH_2=CHSn(CH_3)_3$	754-06-3	**	9.7 (V)	PE	4457
$C_5H_{14}Sn^+$						
	$C_2H_5Sn(CH_3)_3$	3531-44-0	**	9.1 (V)	PE	4457
			**	9.1 (V)	PE	5571
$C_6H_{11}Sn^+$						
	$CH_2=CHCH_2Sn(CH_3)_3$	762-73-2	**	8.50 (V)	PE	4172
			**	8.70 (V)	PE	4241
$C_6H_{16}Sn^+$						
	$(C_2H_5)_3SnH$	997-50-2	**	9.1 (V)	PE	4985
	$(CH_3)_3(n\text{-}C_3H_7)Sn$	3531-45-1	**	9.1 (V)	PE	5571
			**	8.9 (V)	PE	4457
	$(CH_3)_2(C_2H_5)_2Sn$	4282-05-7	**	9.01 (V)	PE	5571
	iso-$C_3H_7Sn(CH_3)_3$	3531-46-2	**	8.77 (V)	PE	4457
			**	8.9 (V)	PE	5571
$C_7H_{16}Sn^+$						
	$(CH_3)_3SnCH_2CH_2CH=CH_2$	17314-38-4	**	9.71 (V)	PE	4241
	$C_3H_5CH_2Sn(CH_3)_3$ (Stannane, (cyclopropylmethyl)trimethyl-)	51675-53-7	**	8.85 (V)	PE	4241
$C_7H_{18}Sn^+$						
	$(CH_3)_3(C_4H_9)Sn$	1527-99-7	**	9.0 (V)	PE	5571
			**	9.52 (V)	PE	4241
	$(C_2H_5)_3(CH_3)Sn$	2097-60-1	**	8.95 (V)	PE	5571
	$(CH_3)_3$(*iso*-C_4H_9)Sn	1118-10-1	**	9.05 (V)	PE	5571
			**	9.33 (V)	PE	4241
	$(CH_3)_3$(*tert*-C_4H_9)Sn	3531-47-3	**	8.50 (V)	PE	5571
			**	8.65 (V)	PE	4457
			**	8.34±0.11	EI	3548
$C_8H_{18}Sn^+$						
	$(CH_3)_3Sn(CH_2)_3CH=CH_2$	34232-11-6	**	9.72 (V)	PE	4241
	$C_5H_9Sn(CH_3)_3$ (Stannane, cyclopentyltrimethyl-)	15095-84-8	**	8.72 (V)	PE	4457
$C_8H_{20}Sn^+$						
	$(C_2H_5)_4Sn$	597-64-8	**	8.87 (V)	PE	4457
			**	8.93 (V)	PE	5571
			**	9.0 (V)	PE	4985
	$(CH_3)_2(C_3H_7)_2Sn$	56535-52-5	**	8.8 (V)	PE	5571
	$(CH_3)_2$(*iso*-$C_3H_7)_2Sn$	XXXXX-XX-X	**	8.56 (V)	PE	5571
$C_9H_{14}Sn^+$						
	$C_6H_5(CH_3)_3Sn$ (Stannane, trimethylphenyl-)	934-56-5	**	8.83±0.05	PE	4589
			**	8.94 (V)	PE	4280
			**	~8.75	CTS	3922
$C_9H_{20}Sn^+$						
	$C_6H_{11}Sn(CH_3)_3$ (Stannane, cyclohexyltrimethyl-)	3531-48-4	**	8.57 (V)	PE	4457
$C_9H_{22}Sn^+$						
	(*iso*-$C_3H_7)_3SnH$	759-23-9	**	8.6 (V)	PE	4985
$C_{10}H_{10}Sn^+$						
	$(C_5H_5)_2Sn$ (Stannocene)	1294-75-3	**	7.75±0.05 (V)	PE	4853

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{10}H_{16}Sn^+$						
	$C_6H_5CH_2(CH_3)_3Sn$ (Stannane, trimethyl(phenylmethyl)-)	4314-94-7	**	8.08±0.05	PE	4589
	$C_6H_5CH_2(CH_3)_3Sn$ (Stannane, trimethyl(phenylmethyl)-)	4314-94-7	**	8.1 (V)	PE	4172
			**	8.21 (V)	PE	4280
			**	7.91	CTS	3922
$C_{10}H_{18}Sn^+$						
	$C_7H_9Sn(CH_3)_3$ (Stannane, bicyclo[2.2.1]hept-2-en-2-yltrimethyl-)	38573-92-1	**	8.45 (V)	PE	4457
$C_{10}H_{24}Sn^+$						
	$(CH_3)_2(C_4H_9)_2Sn$	1528-00-3	**	8.8 (V)	PE	5571
	$(CH_3)_2(tert\text{-}C_4H_9)_2Sn$	35569-11-0	**	8.22 (V)	PE	5571
$C_{12}H_{16}Sn^+$						
	$(C_9H_7)(CH_3)_3Sn$ (Stannane, 1*H*-inden-1-yltrimethyl-)	23022-40-4	**	7.29±0.01	EI	3805
$C_{12}H_{18}Sn^+$						
	$(C_9H_9)(CH_3)_3Sn$ (Stannane, (2,3-dihydro-1*H*-inden-1-yl)trimethyl-)	41273-55-6	**	7.29±0.01	EI	3805
$C_{12}H_{28}Sn^+$						
	$(C_3H_7)_4Sn$	2176-98-9	**	8.82 (V)	PE	5571
	$(n\text{-}C_4H_9)_3SnH$	688-73-3	**	8.8 (V)	PE	4985
	$(iso\text{-}C_3H_7)_4Sn$	2949-42-0	**	8.46 (V)	PE	5571
$C_{13}H_{16}Sn^+$						
	$C_{10}H_7Sn(CH_3)_3$ (Stannane, trimethyl-1-naphthalenyl-)	944-85-4	**	7.99	CTS	3922
$C_{13}H_{22}Sn^+$						
	$C_6H_5CH_2Sn(C_2H_5)_3$ (Stannane, triethyl(phenylmethyl)-)	18629-74-8	**	7.9 (V)	PE	4172
$C_{14}H_{13}Sn^+$						
	$C_{13}H_{10}Sn(CH_3)_2$ (Dibenzo[*b*,*e*]stannin, 5,10-dihydro-5,5-dimethyl-)	23708-66-9	CH_3	9.0	EI	4228
$C_{14}H_{18}Sn^+$						
	$C_{10}H_7CH_2(CH_3)_3Sn$ (Stannane, trimethyl(1-naphthalenylmethyl)-)	51220-36-1	**	~7.6	CTS	3922
$C_{14}H_{30}Sn^+$						
	$(CH_2{=}CH)(n\text{-}C_4H_9)_3Sn$	7486-35-3	**	8.6 (V)	PE	3850
$C_{15}H_{16}Sn^+$						
	$C_{13}H_{10}Sn(CH_3)_2$ (Dibenzo[*b*,*e*]stannin, 5,10-dihydro-5,5-dimethyl-)	23708-66-9	**	⩽8.6	EI	4228
$C_{15}H_{32}Sn^+$						
	$(CH_2{=}CHCH_2)(n\text{-}C_4H_9)_3Sn$	24850-33-7	**	8.4 (V)	PE	3850
$C_{16}H_{36}Sn^+$						
	$(C_4H_9)_4Sn$	1461-25-2	**	8.76 (V)	PE	5571
			**	8.7 (V)	PE	3850
	$(sec\text{-}C_4H_9)_4Sn$	6031-41-0	**	8.45 (V)	PE	5571
	$(iso\text{-}C_4H_9)_4Sn$	3531-43-9	**	8.68 (V)	PE	5571

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{18}H_{15}Sn^+$						
	$((C_6H_5)_3Sn)(CO)_5Mn$	14405-84-6		8.38±0.15	EI	5321
	(Manganese,pentacarbonyl(triphenylstannyl)-(OC-6-22)-)					
				9.00±0.24	EI	4204
	$(C_6H_5)_3SnFe(CO)_2C_5H_5$	12132-09-1		9.16±0.21	EI	4204
	(Iron, dicarbonyl(η^5-2,4-cyclopentadien-1-yl)(triphenylstannyl)-)					
	$((C_6H_5)_3Sn)(CO)_5Re$	15614-21-8		9.16±0.11	EI	5321
	(Rhenium,pentacarbonyl(triphenylstannyl)-(OC-6-22)-)					
$C_{18}H_{16}Sn^+$						
	$(C_6H_5)_3SnH$	892-20-6	**	9.11±0.05 (V)	PE	4620
	(Stannane, triphenyl-)					
$C_{19}H_{31}Sn^+$						
	$C_6H_5CH_2Sn(C_4H_9)_3$	28493-54-1	**	7.9 (V)	PE	4172
	(Stannane, tributyl(phenylmethyl)-)					
$C_{20}H_{44}Sn^+$						
	$((CH_3)_3CCH_2)_4Sn$	13356-21-3	**	8.58±0.1 (V)	PE	4242
			**	8.67 (V)	PE	5571
$C_{24}H_{20}Sn^+$						
	$(C_6H_5)_4Sn$	595-90-4	**	8.34±0.03	PI	4055
	(Stannane, tetraphenyl-)					
$C_6H_{18}Sn_2^+$						
	$((CH_3)_3Sn)_2$	661-69-8	**	8.02±0.15	EI	3548
$C_8H_{22}Sn_2^+$						
	$((CH_3)_3Sn)_2CHCH_3$	XXXXX-XX-X	**	8.25 (V)	PE	4457
	$(CH_3)_3Sn(CH_2)_2Sn(CH_3)_3$	56580-70-2	**	8.06 (V)	PE	4457
$C_9H_{24}Sn_2^+$						
	$(CH_3)_3Sn(CH_2)_3Sn(CH_3)_3$	35434-81-2	**	9.46 (V)	PE	4457
$C_{13}H_{28}Sn_2^+$						
	$C_7H_{10}(Sn(CH_3)_3)_2$	56580-71-3	**	8.0 (V)	PE	4457
	(Stannane, bicyclo[2.2.1]heptane-2,3-diylbis[trimethyl-,(2-*endo*, 3-*exo*)-)					
$C_8H_{21}N_4Sn^+$						
	$(N(CH_3)_2)_4Sn$	1066-77-9	**	7.67 (V)	PE	4588
$B_2C_7H_{21}N_3Sn^+$						
	$N_3B_2(CH_3)_4(CH_3)_3Sn$	53246-13-2	**	7.28 (V)	PE	4526
	(1,2,4,3,5-Triazadiborolidine, 1,2,3,5-tetramethyl-4-(trimethylstannyl)-)					
	$N_3B_2(CH_3)_4(CH_3)_3Sn$	53246-19-8	**	7.27 (V)	PE	4526
	(1,2,4,3,5-Triazadiborolidine, 1,3,4,5-tetramethyl-2-(trimethylstannyl)-)					
OSn^+						
	SnO	21651-19-4	**	9.5±1	EI	3819
$C_{13}H_{11}OSn^+$						
	$C_{12}H_8OSn(CH_3)_2$	1802-94-4	CH_3	9.4	EI	4228
	(10*H*-Phenoxastannin, 10,10-dimethyl-)					
			CH_3	9.40	EI	4228
			CH_3	8.5±0.1	EI	4664
	$C_{21}H_{16}O_2Sn_2(CH_3)_4$	51452-88-1		11.05	EI	4228
	(10*H*,20*H*-Tetrabenzo[*b*,*e*,*h*,*k*][1,7,4,10]dioxadistannacyclododecin, 10,10,20,20-tetramethyl-)					
$C_{14}H_{14}OSn^+$						
	$C_{12}H_8OSn(CH_3)_2$	1802-94-4	**	8.1	EI	4228
	(10*H*-Phenoxastannin, 10,10-dimethyl-)					

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{11}H_{14}OSn^+$						
	$C_{12}H_8OSn(CH_3)_2$	1802-94-4	**	8.0±0.1	EI	4664
$C_{12}H_{20}O_4Sn^+$						
	$C_{12}H_{20}O_4Sn$ (Tin,dimethylbis(2,4-pentanedionato-O,O')-(OC-6-21)-)	40866-48-6	**	8.35 (V)	PE	5103
$C_8H_{13}NOSn^+$						
	$C_5H_4N(O)Sn(CH_3)_3$ (Pyridine, 4-(trimethylstannyl)-, 1-oxide)	28867-09-6	**	8.04 (V)	PE	4222
F_2Sn^+						
	SnF_2	7783-47-3	**	8.0±0.1	PE	5054
$C_6H_{18}SiSn^+$						
	$((CH_3)_3Si)(CH_3)_3Sn$	16393-88-7	**	8.18±0.14	EI	3548
$C_{14}H_{38}Si_4Sn^+$						
	$(CH(Si(CH_3)_3)_2)_2Sn$	41823-72-7	**	7.42±0.05 (V)	PE	4725
$C_{16}H_{44}Si_4Sn^+$						
	$((CH_3)_3SiCH_2)_4Sn$	18547-12-1	**	8.71±0.1 (V)	PE	3830
$C_{14}H_{36}N_2Si_2Sn^+$						
	$C_{14}H_{36}N_2Si_2Sn$	55147-80-3	**	7.26±0.05 (V)	PE	4725
	$(N(Si(CH_3)_3)(tert\text{-}C_4H_9))_2Sn$	XXXXX-XX-X	**	7.25 (V)	PE	4157
$C_{12}H_{36}N_2Si_4Sn^+$						
			**	7.75±0.05 (V)	PE	4725
	$(N(Si(CH_3)_3)_2)_2Sn$	55147-78-9	**	7.75±0.05 (V)	PE	4725
SSn^+						
($^2\Pi_{1/2,3/2}$)	SnS	1314-95-0	**	9.42 (V)	PE	4967
($^2\Sigma$,$^2\Pi$)			**	10.20 (V)	PE	4550
			**	9.7±0.5 (V)	EI	4550
$C_4H_{12}SSn^+$						
	$(CH_3)_3SCH_3Sn$	993-46-4	**	8.37±0.05 (V)	PE	4153
$C_8H_{11}SSn^+$						
	$C_6H_5SSn(CH_3)_3$ (Stannane, trimethyl(phenylthio)-)	1007-27-8	CH_3	9.22±0.1	EI	4198
$C_9H_{14}SSn^+$						
	$C_6H_5S(CH_3)_3Sn$ (Stannane, trimethyl(phenylthio)-)	1007-27-8	**	8.40±0.05 (V)	PE	4589
			**	7.87±0.1	EI	4198
$C_{10}H_{16}SSn^+$						
	$C_6H_4(SCH_3)Sn(CH_3)_3$ (Stannane, trimethyl[4-(methylthio)phenyl]-)	17113-79-0	**	7.87±0.05 (V)	PE	4627
	$C_6H_5SCH_2Sn(CH_3)_3$ (Stannane, trimethyl[(phenylthio)methyl]-)	59163-59-6	**	7.74±0.05 (V)	PE	4627
$C_{11}H_{18}SSn^+$						
	$C_{11}H_{18}SSn$ (Stannane, trimethyl[[4-(methylthio)phenyl]methyl]-)	59163-58-5	**	7.70±0.05 (V)	PE	4627
$C_{13}H_{11}SSn^+$						
	$C_{12}H_8SSn(CH_3)_2$ (10*H*-Phenothiastannin, 10,10-dimethyl-)	42371-86-8	CH_3	9.4	EI	4228
			CH_3	8.9±0.1	EI	4664

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{11}H_{11}SSn^+$						
	$C_{12}H_8SSn(CH_3)_2$ (10*H*-Phenothiastannin, 10,10-dimethyl-)	42371-86-8	**	8.1	EI	4228
			**	8.0±0.1	EI	4664
$C_4H_{10}S_2Sn^+$						
	$C_2H_4S_2Sn(CH_3)_2$ (1,3,2-Dithiastannolane,2,2-dimethyl-)	1072-55-5	**	8.70 (V)	PE	5369
$C_5H_{12}S_2Sn^+$						
	$C_2H_3S_2Sn(CH_3)_3$ (1,3,2-Dithiastannolane,2,2,4-trimethyl-)	61235-66-3	**	8.15 (V)	PE	5369
$C_7H_{16}S_2Sn^+$						
	$C_2H_3S_2Sn(CH_3)(C_2H_5)_2$ (1,3,2-Dithiastannolane,2,2-diethyl-4-methyl-)	69032-03-7	**	7.98 (V)	PE	5369
$C_{11}H_{24}S_2Sn^+$						
	$C_2H_3S_2Sn(CH_3)(C_4H_9)_2$ (1,3,2-Dithiastannolane,2,2-dibutyl-4-methyl-)	61235-67-4	**	7.65 (V)	PE	5369
$C_4H_8S_4Sn^+$						
	$C_2H_4S_2SnS_2C_2H_4$ (1,4,6,9-Tetrathia-5-stannaspiro[4.4]nonane)	176-56-7	**	8.77 (V)	PE	5369
$C_6H_{12}S_4Sn^+$						
	$C_2H_3S_2(CH_3)SnS_2C_2H_3(CH_3)$ (1,4,6,9-Tetrathia-5-stannaspiro[4.4]nonane,2,7-dimethyl-)	7191-35-7	**	8.70 (V)	PE	5369
$C_6H_{18}SSn_2^+$						
	$((CH_3)_3Sn)_2S$	1070-91-3	**	8.22±0.05 (V)	PE	4153
			**	9.2±0.1	EI	4198
$C_6H_{15}NS_2Sn^+$						
	$(CH_3)_3(S_2CN(CH_3)_2)Sn$	33726-89-5	**	7.86 (V)	PE	5569
$C_{11}H_{25}NS_2Sn^+$						
	$(C_2H_5)_3(S_2CN(C_2H_5)_2)Sn$	XXXXX-XX-X	**	7.46 (V)	PE	5569
$C_{10}H_{24}N_2S_4Sn_2^+$						
	$((S_2CN(CH_3)_2)(CH_3)_2Sn)_2$	XXXXX-XX-X	**	7.70 (V)	PE	5569
$C_{22}H_{48}N_2S_4Sn_2^+$						
	$((S_2CN(CH_3)_2)(C_4H_9)_2Sn)_2$	XXXXX-XX-X	**	8.01 (V)	PE	5569
$C_{13}H_{11}O_2SSn^+$						
	$C_{12}H_8SSn(O)_2(CH_3)_2$ (10*H*-Phenothiastannin, 10,10-dimethyl- 5,5-dioxide)	17068-20-1	CH_3	9.6	EI	4228
$C_{14}H_{14}O_2SSn^+$						
	$C_{12}H_8SSn(O)_2(CH_3)_2$ (10*H*-Phenothiastannin, 10,10-dimethyl- 5,5-dioxide)	17068-20-1	**	⩽9.3	EI	4228
$C_5H_{15}PS_2Sn^+$						
	$(CH_3)_3(S_2P(CH_3)_2)Sn$	XXXXX-XX-X	**	8.60 (V)	PE	5569
$C_{12}H_{32}P_2S_4Sn_2^+$						
	$((CH_3)_2(S_2P(C_2H_5)_2)Sn)_2$	XXXXX-XX-X	**	8.34 (V)	PE	5569
$C_{24}H_{56}P_2S_4Sn_2^+$						
	$((C_4H_9)_2(S_2P(C_2H_5)_2)Sn)_2$	XXXXX-XX-X	**	8.35 (V)	PE	5569

