Atlas of the High-Temperature Water Vapor Spectrum in the 3000 to 4000 cm^{-1} Region

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An atlas of the high-temperature (1200 K) absorption spectrum of water vapor in the 3000 to 4000 cm^{-1} region is presented. The infrared spectrum was recorded at Doppler-limited resolution using a tunable difference-frequency laser spectrometer. The spectral region scanned encompasses the strong OH stretching fundamentals, ν_1 and ν_3, and the bending overtone, $2\nu_2$, as well as associated hot bands. Almost all the lines have been assigned using a model Hamiltonian which yields very satisfactory agreement between calculated and observed line positions for J up to 27 or K_a up to 14. The calculated eigenvectors applied to the transition moment operator predict the measured line intensities quite closely. This work should serve as a reference for analyzing spectra from high-temperature sources such as combustion exhausts and cool stars.

Key words: difference-frequency laser; Doppler-limited resolution; high temperatures; infrared spectrum; OH stretching fundamentals; water vapor.

Contents

1. Introduction

The infrared spectrum of water vapor at ordinary temperatures (~300 K) is quite well known, with the high-resolution Fourier transform interferometer study by Camy-Peyret, Flaud, Guelachvili, and Amiot [1][1] being perhaps the most complete and precise to date. Since water vapor is an oxidation product of the burning of hydrocarbons and other fuels and is present in the atmospheres of cool stars, an accurate knowledge of its high-temperature infrared spectrum is an aid in combustion diagnostics and in astrophysical studies. At high temperatures the most extensive study is the H_2O emission spectrum from an H_2/O_2 flame by Flaud, Camy-Peyret, and Maillard [2], also recorded on a Fourier transform instrument. Temperatures in the flame reached 2900 K, which are much higher than can be obtained in absorption cell experiments. However the complex temperature distribution in the flame and its atmospheric pressure operation create some uncertainties in measurements of line intensities and positions. Thus it seems important to have a comprehensive, low-pressure absorption spectrum at intermediate temperatures to bridge the gap between the cold water and flame measurements.

We present here an atlas of the high-temperature absorption spectrum of water vapor recorded in the

[1] Figures in brackets indicate literature references at the end of this paper.

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3000 to 4000 cm^{-1} region with Doppler-limited resolution using a tunable difference-frequency laser spectrometer. This spectral region contains the strong ν_1 and ν_3 OH stretching fundamentals and the $2\nu_2$ bending overtone. At the temperature of these measurements (~1200 K) the ν_2 vibration is highly excited so that many hot band lines as well as higher rotational levels are observed. This study thus makes it possible to extend the hot band and high J, K_a rotational assignments of H_2O and to have precision wavenumbers and transition intensities which can be used for reference and which can be helpful in refining theoretical models to improve predictive capabilities.

2. Experimental Considerations

2.1. Spectrometer

The tunable laser difference-frequency spectrometer used to record the Doppler-limited spectrum of high-temperature water vapor is based on mixing of a cw single-mode argon and a tunable dye laser in the nonlinear optical crystal $LiNbO_3$. The infrared beat frequency generated in the $LiNbO_3$ crystal is split into sample and reference beams for ratio recording to eliminate amplitude fluctuations due to the incident lasers. Details on the visible-to-infrared conversion efficiency, spectral coverage, phasematching requirements, drift compensation, extended scan range, stabilization, and linear scan control of the difference-frequency spectrometer appear in references [3-6].

In the present experiment the difference-frequency spectrometer was tuned over the range from 4005 cm^{-1} to 2965 cm^{-1} to encompass the entire fundamental ν_1 and ν_3 bands and the overtone $2\nu_2$ of water vapor. This coverage of more than 1000 cm^{-1} at ultrahigh resolution (instrumental line-width $\sim 3\times10^{-4}$ cm^{-1}, Doppler line-width $\sim 2\times10^{-2}$ cm^{-1}) is the most extensive continuous scan yet achieved with a tunable infrared laser. The spectrum was recorded in 3.75 cm^{-1} segments overlapped at 3.0 cm^{-1} intervals. Each segment required 5 minutes to scan using a time constant of 40 ms chosen to provide good signal-to-noise ratio (~300:1) and a full response to sharp spectral features. The data were digitized at a 20 Hz rate ($\sim 6\times10^{-4}$ cm^{-1} grid) and stored on magnetic tape for subsequent computer processing.

A microprocessor-based tape data logger was specially constructed for this experiment for dedicated, reliable, high-density mass storage with a local memory buffer and manual baseline digitizer feature. The manual baseline digitizer feature was incorporated to correct for pathological baseline variations due to strong atmospheric water vapor absorptions which occur within the H_2O range scanned. It was not possible to evacuate the infrared section of the difference-frequency spectrometer; however, open atmospheric paths were reduced by inserting cells filled with dry N_2 gas. In addition, the experiment was conducted in the winter months for lowest humidity since the laboratory air-conditioning does not significantly reduce the humidity in the summer. Some H_2O lines are so strong though, that even a few centimeters of atmospheric path absorbs most of the light in the sample and reference beams, creating a very noisy spectrum.

The residual baseline variations in principle could be treated in various ways. Ideally, one would record both a full cell and an empty cell trace for normalization. However, the hot water cell could not be readily evacuated, since it was sealed off, and the vapor pressure was regulated through a temperature-controlled side-arm ice reservoir. Also this normalization method would have doubled the data recording time and storage requirements which would be prohibitive due to the extensive spectral coverage. A second normalization method would be to balance the open atmospheric paths in the sample and reference beams so that the ratio recording would eliminate the atmospheric background variation. Unfortunately the high-temperature sample cell geometry required a minimum open path of ~20 cm, and this long a path in the reference beam would have caused the ratio-denominator to approach zero for too many lines. Thirdly, numerical methods could have been used to estimate the baseline by distinguishing between sharp Doppler-limited low pressure transitions and slow background variations due to broad atmospheric absorptions. This is our usual approach for generating baselines for molecular spectra outside the H_2O region. However, the algorithm does not work satisfactorily for the strong, relatively sharp, baseline variations due to

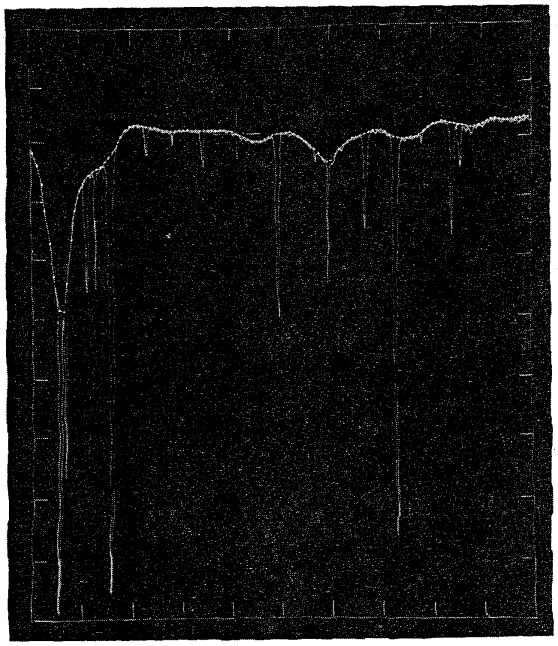

FIGURE 1. Display of tape logger data acquisition system showing interactive baseline digitizer on sample transmission trace. The dotted curve on the baseline is entered manually and the baseline is linearly interpolated.

atmospheric water vapor absorptions which were of course in exact coincidence with many of the lines under investigation. For all these practical reasons we chose to determine the baselines interactively with a manual baseline digitizer incorporated in the data logger electronics using a storage CRT display. An example of the sampled baseline on a transmission trace is shown in figure 1.

The observed signal-to-noise ratio of ~300:1 was limited in this experiment by background noise generated by the high-temperature sample cell. For ordinary room-temperature cells the instrumental signal-to-noise ratio is ~1000:1. The hot cell creates two excess noise sources—thermal background radiation and atmospheric convection currents. Since the oven and cell walls at 1200 K are glowing red hot it is necessary to prevent this radiation from reaching the sample detector. This was accomplished by extending the hot cell windows outside the oven and optically masking the walls by focusing and spatially filtering the infrared laser beam. This was found to be more effective than spectral filtering using a broadband tunable interference wedge which caused additional attenuation. Convection currents in the heated air outside the hot cell windows created excess noise by shifting the infrared beam around on the active detector surface. This problem was reduced by inserting draft-shielding tubes against the cell windows. Evacuable antechambers would have been preferable but were prohibited by the oven configuration.

Transition wavenumbers were obtained by linear interpolation between fringes of a high-finesse scan calibration interferometer monitoring the visible lasers [4-6]. This interferometer was referenced to a Lamb-dip stabilized He/Ne laser which maintained the calibration and resettability to $\sim 5\times10^{-4}$ cm^{-1} during the entire course of the experiment (~1 month). The calibration of the index wavenumber, free-spectral-range and dispersion of the interferometer was accomplished by reference to the room-temperature H_2O Fourier-transform study by Camy-Peyret et al. [1]. Here, cold water spectral excerpts were recorded about every 100 cm^{-1}. Clean, isolated reference lines were selected and the Fabry-Perot fringes were least-squares fit to a parabola. The correct interorder number could be estimated from previous precision measurements [4] of the free-spectral-range and were verified by the continuous scan of the high-temperature H_2O spectrum. The fit resulted in a calibration curve of

$$\sigma_N = \sigma_0 - N\times(\mathrm{FSR} - N\times\mathrm{DISP})$$

where N is the interorder number, σ_0=4005.19963 cm^{-1}, FSR=0.0500316 cm^{-1} and DISP=1.6136×10^{-10} cm^{-1}. The dispersion (variation of the free-spectral-range) is quite noticeable over the extensive tuning range covered in this experiment (N_{max}~21000). It results principally from wavelength-dependent phase shifts in the double-stack broadband multidielectric reflective coatings of the scan calibration interferometer and to a lesser extent from the dispersion of air over the dye laser tuning range.

2.2. Sample and Cell

The absorption cell used in this experiment, schematically shown in figure 2, was a 4.1 cm diameter fuzed quartz tube with 3 mm thick GE125 fused quartz Brewster angle windows glass blown on to the ends of the tube. These windows are relatively water-free, exhibiting only ~3% broadband absorption between 3600 and 3700 cm^{-1}. A ~10 cm long quartz side arm was blown onto the tube near one end for pump-out, fill and seal-off and for containing the sample reservoir during the experiment. The cell was approximately 130 cm long with the ends protruding equally from either side of the 90 cm long tube furnace.

The Marshall furnace consisted of a 30 cm and a 60 cm section mounted end-to-end with a 5.1 cm bore and a 6.5 cm insulating wall. The furnace was rated at 1100 °C and was operated at ~927 °C during this experiment. Temperature was measured with two platinum/platinum-13% rhodium thermocouples and a digital readout (Doric 412A Trendicator, nominal calibration accuracy ±0.6 °C). Temperature was maintained manually ±1 °C using Variac controls on the ac power to the ovens after about a 3 h warm-up each day. The measured temperature profile is also shown in figure 2. There is a slight drop in temperature at the junction of the two ovens and much larger gradients near the ends of the oven. The cell extends through the gradient region out to room temperature in

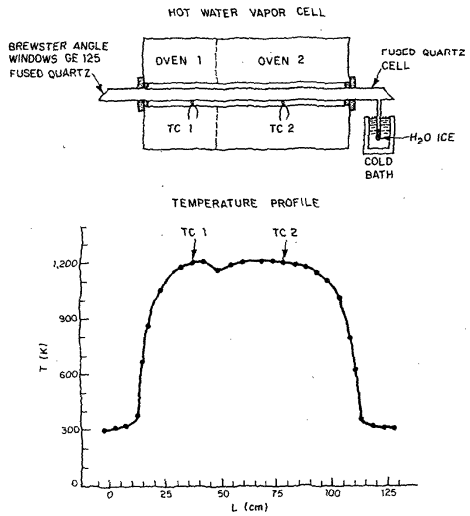

FIGURE 2. Sample cell schematic and temperature profile. During scan, thermocouples monitored temperatures at peaks of profile at TC1 and TC2; ovens were controlled individually.

order to avoid the excess noise problems associated with hot windows as discussed previously.

The water vapor pressure is maintained constant throughout the cell by controlling the temperature of the H_2O ice reservoir in the side arm. The cold bath contained a ~40% ethylene glycol in water antifreeze solution adequate for cooling to below −20 °C by passing cold liquid nitrogen boil-off gas through an immersed copper coil. The antifreeze was temperature regulated with an immersed resistance heater to ±0.2 °C. For the spectral region above ~3270 cm^{-1} where the water vapor absorptions are strongest, the bath temperature was −20±0.2 °C corresponding to a vapor pressure of 0.776±0.015 Torr (1 Torr=133.3 Pa). Below 3270 cm^{-1} a reservoir temperature of −10±0.2 °C, corresponding to a vapor pressure of 1.95±0.04 Torr, was used to enhance the weaker transitions. In both ranges the cell was double-passed to increase the absorption.

The water sample itself was freshly distilled and deionized ($\rho > 18$ MΩ cm) before filling the cell. Nevertheless both CO_2 and CH_4 impurity lines are observed in the spectrum. These impurity lines were easily recognized by their distinctive patterns and they were sparse enough that there was little interference with the water spectrum. It is believed that the CO_2 was present in the initial water sample due to absorption from the air since the amount of CO_2 increases with the amount of time between distillation and cell filling. The CH_4 only appears after cycling to high temperatures and may involve degassing from the cell walls. A bake-out of the cell under vacuum, however, did not eliminate the methane.

It should also be noted that we initially tried some metal cells constructed of inert, high-temperature alloys, Monel 400 and Inconel 600. Metal cells would be more convenient for attaching flanges and demountable IR windows. However, the water vapor reacted with the hot metal walls at temperatures above ~550 °C and consequently the spectrum disappeared. Plating the cells with rhodium and platinum did not prevent this oxidation. For the much higher temperatures desired for this experiment, the metal cells were abandoned in favor of quartz.

3. Results

A small part of the high-temperature water vapor spectrum recorded between 4005 and 2965 cm^{-1} is presented in figure 3 in two overlapping 12.75 cm^{-1} panels including the transmission trace region appearing in figure 1. The spectral intensity scale is normalized according to Beer's law,

$$I(\sigma) = (pL)^{-1} \ln(B(\sigma)/S(\sigma)),$$

where p is the vapor pressure in Torr, L(=252 cm) is the double-passed cell length, $B(\sigma)$ is the baseline corresponding to the empty cell transmission, and $S(\sigma)$ is the water vapor transmission spectrum. Even though the pressure is uniform throughout the cell, these intensities must be corrected for the variation of number

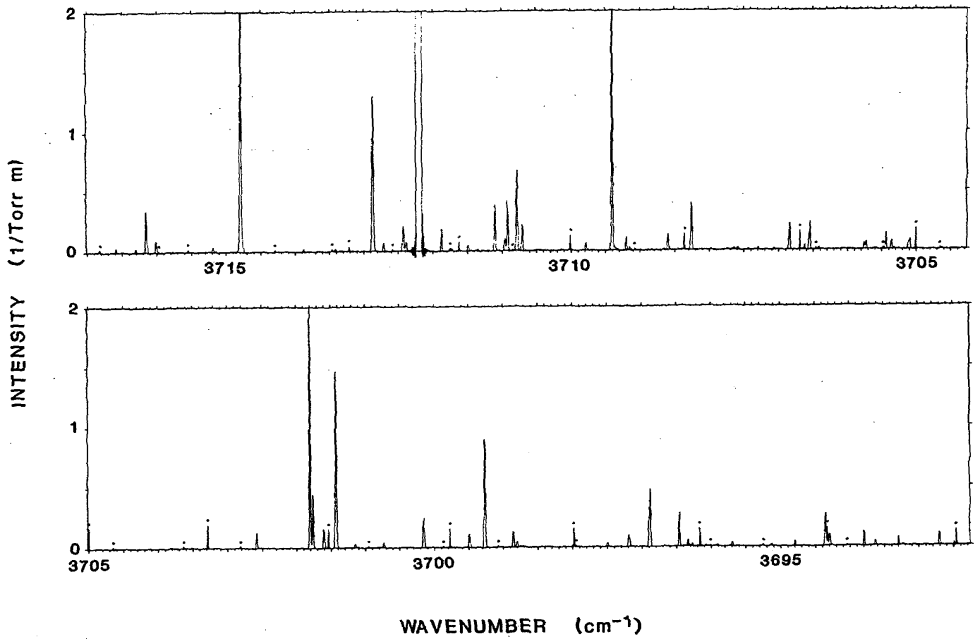

FIGURE 3. Portion of intensity spectrum of high-temperature H_2O. CO_2 impurity lines are designated by an asterisk. The transmission trace of fig. 1 appears near 3700 cm^{-1}.

density, Doppler width, and lower state populations due to the temperature gradients in the cell. For example, high-temperature lines not seen at room temperature (i.e., hot band and high J transitions) have a shorter effective cell length ($\sim$136 cm) and twice the Doppler width than at 300 K. Such linewidth variation is readily observed throughout the spectrum and helps to distinguish the hot lines. Lines seen at both high and low temperatures have a complex line-shape corresponding to the sum of Gaussians weighted by the temperature distribution. Therefore one must proceed with care in analyzing these intensity data to derive transition moments. This problem is similar to that encountered in atmospheric and plume modeling, which are also plagued by complex pressure, density, and temperature distributions. In the present case these distributions have been measured from the vapor pressure at the cold bath temperature and the cell temperature profile shown in figure 2 and used to calculate the composite line intensities.

Impurity lines in the spectrum are not reported in this paper. Those arising from the $\nu_1+\nu_3$ and $2\nu_2+\nu_3$ combination bands of CO_2 and their associated hot bands are confined to the 3753 to 3554 cm^{-1} region. They were easily distinguished from water vapor lines by their narrower Doppler width as befitting a heavier molecule. Lines due to the ν_3 band of CH_4 fall below 3200 cm^{-1}. The noisy regions of the spectrum occur locally near very strong atmospheric water vapor absorptions and arise because of the low light level incident on the reference detector.

The instrumental precision of the difference-frequency spectrometer is dominated by the least reading (or digitizing grid) and is $\sim 6\times10^{-4}$ cm^{-1}. The performance here may be somewhat degraded because of the water vapor sample itself. Here the Doppler widths are relatively large because of the light molecule and high temperatures. The background is noisier than usual due to black body thermal emission from the hot cell walls and to the hot air convection currents moving the infrared beam around outside the cell. Also the atmospheric water vapor absorption creates a pathological baseline that causes noise and distortion near strong lines.

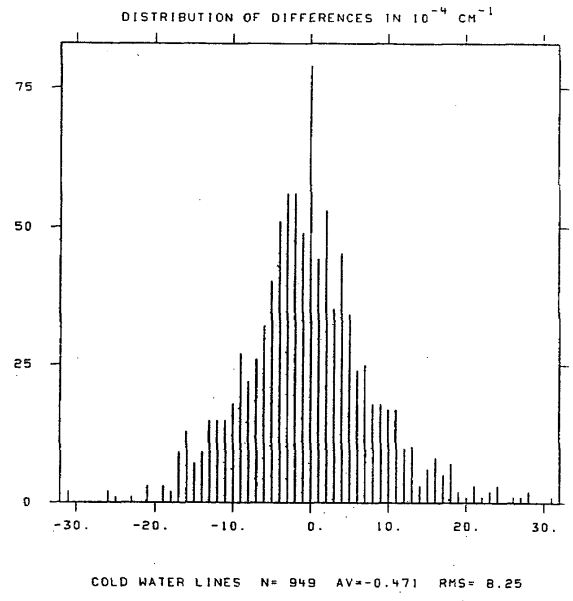

FIGURE 4. Comparison of transition wavenumber differences (in 10^{-4} cm^{-1}) for cold water. Present data minus ref. [1].

The wavenumber scale in the spectrum is calibrated against the cold water spectrum of Camy-Peyret et al. [1] as mentioned earlier. A comparison of the transition wavenumbers measured here with those also observed in the room temperature spectrum of ref. [1] is given in figure 4. Here we find 949 coincident unblended lines, not saturated in the present data nor hand-measured or calculated in the previous, for which the average deviation is -0.5×10^{-4} cm^{-1} and the rms deviation is 8.3×10^{-4} cm^{-1}. The rms deviation, of course, reflects the random errors in both sets of data. Since a precision of better than 5×10^{-4} cm^{-1} is claimed for the cold water spectrum [1] itself, the present high-temperature spectrum appears to have a slightly lower precision in accordance with the instrumental difficulties discussed in the preceding paragraph.

4. Analysis and Discussion

To assign the very rich spectrum of hot water vapor recorded with the tunable laser difference-frequency spectrometer, we have combined the experimental results obtained at room temperature [1] and at flame temperatures [2] together with the recent compilation of ref. [7] and new calculations performed by extrapolating the available energy levels and transitions moments for the high-temperature conditions of our experiment. These new line positions and intensities were computed using the methods extensively described in ref. [7]. Almost all the observed lines were assigned and a summary of the different bands involved together with the number of lines belonging to each band is given in table 1. A total number of 15 cold and hot bands of $H_2{}^{16}O$ have been observed and also a few lines of $H_2{}^{18}O$ and $H_2{}^{17}O$. The highest lower state energy level is as high as 7533.7 cm^{-1} and lines with J up to 27 or K_a up to 14 have been assigned.

A complete listing of the experimental transition wavenumbers and intensities along with the rotational and vibrational assignments and the calculated wavenumbers and intensities for significant lines at $T\simeq1200$ K is presented in table 2. There are a number of lines that appear in the spectral recording that are not listed because the peak finding algorithm rejects lines that are too weak, too strong, or too broad. The weak lines are eliminated in order to discriminate against noise; the strongest lines are completely saturated and the broad lines are usually blends or shoulders whose frequencies would not be determined accurately by the program. In these cases, calculated line positions, assignments, and intensities are given in order to provide the most complete compilation.

TABLE 1. Hot water vapor spectrum between 2965 and 4005 cm^{-1}

Number of observed lines	2279
Number of calculated lines	2735
Number of unassigned lines	74

Summary of the bands observed

ISO	$v_1'v_2'v_3'$	$v_1v_2v_3$	N	ν_0 (cm^{-1})	σ_{min} (cm^{-1})	σ_{max} (cm^{-1})	Σk_σ^N(1000 K) (cm^{-1}/molecule cm^{-2})
161	0 0 1	0 0 0	970	3755.930	2973.723	4004.705	0.61×10^{-17}
161	1 0 0	0 0 0	605	3657.053	2967.443	4001.282	0.58×10^{-18}
161	0 1 1	0 1 0	447	3736.522	3176.742	4002.841	0.57×10^{-18}
161	0 2 0	0 0 0	283	3151.630	2966.007	3990.216	0.57×10^{-19}
161	0 2 1	0 2 0	106	3719.891	3283.753	3963.066	0.32×10^{-19}
161	1 1 0	0 1 0	86	3640.228	3082.251	3961.121	0.18×10^{-19}
161	0 0 2	0 0 1	74	3689.117	3317.280	3863.725	0.20×10^{-19}
161	1 0 1	1 0 0	52	3592.769	3189.137	3837.458	0.73×10^{-20}
181	0 0 1	0 0 0	49	3741.567	3446.944	3889.645	0.38×10^{-20}
161	0 3 0	0 1 0	34	3072.046	2966.735	3424.031	0.25×10^{-20}
161	0 3 1	0 3 0	8	3707.055	3457.382	3892.009	0.30×10^{-21}
161	0 1 2	0 1 1	6	3668.871	3442.173	3786.688	0.20×10^{-21}
161	2 0 0	1 0 0	4	3544.488	3378.911	3753.655	0.19×10^{-21}
171	0 0 1	0 0 0	4	3748.318	3648.879	3896.484	0.74×10^{-22}
161	1 2 0	0 2 0	3	3623.464	3284.131	3588.704	0.88×10^{-22}
161	1 1 1	1 1 0	3	3572.026	3467.501	3706.852	0.70×10^{-22}
161	1 0 1	0 0 1	1	3493.892	3263.265	3263.265	0.16×10^{-22}

ISO: isotopic species, 161, 171, and 181 stand, respectively, for $H_2{}^{16}O$, $H_2{}^{17}O$, and $H_2{}^{18}O$

$v_1'v_2'v_3'$, $v_1v_2v_3$: vibrational quantum numbers of the upper and lower levels of the band

N: number of transitions for each band

ν_0: band center in cm^{-1}

σ_{min}: lower wavenumber for each band in cm^{-1}

σ_{max}: higher wavenumber for each band in cm^{-1}

Σk_σ^N(1000 K): sum of all the calculated intensities at 1000 K for the lines belonging to a given band. Because this sum is performed over a finite spectral interval (2965–4005 cm^{-1}) and because of an intensity cut-off in the experiment this sum is not to be taken as the total band intensity but is quoted here to give an idea of the relative importance in the interval of the different bands observed. It is not a very significant quantity for the weakest bands.

In table 2 the DIFF column is the wavenumber difference in 10^{-4} cm^{-1} for the present data minus prior literature values. The prior references are coded in the column labelled C. C stands for the cold water data of Camy-Peyret, Flaud, Guelachvili, and Amiot [1]; A and B are their theoretical and hand-measured values, respectively. S represents the very strong cold water lines (peak intensity >2(Torr m)$^{-1}$) which were somewhat saturated in the present transmission spectra, so their wavenumbers and intensities are not given reliably. H designates the high-temperature flame-spectra water emission lines observed by Flaud, Camy-Peyret, and Maillard [2]. D represents calculated asymmetry K-doublets or other blends not experimentally resolvable at the Doppler limit.

The distribution of differences between the present and the flame data (labelled H) is shown in figure 5 where the average deviation for the 533 lines compared is -5.2×10^{-4} cm^{-1} and the rms deviation is 36.9×10^{-4} cm^{-1}. Assuming that the calibration precision is consistent for the high and the low J and K_a lines in the

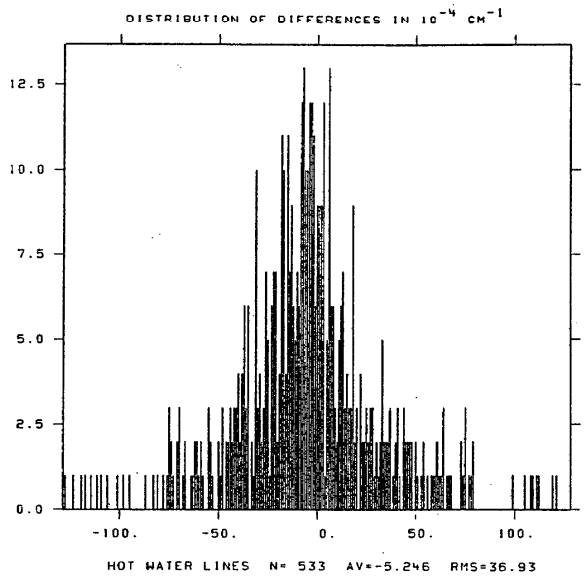

FIGURE 5. Comparison of transition wavenumber differences (in 10^{-4} cm^{-1}) for hot water. Present data minus ref. [2].

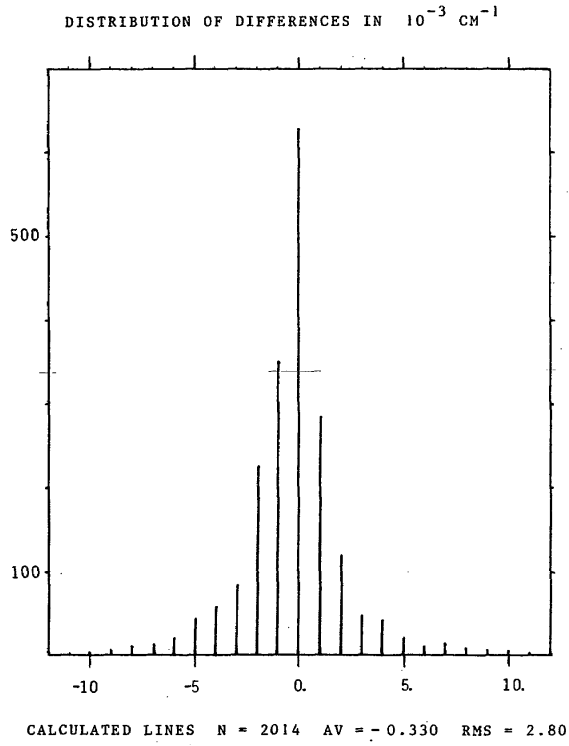

FIGURE 6. Comparison of observed minus calculated transition wavenumbers (in 10^{-3} cm^{-1}) for present H_2O data and model.

present study, it appears that the flame spectra precision suffered from even larger linewidths and possible pressure shifts due to operation under atmospheric conditions. Thus the present high-temperature absorption data should provide more reliable ($<1\times10^{-3}$ cm^{-1}) calibration references for hot H_2O sources and model calculations.