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
Cl_2Sn^+						
	$SnCl_2$	7772-99-8	**	7.30 (V)	PE	4837
($^2B_1$)			**	10.31±0.05 (V)	PE	4826
($^2A_1$)			**	10.37±0.05 (V)	PE	4725
($^2B_2$)			**	11.0 (V)	PE	4725
($^2A_2$)			**	11.33±0.05 (V)	PE	4725
($^2B_2$)			**	12.12±0.05 (V)	PE	4725
($^2A_1$)			**	12.77±0.05 (V)	PE	4725
($^2A_1$)			**	15.90±0.05 (V)	PE	4725
($^2D_{5/2}$)			**	33.48 (V)	PE	5035
($^2D_{3/2}$)			**	34.53 (V)	PE	5035
$C_2H_6ClSn^+$						
	$((CH_3)_2SnCl)(CO)_5Mn$	17501-04-1		9.74±0.12	EI	5321
$C_3H_9ClSn^+$						
	$(CH_3)_3SnCl$	1066-45-1	**	9.90	PE	5168
			**	10.16 (V)	PE	4566
$C_9H_{13}ClSn^+$						
	$C_6H_4(CH_3)_3SnCl$ (Stannane, (4-chlorophenyl)trimethyl-)	14064-15-4	**	8.95 (V)	PE	4438
$C_{18}H_{15}ClSn^+$						
	$(C_6H_5)_3SnCl$ (Stannane, chlorotriphenyl-)	639-58-7	**	9.29±0.05 (V)	PE	4620
$C_2H_6Cl_2Sn^+$						
	$(CH_3)_2SnCl_2$	753-73-1	**	10.43	PE	5168
$C_{10}H_{14}O_4Cl_2Sn^+$						
	$C_{10}H_{14}O_4SnCl_2$ (Tin,dichlorobis(2,4-pentanedionato-O,O')-)	16919-46-3	**	9.10 (V)	PE	5103
$C_8H_9O_5MnSn^+$						
	$Mn(CO)_5Sn(CH_3)_3$	14126-94-4	**	8.63±0.05	PE	4492
			**	8.24±0.11	EI	5321
$C_{23}H_{15}O_5MnSn^+$						
	$((C_6H_5)_3Sn)(CO)_5Mn$ (Manganese,pentacarbonyl(triphenylstannyl)-(OC-6-22)-)	14405-84-6	**	7.94±0.11	EI	5321
$C_7H_6O_5ClMnSn^+$						
	$((CH_3)_2SnCl)(CO)_5Mn$	17501-04-1	**	8.21±0.12	EI	5321
$C_7H_9O_4CoSn^+$						
	$((CH_3)_3Sn)(CO)_4Co$	13964-90-4	**	8.25	PE	5321
$CuSn^+$						
	CuSn	12054-11-4	**	7.2±1.0	EI	5061
Cu_2Sn^+						
	Cu_2Sn	52935-15-6	**	7.7±1.0	EI	5061
$C_6H_{18}GeSn^+$						
	$(CH_3)_3GeSn(CH_3)_3$	16393-89-8	**	8.20±0.10	EI	3548
$SeSn^+$						
($X^2\Pi_{3/2}$)	SnSe	1315-06-6	**	9.0 (V)	PE	4967
Br_2Sn^+						
	$SnBr_2$	10031-24-0	**	6.84 (V)	PE	4837

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
Br_2Sn^+						
($^2B_1$)	$SnBr_2$	10031-24-0	**	9.85±0.05 (V)	PE	4826
($^2A_1$)			**	9.87±0.05 (V)	PE	4725
($^2Br_2$)			**	10.2 (V)	PE	4725
($^2A_2$)			**	10.65±0.05 (V)	PE	4725
($^2B_1$)			**	11.35±0.05 (V)	PE	4725
($^2A_1$)			**	12.05±0.05 (V)	PE	4725
($^2A_1$)			**	15.24±0.05 (V)	PE	4725
($^2D_{5/2}$)			**	33.15 (V)	PE	5035
($^2D_{3/2}$)			**	34.21 (V)	PE	5035
$C_3H_9BrSn^+$						
	$(CH_3)_3SnBr$	1066-44-0	**	9.60 (V)	PE	4566
$ClBrSn^+$						
	SnBrCl	13595-90-9	**	10.3±0.3	EI	3800
$ClBr_3Sn^+$						
	$SnBr_3Cl$	14779-73-8	**	11.1±0.3	EI	3800
$C_{13}H_{20}MoSn^+$						
	$(C_5H_5)_2(Sn(CH_3)_3)MoH$ (Molybdenum,bis(η^5-2,4-cyclopentadien-1-yl)hydro(trimethylstannyl)-)	51159-64-9	**	6.48±0.11	EI	5321
$C_{19}H_{26}O_4MoSn^+$						
	$C_{19}H_{26}O_4SnMo$ (Molybdenum,bis(η^5-2,4-cyclopentadien-1-yl)[3-methoxy-1-(methoxycarbonyl)-3-oxo-1-propenyl](trimethylstannyl)-)	51231-85-7	**	6.80±0.13	EI	5321
$C_{13}H_{19}ClMoSn^+$						
	$(C_5H_5)_2(Sn(CH_3)_3)MoCl$ (Molybdenum,chlorobis(η^5-2,4-cyclopentadien-1-yl)(trimethylstannyl)-)	51231-83-5	**	6.55±0.12	EI	5321
$C_{13}H_{19}BrMoSn^+$						
	$(C_5H_5)_2(Sn(CH_3)_3)MoBr$ (Molybdenum,bromobis(η^5-2,4-cyclopentadien-1-yl)(trimethylstannyl)-)	51231-84-6	**	6.60±0.13	EI	5321
Sb^+						
	Sb	7440-36-0	**	8.3±0.4	EI	4111
			**	8.68±0.06	EI	3956
	Sb_2	32679-33-7	Sb	11.5±0.5	EI	4111
Sb_2^+						
	Sb_2	32679-33-7	**	9.3±0.2	S	3567
			**	8.64±0.06	EI	3956
			**	8.9±0.3	EI	3961
			**	9.5±0.5	EI	3555
Sb_3^+						
	Sb_3	37267-70-2	**	7.50±0.13	EI	3956
			**	9.0±0.2	EI	3961
	Sb_4	12597-17-0	Sb	10.8±0.3	EI	3961
Sb_4^+						
	Sb_4	12597-17-0	**	7.70±0.06	EI	3956
			**	8.4±0.3	EI	3961
			**	9.1±0.3	EI	3555
H_3Sb^+						
	SbH_3	7803-52-3	**	9.51	PE	3719

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_3H_9Sb^+$						
	$(CH_3)_3Sb$	594-10-5	**	8.48 (V)	PE	4226
$C_5H_5Sb^+$						
	C_5H_5Sb (Antimonin)	289-75-8	**	8.3 (V)	PE	3832
$C_6H_5Sb^+$						
	$(C_6H_5)_3Sb$ (Stibine, triphenyl-)	603-36-1		8.7±0.1	PI	4325
$C_{12}H_{10}Sb^+$						
	$(C_6H_5)_3Sb$ (Stibine, triphenyl-)	603-36-1		9.0±0.1	PI	4325
$C_{18}H_{15}Sb^+$						
	$(C_6H_5)_3Sb$ (Stibine, triphenyl-)	603-36-1	**	7.26±0.05	PI	4325
			**	7.80±0.01	PE	4154
			**	8.08±0.05 (V)	PE	4368
$O_6Sb_4^+$						
	Sb_4O_6	72926-13-7	**	9.31 (V)	PE	5343
F_3Sb^+						
	SbF_3	7783-56-4	**	12.61±0.1	EI	3578
PSb^+						
	SbP	25889-81-0	**	9.9±0.3	EI	3596
Cl_3Sb^+						
	$SbCl_3$	10025-91-9	**	10.70 (V)	PE	5473
			**	10.73	PE	4146
$C_{21}H_{22}MnSb^+$						
	$C_{26}H_{22}O_2MnSb$ (Manganese,dicarbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl](triphenylstibine)-)	XXXXX-XX-X	2CO	8.38±0.03	EI	5576
	$C_{26}H_{22}OSMnSb$ (Manganese,(carbonothioyl)carbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl](triphenylstibine)-)	XXXXX-XX-X	CO+CS	8.83±0.03	EI	5576
$C_{25}H_{22}OMnSb^+$						
	$(CH_3C_5H_4)(CO)_2((C_6H_5)_3Sb)Mn$ (Manganese,dicarbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl](triphenylstibine)-)	XXXXX-XX-X	CO	8.46±0.04	EI	5576
$C_{26}H_{22}O_2MnSb^+$						
	$(CH_3C_5H_4)(CO)_2((C_6H_5)_3Sb)Mn$ (Manganese,dicarbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl](triphenylstibine)-)	XXXXX-XX-X	**	6.37±0.03	EI	5576
$C_{25}H_{22}SMnSb^+$						
	$C_{26}H_{22}OSMnSb$ (Manganese,(carbonothioyl)carbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl](triphenylstibine)-)	XXXXX-XX-X	CO	7.30±0.04	EI	5576
$C_{26}H_{22}OSMnSb^+$						
	$C_{26}H_{22}OSMnSb$ (Manganese,(carbonothioyl)carbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl](triphenylstibine)-)	XXXXX-XX-X	**	6.61±0.03	EI	5576

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$SbGa^+$						
	SbGa	12064-03-8	**	7.6±1.0	EI	4111
Br_3Sb^+						
	$SbBr_3$	7789-61-9	**	9.77 (V)	PE	4146
			**	10.07 (V)	PE	5473
$C_{23}H_{15}O_5MoSb^+$						
	$(C_6H_5)_3(CO)_5SbMo$ (Molybdenum, pentacarbonyl(triphenylstibine)-(OC-6-22)-)	19212-21-6	**	7.90±0.05	EI	4600
Te_2^+						
($^2\Pi_{g,1/2}$)	Te_2	10028-16-7	**	8.05	PE	5475
($^3\Pi$)			**	8.22 (V)	PE	4643
($^2\Pi_{g,1/2}$)			**	8.30 (V)	PE	4662
($^2\Pi_{g,3/2}$)			**	8.77 (V)	PE	4662
($^1\Pi_u$)			**	9.42 (V)	PE	4662
($^1\Pi_u$)			**	9.44 (V)	PE	4643
			**	10.10 (V)	PE	4662
($^1\Sigma_g^-$)			**	11.02 (V)	PE	4662
			**	11.58 (V)	PE	4662
($^3\Sigma_g^-$)			**	11.87 (V)	PE	4662
			**	12.42 (V)	PE	4662
Te_3^+						
	Te_3	50645-41-5	**	9.3	EI	5294
Te_4^+						
	Te_4	12597-49-8	**	9.5	EI	5294
Te_5^+						
	Te_5	50645-42-6	**	7.4	EI	5294
Te_6^+						
	Te_6	XXXXX-XX-X	**	7.2	EI	5294
HTe^+						
	TeH	13940-36-8	**	9.09	S	3742
	H_2Te	7783-09-7	H	11.9±0.2	EI	4610
H_2Te^+						
($^2B_1$)	H_2Te	7783-09-7	**	9.14	PE	3719
($^2A_1$)			**	11.63	PE	3719
($^2B_2$)			**	13.04	PE	3719
($^2A_1$)			**	18.6 (V)	PE	3719
			**	9.2±0.1	EI	4610
$C_2H_6Te^+$						
	$(CH_3)_2Te$	593-80-6	**	7.926±0.010	S	3970
			**	7.89 (V)	PE	3656
$C_4H_4Te^+$						
	C_4H_4Te (Tellurophene)	288-08-4	**	8.27	PE	3858
			**	8.40±0.03	PE	3804
			**	8.40±0.05 (V)	PE	4626
			**	8.60±0.1	EI	3804
			**	8.32	CTS	4382
$C_4H_8Te^+$						
	C_4H_8Te (Tellurophene, tetrahydro-)	3465-99-4	**	7.73 (V)	PE	4145

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_6Te^+$						
	$C_4H_3TeCH_3$ (Tellurophene, 2—methyl–)	35246–25–4	**	8.20±0.05 (V)	PE	4626
			**	8.25±0.1	EI	3804
			**	8.22	CTS	4382
$C_7H_8Te^+$						
	$C_6H_5TeCH_3$ (Benzene,(methyltelluro)–)	872–89–9	**	7.6 (V)	PE	5520
$C_8H_6Te^+$						
	C_8H_6Te (Benzo[b]tellurophene)	272–35–5	**	7.76±0.05	PE	4435
OTe^+						
($^2\Pi_{1/2}$)	TeO	13451–17–7	**	8.72 (V)	PE	4643
($^2\Pi_{3/2}$)			**	9.32 (V)	PE	4643
($^1\Pi$)			**	10.80 (V)	PE	4643
($^2\Pi + {}^1\Sigma$)			**	11.17 (V)	PE	4643
($^2\Sigma$)			**	12.00 (V)	PE	4643
($^2\Pi$?)			**	12.7 (V)	PE	4643
($^2\Pi$)			**	13.49 (V)	PE	4643
O_2Te^+						
($^2A_1 + {}^2A_2 + {}^2B_2$)	TeO_2	59863–17–1	**	11.17 (V)	PE	4643
			**	12.7 (V)	PE	4643
			**	13.49 (V)	PE	4643
$C_5H_4OTe^+$						
	C_4H_3TeCHO (2–Tellurophenecarboxaldehyde)	35273–64–4	**	8.88±0.1	EI	3804
$C_6H_6OTe^+$						
	$C_4H_3TeCOCH_3$ (Ethanone, 1–tellurophene–2–yl–)	35273–65–5	**	8.60±0.1	EI	3804
$C_{12}H_8OTe^+$						
	$C_{12}H_8OTe$ (Phenoxatellurin)	262–24–8	**	7.61±0.05 (V)	PE	4743
$C_5H_4O_2Te^+$						
	$C_4H_3TeCOOH$ (2–Tellurophenecarboxylic acid)	35246–22–1	**	8.62±0.05 (V)	PE	4626
			**	8.80±0.1	EI	3804
$C_6H_6O_2Te^+$						
	$C_4H_3TeCOOCH_3$ (2–Tellurophenecarboxylic acid methyl ester)	35246–23–2	**	8.51±0.05 (V)	PE	4626
			**	8.64±0.1	EI	3804
$C_7H_9NOTe^+$						
	$C_4H_3TeCON(CH_3)_2$ (2–Tellurophenecarboxamide, N,N–dimethyl–)	55685–52–4	**	8.39±0.05 (V)	PE	4626
$Si_2H_6Te^+$						
	$(SiH_3)_2Te$	19415–73–7	**	8.63 (V)	PE	3656
PTe^+						
	TeP	51890–39–2	**	7.8±1.0	EI	4001
$C_4H_4STe^+$						
	C_4H_4STe (1,4–Thiatellurin)	3092–46–4	**	7.9±0.1 (V)	PE	4841

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_6STe^+$						
	$C_4H_3TeSCH_3$ (Tellurophene, 2-(methylthio)-)	51299-95-7	**	8.15±0.1	EI	3804
$C_4H_3ClTe^+$						
	C_4H_3TeCl (Tellurophene, 2-chloro-)	59163-66-5	**	8.68±0.05 (V)	PE	4626
$GeTe^+$						
($X^2\Pi_{3/2}$)	GeTe	12025-39-7	**	9.1 (V)	PE	4967
$H_6Ge_2Te^+$						
	$(GeH_3)_2Te$	24312-07-0	**	8.34 (V)	PE	3656
$SeTe^+$						
	SeTe	12067-42-4	**	8.8±0.3	EI	4682
$C_4H_3BrTe^+$						
	C_4H_3TeBr (Tellurophene, 2-bromo-)	59163-67-6	**	8.59±0.05 (V)	PE	4626
$SnTe^+$						
($^2\Pi_{3/2}$)	SnTe	12040-02-7	**	8.61 (V)	PE	4967
($^2\Pi_{3/2}$)			**	8.65 (V)	PE	4550
($^2{}_{1/2}$)			**	8.95 (V)	PE	4550
($^2\Pi$)			**	9.39 (V)	PE	4550
I^+						
($^3P_2$)	$I(^2P^\circ_{3/2})$	14362-44-8	**	10.43±0.02	PE	5087
($^3P_2$)			**	10.45	PE	5178
($^3P_0$)			**	11.23±0.02	PE	5087
($^3P_0$)			**	11.25	PE	5178
($^3P_1$)			**	11.30±0.02	PE	5087
($^3P_1$)			**	11.33	PE	5178
($^1D_2$)			**	12.13±0.02	PE	5087
($^1D_2$)			**	12.15	PE	5178
			**	10.5	EI	5177
	I_2	7553-56-2	I	13.0	EI	5177
	HI	10034-85-2		13.49±0.13	PI	4991
	CH_2I_2	75-11-6	CH_2I	13.2±0.1	EI	3442
			CH_2I	13.8	EI	3490
	AgI	7783-96-2	Ag	11.1	EI	4313
I_2^+						
($^2\Pi_{3/2g}$)	I_2	7553-56-2	**	9.311±0.002	PE	3870
($^2\Pi_{1/2g}$)			**	9.953±0.002	PE	3870
			**	9.5	EI	5177
	Ag_3I_3	37375-12-5		10.2	EI	4313
	WO_2I_2	14447-89-3		15.0±0.8	EI	3451
I_2^{+2}						
	I_2	7553-56-2	**	25.5±0.4	EI	4052
				25.5±0.4	EI	4311
HI^+						
($^2\Pi_{3/2}$)	HI	10034-85-2	**	10.386±0.001	S	4991
($^2\Pi_{1/2}$)			**	11.0495±0.001	S	4991
DI^+						
($^2\Pi_{3/2}$)	DI	14104-45-1	**	10.387	S	4991
($^2\Pi_{1/2}$)			**	11.0505±0.001	S	4991

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
LiI^+						
	LiI	10377-51-2	**	8.44±0.03 (V)	PE	4950
$Li_2I_2^+$						
	$(LiI)_2$	37279-36-0	**	9.23±0.06 (V)	PE	4950
$H_8B_5I^+$						
	B_5H_8I (Pentaborane(9), 1-iodo-)	30624-33-0	**	9.06 (V)	PE	4519
	B_5H_8I (Pentaborane(9), 2-iodo-)	20199-87-5	**	9.30 (V)	PE	4519
$C_1I_2^+$						
	ClC≡CCl	53214-97-4	**	8.76±0.02	PE	4162
CH_2I^+						
	CH_2I_2	75-11-6	**	10.55±0.02	PI	4640
CH_3I^+						
	CH_3I	74-88-4	**	9.538	S	3748
			**	9.538	S	5245
			**	9.533±0.01	PI	4640
			**	9.52	PE	3532
			**	9.53 (V)	PE	5249
			**	9.54	PE	4194
			**	9.9 (V)	PE	4193
			**	10.14	PE	3532
			**	9.48±0.03	EI	3626
C_2HI^+						
	CH≡CI	14545-08-5	**	9.7397	S	3751
$C_2H_3I^+$						
	C_2H_3I	593-66-8	**	9.296	S	5145
			**	9.32 (V)	PE	4194
			**	9.33	PE	3863
			**	9.35 (V)	PE	4310
			**	9.32	PE	4542
$C_2H_3I^+$						
	C_2H_3I	75-03-6	**	9.346	S	3748
			**	9.33 (V)	PE	5249
			**	9.34 (V)	PE	4076
			**	9.34 (V)	PE	5088
			**	9.35	PE	3532
			**	9.35	PE	4194
			**	9.45±0.02 (V)	PE	3987
			**	9.6 (V)	PE	4193
$C_3H_3I^+$						
	CH_3C≡CI	624-66-8	**	9.18±0.02	PE	4765
				9.20	EI	5282
$C_3H_5I^+$						
	CH_2CHCH_2I	556-56-9	**	9.298	S	5145
			**	9.25 (V)	PE	4260
			**	9.30	PE	4091
			**	9.30 (V)	PE	3863
			**	9.32 (V)	PE	4194
			**	9.37	PE	5145

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_3H_7I^+$						
	n-C_3H_7I	107-08-4	**	9.269	S	3748
			**	9.26	PI	5069
			**	9.25	PE	3532
			**	9.26	PE	4194
			**	9.27	PE	4076
			**	9.5 (V)	PE	4193
	iso-C_3H_7I	75-30-9	**	9.175	S	5145
			**	9.18	PI	5069
			**	9.18	PE	4194
			**	9.18	PE	5145
			**	9.19	PE	3532
			**	9.4 (V)	PE	4193
			**	9.2±<0.1	EI	3735
C_4HI^+						
	$CH{\equiv}CC{\equiv}CI$	6088-91-1	**	9.24±0.02	PE	4162
$C_4H_3I^+$						
	$CH_2CHC{\equiv}CI$	40589-39-7	**	8.94±0.02	PE	4374
$C_4H_9I^+$						
	n-C_4H_9I	542-69-8	**	9.229	S	3748
			**	9.23	PE	3532
			**	9.23	PE	4194
			**	9.24	PE	4076
			**	9.5 (V)	PE	4193
	sec-C_4H_9I	513-48-4	**	9.4 (V)	PE	4193
	iso-C_4H_9I	513-38-2	**	9.202	S	5145
			**	9.20	PE	4194
			**	9.20	PE	5145
			**	9.4 (V)	PE	4193
			**	9.04	PE	5145
			**	9.04	PE	4194
			**	9.08	PE	3532
			**	9.4 (V)	PE	4193
$C_5H_3I^+$						
	$CH_3C{\equiv}CC{\equiv}CI$	40201-91-0	**	8.82±0.02	PE	4162
$C_5H_9I^+$						
	C_5H_9I (Cyclopentane, iodo-)	1556-18-9	**	9.076	S	5145
			**	9.07	PE	4194
			**	9.07	PE	5145
$C_5H_{11}I^+$						
	$CH_2ICH_2CH(CH_3)_2$	541-28-6	**	9.192	S	5145
			**	9.20	PE	4194
			**	9.20	PE	5145
	n-$C_5H_{11}I$	628-17-1	**	9.201	S	3748
			**	9.20	PE	4194
			**	9.22	PE	3532
			**	9.4 (V)	PE	4193
$C_6H_5I^+$						
	C_6H_5I (Benzene, iodo-)	591-50-4	**	8.67	PE	4194
			**	8.67 (V)	PE	5125
			**	8.70	PE	4621
			**	8.801 (V)	PE	5257
			**	9.05	EI	4834

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_{11}I^+$						
	$C_6H_{11}I$ (Cyclohexane, iodo-)	626-62-0	**	9.003	S	5145
			**	8.91	PE	4194
			**	8.91	PE	5145
$C_6H_{13}I^+$						
	n-$C_6H_{13}I$	638-45-9	**	9.179	S	3748
			**	9.20	PE	1494
$C_7H_7I^+$						
	$C_6H_5CH_2I$ (Benzene, (iodomethyl)-)	620-05-3	**	8.91 (V)	PE	3992
	$C_6H_4ICH_3$ (Benzene, 1-iodo-2-methyl-)	615-37-2	**	8.53±0.1	EI	3777
	$C_6H_4ICH_3$ (Benzene, 1-iodo-3-methyl-)	625-95-6	**	8.55±0.1	EI	3777
	$C_6H_4ICH_3$ (Benzene, 1-iodo-4-methyl-)	624-31-7	**	8.38	PE	4621
			**	8.60±0.1	EI	3777
$C_8H_5I^+$						
	$C_6H_5C{\equiv}CI$ (Benzene, (iodoethynyl)-)	932-88-7	**	8.55 (V)	PE	4334
$C_{11}H_9I^+$						
	$C_{11}H_9(I)$ (1,4-Methanonaphthalene, 1,4-dihydro-5-iodo-)	63608-69-5	**	8.52±0.05 (V)	PE	5019
	$C_{11}H_9(I)$ (1,4-Methanonaphthalene, 1,4-dihydro-6-iodo-)	63509-78-4	**	8.29±0.05 (V)	PE	5019
$C_{12}H_9I^+$						
	$C_6H_5C_6H_4I$ (1,1'-Biphenyl, 2-iodo-)	2113-51-1	**	8.20±0.02	PE	3702
CHI_2^+						
	CHI_3	75-47-8	**	9.77±0.02	PI	4640
$CH_2I_2^+$						
	CH_2I_2	75-11-6	**	9.46±0.02	PI	4640
$C_2H_2I_2^+$						
	cis-CHI=CHI	590-26-1	**	8.94 (V)	PE	4310
	$trans$-CHI=CHI	590-27-2	**	8.92 (V)	PE	4310
			**	8.92 (V)	PE	3648
$C_2H_4I_2^+$						
	CH_2ICH_2I	624-73-7	**	9.50±0.02 (V)	PE	4367
$C_6H_4I_2^+$						
	$C_6H_4I_2$ (Benzene,1,4-diiodo-)	624-38-4	**	8.60 (V)	PE	5257
CHI_3^+						
	CHI_3	75-47-8	**	9.25±0.02	PI	4640
			**	9.21	PE	5198
$BC_2H_6I^+$						
	$(CH_3)_2IB$	17933-09-4	**	9.48 (V)	PE	4398
$B_1C_2H_5I^+$						
	$C_2B_1H_5I$ (1,6-Dicarbahexaborane(6),2-iodo-)	38744-24-0	**	9.16 (V)	PE	5553

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$B_4C_2H_4I_2^+$						
	$C_2B_4H_4I_2$ (1,6-Dicarbahexaborane(6),2,4-diiodo-)	XXXXX-XX-X	**	8.86 (V)	PE	5553
C_3NI^+						
	ICCN	2003-32-9	**	10.18±0.02	PE	4765
$C_6H_6NI^+$						
	$C_6H_4INH_2$ (Benzenamine, 2-iodo-)	615-43-0	**	8.35	EI	4834
	$C_6H_4(I)NH_2$ (Benzenamine, 4-iodo-)	540-37-4	**	7.51	PE	4621
	$C_6H_4INHCOCH_3$ (Acetamide, *N*-(2-iodophenyl)-)	19591-17-4	$CH_2=C=O$	10.48±0.03	EI	3483
	$C_6H_4INHCOCH_3$ (Acetamide, *N*-(4-iodophenyl)-)	622-50-4	$CH_2=C=O$	9.72±0.03	EI	3483
$C_7H_4NI^+$						
	$C_6H_4(I)CN$ (Benzonitrile, 4-iodo-)	3058-39-7	**	9.13	PE	4621
$C_7H_{12}NI^+$						
	$C_7H_{12}NI$ (1-Azabicyclo[2.2.2]octane, 4-iodo-)	27701-90-2	**	8.35±0.015 (V)	PE	4286
$C_{13}H_{10}NI^+$						
	$C_6H_4IC(=CH_2)C_5H_4N$ (Pyridine,2-[1-(2-iodophenyl)ethenyl]-)	XXXXX-XX-X	**	8.3	OTH	5570
$C_9H_{10}N_2I^+$						
	$C_6H_4(I)N=CHN(CH_3)_2$ (Methanimidamide, *N'*-(2-iodophenyl)-*N*,*N*-dimethyl-)	53666-10-7	H	8.7	EI	4337
$C_9H_{11}N_2I^+$						
	$C_6H_4(I)N=CHN(CH_3)_2$ (Methanimidamide, *N'*-(2-iodophenyl)-*N*,*N*-dimethyl-)	53666-10-7	**	7.3	EI	4337
$C_{25}H_{25}N_2I^+$						
	$C_{25}H_{25}N_2I$ (Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1*H*)-quinolinylidene)-1-propenyl]-, iodide)	605-91-4	**	7.25	PI	3586
$C_{29}H_{35}N_2I^+$						
	$C_{29}H_{35}N_2I$ (Quinolinium, 1-(3-methylbutyl)-4-[[1-(3-methylbutyl)-4(1*H*)-quinolinylidene]methyl]-, iodide)	523-42-2	**	7.35	PI	3586
$BC_4H_{12}N_2I^+$						
	$((CH_3)_2N)_2BI$	7318-71-0	**	8.11 (V)	PE	3704
$BC_2H_6NI_2^+$						
	$(CH_3)_2NBI_2$	7318-72-1	**	8.95 (V)	PE	3704
$C_2H_5OI^+$						
	CH_2ICH_2OH	624-76-0	**	9.66±0.07 (V)	PE	3987
	CH_2ICH_2OH-gauche	XXXXX-XX-X	**	9.73 (V)	PE	5088
	trans-CH_2ICH_2OH	XXXXX-XX-X	**	9.60 (V)	PE	5088
$C_3H_7OI^+$						
	$CH_2ICH_2OCH_3$	4296-15-5	**	9.43±0.04 (V)	PE	3987
	$CH_2ICH_2OCH_3$-gauche	XXXXX-XX-X	**	9.43 (V)	PE	5088
	trans-$CH_2ICH_2OCH_3$	XXXXX-XX-X	**	9.40 (V)	PE	5088

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_6H_5OI^+$						
	C_6H_4(I)OH (Phenol, 4-iodo-)	540-38-5	**	8.06	PE	4621
	$C_6H_4IOOCCH_3$ (Phenol, 2-iodo-, acetate)	32865-61-5	$CH_2=C=O$	9.72±0.03	EI	3483
	$C_6H_4IOOCCH_3$ (Phenol, 4-iodo-, acetate)	33527-94-5	$CH_2=C=O$	9.38±0.03	EI	3483
$C_7H_7OI^+$						
	$C_6H_4IOCH_3$ (Benzene, 1-iodo-4-methoxy-)	696-62-8	**	7.97	PE	4621
$C_2H_3O_2I^+$						
	CH_3ICOOH	64-69-7	**	11.03 (V)	PE	3874
$C_8H_7O_2I^+$						
	C_6H_4(I)$COOCH_3$ (Benzoic acid, 4-*iodo*-,*methyl ester*)	619-44-3	**	8.73	PE	4621
	$C_6H_4IOOCCH_3$ (Phenol, 2-iodo-, acetate)	32865-61-5	**	8.25±0.03	EI	3483
	$C_6H_4IOOCCH_3$ (Phenol, 4-iodo-, acetate)	33527-94-5	**	8.20±0.03	EI	3483
$C_6H_4OI_2^+$						
	$C_6H_3I_2OOCCH_3$ (Phenol, 2,4-diiodo-, acetate)	36914-80-4	$CH_2=C=O$	8.94±0.03	EI	3480
	$C_6H_3I_2OOCCH_3$ (Phenol, 2,6-diiodo-, acetate)	28165-73-3	$CH_2=C=O$	9.18±0.03	EI	3480
$C_8H_6O_2I_2^+$						
	$C_6H_3I_2OOCCH_3$ (Phenol, 2,4-diiodo-, acetate)	36914-80-4	**	7.90±0.03	EI	3480
	$C_6H_3I_2OOCCH_3$ (Phenol, 2,6-diiodo-, acetate)	28165-73-3	**	8.07±0.03	EI	3480
$CNOI^+$						
	INCO	3607-48-5	**	9.89±0.01	PE	5001
$C_8H_8NOI^+$						
	$C_6H_4INHCOCH_3$ (Acetamide, N-(2-iodophenyl)-)	19591-17-4	**	8.45	EI	4834
			**	7.98±0.03	EI	3483
	$C_6H_4INHCOCH_3$ (Acetamide, *N*-(4-iodophenyl)-)	622-50-4	**	7.87±0.03	EI	3483
$C_{12}H_8NOI^+$						
	$C_6H_4ICOC_5H_4N$ (Methanone, (2-iodophenyl)-2-pyridinyl-)	XXXXX-XX-X	**	8.76	EI	5459
$C_7H_7N_2OI^+$						
	$C_6H_4INHCONH_2$ (Urea, (2-iodophenyl)-)	13114-93-7	**	8.30	EI	4834
$C_6H_4NO_2I^+$						
	C_6H_4(I)NO_2 (Benzene, 1-iodo-4-nitro-)	636-98-6	**	9.24	PE	4621
FI^+						
($^2\Pi_{3/2}$)	IF	13873-84-2	**	10.54±0.01	PE	4755
($^2\Pi_{1/2}$)			**	11.24±0.01	PE	4755
($^2\Sigma$)			**	15.22±0.01 (V)	PE	4755
($^2\Pi$)			**	15.94±0.01 (V)	PE	4755

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
F_5I^+						
	IF_5	7783-66-6	**	12.943±0.005	PE	3655
CF_3I^+						
	CF_3I	2314-97-8	**	10.45±0.05 (V)	PE	4727
$C_3F_3I^+$						
	$CF_3C{\equiv}CI$	39130-85-3	**	10.17±0.02	PE	4765
$C_2F_5I^+$						
	C_2F_5I	354-64-3	**	10.66±0.1	EI	4862
$C_6F_5I^+$						
	C_6F_5I (Benzene,pentafluoroiodo-)	827-15-6	**	9.54 (V)	PE	5252
$C_2F_4I_2^+$						
	$(CF_2I)_2$	354-65-4	**	10.11±0.01 (V)	PE	4613
$C_2H_2F_3I^+$						
	CF_3CH_2I	353-83-3	**	9.998	S	5145
NaI^+						
	NaI	7681-82-5	**	7.64±0.02	PI	3536
($^2P_{3/2}$)			**	7.60±0.1	PE	4344
($^2P_{3/2}$)			**	7.60±0.1	PE	5035
			**	8.0 (V)	PE	4307
($^2P_{1/2}$)			**	9.21±0.04 (V)	PE	4344
($^2P_{1/2}$)			**	9.21±0.04 (V)	PE	5035
MgI_2^+						
	MgI_2	10377-58-9	**	9.57±0.03	PI	3536
			**	10.5 (V)	PE	4761
AlI^+						
	AlI	29977-41-1	**	9.3±0.3	EI	5067
AlI_3^+						
	AlI_3	7784-23-8	**	9.66 (V)	PE	4398
			**	9.66 (V)	PE	4256
$C_2H_6AlI^+$						
	$(CH_3)_2IAl$	2938-72-9	**	9.48 (V)	PE	4398
$CH_3AlI_2^+$						
	CH_3I_2Al	2938-46-7	**	9.73 (V)	PE	4398
$C_4H_{12}Al_2I_2^+$						
	$((CH_3)_2IAl)_2$	59585-02-3	**	9.38 (V)	PE	4559
H_3SiI^+						
	SiH_3I	13598-42-0	**	9.78±0.02 (V)	PE	3510
			**	10.05±0.05 (V)	PE	3502
$H_2SiI_2^+$						
	SiH_2I_2	13760-02-6	**	9.69±0.02 (V)	PE	3510
$C_5H_9SiI^+$						
	$(CH_3)_3SiC{\equiv}CI$	18163-47-8	**	9.1±0.1	PE	4002
PI_3^+						
	PI_3	13455-01-1	**	9.15 (V)	PE	4023

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
F_2PI^+						
	PF_2I	13819-11-9	**	10.1±0.1 (V)	PE	3662
			**	9.6±0.1	EI	4305
$C_4SI_4^+$						
	C_4SI_4 (Thiophene, tetraiodo-)	19259-11-1	**	8.27 (V)	PE	4690
$C_4H_3SI^+$						
	C_4H_3SI (Thiophene, 3-iodo-)	10486-61-0	**	8.46 (V)	PE	4690
$C_4H_3SI^+$						
	C_4H_3SI (Thiophene, 2-iodo-)	3437-95-4	**	8.46 (V)	PE	4690
			**	8.52±0.05 (V)	PE	4626
$C_6H_3S_2I^+$						
	$C_6H_3S_2I$ (Thieno[2,3-*b*]thiophene,2-iodo-)	53020-10-3	**	8.18 (V)	PE	5478
	$C_6H_3S_2I$ (Thieno[2,3-*b*]thiophene,3-iodo-)	53020-11-4	**	8.24 (V)	PE	5478
$C_4H_2SI_2^+$						
	$C_4H_2SI_2$ (Thiophene, 2,5-diiodo-)	625-88-7	**	8.28 (V)	PE	4690
			**	8.32	EI	3787
			**	8.35	CTS	3787
	$C_4H_2SI_2$ (Thiophene, 3,4-diiodo-)	19259-08-6	**	8.45 (V)	PE	4690
$C_8H_8NSI^+$						
	$C_6H_4INHCSCH_3$ (Ethanethioamide, N-(2-iodophenyl)-)	39184-84-4	**	8.10	EI	4834
$C_7H_7N_2SI^+$						
	$C_6H_4INHCSNH_2$ (Thiourea, (2-iodophenyl)-)	62635-52-3	**	8.15	EI	4834
ClI^+						
($^2\Pi_{3/2}$)	ICl	7790-99-0	**	10.088±0.01	S	4027
($^2\Pi_{1/2}$)			**	10.662±0.01	S	4027
KI^+						
($^2P_{3/2}$)	KI	7681-11-0	**	7.21±0.1	PE	4344
($^2P_{3/2}$)			**	7.21±0.1	PE	5035
			**	7.4 (V)	PE	4307
($^2P_{1/2}$)			**	8.66±0.04 (V)	PE	5035
CaI^+						
	CaI	15923-87-2	**	6.1±0.3	EI	5067
CaI_2^+						
	CaI_2	10102-68-8	**	10.1 (V)	PE	4761
TiI_4^+						
	TiI_4 (JC-Mean value of Jahn-Teller components)	7720-83-4	**	9.27 (V)	PE	4694
$C_{10}H_{10}I_2Ti^+$						
	(η-C_5H_5)$_2TiI_2$ (Titanium,bis(η^5-2,4-cyclopentadien-1-yl)diiodo-)	12152-92-0	**	8.0±0.1 (V)	PE	4987

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
MnI^+						
	$(C_5H_5)(CS)(NO)MnI$	58450-74-1		16.15±0.04	EI	5561
	(Manganese,(carbonothioyl)(η^5-2,4-cyclopentadien-1-yl)iodonitrosyl-)					
	$(CH_3C_5H_4)(CS)(NO)MnI$	XXXXX-XX-X		17.11±0.03	EI	5561
	(Manganese,(carbonothioyl)](1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]iodonitrosyl-)					
$C_5H_5MnI^+$						
	$(C_5H_5)(CS)(NO)MnI$	58450-74-1	NO+CS	10.92±0.03	EI	5561
	(Manganese,(carbonothioyl)(η^5-2,4-cyclopentadien-1-yl)iodonitrosyl-)					
$C_6H_7MnI^+$						
	$(CH_3C_5H_4)(CS)(NO)MnI$	XXXXX-XX-X	NO+CS	10.93±0.02	EI	5561
	(Manganese,(carbonothioyl)[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]iodonitrosyl-)					
$C_5O_5MnI^+$						
	$(CO)_5MnI$	14879-42-6	**	8.40±0.05 (V)	PE	4492
			**	8.44-8.74 (V)	PE	3866
$CSMnI^+$						
	$(C_5H_5)(CS)(NO)MnI$	58450-74-1	NO+C_5H_5	13.97±0.03	EI	5561
	(Manganese,(carbonothioyl)(η^5-2,4-cyclopentadien-1-yl)iodonitrosyl-)					
	$(CH_3C_5H_4)(CS)(NO)MnI$	XXXXX-XX-X		14.91±0.04	EI	5561
	(Manganese,(carbonothioyl)](1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]iodonitrosyl-)					
$C_6H_5SMnI^+$						
	$(C_5H_5)(CS)(NO)MnI$	58450-74-1	NO	8.81±0.02	EI	5561
	(Manganese,(carbonothioyl)(η^5-2,4-cyclopentadien-1-yl)iodonitrosyl-)					
$C_7H_7SMnI^+$						
	$(CH_3C_5H_4)(CS)(NO)MnI$	XXXXX-XX-X	NO	8.90±0.02	EI	5561
	(Manganese,(carbonothioyl)[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]iodonitrosyl-)					
$C_6H_5NOSMnI^+$						
	$(C_5H_5)(CS)(NO)MnI$	58450-74-1	**	7.45±0.02	EI	5561
	(Manganese,(carbonothioyl)(η^5-2,4-cyclopentadien-1-yl)iodonitrosyl-)					
$C_7H_7NOSMnI^+$						
	$(CH_3C_5H_4)(CS)(NO)MnI$	XXXXX-XX-X	**	7.35±0.02	EI	5561
	(Manganese,(carbonothioyl)[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]iodonitrosyl-)					
$C_4O_4FeI_2^+$						
	$(CO)_4FeI_2$	14911-55-8	**	8.76 (V)	PE	4431
$C_7H_5O_2FeI^+$						
	$C_5H_5(CO)_2FeI$	12078-28-3	**	7.77 (V)	PE	4570
	(Iron, dicarbonyl (η^5-2,4-cyclopentadien-1-yl)iodo-)					
			**	7.81 (V)	PE	4565
$Cu_3I_3^+$						
	$(CuI)_4$	67244-68-2	**	8.99±0.02 (V)	PE	4839
ZnI_2^+						
($^2\Pi_{3/2g}$)	ZnI_2	10139-47-6	**	9.73±0.05 (V)	PE	3833
($^2\Pi_{3/2g}$)			**	9.7 (V)	PE	3963
($^2\Pi_{3/2g}$)			**	9.76 (V)	PE	4232
($^2\Pi_{3/2u}$)			**	10.2 (V)	PE	3963
($^2\Pi_{1/2g}$,$^2\Pi_u$)			**	10.32±0.05 (V)	PE	3833
($^2\Pi_{1/2g}$)			**	10.32 (V)	PE	4232
($^2\Pi_{1/2g}$)			**	10.35 (V)	PE	3963