The agreement between the line positions observed in this work and the predicted ones is shown in figure 6. The predicted line positions are based both on the energy levels of ref. [2] and on calculated ones. Here 2014 unblended hot and cold lines are included yielding average and rms deviations of -3.3×10^{-4} and 28.0×10^{-4} cm^{-1}, respectively, with the high J, K_a lines dominating the discrepancies. This agreement is very satisfactory, considering the convergence difficulties at high J and K_a usually encountered with H_2O theories.

The eigenvectors from the same model Hamiltonian used for the energy level and transition wavenumber calculation are used to compute the transition intensities for comparison with experiment. The peak intensity (in (Torr m)$^{-1}$=(7.6 atm cm)$^{-1}$) for an unblended line in the Doppler regime is calculated as a composite over the temperature distribution,

$$I_{calc}(\sigma_0) = (7.6L)^{-1}\int_0^L dx(\ln 2/\pi)^{1/2}N_0 k_\sigma^N(T)T_0/(T\gamma_D(T)).$$

Here σ_0 is the peak wavenumber, $N_0 = 2.686754\times10^{19}$ molecules/cm^3·atm is Loschmidt's number, $T_0 = 273.15$ K and $k_\sigma^N(T)$ is the calculated line intensity (in cm^{-1}/molecule cm^{-2}) at the local temperature T. $\gamma_D(T)$ (in cm^{-1}) is the Doppler half width,

$$\gamma_D(T) = 3.58\times10^{-7}\,\sigma_0(T/M)^{1/2},$$

where M is the molecular weight (in amu). The calculated line intensities are listed in table 2 as S_{calc} for a reference temperature of $T_{ref} = 1000$ K. They scale with temperature according to

$$k_\sigma^N(T) = k_\sigma^N(T_{ref})\exp[-(E''/k_B)(T^{-1}-T_{ref}^{-1})][Z(T_{ref})/Z(T)]$$

where E'' is the lower state energy, also listed in table 2, and $Z(T)$ is the partition function.

Replacing the integral by a sum over a finite number of layers of thickness Δx_i at different temperature T_i, we have

$$I_{calc}(\sigma_0) = \sum_i 2\Delta x_i(\ln 2/\pi)^{1/2}N_0 k_\sigma^N(T_i)T_0/(7.6LT_i\gamma_D(T_i)),$$

the factor of 2 arising from double passing the cell. The temperature profile of figure 2 shows the values T_i as dots at layer intervals of ~5 cm.

A statistical analysis of the relative differences $\delta I/I = |I_{calc}-I_{obs}|/I_{obs}$ between the observed and calculated peak intensities gives for 1728 isolated lines with $I_{obs}\geqslant0.007$ (Torr m)$^{-1}$ the following results:

0 %	$\leqslant \delta I/I <$	8 %	39.9 %	(of the lines)
8 %	$\leqslant \delta I/I <$	15 %	26.1 %	
15 %	$\leqslant \delta I/I <$	30 %	25.2 %	
30 %	$\leqslant \delta I/I$		8.8 %	

These results are very satisfactory and show the quality of the model for calculating intensities for temperature up to 1200 K.

5. Conclusions

Using a tunable laser difference-frequency spectrometer, the hot water vapor absorption spectrum has been recorded between 2965 and 4005 cm^{-1} with an instrumental resolution of 3×10^{-4} cm^{-1}. The analysis of this very rich spectrum has been performed with the aid of previous experimental results and with a new calculation of water line positions and intensities appropriate to the temperatures ($\lesssim$1200 K) of this experiment. Almost all the lines have been assigned and lines with J as high as 27 or K_a as high as 14 have been observed. Also, the agreement between the observed and calculated spectra for the line positions as well as for the line intensities shows that the model developed to perform the calculation can be used with good confidence.

6. Acknowledgement

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TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$	$v_1v_2v_3$	ISO	I_{obs}	I_{calc}
2966.007	2966.0064	-6	C	0.287D-21	756.725	5	3	2	6	4	3	0 2 0	0 0 0	161	0.023	0.023
2966.735	2966.7337			0.762D-22	2309.731	6	2	5	7	1	6	0 3 0	0 1 0	161	0.003	0.003
2966.833	2966.8341			0.676D-22	1293.634	10	1	10	10	2	9	0 2 0	0 0 0	161	0.004	0.003
2967.443	2967.4400	-8	H	0.171D-21	4172.148	13	10	3	14	11	4	1 0 0	0 0 0	161	0.011	0.010
2967.443			D	0.569D-22	4172.148	13	10	4	14	11	3	1 0 0	0 0 0	161		0.003
2967.984	2967.9841			0.695D-22	816.694	6	2	4	7	3	5	0 2 0	0 0 0	161	0.005	0.005
2969.516	2969.5158			0.289D-21	1293.634	9	1	8	10	2	9	0 2 0	0 0 0	161	0.014	0.013
2970.533	2970.5320	-16	H	0.630D-22	4665.969	15	9	6	16	10	7	1 0 0	0 0 0	161	0.003	0.004
2971.714	2971.7158			0.386D-22	2818.398	8	3	6	9	2	7	0 3 0	0 1 0	161	0.003	0.002
2972.053	2972.0533			0.279D-22	2426.195	12	1	11	13	4	10	1 0 0	0 0 0	161	0.004	0.001
2973.252	2973.2534	11	C	0.209D-21	508.812	4	2	3	5	3	2	0 2 0	0 0 0	161	0.024	0.026
2973.723	2973.7212			0.140D-21	3824.994	14	6	8	15	8	7	0 0 1	0 0 0	161	0.007	0.007
2974.589	2974.5886	-14	C	0.172D-21	920.211	8	0	8	9	1	9	0 2 0	0 0 0	161	0.013	0.011
2974.829	2974.8305			0.115D-21	2414.725	12	4	9	13	3	10	0 2 0	0 0 0	161	0.005	0.005
2975.083	2975.0837	-2	C	0.518D-21	920.169	8	1	8	9	0	9	0 2 0	0 0 0	161	0.034	0.032
2975.224	2975.2225			0.987D-22	1293.019	9	2	8	10	1	9	0 2 0	0 0 0	161	0.005	0.005
2975.300			D	0.614D-22	2254.284	9	7	3	10	8	2	0 2 0	0 0 0	161		0.003
2975.301	2975.2938			0.184D-21	2254.283	9	7	2	10	8	3	0 2 0	0 0 0	161	0.009	0.008
	2975.3795														0.007	
2977.479			D	0.721D-22	4350.602	12	12	0	13	13	1	1 0 0	0 0 0	161		0.004
2977.479	2977.4768	-18	H	0.216D-21	4350.602	12	12	1	13	13	0	1 0 0	0 0 0	161	0.013	0.013
2977.943	2977.9426	-9	C	0.234D-21	648.979	5	2	3	6	3	4	0 2 0	0 0 0	161	0.021	0.022
2979.072	2979.0701			0.161D-21	1690.665	10	3	8	11	2	9	0 2 0	0 0 0	161	0.007	0.007
2979.750	2979.7481			0.176D-21	3464.885	13	6	8	14	8	7	0 0 1	0 0 0	161	0.008	0.009
2980.241	2980.2403			0.118D-21	888.632	5	4	2	6	5	1	0 2 0	0 0 0	161	0.008	0.008
2980.388	2980.3879	7	C	0.355D-21	888.599	5	4	1	6	5	2	0 2 0	0 0 0	161	0.022	0.023
2980.677	2980.6755			0.160D-21	3032.690	11	7	5	12	9	4	0 0 1	0 0 0	161	0.006	0.007
2981.145	2981.1437	-1	C	0.329D-21	1216.194	6	5	2	7	6	1	0 2 0	0 0 0	161	0.017	0.016
2981.174	2981.1706			0.109D-21	1216.189	6	5	1	7	6	2	0 2 0	0 0 0	161	0.004	0.005
2981.238	2981.2394			0.612D-22	1742.307	1	1	0	2	2	1	0 3 0	0 1 0	161	0.003	0.003
2981.360	2981.3631			0.127D-21	1920.769	4	1	4	5	0	5	0 3 0	0 1 0	161	0.007	0.005
2982.451	2982.4526			0.105D-21	1080.386	8	1	7	9	2	8	0 2 0	0 0 0	161	0.005	0.006
2983.314	2983.3149			0.106D-21	1821.599	3	0	3	4	1	4	0 3 0	0 1 0	161	0.006	0.004
2984.212	2984.2115	-2	C	0.277D-22	315.779	3	1	3	4	2	2	0 2 0	0 0 0	161	0.004	0.005
	2987.0117														0.004	
2987.526	2987.5245	0	C	0.346D-21	610.341	4	3	2	5	4	1	0 2 0	0 0 0	161	0.033	0.035
2987.739	2987.7384	-11	H	0.977D-22	4427.117	15	8	7	16	9	8	1 0 0	0 0 0	161	0.005	0.006
2988.197	2988.1905			0.940D-22	1590.691	7	6	2	8	7	1	0 2 0	0 0 0	161	0.004	0.004
	2988.2393														0.010	
2988.287	2988.2875			0.278D-21	1590.690	7	6	1	8	7	2	0 2 0	0 0 0	161	0.011	0.012
2988.613	2988.6114	-16	C	0.116D-21	610.114	4	3	1	5	4	2	0 2 0	0 0 0	161	0.011	0.012
2989.596			D	0.893D-22	4087.981	12	11	1	13	12	2	1 0 0	0 0 0	161		0.005
2989.596	2989.5969	-23	H	0.268D-21	4087.981	12	11	2	13	12	1	1 0 0	0 0 0	161	0.017	0.015
2989.624	2989.6238			0.908D-22	1079.080	9	0	9	9	1	8	0 2 0	0 0 0	161	0.006	0.005
	2989.7151														0.005	
2990.676	2990.6724			0.615D-22	3465.060	13	6	7	14	8	6	0 0 1	0 0 0	161	0.003	0.003
2991.255	2991.2553	25	H	0.113D-21	3360.598	14	4	11	15	5	10	1 0 0	0 0 0	161	0.005	0.006
2991.971	2991.9707	5	C	0.889D-22	503.968	4	2	2	5	3	3	0 2 0	0 0 0	161	0.011	0.011
2992.653	2992.6542	10	C	0.326D-21	1079.080	8	2	7	9	1	8	0 2 0	0 0 0	161	0.018	0.017
2993.736	2993.7352	-17	C	0.323D-21	885.600	7	1	6	8	2	7	0 2 0	0 0 0	161	0.021	0.021
2994.446	2994.4469	2	C	0.555D-21	744.163	7	0	7	8	1	8	0 2 0	0 0 0	161	0.045	0.044
2994.715	2994.7208	-1	H	0.248D-21	3831.174	12	10	3	13	11	2	1 0 0	0 0 0	161	0.015	0.013
2994.715			D	0.826D-22	3831.173	12	10	2	13	11	3	1 0 0	0 0 0	161		0.004
2995.455	2995.4556	7	C	0.186D-21	744.064	7	1	7	8	0	8	0 2 0	0 0 0	161	0.016	0.015
2996.396	2996.3926			0.517D-22	1962.508	11	0	11	12	3	10	1 0 0	0 0 0	161	0.003	0.002
2997.292	2997.2872	-42	H	0.109D-21	4283.305	14	9	6	15	10	5	1 0 0	0 0 0	161	0.007	0.006
2997.301			D	0.362D-22	4283.301	14	9	5	15	10	6	1 0 0	0 0 0	161		0.002
2998.972	2998.9717			0.582D-22	1437.969	9	3	7	10	2	8	0 2 0	0 0 0	161	0.003	0.003
2999.151	2999.1578			0.250D-21	2009.805	8	7	2	9	8	1	0 2 0	0 0 0	161	0.012	0.010
2999.151			D	0.834D-22	2009.805	8	7	1	9	8	2	0 2 0	0 0 0	161		0.003
	2999.6080														0.009	
	3001.1913														0.004	
3003.474	3003.4748	3	C	0.105D-21	709.609	6	1	5	7	2	6	0 2 0	0 0 0	161	0.009	0.009
3003.838	3003.8375	-4	C	0.937D-22	383.842	3	2	2	4	3	1	0 2 0	0 0 0	161	0.014	0.016

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$	$v_1v_2v_3$	ISO	I_{obs}	I_{calc}
3004.687	3004.6868	7	C	0.431D-21	742.076	4	4	1	5	5	0	0 2 0	0 0 0	161	0.034	0.034
3004.754	3004.7527			0.631D-22	2271.712	6	2	5	6	3	4	0 3 0	0 1 0	161	0.003	0.003
3004.987	3004.9836			0.577D-22	1962.508	12	2	11	12	3	10	0 2 0	0 0 0	161	0.002	0.002
3005.445			D	0.137D-21	1045.059	5	5	1	6	6	0	0 2 0	0 0 0	161		0.007
3005.455	3005.4548	9	C	0.408D-21	1045.058	5	5	0	6	6	1	0 2 0	0 0 0	161	0.025	0.022
	3007.6932														0.003	
3008.278	3008.2779			0.175D-21	2740.420	10	7	3	11	9	2	0 0 1	0 0 0	161	0.007	0.008
3009.652	3009.6543	24	C	0.115D-21	885.600	8	1	8	8	2	7	0 2 0	0 0 0	161	0.007	0.007
3010.232	3010.2321	-2	C	0.304D-21	382.517	3	2	1	4	3	2	0 2 0	0 0 0	161	0.044	0.050
3011.030	3011.0261			0.235D-21	3127.862	12	6	6	13	8	5	0 0 1	0 0 0	161	0.009	0.011
3011.277	3011.2775	-2	C	0.112D-21	882.891	7	2	6	8	1	7	0 2 0	0 0 0	161	0.008	0.007
3012.076	3012.0645			0.234D-21	2471.254	9	8	1	10	9	2	0 2 0	0 0 0	161	0.015	0.010
3012.076			D	0.781D-22	2471.254	9	8	2	10	9	1	0 2 0	0 0 0	161		0.003
3012.233	3012.2305			0.329D-21	1394.814	6	6	1	7	7	0	0 2 0	0 0 0	161	0.022	0.014
3012.345	3012.3431			0.122D-21	1394.814	6	6	0	7	7	1	0 2 0	0 0 0	161	0.004	0.005
3012.377	3012.3762	-4	C	0.137D-21	488.134	3	3	1	4	4	0	0 2 0	0 0 0	161	0.015	0.018
3012.531	3012.5308	-4	C	0.412D-21	488.108	3	3	0	4	4	1	0 2 0	0 0 0	161	0.054	0.054
3012.543				0.299D-21	552.912	5	1	4	6	2	5	0 2 0	0 0 0	161		0.034
3013.573	3013.5716	-17	C	0.189D-21	586.479	6	0	6	7	1	7	0 2 0	0 0 0	161	0.019	0.020
3014.488	3014.4886	16	H	0.161D-21	4045.316	14	8	7	15	9	6	1 0 0	0 0 0	161	0.007	0.009
3015.616	3015.6155	1	C	0.572D-21	586.243	6	1	6	7	0	7	0 2 0	0 0 0	161	0.059	0.060
3017.100	3017.1036			0.900D-22	2392.594	7	1	6	7	2	5	0 3 0	0 1 0	161	0.004	0.004
	3018.8241														0.015	
3019.099	3019.0961			0.822D-22	3244.601	14	2	12	15	4	11	0 0 1	0 0 0	161	0.003	0.004
3019.213			D	0.134D-21	3766.388	11	11	1	12	12	0	1 0 0	0 0 0	161		0.007
3019.213	3019.2121	6	H	0.402D-21	3766.388	11	11	0	12	12	1	1 0 0	0 0 0	161	0.023	0.021
3021.771			D	0.117D-21	3512.401	11	10	2	12	11	1	1 0 0	0 0 0	161		0.006
3021.771	3021.7693	-15	H	0.351D-21	3512.401	11	10	1	12	11	2	1 0 0	0 0 0	161	0.020	0.017
3022.366	3022.3646	-17	C	0.933D-22	416.209	4	1	3	5	2	4	0 2 0	0 0 0	161	0.012	0.014
3022.665	3022.6651			0.174D-21	1201.922	8	3	6	9	2	7	0 2 0	0 0 0	161	0.008	0.008
3023.151	3023.1494			0.330D-21	1789.041	7	7	0	8	8	1	0 2 0	0 0 0	161	0.016	0.013
3023.152			D	0.110D-21	1789.041	7	7	1	8	8	0	0 2 0	0 0 0	161		0.004
	3023.8101														0.012	
3024.162	3024.1526			0.853D-22	1690.665	11	1	10	11	2	9	0 2 0	0 0 0	161	0.003	0.003
3024.368			D	0.597D-22	3922.325	13	9	5	14	10	4	1 0 0	0 0 0	161		0.003
3024.370	3024.3695	-3	H	0.179D-21	3922.324	13	9	4	14	10	5	1 0 0	0 0 0	161	0.011	0.010
3025.414	3025.4189			0.485D-22	2764.699	8	3	6	8	4	5	0 3 0	0 1 0	161	0.003	0.002
3025.761	3025.7603	-8	C	0.139D-21	212.156	2	1	2	3	2	1	0 2 0	0 0 0	161	0.029	0.035
	3026.9610														0.003	
3027.013	3027.0146	-36	H	0.498D-22	2144.047	10	2	8	11	6	5	0 0 1	0 0 0	161	0.002	0.002
3027.125	3027.1271			0.677D-22	1731.898	2	1	2	3	0	3	0 3 0	0 1 0	161	0.003	0.003
	3027.3157														0.002	
3027.782	3027.7825			0.228D-21	3264.338	13	5	9	14	7	8	0 0 1	0 0 0	161	0.010	0.011
3028.238	3028.2365			0.126D-21	2124.953	11	1	10	12	4	9	1 0 0	0 0 0	161	0.005	0.005
3028.913	3028.9050			0.852D-22	1813.224	10	4	7	11	3	8	0 2 0	0 0 0	161	0.003	0.003
3029.910	3029.9098			0.475D-22	709.609	7	1	7	7	2	6	0 2 0	0 0 0	161	0.004	0.004
3030.726	3030.7268	3	C	0.339D-21	285.419	2	2	1	3	3	0	0 2 0	0 0 0	161	0.060	0.071
3031.734	3031.7342	-2	C	0.548D-21	447.252	5	0	5	6	1	6	0 2 0	0 0 0	161	0.072	0.078
3031.957	3031.9563	0	C	0.321D-21	704.214	6	2	5	7	1	6	0 2 0	0 0 0	161	0.028	0.027
3031.991	3031.9903	-12	C	0.115D-21	285.219	2	2	0	3	3	1	0 2 0	0 0 0	161	0.021	0.024
3032.140	3032.1409			0.282D-21	2813.515	11	6	6	12	8	5	0 0 1	0 0 0	161	0.011	0.012
3032.500	3032.4986			0.935D-22	1772.413	3	0	3	3	1	2	0 3 0	0 1 0	161	0.004	0.004
3033.535	3033.5386			0.801D-22	2130.495	5	2	3	5	3	2	0 3 0	0 1 0	161	0.003	0.003
3034.177	3034.1764			0.946D-22	2813.533	11	6	5	12	8	4	0 0 1	0 0 0	161	0.003	0.004
3034.264	3034.2650	7	C	0.263D-21	300.362	3	1	2	4	2	3	0 2 0	0 0 0	161	0.044	0.053
3034.395	3034.3953	6	C	0.151D-21	704.214	7	0	7	7	1	6	0 2 0	0 0 0	161	0.012	0.013
3035.783	3035.7822	-12	C	0.185D-21	446.697	5	1	5	6	0	6	0 2 0	0 0 0	161	0.023	0.026
3035.972	3036.0024			0.309D-21	2225.468	8	8	1	9	8	2	0 2 0	0 0 0	161	0.014	0.013
3035.972			D	0.103D-21	2225.468	8	8	0	9	8	1	0 2 0	0 0 0	161		0.004
3036.070	3036.0693			0.122D-21	2053.969	5	1	4	5	2	3	0 3 0	0 1 0	161	0.005	0.005
3036.222	3036.2225			0.163D-21	2471.254	9	7	3	10	9	2	0 0 1	0 0 0	161	0.007	0.007
3036.232			D	0.543D-22	2471.254	9	7	2	10	9	1	0 0 1	0 0 0	161		0.002
3037.097	3037.0992			0.112D-21	1446.129	10	2	9	10	3	8	0 2 0	0 0 0	161	0.006	0.005
3037.099			D	0.283D-22	2392.594	6	3	4	7	2	5	0 3 0	0 1 0	161		0.001

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$	$v_1v_2v_3$	ISO	I_{obs}	I_{calc}
3037.580	3037.5801			0.859D-22	1819.337	3	1	2	3	2	1	0 3 0	0 1 0	161	0.004	0.003
	3037.9034														0.003	
3039.397	3039.3961	50	H	0.165D-21	3824.994	14	7	8	15	8	7	1 0 0	0 0 0	161	0.008	0.009
3041.230	3041.2282	-75	H	0.588D-22	2572.140	7	3	4	7	4	3	0 3 0	0 1 0	161	0.005	0.003
3041.234	3041.2282	-75	H	0.616D-22	3824.496	14	7	7	15	8	8	1 0 0	0 0 0	161	0.005	0.003
3041.429	3041.4309			0.155D-21	2275.373	11	2	9	12	5	8	1 0 0	0 0 0	161	0.007	0.006
3041.955	3041.9499	-6	H	0.260D-21	3685.403	13	8	5	14	9	6	1 0 0	0 0 0	161	0.013	0.013
3042.266	3042.2670			0.635D-22	2246.888	12	0	12	13	2	11	0 0 1	0 0 0	161	0.003	0.003
3042.328	3042.3358			0.954D-22	2462.876	7	2	5	7	3	4	0 3 0	0 1 0	161	0.003	0.004
	3043.2250														0.003	
3045.699	3045.6957			0.183D-21	2533.793	12	3	10	13	4	9	1 0 0	0 0 0	161	0.008	0.008
3047.236	3047.2313			0.135D-21	2918.244	13	3	11	14	5	10	0 0 1	0 0 0	161	0.005	0.006
3047.375	3047.3721	-31	H	0.345D-21	3629.095	14	6	9	15	7	8	1 0 0	0 0 0	161	0.017	0.017
3047.737	3047.7248	-117	H	0.228D-21	3472.880	14	5	10	15	6	9	1 0 0	0 0 0	161	0.011	0.011
	3048.0299														0.017	
3048.549			D	0.163D-21	3216.185	10	10	0	11	11	1	1 0 0	0 0 0	161		0.008
3048.550	3048.5515	19	H	0.488D-21	3216.185	10	10	1	11	11	0	1 0 0	0 0 0	161	0.027	0.023
3048.673	3048.6728	0	C	0.165D-21	326.625	4	0	4	5	1	5	0 2 0	0 0 0	161	0.028	0.031
3048.947	3048.9468	-6	C	0.170D-21	552.912	6	1	6	6	2	5	0 2 0	0 0 0	161	0.018	0.019
3049.044	3049.0448	5	C	0.827D-22	206.301	2	1	1	3	2	2	0 2 0	0 0 0	161	0.017	0.021
3050.073	3050.0734			0.639D-22	1640.508	1	0	1	1	1	0	0 3 0	0 1 0	161	0.003	0.003
3050.703	3050.7032			0.519D-22	982.912	7	3	5	8	2	6	0 2 0	0 0 0	161	0.003	0.003
3051.740	3051.7345	-55	H	0.283D-21	3583.372	12	9	4	13	10	3	1 0 0	0 0 0	161	0.016	0.014
3051.740			D	0.944D-22	3583.372	12	9	3	13	10	4	1 0 0	0 0 0	161		0.005
	3051.7677														0.004	
3054.197	3054.1938			0.187D-21	3084.835	13	4	10	14	6	9	0 0 1	0 0 0	161	0.008	0.009
3054.459	3054.4803			0.714D-22	2983.414	13	4	10	14	5	9	1 0 0	0 0 0	161	0.003	0.003
3055.610	3055.6097	-3	C	0.904D-22	542.906	5	2	4	6	1	5	0 2 0	0 0 0	161	0.009	0.010
3056.356	3056.3561	-8	C	0.499D-21	325.348	4	1	4	5	0	5	0 2 0	0 0 0	161	0.091	0.094
3057.146	3057.1466	2	C	0.634D-22	542.906	6	0	6	6	1	5	0 2 0	0 0 0	161	0.007	0.007
3057.602	3057.5982			0.110D-21	2927.076	12	5	8	13	7	7	0 0 1	0 0 0	161	0.005	0.005
3057.908	3057.9065			0.322D-22	2552.858	6	4	3	6	5	2	0 3 0	0 1 0	161	0.003	0.001
3058.560	3058.5575			0.106D-21	2522.263	10	6	5	11	8	4	0 0 1	0 0 0	161	0.005	0.004
3059.258	3059.2590			0.318D-21	2522.267	10	6	4	11	8	3	0 0 1	0 0 0	161	0.014	0.013
3059.723	3059.7230			0.760D-22	1690.665	10	1	10	11	2	9	1 0 0	0 0 0	161	0.003	0.003
3059.929	3059.9288	-2	C	0.664D-22	136.164	1	1	1	2	2	0	0 2 0	0 0 0	161	0.017	0.020
3061.228	3061.2292	-9	C	0.170D-21	1201.922	9	1	8	9	2	7	0 2 0	0 0 0	161	0.009	0.008
3062.283	3062.2828			0.515D-22	2414.725	13	2	11	13	3	10	0 2 0	0 0 0	161	0.002	0.002
3064.404	3064.4037	-6	C	0.416D-21	224.838	3	0	3	4	1	4	0 2 0	0 0 0	161	0.093	0.101
3064.493			D	0.362D-22	2225.468	8	7	2	9	9	1	0 0 1	0 0 0	161		0.001
3064.494	3064.4897			0.109D-21	2225.468	8	7	1	9	9	0	0 0 1	0 0 0	161	0.005	0.004
3064.563	3064.5638	-13	H	0.128D-21	4006.071	15	6	9	16	7	10	1 0 0	0 0 0	161	0.007	0.007
3065.617	3065.6173	-6	C	0.188D-21	1006.116	8	2	7	8	3	6	0 2 0	0 0 0	161	0.011	0.010
3066.271	3066.2708	0	C	0.636D-22	416.209	5	1	5	5	2	4	0 2 0	0 0 0	161	0.009	0.010
3066.413	3066.4096	61	H	0.947D-22	3465.060	13	7	7	14	8	6	1 0 0	0 0 0	161	0.004	0.005
3067.012	3067.0118	0	C	0.239D-21	134.902	1	1	0	2	2	1	0 2 0	0 0 0	161	0.067	0.074
3067.139	3067.1325	-95	H	0.297D-21	3464.885	13	7	6	14	8	7	1 0 0	0 0 0	161	0.015	0.014
3068.932	3068.9345			0.636D-22	2124.953	12	3	10	12	4	9	0 2 0	0 0 0	161	0.003	0.003
3069.508			D	0.150D-21	3266.538	13	5	8	14	7	7	0 0 1	0 0 0	161		0.007
3069.516	3069.5157	-5	H	0.402D-21	3347.780	12	8	5	13	9	4	1 0 0	0 0 0	161	0.025	0.019
3069.524			D	0.134D-21	3347.777	12	8	4	13	9	5	1 0 0	0 0 0	161		0.006
	3074.8632														0.003	
	3077.0069														0.009	
3077.473	3077.4734	2	C	0.745D-22	816.694	7	2	6	7	3	5	0 2 0	0 0 0	161	0.006	0.005
3077.939	3077.9374	-9	C	0.134D-21	222.052	3	1	3	4	0	4	0 2 0	0 0 0	161	0.031	0.033
3079.346	3079.3451	-3	H	0.430D-21	3266.762	11	9	2	12	10	3	1 0 0	0 0 0	161	0.027	0.020
3079.346			D	0.143D-21	3266.762	11	9	3	12	10	2	1 0 0	0 0 0	161		0.007
3079.529	3079.5290	0	C	0.237D-21	399.457	5	0	5	5	1	4	0 2 0	0 0 0	161	0.037	0.037
3079.683	3079.6828	-1	C	0.109D-21	142.278	2	0	2	3	1	3	0 2 0	0 0 0	161	0.030	0.033
3079.924	3079.9261			0.783D-22	982.912	8	1	7	8	2	6	0 2 0	0 0 0	161	0.005	0.004
3080.874	3080.8639	-98	H	0.673D-22	3624.163	14	6	8	15	7	9	1 0 0	0 0 0	161	0.004	0.003
3081.342	3081.3417	-3	C	0.198D-21	300.362	4	1	4	4	2	3	0 2 0	0 0 0	161	0.037	0.039
3082.251	3082.2522			0.518D-22	4510.895	10	8	3	11	9	2	1 1 0	0 1 0	161	0.003	0.003
3082.252			D	0.173D-22	4510.895	10	8	2	11	9	3	1 1 0	0 1 0	161		0.001