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
ZnI_2^+						
($^2\Pi_{3/2u}$)	ZnI_2	10139-47-6	**	10.40 (V)	PE	4232
($^2\Pi_{1/2u}$)			**	10.5 (V)	PE	3963
($^2\Pi_{1/2u}$)			**	10.575 (V)	PE	4232
($^2\Sigma_u$)			**	11.4 (V)	PE	3963
($^2\Sigma_u$)			**	11.45±0.05 (V)	PE	3833
($^2\Sigma_u$)			**	10.32±0.05 (V)	PE	3833
			**	11.53 (V)	PE	4232
($^2\Sigma_g$)			**	12.4 (V)	PE	3963
($^2\Sigma_g$)			**	12.74±0.05 (V)	PE	3833
($^2\Sigma_g$)			**	12.80 (V)	PE	4232
($^2D_{5/2}$)			**	18.40 (V)	PE	4232
($^2D_{3/2}$)			**	18.71 (V)	PE	4232
GaI^+						
	GaI	15605-68-2	**	9.0±0.3	EI	5067
GaI_3^+						
	GaI_3	13450-91-4	**	9.40	PE	4215
			**	9.51 (V)	PE	4398
			**	9.51 (V)	PE	4256
GeI_4^+						
	GeI_4	13450-95-8	**	9.42	PE	5148
H_3GeI^+						
	GeH_3I	13573-02-9	**	9.59±0.02 (V)	PE	3510
			**	9.84±0.05 (V)	PE	3502
$H_2GeI_2^+$						
	GeH_2I_2	14694-31-6	**	12.6±0.1 (V)	PE	3510
AsI_3^+						
	AsI_3	7784-45-4	**	9.00±0.04 (V)	PE	4635
			**	9.11 (V)	PE	5473
BrI^+						
($^2\Pi_{3/2}$)	IBr	7789-33-5	**	9.790±0.004	PE	3870
($^2\Pi_{1/2}$)			**	10.386±0.004	PE	3870
$C_6H_4BrI^+$						
	C_6H_4(I)Br (Benzene, 1-bromo-4-iodo-)	589-87-7	**	8.52	PE	4621
RbI^+						
	RbI	7790-29-6	**	7.308±0.03	PI	3536
($^2P_{3/2}$)			**	7.12±0.1	PE	4344
($^2P_{3/2}$)			**	7.12±0.1	PE	5035
			**	7.3 (V)	PE	4307
($^2P_{1/2}$)			**	8.48±0.04 (V)	PE	5035
				6.6±0.4	EI	5239
Rb_2I^+						
	Rb_2I_2	12532-37-5	I	7.674	PI	3536
			I	7.2±0.4	EI	5239
SrI^+						
	SrI	14696-99-2	**	5.5±0.3	EI	5067
	SrI_2	10476-86-5	**	9.5±0.3	EI	5067
SrI_2^+						
	SrI_2	10476-86-5	**	10.0 (V)	PE	4761

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
OF_4Xe^+						
	$XeOF_4$	13774-85-1	**	>12.0	PE	3943
$ArXe^+$						
	XeAr	58206-67-0	**	11.985±0.017	PI	4926
$KrXe^+$						
	XeKr	12521-42-5	**	11.757±0.017	PI	4926
			**	12.2±0.2	EI	5350
Cs^+						
	Cs	7440-46-2	**	3.89	PE	4642
			**	3.89	EI	4352
	CsOH	21351-79-1	OH	~10	EI	3461
	$CsNO_3$	XXXXX-XX-X		10.50±0.5	EI	4100
($^2P_{3/2}$)	CsCl	7647-17-8	Cl^-	17.46±0.04 (V)	PE	5035
($^2P_{1/2}$)				18.86±0.04 (V)	PE	5035
($^2P_{3/2}$)	CsBr	7787-69-1	Br^-	17.52±0.04 (V)	PE	5035
($^2P_{1/2}$)				18.53±0.04 (V)	PE	5035
($^2P_{3/2}$)	CsI	7789-17-5	I^-	17.60±0.04 (V)	PE	5035
($^2P_{1/2}$)				19.31±0.04 (V)	PE	5035
Cs^{2+}						
	Cs^+	18459-37-5	**	23.14±0.02	S	5179
Cs_2^+						
	Cs_2	12184-83-7	**	3.60-3.71	PI	3772
Cs_2O^+						
	Cs_2MoO_4	XXXXX-XX-X	MoO_3	~12.	EI	4578
NO_3Cs^+						
	$CsNO_3$	XXXXX-XX-X	**	8.78±0.06 (V)	PE	5354
$Cs_2NO_3^+$						
	$(CsNO_3)_2$	XXXXX-XX-X		14.1±1.0	EI	4100
FCs^+						
	CsF	13400-13-0	**	8.80±0.10	PE	3958
			**	9.0±0.2	PE	4606
($^2\Pi$)			**	9.68±0.05 (V)	PE	4353
			**	9.7 (V)	PE	4307
($^2\Sigma$)			**	10.22±0.05 (V)	PE	4353
F_4AlCs^+						
	$CsAlF_4$	39211-00-2	**	13.12±0.05 (V)	PE	5238
O_3PCs^+						
	$CsPO_3$	XXXXX-XX-X	**	9.41±0.04 (V)	PE	4840
$ClCs^+$						
	CsCl	7647-17-8	**	7.84±0.05	PE	3958
			**	7.9±0.2	PE	4606
($^2P_{3/2}$)			**	8.32±0.1	PE	4344
($^2P_{3/2}$)			**	8.32±0.1	PE	5035
			**	8.5 (V)	PE	4307
($^2\Pi_{3/2}$)			**	8.7±0.1 (V)	PE	4353
			**	8.83±0.05 (V)	PE	4266
($^2\Pi_{1/2}$)			**	8.9±0.1 (V)	PE	4353
($^2\Sigma$)			**	9.48±0.05 (V)	PE	4353

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$Cl_2Cs_2^+$						
	$(CsCl)_2$	12258-95-6	**	9.15 (V)	PE	5035
			**	9.15 (V)	PE	4344
$AlCl_4Cs^+$						
	$CsAlCl_4$	17992-03-9	**	10.50±0.05 (V)	PE	5238
$BrCs^+$						
	CsBr	7787-69-1	**	7.3±0.2	PE	4606
			**	7.46±0.05	PE	3958
($^2P_{3/2}$)			**	7.74±0.1	PE	4344
($^2P_{3/2}$)			**	7.74±0.1	PE	5035
			**	8.0 (V)	PE	4307
($^2\Pi_{3/2}$)			**	8.47±0.5 (V)	PE	4353
($^2P_{1/2}$)			**	8.57±0.04 (V)	PE	5035
($^2\Pi_{1/2}$)			**	8.88±0.05 (V)	PE	4353
($^2\Sigma$)			**	9.21±0.05 (V)	PE	4353
$O_3MoCs_2^+$						
	Cs_2MoO_4	XXXXX-XX-X	O	~12.	EI	4578
$O_4MoCs_2^+$						
	Cs_2MoO_4	XXXXX-XX-X	**	7.	EI	4578
ICs^+						
	CsI	7789-17-5	**	6.5±0.2	PE	4606
($^2\Pi_{3/2}$)			**	7.10±0.05	PE	3958
($^2P_{3/2}$)			**	7.10±0.1	PE	4344
($^2P_{3/2}$)			**	7.10±0.1	PE	5035
			**	7.2 (V)	PE	4307
($^2\Pi_{3/2}$)			**	7.46±0.05 (V)	PE	4353
($^2\Pi_{1/2}$)			**	8.00±0.10	PE	3958
($^2\Pi_{1/2}$)			**	8.12±0.05 (V)	PE	4353
($^2P_{1/2}$)			**	8.40±0.04 (V)	PE	5035
($^2\Sigma$)			**	8.46±0.05 (V)	PE	4353
Ba^+						
	Ba	7440-39-3	**	5.1±0.2	EI	4458
			**	5.0	PE	4860
($^2S_{1/2}$)			**	5.22±0.03	PE	4381
			**	5.0±0.3	EI	5067
			**	5.15±0.1	EI	4114
			**	5.17±0.08	EI	5342
			**	~5.2	EI	3486
	BaO	1304-28-5	O	10.95±0.18	EI	3821
Ba^{+2}						
	Ba	7440-39-3	**	12	EI	3486
OBa^+						
	BaO	1304-28-5	**	6.5±0.2	EI	4458
			**	6.85±0.1	EI	5275
			**	6.97±0.12	EI	3821
			**	7.±1	EI	4506
BO_2Ba^+						
	$BaBO_2$	54597-36-3	**	10.8±0.2	EI	5585
$ClBa^+$						
	BaCl	14832-99-6	**	5.0	PE	4860

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
Cl_2Ba^+						
	$BaCl_2$	10361-37-2	**	10.0 (V)	PE	4761
$BrBa^+$						
	BaBr	14832-97-4	**	5.0	PE	4860
BaI^+						
	BaI	12524-20-8	**	5.0±0.3	EI	5067
	BaI_2	13718-50-8	**	9.0±0.3	EI	5067
I_2Ba^+						
	BaI_2	13718-50-8	**	9.7 (V)	PE	4761
La^+						
	La	7439-91-0	**	5.45±0.2	EI	4114
			**	5.5±0.7	EI	5303
			**	5.51±0.09	EI	5342
			**	5.6±0.1	EI	4560
			**	6.9±1.2	EI	3978
	LaF_3	13709-38-1		26	EI	3456
				26.9	EI	3466
CLa^+						
	LaC_2	12071-15-7	C	14.9±0.5	EI	3457
C_2La^+						
	LaC_2	12071-15-7	**	5.4±0.3	EI	3457
C_3La^+						
	LaC_3	12602-63-0	**	6.8±0.5	EI	3457
C_4La^+						
	LaC_4	12603-31-5	**	4.7±0.5	EI	3457
$C_5H_5La^+$						
	$(C_5H_5)_3La$ (Lanthanum,tris[(1,2,3,4,5-η)-2,4-cyclopentadien-1-yl]-)	1272-23-7	$2C_5H_5$	17.3±0.3	EI	5490
$C_8H_8La^+$						
	(*iso*-$C_3H_7C_5H_4)_3La$ (Lanthanum,tris[(1,2,3,4,5-η)-1-(1-methylethyl)-2,4-cyclopentadien-1-yl]-)	68959-87-5		22.5±0.3	EI	5490
$C_{10}H_{10}La^+$						
	$(C_5H_5)_3La$ (Lanthanum,tris[(1,2,3,4,5-η)-2,4-cyclopentadien-1-yl]-)	1272-23-7	C_5H_5	10.2±0.3	EI	5490
$C_{15}H_{15}La^+$						
	$(C_5H_5)_3La$ (Lanthanum,tris[(1,2,3,4,5-η)-2,4-cyclopentadien-1-yl]-)	1272-23-7	**	7.9±0.3	EI	5490
$C_{16}H_{22}La^+$						
	(*iso*-$C_3H_7C_5H_4)_3La$ (Lanthanum,tris[(1,2,3,4,5-η)-1-(1-methylethyl)-2,4-cyclopentadien-1-yl]-)	68959-87-5	$C_3H_7C_5H_3$	13.8±0.3	EI	5490
$C_{21}H_{33}La^+$						
	(*iso*-$C_3H_7C_5H_4)_3La$ (Lanthanum,tris[(1,2,3,4,5-η)-1-(1-methylethyl)-2,4-cyclopentadien-1-yl]-)	68959-87-5	**	8.0±0.3	EI	5490
OLa^+						
	LaO	12031-20-8	**	4.90±0.1	EI	4560
			**	4.95±0.1	EI	4114
			**	5.2	EI	4119

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
FLa^+						
	LaF_3	13709-38-1		16	EI	3456
				18.5	EI	3466
F_2La^+						
	LaF_3	13709-38-1		9	EI	3456
				11.8	EI	3466
$F_5La_2^+$						
	$(LaF_3)_2$	12592-31-3		12.4	EI	3466
$RhLa^+$						
	LaRh	12142-68-6	**	7.7±1.0	EI	3978
Ce^+						
	Ce	7440-45-1	**	5.5387±0.0004	S	5056
			**	5.5387±0.0004	S	5186
			**	5.537±0.0004	PI	5056
			**	5.44±0.1	EI	4624
			**	5.6±0.5	EI	3969
			**	5.7±0.3	EI	3597
			**	5.9±0.4	EI	3468
			**	5.9±0.6	EI	3621
			**	6.0±0.5	EI	3473
			**	6.0±0.5	EI	3986
	CeO	12014-74-3		~13.5	EI	4061
	CeF_3	7758-88-5		25.2	EI	3607
	CeI_3	7790-87-6		16.75±0.15	EI	4607
			3I	17.7±0.5	EI	3820
Ce_2^+						
	Ce_2	12595-88-9	**	5.9±0.4	EI	3471
C_2Ce^+						
	C_2Ce	12012-32-7	**	5.6±0.4	EI	3597
			**	6.2±0.5	EI	3969
NCe^+						
	CeN	25764-08-3	**	5.8±0.6	EI	3469
OCe^+						
	CeO	12014-74-3	**	4.90±0.1	EI	4624
			**	5.2±0.2	EI	4061
			**	5.3±0.5	EI	3986
			**	6.0±0.5	EI	3473
	CeO_2	1306-38-3		~11	EI	4061
O_2Ce^+						
	CeO_2	1306-38-3	**	9.7±0.5	EI	3986
			**	10.3±0.2	EI	4061
$O_2Ce_2^+$						
	$(CeO)_2$	12258-89-8	**	8±1	EI	3986
FCe^+						
	CeF_3	7758-88-5		17.2	EI	3607
F_2Ce^+						
	CeF_3	7758-88-5		13.5	EI	3607
F_3Ce^+						
	CeF_3	7758-88-5	**	11.4	EI	3607

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$F_3Ce_2^+$						
	Ce_2F_6	37346-47-7		13.1	EI	3607
$CSiCe^+$						
	CSiCe	51257-45-5	**	~9	EI	3969
SCe^+						
	CeS	12014-82-3	**	6.0±0.6	EI	3621
S_2Ce^+						
	CeS_2	12133-58-3	**	13.5±1	EI	3621
$CRuCe^+$						
	RuCeC	70378-92-6	**	6.5±1	EI	5331
C_2RuCe^+						
	$RuCeC_2$	XXXXX-XX-X	**	7.5±0.8	EI	5331
$RhCe^+$						
	CeRh	12157-69-6	**	6.8±1.0	EI	4209
$CRhCe^+$						
	RhCeC	70378-91-5	**	6.±1	EI	5331
C_2RhCe^+						
	$RhCeC_2$	53262-56-9	**	7.6±0.8	EI	5331
$PdCe^+$						
	CePd	12292-14-7	**	6.2±0.5	EI	3597
ICe^+						
	CeI_3	7790-87-6	I_2?	13.15±0.15	EI	4607
			2I	13.6±0.5	EI	3820
ICe^{+2}						
	CeI_3	7790-87-6		28±1	EI	3820
I_2Ce^+						
	CeI_3	7790-87-6	I	9.55±0.1	EI	4607
			I	9.7±0.5	EI	3820
I_3Ce^+						
	CeI_3	7790-87-6	**	9.05±0.1	EI	4607
			**	9.6±0.5	EI	3820
Pr^+						
	Pr	7440-10-0	**	5.464±0.006	PI	5056
			**	5.464	PI	5186
			**	5.37±0.1	EI	4624
	PrI_3	13813-23-5	3I	17.0±0.2	EI	3820
$C_5H_5Pr^+$						
	$(C_5H_5)_3Pr$ (Praseodymium,tris[(1,2,3,4,5-η)-2,4-cyclopentadien-1-yl)-)	11077-59-1	$2C_5H_5$	17.0±0.4	EI	5490
$C_8H_8Pr^+$						
	$(iso\text{-}C_3H_7C_5H_4)_3Pr$ (Praseodymium,tris[(1,2,3,4,5-η)-1-(1-methylethyl)-2,4-cyclopentadien-1-yl]-)	69021-86-9		22.1±0.3	EI	5490
$C_{10}H_{10}Pr^+$						
	$(C_5H_5)_3Pr$ (Praseodymium,tris[(1,2,3,4,5-η)-2,4-cyclopentadien-1-yl)-)	11077-59-1	C_5H_5	10.0±0.2	EI	5490

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{15}H_{15}Pr^+$						
	$(C_5H_5)_3Pr$ (Praseodymium,tris[(1,2,3,4,5-η)-2,4-cyclopentadien-1-yl]-)	11077-59-1	**	8.2±0.2	EI	5490
$C_{16}H_{22}Pr^+$						
	(*iso*-$C_3H_7C_5H_4)_3Pr$ (Praseodymium,tris[(1,2,3,4,5-η)-1-(1-methylethyl)-2,4-cyclopentadien-1-yl]-)	69021-86-9	$C_3H_7C_5H_4$	12.4±0.3	EI	5490
$C_{24}H_{33}Pr^+$						
	(*iso*-$C_3H_7C_5H_4)_3Pr$ (Praseodymium,tris[(1,2,3,4,5-η)-1-(1-methylethyl)-2,4-cyclopentadien-1-yl]-)	69021-86-9	**	8.2±0.3	EI	5490
$CNPr^+$						
	PrCN	57137-34-5	**	5.5±0.5	EI	4505
OPr^+						
	PrO	12035-81-3	**	4.90±0.1	EI	4624
IPr^+						
	PrI_3	13813-23-5	2I	12.9±0.2	EI	3820
I_2Pr^+						
	PrI_3	13813-23-5	I	10.0±0.2	EI	3820
I_3Pr^+						
	PrI_3	13813-23-5	**	9.2±0.2	EI	3820
Nd^+						
	Nd	7440-00-8	**	5.5250±0.0006	S	5056
			**	5.5250±0.0006	S	5186
			**	5.523±0.003	PI	5056
			**	5.49±0.1	EI	4624
			**	6.5	EI	4030
	$NdCl_3$	10024-93-8	3Cl?	20.9±1.0	EI	3802
	$NdBr_3$	13536-80-6		16.9±0.7	EI	3976
	NdI_3	13813-24-6	3I	15.9±0.2	EI	3820
$C_5H_5Nd^+$						
	$(C_5H_5)_3Nd$ (Neodymium,tris[(1,2,3,4,5-η)-2,4-cyclopentadien-1-yl]-)	1273-98-9	$2C_5H_5$	16.8±0.2	EI	5490
$C_8H_8Nd^+$						
	(*iso*-$C_3H_7C_5H_4)_3Nd$ (Neodymium,tris[(1,2,3,4,5-η)-1-(1-methylethyl)-2,4-cyclopentadien-1-yl]-)	69021-85-8		18.9±0.3	EI	5490
$C_{10}H_{10}Nd^+$						
	$(C_5H_5)_3Nd$ (Neodymium,tris[(1,2,3,4,5-η)-2,4-cyclopentadien-1-yl]-)	1273-98-9	C_5H_5	9.8±0.2	EI	5490
$C_{15}H_{15}Nd^+$						
	$(C_5H_5)_3Nd$ (Neodymium,tris[(1,2,3,4,5-η)-2,4-cyclopentadien-1-yl]-)	1273-98-9	**	8.0±0.2	EI	5490
$C_{16}H_{22}Nd^+$						
	(*iso*-$C_3H_7C_5H_4)_3Nd$ (Neodymium,tris[(1,2,3,4,5-η)-1-(1-methylethyl)-2,4-cyclopentadien-1-yl]-)	69021-85-8	$C_3H_7C_5H_4$	10.8±0.3	EI	5490
$C_{24}H_{33}Nd^+$						
	(*iso*-$C_3H_7C_5H_4)_3Nd$ (Neodymium,tris[(1,2,3,4,5-η)-1-(1-methylethyl)-2,4-cyclopentadien-1-yl]-)	69021-85-8	**	7.9±0.3	EI	5490

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
ONd^+						
	NdO	12035-20-0	**	4.97±0.1	EI	4624
$ClNd^+$						
	$NdCl_3$	10024-93-8	2Cl?	17.3±1.0	EI	3802
Cl_2Nd^+						
	$NdCl_3$	10024-93-8	Cl?	11.9±0.3	EI	3802
Cl_3Nd^+						
	$NdCl_3$	10024-93-8	**	<11.4	EI	3802
Br_2Nd^+						
	$NdBr_3$	13536-80-6		10.5±0.7	EI	3976
INd^+						
	NdI_3	13813-24-6	2I	13.6±0.5	EI	3820
I_2Nd^+						
	NdI_3	13813-24-6	I	9.3±0.5	EI	3820
I_3Nd^+						
	NdI_3	13813-24-6	**	9.2±0.5	EI	3820
Pm^+						
	Pm	7440-12-2	**	5.582±0.01	OTH	5056
			**	5.582±0.010	OTH	5186
Sm^+						
	Sm	7440-19-9	**	5.6437±0.0006	S	5186
			**	5.6437±0.001	S	5056
			**	5.639±0.003	PI	5056
			**	5.5	EI	4872
			**	5.58±0.1	EI	4624
	SmI_2	32248-43-4		12.5	EI	3820
			2I	13.1±0.2	EI	4122
OSm^+						
	SmO	12035-88-0	**	5.5	EI	4872
			**	5.55±0.1	EI	4624
ISm^+						
	SmI_2	32248-43-4		9.2	EI	3820
			I	9.8±0.2	EI	4122
I_2Sm^+						
	SmI_2	32248-43-4	**	8.7	EI	3820
			**	9.0±0.2	EI	4122
Eu^+						
	Eu	7440-53-1	**	5.6704±0.0003	S	5056
			**	5.6704±0.0003	S	5186
			**	5.67045±0.00002	S	5511
			**	5.666±0.003	PI	5056
			**	5.5	EI	4872
			**	5.6±0.5	EI	3611
			**	5.68±0.1	EI	4624
			**	5.9±0.2	EI	3459
			**	6.1±0.5	EI	4869
	EuI_2	22015-35-6		12.45±0.2	EI	3612