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$	$v_1v_2v_3$	ISO	I_{obs}	I_{calc}
3082.556	3082.5561	12	C	0.124D-21	782.410	6	3	4	7	2	5	0 2 0	0 0 0	161	0.010	0.009
3082.607	3082.6061	−9	C	0.195D-21	399.457	4	2	3	5	1	4	0 2 0	0 0 0	161	0.029	0.030
3083.303	3083.3029			0.584D-22	1985.788	10	2	8	11	5	7	1 0 0	0 0 0	161	0.003	0.002
3085.359	3085.3588			0.322D-21	2254.283	9	6	4	10	8	3	0 0 1	0 0 0	161	0.013	0.013
3085.512	3085.5071			0.473D-21	2927.939	12	5	7	13	7	6	0 0 1	0 0 0	161	0.021	0.021
3085.688	3085.6897			0.436D-21	2612.801	11	5	7	12	7	6	0 0 1	0 0 0	161	0.018	0.018
3086.133	3086.1333			0.134D-21	2414.725	12	1	11	13	3	10	0 0 1	0 0 0	161	0.006	0.006
3087.192	3087.1915	−6	C	0.247D-21	648.979	6	2	5	6	3	4	0 2 0	0 0 0	161	0.024	0.023
3088.320	3088.3184	−42	H	0.178D-22	6172.004	24	1	24	25	0	25	1 0 0	0 0 0	161	0.004	0.001
3088.401	3088.4016			0.132D-21	1581.336	10	3	8	10	4	7	0 2 0	0 0 0	161	0.006	0.005
3088.411			D	0.697D-22	4442.719	12	5	8	13	6	7	1 1 0	0 1 0	161		0.004
3088.965	3088.9680	12	H	0.159D-22	6147.789	23	1	22	24	2	23	1 0 0	0 0 0	161	0.002	0.001
3090.485	3090.4826			0.107D-21	3360.598	14	3	11	15	5	10	0 0 1	0 0 0	161	0.005	0.005
3092.427	3092.4317			0.124D-21	1813.224	11	2	9	11	3	8	0 2 0	0 0 0	161	0.006	0.005
3092.852	3092.8595	78	H	0.141D-21	3101.436	13	5	9	14	6	8	1 0 0	0 0 0	161	0.008	0.006
3092.854			D	0.154D-22	6062.145	22	3	20	23	2	21	1 0 0	0 0 0	161		0.001
3093.573	3093.5692	−67	H	0.454D-21	3127.862	12	7	6	13	8	5	1 0 0	0 0 0	161	0.022	0.021
3093.690	3093.6893	−1	C	0.603D-22	206.301	3	1	3	3	2	2	0 2 0	0 0 0	161	0.015	0.015
3093.758	3093.7637			0.103D-21	2748.106	12	4	9	13	6	8	0 0 1	0 0 0	161	0.004	0.004
3093.816	3093.8194	−33	H	0.154D-21	3127.808	12	7	5	13	8	6	1 0 0	0 0 0	161	0.008	0.007
3094.548	3094.5477	0	C	0.821D-22	503.968	5	2	4	5	3	3	0 2 0	0 0 0	161	0.009	0.010
3095.945	3095.9448	−3	C	0.245D-21	79.496	1	0	1	2	1	2	0 2 0	0 0 0	161	0.077	0.087
3096.056	3096.0536			0.557D-22	1340.886	9	3	7	9	4	6	0 2 0	0 0 0	161	0.003	0.002
3096.926	3096.9266	3	C	0.317D-21	782.410	7	1	6	7	2	5	0 2 0	0 0 0	161	0.025	0.023
3097.292			D	0.199D-21	3032.691	11	8	4	12	9	3	1 0 0	0 0 0	161		0.009
3097.297	3097.2943	6	H	0.598D-21	3032.690	11	8	3	12	9	4	1 0 0	0 0 0	161	0.035	0.027
3097.999	3097.9997			0.708D-22	2586.529	12	3	10	13	5	9	0 0 1	0 0 0	161	0.003	0.003
3098.815	3098.8163			0.747D-22	1282.919	8	4	5	9	3	6	0 2 0	0 0 0	161	0.005	0.003
	3099.4173														0.003	
3099.512	3099.5067			0.911D-22	1962.508	11	1	11	12	3	10	0 0 1	0 0 0	161	0.004	0.004
3099.548	3099.5473	−3	C	0.211D-21	382.517	4	2	3	4	3	2	0 2 0	0 0 0	161	0.034	0.034
3099.801	3099.8000	−7	C	0.971D-22	275.497	4	0	4	4	1	3	0 2 0	0 0 0	161	0.019	0.020
3101.043	3101.0412	58	H	0.310D-21	3264.338	13	6	7	14	7	8	1 0 0	0 0 0	161	0.014	0.014
3101.156	3101.1555	−4	C	0.268D-21	136.761	2	1	2	3	0	3	0 2 0	0 0 0	161	0.067	0.081
3101.431	3101.4269			0.170D-21	2613.104	11	5	6	12	7	5	0 0 1	0 0 0	161	0.006	0.007
3101.878	3101.8766	−8	C	0.198D-21	1122.709	8	3	6	8	4	5	0 2 0	0 0 0	161	0.010	0.010
3102.059	3102.0629			0.601D-22	4329.324	11	6	5	12	7	6	1 1 0	0 1 0	161	0.003	0.003
3102.461	3102.4600	−18	C	0.442D-22	285.219	3	2	2	3	3	1	0 2 0	0 0 0	161	0.008	0.009
	3102.7251														0.013	
3103.015	3103.0153	−2	C	0.125D-21	134.902	2	1	2	2	2	1	0 2 0	0 0 0	161	0.029	0.038
3105.871	3105.8698	−2	C	0.720D-22	927.744	7	3	5	7	4	4	0 2 0	0 0 0	161	0.004	0.004
3106.068	3106.0693			0.613D-22	1538.150	10	2	8	10	3	7	0 2 0	0 0 0	161	0.003	0.002
3106.070			D	0.154D-22	5748.125	20	5	16	21	4	17	1 0 0	0 0 0	161		0.001
3107.152	3107.1499	−12	H	0.626D-21	2972.824	10	9	2	11	10	1	1 0 0	0 0 0	161	0.032	0.028
3107.152			D	0.209D-21	2972.824	10	9	1	11	10	2	1 0 0	0 0 0	161		0.009
3107.330	3107.3300	−6	C	0.141D-21	285.419	3	2	1	3	3	0	0 2 0	0 0 0	161	0.025	0.029
3108.241	3108.2406	−8	C	0.213D-21	756.725	6	3	4	6	4	3	0 2 0	0 0 0	161	0.015	0.016
3109.379	3109.3774	−4	C	0.602D-22	610.114	5	3	3	5	4	2	0 2 0	0 0 0	161	0.006	0.006
3109.759	3109.7582	0	C	0.113D-21	488.108	4	3	2	4	4	1	0 2 0	0 0 0	161	0.013	0.014
3109.908	3109.9198			0.714D-22	4240.941	9	8	1	10	9	2	1 1 0	0 1 0	161	0.004	0.004
3109.908			D	0.238D-22	4240.941	9	8	2	10	9	1	1 1 0	0 1 0	161		0.001
3110.308	3110.3100	21	C	0.134D-21	602.774	6	1	5	6	2	4	0 2 0	0 0 0	161	0.013	0.013
3110.593	3110.5911	−26	C	0.380D-22	488.134	4	3	1	4	4	0	0 2 0	0 0 0	161	0.004	0.005
3112.097	3112.0976	10	C	0.822D-22	383.842	4	2	2	4	3	1	0 2 0	0 0 0	161	0.012	0.013
3112.184	3112.1839	4	C	0.375D-22	275.497	3	2	2	4	1	3	0 2 0	0 0 0	161	0.007	0.008
3112.391	3112.3890	−9	C	0.186D-21	610.341	5	3	2	5	4	1	0 2 0	0 0 0	161	0.017	0.018
3112.548	3112.5422			0.929D-22	2009.805	8	6	3	9	8	2	0 0 1	0 0 0	161	0.005	0.004
3112.588	3112.5879			0.279D-21	2009.805	8	6	2	9	8	1	0 0 1	0 0 0	161	0.011	0.011
3112.670	3112.6708			0.174D-21	2321.814	10	5	6	11	7	5	0 0 1	0 0 0	161	0.007	0.007
3112.694	3112.7029			0.401D-21	2629.337	12	4	9	13	5	8	1 0 0	0 0 0	161	0.015	0.017
3113.126	3113.1238			0.200D-21	1813.224	10	2	9	11	3	8	1 0 0	0 0 0	161	0.008	0.008
3113.579	3113.5795			0.107D-21	1446.129	9	0	9	10	3	8	1 0 0	0 0 0	161	0.005	0.004
3114.181	3114.1823			0.688D-22	2275.373	12	4	9	12	5	8	0 2 0	0 0 0	161	0.003	0.003
3114.493	3114.4931	3	C	0.559D-22	37.137	0	0	0	1	1	1	0 2 0	0 0 0	161	0.018	0.022

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$	$v_1v_2v_3$	ISO	I_{obs}	I_{calc}
3115.877	3115.8762	−9	C	0.334D-21	173.365	3	0	3	3	1	2	0 2 0	0 0 0	161	0.076	0.091
3116.013	3116.0121	−17	C	0.762D-22	757.780	6	3	3	6	4	2	0 2 0	0 0 0	161	0.005	0.006
3116.624	3116.6218	−21	C	0.258D-21	1282.919	9	2	7	9	3	6	0 2 0	0 0 0	161	0.011	0.011
3118.110	3118.1104	6	C	0.332D-21	508.812	5	2	3	5	3	2	0 2 0	0 0 0	161	0.038	0.040
3118.944	3118.9437	−4	C	0.457D-21	446.511	5	1	4	5	2	3	0 2 0	0 0 0	161	0.058	0.063
3118.981	3118.9803			0.162D-21	1718.719	9	2	7	10	5	6	1 0 0	0 0 0	161	0.006	0.006
3119.182	3119.1817	−4	C	0.617D-22	136.164	2	1	1	2	2	0	0 2 0	0 0 0	161	0.015	0.019
	3119.7520														0.003	
3120.193	3120.1917			0.555D-21	2321.905	10	5	5	11	7	4	0 0 1	0 0 0	161	0.020	0.022
3120.890	3120.8902			0.229D-21	2813.533	11	7	5	12	8	4	1 0 0	0 0 0	161	0.009	0.010
3120.964	3120.9646	7	H	0.691D-21	2813.515	11	7	4	12	8	5	1 0 0	0 0 0	161	0.030	0.030
3121.599	3121.5993	1	C	0.251D-21	931.237	7	3	4	7	4	3	0 2 0	0 0 0	161	0.014	0.015
3121.911	3121.9083	−31	H	0.319D-21	2927.939	12	6	7	13	7	6	1 0 0	0 0 0	161	0.013	0.014
3122.470	3122.4701	−3	C	0.343D-21	212.156	3	1	2	3	2	1	0 2 0	0 0 0	161	0.072	0.084
3122.796	3122.7955	−1	C	0.148D-21	315.779	4	1	3	4	2	2	0 2 0	0 0 0	161	0.024	0.028
3123.067	3123.0672	−10	C	0.111D-21	1050.158	8	2	6	8	3	5	0 2 0	0 0 0	161	0.004	0.006
3123.130	3123.1309	5	C	0.128D-21	661.549	6	2	4	6	3	3	0 2 0	0 0 0	161	0.011	0.011
3123.342	3123.3415			0.996D-22	3472.880	14	4	10	15	6	9	0 0 1	0 0 0	161	0.004	0.005
3123.418	3123.4096			0.121D-21	1718.719	10	4	7	10	5	6	0 2 0	0 0 0	161	0.004	0.005
3124.201	3124.1970	−11	H	0.156D-21	2927.076	12	6	6	13	7	7	1 0 0	0 0 0	161	0.007	0.007
3125.019	3125.0186			0.818D-22	1731.898	3	1	2	3	0	3	0 3 0	0 1 0	161	0.004	0.003
3125.132	3125.1319	1	C	0.383D-21	842.357	7	2	5	7	3	4	0 2 0	0 0 0	161	0.025	0.025
3125.186	3125.1830	−55	H	0.857D-21	2740.420	10	8	3	11	9	2	1 0 0	0 0 0	161	0.045	0.036
3125.188			D	0.286D-21	2740.420	10	8	2	11	9	3	1 0 0	0 0 0	161		0.012
3126.003	3126.0016	−11	C	0.409D-22	70.091	1	1	1	2	0	2	0 2 0	0 0 0	161	0.011	0.015
3126.567	3126.5701	15	C	0.159D-21	1255.167	8	4	5	8	5	4	0 2 0	0 0 0	161	0.007	0.007
3126.785	3126.7852	−1	C	0.109D-21	95.176	2	0	2	2	1	1	0 2 0	0 0 0	161	0.030	0.037
3126.911			D	0.892D-22	742.076	5	4	1	5	5	0	0 2 0	0 0 0	161		0.007
3126.916	3126.9156	13	C	0.139D-21	888.599	6	4	3	6	5	2	0 2 0	0 0 0	161	0.014	0.009
3126.924			D	0.532D-22	1059.647	7	4	4	7	5	3	0 2 0	0 0 0	161		0.003
3127.420	3127.4174	−19	C	0.465D-22	888.632	6	4	2	6	5	1	0 2 0	0 0 0	161	0.002	0.003
3127.850	3127.8515			0.561D-22	1677.063	3	0	3	2	1	2	0 3 0	0 1 0	161	0.002	0.002
3128.104	3128.1001			0.846D-22	1131.776	8	3	5	8	4	4	0 2 0	0 0 0	161	0.003	0.004
3128.310	3128.3102			0.845D-22	4038.404	10	6	5	11	7	4	1 1 0	0 1 0	161	0.004	0.004
3128.559	3128.5591	4	C	0.162D-21	1059.835	7	4	3	7	5	2	0 2 0	0 0 0	161	0.009	0.008
3129.597	3129.5991			0.488D-21	2433.803	11	4	8	12	6	7	0 0 1	0 0 0	161	0.018	0.020
3129.910			D	0.332D-22	3997.511	9	7	3	10	8	2	1 1 0	0 1 0	161		0.002
3129.913	3129.9230			0.996D-22	3997.511	9	7	2	10	8	3	1 1 0	0 1 0	161	0.007	0.005
3130.394	3130.3971			0.203D-21	2124.953	11	2	10	12	4	9	0 0 1	0 0 0	161	0.009	0.008
3130.402			D	0.366D-22	1255.913	8	4	4	8	5	3	0 2 0	0 0 0	161		0.002
3131.351	3131.3493	16	H	0.730D-21	2756.418	12	5	8	13	6	7	1 0 0	0 0 0	161	0.033	0.031
3132.161	3132.1598	−4	H	0.145D-22	7533.699	25	3	23	26	3	24	0 0 1	0 0 0	161	0.002	0.002
3133.070	3133.0685	−15	C	0.242D-21	42.372	1	0	1	1	1	0	0 2 0	0 0 0	161	0.076	0.094
3133.570	3133.5694			0.236D-21	1360.236	9	3	6	9	4	5	0 2 0	0 0 0	161	0.010	0.010
3134.498	3134.4984			0.155D-21	1477.297	9	4	5	9	5	4	0 2 0	0 0 0	161	0.007	0.006
3134.631	3134.6291			0.226D-21	1581.336	9	1	8	10	4	7	1 0 0	0 0 0	161	0.009	0.009
3135.095			D	0.291D-21	2701.890	9	9	1	10	10	0	1 0 0	0 0 0	161		0.012
3135.096	3135.0969	14	H	0.874D-21	2701.890	9	9	0	10	10	1	1 0 0	0 0 0	161	0.043	0.037
3135.382	3135.3808			0.150D-21	1899.008	11	3	8	11	4	7	0 2 0	0 0 0	161	0.005	0.006
3137.661			D	0.316D-22	3994.259	8	8	0	9	9	1	1 1 0	0 1 0	161		0.002
3137.661	3137.6564			0.948D-22	3994.259	8	8	1	9	9	0	1 1 0	0 1 0	161	0.007	0.005
3138.145	3138.1404	−68	H	0.155D-21	3822.246	15	5	10	16	6	11	1 0 0	0 0 0	161	0.007	0.008
3139.018	3139.0128	−22	H	0.548D-22	5271.371	22	1	22	23	0	23	1 0 0	0 0 0	161	0.005	0.004
3139.018			D	0.183D-22	5271.371	22	0	22	23	1	23	1 0 0	0 0 0	161		0.001
3139.109	3139.1139	−37	H	0.567D-21	2054.348	9	5	5	10	7	4	0 0 1	0 0 0	161	0.022	0.022
3139.115			D	0.232D-22	7210.551	23	5	19	24	5	20	0 0 1	0 0 0	161		0.002
3139.525			D	0.162D-22	5246.078	21	2	20	22	1	21	1 0 0	0 0 0	161		0.001
3139.525	3139.5240	−10	H	0.486D-22	5246.078	21	1	20	22	2	21	1 0 0	0 0 0	161	0.003	0.003
3139.729	3139.7276			0.642D-22	4123.285	11	5	6	12	6	7	1 1 0	0 1 0	161	0.002	0.003
3140.021	3140.0195			0.174D-21	1789.041	7	6	2	8	8	1	0 0 1	0 0 0	161	0.006	0.007
3140.031			D	0.580D-22	1789.041	7	6	1	8	8	0	0 0 1	0 0 0	161		0.002
3142.133	3142.1316			0.193D-21	2054.369	9	5	4	10	7	3	0 0 1	0 0 0	161	0.007	0.008
3142.780	3142.7798	2	C	0.444D-22	173.365	2	2	1	3	1	2	0 2 0	0 0 0	161	0.011	0.012
3142.860	3142.8637	41	H	0.460D-22	5163.082	20	3	18	21	2	19	1 0 0	0 0 0	161	0.003	0.003

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$	$v_1v_2v_3$	ISO	I_{obs}	I_{calc}
	3145.1866														0.003	
3145.415	3145.4130			0.117D-21	1998.996	11	4	7	11	5	6	0 2 0	0 0 0	161	0.004	0.005
3145.895	3145.8945			0.331D-21	2275.373	11	3	9	12	5	8	0 0 1	0 0 0	161	0.013	0.013
	3146.5548														0.004	
	3148.1063														0.004	
3148.303	3148.2976			0.205D-21	2613.104	11	6	6	12	7	5	1 0 0	0 0 0	161	0.008	0.009
3148.353	3148.3508	-20	H	0.994D-21	2522.267	10	7	4	11	8	3	1 0 0	0 0 0	161	0.039	0.041
3148.374				0.332D-21	2522.263	10	7	3	11	8	4	1 0 0	0 0 0	161		0.014
3149.259	3149.2599	9	H	0.699D-21	2612.801	11	6	5	12	7	6	1 0 0	0 0 0	161	0.028	0.029
3149.537			D	0.248D-22	3360.598	15	4	11	15	5	10	0 2 0	0 0 0	161		0.001
3149.542	3149.5401			0.199D-21	2533.793	12	2	10	13	4	9	0 0 1	0 0 0	161	0.007	0.008
	3149.8940														0.004	
3151.356	3151.3555	4	C	0.529D-22	446.511	4	3	2	5	2	3	0 2 0	0 0 0	161	0.007	0.007
3152.095	3152.1016			0.957D-22	1874.974	10	5	6	10	6	5	0 2 0	0 0 0	161	0.004	0.004
3152.281	3152.2811			0.669D-22	1045.058	6	5	2	6	6	1	0 2 0	0 0 0	161	0.003	0.003
3152.421	3152.4242			0.112D-21	1411.612	8	5	4	8	6	3	0 2 0	0 0 0	161	0.008	0.005
3152.722	3152.7255			0.374D-22	1411.647	8	5	3	8	6	2	0 2 0	0 0 0	161	0.003	0.002
3153.136	3153.1332	-4	H	0.118D-20	2471.254	9	8	1	10	9	2	1 0 0	0 0 0	161	0.059	0.048
3153.136			D	0.394D-21	2471.254	9	8	2	10	9	1	1 0 0	0 0 0	161		0.016
3153.280	3153.2808			0.108D-21	1631.384	9	5	4	9	6	3	0 2 0	0 0 0	161	0.004	0.004
3154.346	3154.3514			0.329D-22	1875.464	10	5	5	10	6	4	0 2 0	0 0 0	161	0.002	0.001
3155.380	3155.3801	6	H	0.248D-22	7116.395	25	2	24	26	2	25	0 0 1	0 0 0	161	0.004	0.002
3155.617	3155.6182			0.117D-21	3770.713	9	6	3	10	7	4	1 1 0	0 1 0	161	0.005	0.006
3156.326	3156.3282	8	H	0.287D-22	7027.023	24	2	22	25	2	23	0 0 1	0 0 0	161	0.004	0.003
3156.697	3156.6926	-54	H	0.350D-21	3084.835	13	5	8	14	6	9	1 0 0	0 0 0	161	0.014	0.016
3157.575	3157.5762			0.131D-21	3752.417	8	7	2	9	8	1	1 1 0	0 1 0	161	0.007	0.006
3157.575			D	0.435D-22	3752.417	8	7	1	9	8	2	1 1 0	0 1 0	161		0.002
3158.421	3158.4222			0.665D-22	3833.146	10	5	6	11	6	5	1 1 0	0 1 0	161	0.004	0.003
3159.002	3159.0002	-30	H	0.351D-22	6889.730	23	4	20	24	4	21	0 0 1	0 0 0	161	0.003	0.003
3159.345	3159.3446	-19	H	0.231D-22	7139.602	26	0	26	27	0	27	0 0 1	0 0 0	161	0.004	0.002
3160.997	3160.9985	-15	H	0.385D-22	6197.461	18	11	7	19	11	8	0 0 1	0 0 0	161	0.003	0.003
3160.998			D	0.128D-22	6197.445	18	11	8	19	11	9	0 0 1	0 0 0	161		0.001
3162.084	3162.0841			0.128D-21	1690.665	10	0	10	11	2	9	0 0 1	0 0 0	161	0.005	0.005
3162.131	3162.1298			0.236D-21	2142.597	10	4	7	11	6	6	0 0 1	0 0 0	161	0.009	0.009
3163.164	3163.1654	14	H	0.900D-22	2000.866	5	2	3	5	1	4	0 3 0	0 1 0	161	0.007	0.004
3164.030	3164.0313	-67	H	0.391D-21	2437.501	11	5	7	12	6	6	1 0 0	0 0 0	161	0.021	0.016
3164.038			D	0.922D-22	4846.496	21	0	21	22	1	22	1 0 0	0 0 0	161		0.006
3164.038			D	0.307D-22	4846.496	21	1	21	22	0	22	1 0 0	0 0 0	161		0.002
3164.367	3164.3684			0.239D-21	2300.689	11	4	8	12	5	7	1 0 0	0 0 0	161	0.010	0.010
3164.491			D	0.271D-22	4820.645	20	1	19	21	2	20	1 0 0	0 0 0	161		0.002
3164.492	3164.4901	-18	H	0.813D-22	4820.645	20	2	19	21	1	20	1 0 0	0 0 0	161	0.006	0.005
3165.460	3165.4609			0.183D-21	1810.584	8	5	4	9	7	3	0 0 1	0 0 0	161	0.007	0.007
3166.456	3166.4559			0.552D-21	1810.589	8	5	3	9	7	2	0 0 1	0 0 0	161	0.022	0.021
	3167.0592														0.004	
3167.236	3167.2368			0.415D-22	885.600	7	3	4	8	2	7	0 2 0	0 0 0	161	0.002	0.003
3167.536	3167.5376	28	H	0.762D-22	4738.637	19	2	17	20	3	18	1 0 0	0 0 0	161	0.005	0.005
3167.542			D	0.254D-22	4738.625	19	3	17	20	2	18	1 0 0	0 0 0	161		0.002
3167.911	3167.9098	-9	C	0.291D-22	224.838	3	2	1	4	1	4	0 2 0	0 0 0	161	0.006	0.007
3169.269	3169.2729			0.521D-22	1920.769	5	1	4	5	0	5	0 3 0	0 1 0	161	0.003	0.002
3169.820	3169.8208	18	C	0.537D-22	552.912	5	3	2	6	2	5	0 2 0	0 0 0	161	0.005	0.006
3170.077	3170.0769			0.168D-21	2748.106	12	5	7	13	6	8	1 0 0	0 0 0	161	0.008	0.007
3170.082			D	0.567D-22	1216.232	8	4	4	9	3	7	0 2 0	0 0 0	161		0.003
3170.232	3170.2332			0.982D-22	1731.898	4	1	4	3	0	3	0 3 0	0 1 0	161	0.006	0.004
	3172.1848														0.004	
3172.595	3172.5973			0.115D-21	3659.906	10	4	7	11	5	6	1 1 0	0 1 0	161	0.004	0.006
3173.158	3173.1573	-3	C	0.511D-22	842.357	6	4	3	7	3	4	0 2 0	0 0 0	161	0.003	0.003
	3174.7837														0.003	
3175.075	3175.0746	1	H	0.977D-21	2321.905	10	6	5	11	7	4	1 0 0	0 0 0	161	0.037	0.039
3175.394			D	0.259D-22	5866.230	16	13	3	17	13	4	0 0 1	0 0 0	161		0.002
3175.402	3175.4016	44	H	0.339D-21	2321.814	10	6	4	11	7	5	1 0 0	0 0 0	161	0.015	0.013
3175.901			D	0.459D-21	2254.284	9	7	3	10	8	2	1 0 0	0 0 0	161		0.018
3175.904	3175.8997	18	H	0.138D-20	2254.283	9	7	2	10	8	3	1 0 0	0 0 0	161	0.067	0.054
3176.742	3176.7390			0.524D-22	3101.124	7	4	4	8	6	3	0 1 1	0 1 0	161	0.002	0.002
3177.037	3177.0394	-14	H	0.654D-22	5941.043	18	10	8	19	10	9	0 0 1	0 0 0	161	0.005	0.005