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
Eu^{+2}						
	Eu^+	15065-79-9	**	11.241±0.006	S	4210
Eu_2^+						
	Eu_2	12596-00-8	**	6.3±1.0	EI	4012
C_2Eu^+						
	EuC_2	12127-44-5	**	6.6±0.7	EI	3611
$CNEu^+$						
	EuCN	50647-38-6	**	5.5±1.5	EI	3798
OEu^+						
	EuO	12020-60-9	**	6.2	EI	4872
			**	6.3±0.2	EI	5468
			**	6.3±0.8	EI	4869
			**	6.48±0.1	EI	4624
OEu_2^+						
	Eu_2O	62462-47-9	**	6.1±0.9	EI	4869
$O_2Eu_2^+$						
	Eu_2O_2	62462-48-0	**	7.4±1.0	EI	4869
SEu^+						
	EuS	12020-65-4	**	6.8±0.3	EI	4486
			**	6.8±0.3	EI	4874
S_2Eu^+						
	EuS_2	55957-42-1	**	7.2±0.5	EI	4486
			**	7.2±0.5	EI	4874
SEu_2^+						
	Eu_2S	62462-49-1	**	6.7±0.5	EI	4486
			**	6.7±0.5	EI	4874
$S_2Eu_2^+$						
	Eu_2S_2	62462-51-5	**	6.6±0.5	EI	4486
			**	6.6±0.5	EI	4874
$AgEu^+$						
	EuAg	12249-50-2	**	6.1±0.5	EI	4012
IEu^+						
	EuI_2	22015-35-6		9.90±0.2	EI	3612
I_2Eu^+						
	EuI_2	22015-35-6	**	8.85±0.2	EI	3612
Gd^+						
	Gd	7440-54-2	**	6.1502±0.0006	S	5056
			**	6.1502±0.0006	S	5186
			**	6.1±0.6	EI	4902
			**	6.24±0.1	EI	4624
			**	6.3±0.6	EI	4869
	$GdCl_3$	10138-52-0	3Cl?	20.9±1.0	EI	3802
	GdI_3	13572-98-0	3I	17.0±0.2	EI	3820
OGd^+						
	GdO	12024-77-0	**	5.75±0.1	EI	4624
			**	6.5±0.8	EI	4869

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
O_2Gd^+						
	GdO_2	53789-25-6	**	9.5±1.0	EI	4869
OGd_2^+						
	Gd_2O	62462-54-8	**	6.5±1.0	EI	4869
$O_2Gd_2^+$						
	Gd_2O_2	62462-55-9	**	8.2±1.0	EI	4869
SGd^+						
	GdS	12134-74-6	**	6.9±0.6	EI	4902
$ClGd^+$						
	$GdCl_3$	10138-52-0	2Cl?	16.5±1.0	EI	3802
Cl_2Gd^+						
	$GdCl_3$	10138-52-0	Cl?	11.9±0.3	EI	3802
$NaCl_3Gd^+$						
	$NaGdCl_3$	XXXXX-XX-X		10.1±0.5	EI	3802
IGd^+						
	GdI_3	13572-98-0	2I	13.5±0.2	EI	3820
I_2Gd^+						
	GdI_3	13572-98-0	I	10.1±0.2	EI	3820
I_3Gd^+						
	GdI_3	13572-98-0	**	9.2±0.2	EI	3820
Tb^+						
	Tb	7440-27-9	**	5.8639±0.0006	S	5056
			**	5.8639±0.0006	S	5186
			**	5.84±0.1	EI	4624
	TbI_3	13813-40-6	3I	17.6±0.2	EI	3820
OTb^+						
	TbO	12035-91-5	**	5.62±0.1	EI	4624
			**	6.1±0.7	EI	4869
OTb_2^+						
	Tb_2O	62462-71-9	**	6.6±0.8	EI	4869
$O_2Tb_2^+$						
	Tb_2O_2	62462-78-6	**	6.0±0.8	EI	4869
$CuTb^+$						
	TbCu	12019-22-6	**	5.3±0.3	EI	5296
ITb^+						
	TbI_3	13813-40-6	2I	13.7±0.2	EI	3820
I_2Tb^+						
	TbI_3	13813-40-6	I	10.5±0.2	EI	3820
I_3Tb^+						
	TbI_3	13813-40-6	**	9.5±0.2	EI	3820
Dy^+						
	Dy	7429-91-6	**	5.9390±0.0006	S	5056
			**	5.9390±0.0006	S	5186
			**	5.936±0.003	PI	5056
			**	5.90±0.1	EI	4624

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
Dy^+						
	DyI_3	15474-63-2	3I	16.4±0.2	EI	3820
ODy^+						
	DyO	12175-28-9	**	6.08±0.1	EI	4624
$CuDy^+$						
	DyCu	12018-73-4	**	5.4±0.4	EI	5296
IDy^+						
	DyI_3	15474-63-2	2I	13.1±0.2	EI	3820
I_2Dy^+						
	DyI_3	15474-63-2	I	10.5±0.2	EI	3820
I_3Dy^+						
	DyI_3	15474-63-2	**	9.6±0.2	EI	3820
Ho^+						
	Ho	7440-60-0	**	6.0216±0.0006	S	5056
			**	6.0216±0.0006	S	5186
			**	6.017±0.003	PI	5056
			**	5.8±0.2	EI	3440
			**	5.99±0.1	EI	4624
			**	6.1±0.6	EI	4869
	HoI_3	13813-41-7	3I	16.7±0.2	EI	3820
Ho_2^+						
	Ho_2	12596-28-0	**	6.0±1.0	EI	3440
OHo^+						
	HoO	12281-10-6	**	6.17±0.1	EI	4624
			**	6.2±0.7	EI	4869
OHo_2^+						
	Ho_2O	62462-59-3	**	6.2±0.7	EI	4869
$O_2Ho_2^+$						
	Ho_2O_2	62462-60-6	**	7.5±0.1	EI	4869
$CuHo^+$						
	HoCu	12018-93-8	**	5.3±0.3	EI	5296
$AgHo^+$						
	HoAg	12002-74-3	**	5.7±0.6	EI	3440
IHo^+						
	HoI_3	13813-41-7	2I	13.2±0.2	EI	3820
I_2Ho^+						
	HoI_3	13813-41-7	I	10.4±0.2	EI	3820
I_3Ho^+						
	HoI_3	13813-41-7	**	9.2±0.2	EI	3820
Er^+						
	Er	7440-52-0	**	6.1077±0.0006	S	5056
			**	6.1077±0.0010	S	5186
			**	6.104±0.003	PI	5056
			**	5.93±0.1	EI	4624
	ErI_3	13813-42-8	3I	16.2±0.2	EI	3820

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
OEr^+						
	ErO	12280-61-4	**	6.30±0.1	EI	4624
IEr^+						
	ErI_3	13813-42-8	2I	13.3±0.2	EI	3820
I_2Er^+						
	ErI_3	13813-42-8	I	10.2±0.2	EI	3820
I_3Er^+						
	ErI_3	13813-42-8	**	9.0±0.2	EI	3820
Tm^+						
	Tm	7440-30-4	**	5.7	EI	3460
			**	6.11±0.1	EI	4624
	$TmBr_3$	14456-51-0		17.5±0.7	EI	3976
	TmI_3	13813-43-9	3I	16.1±0.2	EI	4122
OTm^+						
	TmO	12281-29-7	**	6.44±0.1	EI	4624
Br_2Tm^+						
	$TmBr_3$	14456-51-0		11.1±0.7	EI	3976
Br_3Tm^+						
	$TmBr_3$	14456-51-0	**	9.6±0.7	EI	3976
ITm^+						
	TmI_3	13813-43-9	2I	12.4±0.2	EI	4122
I_2Tm^+						
	TmI_3	13813-43-9	I	10.5±0.2	EI	4122
I_3Tm^+						
	TmI_3	13813-43-9	**	9.2±0.2	EI	4122
Yb^+						
	Yb	7440-64-4	**	6.21±0.1	EI	4624
			**	6.3±0.3	EI	4105
	$YbCl_2$	13874-77-6		15.05±0.26	EI	3614
	$YbBr_3$?	13759-89-2		14.7±0.7	EI	3976
Yb^{+2}						
	Yb^+	20205-78-1	**	12.184±0.006	S	3974
Yb_2^+						
	Yb_2	12771-79-8	**	4-5	EI	4105
OYb^+						
	YbO	25578-79-4	**	6.55±0.1	EI	4624
$ClYb^+$						
	$YbCl_2$	13874-77-6		10.70±0.21	EI	3614
Cl_2Yb^+						
	$YbCl_2$	13874-77-6	**	9.73±0.21	EI	3614
$BrYb^+$						
	$YbBr_2$?	25502-05-0		10.0±0.7	EI	3976
Br_2Yb^+						
	$YbBr_3$?	13759-89-2		10.0±0.7	EI	3976

Ion (state)	Reactant	CAS Registry Number	Other products	*Ionization or* appearance potential (eV)	Method	Ref.
Lu^+						
	Lu	7439-94-3	**	5.425889±0.00001	S	4060
			**	5.2±0.5	EI	4869
			**	5.28±0.1	EI	4624
			**	5.3±0.3	EI	3618
C_2Lu^+						
	LuC_2	12175-89-2	**	7.8±1	EI	3618
C_1Lu^+						
	LuC_1	37215-84-2	**	11.1±1	EI	3618
OLu^+						
	LuO	12032-02-9	**	6.79±0.1	EI	4624
			**	7.8±0.6	EI	4869
OLu_2^+						
	Lu_2O	12339-78-5	**	6.5±0.7	EI	4869
Hf^+						
	Hf	7440-58-6	**	6.65±0.1	EI	4114
			**	6.65±0.10	EI	5342
$H_{16}B_4Hf^+$						
	$Hf(BH_4)_4$	37274-93-4	**	11.6±0.1 (V)	PE	4825
	$Hf(BH_4)_4$	53608-70-1	**	11.6±0.1 (V)	PE	4888
$C_{20}H_{44}Hf^+$						
	$((CH_3)_3CCH_2)_4Hf$	50654-35-8	**	8.51±0.1 (V)	PE	4242
NHf^+						
	HfN	25817-87-2	**	<10	EI	4207
$C_8H_{24}N_4Hf^+$						
	$(N(CH_3)_2)_4Hf$	XXXXX-XX-X	**	7.50 (V)	PE	4588
$C_{16}H_{40}N_4Hf^+$						
	$(N(C_2H_5)_2)_4Hf$	XXXXX-XX-X	**	7.15 (V)	PE	4588
OHf^+						
	HfO	12029-22-0	**	7.55±0.1	EI	4114
O_2Hf^+						
	HfO_2	12055-23-1	**	9.35±0.2	EI	4114
$C_{16}H_{44}Si_4Hf^+$						
	$((CH_3)_3SiCH_2)_4Hf$	40334-04-1	**	8.58±0.1 (V)	PE	4242
Cl_4Hf^+						
	$HfCl_4$	13499-05-3	**	12.03 (V)	PE	4694
$C_{10}H_{10}Cl_2Hf^+$						
	$(\eta\text{-}C_5H_5)_2HfCl_2$ (Hafnium,dichlorobis(η^5-2,4-cyclopentadien-1-yl)-)	12116-66-4	**	8.9±0.1 (V)	PE	4987
			**	8.87±0.05 (V)	PE	4375
Br_4Hf^+						
	$HfBr_4$ (JC-Mean value of Jahn-Teller components)	13777-22-5	**	11.06 (V)	PE	4694
I_4Hf^+						
	HfI_4 (JC-Mean value of Jahn-Teller components)	13777-23-6	**	9.53 (V)	PE	4694

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
Ta^+						
	Ta	7440-25-7	**	7.31±0.09	EI	5342
$C_5H_{15}Ta^+$						
	$(CH_3)_5Ta$	53378-72-6	**	8.83±0.02 (V)	PE	4733
$C_{10}H_{13}Ta^+$						
	$(C_5H_5)_2H_3Ta$ (Tantalum, bis(η^5-2,4-cyclopentadien-1-yl)dihydro-)	54474-28-1	**	8.1±0.1 (V)	PE	4425
$C_{10}H_{30}N_5Ta^+$						
	$(N(CH_3)_2)_5Ta$	XXXXX-XX-X	**	6.89 (V)	PE	5036
OTa^+						
	TaO	12035-90-4	**	7.5±0.5	EI	4678
			**	7.92±0.1	EI	4624
O_2Ta^+						
	TaO_2	12036-14-5	**	8.5±0.5	EI	4678
Cl_2Ta^+						
	$TaCl_5$	7721-01-9		20.3	EI	3783
Cl_3Ta^+						
	$TaCl_5$	7721-01-9		15.2	EI	3783
Cl_4Ta^+						
	$TaCl_5$	7721-01-9		10.9	EI	3783
Cl_5Ta^+						
	$TaCl_5$	7721-01-9	**	11.08 (s)	PE	4764
$C_{10}H_{10}Cl_2Ta^+$						
	(η-$C_5H_5)_2TaCl_2$ (Tantalum,dichlorobis(η^5-2,4-cyclopentadien-1-yl)-)	54039-37-1	**	6.4±0.1 (V)	PE	4987
$C_{10}H_{10}Br_2Ta^+$						
	(η-$C_5H_5)_2TaBr_2$ (Tantalum,dibromobis(η^5-2,4-cyclopentadien-1-yl)-)	69005-97-6	**	6.4±0.1 (V)	PE	4987
$C_{13}H_{21}SnTa^+$						
	$(C_5H_5)_2(Sn(CH_3)_3)TaH_2$ (Tantalum,bis(η^5-2,4-cyclopentadien-1-yl)dihydro(trimethylstannyl)-)	51192-04-2	**	6.77±0.12	EI	5321
W^+						
	W	7440-33-7	**	7.49±0.08	EI	5342
	$(CO)_6W$	14040-11-0	6CO	21.01±0.05	EI	5291
	$CS(CO)_5W$	50358-92-4	5CO+CS	21.97±0.13	EI	5291
	WBr_4	14055-81-3	Br	23.1±0.3	EI	4906
	WBr_5	13470-11-6	5Br	25.0±0.3	EI	4906
$C_3H_3W^+$						
	$C_5H_5(CO)_3W$ (Tungsten, tricarbonyl(η^5-2,4-cyclopentadien-1-yl)-)	12079-77-5	$3CO+C_2H_2$	20.1±1.0	EI	4598
$C_5H_5W^+$						
	$C_5H_5(CO)_3W$ (Tungsten, tricarbonyl(η^5-2,4-cyclopentadien-1-yl)-)	12079-77-5	3CO	14.5±0.5	EI	4598
$C_6H_{18}W^+$						
	$(CH_3)_6W$	36133-73-0	**	8.59±0.02 (V)	PE	4733

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{10}H_{12}W^+$						
	$(C_5H_5)_2H_2W$	1271-33-6	**	6.4±0.1 (V)	PE	4425
	(Tungsten, bis(η^5-2,4-cyclopentadien-1-yl)dihydro-)					
			**	6.35±0.2	OTH	5278
$C_{12}H_{11}W^+$						
	$(C_5H_5)_2(\eta\text{-}CH_2{=}CH_2)W$	37343-06-9	**	6.0±0.1 (V)	PE	4425
	(Tungsten, bis(η^5-2,4-cyclopentadien-1-yl)(η^2-ethene)-)					
$C_{12}H_{16}W^+$						
	$(C_5H_5)_2(CH_3)_2W$	39333-53-4	**	6.0±0.1 (V)	PE	4425
	(Tungsten, bis(η^5-2,4-cyclopentadien-1-yl)dimethyl-)					
$C_{13}H_{16}W^+$						
	$(C_5H_5)_2(\eta\text{-}CH_2{=}CHCH_3)W$	37343-23-0	**	5.9±0.1 (V)	PE	4425
	(Tungsten, bis(η^5-2,4-cyclopentadien-1-yl)[1,2-η)-1-propene]-)					
$C_6H_6W_2^+$						
	$[C_5H_5(CO)_3W]_2$	12566-66-4		29.0±1.0	EI	4598
	(Tungsten, hexacarbonylbis (η^5-2,4-cyclopentadien-1-yl)di-)					
$C_8H_8W_2^+$						
	$[C_5H_5(CO)_3W]_2$	12566-66-4		25.0±1.0	EI	4598
	(Tungsten, hexacarbonylbis (η^5-2,4-cyclopentadien-1-yl)di-)					
$C_{10}H_{10}W_2^+$						
	$[C_5H_5(CO)_3W]_2$	12566-66-4	6CO	15.5±0.5	EI	4598
	(Tungsten, hexacarbonylbis (η^5-2,4-cyclopentadien-1-yl)di-)					
$C_{12}H_{36}N_6W^+$						
	$(N(CH_3)_2)_6W$	54935-70-5	**	6.73 (V)	PE	4588
O_2W^+						
	WO_2	12036-22-5	**	9.6±0.3	EI	4556
$O_3W_2^+$						
	W_2O_6	XXXXX-XX-X		35.±1	EI	4131
$O_4W_2^+$						
	W_2O_6	XXXXX-XX-X		17.1±0.2	EI	4131
$O_5W_2^+$						
	W_2O_6	XXXXX-XX-X	O	15.3±0.2	EI	4131
$O_6W_2^+$						
	W_2O_6	XXXXX-XX-X	**	12.2±0.2	EI	4131
$O_8W_3^+$						
	W_3O_9	XXXXX-XX-X	O	14.6±0.2	EI	4131
$O_9W_3^+$						
	W_3O_9	XXXXX-XX-X	**	12.0±0.2	EI	4131
$O_{11}W_4^+$						
	W_4O_{12}	XXXXX-XX-X	O	13.9±0.2	EI	4131
$W_4O_{12}^+$						
	W_4O_{12}	XXXXX-XX-X	**	12.0±0.2	EI	4131
BO_4W^+						
	$W(BO_3)O$	56644-98-5	**	10.9±0.3	EI	4556

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$B_2O_6W^+$						
	B_2O_3·WO_3	XXXXX-XX-X	**	12.3±0.3	EI	4556
$BO_7W_2^+$						
	BO·W_2O_6	XXXXX-XX-X	**	12.1±0.3	EI	4556
$BO_{10}W_3^+$						
	BO·W_3O_9	XXXXX-XX-X	**	12.5±0.3	EI	4556
$B_2O_{12}W_3^+$						
	B_2O_3·W_3O_9	XXXXX-XX-X	**	12.4±0.3	EI	4556
$BO_{13}W_4^+$						
	BO·W_4O_{12}	XXXXX-XX-X	**	13.1±0.3	EI	4556
COW^+						
	$(CO)_6W$	14040-11-0	5CO	18.36±0.06	EI	5291
	$CS(CO)_5W$	50358-92-4	4CO+CS	19.48±0.21	EI	5291
$C_2O_2W^+$						
	$(CO)_6W$	14040-11-0	4CO	16.29±0.04	EI	5291
	$CS(CO)_5W$	50358-92-4	3CO+CS	17.21±0.27	EI	5291
$C_3O_3W^+$						
	$(CO)_6W$	14040-11-0	3CO	14.06±0.02	EI	5291
	$CS(CO)_5W$	50358-92-4	2CO+CS	14.86±0.11	EI	5291
$C_4O_4W^+$						
	$(CO)_6W$	14040-11-0	2CO	12.22±0.03	EI	5291
	$CS(CO)_5W$	50358-92-4	CO+CS	13.12±0.11	EI	5291
$C_5O_5W^+$						
	$(CO)_6W$	14040-11-0	CO	10.30±0.03	EI	5291
	$CS(CO)_5W$	50358-92-4	CS	11.46±0.14	EI	5291
$C_6O_6W^+$						
	$(CO)_6W$	14040-11-0	**	8.30±0.02 (V)	PE	3979
			**	8.56 (V)	PE	4456
			**	8.60±0.02	EI	5291
$C_6H_5OW^+$						
	$C_5H_5(CO)_3W$	12079-77-5	2CO	13.2±1.0	EI	4598
	(Tungsten, tricarbonyl(η^5-2,4-cyclopentadien-1-yl)-)					
$C_7H_5O_2W^+$						
	$C_5H_5(CO)_3W$	12079-77-5	CO	12.3±0.2	EI	4598
	(Tungsten, tricarbonyl(η^5-2,4-cyclopentadien-1-yl)-)					
$C_8H_5O_3W^+$						
	$C_5H_5(CO)_3W$	12079-77-5	**	7.66±0.05	EI	4598
	(Tungsten, tricarbonyl(η^5-2,4-cyclopentadien-1-yl)-)					
	$[C_5H_5(CO)_3W]_2$	12566-66-4	$C_5H_5(CO)_3W$	10.05±0.2	EI	4598
	(Tungsten, hexacarbonylbis η^5-2,4-cyclopentadien-1-yl)di-)					
$C_{10}H_8O_3W^+$						
	$C_7H_8(CO)_3W$	12128-81-3	**	7.32 (V)	PE	5206
	(Tungsten,tricarbonyl[(1,2,3,4,5,6-η)-1,3,5-cycloheptatriene]-)					
			**	7.55±0.05 (V)	PE	4724
$C_{12}H_{12}O_3W^+$						
	$(C_6H_3(CH_3)_3)(CO)_3W$	12129-69-0	**	7.20±0.05 (V)	PE	4724
	(Tungsten, tricarbonyl[(1,2,3,4,5,6-η)-1,3,5-trimethylbenzene]-)					