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$			$v_1v_2v_3$			ISO	I_{obs}	I_{calc}
3177.129	3177.1298			0.116D-21	2756.418	12	4	8	13	6	7	0	0	1	0	0	0	161	0.005	0.005
3177.263	3177.2579			0.495D-21	1899.008	10	3	8	11	4	7	1	0	0	0	0	0	161	0.020	0.019
3178.119	3178.1192	-2	C	0.238D-21	23.794	1	1	0	1	0	1	0	2	0	0	0	0	161	0.075	0.096
3178.956	3178.9559			0.103D-21	1538.150	9	2	8	10	3	7	1	0	0	0	0	0	161	0.004	0.004
3179.644			D	0.161D-22	6623.797	24	2	23	25	2	24	0	0	1	0	0	0	161		0.001
3179.644	3179.6453	-4	H	0.483D-22	6623.797	24	1	23	25	1	24	0	0	1	0	0	0	161	0.007	0.004
3180.387	3180.3791	-75	H	0.115D-21	6177.340	20	6	14	21	6	15	0	0	1	0	0	0	161	0.010	0.009
3180.388			D	0.922D-22	5947.328	19	8	12	20	8	13	0	0	1	0	0	0	161		0.007
	3180.4104																		0.006	
3181.082	3181.0801	-54	H	0.157D-20	2225.468	8	8	1	9	9	0	1	0	0	0	0	0	161	0.074	0.062
3181.082			D	0.523D-21	2225.468	8	8	0	9	9	1	1	0	0	0	0	0	161		0.021
	3181.6748	13	H																0.002	
3182.278	3182.2788			0.600D-22	1006.116	7	4	3	8	3	6	0	2	0	0	0	0	161	0.002	0.003
3182.704	3182.7028			0.869D-22	1340.886	8	1	7	9	4	6	1	0	0	0	0	0	161	0.003	0.004
3182.816	3182.8191			0.153D-21	3526.630	8	6	3	9	7	2	1	1	0	0	1	0	161	0.007	0.007
3182.926			D	0.438D-22	2612.801	12	6	7	12	7	6	0	2	0	0	0	0	161		0.002
3182.927	3182.9298	40	H	0.675D-22	6400.980	22	3	19	23	3	20	0	0	1	0	0	0	161	0.006	0.006
3183.489			D	0.150D-22	6647.500	25	0	25	26	0	26	0	0	1	0	0	0	161		0.001
3183.489	3183.4889	-8	H	0.451D-22	6647.500	25	1	25	26	1	26	0	0	1	0	0	0	161	0.006	0.004
3184.531	3184.5288			0.839D-22	1843.030	10	2	9	11	4	8	0	0	1	0	0	0	161	0.004	0.003
3184.824	3184.8240	1	C	0.351D-22	37.137	2	0	2	1	1	1	0	2	0	0	0	0	161	0.010	0.014
3185.142	3185.1408			0.146D-21	1201.922	8	1	8	9	2	7	1	0	0	0	0	0	161	0.007	0.007
3185.210			D	0.549D-22	3530.958	7	7	1	8	8	0	1	1	0	0	1	0	161		0.003
3185.210	3185.2090			0.165D-21	3530.958	7	7	0	8	8	1	1	1	0	0	1	0	161	0.009	0.008
3185.255	3185.2550	0	C	0.102D-21	70.091	2	1	1	2	0	2	0	2	0	0	0	0	161	0.029	0.036
3186.274	3186.2709	-13	H	0.625D-22	5750.840	17	11	7	18	11	8	0	0	1	0	0	0	161	0.005	0.005
3186.275			D	0.208D-22	5750.844	17	11	6	18	11	7	0	0	1	0	0	0	161		0.001
3186.694	3186.6907	-38	H	0.868D-22	6220.531	21	5	17	22	5	18	0	0	1	0	0	0	161	0.006	0.007
3186.811	3186.8112			0.122D-21	3564.705	9	5	4	10	6	5	1	1	0	0	1	0	161	0.005	0.006
3187.531	3187.5341	46	H	0.699D-21	2433.803	11	5	6	12	6	7	1	0	0	0	0	0	161	0.027	0.028
3188.835			D	0.502D-22	4438.750	20	0	20	21	1	21	1	0	0	0	0	0	161		0.003
3188.836	3188.8379	9	H	0.151D-21	4438.750	20	1	20	21	0	21	1	0	0	0	0	0	161	0.011	0.008
3189.129	3189.1316	-35	H	0.207D-22	7025.977	18	7	11	19	7	12	0	1	1	0	1	0	161	0.003	0.002
3189.137			D	0.142D-22	7156.836	16	2	14	17	2	15	1	0	1	1	0	0	161		0.001
3189.232	3189.2311	-17	H	0.132D-21	4412.316	19	1	18	20	2	19	1	0	0	0	0	0	161	0.009	0.007
3189.233			D	0.440D-22	4412.316	19	2	18	20	1	19	1	0	0	0	0	0	161		0.002
3190.169	3190.1710			0.171D-21	1985.788	10	3	8	11	5	7	0	0	1	0	0	0	161	0.006	0.007
3190.941	3190.9415	30	H	0.162D-20	2144.047	10	5	6	11	6	5	1	0	0	0	0	0	161	0.039	0.063
	3191.1266																		0.002	
3191.561	3191.5648	53	H	0.107D-21	5702.781	18	9	9	19	9	10	0	0	1	0	0	0	161	0.006	0.008
3191.972	3191.9720			0.452D-21	1590.690	7	5	3	8	7	2	0	0	1	0	0	0	161	0.016	0.018
3192.103	3192.1036	121	H	0.910D-21	1874.974	9	4	6	10	6	5	0	0	1	0	0	0	161	0.033	0.035
3192.229	3192.2289			0.151D-21	1590.691	7	5	2	8	7	1	0	0	1	0	0	0	161	0.006	0.006
	3193.2233																		0.002	
3193.345	3193.3421	-17	H	0.128D-21	5987.875	20	5	15	21	5	16	0	0	1	0	0	0	161	0.008	0.010
3194.043	3194.0386	-9	H	0.522D-22	5591.113	16	12	4	17	12	5	0	0	1	0	0	0	161	0.005	0.004
3194.043			D	0.174D-22	5591.113	16	12	5	17	12	6	0	0	1	0	0	0	161		0.001
	3194.6605																		0.006	
3195.473	3195.4813			0.555D-22	2309.731	7	2	5	7	1	6	0	3	0	0	1	0	161	0.007	0.002
3195.604	3195.6076	35	H	0.125D-21	5739.230	19	7	13	20	7	14	0	0	1	0	0	0	161	0.008	0.009
3196.093	3196.0931	-5	C	0.530D-22	0.0	1	1	1	0	0	0	0	2	0	0	0	0	161	0.018	0.023
3196.645	3196.6457	12	C	0.129D-22	285.419	4	2	3	3	3	0	0	2	0	0	0	0	161	0.002	0.003
3197.865	3197.8644	-7	C	0.286D-21	136.761	3	1	2	3	0	3	0	2	0	0	0	0	161	0.068	0.084
	3199.0745																		0.002	
3199.724	3199.7254	11	C	0.352D-22	134.902	3	1	2	2	2	1	0	2	0	0	0	0	161	0.009	0.010
3200.832	3200.8348			0.121D-21	1920.769	6	1	6	5	0	5	0	3	0	0	1	0	161	0.006	0.005
3200.923	3200.9236			0.283D-21	2629.337	12	3	9	13	5	8	0	0	1	0	0	0	161	0.011	0.012
3200.964	3200.9711			0.749D-22	3940.521	11	4	7	12	5	8	1	1	0	0	1	0	161	0.004	0.004
3202.013	3202.0119			0.471D-21	2054.369	9	6	4	10	7	3	1	0	0	0	0	0	161	0.018	0.018
3202.101	3202.1042	12	H	0.143D-20	2054.348	9	6	3	10	7	4	1	0	0	0	0	0	161	0.052	0.055
3202.536	3202.5388	26	H	0.108D-21	5495.090	17	10	8	18	10	9	0	0	1	0	0	0	161	0.007	0.007
3203.323	3203.3252	-3	H	0.169D-21	5492.082	18	8	10	19	8	11	0	0	1	0	0	0	161	0.011	0.011
3203.328			D	0.451D-22	1581.336	9	5	4	10	4	7	0	2	0	0	0	0	161		0.002
3203.464	3203.4647	-1	C	0.183D-20	2009.805	8	7	2	9	8	1	1	0	0	0	0	0	161	0.088	0.070

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$	$v_1v_2v_3$	ISO	I_{obs}	I_{calc}
3203.466			D	0.610D-21	2009.805	8	7	1	9	8	2	1 0 0	0 0 0	161		0.023
3203.769	3203.7707	-3	H	0.916D-22	6147.789	23	2	22	24	2	23	0 0 1	0 0 0	161	0.009	0.007
3203.769			D	0.305D-22	6147.789	23	1	22	24	1	23	0 0 1	0 0 0	161		0.002
3204.332			D	0.348D-22	6062.148	22	3	20	23	3	21	0 0 1	0 0 0	161		0.003
3204.334	3204.3327	-8	H	0.104D-21	6062.145	22	2	20	23	2	21	0 0 1	0 0 0	161	0.010	0.008
	3205.7478	-27	H												0.004	
	3206.3337														0.005	
3206.732	3206.7283	-23	H	0.126D-21	5928.355	21	4	18	22	4	19	0 0 1	0 0 0	161	0.006	0.009
3207.490	3207.4875	-7	H	0.859D-22	6172.004	24	0	24	25	0	25	0 0 1	0 0 0	161	0.011	0.007
3207.490			D	0.286D-22	6172.004	24	1	24	25	1	25	0 0 1	0 0 0	161		0.002
	3207.5511														0.007	
3208.807	3208.8070	-1	H	0.119D-20	1998.996	10	4	7	11	5	6	1 0 0	0 0 0	161	0.054	0.046
3208.810			D	0.314D-21	2142.597	10	5	5	11	6	6	1 0 0	0 0 0	161		0.012
3209.746	3209.7461	-4	C	0.220D-21	79.496	3	0	3	2	1	2	0 2 0	0 0 0	161	0.060	0.075
3210.113			D	0.645D-22	3306.296	7	6	2	8	7	1	1 1 0	0 1 0	161		0.003
3210.116	3210.1126			0.193D-21	3306.296	7	6	1	8	7	2	1 1 0	0 1 0	161	0.010	0.009
	3210.2240														0.004	
	3210.6778														0.015	
3210.860	3210.8587	-9	H	0.164D-21	5748.125	20	4	16	21	4	17	0 0 1	0 0 0	161	0.011	0.012
	3211.3884														0.004	
3211.553	3211.5558			0.507D-21	1875.464	9	4	5	10	6	4	0 0 1	0 0 0	161	0.017	0.019
3211.584	3211.5860			0.244D-22	6682.004	14	3	11	15	3	12	1 0 1	1 0 0	161	0.003	0.002
3211.589	3211.5860			0.218D-22	6807.668	15	3	13	16	3	14	1 0 1	1 0 0	161	0.003	0.002
3211.618	3211.6204			0.970D-22	5324.660	16	11	5	17	11	6	0 0 1	0 0 0	161	0.007	0.006
3211.619			D	0.323D-22	5324.660	16	11	6	17	11	7	0 0 1	0 0 0	161		0.002
3212.249	3212.2469			0.156D-21	3321.013	8	5	4	9	6	3	1 1 0	0 1 0	161	0.007	0.007
3213.152	3213.1505			0.107D-21	2205.652	11	2	9	12	4	8	0 0 1	0 0 0	161	0.005	0.004
3213.404	3213.4069	-9	H	0.239D-21	4048.252	19	0	19	20	1	20	1 0 0	0 0 0	161	0.017	0.012
3213.404			D	0.798D-22	4048.252	19	1	19	20	0	20	1 0 0	0 0 0	161		0.004
3213.639	3213.6383			0.486D-22	2904.672	8	2	7	9	3	6	1 1 0	0 1 0	161	0.002	0.002
3213.749			D	0.695D-22	4021.219	18	1	17	19	2	18	1 0 0	0 0 0	161		0.004
3213.750	3213.7502	6	H	0.208D-21	4021.218	18	2	17	19	1	18	1 0 0	0 0 0	161	0.014	0.011
3214.033	3214.0341			0.287D-21	1813.224	10	1	9	11	3	8	0 0 1	0 0 0	161	0.011	0.011
3214.123	3214.1222	-9	C	0.224D-21	23.794	2	1	2	1	0	1	0 2 0	0 0 0	161	0.071	0.089
3214.558	3214.5616	5	H	0.205D-21	5527.047	19	6	14	20	6	15	0 0 1	0 0 0	161	0.013	0.014
3215.087	3215.0870	-26	H	0.172D-22	7261.289	23	1	23	24	1	24	0 1 1	0 1 0	161	0.002	0.002
3215.320	3215.3199			0.183D-21	1446.129	9	1	9	10	3	8	0 0 1	0 0 0	161	0.008	0.007
3216.246	3216.2458	10	H	0.190D-21	3940.590	17	2	15	18	3	16	1 0 0	0 0 0	161	0.009	0.010
3216.368	3216.3940			0.633D-22	3040.544	17	3	15	18	2	16	1 0 0	0 0 0	161	0.003	0.003
3216.523	3216.5226	5	C	0.765D-22	222.052	4	1	3	4	0	4	0 2 0	0 0 0	161	0.015	0.018
3217.368	3217.3606	-75	H	0.594D-22	5256.141	17	9	8	18	9	9	0 0 1	0 0 0	161	0.004	0.004
3217.389	3217.3934	40	H	0.814D-22	5513.266	19	5	14	20	5	15	0 0 1	0 0 0	161	0.004	0.006
3217.553	3217.5510	-1	H	0.177D-21	5255.445	17	9	9	18	9	10	0 0 1	0 0 0	161	0.010	0.011
3218.713	3218.7140			0.895D-22	1394.814	6	5	2	7	7	1	0 0 1	0 0 0	161	0.003	0.004
3218.759	3218.7596	49	C	0.268D-21	1394.814	6	5	1	7	7	0	0 0 1	0 0 0	161	0.011	0.011
3218.959	3218.9416			0.455D-22	2522.267	11	7	4	11	8	3	0 2 0	0 0 0	161	0.004	0.002
3219.285	3219.2881	-33	H	0.734D-22	5183.590	15	12	4	16	12	5	0 0 1	0 0 0	161	0.006	0.005
3219.285			D	0.245D-22	5183.590	15	12	3	16	12	4	0 0 1	0 0 0	161		0.002
3219.384	3219.3838	0	C	0.284D-21	173.365	3	2	1	3	1	2	0 2 0	0 0 0	161	0.062	0.075
	3220.0835														0.003	
3220.288	3220.2937			0.338D-21	1631.251	8	4	5	9	6	4	0 0 1	0 0 0	161	0.013	0.013
3220.442	3220.4425	0	C	0.117D-21	275.497	4	2	2	4	1	3	0 2 0	0 0 0	161	0.020	0.024
3220.776	3220.7764			0.565D-22	2392.594	7	3	4	7	2	5	0 3 0	0 1 0	161	0.003	0.002
3221.293	3221.2935			0.169D-21	3810.940	16	4	13	17	3	14	1 0 0	0 0 0	161	0.007	0.008
3222.035	3222.0339	-8	C	0.542D-22	95.176	2	2	0	2	1	1	0 2 0	0 0 0	161	0.014	0.018
3223.457	3223.4563			0.593D-22	1437.969	9	0	9	10	2	8	0 0 1	0 0 0	161	0.003	0.002
3225.559	3225.5614	27	H	0.392D-22	5066.223	14	13	1	15	13	2	0 0 1	0 0 0	161	0.004	0.002
3225.706	3225.7059	-4	C	0.254D-21	1122.709	7	1	6	8	4	5	1 0 0	0 0 0	161	0.012	0.012
3226.069	3226.0686	6	C	0.168D-21	1006.116	7	0	7	8	3	6	1 0 0	0 0 0	161	0.008	0.009
3227.465	3227.4644			0.338D-21	399.457	5	2	3	5	1	4	0 2 0	0 0 0	161	0.045	0.050
3227.751			D	0.563D-22	5688.504	22	2	21	23	2	22	0 0 1	0 0 0	161		0.004
3227.751	3227.7506	-7	H	0.169D-21	5688.504	22	1	21	23	1	22	0 0 1	0 0 0	161	0.016	0.012
3228.068	3228.0658	-37	H	0.170D-21	5070.020	16	10	6	17	10	7	0 0 1	0 0 0	161	0.012	0.011
3228.072			D	0.568D-22	5070.000	16	10	7	17	10	8	0 0 1	0 0 0	161		0.004

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$	$v_1v_2v_3$	ISO	I_{obs}	I_{calc}
3228.170	3228.1683	3	H	0.191D-21	5604.312	21	3	19	22	3	20	0 0 1	0 0 0	161	0.017	0.013
3228.173			D	0.638D-22	5604.309	21	2	19	22	2	20	0 0 1	0 0 0	161		0.004
	3228.4654														0.003	
3228.907	3228.9081	−59	H	0.326D-22	6804.469	20	2	18	21	2	19	0 1 1	0 1 0	161	0.003	0.003
3229.039	3229.0401	15	C	0.192D-20	1810.589	8	6	3	9	7	2	1 0 0	0 0 0	161	0.071	0.073
3229.058				0.642D-21	1810.584	8	6	2	9	7	3	1 0 0	0 0 0	161		0.024
3229.900	3229.9006	1	C	0.981D-22	70.091	3	1	3	2	0	2	0 2 0	0 0 0	161	0.029	0.034
3230.285	3230.2842			0.802D-21	1718.719	9	3	7	10	5	6	0 0 1	0 0 0	161	0.030	0.031
3230.333	3230.3346			0.124D-21	3383.266	9	4	5	10	5	6	1 1 0	0 1 0	161	0.006	0.006
3230.420	3230.4201	−7	C	0.126D-20	1631.384	8	4	4	9	6	3	0 0 1	0 0 0	161	0.048	0.049
3230.511	3230.5152	47	H	0.230D-21	5471.863	20	3	17	21	3	18	0 0 1	0 0 0	161	0.016	0.015
3230.986			D	0.779D-21	1789.041	7	7	1	8	8	0	1 0 0	0 0 0	161		0.030
3230.986	3230.9836	9	C	0.234D-20	1789.041	7	7	0	8	8	1	1 0 0	0 0 0	161	0.113	0.089
3231.325	3231.3313	−17	H	0.275D-21	5035.117	17	8	10	18	8	11	0 0 1	0 0 0	161	0.018	0.017
3231.336			D	0.159D-21	5713.250	23	1	23	24	1	24	0 0 1	0 0 0	161		0.011
3231.336			D	0.531D-22	5713.250	23	0	23	24	0	24	0 0 1	0 0 0	161		0.004
3232.274	3232.2737	−3	C	0.273D-22	206.301	4	1	3	3	2	2	0 2 0	0 0 0	161	0.006	0.007
3232.756	3232.7565	−14	H	0.127D-20	1874.974	9	5	4	10	6	5	1 0 0	0 0 0	161	0.046	0.048
3232.885	3232.8889			0.216D-21	1875.464	9	5	5	10	6	4	1 0 0	0 0 0	161	0.008	0.008
3233.019	3233.0192	0	C	0.108D-21	142.278	4	0	4	3	1	3	0 2 0	0 0 0	161	0.025	0.031
3233.484	3233.4836			0.116D-21	2180.644	8	1	8	7	0	7	0 3 0	0 1 0	161	0.005	0.004
3233.985	3233.9902	−62	H	0.288D-21	1616.452	9	3	7	10	4	6	1 0 0	0 0 0	161	0.013	0.011
3233.997			D	0.496D-22	6525.059	18	4	14	19	4	15	0 1 1	0 1 0	161		0.004
3234.368	3234.3704	13	H	0.385D-21	5199.598	18	6	12	19	6	13	0 0 1	0 0 0	161	0.021	0.024
3234.614	3234.6099	−61	H	0.995D-22	5292.098	19	4	15	20	4	16	0 0 1	0 0 0	161	0.006	0.006
3234.692	3234.6936	30	H	0.325D-22	6474.707	14	2	12	15	2	13	1 0 1	1 0 0	161	0.003	0.003
3235.133	3235.1333	3	H	0.275D-21	5294.035	19	5	15	20	5	16	0 0 1	0 0 0	161	0.015	0.018
3235.454	3235.4523	−31	H	0.353D-22	6351.855	13	4	10	14	4	11	1 0 1	1 0 0	161	0.002	0.003
3236.239	3236.2108			0.470D-22	3535.871	10	2	8	11	4	7	0 1 1	0 1 0	161	0.003	0.002
3236.400	3236.3996	−14	C	0.441D-21	1581.336	9	2	8	10	4	7	0 0 1	0 0 0	161	0.017	0.017
3236.649	3236.6492	2	C	0.118D-21	79.496	2	2	1	2	1	2	0 2 0	0 0 0	161	0.032	0.040
3236.871	3236.8705			0.881D-22	2919.634	7	3	5	8	5	4	0 1 1	0 1 0	161	0.004	0.004
3236.971	3236.9725			0.235D-21	3141.047	8	4	5	9	5	4	1 1 0	0 1 0	161	0.011	0.010
3237.055			D	0.474D-22	4919.246	15	11	4	16	11	5	0 0 1	0 0 0	161		0.003
3237.055	3237.0557	18	H	0.142D-21	4919.246	15	11	5	16	11	6	0 0 1	0 0 0	161	0.011	0.009
3237.342	3237.3426			0.235D-21	3109.911	6	6	1	7	7	0	1 1 0	0 1 0	161	0.012	0.010
3237.343			D	0.782D-22	3109.911	6	6	0	7	7	1	1 1 0	0 1 0	161		0.003
3237.733	3237.7396	64	H	0.369D-21	3675.116	18	1	18	19	0	19	1 0 0	0 0 0	161	0.030	0.018
3237.733			D	0.123D-21	3675.116	18	0	18	19	1	19	1 0 0	0 0 0	161		0.006
3238.024	3238.0262	1	H	0.319D-21	3647.465	17	1	16	18	2	17	1 0 0	0 0 0	161	0.019	0.015
3238.026			D	0.106D-21	3647.463	17	2	16	18	1	17	1 0 0	0 0 0	161		0.005
	3238.3501														0.009	
3238.880	3238.8766	−18	H	0.309D-22	6823.215	22	0	22	23	0	23	0 1 1	0 1 0	161	0.004	0.003
3239.097	3239.0970			0.677D-22	3101.144	7	5	3	8	6	2	1 1 0	0 1 0	161	0.002	0.003
3239.214	3239.2134			0.204D-21	3101.124	7	5	2	8	6	3	1 1 0	0 1 0	161	0.008	0.009
3239.608	3239.6049	27	H	0.177D-21	2586.529	12	4	8	13	5	9	1 0 0	0 0 0	161	0.007	0.007
3240.107	3240.1071	1	C	0.177D-21	325.348	5	1	4	5	0	5	0 2 0	0 0 0	161	0.028	0.031
3240.182	3240.1765	−35	H	0.959D-22	3567.234	16	2	14	17	3	15	1 0 0	0 0 0	161	0.004	0.004
3240.487	3240.4923	33	H	0.286D-21	3567.180	16	3	14	17	2	15	1 0 0	0 0 0	161	0.013	0.013
3241.426	3241.4235	−31	H	0.457D-21	5052.664	18	5	13	19	5	14	0 0 1	0 0 0	161	0.025	0.028
3241.753	3241.7524	−12	H	0.597D-22	6134.898	16	7	9	17	7	10	0 1 1	0 1 0	161	0.004	0.005
3241.773	3241.7741	2	C	0.901D-22	542.906	6	2	4	6	1	5	0 2 0	0 0 0	161	0.008	0.010
3242.697	3242.6966	−8	H	0.244D-21	3439.308	15	3	12	16	4	13	1 0 0	0 0 0	161	0.011	0.011
3242.948	3242.9530			0.138D-21	2300.689	11	3	8	12	5	7	0 0 1	0 0 0	161	0.005	0.005
3243.045	3243.0449	−8	C	0.481D-21	1282.919	8	2	7	9	3	6	1 0 0	0 0 0	161	0.020	0.020
3243.159	3243.1606	−26	H	0.285D-21	4830.895	16	9	7	17	9	8	0 0 1	0 0 0	161	0.015	0.017
3243.257	3243.2575	−149	H	0.948D-22	4830.598	16	9	8	17	9	9	0 0 1	0 0 0	161	0.004	0.006
3243.367	3243.3657	31	H	0.325D-21	4833.203	17	7	11	18	7	12	0 0 1	0 0 0	161	0.011	0.019
3244.179	3244.1743	−45	H	0.255D-22	6082.402	14	10	4	15	10	5	0 1 1	0 1 0	161	0.005	0.002
3244.406	3244.4063	2	C	0.345D-22	382.517	5	2	3	4	3	2	0 2 0	0 0 0	161	0.005	0.005
3244.644			D	0.314D-22	4796.961	14	12	3	15	12	4	0 0 1	0 0 0	161		0.002
3244.644	3244.6389	6	H	0.943D-22	4796.961	14	12	2	15	12	3	0 0 1	0 0 0	161	0.007	0.006
3244.943	3244.9427	3	C	0.365D-21	136.761	4	1	4	3	0	3	0 2 0	0 0 0	161	0.086	0.105
3245.402	3245.4024	2	C	0.554D-22	142.278	3	2	2	3	1	3	0 2 0	0 0 0	161	0.013	0.016

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$	$v_1v_2v_3$	ISO	I_{obs}	I_{calc}
3246.553	3246.5555			0.601D-21	1724.707	9	4	6	10	5	5	1 0 0	0 0 0	161	0.022	0.023
	3247.2960														0.011	
3247.363	3247.3635	12	C	0.970D-21	1411.612	7	4	4	8	6	3	0 0 1	0 0 0	161	0.038	0.039
3248.922	3248.9255			0.106D-21	2337.669	9	0	9	8	1	8	0 3 0	0 1 0	161	0.004	0.004
3249.199	3249.1963	-31	H	0.704D-21	2275.373	11	4	7	12	5	8	1 0 0	0 0 0	161	0.026	0.027
3249.472	3249.4733			0.656D-22	982.912	7	1	7	8	2	6	1 0 0	0 0 0	161	0.003	0.003
3249.680	3249.6760	-21	H	0.146D-22	5996.680	13	11	3	14	11	4	0 1 1	0 1 0	161	0.003	0.001
3250.294	3250.2944	19	H	0.908D-22	5965.715	16	6	10	17	6	11	0 1 1	0 1 0	161	0.006	0.007
3251.504	3251.5080			0.349D-21	1411.647	7	4	3	8	6	2	0 0 1	0 0 0	161	0.013	0.014
3251.582			D	0.101D-21	5246.078	21	1	20	22	1	21	0 0 1	0 0 0	161		0.006
3251.583	3251.5812	-11	H	0.303D-21	5246.078	21	2	20	22	2	21	0 0 1	0 0 0	161	0.027	0.019
3251.788	3251.7863			0.136D-21	2998.768	8	3	6	9	4	5	1 1 0	0 1 0	161	0.005	0.006
3251.883			D	0.114D-21	5163.090	20	3	18	21	3	19	0 0 1	0 0 0	161		0.007
3251.889	3251.8880	-5	H	0.342D-21	5163.082	20	2	18	21	2	19	0 0 1	0 0 0	161	0.027	0.021
	3252.4192	-8	H												0.005	
	3253.5849														0.005	
3253.683			D	0.856D-22	4665.977	15	10	5	16	10	6	0 0 1	0 0 0	161		0.005
3253.685	3253.6818	-1	H	0.257D-21	4665.969	15	10	6	16	10	7	0 0 1	0 0 0	161	0.017	0.015
3253.941	3253.9430	7	H	0.528D-22	6430.797	20	1	19	21	1	20	0 1 1	0 1 0	161	0.009	0.004
3253.941			D	0.176D-22	6430.797	20	2	19	21	2	20	0 1 1	0 1 0	161		0.001
3254.033	3254.0375	41	H	0.407D-21	5031.977	19	4	16	20	4	17	0 0 1	0 0 0	161	0.025	0.025
3254.148	3254.1483	-1	C	0.398D-21	224.838	5	0	5	4	1	4	0 2 0	0 0 0	161	0.077	0.091
3254.625	3254.6228	-22	B	0.472D-22	1908.017	4	3	2	4	2	3	0 3 0	0 1 0	161	0.002	0.002
3254.625	3254.6228	-22	B	0.170D-22	610.341	6	3	4	5	4	1	0 2 0	0 0 0	161	0.002	0.002
3255.029			D	0.959D-22	5271.371	22	1	22	23	1	23	0 0 1	0 0 0	161		0.006
3255.029	3255.0293	-14	H	0.288D-21	5271.371	22	0	22	23	0	23	0 0 1	0 0 0	161	0.027	0.018
3255.033			D	0.263D-22	2688.080	9	2	7	9	1	8	0 3 0	0 1 0	161		0.001
	3255.9988														0.006	
3256.083			D	0.829D-21	1590.691	7	6	2	8	7	1	1 0 0	0 0 0	161		0.032
3256.085	3256.0837	-16	C	0.249D-20	1590.690	7	6	1	8	7	2	1 0 0	0 0 0	161	0.124	0.096
3256.244	3256.2444	-15	H	0.456D-21	4612.789	16	8	8	17	8	9	0 0 1	0 0 0	161	0.022	0.026
3257.087	3257.0730	7	H	0.150D-21	4610.020	16	8	9	17	8	10	0 0 1	0 0 0	161	0.008	0.008
3257.226	3257.2254	-7	C	0.175D-21	224.838	4	2	3	4	1	4	0 2 0	0 0 0	161	0.034	0.040
3257.553	3257.5544	11	H	0.293D-22	6095.508	17	4	13	18	4	14	0 1 1	0 1 0	161	0.003	0.002
3257.708	3257.7088	-18	H	0.169D-21	4855.145	18	5	14	19	5	15	0 0 1	0 0 0	161	0.010	0.010
3258.074	3258.0734	1	C	0.145D-20	1631.384	8	5	4	9	6	3	1 0 0	0 0 0	161	0.055	0.055
3258.154	3258.1585			0.570D-21	1631.251	8	5	3	9	6	4	1 0 0	0 0 0	161	0.022	0.022
3258.270	3258.2723	-3	H	0.532D-21	4851.824	18	4	14	19	4	15	0 0 1	0 0 0	161	0.030	0.031
3258.893	3258.8920	-23	H	0.438D-22	6267.035	15	1	15	16	1	16	1 0 1	1 0 0	161	0.004	0.003
3258.893			D	0.146D-22	6267.035	15	0	15	16	0	16	1 0 1	1 0 0	161		0.001
3259.540	3259.5377	-45	H	0.570D-22	6028.859	12	3	9	13	3	10	1 0 1	1 0 0	161	0.004	0.004
3259.706	3259.7031			0.660D-22	2920.133	7	3	4	8	5	3	0 1 1	0 1 0	161	0.004	0.003
	3260.1844														0.003	
3260.428	3260.4265	-9	C	0.139D-21	222.052	5	1	5	4	0	4	0 2 0	0 0 0	161	0.028	0.032
3261.016	3261.0144			0.277D-21	1985.788	10	4	6	11	5	7	1 0 0	0 0 0	161	0.010	0.010
3261.162	3261.1626	-4	H	0.596D-21	4638.648	17	6	12	18	6	13	0 0 1	0 0 0	161	0.031	0.034
3261.829	3261.8298	2	H	0.552D-21	3319.451	17	0	17	18	1	18	1 0 0	0 0 0	161	0.033	0.025
3261.829			D	0.184D-21	3319.451	17	1	17	18	0	18	1 0 0	0 0 0	161		0.008
3262.067			D	0.157D-21	3291.152	16	1	15	17	2	16	1 0 0	0 0 0	161		0.007
3262.071	3262.0687	-18	H	0.472D-21	3291.149	16	2	15	17	1	16	1 0 0	0 0 0	161	0.022	0.021
3262.426	3262.4252	-3	H	0.540D-22	6402.156	21	1	21	22	1	22	0 1 1	0 1 0	161	0.007	0.004
3262.426			D	0.180D-22	6402.156	21	0	21	22	0	22	0 1 1	0 1 0	161		0.001
3262.518	3262.5171	1	C	0.640D-22	927.744	6	1	5	7	4	4	1 0 0	0 0 0	161	0.003	0.004
3262.582	3262.5822	-10	H	0.195D-21	4534.961	14	11	3	15	11	4	0 0 1	0 0 0	161	0.013	0.011
3262.583			D	0.650D-22	4534.961	14	11	4	15	11	5	0 0 1	0 0 0	161		0.004
3263.265			D	0.164D-22	5062.020	10	0	10	11	1	11	1 0 1	0 0 1	161		0.001
3263.275	3263.2738	-10	C	0.194D-21	704.214	7	2	5	7	1	6	0 2 0	0 0 0	161	0.015	0.015
3263.388	3263.4249			0.124D-21	3083.854	14	3	11	15	4	12	1 0 0	0 0 0	161	0.004	0.005
3263.493	3263.4903	-15	H	0.420D-21	3211.214	15	2	13	16	3	14	1 0 0	0 0 0	161	0.018	0.018
3264.384	3264.3901	64	H	0.138D-21	3211.056	15	3	13	16	2	14	1 0 0	0 0 0	161	0.006	0.006
3264.387			D	0.261D-22	6273.238	17	5	12	18	5	13	0 1 1	0 1 0	161		0.002
3265.092	3265.0921	2	C	0.133D-21	300.362	5	1	4	4	2	3	0 2 0	0 0 0	161	0.022	0.025
3265.314	3265.3141			0.313D-22	2512.378	10	0	10	9	1	9	0 3 0	0 1 0	161	0.002	0.001
3265.567	3265.5699	-4	H	0.278D-21	4606.199	17	5	12	18	5	13	0 0 1	0 0 0	161	0.014	0.016

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$			$v_1v_2v_3$			ISO	I_{obs}	I_{calc}
3265.904			D	0.250D-21	2905.435	6	5	2	7	6	1	1	1	0	0	1	0	161		0.010
3265.915	3265.9120	-12	H	0.723D-21	4428.109	16	7	9	17	7	10	0	0	1	0	0	0	161	0.041	0.039
3266.086	3266.0864			0.417D-21	1474.981	8	3	6	9	5	5	0	0	1	0	0	0	161	0.015	0.016
3266.385	3266.3853	-3	C	0.462D-22	446.697	6	1	5	6	0	6	0	2	0	0	0	0	161	0.005	0.006
3266.681	3266.6836	39	H	0.475D-22	5887.770	11	5	7	12	5	8	1	0	1	1	0	0	161	0.002	0.003
	3267.3754																		0.008	
3267.484	3267.4835	-3	H	0.736D-21	4291.906	16	6	10	17	6	11	0	0	1	0	0	0	161	0.034	0.039
	3267.6235																		0.003	
3268.408			D	0.507D-22	2161.286	6	3	4	6	2	5	0	3	0	0	1	0	161		0.002
3268.414	3268.4134			0.609D-22	4564.113	15	1	14	16	2	15	1	1	0	0	1	0	161	0.005	0.003
3268.992			D	0.199D-22	4074.046	12	3	9	13	4	10	1	1	0	0	1	0	161		0.001
3269.003	3269.0019	-81	H	0.146D-21	4427.258	15	9	6	16	9	7	0	0	1	0	0	0	161	0.006	0.008
3269.041	3269.0445	36	H	0.437D-21	4427.117	15	9	7	16	9	8	0	0	1	0	0	0	161	0.017	0.024
3270.113	3270.1072	-64	H	0.105D-21	4431.637	13	12	2	14	12	3	0	0	1	0	0	0	161	0.005	0.006
3270.113			D	0.349D-22	4431.637	13	12	1	14	12	2	0	0	1	0	0	0	161		0.002
3270.427	3270.4269	3	C	0.232D-21	782.410	7	3	4	7	2	5	0	2	0	0	0	0	161	0.012	0.016
3271.020	3271.0198	1	C	0.826D-22	602.774	6	3	3	6	2	4	0	2	0	0	0	0	161	0.009	0.008
	3271.0717																		0.007	
	3271.4437																		0.006	
3271.481	3271.4694	-26	H	0.210D-21	4409.312	16	7	10	17	7	11	0	0	1	0	0	0	161	0.007	0.011
3271.673	3271.6758	17	H	0.320D-21	3080.181	14	4	11	15	3	12	1	0	0	0	0	0	161	0.013	0.014
3271.890	3271.8903	-4	C	0.539D-22	326.625	5	2	4	5	1	5	0	2	0	0	0	0	161	0.007	0.009
3272.052	3272.0506			0.524D-21	1899.008	10	2	8	11	4	7	0	0	1	0	0	0	161	0.015	0.020
3273.404	3273.4035			0.941D-21	1718.719	9	4	5	10	5	6	1	0	0	0	0	0	161	0.030	0.035
3273.427	3273.4273	3	C	0.145D-21	326.625	6	0	6	5	1	5	0	2	0	0	0	0	161	0.020	0.025
3273.725			D	0.433D-22	5762.059	10	6	4	11	6	5	1	0	1	1	0	0	161		0.003
3273.731	3273.7311			0.188D-21	2919.634	7	4	3	8	5	4	1	1	0	0	1	0	161	0.007	0.008
3273.774	3273.7737	-3	C	0.210D-21	42.372	2	2	1	1	1	0	0	2	0	0	0	0	161	0.061	0.078
3273.875	3273.8756			0.257D-21	1216.189	6	4	3	7	6	2	0	0	1	0	0	0	161	0.008	0.011
3274.637	3274.6411			0.496D-21	1998.996	10	3	7	11	5	6	0	0	1	0	0	0	161	0.020	0.019
3275.176	3275.1744	-13	C	0.787D-21	1216.194	6	4	2	7	6	1	0	0	1	0	0	0	161	0.030	0.034
3275.256			D	0.177D-21	4820.645	20	2	19	21	2	20	0	0	1	0	0	0	161		0.010
3275.256	3275.2575	2	H	0.530D-21	4820.645	20	1	19	21	1	20	0	0	1	0	0	0	161	0.036	0.031
3275.476	3275.4752	-13	H	0.593D-21	4738.637	19	3	17	20	3	18	0	0	1	0	0	0	161	0.034	0.034
3275.484			D	0.198D-21	4738.625	19	2	17	20	2	18	0	0	1	0	0	0	161		0.011
3275.927	3275.9304	7	H	0.958D-22	5970.941	18	2	16	19	2	17	0	1	1	0	1	0	161	0.007	0.007
3276.221	3276.2206	0	C	0.231D-21	446.511	5	3	2	5	2	3	0	2	0	0	0	0	161	0.027	0.030
3276.511	3276.5108	-3	C	0.444D-21	325.348	6	1	6	5	0	5	0	2	0	0	0	0	161	0.068	0.078
	3277.2418																		0.010	
3277.611			D	0.897D-22	6022.801	19	2	18	20	2	19	0	1	1	0	1	0	161		0.007
3277.613			D	0.299D-22	6022.801	19	1	18	20	1	19	0	1	1	0	1	0	161		0.002
3277.613	3277.6126	-21	H	0.360D-21	1718.719	9	6	3	10	5	6	0	2	0	0	0	0	161	0.022	0.014
3277.703	3277.7026	9	H	0.705D-21	4608.227	18	3	15	19	3	16	0	0	1	0	0	0	161	0.032	0.039
3277.825	3277.8246			0.231D-21	4608.578	18	4	15	19	4	16	0	0	1	0	0	0	161	0.007	0.013
3278.565	3278.5655	12	H	0.506D-21	4846.496	21	1	21	22	1	22	0	0	1	0	0	0	161	0.038	0.030
3278.565			D	0.169D-21	4846.496	21	0	21	22	0	22	0	0	1	0	0	0	161		0.010
3279.097	3279.0964	4	C	0.252D-20	1477.297	8	4	5	9	5	4	1	0	0	0	0	0	161	0.088	0.099
3279.255	3279.2590	6	H	0.663D-22	5862.344	12	2	10	13	2	11	1	0	1	1	0	0	161	0.006	0.005
3279.258			D	0.283D-22	5567.984	14	8	7	15	8	8	0	1	1	0	1	0	161		0.002
3279.373	3279.3709	-10	H	0.367D-21	4283.305	14	10	4	15	10	5	0	0	1	0	0	0	161	0.018	0.019
3279.375			D	0.122D-21	4283.301	14	10	5	15	10	6	0	0	1	0	0	0	161		0.006
3280.074	3280.0739	1	C	0.611D-22	37.137	2	2	0	1	1	1	0	2	0	0	0	0	161	0.018	0.023
3280.891	3280.8931	18	H	0.856D-21	4432.863	17	5	13	18	5	14	0	0	1	0	0	0	161	0.037	0.046
	3280.9850																		0.005	
3281.017	3281.0207	33	H	0.152D-21	5680.555	16	4	12	17	4	13	0	1	1	0	1	0	161	0.008	0.010
3281.817	3281.8153	13	H	0.309D-21	4427.160	17	4	13	18	4	14	0	0	1	0	0	0	161	0.014	0.017
3282.836	3282.8341	48	H	0.529D-21	2746.024	13	3	10	14	4	11	1	0	0	0	0	0	161	0.019	0.021
3282.972	3282.9735	-18	H	0.702D-21	4206.332	15	8	8	16	8	9	0	0	1	0	0	0	161	0.028	0.036
3283.062	3283.0617	1	C	0.308D-20	1394.814	6	6	1	7	7	0	1	0	0	0	0	0	161	0.146	0.123
3283.062			D	0.103D-20	1394.814	6	6	0	7	7	1	1	0	0	0	0	0	161		0.041
3283.753			D	0.182D-22	6955.305	15	5	11	16	5	12	0	2	1	0	2	0	161		0.002
3283.763	3283.7627	-4	C	0.142D-20	1360.236	8	3	6	9	4	5	1	0	0	0	0	0	161	0.050	0.058
3284.131	3284.1272			0.253D-22	4188.395	6	3	4	7	4	3	1	2	0	0	2	0	161	0.007	0.001
3284.190	3284.1947	-53	B	0.730D-21	1411.647	7	5	3	8	6	2	1	0	0	0	0	0	161	0.027	0.029

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$	$v_1v_2v_3$	ISO	I_{obs}	I_{calc}
3284.224	3284.2253	10	C	0.227D-20	1411.612	7	5	2	8	6	3	1 0 0	0 0 0	161	0.082	0.090
3284.561	3284.5737			0.137D-21	5512.023	15	6	10	16	6	11	0 1 1	0 1 0	161	0.007	0.009
3285.007	3285.0002	0	H	0.322D-21	4221.012	16	6	11	17	6	12	0 0 1	0 0 0	161	0.013	0.017
3285.052	3285.0515			0.212D-21	1340.886	8	2	7	9	4	6	0 0 1	0 0 0	161	0.009	0.009
3285.673			D	0.267D-21	2981.363	16	0	16	17	1	17	1 0 0	0 0 0	161		0.011
3285.673	3285.6724	-35	H	0.801D-21	2981.363	16	1	16	17	0	17	1 0 0	0 0 0	161	0.038	0.034
3285.759	3285.7587	-25	H	0.918D-22	5998.164	20	0	20	21	0	21	0 1 1	0 1 0	161	0.010	0.007
3285.759			D	0.306D-22	5998.164	20	1	20	21	1	21	0 1 1	0 1 0	161		0.002
3285.819	3285.8200	-50	H	0.678D-21	2952.396	15	1	14	16	2	15	1 0 0	0 0 0	161	0.021	0.028
~~3285.831~~			~~D~~	~~0.226D-21~~	~~2952.389~~	~~15~~	~~2~~	~~14~~	~~16~~	~~1~~	~~15~~	~~1 0 0~~	~~0 0 0~~	~~161~~		~~0.009~~
3286.169	3286.1696	-4	B	0.244D-21	1201.922	8	0	8	9	2	7	0 0 1	0 0 0	161	0.007	0.011
	3287.2464														0.007	
3288.100	3288.0982	-58	H	0.581D-21	2872.278	14	3	12	15	2	13	1 0 0	0 0 0	161	0.022	0.024
3288.203	3288.2039	17	H	0.244D-21	4172.148	13	11	3	14	11	4	0 0 1	0 0 0	161	0.012	0.013
3288.203			D	0.814D-22	4172.148	13	11	2	14	11	3	0 0 1	0 0 0	161		0.004
3288.483	3288.4828	4	C	0.119D-21	212.156	3	3	0	3	2	1	0 2 0	0 0 0	161	0.019	0.028
3288.555	3288.5512	-36	H	0.181D-21	2872.572	14	2	12	15	3	13	1 0 0	0 0 0	161	0.009	0.007
3288.918	3288.9193	8	C	0.138D-21	447.252	6	2	5	6	1	6	0 2 0	0 0 0	161	0.015	0.018
3290.199	3290.2011	8	H	0.146D-20	4174.285	16	5	11	17	5	12	0 0 1	0 0 0	161	0.060	0.075
	3290.3475														0.005	
3291.357	3291.3574	4	C	0.439D-21	447.252	7	0	7	6	1	6	0 2 0	0 0 0	161	0.051	0.057
3292.505	3292.5043	-3	C	0.702D-22	95.176	3	2	2	2	1	1	0 2 0	0 0 0	161	0.018	0.022
3292.615			D	0.977D-22	2733.965	5	5	1	6	6	0	1 1 0	0 1 0	161		0.004
3292.617	3292.6199			0.293D-21	2733.965	5	5	0	6	6	1	1 1 0	0 1 0	161	0.012	0.012
3292.812			D	0.105D-21	756.725	5	1	4	6	4	3	1 0 0	0 0 0	161		0.007
3292.822	3292.8213	-9	C	0.148D-21	446.697	7	1	7	6	0	6	0 2 0	0 0 0	161	0.018	0.019
3293.093	3293.0926	-3	C	0.110D-21	586.243	7	1	6	7	0	7	0 2 0	0 0 0	161	0.008	0.011
3293.326	3293.3365	-25	H	0.374D-21	4016.170	15	7	8	16	7	9	0 0 1	0 0 0	161	0.013	0.019
3293.426	3293.4284			0.206D-22	5601.531	10	5	6	11	5	7	1 0 1	1 0 0	161	0.009	0.001
3294.058	3294.0588	16	C	0.478D-21	1474.981	8	4	4	9	5	5	1 0 0	0 0 0	161	0.016	0.019
3294.210	3294.2107	10	C	0.393D-22	206.301	3	3	1	3	2	2	0 2 0	0 0 0	161	0.011	0.009
3294.252	3294.2518	-7	H	0.437D-22	5381.543	12	10	2	13	10	3	0 1 1	0 1 0	161	0.006	0.003
3294.883	3294.8842	-28	H	0.641D-21	4045.316	14	9	5	15	9	6	0 0 1	0 0 0	161	0.026	0.032
3294.893			D	0.214D-21	4045.289	14	9	6	15	9	7	0 0 1	0 0 0	161		0.011
3296.645	3296.6451	2	H	0.105D-20	4006.071	15	7	9	16	7	10	0 0 1	0 0 0	161	0.040	0.052
3297.137	3297.1360	-15	H	0.490D-21	3870.212	15	6	9	16	6	10	0 0 1	0 0 0	161	0.020	0.024
3297.504	3297.5037	-4	C	0.179D-21	300.362	4	3	2	4	2	3	0 2 0	0 0 0	161	0.028	0.033
3298.107	3298.1072	3	C	0.181D-20	1255.167	7	3	5	8	5	4	0 0 1	0 0 0	161	0.069	0.077
3298.153	3298.1529	-10	H	0.150D-21	5579.500	17	3	15	18	3	16	0 1 1	0 1 0	161	0.007	0.010
3298.427	3298.4480			0.130D-21	2739.446	13	4	10	14	3	11	1 0 0	0 0 0	161	0.005	0.005
3298.776	3298.7726	-22	H	0.901D-21	4412.316	19	2	18	20	2	19	0 0 1	0 0 0	161	0.057	0.048
3298.777			D	0.300D-21	4412.316	19	1	18	20	1	19	0 0 1	0 0 0	161		0.016
3298.914				0.333D-21	4331.094	18	3	16	19	3	17	0 0 1	0 0 0	161		0.018
3298.941	3298.9427	33	H	0.100D-20	4331.070	18	2	16	19	2	17	0 0 1	0 0 0	161	0.046	0.053
	3299.5255														0.005	
3299.869	3299.8669	-23	H	0.242D-21	2426.195	12	3	9	13	4	10	1 0 0	0 0 0	161	0.011	0.009
3300.139	3300.1371	3	H	0.183D-21	5466.402	16	3	13	17	3	14	0 1 1	0 1 0	161	0.013	0.012
3300.214	3300.2143	-4	C	0.435D-21	1045.058	5	4	2	6	6	1	0 0 1	0 0 0	161	0.020	0.021
3301.100				0.395D-21	4201.285	17	3	14	18	3	15	0 0 1	0 0 0	161		0.020
3301.216	3301.2152	15	H	0.117D-20	4201.855	17	4	14	18	4	15	0 0 1	0 0 0	161	0.051	0.060
3301.937	3301.9369	2	H	0.864D-21	4438.750	20	0	20	21	0	21	0 0 1	0 0 0	161	0.060	0.047
3301.937			D	0.288D-21	4438.750	20	1	20	21	1	21	0 0 1	0 0 0	161		0.016
3302.205	3302.2088	-41	H	0.198D-21	5310.246	15	5	11	16	5	12	0 1 1	0 1 0	161	0.014	0.013
3303.074	3303.0730	-21	C	0.256D-21	1050.158	7	2	6	8	3	5	1 0 0	0 0 0	161	0.008	0.013
3303.284	3303.2844	4	C	0.661D-22	416.209	5	3	3	5	2	4	0 2 0	0 0 0	161	0.008	0.009
3303.550	3303.5464	-59	H	0.877D-22	5579.492	11	3	9	12	3	10	1 0 1	1 0 0	161	0.006	0.006
3303.989	3303.9898	12	H	0.464D-21	4027.494	16	5	12	17	5	13	0 0 1	0 0 0	161	0.019	0.023
3304.136	3304.1393	1	H	0.222D-21	5152.969	14	6	8	15	6	9	0 1 1	0 1 0	161	0.009	0.014
3305.139			D	0.163D-21	3922.325	13	10	3	14	10	4	0 0 1	0 0 0	161		0.008
3305.140	3305.1391	-109	H	0.489D-21	3922.324	13	10	4	14	10	5	0 0 1	0 0 0	161	0.027	0.024
3305.200	3305.2004	1	H	0.159D-20	4017.909	16	4	12	17	4	13	0 0 1	0 0 0	161	0.066	0.079
3307.186	3307.1865	3	H	0.488D-21	4291.906	16	7	10	17	6	11	1 0 0	0 0 0	161	0.017	0.026
3308.077	3308.0774	-5	C	0.109D-20	1255.913	7	4	4	8	5	3	1 0 0	0 0 0	161	0.041	0.046
3308.321	3308.3201	7	C	0.140D-21	586.479	8	0	8	7	1	7	0 2 0	0 0 0	161	0.014	0.013

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$			$v_1v_2v_3$			ISO	I_{obs}	I_{calc}
3308.649	3308.6459			0.256D-21	5015.703	14	5	9	15	5	10	0	1	1	0	1	0	161	0.015	0.015
3308.699	3308.6990	2	C	0.218D-21	173.365	4	2	3	3	1	2	0	2	0	0	0	0	161	0.047	0.056
3308.786	3308.7816	-87	H	0.105D-20	3824.994	14	8	6	15	8	7	0	0	1	0	0	0	161	0.042	0.050
3308.888			D	0.506D-22	5611.332	19	0	19	20	0	20	0	1	1	0	1	0	161		0.003
3308.888	3308.8879	6	H	0.152D-21	5611.332	19	1	19	20	1	20	0	1	1	0	1	0	161	0.013	0.010
3308.989	3308.9842	108	H	0.350D-21	3824.496	14	8	7	15	8	8	0	0	1	0	0	0	161	0.014	0.017
3309.009	3309.0098	3	C	0.420D-21	586.243	8	1	8	7	0	7	0	2	0	0	0	0	161	0.037	0.040
3309.259	3309.2556	-37	H	0.113D-20	2660.950	15	0	15	16	1	16	1	0	0	0	0	0	161	0.067	0.045
3309.259			D	0.375D-21	2660.950	15	1	15	16	0	16	1	0	0	0	0	0	161		0.015
3309.261			D	0.314D-21	2631.282	14	1	13	15	2	14	1	0	0	0	0	0	161		0.012
3309.367				0.941D-21	2631.272	14	2	13	15	1	14	1	0	0	0	0	0	161		0.037
3309.384	3309.3807	18	H	0.152D-20	3822.246	15	6	10	16	6	11	0	0	1	0	0	0	161	0.070	0.073
3309.388			D	0.503D-22	2983.324	8	3	5	9	4	6	1	1	0	0	1	0	161		0.002
3310.526	3310.5257	-3	C	0.290D-20	1216.194	6	5	2	7	6	1	1	0	0	0	0	0	161	0.146	0.125
3310.531			D	0.972D-21	1216.189	6	5	1	7	6	2	1	0	0	0	0	0	161		0.042
3310.856	3310.8553	-35	H	0.783D-21	2551.486	13	2	11	14	3	12	1	0	0	0	0	0	161	0.028	0.031
3311.582	3311.5844	44	H	0.260D-21	2550.883	13	3	11	14	2	12	1	0	0	0	0	0	161	0.008	0.010
3312.055	3312.0539	-10	C	0.188D-21	552.912	6	3	4	6	2	5	0	2	0	0	0	0	161	0.017	0.019
3313.253	3313.2529	-1	C	0.136D-21	79.496	3	2	1	2	1	2	0	2	0	0	0	0	161	0.035	0.045
3313.394	3313.3936	-5	C	0.271D-21	782.410	6	1	6	7	2	5	1	0	0	0	0	0	161	0.016	0.018
3313.930	3313.9270	-22	H	0.265D-21	3831.174	12	11	1	13	11	2	0	0	1	0	0	0	161	0.013	0.013
3313.930			D	0.882D-22	3831.173	12	11	2	13	11	3	0	0	1	0	0	0	161		0.004
3314.105	3314.1045	-6	H	0.951D-21	2124.953	11	3	8	12	4	9	1	0	0	0	0	0	161	0.032	0.036
3315.043	3315.0444			0.316D-21	1477.297	8	3	5	9	5	4	0	0	1	0	0	0	161	0.009	0.012
3315.872	3315.8711	-111	H	0.553D-21	3360.598	14	6	9	15	5	10	1	0	0	0	0	0	161	0.019	0.024
3315.881	3316.0869			0.799D-21	3758.429	15	5	10	16	5	11	0	0	1	0	0	0	161	0.032	0.038
3317.279	3317.2799	13	C	0.148D-20	1255.167	7	4	3	8	5	4	1	0	0	0	0	0	161	0.059	0.062
3317.280			D	0.267D-22	4613.574	5	3	2	6	5	1	0	0	2	0	0	1	161		0.001
3318.510	3318.5088	-11	C	0.689D-22	648.979	7	2	5	6	3	4	0	2	0	0	0	0	161	0.006	0.006
3320.010	3320.0140	24	H	0.202D-21	4980.227	13	7	7	14	7	8	0	1	1	0	1	0	161	0.009	0.012
3320.484	3320.4849	8	H	0.167D-20	3629.095	14	7	7	15	7	8	0	0	1	0	0	0	161	0.063	0.077
3320.820			D	0.296D-21	3685.414	13	9	4	14	9	5	0	0	1	0	0	0	161		0.014
3320.824	3320.8207	5	H	0.888D-21	3685.403	13	9	5	14	9	6	0	0	1	0	0	0	161	0.044	0.041
3322.124			D	0.497D-21	4021.219	18	2	17	19	2	18	0	0	1	0	0	0	161		0.025
3322.125	3322.1233	-37	H	0.149D-20	4021.218	18	1	17	19	1	18	0	0	1	0	0	0	161	0.088	0.074
3322.191	3322.1908	-1	H	0.164D-20	3940.590	17	3	15	18	3	16	0	0	1	0	0	0	161	0.068	0.080
3322.255	3322.2528	28	H	0.547D-21	3940.544	17	2	15	18	2	16	0	0	1	0	0	0	161	0.020	0.027
3322.299	3322.2828			0.541D-21	3624.163	14	7	8	15	7	9	0	0	1	0	0	0	161	0.017	0.025
3323.019	3323.0197	15	C	0.767D-22	275.497	5	2	4	4	1	3	0	2	0	0	0	0	161	0.010	0.015
	3323.0932																		0.007	
3323.150			D	0.760D-22	1742.307	3	3	0	2	2	1	0	3	0	0	1	0	161		0.003
3323.152			D	0.177D-21	2764.699	7	3	4	8	4	5	1	1	0	0	1	0	161		0.007
3323.159	3323.1581	-30	H	0.280D-21	5094.086	15	4	12	16	4	13	0	1	1	0	1	0	161	0.019	0.017
3323.343	3323.3406			0.273D-21	1616.452	9	2	7	10	4	6	0	0	1	0	0	0	161	0.010	0.010
3324.007	3324.0061	-5	C	0.537D-22	709.609	7	3	5	7	2	6	0	2	0	0	0	0	161	0.007	0.004
3324.312	3324.3037			0.237D-21	5258.633	17	2	16	18	2	17	0	1	1	0	1	0	161	0.015	0.015
3324.321	3324.3388	18	H	0.635D-21	3812.051	16	4	13	17	4	14	0	0	1	0	0	0	161	0.028	0.030
3324.380	3324.3844	73	H	0.194D-20	3810.940	16	3	13	17	3	14	0	0	1	0	0	0	161	0.081	0.092
3324.535			D	0.272D-21	2552.858	5	4	1	6	5	2	1	1	0	0	1	0	161		0.011
3324.541	3324.5395	-17	C	0.381D-21	744.163	9	0	9	8	1	8	0	2	0	0	0	0	161	0.032	0.027
3324.867	3324.8659	-12	C	0.127D-21	744.064	9	1	9	8	0	8	0	2	0	0	0	0	161	0.011	0.009
3325.140	3325.1386	-15	H	0.144D-20	4048.252	19	1	19	20	1	20	0	0	1	0	0	0	161	0.093	0.072
3325.140			D	0.479D-21	4048.252	19	0	19	20	0	20	0	0	1	0	0	0	161		0.024
3325.662	3325.6637			0.257D-21	2572.140	6	3	4	7	4	3	1	1	0	0	1	0	161	0.010	0.010
3325.731	3325.7189			0.100D-21	4938.242	14	5	10	15	5	11	0	1	1	0	1	0	161	0.006	0.006
3325.838	3325.8379	33	H	0.241D-20	3472.880	14	6	8	15	6	9	0	0	1	0	0	0	161	0.089	0.108
	3325.9447																		0.007	
3326.010	3326.0102	47	H	0.398D-21	1843.030	10	3	7	11	4	8	1	0	0	0	0	0	161	0.016	0.015
3326.043	3326.0436	11	C	0.704D-21	1131.776	7	3	5	8	4	4	1	0	0	0	0	0	161	0.032	0.032
3326.425	3326.4248	4	C	0.212D-21	552.912	7	1	6	6	2	5	0	2	0	0	0	0	161	0.021	0.022
3326.797	3326.7963	7	C	0.345D-21	1006.116	7	1	7	8	3	6	0	0	1	0	0	0	161	0.016	0.017
3327.046	3327.0458	0	H	0.218D-20	3639.537	15	5	11	16	5	12	0	0	1	0	0	0	161	0.085	0.101
3327.329	3327.3282	-16	C	0.195D-21	648.979	5	0	5	6	3	4	1	0	0	0	0	0	161	0.017	0.016
3327.588	3327.5875	-8	C	0.737D-21	1059.647	6	3	4	7	5	3	0	0	1	0	0	0	161	0.034	0.036