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{11}H_{10}OW_2^+$	$[C_5H_5(CO)_3W]_2$ (Tungsten, hexacarbonylbis (η^5-2,4-cyclopentadien-1-yl)di-)	12566-66-4	5CO	13.85±0.10	EI	4598
$C_{12}H_{10}O_2W_2^+$	$[C_5H_5(CO)_3W]_2$ (Tungsten, hexacarbonylbis (η^5-2,4-cyclopentadien-1-yl)di-)	12566-66-4	4CO	12.89±0.10	EI	4598
$C_{13}H_{10}O_3W_2^+$	$[C_5H_5(CO)_3W]_2$ (Tungsten, hexacarbonylbis (η-2,4-cyclopentadien-1-yl)di-)	12566-66-4	3CO	11.00±0.20	EI	4598
$C_{14}H_{10}O_4W_2^+$	$[C_5H_5(CO)_3W]_2$ (Tungsten, hexacarbonylbis (η^5-2,4-cyclopentadien-1-yl)di-)	12566-66-4	2CO	8.61±0.05	EI	4598
$C_{15}H_{10}O_5W_2^+$	$[C_5H_5(CO)_3W]_2$ (Tungsten, hexacarbonylbis (η^5-2,4-cyclopentadien-1-yl)di-)	12566-66-4	CO	7.70±0.05	EI	4598
$C_{16}H_{10}O_6W_2^+$	$[C_5H_5(CO)_3W]_2$ (Tungsten, hexacarbonylbis (η^5-2,4-cyclopentadien-1-yl)di-)	12566-66-4	**	6.65±0.05	EI	4598
$C_5H_3NO_5W^+$	$(CO)_5NH_3W$	15133-64-9	**	7.54 (V)	PE	4252
$C_7H_7NO_5W^+$	$(CO)_5NH(CH_3)_2W$	15228-31-6	**	7.41 (V)	PE	4252
$C_8H_9NO_5W^+$	$(CO)_5N(CH_3)_3W$	15228-32-7	**	7.41 (V)	PE	4252
$C_{10}H_5NO_5W^+$	$C_5H_5NW(CO)_5$ (*OC*-6-22)-Pentacarbonyl(pyridine)tungsten)	14586-49-3	**	7.53±0.05	EI	3498
			**	7.53	EI	5292
$C_{10}H_{11}NO_5W^+$	$(C_5H_{10}NH)(CO)_5W$ (Tungsten,pentacarbonyl(piperidine)-(OC-6-22))	31082-68-5	**	7.35 (V)	PE	5540
$C_{11}H_7NO_5W^+$	$C_5H_4N(CH_3)W(CO)_5$ (Pentacarbonyl(4-methylpyridine)tungsten)	17000-14-5	**	7.46±0.05	EI	3498
			**	7.46	EI	5292
$C_{12}H_9NO_5W^+$	$C_5H_3N(CH_3)_2W(CO)_5$ ((*OC*-6-22)-Pentacarbonyl(2,6-dimethylpyridine)tungsten)	36252-39-8	**	7.43±0.05	EI	3498
			**	7.43	EI	5292
$C_{11}H_4N_2O_5W^+$	$C_5H_4N(CN)W(CO)_5$ ((*OC*-6-22)-Pentacarbonyl(2-pyridinecarbonitrile-N^1)tungsten)	36252-42-3	**	7.65±0.05	EI	3498
			**	7.65	EI	5292
$C_{12}H_{11}N_2O_5W^+$	$(C_5H_4N_2(C_2H_5)_2)(CO)_5W$	XXXXX-XX-X	**	7.02 (V)	PE	5601
$C_{21}H_{21}N_4O_4W_2^+$	$(C_5H_3N(O)CH_3)W_2$ (Tungsten,tetrakis[μ-(6-methyl-2(1H)-pyridinonato-N^1:O^2)] di-(*W*-*W*) stereoisomer)	67634-84-8	**	5.3 (V)	PE	5191

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
FW^+						
	WF	51621-16-0	**	8.5±1	EI	4580
F_2W^+						
	WF_2	33963-15-4	**	9.0±0.3	EI	4580
F_3W^+						
	WF_3	51621-17-1	**	9.0±0.2	EI	4580
	WF_6	7783-82-6		24.0±0.5	EI	4580
F_4W^+						
	WF_4	13766-47-7	**	9.89±0.10	EI	4580
	WF_6	7783-82-6	2F	19.5±0.3	EI	4580
F_5W^+						
	WF_5	19357-83-6	**	14.9±0.1	PE	4989
			**	10.03±0.10	EI	4580
	WF_6	7783-82-6	F	15.24±0.10	EI	4580
$C_{15}H_{21}O_6Si_2W^+$						
	$C_{15}H_{21}O_6Si_2W$	XXXXX-XX-X	**	7.55 (V)	PE	5601
$C_{12}H_{36}N_6P_2W^+$						
	$(((CH_3)_2N)_3P)_2(CO)_4W$	19976-86-4	4CO	10.7±0.05	EI	3952
$C_{20}H_{15}O_2PW^+$						
	$(C_6H_5)_3P)(CO)_5W$ (Tungsten,pentacarbonyl(triphenylphosphine)-(OC-6-22)-)	15444-65-2	3CO	9.5	EI	5564
$C_3H_9O_3PW^+$						
	$(P(OCH_3)_3)(CO)_5W$	23306-42-5	5CO	13.1	EI	5564
$C_{21}H_{15}O_3PW^+$						
	$((C_6H_5)_3P)(CO)_5W$ (Tungsten,pentacarbonyl(triphenylphosphine)-(OC-6-22)-)	15444-65-2	2CO	9.1	EI	5564
$C_4H_9O_4PW^+$						
	$(P(OCH_3)_3)(CO)_5W$	23306-42-5	4CO	12.3	EI	5564
$C_7H_{15}O_4PW^+$						
	$(P(OC_2H_5)_3)(CO)_5W$	23306-43-6	5CO	12.2	EI	5564
$C_{16}H_{27}O_4PW^+$						
	$((n\text{-}C_4H_9)_3P)(CO)_5W$	17000-19-0	CO	9.4	EI	5564
$C_{22}H_{15}O_4PW^+$						
	$((C_6H_5)_3P)(CO)_5W$ (Tungsten,pentacarbonyl(triphenylphosphine)-(OC-6-22)-)	15444-65-2	CO	8.5	EI	5564
$C_5H_9O_5PW^+$						
	$(P(OCH_3)_3)(CO)_5W$	23306-42-5	3CO	11.1	EI	5564
$C_8H_9O_5PW^+$						
	$((CH_3)_3P)(CO)_5W$	26555-11-3	**	7.9	PE	5602
$C_8H_{15}O_5PW^+$						
	$(P(OC_2H_5)_3)(CO)_5W$	23306-43-6	3CO	11.3	EI	5564
$C_{11}H_{15}O_5PW^+$						
	$((C_2H_5)_3P)(CO)_5W$	21321-31-3	**	7.8	PE	5602

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{23}H_{15}O_5PW^+$						
	$(C_6H_5)_3P(CO)_5W$	15444-65-2	**	7.36 (V)	PE	5139
	(Tungsten, pentacarbonyl (triphenylphosphine)-(OC-6-22)-)					
			**	7.80±0.05	EI	4600
$C_{23}H_{33}O_5PW^+$						
	$(C_6H_{11})_3P(CO)_5W$	18474-91-4	**	7.29 (V)	PE	5139
	(Tungsten, pentacarbonyl (tricyclohexylphosphine)-(OC-6-22)-)					
$C_6H_6O_6PW^+$						
	$(P(OCH_3)_3)(CO)_5W$	23306-42-5	OCH_3+CO	13.0	EI	5564
$C_6H_9O_6PW^+$						
	$(P(OCH_3)_3)(CO)_5W$	23306-42-5	2CO	9.8	EI	5564
$C_8H_{10}O_6PW^+$						
	$(P(OC_2H_5)_3)(CO)_5W$	23306-43-6	OC_2H_5+CO	12.5	EI	5564
$C_9H_{15}O_6PW^+$						
	$(P(OC_2H_5)_3)(CO)_5W$	23306-43-6	2CO	10.5	EI	5564
$C_7H_6O_7PW^+$						
	$(P(OCH_3)_3)(CO)_5W$	23306-42-5	OCH_3	11.2	EI	5564
$C_7H_9O_7PW^+$						
	$(P(OCH_3)_3)(CO)_5W$	23306-42-5	CO	9.0	EI	5564
$C_9H_{10}O_7PW^+$						
	$(P(OC_2H_5)_3)(CO)_5W$	23306-43-6	OC_2H_5	11.5	EI	5564
$C_{10}H_{15}O_7PW^+$						
	$(P(OC_2H_5)_3)(CO)_5W$	23306-43-6	CO	9.4	EI	5564
$C_8H_9O_8PW^+$						
	$((CH_3O)_3P)(CO)_5W$	23306-42-5	**	8.2	PE	5602
$C_{11}H_{15}O_8PW^+$						
	$((C_2H_5O)_3P)(CO)_5W$	23306-43-6	**	8.1	PE	5602
$C_{11}H_{21}O_8PW^+$						
	iso-$C_3H_7O)_3P(CO)_5W$	XXXXX-XX-X	**	7.82 (V)	PE	5139
$C_{23}H_{15}O_8PW^+$						
	$(C_6H_5O)_3P(CO)_5W$	23306-41-4	**	7.90 (V)	PE	5139
	(Tungsten, pentacarbonyl (triphenyl phosphite-P)-(OC-6-22)-)					
$C_{40}H_{30}O_4P_2W^+$						
	$C_{40}H_{30}O_4P_2W$	16743-03-6	**	7.50±0.05	EI	4600
	(Tungsten, tetracarbonylbis(triphenylphosphine)-(OC-6-12)-)					
$C_{11}H_{18}N_3O_5PW^+$						
	$(((CH_3)_2N)_3P)(CO)_5W$	19976-82-0	**	7.9	PE	5602
$C_{14}H_{36}N_6O_2P_2W^+$						
	$(((CH_3)_2N)_3P)_2(CO)_4W$	19976-86-4	2CO	12.2±0.05	EI	3952
$C_{15}H_{36}N_6O_3P_2W^+$						
	$(((CH_3)_2N)_3P)_2(CO)_4W$	19976-86-4	CO	10.3±0.05	EI	3952
$C_{16}H_{36}N_6O_4P_2W^+$						
	$(((CH_3)_2N)_3P)_2(CO)_4W$	19976-86-4	**	5.5±0.05	EI	3952

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$F_{18}P_6W^+$						
	$(PF_3)_6W$	13815-35-5	**	9.30 (V)	PE	4456
$C_3H_9N_3F_{12}P_6W^+$						
	$(CH_3N(PF_2)_2)_3W$	63371-85-7	**	7.70 (V)	PE	5376
$C_5O_5F_3PW^+$						
	$(PF_3)(CO)_5W$	18461-47-7	**	8.68 (V)	PE	5539
			**	8.9	PE	5602
CSW^+						
	$CS(CO)_5W$	50358-92-4	5CO	18.07±0.04	EI	5291
C_2OSW^+						
	$CS(CO)_5W$	50358-92-4	4CO	15.83±0.04	EI	5291
$C_3O_2SW^+$						
	$CS(CO)_5W$	50358-92-4	3CO	13.46±0.04	EI	5291
$C_4O_3SW^+$						
	$CS(CO)_5W$	50358-92-4	2CO	11.61±0.04	EI	5291
$C_5O_4SW^+$						
	$CS(CO)_5W$	50358-92-4	CO	9.74±0.04	EI	5291
$C_6O_5SW^+$						
	$CS(CO)_5W$	50358-92-4	**	8.08 (V)	PE	5518
			**	8.22±0.01	EI	5291
F_2SW^+						
	WSF_2	41831-78-1	**	9.5±0.3	EI	4580
F_3SW^+						
	WSF_3^+	41831-79-2	**	9.0±0.3	EI	4580
F_4SW^+						
	WSF_4	XXXXX-XX-X	**	12.0±0.3	EI	4580
$F_2S_2W^+$						
	WS_2F_2	41831-81-6	**	10.0±0.3	EI	4580
ClW^+						
	WCl_6	13283-01-7		22.9	EI	3783
Cl_2W^+						
	WCl_6	13283-01-7		19.4	EI	3783
Cl_3W^+						
	WCl_6	13283-01-7		15.4	EI	3783
Cl_4W^+						
	WCl_6	13283-01-7		11.4	EI	3783
Cl_5W^+						
	WCl_5	13470-14-9	**	8.84 (V)	PE	4764
	WCl_6	13283-01-7		10.9	EI	3783
Cl_6W^+						
	WCl_6	13283-01-7	**	9.5	EI	3783
$C_5O_5PCl_3W^+$						
	$(PCl_3)(CO)_5W$	21223-85-8	**	8.39 (V)	PE	5539

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance *potential* (eV)	Method	Ref.
O_5VW^+						
	VW_2O_8	XXXXX-XX-X		11.7±0.3	EI	4131
$O_{10}V_3W^+$						
	V_3WO_{10}	XXXXX-XX-X	**	11.5±0.3	EI	4131
$O_8VW_2^+$						
	VW_2O_8	XXXXX-XX-X	**	10.4±0.2	EI	4131
$O_9V_2W_2^+$						
	$V_2W_2O_{10}$	XXXXX-XX-X		12.2±0.2	EI	4131
$O_{10}V_2W_2^+$						
	$V_2W_2O_{10}$	XXXXX-XX-X	**	11.9±0.2	EI	4131
$O_{13}V_3W_2^+$						
	$V_3W_2O_{13}$	XXXXX-XX-X	**	11.1±0.2	EI	4131
$O_{11}VW_3^+$						
	VW_3O_{11}	XXXXX-XX-X	**	10.7±0.2	EI	4131
$O_{13}V_2W_{13}^+$						
	$V_2W_{13}O_{14}$	XXXXX-XX-X	O	12.3±0.4	EI	4131
$C_{23}H_{15}O_5AsW^+$						
	$(C_6H_5)_3As(CO)_5W$ (Tungsten, pentacarbonyl (triphenylarsine)-(OC-6-22)-)	29743-02-0	**	7.37 (V)	PE	5139
BrW^+						
	WBr_4	14055-81-3	3Br	19.4±0.3	EI	4906
	WBr_5	13470-11-6	4Br	20.9±0.3	EI	4906
	$WOBr_4$	13520-77-9		26.1±0.5	EI	4906
Br_2W^+						
	WBr_4	14055-81-3	2Br	15.1±0.3	EI	4906
	WBr_5	13470-11-6	3Br	16.6±0.2	EI	4906
	$WOBr_4$	13520-77-9		20.9±0.4	EI	4906
				21.4±0.5	EI	3450
Br_3W^+						
	WBr_4	14055-81-3	Br	11.2±0.2	EI	4906
	WBr_5	13470-11-6	2Br	13.4±0.2	EI	4906
	$WOBr_4$	13520-77-9		17.9±0.4	EI	4906
				18.1±0.5	EI	3450
Br_4W^+						
	WBr_4	14055-81-3	**	8.2±0.2	EI	4906
	WBr_5	13470-11-6	Br	10.0±0.2	EI	4906
Br_5W^+						
	WBr_5	13470-11-6	**	8.3±0.2	EI	4906
$Br_3W_2^+$						
	W_2Br_6	56729-72-7	3Br	19.5±0.3	EI	4906
$Br_4W_2^+$						
	W_2Br_6	56729-72-7	2Br	15.2±0.3	EI	4906
$Br_5W_2^+$						
	W_2Br_6	56729-72-7	Br	11.0±0.2	EI	4906

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$Br_6W_2^+$						
	W_2Br_6	56729-72-7	**	9.0±0.2	EI	4906
$OBrW^+$						
	WO_2Br_2	13520-75-7		20.0±0.8	EI	3450
	$WOBr_4$	13520-77-9		18.3±0.5	EI	4906
				18.1±0.8	EI	3450
O_2BrW^+						
	WO_2Br_2	13520-75-7		13.0±0.4	EI	3450
OBr_2W^+						
	$WOBr_4$	13520-77-9		14.5±0.2	EI	4906
				14.4±0.5	EI	3450
$O_2Br_2W^+$						
	WO_2Br_2	13520-75-7	**	11.4±0.2	EI	3450
OBr_3W^+						
	$WOBr_4$	13520-77-9		10.5±0.2	EI	4906
				10.3±0.2	EI	3450
OBr_4W^+						
	$WOBr_4$	13520-77-9	**	10.3±0.3	EI	3450
$C_{21}H_{21}N_4O_4MoW^+$						
	$(C_5H_4N(O)CH_3)WMo$ (Tungsten,tetrakis[μ-(6-methyl-2(1H)-pyridinonato-N^1,O^2)] (molybdenum)-(*Mo-W*))	67577-06-4	**	5.60 (V)	PE	5191
$C_{13}H_{20}SnW^+$						
	$(C_5H_5)_2(Sn(CH_3)_3)WH$ (Tungsten,bis(η^5-2,4-cyclopentadien-1-yl)hydro(trimethylstannyl)-)	51192-18-8	**	6.18±0.11	EI	5321
$C_{23}H_{15}O_5SbW^+$						
	$(C_6H_5)_3(CO)_5SbW$ (Tungsten, pentacarbonyl(triphenylstibine)-(OC-6-22)-)	29743-03-1	**	7.90±0.05	EI	4600
O_2IW^+						
	WO_2I_2	14447-89-3		12.5±0.5	EI	3451
$O_2I_2W^+$						
	WO_2I_2	14447-89-3	**	10.4±0.4	EI	3451
Re^+						
	Re	7440-15-5	**	7.76±0.03	EI	5342
$C_6H_{18}Re^+$						
	$(CH_3)_6Re$	56090-02-9	**	7.89±0.03 (V)	PE	4733
$C_{10}H_{11}Re^+$						
	$(C_5H_5)_2HRe$ (Rhenium, bis(η^5-2,4-cyclopentadien-1-yl)hydro-)	1271-32-5	**	6.4±0.1 (V)	PE	4425
ORe^+						
	ReO_3	1314-28-9		~18	EI	4016
O_2Re^+						
	ReO_3	1314-28-9		14.4±1.0	EI	4016
	Re_2O_7	1314-68-7		21.9±1.0	EI	4016

Table of Ion Energetics Measurements—Continued

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
O_3Re^+						
	ReO_3	1314-28-9	**	12.1±0.3	EI	4245
			**	12.5±0.4	EI	4016
	Re_2O_7	1314-68-7		16.2±0.5	EI	4016
$O_5Re_2^+$						
	Re_2O_7	1314-68-7		17.5±0.2	EI	4016
$O_6Re_2^+$						
	Re_2O_7	1314-68-7		16.2±0.5	EI	4016
$O_7Re_2^+$						
	Re_2O_7	1314-68-7	**	12.7±0.2	EI	4016
$C_{10}O_{10}Re_2^+$						
	$(CO)_{10}Re_2$	14285-68-8	**	8.07 (V)	PE	4492
			**	8.86 (V)	PE	4448
$C_4H_{12}ORe^+$						
	$(CH_3)_4ORe$	53022-70-1	**	8.86±0.05 (V)	PE	4733
$C_8H_5O_3Re^+$						
	$C_5H_5(CO)_3Re$	12079-73-1	**	8.13 (V)	PE	4570
	(Rhenium, tricarbonyl (η^5-2,4-cyclopentadien-1-yl)-)					
$C_5HO_5Re^+$						
	$(CO)_5ReH$	16457-30-0	**	8.86±0.02 (V)	PE	3827
			**	8.89±0.08	PE	4492
			**	8.94 (V)	PE	4448
$C_6H_3O_5Re^+$						
	$(CO)_5CH_3Re$	14524-92-6	**	8.71±0.05 (V)	PE	4492
			**	8.72 (V)	PE	4448
$C_{12}H_3O_{12}Re_3^+$						
	$(CO)_{12}Re_3H_3$	XXXXX-XX-X	**	8.45 (V)	PE	5547
	$(CO)_{12}Re_3H_3$	73463-62-4	**	8.45 (V)	PE	5357
	(Rhenium,dodecacarbonyltri-μ-hydrotri-*triangulo*)					
F_6Re^+						
	ReF_6	10049-17-9	**	7.99	S	3565
			**	11.1±0.1	PE	4989
F_7Re^+						
	ReF_7	17029-21-9	**	14.1±0.1	PE	4989
O_3FRe^+						
	ReO_3F	42246-24-2	**	12.37±0.1 (V)	PE	4989
OF_5Re^+						
	$ReOF_5$	23377-53-9	**	13.2±0.1	PE	4989
$C_7O_6F_3Re^+$						
	$COCF_3(CO)_5Re$	55615-47-9	**	8.80 (V)	PE	4448
O_4NaRe^+						
	$NaReO_4$	XXXXX-XX-X	**	10.62±0.03 (V)	PE	4806
$C_5H_3O_5SiRe^+$						
	$(SiH_3)(CO)_5Re$	40628-33-9	**	8.9±0.1 (V)	PE	3827

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{16}H_{11}OSi_4Re^+$						
	$((CH_3)_3SiCH_2)_4ORe$	56519-47-2	**	8.00±0.1 (V)	PE	4733
Cl_5Re^+						
	$ReCl_5$ (JC-Mean value of Jahn-Teller components)	13596-35-5	**	9.50 (V)	PE	4764
$Cl_9Re_3^+$						
	Re_3Cl_9 (Rhenium, tri-μ-chlorohexachlorotri-*triangulo*)	14973-59-2	**	9.15±0.05 (V)	PE	5024
$C_5O_5ClRe^+$						
	$(CO)_5ReCl$	14099-01-5	**	8.80 (V)	PE	4448
			**	9.02 (V)	PE	4167
			**	9.06 (V)	PE	4492
O_4KRe^+						
	$KReO_4$	XXXXX-XX-X	**	9.98±0.05 (V)	PE	4806
$C_5H_3O_5GeRe^+$						
	$(GeH_3)(CO)_5Re$	30012-26-1	**	8.9±0.1 (V)	PE	3827
$Br_9Re_3^+$						
	Re_3Br_9 (*Rhenium, tri-μ-bromohexabromotri-triangulo*)	33517-16-7	**	8.72±0.10 (V)	PE	5024
$C_5O_5BrRe^+$						
	$(CO)_5ReBr$	14220-21-4	**	8.80 (V)	PE	4448
			**	8.83 (V)	PE	4492
			**	8.86 (V)	PE	4167
O_4RbRe^+						
	$RbReO_4$	XXXXX-XX-X	**	10.03±0.06 (V)	PE	4806
$C_8H_9O_5SnRe^+$						
	$((CH_3)_3Sn)(CO)_5Re$	15219-90-6	**	8.30±0.10	EI	5321
$C_{23}H_{15}O_5SnRe^+$						
	$((C_6H_5)_3Sn)(CO)_5Re$ (Rhenium,pentacarbonyl(triphenylstannyl)-(OC-6-22)-)	15614-21-8	**	7.98±0.09	EI	5321
O_3IRe^+						
	ReO_3I	39327-80-5	**	10.9±0.5	EI	4013
$C_5O_5IRe^+$						
	$(CO)_5ReI$	13821-00-6	**	8.32 (V)	PE	4448
			**	8.36 (V)	PE	4492
			**	8.50 (V)	PE	4167
O_4CsRe^+						
	$CsReO_4$	XXXXX-XX-X	**	9.83±0.03 (V)	PE	4806
O_4BaRe^+						
	$Ba(ReO_4)_2$?	XXXXX-XX-X		13.4±0.5	EI	4108
Os^+						
	Os	7440-04-2	**	8.15±0.09	EI	5342
$C_{12}H_{14}Os^+$						
	$(C_5H_4CH_3)_2Os$ (Osmocene, 1,1'-dimethyl-)	40672-07-9	**	6.93 (V)	PE	3688
O_4Os^+						
	OsO_4	20816-12-0	**	12.320	PE	3836
			**	12.35±0.02 (V)	PE	5148

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
O_4Os^+						
	OsO_4	20816-12-0	**	12.35	PE	4166
			**	12.39	PE	3838
$C_{12}O_{12}Os_3^+$						
	$(CO)_{12}Os_3$	15696-40-9	**	7.83 (V)	PE	5547
			**	7.83±0.2 (V)	PE	4882
			**	7.83 (V)	PE	5357
$C_{18}O_{18}Os_6^+$						
	$(CO)_{18}Os_6$ (Osmium, octadecacarbonylhexa-)	37216-50-5	**	7.50±0.2 (V)	PE	4882
Ir^+						
	Ir	7439-88-5	**	8.8±0.7	EI	5303
			**	8.87±0.05	EI	5342
$C_7H_7O_4Ir^+$						
	$(CH_3COCHCOCH_3)Ir(CO)_2$ (Dicarbonyl(2,4-pentanedionato)iridium)	14023-80-4	**	8.6±0.1	EI	3497
$C_7HO_4F_6Ir^+$						
	$(CF_3COCHCOCF_3)Ir(CO)_2$ (Dicarbonyl(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato)iridium)	14049-69-5	**	8.85±0.05	EI	3497
$HF_{12}P_4Ir^+$						
	$H(PF_3)_4Ir$	22372-64-1	**	9.82 (V)	PE	4456
$LaIr^+$						
	LaIr	53095-72-0	**	6.0±1.0	EI	5303
$CeIr^+$						
	IrCe	53239-19-3	**	6.0±1.0	EI	4209
Pt^+						
	Pt	7440-06-4	**	8.82±0.04	EI	5342
$C_6H_{10}Pt^+$						
	$(C_3H_5)_2Pt$	12240-88-9	**	7.91 (V)	PE	5281
$C_8H_{14}Pt^+$						
	$(CH_2C(CH_3)CH_2)_2Pt$	33010-07-0	**	7.65 (V)	PE	5281
$C_{10}H_{16}O_4Pt^+$						
	$((CH_3CO)_2CH_2)Pt$	XXXXX-XX-X	**	7.60 (V)	PE	5568
$C_8H_{24}P_2Pt^+$						
	$C_8H_{24}P_2Pt$	51351-75-8	**	7.68 (V)	PE	4739
$C_{18}H_{28}P_2Pt^+$						
	$C_{18}H_{28}P_2Pt$ (Platinum, bis(dimethylphenylphosphine)dimethyl-(SP-4-2)-)	24917-48-4	**	7.43 (V)	PE	4739
$F_{12}P_4Pt^+$						
	$Pt(PF_3)_4$	19529-53-4	**	8.89±0.03	PE	4187
$C_8H_{20}O_4P_2S_4Pt^+$						
	$Pt(S_2P(OC_2H_5)_2)_2$	37583-01-0	**	7.60±0.05	PE	4636
$C_7H_{21}P_2ClPt^+$						
	$C_7H_{21}P_2ClPt$	36512-52-4	**	7.76 (V)	PE	4739

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{17}H_{25}P_2ClPt^+$						
	$C_{17}H_{25}P_2ClPt$	24833-58-7	**	7.54 (V)	PE	4739
	(Platinum, chlorobis(dimethylphenylphosphine)methyl-(SP-4-3)-)					
$C_6H_{18}P_2Cl_2Pt^+$						
	$C_6H_{18}P_2Cl_2Pt$	21545-76-6	**	7.86 (V)	PE	4739
$TiPt^+$						
	PtTi	12038-31-2	**	10.1±1.0	EI	5150
$C_{17}H_{25}P_2BrPt^+$						
	$C_{17}H_{25}P_2BrPt$	24833-62-3	**	7.43 (V)	PE	4739
	(Platinum, bromobis(dimethylphenylphosphine)methyl-(SP-4-3)-)					
$C_7H_{21}P_2IPt^+$						
	$C_7H_{21}P_2IPt$	68146-10-1	**	7.33 (V)	PE	4739
$C_{17}H_{25}P_2IPt^+$						
	$C_{17}H_{25}P_2IPt$	24882-77-7	**	7.12 (V)	PE	4739
	(Platinum, bis(dimethylphenylphosphine)iodomethyl-(SP-4-3)-)					
$C_6H_{18}P_2I_2Pt^+$						
	trans-$((CH_3)_3P)_2I_2Pt$	15703-03-4	**	7.49 (V)	PE	4739
$C_{16}H_{22}P_2I_2Pt^+$						
	$C_{16}H_{22}P_2I_2Pt$	41119-53-3	**	7.39 (V)	PE	4739
	(Platinum, bis(dimethylphenylphosphine)diiodo-(SP-4-1)-)					
$CePt^+$						
	PtCe	12157-68-5	**	6.4±1.0	EI	4209
Au^+						
($^2P^u$)	Au	7440-57-5	**	9.23	S	5500
($^1S_0$)			**	9.22	PE	4858
($^1D_2$)			**	11.08	PE	4858
($^3D_2$)			**	11.41	PE	4858
($^3D_1$)			**	12.66	PE	4858
($^1D_2$)			**	12.89	PE	4858
			**	8.5±0.8	EI	3978
			**	9.0±0.5	EI	3473
			**	9.21±0.05	EI	3745
	NaAu	XXXXX-XX-X	Na	7.8	EI	4578
Au_2^+						
	Au_2	12187-09-6	**	9.5±0.3	EI	4014
			**	8.7±1.0	EI	5391
			**	9.5±0.3	EI	4005
			**	9.7±0.4	EI	3468
BAu^+						
	AuB	12408-81-0	**	8.7±0.5	EI	3468
$BOAu^+$						
	AuBO	12588-90-8	**	9.7±0.2	EI	3473
$NaAu^+$						
	NaAu	61115-29-5	**	6.2	EI	4578
			**	8.5±1.5	EI	4919
$AlAu^+$						
	AuAl	12250-38-3	**	7.6±0.3	EI	4014
			**	7.6±0.3	EI	4005

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$AlAu^+$						
	AuAl	12250-38-3	**	7.8±0.3	EI	3440
			**	9.0±1.0	EI	3796
Al_2Au^+						
	$AuAl_2$	12004-03-4	**	6.2±1.0	EI	3966
$AlAu_2^+$						
	Au_2Al	12250-39-4	**	7.7±1.0	EI	3966
$C_4H_{12}PAu^+$						
	$((CH_3)_3P)(CH_3)Au$	32407-79-7	**	8.27 (V)	PE	4739
$C_6H_{18}PAu^+$						
	$((CH_3)_3P)(CH_3)_3Au$	33012-33-8	**	7.80 (V)	PE	4739
$C_{11}H_{20}PAu^+$						
	$C_{11}H_{20}PAu$ (Gold, (dimethylphenylphosphine)trimethyl-(SP-4-2)-)	54854-73-8	**	7.69 (V)	PE	4739
$C_{16}H_{22}PAu^+$						
	$C_{16}H_{22}PAu$ (Gold, trimethyl(methyldiphenylphosphine)-(SP-4-2)-)	52170-97-5	**	7.64 (V)	PE	4739
$GeAu^+$						
	AuGe	12256-41-6	**	7.7	EI	3775
$CsAu^+$						
	CsAu	12256-37-0	**	6.6±0.3	EI	5153
$LaAu^+$						
	LaAu	12429-32-2	**	5.8±1.0	EI	5303
$CeAu^+$						
	AuCe	12408-82-1	**	6.0±0.3	EI	3468
$AuEu^+$						
	EuAu	56214-25-6	**	5.6±1.0	EI	4529
Au_2Eu^+						
	$EuAu_2$	51198-56-2	**	5.9±1.0	EI	4529
$HoAu^+$						
	AuHo	12044-80-3	**	6.2±0.5	EI	3440
Hg^+						
($^2S_{1/2}$)	Hg	7439-97-6	**	10.4	PE	3672
($^2D_{3/2}$)			**	14.8	PE	3672
($^2S_{1/2}$)			**	10.487±0.005	PEN	3541
($^2D_{5/2}$)			**	14.907±0.015	PEN	3541
($^2D_{3/2}$)			**	16.787±0.015	PEN	3541
($^2P_{3/2}$)			**	18.050±0.050	PEN	3541
			**	10.47±0.05	EI	3745
Hg_2^+						
	Hg_2	12596-25-7	**	9.40±0.08	EI	5428
Hg_3^+						
	Hg_3	11062-37-6	**	8.90±0.08	EI	5428
Hg_4^+						
	Hg_4	XXXXX-XX-X	**	8.65±0.08	EI	5428

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
Hg_5^+	Hg_5	XXXXX-XX-X	**	8.60±0.08	EI	5428
Hg_6^+	Hg_6	XXXXX-XX-X	**	8.50±0.08	EI	5428
Hg_7^+	Hg_7	XXXXX-XX-X	**	8.35±0.08	EI	5428
Hg_8^+	Hg_8	XXXXX-XX-X	**	8.28±0.08	EI	5428
Hg_9^+	Hg_9	XXXXX-XX-X	**	8.25±0.08	EI	5428
Hg_{10}^+	Hg_{10}	XXXXX-XX-X	**	8.25±0.08	EI	5428
Hg_{11}^+	Hg_{11}	XXXXX-XX-X	**	8.22±0.08	EI	5428
Hg_{12}^+	Hg_{12}	XXXXX-XX-X	**	8.12±0.08	EI	5428
$C_{12}H_{10}Hg^+$	$(C_6H_5)_2Hf$ (Mercury, diphenyl-)	587-85-9	**	8.30±0.03	PI	4055
$C_2H_6Hg^+$	$(CH_3)_2Hg$	593-74-8	**	9.3 (V)	PE	5300
			**	9.33 (V)	PE	4574
$C_3H_8Hg^+$	$(CH_3)(C_2H_5)Hg$	29138-86-1	**	8.84 (V)	PE	4574
$C_4H_{10}Hg^+$	$(C_2H_5)_2Hg$	627-44-1	**	8.45 (V)	PE	4574
			**	8.9 (V)	PE	5300
	$(CH_3)(iso\text{-}C_3H_7)Hg$	29138-88-3	**	8.48 (V)	PE	4574
$C_5H_{12}Hg^+$	$(C_2H_5)(iso\text{-}C_3H_7)Hg$	59049-79-5	**	8.18 (V)	PE	4574
	$(CH_3)(iso\text{-}C_4H_9)Hg$	59643-44-6	**	8.75 (V)	PE	4574
	$(CH_3)(tert\text{-}C_4H_9)Hg$	59049-78-4	**	8.31 (V)	PE	4574
$C_6H_{14}Hg^+$	$(n\text{-}C_3H_7)_2Hg$	628-85-3	**	8.29 (V)	PE	4574
	$(iso\text{-}C_3H_7)_2Hg$	1071-39-2	**	8.03 (V)	PE	4574
	$(C_2H_5)(tert\text{-}C_4H_9)Hg$	59049-80-8	**	8.06 (V)	PE	4574
$C_7H_{16}Hg^+$	$C_7H_{16}Hg$	59049-81-9	**	7.73 (V)	PE	4574
$C_8H_{18}Hg^+$	$(n\text{-}C_4H_9)_2Hg$	629-35-6	**	8.35 (V)	PE	4574
	$(iso\text{-}C_4H_9)_2Hg$	24470-76-6	**	8.30 (V)	PE	4574
	$(tert\text{-}C_4H_9)_2Hg$	23587-90-8	**	7.57 (V)	PE	4574
$C_9H_{20}Hg^+$	$(iso\text{-}C_4H_9)(neo\text{-}C_5H_{11})Hg$	59643-45-7	**	8.33 (V)	PE	4574

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{10}H_{10}Hg^+$						
	$(C_5H_5)_2Hg$ (Mercurocene)	12083-67-9	**	8.4±0.1 (V)	PE	4853
$C_{10}H_{22}Hg^+$						
	(*neo*-C_5H_{11})$_2$Hg	10284-49-8	**	8.30 (V)	PE	4574
$C_8H_6O_2Hg^+$						
	$(C_4H_3O)_2Hg$ (Mercury,di-2-furanyl-)	28752-79-6	**	8.39 (V)	PE	5323
	$(C_4H_3O)_2Hg$ (Mercury,di-3-furanyl-)	28752-80-9	**	8.70 (V)	PE	5323
$CN_3F_3Hg^+$						
	CF_3N_3Hg	51353-52-7	**	9.87 (V)	PE	4512
$C_2NOF_3Hg^+$						
	CF_3NCOHg	51353-51-6	**	10.83 (V)	PE	4512
$CNO_3F_3Hg^+$						
	CF_3ONO_2Hg	461-40-5	**	11.07 (V)	PE	4512
$C_{11}H_{38}Si_4Hg^+$						
	$(CH(Si(CH_3)_3)_2)_2Hg$	13294-24-1	**	8.12±0.05 (V)	PE	4725
$C_{12}H_{36}N_2Si_4Hg^+$						
	$(N(Si(CH_3)_3)_2)_2Hg$	4104-81-8	**	8.33±0.05 (V)	PE	4725
$C_8H_6S_2Hg^+$						
	$(C_4H_3S)_2Hg$ (Mercury,di-2-thienyl-)	5980-89-2	**	8.47 (V)	PE	5323
	$(C_4H_3S)_2Hg$ (Mercury,di-3-thienyl-)	28752-81-0	**	8.72 (V)	PE	5323
$C_2F_6S_2Hg^+$						
	$(SCF_3)_2Hg$	XXXXX-XX-X	**	10.2 (V)	PE	4512
Cl_2Hg^+						
	$HgCl_2$	7487-94-7	**	11.5 (V)	PE	3963
$C_3H_5ClHg^+$						
	CH_2=$CHCH_2HgCl$	14155-77-2	**	9.35 (V)	PE	3859
$C_7H_7ClHg^+$						
	$C_6H_5CH_2HgCl$ (Mercury, chloro(phenylmethyl)-)	2117-39-7	**	8.65 (V)	PE	4490
$C_4H_3OClHg^+$						
	$C_4H_3O(HgCl)$ (Mercury,chloro-2-furanyl-)	5857-37-4	**	8.96 (V)	PE	5323
	$C_4H_3O(HgCl)$ (Mercury,chloro-3-furanyl-)	5857-38-5	**	9.10 (V)	PE	5323
$C_5H_5OClHg^+$						
	$C_4H_3O(CH_2HgCl)$ (Mercury,chloro(3-furanylmethyl)-)	73057-78-0	**	8.80 (V)	PE	5323
$C_4H_3SClHg^+$						
	$C_4H_3S(HgCl)$ (Mercury,chloro-2-thienyl-)	5857-39-6	**	9.05 (V)	PE	5323
	$C_4H_3S(HgCl)$ (Mercury,chloro-3-thienyl-)	73057-79-1	**	9.23 (V)	PE	5323

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_5H_5SClHg^+$						
	$C_4H_3S(CH_2HgCl)$ (Mercury,chloro(3-thienylmethyl)-)	73057-80-4	**	8.79 (V)	PE	5323
CF_3IHg^+						
	CF_3HgI	421-11-4	**	9.89 (V)	PE	4512
Tl^+						
	$TlBO_2$	XXXXX-XX-X	BO_2	10.43±0.07	EI	4096
Tl_2^+						
	Tl_2O	1314-12-1		11.97±0.09	EI	4096
$C_5H_5Tl^+$						
	C_5H_5Tl (Thallium, (η^5-2,4-cyclopentadien-1-yl)-)	34822-90-7	**	7.96 (V)	PE	4777
			**	8.12±0.05 (V)	PE	4853
OTl^+						
	$TlBO_2$	XXXXX-XX-X		10.68±0.11	EI	4096
OTl_2^+						
	Tl_2O	1314-12-1	**	8.02±0.10	EI	4096
BO_2Tl^+						
	$TlBO_2$	XXXXX-XX-X	**	10.2±0.05 (V)	PE	4871
			**	9.92±0.11	EI	4096
$BO_2Tl_2^+$						
	$(TlBO_2)_2$	XXXXX-XX-X		9.17±0.10	EI	4096
NO_3Tl^+						
	$TlNO_3$	XXXXX-XX-X	**	9.9±0.05 (V)	PE	4871
FTl^+						
($^2\Sigma$)	TlF	7789-27-7	**	10.80±0.02 (V)	PE	4552
($^2\Pi$)			**	11.90±0.02 (V)	PE	4552
($^2\Sigma$)			**	14.20±0.02 (V)	PE	4552
($^2\Sigma$)			**	10.52	PE	3971
($^2\Pi$)			**	11.15	PE	3971
($^2\Sigma$)			**	14.05	PE	3971
FTl_2^+						
	$(TlF)_2$	31970-97-5		9.97±0.02	PI	3971
$F_2Tl_2^+$						
	$(TlF)_2$	31970-97-5	**	9.71±0.02	PI	3971
			**	9.62	PE	3971
			**	9.96±0.02 (V)	PE	4552
$O_4STl_2^+$						
	Tl_2SO_4	XXXXX-XX-X	**	9.8±0.05 (V)	PE	4871
$ClTl^+$						
($^2\Sigma$)	TlCl	7791-12-0	**	9.894 (V)	PE	3913
			**	9.91 (V)	PE	4826
($^2\Sigma_{1/2}$)			**	9.92 (V)	PE	4713
($^2\Pi$)			**	9.925 (V)	PE	3536
($^2\Pi_{3/2}+^2\Pi_{1/2}$)			**	10.38 (V)	PE	4713
($^2\Pi$)			**	10.384 (V)	PE	3913
($^2D_{5/2}$)			**	11.04 (V)	PE	4713
($^2D_{3/2}$)			**	11.95 (V)	PE	4713