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$	$v_1v_2v_3$	ISO	I_{obs}	I_{calc}
3328.259	3328.2553	-27	H	0.418D-21	4894.582	14	4	10	15	4	11	0 1 1	0 1 0	161	0.022	0.024
3328.424	3328.4251	22	H	0.885D-21	3623.762	15	4	11	16	4	12	0 0 1	0 0 0	161	0.033	0.041
	3328.7753														0.008	
3329.644	3329.6441	-3	C	0.966D-21	1122.709	7	2	6	8	4	5	0 0 1	0 0 0	161	0.041	0.044
3330.985	3330.9834	-13	H	0.595D-21	3583.372	12	10	2	13	10	3	0 0 1	0 0 0	161	0.032	0.027
3330.985			D	0.198D-21	3583.372	12	10	3	13	10	4	0 0 1	0 0 0	161		0.009
	3331.5851														0.007	
3331.736	3331.7341			0.112D-21	3592.425	11	2	9	12	3	10	1 1 0	0 1 0	161	0.006	0.005
3331.811			D	0.814D-22	5241.742	18	1	18	19	1	19	0 1 1	0 1 0	161		0.005
3331.811	3331.8128	-15	H	0.244D-21	5241.742	18	0	18	19	0	19	0 1 1	0 1 0	161	0.021	0.015
3332.519	3332.5194			0.420D-21	2327.891	13	2	12	14	1	13	1 0 0	0 0 0	161	0.015	0.016
3332.574			D	0.511D-21	2358.305	14	0	14	15	1	15	1 0 0	0 0 0	161		0.019
3332.578	3332.5779			0.153D-20	2358.304	14	1	14	15	0	15	1 0 0	0 0 0	161	0.070	0.058
3332.605	3332.6044			0.665D-21	2246.888	12	3	10	13	2	11	1 0 0	0 0 0	161	0.022	0.025
3333.046	3333.0461	-9	H	0.345D-21	2248.067	12	2	10	13	3	11	1 0 0	0 0 0	161	0.013	0.013
3334.329	3334.3355	-26	H	0.775D-21	3443.205	14	6	9	15	6	10	0 0 1	0 0 0	161	0.028	0.035
	3334.3726														0.007	
3334.445	3334.4457	20	H	0.309D-21	4774.047	13	6	8	14	6	9	0 1 1	0 1 0	161	0.016	0.018
3334.564	3334.5613			0.878D-21	2327.914	13	1	12	14	2	13	1 0 0	0 0 0	161	0.030	0.033
3334.629	3334.6297	7	C	0.374D-20	1059.835	6	4	3	7	5	2	1 0 0	0 0 0	161	0.168	0.180
3334.993	3334.9856			0.498D-21	3465.060	13	8	5	14	8	6	0 0 1	0 0 0	161	0.017	0.022
3335.071	3335.0691	-2	H	0.149D-20	3464.885	13	8	6	14	8	7	0 0 1	0 0 0	161	0.056	0.067
3336.713	3336.7131	-3	C	0.243D-21	399.457	6	2	5	5	1	4	0 2 0	0 0 0	161	0.029	0.035
3336.845			D	0.119D-20	1045.059	5	5	1	6	6	0	1 0 0	0 0 0	161		0.058
3336.846	3336.8462	2	C	0.358D-20	1045.058	5	5	0	6	6	1	1 0 0	0 0 0	161	0.222	0.174
3336.899	3336.8982	8	C	0.145D-20	1581.336	9	3	6	10	4	7	1 0 0	0 0 0	161	0.047	0.055
	3337.1386														0.010	
3338.986	3338.9864	6	C	0.128D-21	385.600	8	3	6	8	2	7	0 2 0	0 0 0	161	0.007	0.007
3339.760	3339.7615	-5	H	0.210D-21	3512.401	11	11	1	12	11	2	0 0 1	0 0 0	161	0.010	0.009
3339.760			D	0.698D-22	3512.401	11	11	0	12	11	1	0 0 1	0 0 0	161		0.003
	3339.8840														0.010	
3340.141	3340.1392	-13	C	0.111D-21	920.211	10	0	10	9	1	9	0 2 0	0 0 0	161	0.007	0.006
3340.298	3340.2993	9	C	0.333D-21	920.169	10	1	10	9	0	9	0 2 0	0 0 0	161	0.016	0.019
3340.633	3340.6323			0.323D-21	2246.888	12	5	8	13	2	11	0 2 0	0 0 0	161	0.011	0.012
3341.384	3341.3835	6	C	0.663D-21	1282.919	8	1	7	9	3	6	0 0 1	0 0 0	161	0.024	0.027
3342.295	3342.2940	-4	C	0.525D-21	1059.647	6	4	2	7	5	3	1 0 0	0 0 0	161	0.023	0.025
	3342.6067														0.008	
3344.993	3344.9935	-5	H	0.332D-20	3360.598	14	5	9	15	5	10	0 0 1	0 0 0	161	0.121	0.146
3345.300	3345.3009	-29	H	0.239D-20	3647.465	17	2	16	18	2	17	0 0 1	0 0 0	161	0.136	0.110
3345.302			D	0.797D-21	3647.463	17	1	16	18	1	17	0 0 1	0 0 0	161		0.037
3345.340			D	0.590D-22	6019.598	13	4	10	14	4	11	0 2 1	0 2 0	161		0.004
3345.348	3345.3389			0.280D-21	4643.867	12	7	5	13	7	6	0 1 1	0 1 0	161	0.014	0.015
3345.395	3345.3944	56	H	0.262D-20	3567.180	16	2	14	17	2	15	0 0 1	0 0 0	161	0.105	0.119
3345.732	3345.7329	-44	H	0.388D-21	4847.629	15	3	13	16	3	14	0 1 1	0 1 0	161	0.020	0.022
3345.828	3345.8277	-7	H	0.854D-21	3567.234	16	3	14	17	3	15	0 0 1	0 0 0	161	0.032	0.039
3345.863	3345.8623			0.150D-21	5184.738	11	1	11	12	1	12	1 0 1	1 0 0	161	0.006	0.009
3345.987	3345.9896	22	H	0.457D-21	4728.223	14	3	11	15	3	12	0 1 1	0 1 0	161	0.024	0.026
3346.037	3346.0387	17	C	0.148D-21	842.357	7	4	3	7	3	4	0 2 0	0 0 0	161	0.007	0.009
3346.800	3346.7971	-42	H	0.115D-20	3347.780	12	9	3	13	9	4	0 0 1	0 0 0	161	0.054	0.050
3346.802			D	0.383D-21	3347.777	12	9	4	13	9	5	0 0 1	0 0 0	161		0.017
3347.243	3347.2400			0.272D-21	2042.312	12	4	9	13	1	12	0 2 0	0 0 0	161	0.011	0.010
3347.296				0.801D-21	3266.538	13	7	6	14	7	7	0 0 1	0 0 0	161		0.035
3347.331	3347.3218			0.123D-21	4902.621	16	2	15	17	2	16	0 1 1	0 1 0	161	0.030	0.007
3347.343				0.370D-21	4902.609	16	1	15	17	1	16	0 1 1	0 1 0	161		0.021
3347.377	3347.3812	66	H	0.300D-20	3439.308	15	4	12	16	4	13	0 0 1	0 0 0	161	0.112	0.133
3347.422	3347.4279			0.102D-20	3437.297	15	3	12	16	3	13	0 0 1	0 0 0	161	0.038	0.045
	3347.9897														0.007	
3348.170			D	0.774D-21	3675.116	18	1	18	19	1	19	0 0 1	0 0 0	161		0.036
3348.170	3348.1698	-30	H	0.232D-20	3675.116	18	0	18	19	0	19	0 0 1	0 0 0	161	0.141	0.107
3348.213	3348.2117			0.237D-20	3264.338	13	7	7	14	7	8	0 0 1	0 0 0	161	0.087	0.102
3348.444	3348.4443	13	C	0.569D-21	1340.886	8	3	5	9	4	6	1 0 0	0 0 0	161	0.021	0.023
3349.674	3349.6744	-31	H	0.443D-21	4585.352	13	5	9	14	5	10	0 1 1	0 1 0	161	0.021	0.024
3350.253	3350.2492	-2	H	0.109D-20	3269.531	14	5	10	15	5	11	0 0 1	0 0 0	161	0.039	0.047
3351.620	3351.6217	-11	H	0.433D-20	3244.601	14	4	10	15	4	11	0 0 1	0 0 0	161	0.156	0.186

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$	$v_1v_2v_3$	ISO	I_{obs}	I_{calc}
3352.632	3352.6397	-44	H	0.926D-21	2983.414	13	5	8	14	5	9	0 0 1	0 0 0	161	0.031	0.038
3352.969	3352.9713	35	H	0.215D-21	4525.242	13	4	9	14	4	10	0 1 1	0 1 0	161	0.009	0.012
3353.228	3353.2280	0	C	0.748D-22	709.609	8	1	7	7	2	6	0 2 0	0 0 0	161	0.006	0.006
	3353.2839														0.007	
3354.294			D	0.132D-20	1962.508	11	2	9	12	3	10	1 0 0	0 0 0	161		0.048
3354.300	3354.2974	-31	H	0.119D-20	3101.436	13	6	7	14	6	8	0 0 1	0 0 0	161	0.082	0.050
3354.527	3354.5258	-7	H	0.381D-21	4889.492	17	1	17	18	1	18	0 1 1	0 1 0	161	0.028	0.022
3354.527			D	0.127D-21	4889.492	17	0	17	18	0	18	0 1 1	0 1 0	161		0.007
3355.185	3355.1870	20	C	0.280D-21	1114.550	11	0	11	10	1	10	0 2 0	0 0 0	161	0.011	0.013
3355.599			D	0.673D-21	2073.518	13	1	13	14	0	14	1 0 0	0 0 0	161		0.025
3355.607	3355.6044	15	H	0.202D-20	2073.519	13	0	13	14	1	14	1 0 0	0 0 0	161	0.079	0.074
3355.706	3355.7059	-1	C	0.213D-20	888.599	5	3	3	6	5	2	0 0 1	0 0 0	161	0.113	0.123
3355.874	3355.8779	23	H	0.536D-21	2042.374	12	1	11	13	2	12	1 0 0	0 0 0	161	0.020	0.020
3356.908	3356.9063	6	H	0.627D-21	3266.762	11	10	2	12	10	3	0 0 1	0 0 0	161	0.033	0.027
3356.908			D	0.209D-21	3266.762	11	10	1	12	10	2	0 0 1	0 0 0	161		0.009
3357.024			D	0.135D-20	2042.312	12	2	11	13	1	12	1 0 0	0 0 0	161		0.050
3357.034	3357.0339	-3	C	0.121D-20	842.357	6	2	5	7	3	4	1 0 0	0 0 0	161	0.082	0.074
3357.931	3357.9325	-5	H	0.443D-21	4442.719	12	6	6	13	6	7	0 1 1	0 1 0	161	0.020	0.023
3359.520	3359.5196	-1	C	0.104D-20	888.632	5	3	2	6	5	1	0 0 1	0 0 0	161	0.056	0.060
3359.800	3359.7996	-26	H	0.343D-20	3084.835	13	6	8	14	6	9	0 0 1	0 0 0	161	0.117	0.143
3360.175	3360.1748	1	C	0.141D-21	508.812	5	4	1	5	3	2	0 2 0	0 0 0	161	0.016	0.016
3360.478	3360.4805			0.176D-21	3386.382	11	1	10	12	2	11	1 1 0	0 1 0	161	0.007	0.008
3361.178	3361.1773			0.201D-20	3127.862	12	8	4	13	8	5	0 0 1	0 0 0	161	0.071	0.084
3361.211	3361.2077			0.670D-21	3127.808	12	8	5	13	8	6	0 0 1	0 0 0	161	0.022	0.028
3361.673	3361.6725	0	C	0.281D-20	931.237	6	3	4	7	4	3	1 0 0	0 0 0	161	0.143	0.153
3362.283	3362.2827	-5	C	0.189D-20	1122.709	7	3	4	8	4	5	1 0 0	0 0 0	161	0.080	0.086
3362.933	3362.9305	-26	C	0.316D-22	383.842	4	4	0	4	3	1	0 2 0	0 0 0	161	0.004	0.005
3363.496	3363.4902	-17	H	0.108D-21	4510.895	10	9	1	11	9	2	0 1 1	0 1 0	161	0.008	0.006
3363.496			D	0.362D-22	4510.895	10	9	2	11	9	3	0 1 1	0 1 0	161		0.002
3364.246	3364.2463	2	C	0.953D-22	382.517	4	4	1	4	3	2	0 2 0	0 0 0	161	0.010	0.014
3364.347	3364.3464	-7	C	0.921D-22	136.164	3	3	1	2	2	0	0 2 0	0 0 0	161	0.019	0.026
3364.699	3364.7010	-43	H	0.654D-21	4285.648	12	5	7	13	5	8	0 1 1	0 1 0	161	0.030	0.034
3364.706			D	0.302D-22	4889.406	7	5	2	8	5	3	1 0 1	1 0 0	161		0.002
3364.746	3364.7447			0.164D-21	3072.728	9	2	7	10	3	8	1 1 0	0 1 0	161	0.006	0.007
3364.827	3364.8272	-5	C	0.111D-20	1360.236	8	2	6	9	4	5	0 0 1	0 0 0	161	0.036	0.044
3364.905	3364.9036	-16	C	0.477D-22	503.968	5	4	2	5	3	3	0 2 0	0 0 0	161	0.014	0.005
3365.281	3365.2794	-17	H	0.178D-21	4926.352	9	2	8	10	2	9	1 0 1	1 0 0	161	0.009	0.010
3365.737	3365.7365	-7	C	0.276D-21	134.902	3	3	0	2	2	1	0 2 0	0 0 0	161	0.056	0.077
3366.381	3366.3769	-74	H	0.188D-21	4958.902	10	0	10	11	0	11	1 0 1	1 0 0	161	0.010	0.011
3366.537	3366.5357	-6	C	0.157D-21	648.979	6	4	3	6	3	4	0 2 0	0 0 0	161	0.011	0.013
3367.519	3367.5194	3	C	0.245D-21	704.214	8	2	7	7	1	6	0 2 0	0 0 0	161	0.017	0.019
3367.642	3367.6430	3	C	0.198D-20	888.599	5	4	1	6	5	2	1 0 0	0 0 0	161	0.104	0.113
3367.816	3367.8145	-20	H	0.111D-20	3211.056	15	2	13	16	2	14	0 0 1	0 0 0	161	0.043	0.047
3368.296			D	0.124D-20	3291.152	16	2	15	17	2	16	0 0 1	0 0 0	161		0.053
3368.300	3368.2966	-5	H	0.373D-20	3291.149	16	1	15	17	1	16	0 0 1	0 0 0	161	0.170	0.161
3368.469	3368.4698			0.195D-21	4507.523	14	3	12	15	3	13	0 1 1	0 1 0	161	0.009	0.010
3368.529	3368.5267	-14	H	0.405D-20	3211.214	15	3	13	16	3	14	0 0 1	0 0 0	161	0.149	0.172
3368.819	3368.8206	15	C	0.688D-21	927.744	6	2	5	7	4	4	0 0 1	0 0 0	161	0.060	0.038
3368.822			D	0.623D-21	4396.055	13	4	10	14	4	11	0 1 1	0 1 0	161		0.033
3369.122	3369.1221	2	H	0.573D-21	4506.738	14	2	12	15	2	13	0 1 1	0 1 0	161	0.028	0.031
3369.155	3369.1527	-16	C	0.328D-21	888.632	5	4	2	6	5	1	1 0 0	0 0 0	161	0.014	0.019
3369.751	3369.7524	-43	B	0.228D-21	1327.110	12	1	12	11	0	11	0 2 0	0 0 0	161	0.006	0.009
3369.966	3369.9544	-31	H	0.185D-21	4564.086	15	1	14	16	1	15	0 1 1	0 1 0	161	0.010	0.010
3370.274	3370.2678	5	H	0.152D-20	3083.854	14	4	11	15	4	12	0 0 1	0 0 0	161	0.053	0.063
3370.902	3370.9019	-1	H	0.457D-20	3080.181	14	3	11	15	3	12	0 0 1	0 0 0	161	0.158	0.190
3371.022			D	0.122D-20	3319.451	17	0	17	18	0	18	0 0 1	0 0 0	161		0.053
3371.022	3371.0213	-3	H	0.365D-20	3319.451	17	1	17	18	1	18	0 0 1	0 0 0	161	0.200	0.158
3371.177			D	0.101D-21	5654.777	12	3	9	13	3	10	0 2 1	0 2 0	161		0.007
3371.188	3371.1870	-12	H	0.363D-21	4329.324	11	7	5	12	7	6	0 1 1	0 1 0	161	0.019	0.019
3371.700	3371.6998	-2	H	0.461D-21	4564.113	15	2	14	16	2	15	0 1 1	0 1 0	161	0.026	0.025
3372.829			D	0.453D-21	3032.691	11	9	2	12	9	3	0 0 1	0 0 0	161		0.019
3372.829	3372.8267	-6	H	0.136D-20	3032.690	11	9	3	12	9	4	0 0 1	0 0 0	161	0.062	0.056
	3373.3589														0.005	
3373.876	3373.8742	2	H	0.472D-20	2918.244	13	5	9	14	5	10	0 0 1	0 0 0	161	0.159	0.191

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$	$v_1v_2v_3$	ISO	I_{obs}	I_{calc}
3373.933	3373.9318			0.329D-20	2927.939	12	7	5	13	7	6	0 0 1	0 0 0	161	0.111	0.133
3374.019	3374.0200			0.537D-21	1695.071	10	2	8	11	3	9	1 0 0	0 0 0	161	0.018	0.020
3374.097	3374.0981	.79	H	0.210D-21	4252.449	12	5	8	13	5	9	0 1 1	0 1 0	161	0.009	0.011
3374.332	3374.3319	-21	H	0.109D-20	2927.076	12	7	6	13	7	7	0 0 1	0 0 0	161	0.036	0.044
3374.683	3374.6832	5	C	0.130D-21	602.774	5	1	5	6	2	4	1 0 0	0 0 0	161	0.011	0.012
3375.188	3375.1862	-17	H	0.227D-20	2880.833	13	4	9	14	4	10	0 0 1	0 0 0	161	0.076	0.091
3375.285	3375.2866			0.101D-21	6077.109	14	1	14	15	1	15	0 0 2	0 0 1	161	0.006	0.007
3375.285			D	0.331D-22	6077.109	14	0	14	15	0	15	0 0 2	0 0 1	161		0.002
3375.415			D	0.227D-22	3722.731	4	2	3	5	3	2	1 2 0	0 2 0	161		0.001
3375.432	3375.4217			0.287D-21	1806.673	12	2	10	13	1	13	0 2 0	0 0 0	161	0.009	0.010
3375.618	3375.6194	-13	C	0.126D-21	1006.116	8	4	5	8	3	6	0 2 0	0 0 0	161	0.006	0.006
3377.031			D	0.193D-21	4554.656	16	1	16	17	1	17	0 1 1	0 1 0	161		0.010
3377.031	3377.0309			0.579D-21	4554.656	16	0	16	17	0	17	0 1 1	0 1 0	161	0.040	0.031
3377.550	3377.5495	-1	C	0.217D-21	885.600	9	1	8	8	2	7	0 2 0	0 0 0	161	0.013	0.012
3378.066	3378.0639	-2	C	0.249D-20	1806.672	12	1	12	13	0	13	1 0 0	0 0 0	161	0.086	0.091
3378.439	3378.4373	-13	C	0.201D-20	1774.752	11	1	10	12	2	11	1 0 0	0 0 0	161	0.067	0.073
3378.911			D	0.442D-22	4387.062	7	0	7	8	1	8	2 0 0	1 0 0	161		0.002
3378.919	3378.9169			0.659D-21	1774.619	11	2	10	12	1	11	1 0 0	0 0 0	161	0.025	0.024
3379.124	3379.1239	6	C	0.157D-21	816.694	6	1	6	7	3	5	0 0 1	0 0 0	161	0.010	0.010
3379.666	3379.6656	45	H	0.568D-21	1806.673	12	0	12	13	1	13	1 0 0	0 0 0	161	0.019	0.021
3380.161	3380.1707			0.101D-20	2983.414	13	6	8	14	5	9	1 0 0	0 0 0	161	0.035	0.041
3380.259	3380.2608	37	H	0.846D-21	4174.039	12	4	8	13	4	9	0 1 1	0 1 0	161	0.037	0.042
3380.467	3380.4678	7	C	0.439D-21	927.744	6	3	3	7	4	4	1 0 0	0 0 0	161	0.022	0.024
3380.914	3380.9168	18	H	0.235D-21	4265.980	10	8	2	11	8	3	0 1 1	0 1 0	161	0.014	0.012
3380.916			D	0.785D-22	4265.977	10	8	3	11	8	4	0 1 1	0 1 0	161		0.004
3382.474	3382.4746			0.498D-20	2756.418	12	6	6	13	6	7	0 0 1	0 0 0	161	0.165	0.196
3382.915			D	0.161D-21	2972.824	10	10	1	11	10	2	0 0 1	0 0 0	161		0.007
3382.915	3382.9092			0.482D-21	2972.824	10	10	0	11	10	1	0 0 1	0 0 0	161	0.020	0.020
3383.076	3383.0762	6	C	0.478D-21	742.073	4	3	2	5	5	1	0 0 1	0 0 0	161	0.030	0.034
3383.151	3383.1507			0.334D-21	2251.863	4	3	2	5	4	1	1 1 0	0 1 0	161	0.008	0.012
3384.115	3384.1135	1	H	0.598D-20	2629.337	12	5	7	13	5	8	0 0 1	0 0 0	161	0.194	0.232
3384.387	3384.3868	-2	C	0.169D-20	742.076	4	3	1	5	5	0	0 0 1	0 0 0	161	0.109	0.119
3384.494	3384.4900	-70	H	0.195D-21	4125.602	11	6	5	12	6	6	0 1 1	0 1 0	161	0.008	0.010
3385.463	3385.4657	3	H	0.580D-21	4123.285	11	6	6	12	6	7	0 1 1	0 1 0	161	0.025	0.029
3385.606	3385.6015	-5	C	0.127D-20	1690.665	10	3	8	11	2	9	1 0 0	0 0 0	161	0.042	0.046
3385.666	3385.6745	119	H	0.161D-20	2748.106	12	6	7	13	6	8	0 0 1	0 0 0	161	0.053	0.063
3385.710	3385.7101	3	C	0.233D-21	212.156	4	3	2	3	2	1	0 2 0	0 0 0	161	0.042	0.053
3385.994	3385.9960			0.291D-21	3144.579	11	0	11	12	1	12	1 1 0	0 1 0	161	0.011	0.012
3387.365				0.841D-21	2813.533	11	8	3	12	8	4	0 0 1	0 0 0	161		0.033
3387.378	3387.3778	-2	H	0.252D-20	2813.515	11	8	4	12	8	5	0 0 1	0 0 0	161	0.098	0.100
3387.624	3387.6205	18	H	0.227D-21	4750.387	9	1	9	10	1	10	1 0 1	1 0 0	161	0.009	0.013
3390.133	3390.1337	-3	H	0.389D-20	2952.396	15	2	14	16	2	15	0 0 1	0 0 0	161	0.145	0.158
3391.055	3391.0473			0.187D-20	2952.389	15	1	14	16	1	15	0 0 1	0 0 0	161	0.071	0.076
3391.068	3391.0742	60	H	0.101D-20	4052.813	12	3	9	13	3	10	0 1 1	0 1 0	161	0.071	0.049
3391.077			D	0.850D-21	4184.836	13	3	11	14	3	12	0 1 1	0 1 0	161		0.043
3391.260	3391.2662	-8	H	0.287D-21	4183.391	13	2	11	14	2	12	0 1 1	0 1 0	161	0.014	0.014
3391.353	3391.3393	-106	H	0.202D-20	2872.572	14	3	12	15	3	13	0 0 1	0 0 0	161	0.070	0.081
3391.422	3391.4243	3	H	0.609D-20	2872.278	14	2	12	15	2	13	0 0 1	0 0 0	161	0.213	0.244
3391.511	3391.5132			0.496D-21	3472.880	14	7	8	15	6	9	1 0 0	0 0 0	161	0.014	0.022
3391.571	3391.5703	-11	C	0.189D-20	1446.129	9	2	7	10	3	8	1 0 0	0 0 0	161	0.065	0.072
3391.708	3391.7127	-119	H	0.119D-21	5477.008	12	2	10	13	2	11	0 2 1	0 2 0	161	0.009	0.008
3391.740	3391.7496			0.292D-21	4074.046	12	4	9	13	4	10	0 1 1	0 1 0	161	0.014	0.014
3392.425	3392.4256	5	C	0.763D-22	206.301	4	3	1	3	2	2	0 2 0	0 0 0	161	0.014	0.017
3392.507	3392.5069	-1	C	0.112D-20	757.780	5	3	3	6	4	2	1 0 0	0 0 0	161	0.069	0.077
3392.676	3392.6776	111	H	0.297D-21	3959.255	11	5	6	12	5	7	0 1 1	0 1 0	161	0.012	0.014
3392.721			D	0.732D-22	2321.814	11	5	6	11	7	5	0 0 1	0 0 0	161		0.003
3392.725	3392.7258	3	C	0.945D-21	742.073	4	4	0	5	5	1	1 0 0	0 0 0	161	0.060	0.067
3392.942	3392.9415	-1	C	0.258D-20	742.076	4	4	1	5	5	0	1 0 0	0 0 0	161	0.168	0.182
3393.008	3393.0065	-55	H	0.665D-20	2746.024	13	4	10	14	4	11	0 0 1	0 0 0	161	0.223	0.261
3393.206			D	0.274D-21	4243.160	14	2	13	15	2	14	0 1 1	0 1 0	161		0.014
3393.207	3393.2154	75	H	0.243D-20	2739.446	13	3	10	14	3	11	0 0 1	0 0 0	161	0.084	0.095
3393.471	3393.4743			0.244D-21	3843.414	11	4	7	12	4	8	0 1 1	0 1 0	161	0.010	0.011
3393.528	3393.5281	-7	H	0.176D-20	2952.396	15	3	12	16	2	15	0 2 0	0 0 0	161	0.064	0.071
3393.690			D	0.790D-21	4243.113	14	1	13	15	1	14	0 1 1	0 1 0	161		0.040