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
ClTl$^+$						
($^2\Pi_{3/2}$)	TlCl	7791-12-0	**	10.38 (V)	PE	4713
($^2D_{3/2}$)			**	13.17 (V)	PE	4713
($^2D_{5/2}$)			**	13.41 (V)	PE	4713
($^2D_{5/2}$)			**	13.68 (V)	PE	4713
($^2\Sigma$)			**	13.79	PE	3913
($^2\Sigma_{1/2}$)			**	13.89 (V)	PE	4713
($^2D_{3/2}$)			**	15.86 (V)	PE	4713
($^2\Pi_{1/2}$)			**	18.55 (V)	PE	4713
($^2\Pi_{3/2}$)			**	20.23 (V)	PE	4713
($^2D_{5/2}$)			**	20.97 (V)	PE	4713
($^2D_{5/2}$)			**	21.16 (V)	PE	5035
($^2D_{5/2}$)			**	21.24 (V)	PE	4713
($^2D_{5/2}$)			**	21.41 (V)	PE	4713
($^2D_{3/2}$)			**	23.30 (V)	PE	4713
($^2D_{3/2}$)			**	23.32 (V)	PE	5035
($^2D_{3/2}$)			**	23.42 (V)	PE	4713
AsTl$^+$						
	TlAs	12006-09-6	**	9±1	EI	3947
BrTl$^+$						
($^2\Sigma_{1/2}$)	TlBr	7789-40-4	**	9.50 (V)	PE	4713
($^2\Pi$)			**	9.832 (V)	PE	3913
($^2\Pi_{3/2}$+$^2\Pi_{1/2}$)			**	9.85 (V)	PE	4713
($^2\Sigma$)			**	13.57	PE	3913
($^2\Sigma_{1/2}$)			**	13.69 (V)	PE	4713
($^2\Pi_{1/2}$?)			**	17.78 (V)	PE	4713
($^2\Pi_{3/2}$)			**	20.60 (V)	PE	4713
($^2D_{5/2}$)			**	20.86 (V)	PE	4713
($^2D_{5/2}$)			**	21.04 (V)	PE	5035
($^2D_{5/2}$)			**	21.13 (V)	PE	4713
($^2D_{3/2}$)			**	23.11 (V)	PE	4713
($^2D_{3/2}$)			**	23.23 (V)	PE	5035
($^2D_{3/2}$)			**	23.25 (V)	PE	4713
ITl$^+$						
	TlI	7790-30-9	**	8.47±0.02	PI	3536
($^2\Sigma_{1/2}$,$^2\Pi_{3/2}$)			**	8.47±0.02	PE	3913
($^2\Sigma_{1/2}$+$^2\Pi_{3/2}$)			**	8.89 (V)	PE	4713
			**	8.93 (V)	PE	3676
($^2\Pi$)			**	9.39	PE	3913
($^2\Pi_{1/2}$)			**	9.73 (V)	PE	4713
($^2\Sigma$)			**	13.0	PE	3913
($^2\Sigma_{1/2}$)			**	13.10 (V)	PE	4713
($^2\Sigma_{1/2}$)			**	13.47 (V)	PE	4713
($^2\Pi_{1/2}$?)			**	18.07 (V)	PE	4713
($^2D_{5/2}$)			**	20.59 (V)	PE	4713
($^2D_{5/2}$)			**	20.75 (V)	PE	5035
($^2D_{5/2}$)			**	20.78 (V)	PE	4713
($^2D_{3/2}$)			**	22.87 (V)	PE	4713
($^2D_{3/2}$)			**	23.04 (V)	PE	5035
($^2D_{3/2}$)			**	23.05	PE	4713
O_4ReTl^+						
	$TlReO_4$	XXXXX-XX-X	**	10.6±0.05 (V)	PE	4871
Pb$^+$						
($^2P''_{1/2}$)	Pb	7439-92-1	**	7.417	S	5449
($^2P''_{3/2}$)			**	9.163	S	5449
($^2P_{1/2}$)			**	7.42±0.01	PE	5534
($^2P_{3/2}$)			**	9.16±0.01	PE	5534
($^1P_{1/2}$)			**	14.59±0.01	PE	5534

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
Pb^+						
($^1P_{3/2}$)	Pb	7439-92-1	**	15.61±0.01	PE	5534
($^2D_{5/2}$)			**	15.97±0.01	PE	5534
($^2D_{3/2}$)			**	16.06±0.01	PE	5534
($^1P_{5/2}$)			**	16.57±0.01	PE	5534
($^2P_{1/2}$)			**	18.35±0.01	PE	5534
$LiPb^+$						
	PbLi	12372-50-8	**	6.4±0.5	EI	5426
$C_3H_9Pb^+$						
	$(CH_3)_4Pb$	75-74-1	CH_3	8.77±0.16	EI	3548
	(*tert*-C_4H_9)$(CH_3)_3Pb$	32997-03-8	$(CH_3)_3C$	8.67±0.21	EI	3548
	$((CH_3)_3Pb)_2$	6713-83-3	$(CH_3)_3Pb$	9.02±0.14	EI	3548
	$C_6H_5SPb(CH_3)_3$ (Plumbane, trimethyl(phenylthio)-)	40560-63-2		8.37±0.1	EI	4198
$C_4H_{12}Pb^+$						
	$(CH_3)_4Pb$	75-74-1	**	8.50±0.04	PE	3880
			**	8.83±0.1	PE	3677
			**	8.26±0.17	EI	3548
$C_7H_{18}Pb^+$						
	(*tert*-C_4H_9)$(CH_3)_3Pb$	32997-03-8	**	7.99±0.13	EI	3548
$C_9H_{14}Pb^+$						
	$C_6H_5(CH_3)_3Pb$ (Plumbane, trimethylphenyl-)	19040-53-0	**	~8.82	PE	4589
$C_{10}H_{10}Pb^+$						
	$(C_5H_5)_2Pb$ (Plumbocene)	1294-74-2	**	7.53±0.05 (V)	PE	4853
$C_{10}H_{16}Pb^+$						
	$C_6H_5CH_2(CH_3)_3Pb$ (Plumbane, trimethyl(phenylmethyl)-)	54338-54-4	**	7.87±0.05	PE	4589
$C_6H_{18}Pb_2^+$						
	$((CH_3)_3Pb)_2$	6713-83-3	**	7.41±0.10	EI	3548
$C_{44}H_{28}N_4Pb^+$						
	$C_{20}H_8N_4(C_6H_5)_4Pb$ (Lead, [5,10,15,20-tetraphenyl-21H,23H-porphinato(2-)-N^{21},N^{22},N^{23},N^{24}]-(SP-4-1)-)	14784-17-9	**	5.99±0.2	OTH	4962
OPb^+						
	PbO	1317-36-8	**	9.08±0.10	EI	5163
O_2Pb^+						
	PbO_2	1309-60-0	**	8.87±0.10	EI	5163
$C_{14}H_{38}Si_4Pb^+$						
	$(CH(Si(CH_3)_3)_2)_2Pb$	41823-73-8	**	7.25±0.05 (V)	PE	4725
$C_{16}H_{44}Si_4Pb^+$						
	$((CH_3)_3SiCH_2)_4Pb$	18547-13-2	**	8.14±0.1 (V)	PE	3830
$C_{14}H_{36}N_2Si_2Pb^+$						
	$(N(Si(CH_3)_3)(tert\text{-}C_4H_9))_2Pb$	55147-79-0	**	7.26±0.05 (V)	PE	4725
			**	7.18 (V)	PE	4157

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{12}H_{36}N_2Si_4Pb^+$						
	$(N(Si(CH_3)_3)_2)_2Pb$	55147-59-6	**	7.92 (V)	PE	4157
			**	7.92±0.05 (V)	PE	4725
$C_4H_{12}SPb^+$						
	$(CH_3)_3SCH_3Pb$	14326-59-1	**	8.13±0.05 (V)	PE	4153
$C_8H_{14}SPb^+$						
	$C_6H_5SPb(CH_3)_3$ (Plumbane, trimethyl(phenylthio)-)	40560-63-2	CH_3	8.11±0.1	EI	4198
$C_9H_{14}SPb^+$						
	$C_6H_5S(CH_3)_3Pb$ (Plumbane, trimethyl(phenylthio)-)	40560-63-2	**	8.15±0.05	PE	4589
			**	7.75±0.1	EI	4198
$C_{10}H_{16}SPb^+$						
	$C_6H_4(SCH_3)(CH_3)_3Pb$ (Plumbane, trimethyl[4-(methylthio)phenyl]-)	59163-57-4	**	<8.02 (V)	PE	4627
$C_6H_{18}SPb_2^+$						
	$((CH_3)_3Pb)_2S$	14511-33-2	**	7.78±0.05 (V)	PE	4153
Cl_2Pb^+						
	$PbCl_2$	7758-95-4	**	10.11 (V)	PE	3650
($^2D_{5/2}$)			**	27.34 (V)	PE	5035
($^2D_{3/2}$)			**	29.92 (V)	PE	5035
$C_3H_9ClPb^+$						
	$(CH_3)_3PbCl$	1520-78-1	**	9.70 (V)	PE	4566
Br_2Pb^+						
($^2B_1$)	$PbBr_2$	10031-22-8	**	9.81±0.05 (V)	PE	4826
($^2D_{5/2}$)			**	27.02 (V)	PE	5035
($^2D_{3/2}$)			**	29.58 (V)	PE	5035
$C_3H_9BrPb^+$						
	$(CH_3)_3PbBr$	6148-48-7	**	9.30 (V)	PE	4566
$TePb^+$						
($^2\Pi_{3/2}$)	TePb	1314-91-6	**	8.04 (V)	PE	4550
($^2\Pi_{1/2}$)			**	8.34 (V)	PE	4550
($^2\Sigma$)			**	9.01 (V)	PE	4550
I_2Pb^+						
	PbI_2	10101-63-0	**	8.86±0.03	PI	3536
($^2D_{5/2}$)			**	26.48 (V)	PE	5035
($^2D_{3/2}$)			**	29.20 (V)	PE	5035
Bi^+						
	Bi	7440-69-9	**	7.2±0.5	EI	4128
	Bi_2	12187-12-1		9.6±0.5	EI	4128
Bi_2^+						
	Bi_2	12187-12-1	**	7.3±0.5	EI	4120
			**	7.6±0.5	EI	4128
Bi_3^+						
	Bi_4	XXXXX-XX-X	**	8.8±0.5	EI	4128
Bi_4^+						
	Bi_4	12595-65-2	**	7.3±0.5	EI	4128

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$LiBi^+$						
	BiLi	12048-27-0	**	6.0±0.5	EI	5426
$C_5H_5Bi^+$						
	C_5H_5Bi (Bismin)	289-52-1	**	7.9	PE	4416
$C_6H_5Bi^+$						
	$(C_6H_5)_3Bi$ (Bismuthine, triphenyl-)	603-33-8		7.75±0.1	PI	4325
$C_{12}H_{10}Bi^+$						
	$(C_6H_5)_3Bi$ (Bismuthine, triphenyl-)	603-33-8		7.9±0.1	PI	4325
$C_{18}H_{15}Bi^+$						
	$(C_6H_5)_3Bi$ (Bismuthine, triphenyl-)	603-33-8	**	7.45±0.05	PI	4325
F_3Bi^+						
	BiF_3	7787-61-3	**	~12	EI	3551
F_4Bi^+						
	BiF_5	7787-62-4		14.5-15	EI	3551
$GaBi^+$						
	GaBi	12010-43-4	**	7±1	EI	3608
$TlBi^+$						
	BiTl	26257-16-9	**	7.5±0.4	EI	3949
Ac^+						
	Ac	7440-34-8	**	5.17±0.12	OTH	3875
Th^+						
($^1S_0$)	Th	7440-29-1	**	6.11±0.02	PE	5052
($^3P_0$)			**	12.22±0.07	PE	5052
($^3P_1$)			**	12.56±0.06	PE	5052
($^3P_2$)			**	13.75±0.04	PE	5052
($^1P_1$)			**	15.49±0.03	PE	5052
			**	5.9±0.15	EI	3962
			**	6.0±0.1	EI	4114
			**	6.2±0.2	EI	4123
			**	6.8	EI	4119
			**	6.9±0.5	EI	4909
			**	6.9±0.5	EI	5306
			**	7.0±0.5	EI	4208
			**	6.08±0.12	OTH	3875
			**	7.4±0.3	OTH	5149
	ThO	12035-93-7	O	15.9±0.1	EI	4123
				16	EI	4208
CTh^+						
	CTh	12012-16-7	**	7.9±1.0	EI	5306
			**	8.0±1.0	EI	4112
C_2Th^+						
	C_2Th	12071-31-7	**	6.4±0.5	EI	5306
			**	6.5±0.3	EI	4112
C_3Th^+						
	C_3Th	XXXXX-XX-X	**	8.4±1.0	EI	5306

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
C_3Th^+						
	C_3Th	XXXXX-XX-X	**	9.2±1.0	EI	4112
C_4Th^+						
	C_4Th	52931-63-2	**	9.0±0.5	EI	5306
			**	10.0±1.0	EI	4112
$C_{16}H_{16}Th^+$						
	$(C_8H_8)_2Th$ (Thorium, bis(η^8-1,3,5,7-cyclooctatetraene)-)	12702-09-9	**	6.75 (V)	PE	4562
			**	6.79 (V)	PE	4612
OTh^+						
	ThO	12035-93-7	**	>6.0±0.1	EI	4208
			**	6.1±0.1	EI	4114
			**	6.1±0.15	EI	3962
			**	6.1	EI	4119
O_2Th^+						
	ThO_2	1314-20-1	**	8.7±0.15	EI	4114
			**	8±1	EI	4208
	ThO_2		**	8.7±0.15	EI	3962
$C_{20}H_{28}O_8Th^+$						
	$((CH_3CO)_2CH)_4Th$	17499-48-8	**	7.85 (V)	PE	5338
Cl_4Th^+						
	$ThCl_4$	10026-08-1	**	12.7±0.3	EI	3795
$C_{15}H_{15}ClTh^+$						
	$(C_5H_5)_3ThCl$ (Thorium, chlorotris(η^5-2,4-cyclopentadien-1-yl)-)	1284-82-8	**	7.85 (V)	PE	4585
$C_{18}H_{21}ClTh^+$						
	$(C_5H_4CH_3)_3ThCl$ (Thorium, chlorotris](1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]-)	62156-90-5	**	7.75 (V)	PE	4585
$RuTh^+$						
	RuTh	52014-55-8	**	6.4±0.5	EI	4909
			**	7.1±1.0	EI	4130
$PtTh^+$						
	ThPt	12038-30-1	**	8±2	EI	3968
Pa^+						
	Pa	7440-13-3	**	5.89±0.12	OTH	3875
U^+						
	U	7440-61-1	**	6.22±0.5	S	3566
			**	6.0±0.5	EI	4909
			**	6.0±0.5	EI	5169
			**	6.1±0.1	EI	4114
			**	6.1±0.3	EI	3557
			**	6.8±1.5	EI	3595
			**	~6±0.5	EI	3448
			**	6.05±0.07	OTH	3875
			**	6.3±0.3	OTH	5149
U^{+2}						
	U^+	15721-70-7	**	10.6±1	S	3566

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$H_{16}B_4U^+$						
	$U(BH_4)_4$	12523-77-2	**	9.58±0.1 (V)	PE	4825
			**	9.59± (V)	PE	4888
			**	9.0±0.5	EI	5375
CU^+						
	UC	12070-09-6	**	7.8±1.0	EI	5169
C_2U^+						
	UC_2	12071-33-9	**	6.4±0.5	EI	5169
C_3U^+						
	UC_3	XXXXX-XX-X	**	8.1±1.0	EI	5169
C_4U^+						
	UC_4	XXXXX-XX-X	**	8.7±0.5	EI	5169
$C_{16}H_{16}U^+$						
	$(C_8H_8)_2U$ (Uranium, bis(η^8-1,3,5,7-cyclooctatetraene)-)	11079-26-8	**	6.15 (V)	PE	4562
			**	6.20 (V)	PE	4612
$BC_{18}H_{25}U^+$						
	$(C_5H_4CH_3)_3UBH_4$ (Uranium, tris[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]-tetrahydroborate(1-))	62156-96-1	**	6.35 (V)	PE	4585
OU^+						
	UO	12035-97-1	**	4.3±1.5	EI	3595
			**	5.6±0.1	EI	4114
			**	5.7±0.4	EI	3557
			**	~6±0.5	EI	3448
O_2U^+						
	UO_2	1344-57-6	**	4.5±1.5	EI	3595
			**	5.4±0.1	EI	4114
			**	5.5±0.4	EI	3557
O_3U^+						
	UO_3	1344-58-7	**	9.5±1.5	EI	3595
			**	10.6±0.1	EI	4114
			**	11.1±0.4	EI	3557
$C_{10}H_{14}O_6U^+$						
	$((CH_3CO)_2CH)_2UO_2$	18039-69-5	**	8.40 (V)	PE	5338
$C_{20}H_{28}O_8U^+$						
	$((CH_3CO)_2CH)_4U$	17923-26-1	**	6.65 (V)	PE	5338
F_4U^+						
	UF_4	10049-14-6	**	9.51	PE	5371
			**	9.96±0.1	EI	4865
			**	10.0±0.3	EI	4865
	UF_6	7783-81-5	2F	17.35±0.1	EI	4865
F_5U^+						
	UF_5	13775-07-0	**	11.28±0.1	EI	4865
			**	11.5±0.3	EI	4865
	UF_6	7783-81-5	F	14.24±0.10	EI	4865
F_6U^+						
	UF_6	7783-81-5	**	14.00±0.10	EI	4865

Ion (state)	Reactant	CAS Registry Number	Other products	Ionization or appearance potential (eV)	Method	Ref.
$C_{10}H_2O_6F_{12}U^+$						
	$((CF_3CO)_2CH)_2UO_2$	67316-66-9	**	10.05 (V)	PE	5338
$C_{20}H_{16}O_8F_{12}U^+$						
	$(CF_3COCHCOCH_3)_4U$	32627-13-7	**	7.83 (V)	PE	5338
OSU^+						
	UOS	22201-28-1	**	~8±0.5	EI	3448
Cl_4U^+						
	UCl_4	10026-10-5	**	9.18	PE	5371
			**	11.0±0.3	EI	3795
$C_{15}H_{15}ClU^+$						
	$(C_5H_5)_3UCl$ (Uranium, chlorotris (η^5-2,4-cyclopentadien-1-yl)-)	1284-81-7	**	6.90 (V)	PE	4585
$C_{18}H_{21}ClU^+$						
	$(C_5H_4CH_3)_3UCl$ (Uranium, chlorotris[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]-)	59834-82-1	**	7.10 (V)	PE	4585
$C_{18}H_{21}BrU^+$						
	$(C_5H_4CH_3)_3UBr$ (Uranium, bromotris[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]-)	62050-82-2	**	6.95 (V)	PE	4585
RuU^+						
	RuU	12316-41-5	**	6.1±0.5	EI	4909
Np^+						
	Np	7439-99-8	**	6.1±0.1	EI	4560
			**	6.20±0.12	OTH	3875
			**	6.2657±0.0005	S	5165
ONp^+						
	NpO	XXXXX-XX-X	**	5.7±0.1	EI	4560
Pu^+						
	Pu	7440-07-5	**	6.06±0.02	OTH	3875
Am^+						
	Am	7440-35-9	**	5.993±0.010	OTH	3875
Cm^+						
	Cm	7440-51-9	**	6.09±0.02	OTH	3875
Bk^+						
	Bk	7440-40-6	**	6.30±0.09	OTH	3875
Cf^+						
	Cf	7440-71-3	**	6.41±0.10	OTH	3875
Es^+						
	Es	7429-92-7	**	6.52±0.10	OTH	3875
Fm^+						
	Fm	7440-72-4	**	6.64±0.11	OTH	3875
Md^+						
	Md	7440-11-1	**	6.74±0.12	OTH	3875
No^+						
	No	10028-14-5	**	6.84±0.12	OTH	3875

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A compilation is presented of the ionization potential and appearance potential measurements which appeared in the refereed literature in the time period 1971-1981. The data are sorted according to the identity of the ionic species formed in the ionization process. Precursor molecules or radicals are identified by a structural formula and, in the case of compounds containing rings, by name according to the Chemical Abstracts system of nomenclature. Chemical Abstracts Registry Numbers are provided where available. A complete bibliography and author index are provided.

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