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$			$v_1v_2v_3$			ISO	I_{obs}	I_{calc}
3393.695			D	0.186D-20	2981.363	16	1	16	17	1	17	0	0	1	0	0	0	161		0.076
3393.695	3393.6894	−7	H	0.557D-20	2981.363	16	0	16	17	0	17	0	0	1	0	0	0	161	0.326	0.226
	3395.3191																		0.011	
	3395.8575																		0.010	
3396.173	3396.1727	−11	C	0.395D-21	1131.776	7	2	5	8	4	4	0	0	1	0	0	0	161	0.015	0.018
3396.852	3396.8542	−37	H	0.441D-21	4038.404	10	7	3	11	7	4	0	1	1	0	1	0	161	0.016	0.021
3397.213	3397.2137	6	C	0.380D-20	756.725	5	3	2	6	4	3	1	0	0	0	0	0	161	0.240	0.261
3398.149	3398.1450	10	H	0.221D-20	2586.529	12	5	8	13	5	9	0	0	1	0	0	0	161	0.072	0.085
3398.813	3398.8129	−3	C	0.350D-21	1050.158	7	1	6	8	3	5	0	0	1	0	0	0	161	0.015	0.017
3398.902	3398.9029	−40	H	0.139D-20	2740.420	10	9	1	11	9	2	0	0	1	0	0	0	161	0.059	0.054
3398.902			D	0.463D-21	2740.420	10	9	2	11	9	3	0	0	1	0	0	0	161		0.018
3398.996	3398.9973	13	H	0.858D-21	3940.521	11	5	7	12	5	8	0	1	1	0	1	0	161	0.037	0.041
3399.293	3399.2919	−25	H	0.852D-21	4237.324	15	1	15	16	1	16	0	1	1	0	1	0	161	0.045	0.043
3399.294			D	0.284D-21	4237.324	15	0	15	16	0	16	0	1	1	0	1	0	161		0.014
3399.548	3399.5470			0.160D-21	4484.992	6	3	3	7	3	4	1	0	1	1	0	0	161	0.006	0.008
3399.753	3399.7528	−2	H	0.101D-19	2533.793	12	4	8	13	4	9	0	0	1	0	0	0	161	0.327	0.385
3400.407	3400.4063	−8	H	0.142D-20	2613.104	11	7	4	12	7	5	0	0	1	0	0	0	161	0.046	0.055
3400.566	3400.5651	−23	H	0.426D-20	2612.801	11	7	5	12	7	6	0	0	1	0	0	0	161	0.138	0.164
3400.650			D	0.222D-21	2612.801	12	5	7	12	7	6	0	0	1	0	0	0	161		0.009
3400.652	3400.6502	−13	C	0.803D-21	1525.137	10	1	9	11	2	10	1	0	0	0	0	0	161	0.035	0.030
3401.054	3401.0536	2	C	0.313D-20	1557.850	11	0	11	12	1	12	1	0	0	0	0	0	161	0.112	0.116
3401.092	3401.0917	−8	C	0.104D-20	1557.844	11	1	11	12	0	12	1	0	0	0	0	0	161	0.038	0.039
3401.501	3401.4988	−10	C	0.236D-20	1524.849	10	2	9	11	1	10	1	0	0	0	0	0	161	0.084	0.088
3402.084	3402.0853	16	C	0.532D-22	224.838	5	2	3	4	1	4	0	2	0	0	0	0	161	0.008	0.012
3403.429	3403.4280			0.244D-21	2904.429	9	1	8	10	2	9	1	1	0	0	1	0	161	0.008	0.010
3403.583	3403.5831	1	C	0.597D-21	661.549	5	2	4	6	3	3	1	0	0	0	0	0	161	0.042	0.048
3403.713	3403.7144	8	C	0.658D-22	315.779	5	3	3	4	2	2	0	2	0	0	0	0	161	0.008	0.011
3404.146	3404.1483	22	C	0.200D-21	1079.080	10	2	9	9	1	8	0	2	0	0	0	0	161	0.010	0.009
3404.150			D	0.447D-22	3592.425	12	2	11	12	3	10	1	1	0	0	1	0	161		0.002
3405.180	3405.1826			0.128D-21	5484.000	14	0	14	15	0	15	0	2	1	0	2	0	161	0.009	0.008
3405.255	3405.2545			0.133D-21	5563.398	10	4	7	11	4	8	0	0	2	0	0	1	161	0.008	0.009
3406.527			D	0.779D-22	3997.511	9	8	1	10	8	2	0	1	1	0	1	0	161		0.004
3406.527	3406.5297	3	H	0.234D-21	3997.511	9	8	2	10	8	3	0	1	1	0	1	0	161	0.011	0.011
3406.674	3406.6750	11	C	0.707D-21	1216.232	8	2	6	9	3	7	1	0	0	0	0	0	161	0.028	0.030
3408.036	3408.0379			0.344D-21	2915.876	10	1	10	11	0	11	1	1	0	0	1	0	161	0.014	0.014
3408.148	3408.1424			0.265D-21	4559.707	8	0	8	9	0	9	1	0	1	1	0	0	161	0.014	0.014
3408.151			D	0.884D-22	4559.754	8	1	8	9	1	9	1	0	1	1	0	0	161		0.005
3408.855	3408.8552	−5	C	0.826D-22	382.517	3	0	3	4	3	2	1	0	0	0	0	0	161	0.009	0.012
3409.202	3409.2013			0.324D-21	2129.600	3	3	0	4	4	1	1	1	0	0	1	0	161	0.009	0.012
3410.209	3410.2043	7	H	0.220D-20	2437.501	11	6	5	12	6	6	0	0	1	0	0	0	161	0.068	0.083
3410.578	3410.5757	20	H	0.262D-21	4426.066	6	2	4	7	2	5	1	0	1	1	0	0	161	0.011	0.014
3410.809	3410.8078	−9	H	0.734D-21	3833.146	10	6	4	11	6	5	0	1	1	0	1	0	161	0.032	0.034
3411.852	3411.8526	−12	H	0.650D-20	2433.803	11	6	6	12	6	7	0	0	1	0	0	0	161	0.209	0.244
3412.468	3412.4733	33	B	0.420D-21	1437.969	9	3	7	10	2	8	1	0	0	0	0	0	161	0.014	0.016
3413.067	3413.0675	1	C	0.485D-21	782.410	6	0	6	7	2	5	0	0	1	0	0	0	161	0.030	0.032
3413.538	3413.5354	−127	H	0.123D-20	3877.090	12	2	10	13	2	11	0	1	1	0	1	0	161	0.070	0.058
3413.545			D	0.398D-21	3879.720	12	3	10	13	3	11	0	1	1	0	1	0	161		0.019
3413.566	3413.5669			0.289D-20	2522.267	10	8	2	11	8	3	0	0	1	0	0	0	161	0.120	0.109
3413.569			D	0.965D-21	2522.263	10	8	3	11	8	4	0	0	1	0	0	0	161		0.037
3413.846	3413.8518			0.303D-20	2300.689	11	5	6	12	5	7	0	0	1	0	0	0	161	0.145	0.112
3413.859			D	0.277D-20	2631.282	14	2	13	15	2	14	0	0	1	0	0	0	161		0.106
3413.903	3413.9018	−18	H	0.828D-20	2631.272	14	1	13	15	1	14	0	0	1	0	0	0	161	0.311	0.318
3413.908			D	0.500D-21	3738.544	11	3	8	12	3	9	0	1	1	0	1	0	161		0.023
3413.982			D	0.278D-22	5207.805	9	5	4	10	4	7	2	0	0	1	0	0	161		0.002
3413.993	3413.9906	−15	H	0.882D-20	2551.486	13	3	11	14	3	12	0	0	1	0	0	0	161	0.299	0.335
3414.031	3414.0304			0.297D-20	2550.883	13	2	11	14	2	12	0	0	1	0	0	0	161	0.102	0.113
3414.468	3414.4690			0.216D-21	2271.712	5	2	3	6	3	4	1	1	0	0	1	0	161	0.008	0.008
3414.972	3414.9725	3	H	0.118D-20	3770.880	11	4	8	12	4	9	0	1	1	0	1	0	161	0.050	0.054
3415.534	3415.5365	−43	H	0.108D-19	2414.725	12	3	9	13	3	10	0	0	1	0	0	0	161	0.370	0.404
3415.547				0.117D-20	3939.834	13	2	12	14	2	13	0	1	1	0	1	0	161		0.056
3415.590	3415.5897			0.285D-21	2246.888	13	1	12	13	2	11	1	0	0	0	0	0	161	0.007	0.010
3415.669	3415.6664			0.309D-20	2426.195	12	4	9	13	4	10	0	0	1	0	0	0	161	0.100	0.116
3416.160	3416.1588	−26	H	0.824D-20	2660.950	15	1	15	16	1	16	0	0	1	0	0	0	161	0.405	0.318
3416.160			D	0.275D-20	2660.950	15	0	15	16	0	16	0	0	1	0	0	0	161		0.106

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$	$v_1v_2v_3$	ISO	I_{obs}	I_{calc}
3417.427	3417.4263			0.185D-21	5500.859	11	1	10	12	1	11	0 0 2	0 0 1	161	0.010	0.012
3417.749	3417.7497			0.208D-21	5034.391	10	3	7	11	3	8	0 2 1	0 2 0	161	0.011	0.012
3417.851	3417.8553			0.163D-21	5235.562	12	1	11	13	1	12	0 2 1	0 2 0	161	0.010	0.010
3418.455	3418.4557	0	C	0.170D-21	446.511	6	3	4	5	2	3	0 2 0	0 0 0	161	0.017	0.021
3418.775	3418.7762			0.183D-21	5421.270	10	3	8	11	3	9	0 0 2	0 0 1	161	0.008	0.012
3419.041			D	0.163D-22	5507.484	8	7	1	9	7	2	0 0 2	0 0 1	161		0.001
3419.050			D	0.489D-22	5507.477	8	7	2	9	7	3	0 0 2	0 0 1	161		0.003
3419.050	3419.0498			0.188D-21	5534.113	12	1	12	13	1	13	0 0 2	0 0 1	161	0.018	0.012
3419.132	3419.1335			0.936D-22	1774.752	12	3	10	12	2	11	0 2 0	0 0 0	161	0.006	0.003
3419.172	3419.1804	54	H	0.353D-21	3937.576	14	1	14	15	1	15	0 1 1	0 1 0	161	0.011	0.017
3419.462	3419.4618	-1	C	0.980D-21	931.237	6	2	4	7	4	3	0 0 1	0 0 0	161	0.047	0.052
3419.951	3419.9503	0	C	0.228D-20	1006.116	7	2	5	8	3	6	1 0 0	0 0 0	161	0.104	0.112
3420.498	3420.4981	0	C	0.371D-20	610.341	4	3	2	5	4	1	1 0 0	0 0 0	161	0.317	0.328
3420.514				0.225D-20	2629.337	12	6	7	13	5	8	1 0 0	0 0 0	161		0.086
3420.537	3420.5387			0.114D-20	3659.906	10	5	5	11	5	6	0 1 1	0 1 0	161	0.058	0.051
3420.954	3420.9527	-4	H	0.120D-20	3937.575	14	0	14	15	0	15	0 1 1	0 1 0	161	0.055	0.057
3421.739	3421.7394	6	C	0.129D-20	610.114	4	3	1	5	4	2	1 0 0	0 0 0	161	0.101	0.114
3422.333	3422.3322	-5	C	0.277D-20	1293.634	9	1	8	10	2	9	1 0 0	0 0 0	161	0.106	0.111
3422.369	3422.3687	-2	C	0.179D-21	300.362	5	3	2	4	2	3	0 2 0	0 0 0	161	0.024	0.032
3422.607			D	0.163D-21	3770.728	9	7	2	10	7	3	0 1 1	0 1 0	161		0.007
3422.613	3422.6135	-19	H	0.488D-21	3770.713	9	7	3	10	7	4	0 1 1	0 1 0	161	0.024	0.022
3423.116	3423.1158	-9	C	0.902D-20	2275.373	11	5	7	12	5	8	0 0 1	0 0 0	161	0.287	0.331
3423.118			D	0.249D-22	4052.813	13	2	11	13	3	10	1 1 0	0 1 0	161		0.001
3423.245	3423.2446	-4	C	0.124D-20	1327.119	10	0	10	11	1	11	1 0 0	0 0 0	161	0.054	0.049
3423.278	3423.2784	7	C	0.371D-20	1327.110	10	1	10	11	0	11	1 0 0	0 0 0	161	0.149	0.146
3423.551	3423.5548	3	H	0.144D-20	3535.871	10	4	6	11	4	7	0 1 1	0 1 0	161	0.058	0.064
3424.031	3424.0323	-15	H	0.532D-22	3937.576	14	2	12	15	1	15	0 3 0	0 1 0	161	0.010	0.003
3424.086	3424.0872	5	C	0.891D-21	1293.019	9	2	8	10	1	9	1 0 0	0 0 0	161	0.034	0.036
3424.308	3424.3059	1	H	0.371D-21	3650.506	10	5	6	11	5	7	0 1 1	0 1 0	161	0.014	0.017
3424.733	3424.7243			0.123D-21	5027.070	9	5	5	10	5	6	0 2 1	0 2 0	161	0.009	0.007
3425.017	3425.0169	-5	H	0.104D-20	2471.254	9	9	1	10	9	2	0 0 1	0 0 0	161	0.044	0.039
3425.017			D	0.346D-21	2471.254	9	9	0	10	9	1	0 0 1	0 0 0	161		0.013
3426.186	3426.1866	-17	H	0.458D-20	2205.652	11	4	7	12	4	8	0 0 1	0 0 0	161	0.145	0.167
3426.586	3426.5820	-35	H	0.276D-21	4348.414	6	1	5	7	1	6	1 0 1	1 0 0	161	0.012	0.014
3426.794	3426.7922	-38	H	0.518D-20	2321.905	10	7	3	11	7	4	0 0 1	0 0 0	161	0.164	0.191
3426.848	3426.8485			0.173D-20	2321.814	10	7	4	11	7	5	0 0 1	0 0 0	161	0.054	0.064
3427.917	3427.9172	0	C	0.737D-21	648.979	5	1	5	6	3	4	0 0 1	0 0 0	161	0.054	0.060
3428.184	3428.0792			0.181D-21	5203.914	13	1	13	14	1	14	0 2 1	0 2 0	161	0.012	0.011
3428.187			D	0.602D-22	5203.906	13	0	13	14	0	14	0 2 1	0 2 0	161		0.004
3428.600	3428.5963	-40	H	0.297D-21	4387.062	7	1	7	8	1	8	1 0 1	1 0 0	161	0.013	0.015
3429.582	3429.5812			0.392D-21	2705.141	9	0	9	10	1	10	1 1 0	0 1 0	161	0.011	0.015
3430.231	3430.2316			0.240D-21	2688.080	8	2	7	9	1	8	1 1 0	0 1 0	161	0.009	0.009
3430.709	3430.7144	50	H	0.203D-21	3629.095	14	8	7	15	7	8	1 0 0	0 0 0	161	0.009	0.009
3430.842	3430.8439	16	C	0.503D-22	602.774	7	3	5	6	2	4	0 2 0	0 0 0	161	0.006	0.005
3431.065	3431.0646	0	C	0.583D-21	446.511	4	1	4	5	2	3	1 0 0	0 0 0	161	0.063	0.073
3431.097	3431.0996			0.149D-21	3639.537	15	6	9	16	5	12	1 0 0	0 0 0	161	0.007	0.007
3432.131	3432.1302			0.257D-21	2358.304	14	3	12	15	0	15	0 2 0	0 0 0	161	0.011	0.010
3432.830	3432.8306	3	C	0.786D-21	816.694	6	2	4	7	3	5	1 0 0	0 0 0	161	0.045	0.049
3434.055	3434.0525			0.392D-21	1524.849	11	0	11	11	1	10	1 0 0	0 0 0	161	0.015	0.014
3435.554	3435.5584	34	H	0.570D-21	3587.669	11	2	9	12	2	10	0 1 1	0 1 0	161	0.023	0.025
3435.693	3435.6935			0.405D-21	1631.384	9	4	6	9	6	3	0 0 1	0 0 0	161	0.011	0.015
3435.762	3435.7554			0.225D-21	4905.648	10	2	8	11	2	9	0 2 1	0 2 0	161	0.018	0.013
3435.781			D	0.136D-21	3084.835	14	5	10	14	6	9	1 0 0	0 0 0	161		0.006
3435.871	3435.8717	-6	H	0.162D-20	3592.425	11	3	9	12	3	10	0 1 1	0 1 0	161	0.068	0.072
3435.981	3435.9793	-17	C	0.462D-20	1899.008	10	5	6	11	4	7	1 0 0	0 0 0	161	0.144	0.165
3436.294	3436.2919	11	C	0.118D-19	2327.914	13	2	12	14	2	13	0 0 1	0 0 0	161	0.459	0.434
3436.297			D	0.394D-20	2327.891	13	1	12	14	1	13	0 0 1	0 0 0	161		0.145
3436.448	3436.4483	83	B	0.126D-19	2246.888	12	2	10	13	2	11	0 0 1	0 0 0	161	0.428	0.460
3436.460				0.413D-20	2248.067	12	3	10	13	3	11	0 0 1	0 0 0	161		0.151
3436.827	3436.8248			0.425D-21	1962.508	12	2	11	12	3	10	1 0 0	0 0 0	161	0.011	0.015
3436.946	3436.9386	-123	H	0.287D-21	3565.004	9	6	3	10	6	4	0 1 1	0 1 0	161	0.009	0.013
3437.112	3437.1099	-17	H	0.861D-21	3564.705	9	6	4	10	6	5	0 1 1	0 1 0	161	0.033	0.038
3437.400	3437.4014	4	C	0.112D-21	931.237	7	5	2	7	4	3	0 2 0	0 0 0	161	0.009	0.006
3437.404			D	0.116D-21	3244.601	15	3	12	15	4	11	1 0 0	0 0 0	161		0.005

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$	$v_1v_2v_3$	ISO	I_{obs}	I_{calc}
3437.433	3437.4370			0.211D-20	3441.040	10	3	7	11	3	8	0 1 1	0 1 0	161	0.087	0.091
3437.442			D	0.533D-22	2927.939	13	6	7	13	7	6	1 0 0	0 0 0	161		0.002
3437.477	3437.4789	26	C	0.830D-20	2144.047	10	6	4	11	6	5	0 0 1	0 0 0	161	0.263	0.300
3437.738	3437.7372			0.538D-21	3654.218	12	2	11	13	2	12	0 1 1	0 1 0	161	0.021	0.024
3437.761	3437.7703	3	B	0.521D-20	2105.876	11	3	8	12	3	9	0 0 1	0 0 0	161	0.228	0.188
3437.777			D	0.162D-20	3654.050	12	1	11	13	1	12	0 1 1	0 1 0	161		0.073
3438.191	3438.1898	−5	C	0.218D-21	757.780	5	2	3	6	4	2	0 0 1	0 0 0	161	0.014	0.015
3438.225	3438.2204	−46	H	0.275D-20	2142.597	10	6	5	11	6	6	0 0 1	0 0 0	161	0.085	0.099
3438.448	3438.4485	16	C	0.123D-19	2124.953	11	4	8	12	4	9	0 0 1	0 0 0	161	0.392	0.444
3438.589	3438.5837			0.391D-20	2358.305	14	1	14	15	1	15	0 0 1	0 0 0	161	0.136	0.144
3438.638	3438.6417	9	C	0.116D-19	2358.304	14	0	14	15	0	15	0 0 1	0 0 0	161	0.410	0.428
3438.686	3438.6897			0.514D-21	3487.401	10	4	7	11	4	8	0 1 1	0 1 0	161	0.019	0.022
	3438.9508														0.012	
3438.979	3438.9859			0.228D-21	5255.348	10	2	9	11	2	10	0 0 2	0 0 1	161	0.011	0.014
3439.766			D	0.957D-21	2254.284	9	8	1	10	8	2	0 0 1	0 0 0	161		0.035
3439.766	3439.7644	44	B	0.287D-20	2254.283	9	8	2	10	8	3	0 0 1	0 0 0	161	0.120	0.105
3439.799	3439.8020			0.217D-21	4967.496	11	2	10	12	2	11	0 2 1	0 2 0	161	0.019	0.012
3439.800			D	0.279D-22	5008.957	7	7	1	8	7	2	0 2 1	0 2 0	161		0.002
3439.808			D	0.173D-21	4842.137	9	4	6	10	4	7	0 2 1	0 2 0	161		0.010
3440.172	3440.1697	−19	C	0.780D-22	610.341	5	5	0	5	4	1	0 2 0	0 0 0	161	0.006	0.007
3440.523	3440.5236			0.244D-21	5289.152	11	0	11	12	0	12	0 0 2	0 0 1	161	0.016	0.015
3441.870	3441.8730			0.283D-21	2495.168	7	1	6	8	2	7	1 1 0	0 1 0	161	0.009	0.011
3442.077	3442.0781	12	C	0.104D-20	1201.922	8	3	6	9	2	7	1 0 0	0 0 0	161	0.044	0.044
3442.173			D	0.266D-22	6553.199	8	3	6	9	3	7	0 1 2	0 1 1	161		0.002
3442.177	3442.1752	−19	C	0.137D-21	782.410	8	3	6	7	2	5	0 2 0	0 0 0	161	0.010	0.009
3442.503	3442.5035	2	C	0.236D-20	508.812	4	2	3	5	3	2	1 0 0	0 0 0	161	0.221	0.255
3442.632			D	0.123D-21	2054.348	10	6	5	10	7	4	1 0 0	0 0 0	161		0.004
3442.646	3442.6408			0.137D-21	1524.849	12	2	11	11	1	10	0 2 0	0 0 0	161	0.008	0.005
3442.781	3442.7793	−31	C	0.241D-21	1216.194	7	4	4	7	6	1	0 0 1	0 0 0	161	0.011	0.010
3443.102	3443.1026	1	C	0.121D-19	1998.996	10	5	5	11	5	6	0 0 1	0 0 0	161	0.381	0.433
3443.112			D	0.826D-22	2005.917	3	2	2	4	3	1	1 1 0	0 1 0	161		0.003
3443.204	3443.2037	2	C	0.101D-20	1080.386	8	1	7	9	2	8	1 0 0	0 0 0	161	0.043	0.046
3443.512	3443.5096	−74	H	0.169D-20	3655.487	13	1	13	14	1	14	0 1 1	0 1 0	161	0.076	0.076
3443.540	3443.5415			0.563D-21	3655.486	13	0	13	14	0	14	0 1 1	0 1 0	161	0.028	0.025
3445.149			D	0.155D-22	6615.973	7	5	2	8	5	3	0 1 2	0 1 1	161		0.001
3445.158	3445.1581	4	C	0.423D-20	1114.550	9	0	9	10	1	10	1 0 0	0 0 0	161	0.193	0.188
3445.219	3445.2200	3	C	0.141D-20	1114.534	9	1	9	10	0	10	1 0 0	0 0 0	161	0.061	0.063
3445.828			D	0.119D-21	2631.282	15	0	15	15	2	14	0 0 1	0 0 0	161		0.005
3445.838	3445.8354			0.357D-21	2631.272	15	1	15	15	1	14	0 0 1	0 0 0	161	0.008	0.014
3446.885	3446.8847	1	C	0.284D-20	1079.080	8	2	7	9	1	8	1 0 0	0 0 0	161	0.126	0.130
3446.942	3446.9416	2	C	0.228D-20	648.979	5	2	3	6	3	4	1 0 0	0 0 0	161	0.171	0.186
3446.944			D	0.458D-22	1808.363	10	3	7	11	3	8	0 0 1	0 0 0	181		0.002
3447.077	3447.0774	3	C	0.128D-20	488.134	3	3	1	4	4	0	1 0 0	0 0 0	161	0.129	0.145
3447.137	3447.1340			0.598D-21	2918.244	13	6	7	14	5	10	1 0 0	0 0 0	161	0.023	0.024
3447.189	3447.1842			0.465D-21	3084.835	13	7	6	14	6	9	1 0 0	0 0 0	161	0.016	0.019
3447.238	3447.2361	−12	C	0.386D-20	488.108	3	3	0	4	4	1	1 0 0	0 0 0	161	0.388	0.437
3447.617	3447.6145			0.283D-21	2414.725	13	2	11	13	3	10	1 0 0	0 0 0	161	0.009	0.010
3447.988	3447.9878	8	H	0.461D-21	3387.402	9	5	4	10	5	5	0 1 1	0 1 0	161	0.016	0.020
3448.234	3448.2330	−37	H	0.287D-21	3211.214	16	1	15	16	3	14	0 0 1	0 0 0	161	0.010	0.012
3448.360	3448.3637	28	H	0.467D-21	3526.630	8	7	1	9	7	2	0 1 1	0 1 0	161	0.024	0.020
3448.362			D	0.156D-21	3526.627	8	7	2	9	7	3	0 1 1	0 1 0	161		0.007
3448.393			D	0.957D-22	3211.056	16	2	15	16	2	14	0 0 1	0 0 0	161		0.004
3448.401	3448.4008	4	C	0.156D-20	842.357	6	1	5	7	3	4	0 0 1	0 0 0	161	0.087	0.093
3448.697	3448.6989	18	C	0.392D-20	1985.788	10	5	6	11	5	7	0 0 1	0 0 0	161	0.122	0.140
3448.746	3448.7423			0.320D-21	4232.184	6	0	6	7	0	7	1 0 1	1 0 0	161	0.011	0.016
3448.937	3448.9421			0.168D-21	1590.690	8	6	3	8	7	2	1 0 0	0 0 0	161	0.008	0.006
3448.951			D	0.563D-22	1590.691	8	6	2	8	7	1	1 0 0	0 0 0	161		0.002
3449.134	3449.1309			0.143D-21	4784.664	8	5	3	9	5	4	0 2 1	0 2 0	161	0.008	0.008
3449.378	3449.3773	20	H	0.240D-21	4199.391	5	2	4	6	2	5	1 0 1	1 0 0	161	0.009	0.012
3449.581	3449.5881			0.242D-21	4941.617	12	0	12	13	0	13	0 2 1	0 2 0	161	0.012	0.014
3449.780	3449.7807			0.263D-21	2004.817	3	2	1	4	3	2	1 1 0	0 1 0	161	0.010	0.009
3449.940	3449.9395	−2	H	0.136D-20	3383.266	9	5	5	10	5	6	0 1 1	0 1 0	161	0.052	0.058
3450.191	3450.1909			0.413D-21	1411.612	8	4	4	8	6	3	0 0 1	0 0 0	161	0.013	0.016
3450.881	3450.8855			0.142D-21	2512.378	8	0	8	9	1	9	1 1 0	0 1 0	161	0.005	0.005

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$			$v_1v_2v_3$			ISO	I_{obs}	I_{calc}
3451.237	3451.2368			0.424D-21	2512.283	8	1	8	9	0	9	1	1	0	0	1	0	161	0.012	0.016
3451.961			D	0.429D-22	1394.814	7	6	2	7	7	1	1	0	0	0	0	0	161		0.002
3451.962	3451.9627			0.129D-21	1394.814	7	6	1	7	7	0	1	0	0	0	0	0	161	0.008	0.005
3451.967			D	0.519D-22	4184.836	14	1	13	14	3	12	0	1	1	0	1	0	161		0.003
3452.359	3452.3570	-29	H	0.653D-21	3253.739	9	4	5	10	4	6	0	1	1	0	1	0	161	0.026	0.027
3453.117				0.192D-20	2054.369	9	7	2	10	7	3	0	0	1	0	0	0	161		0.069
3453.128	3453.1281	-19	B	0.574D-20	2054.348	9	7	3	10	7	4	0	0	1	0	0	0	161	0.185	0.206
3453.883			D	0.292D-22	1922.902	3	1	3	4	2	2	1	1	0	0	1	0	161		0.001
3453.892	3453.8879			0.194D-21	5067.078	8	4	5	9	4	6	0	0	2	0	0	1	161	0.011	0.011
3455.696	3455.6971			0.329D-21	3535.871	10	5	6	11	4	7	1	1	0	0	1	0	161	0.013	0.014
3455.782	3455.7809	-2	C	0.354D-21	610.341	4	2	2	5	4	1	0	0	1	0	0	0	161	0.029	0.031
3456.255	3456.2543	0	C	0.144D-19	1899.008	10	4	6	11	4	7	0	0	1	0	0	0	161	0.442	0.512
3456.754	3456.7533	33	B	0.506D-21	1293.634	10	1	10	10	2	9	1	0	0	0	0	0	161	0.018	0.020
3457.252	3457.2496	-6	H	0.231D-20	3314.857	10	2	8	11	2	9	0	1	1	0	1	0	161	0.090	0.097
3457.368	3457.3762			0.988D-22	4644.219	9	2	7	10	2	8	0	2	1	0	2	0	161	0.006	0.005
3457.382			D	0.353D-22	6212.668	11	1	11	12	1	12	0	3	1	0	3	0	161		0.003
3457.500	3457.5027			0.230D-21	1360.236	9	2	8	9	4	5	0	0	1	0	0	0	161	0.006	0.009
3458.138	3458.1357	-21	H	0.700D-21	3323.271	10	3	8	11	3	9	0	1	1	0	1	0	161	0.026	0.030
3458.543			D	0.543D-20	2042.374	12	2	11	13	2	12	0	0	1	0	0	0	161		0.194
3458.546	3458.5443	-11	C	0.163D-19	2042.312	12	1	11	13	1	12	0	0	1	0	0	0	161	0.686	0.582
3458.592			D	0.764D-22	4774.816	7	6	2	8	6	3	0	2	1	0	2	0	161		0.004
3458.596	3458.5949	-6	C	0.580D-20	1960.208	11	2	9	12	2	10	0	0	1	0	0	0	161	0.185	0.206
3458.760	3458.7607	2	C	0.167D-19	1962.508	11	3	9	12	3	10	0	0	1	0	0	0	161	0.529	0.595
3458.931	3458.9314			0.252D-21	4669.738	9	3	7	10	3	8	0	2	1	0	2	0	161	0.017	0.014
3458.934			D	0.149D-21	2142.597	11	5	7	11	6	6	1	0	0	0	0	0	161		0.005
3459.727	3459.7269	-2	H	0.215D-20	3386.382	11	2	10	12	2	11	0	1	1	0	1	0	161	0.114	0.092
3459.730			D	0.720D-21	3386.053	11	1	10	12	1	11	0	1	1	0	1	0	161		0.031
3460.015	3460.0158			0.609D-21	1874.974	10	5	6	10	6	5	1	0	0	0	0	0	161	0.018	0.022
3460.217	3460.2134			0.203D-21	4611.797	8	4	4	9	4	5	0	2	1	0	2	0	161	0.011	0.011
3460.409	3460.4085	-6	C	0.217D-19	1813.224	10	3	7	11	3	8	0	0	1	0	0	0	161	0.676	0.772
3460.594	3460.5943	-3	C	0.165D-19	2073.519	13	1	13	14	1	14	0	0	1	0	0	0	161	0.739	0.590
3460.594			D	0.550D-20	2073.518	13	0	13	14	0	14	0	0	1	0	0	0	161		0.197
3460.718	3460.7169			0.621D-21	2300.689	11	6	6	12	5	7	1	0	0	0	0	0	161	0.019	0.023
3460.771	3460.7731			0.294D-21	5027.258	9	1	8	10	1	9	0	0	2	0	0	1	161	0.014	0.017
3460.777			D	0.832D-22	3266.538	13	8	6	14	7	7	1	0	0	0	0	0	161		0.003
3461.344	3461.3431	-12	C	0.295D-21	285.419	4	4	1	3	3	0	0	2	0	0	0	0	161	0.039	0.054
3461.556	3461.5556	-10	C	0.984D-22	285.219	4	4	0	3	3	1	0	2	0	0	0	0	161	0.013	0.018
3461.557			D	0.408D-22	5943.113	8	2	6	9	2	7	0	3	1	0	3	0	161		0.003
3461.642	3461.6473			0.282D-21	4714.828	10	1	9	11	1	10	0	2	1	0	2	0	161	0.015	0.015
3461.643			D	0.285D-22	5122.352	7	6	2	8	6	3	0	0	2	0	0	1	161		0.002
3461.698	3461.6983	-7	C	0.519D-20	1843.030	10	4	7	11	4	8	0	0	1	0	0	0	161	0.161	0.184
3461.772	3461.7786			0.307D-21	5062.020	10	1	10	11	1	11	0	0	2	0	0	1	161	0.017	0.018
3462.294	3462.2952	22	H	0.914D-21	3162.259	9	3	6	10	3	7	0	1	1	0	1	0	161	0.035	0.037
3462.522			D	0.554D-22	2327.914	14	3	12	14	2	13	0	2	0	0	0	0	161		0.002
3462.526	3462.5241			0.530D-21	1690.665	11	1	10	11	2	9	1	0	0	0	0	0	161	0.017	0.019
3462.591	3462.5904	-9	C	0.100D-20	503.968	4	2	2	5	3	3	1	0	0	0	0	0	161	0.094	0.109
3462.814	3462.8142	-6	C	0.319D-20	885.600	7	1	6	8	2	7	1	0	0	0	0	0	161	0.167	0.178
3462.935	3462.9381			0.926D-21	3321.013	8	6	2	9	6	3	0	1	1	0	1	0	161	0.034	0.039
3462.985	3462.9843	-15	H	0.193D-20	3224.548	9	4	6	10	4	7	0	1	1	0	1	0	161	0.079	0.080
3464.383	3464.3807	4	C	0.326D-20	1875.464	9	6	3	10	6	4	0	0	1	0	0	0	161	0.100	0.116
3464.622	3464.6190			0.342D-21	4493.805	8	3	5	9	3	6	0	2	1	0	2	0	161	0.014	0.018
3464.668	3464.6684	3	C	0.975D-20	1874.974	9	6	4	10	6	5	0	0	1	0	0	0	161	0.297	0.346
3464.748	3464.7416			0.311D-21	2586.529	12	6	6	13	5	9	1	0	0	0	0	0	161	0.010	0.012
3465.017	3465.0148			0.618D-21	2756.418	12	7	6	13	6	7	1	0	0	0	0	0	161	0.020	0.024
3465.144			D	0.758D-21	3391.135	12	1	12	13	1	13	0	1	1	0	1	0	161		0.032
3465.149	3465.1480			0.227D-20	3391.131	12	0	12	13	0	13	0	1	1	0	1	0	161	0.109	0.097
3465.952	3465.9498	-31	H	0.208D-20	2009.805	8	8	0	9	8	1	0	0	1	0	0	0	161	0.085	0.074
3465.952			D	0.694D-21	2009.805	8	8	1	9	8	2	0	0	1	0	0	0	161		0.025
3466.103	3466.1033	6	C	0.579D-21	920.211	8	4	4	9	1	9	0	2	0	0	0	0	161	0.030	0.031
3466.658	3466.6632			0.330D-21	2275.373	12	4	9	12	5	8	1	0	0	0	0	0	161	0.008	0.012
3466.894	3466.8951	4	C	0.459D-20	920.169	8	1	8	9	0	9	1	0	0	0	0	0	161	0.238	0.246
3467.147	3467.1450	-33	C	0.957D-21	920.211	8	0	8	9	1	9	1	0	0	0	0	0	161	0.051	0.051
3467.496	3467.4969	18	C	0.452D-22	508.812	5	0	5	5	3	2	1	0	0	0	0	0	161	0.005	0.005
3467.501			D	0.327D-22	5554.836	4	0	4	5	0	5	1	1	1	1	1	0	161		0.002

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$	$v_1v_2v_3$	ISO	I_{obs}	I_{calc}
3467.575	3467.5731			0.248D-21	4949.004	8	3	6	9	3	7	0 0 2	0 0 1	161	0.009	0.014
3467.680	3467.6757			0.295D-21	4049.536	4	1	3	5	1	4	1 0 1	1 0 0	161	0.012	0.014
3468.559	3468.5581	-4	C	0.954D-22	488.108	3	2	2	4	4	1	0 0 1	0 0 0	161	0.010	0.011
3468.784	3468.7864			0.323D-21	4792.340	7	3	4	8	3	5	0 0 2	0 0 1	161	0.015	0.018
3468.873	3468.8677			0.320D-21	4095.803	5	1	5	6	1	6	1 0 1	1 0 0	161	0.012	0.015
3469.028	3469.0290	45	H	0.490D-21	2327.914	14	0	14	14	2	13	0 0 1	0 0 0	161	0.015	0.018
3470.252	3470.2531	6	H	0.374D-21	2872.278	15	2	14	15	2	13	0 0 1	0 0 0	161	0.010	0.015
3470.341	3470.3410	0	C	0.927D-21	882.891	7	2	6	8	1	7	1 0 0	0 0 0	161	0.049	0.052
3470.565	3470.5636	-9	C	0.487D-20	1616.452	9	4	5	10	4	6	0 0 1	0 0 0	161	0.156	0.175
3470.831	3470.8220			0.314D-21	4696.859	11	1	11	12	1	12	0 2 1	0 2 0	161	0.016	0.017
3470.844			D	0.105D-21	4696.840	11	0	11	12	0	12	0 2 1	0 2 0	161		0.006
3471.706	3471.7049	-8	C	0.545D-21	1477.297	9	3	7	9	5	4	0 0 1	0 0 0	161	0.015	0.020
3471.794	3471.7943	-3	C	0.494D-20	1724.707	9	5	4	10	5	5	0 0 1	0 0 0	161	0.154	0.176
3471.945	3471.9469			0.441D-21	2337.669	7	0	7	8	1	8	1 1 0	0 1 0	161	0.014	0.016
3473.152	3473.1532			0.220D-21	4861.805	7	4	3	8	4	4	0 0 2	0 0 1	161	0.007	0.012
3473.267	3473.2620	0	H	0.272D-21	3439.308	16	2	14	16	4	13	0 0 1	0 0 0	161	0.009	0.012
3473.347	3473.3458			0.399D-21	2904.672	8	4	5	9	3	6	1 1 0	0 1 0	161	0.015	0.016
3473.370	3473.3683	-11	C	0.248D-21	602.774	5	0	5	6	2	4	0 0 1	0 0 0	161	0.019	0.022
3474.124			D	0.109D-21	3306.296	7	7	0	8	7	1	0 1 1	0 1 0	161		0.005
3474.124	3474.1256	6	H	0.328D-21	3306.296	7	7	1	8	7	2	0 1 1	0 1 0	161	0.016	0.014
3474.739	3474.7385	8	C	0.146D-19	1718.719	9	5	5	10	5	6	0 0 1	0 0 0	161	0.463	0.519
3474.925	3474.9224	105	H	0.157D-20	3141.047	8	5	3	9	5	4	0 1 1	0 1 0	161	0.060	0.064
3475.033	3475.0336	6	C	0.906D-21	383.842	3	2	2	4	3	1	1 0 0	0 0 0	161	0.109	0.129
3475.789	3475.7886	-28	H	0.519D-21	3139.477	8	5	4	9	5	5	0 1 1	0 1 0	161	0.018	0.021
3476.346	3476.3469			0.211D-21	1631.384	9	5	4	9	6	3	1 0 0	0 0 0	161	0.005	0.008
3478.291	3478.2936			0.891D-22	3877.090	13	2	12	13	2	11	0 1 1	0 1 0	161	0.007	0.004
3478.687	3478.6956			0.101D-20	3058.400	9	2	7	10	2	8	0 1 1	0 1 0	161	0.038	0.041
3479.367			D	0.212D-21	1080.386	9	1	9	9	2	8	1 0 0	0 0 0	161		0.010
3479.373	3479.3700	-6	C	0.552D-20	1810.589	8	7	1	9	7	2	0 0 1	0 0 0	161	0.230	0.195
3479.377			D	0.184D-20	1810.584	8	7	2	9	7	3	0 0 1	0 0 0	161		0.065
3479.643	3479.6437	6	C	0.259D-21	1216.194	7	5	2	7	6	1	1 0 0	0 0 0	161	0.011	0.011
3479.648			D	0.817D-22	1216.189	7	5	3	7	6	2	1 0 0	0 0 0	161		0.003
3479.713	3479.7082			0.378D-21	4399.543	8	2	6	9	2	7	0 2 1	0 2 0	161	0.023	0.019
3480.221	3480.2191	-14	C	0.705D-21	1446.129	10	2	9	10	3	8	1 0 0	0 0 0	161	0.022	0.026
3480.228			D	0.448D-22	6212.043	7	1	6	8	1	7	0 1 2	0 1 1	161		0.003
3480.395	3480.3954	1	C	0.233D-19	1690.665	10	2	8	11	2	9	0 0 1	0 0 0	161	0.761	0.829
3480.472	3480.4724	63	H	0.260D-20	3072.728	9	3	7	10	3	8	0 1 1	0 1 0	161	0.098	0.105
3480.588			D	0.726D-20	1774.619	11	1	10	12	1	11	0 0 1	0 0 0	161		0.257
3480.595	3480.5937	-11	C	0.217D-19	1774.752	11	2	10	12	2	11	0 0 1	0 0 0	161	0.890	0.768
3480.628				0.631D-21	1079.080	9	0	9	9	1	8	1 0 0	0 0 0	161		0.029
3480.654	3480.6537	-4	C	0.105D-20	709.609	6	1	5	7	2	6	1 0 0	0 0 0	161	0.064	0.076
3480.746				0.380D-21	4725.062	7	2	5	8	2	6	0 0 2	0 0 1	161		0.021
3480.760	3480.7588	-16	C	0.289D-21	315.779	3	1	3	4	2	2	1 0 0	0 0 0	161	0.044	0.049
3480.885	3480.8864	5	C	0.721D-20	1695.071	10	3	8	11	3	9	0 0 1	0 0 0	161	0.234	0.256
3481.127	3481.1259	0	H	0.235D-20	2998.768	8	4	4	9	4	5	0 1 1	0 1 0	161	0.086	0.093
3481.445	3481.4430	-39	H	0.279D-20	3135.766	10	1	9	11	1	10	0 1 1	0 1 0	161	0.108	0.113
3481.516	3481.5142			0.923D-21	3136.415	10	2	9	11	2	10	0 1 1	0 1 0	161	0.033	0.038
3481.662			D	0.669D-22	1045.059	6	5	1	6	6	0	1 0 0	0 0 0	161		0.003
3481.662	3481.6624	10	C	0.199D-21	1045.058	6	5	2	6	6	1	1 0 0	0 0 0	161	0.011	0.009
3482.247	3482.2463	-7	C	0.287D-20	382.517	3	2	1	4	3	2	1 0 0	0 0 0	161	0.338	0.410
3482.480			D	0.741D-20	1806.673	12	1	12	13	1	13	0 0 1	0 0 0	161		0.262
3482.482	3482.4809	-7	C	0.222D-19	1806.672	12	0	12	13	0	13	0 0 1	0 0 0	161	1.015	0.785
3482.737	3482.7385			0.372D-21	4852.750	9	0	9	10	0	10	0 0 2	0 0 1	161	0.015	0.021
3483.455	3483.4514			0.348D-21	4483.227	9	2	8	10	2	9	0 2 1	0 2 0	161	0.018	0.018
3484.013	3484.0118			0.344D-21	4817.734	8	2	7	9	2	8	0 0 2	0 0 1	161	0.013	0.019
3484.132	3484.1319	3	C	0.952D-20	1538.150	9	3	6	10	3	7	0 0 1	0 0 0	161	0.314	0.346
3485.031	3485.0304	7	C	0.798D-22	383.842	5	4	2	4	3	1	0 2 0	0 0 0	161	0.010	0.011
3485.155	3485.1574	-76	H	0.230D-21	1255.913	8	3	6	8	5	3	0 0 1	0 0 0	161	0.010	0.009
3485.162			D	0.140D-22	6215.164	7	2	6	8	2	7	0 1 2	0 1 1	161		0.001
3485.164			D	0.136D-21	4017.909	17	4	14	17	4	13	0 0 1	0 0 0	161		0.006
3485.741	3485.7408	0	C	0.191D-19	1581.336	9	4	6	10	4	7	0 0 1	0 0 0	161	0.624	0.688
3486.470	3486.4700	0	C	0.240D-21	382.517	5	4	1	4	3	2	0 2 0	0 0 0	161	0.025	0.034
3486.596	3486.5913	-41	H	0.296D-20	3144.579	11	1	11	12	1	12	0 1 1	0 1 0	161	0.148	0.120
3486.601			D	0.986D-21	3144.573	11	0	11	12	0	12	0 1 1	0 1 0	161		0.040

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$	$v_1v_2v_3$	ISO	I_{obs}	I_{calc}
3486.687	3486.6870			0.123D-20	2275.373	11	6	5	12	5	8	1 0 0	0 0 0	161	0.036	0.044
3487.841	3487.8415	54	H	0.763D-21	2983.324	8	4	5	9	4	6	0 1 1	0 1 0	161	0.028	0.030
3488.022	3488.0210	-12	C	0.480D-20	744.163	7	0	7	8	1	8	1 0 0	0 0 0	161	0.312	0.328
3488.117			D	0.987D-22	2630.194	8	2	7	8	3	6	1 1 0	0 1 0	161		0.004
3488.133	3488.1268			0.318D-21	3976.308	4	0	4	5	0	5	1 0 1	1 0 0	161	0.011	0.015
3488.320	3488.3210	4	C	0.159D-20	744.064	7	1	7	8	0	8	1 0 0	0 0 0	161	0.106	0.109
3488.351	3488.3498	-6	C	0.621D-21	661.549	5	1	4	6	3	3	0 0 1	0 0 0	161	0.043	0.049
3488.829			D	0.287D-21	3101.144	7	6	1	8	6	2	0 1 1	0 1 0	161		0.012
3488.847	3488.8438	18	H	0.862D-21	3101.124	7	6	2	8	6	3	0 1 1	0 1 0	161	0.033	0.035
3489.084	3489.0834			0.573D-21	1718.719	10	4	7	10	5	6	1 0 0	0 0 0	161	0.016	0.020
3489.357	3489.3535			0.285D-21	2927.939	12	8	5	13	7	6	1 0 0	0 0 0	161	0.010	0.011
3489.575	3489.5737	-8	H	0.300D-20	2904.672	8	3	5	9	3	6	0 1 1	0 1 0	161	0.109	0.117
3490.029	3490.0221			0.233D-21	4381.734	7	4	4	8	4	5	0 2 1	0 2 0	161	0.013	0.012
3490.556	3490.5549	-2	C	0.123D-21	842.357	7	1	7	7	3	4	0 0 1	0 0 0	161	0.007	0.007
3491.009	3491.0089	-9	C	0.105D-19	1631.384	8	6	2	9	6	3	0 0 1	0 0 0	161	0.336	0.375
3491.102	3491.1015	-2	C	0.350D-20	1631.251	8	6	3	9	6	4	0 0 1	0 0 0	161	0.108	0.125
3491.738	3491.7367			0.255D-21	2042.374	13	0	13	13	2	12	0 0 1	0 0 0	161	0.009	0.009
3491.801	3491.7994			0.764D-21	2042.312	13	1	13	13	1	12	0 0 1	0 0 0	161	0.021	0.027
3491.898			D	0.527D-22	1282.919	8	6	3	9	3	6	0 2 0	0 0 0	161		0.002
3491.898	3491.8956	2	C	0.300D-20	1616.452	9	5	5	10	4	6	1 0 0	0 0 0	161	0.093	0.107
3491.934				0.131D-21	4469.797	10	1	10	11	1	11	0 2 1	0 2 0	161		0.007
3491.968	3491.9598			0.394D-21	4469.734	10	0	10	11	0	11	0 2 1	0 2 0	161	0.020	0.020
3492.669	3492.6682			0.127D-21	4259.879	7	3	4	8	3	5	0 2 1	0 2 0	161	0.006	0.006
3493.438	3493.4378	-3	C	0.734D-21	1059.835	7	3	5	7	5	2	0 0 1	0 0 0	161	0.029	0.034
3493.689	3493.6872			0.661D-21	2551.486	14	1	13	14	3	12	0 0 1	0 0 0	161	0.020	0.025
3494.161	3494.1607			0.140D-21	1131.776	8	2	7	8	4	4	0 0 1	0 0 0	161	0.006	0.006
3494.258			D	0.223D-21	2550.883	14	2	13	14	2	12	0 0 1	0 0 0	161		0.008
3494.268	3494.2625			).204D-21	3951.315	3	2	2	4	2	3	1 0 1	1 0 0	161	0.015	0.009
3494.934	3494.9293			0.733D-21	1581.336	10	3	8	10	4	7	1 0 0	0 0 0	161	0.021	0.026
3495.177	3495.1774	2	C	0.243D-20	704.214	6	2	5	7	1	6	1 0 0	0 0 0	161	0.163	0.177
3495.783	3495.7847	-5	H	0.228D-21	3639.537	16	3	13	16	5	12	0 0 1	0 0 0	161	0.008	0.010
3496.279	3496.2792			0.234D-21	1474.981	9	4	6	9	5	5	1 0 0	0 0 0	161	0.008	0.009
3496.382	3496.3821			0.121D-20	2124.953	11	5	6	12	4	9	1 0 0	0 0 0	161	0.039	0.043
3496.625	3496.6227	-21	C	0.294D-20	552.912	5	1	4	6	2	5	1 0 0	0 0 0	161	0.251	0.285
3497.984	3497.9845			0.166D-20	1998.996	10	6	5	11	5	6	1 0 0	0 0 0	161	0.052	0.059
3498.603	3498.6013	-9	C	0.201D-21	888.632	6	3	4	6	5	1	0 0 1	0 0 0	161	0.011	0.011
3499.563	3499.5593	7	H	0.421D-21	3080.181	15	3	13	15	3	12	0 0 1	0 0 0	161	0.012	0.017
3499.743			D	0.233D-21	2433.803	12	4	8	12	6	7	0 0 1	0 0 0	161		0.009
3499.747	3499.7463	-5	C	0.169D-19	1477.297	8	5	3	9	5	4	0 0 1	0 0 0	161	0.580	0.619
3500.321	3500.3197	2	H	0.380D-20	2818.398	8	2	6	9	2	7	0 1 1	0 1 0	161	0.140	0.146
3500.327			D	0.755D-22	4663.152	6	4	2	7	4	3	0 0 2	0 0 1	161		0.004
3500.676	3500.6776			0.639D-21	2433.803	11	7	4	12	6	7	1 0 0	0 0 0	161	0.018	0.023
3500.863			D	0.153D-21	3822.246	16	4	12	16	6	11	0 0 1	0 0 0	161		0.007
3500.874	3500.8734	7	C	0.298D-21	1216.232	9	2	8	9	3	7	1 0 0	0 0 0	161	0.013	0.012
3501.063	3501.0626	-2	C	0.560D-20	1474.981	8	5	4	9	5	5	0 0 1	0 0 0	161	0.186	0.205
3501.227	3501.2265	0	C	0.818D-21	1255.167	8	4	5	8	5	4	1 0 0	0 0 0	161	0.028	0.033
3501.406	3501.4078	68	H	0.542D-21	2920.133	7	5	2	8	5	3	0 1 1	0 1 0	161	0.018	0.021
3501.463	3501.4629	2	C	0.774D-21	885.600	8	1	8	8	2	7	1 0 0	0 0 0	161	0.032	0.043
3501.510	3501.5141			0.407D-21	4624.305	7	1	6	8	1	7	0 0 2	0 0 1	161	0.009	0.021
3501.563			D	0.189D-22	4918.234	9	3	7	9	3	6	1 0 1	1 0 0	161		0.001
3501.568	3501.5679	0	C	0.221D-19	1360.236	8	4	4	9	4	5	0 0 1	0 0 0	161	0.774	0.840
3501.727	3501.7274	1	H	0.162D-20	2919.634	7	5	3	8	5	4	0 1 1	0 1 0	161	0.056	0.063
3501.826	3501.8250	-5	C	0.101D-19	1437.969	9	2	7	10	2	8	0 0 1	0 0 0	161	0.351	0.374
3502.229	3502.2277	-7	C	0.313D-21	742.076	5	3	3	5	5	0	0 0 1	0 0 0	161	0.021	0.021
3502.408	3502.4097	7	C	0.281D-19	1524.849	10	1	9	11	1	10	0 0 1	0 0 0	161	1.039	1.018
3502.424				0.903D-20	1525.137	10	2	9	11	2	10	0 0 1	0 0 0	161		0.327
3502.875	3502.8750	0	C	0.263D-19	1446.129	9	3	7	10	3	8	0 0 1	0 0 0	161	0.940	0.971
3502.879			D	0.116D-20	2903.147	9	1	8	10	1	9	0 1 1	0 1 0	161		0.045
3503.076			D	0.153D-21	4173.227	7	2	5	8	2	6	0 2 1	0 2 0	161		0.007
3503.077	3503.0757			0.334D-20	2904.429	9	2	8	10	2	9	0 1 1	0 1 0	161	0.133	0.130
3503.109	3503.1082			0.102D-20	2841.432	8	3	6	9	3	7	0 1 1	0 1 0	161	0.035	0.039
3503.261				0.434D-21	4661.449	8	1	8	9	1	9	0 0 2	0 0 1	161		0.023
3503.276	3503.2764	2	C	0.282D-20	285.419	2	2	1	3	3	0	1 0 0	0 0 0	161	0.415	0.509
3503.579	3503.5809			0.567D-21	1813.224	11	2	9	11	3	8	1 0 0	0 0 0	161	0.015	0.020

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$	$v_1v_2v_3$	ISO	I_{obs}	I_{calc}
3503.827	3503.8211			0.145D-21	4661.426	8	0	8	9	0	9	0 0 2	0 0 1	161	0.007	0.008
3504.170	3504.1650	-8	C	0.290D-19	1557.850	11	1	11	12	1	12	0 0 1	0 0 0	161	1.369	1.043
3504.173			D	0.968D-20	1557.844	11	0	11	12	0	12	0 0 1	0 0 0	161		0.348
3504.198				0.428D-21	4263.148	8	1	7	9	1	8	0 2 1	0 2 0	161		0.021
3504.343	3504.3445	17	C	0.296D-21	1059.647	7	4	4	7	5	3	1 0 0	0 0 0	161	0.013	0.014
3504.460			D	0.127D-21	4625.937	7	2	6	8	2	7	0 0 2	0 0 1	161		0.007
3504.467	3504.4658	-11	C	0.204D-21	882.891	8	0	8	8	1	7	1 0 0	0 0 0	161	0.015	0.011
3504.750	3504.7497	-5	C	0.946D-21	285.219	2	2	0	3	3	1	1 0 0	0 0 0	161	0.136	0.171
3504.972			D	0.378D-22	2439.956	7	2	6	7	3	5	1 1 0	0 1 0	161		0.001
3504.973	3504.9767			0.547D-22	6061.922	7	0	7	8	0	8	0 1 2	0 1 1	161	0.006	0.004
3505.554			D	0.130D-20	1590.691	7	7	0	8	7	1	0 0 1	0 0 0	161		0.046
3505.555	3505.5552	2	C	0.389D-20	1590.690	7	7	1	8	7	2	0 0 1	0 0 0	161	0.165	0.139
3505.601	3505.5977			0.288D-21	4224.586	7	3	5	8	3	6	0 2 1	0 2 0	161	0.017	0.014
3505.866	3505.8662	9	C	0.807D-21	888.599	6	4	3	6	5	2	1 0 0	0 0 0	161	0.041	0.044
3506.079	3506.0790	5	C	0.139D-21	742.073	5	3	2	5	5	1	0 0 1	0 0 0	161	0.009	0.009
3506.703	3506.7028	3	C	0.189D-21	508.812	6	4	3	5	3	2	0 2 0	0 0 0	161	0.014	0.020
3507.827			D	0.124D-20	2915.897	10	1	10	11	1	11	0 1 1	0 1 0	161		0.048
3507.834	3507.8322	-8	H	0.372D-20	2915.876	10	0	10	11	0	11	0 1 1	0 1 0	161	0.176	0.145
3508.377	3508.3800			0.708D-21	1843.030	10	5	5	11	4	8	1 0 0	0 0 0	161	0.021	0.025
3508.677	3508.6730			0.278D-21	3877.575	3	1	3	4	1	4	1 0 1	1 0 0	161	0.010	0.013
3508.836	3508.8355	-8	C	0.159D-20	586.479	6	0	6	7	1	7	1 0 0	0 0 0	161	0.129	0.144
3509.048	3509.0461	-53	H	0.784D-21	2670.792	7	3	4	8	3	5	0 1 1	0 1 0	161	0.026	0.029
3509.421	3509.4214	-2	C	0.351D-19	1282.919	8	3	5	9	3	6	0 0 1	0 0 0	161	1.291	1.377
3509.545				0.864D-21	2771.691	7	4	3	8	4	4	0 1 1	0 1 0	161		0.033
3509.552			D	0.302D-21	1340.886	9	3	7	9	4	6	1 0 0	0 0 0	161		0.012
3509.560	3509.5594	-5	C	0.469D-20	586.243	6	1	6	7	0	7	1 0 0	0 0 0	161	0.405	0.424
3510.500	3510.5012	12	C	0.289D-21	782.410	6	3	4	7	2	5	1 0 0	0 0 0	161	0.017	0.018
3510.653	3510.6532	1	C	0.760D-20	1340.886	8	4	5	9	4	6	0 0 1	0 0 0	161	0.273	0.290
3511.386	3511.3874	67	H	0.258D-21	3084.835	14	4	10	14	6	9	0 0 1	0 0 0	161	0.009	0.010
3511.429	3511.4293			0.465D-21	1985.788	10	6	4	11	5	7	1 0 0	0 0 0	161	0.015	0.016
3511.594	3511.5944	2	C	0.881D-21	416.209	4	1	3	5	2	4	1 0 0	0 0 0	161	0.098	0.115
3511.599			D	0.727D-22	4153.937	4	4	1	5	3	2	2 0 0	1 0 0	161		0.003
3512.079	3512.0832	-13	C	0.408D-21	2042.755	5	0	5	6	1	6	1 1 0	0 1 0	161	0.017	0.014
3512.084			D	0.635D-22	503.968	6	4	2	5	3	3	0 2 0	0 0 0	161		0.007
3512.373			D	0.264D-22	1321.463	10	1	10	11	1	11	0 0 1	0 0 0	181		0.001
3512.378	3512.3766			0.791D-22	1321.456	10	0	10	11	0	11	0 0 1	0 0 0	181	0.005	0.003
3512.470	3512.4635			0.478D-21	4260.469	9	1	9	10	1	10	0 2 1	0 2 0	161	0.021	0.023
3512.610			D	0.745D-22	3623.762	16	4	13	16	4	12	0 0 1	0 0 0	161		0.003
3512.611	3512.6112	10	C	0.218D-21	1059.835	7	4	3	7	5	2	1 0 0	0 0 0	161	0.010	0.010
3513.072	3513.0718	6	C	0.323D-21	382.517	3	1	3	4	3	2	0 0 1	0 0 0	161	0.037	0.046
3513.168	3513.1651	-48	H	0.255D-20	2764.699	7	4	4	8	4	5	0 1 1	0 1 0	161	0.091	0.097
3513.536	3513.5357			0.243D-21	4553.273	6	3	4	7	3	5	0 0 2	0 0 1	161	0.009	0.013
3513.832	3513.8325	1	C	0.451D-21	1050.158	7	4	4	8	3	5	1 0 0	0 0 0	161	0.020	0.021
3514.046	3514.0451	-4	C	0.903D-21	1201.922	9	1	8	9	2	7	1 0 0	0 0 0	161	0.035	0.037
3514.165	3514.1652	2	C	0.164D-21	742.076	5	4	1	5	5	0	1 0 0	0 0 0	161	0.008	0.011
3514.321	3514.3188			0.245D-21	4188.395	6	4	2	7	4	3	0 2 1	0 2 0	161	0.014	0.012
3514.402	3514.4022			0.108D-20	1774.752	12	0	12	12	2	11	0 0 1	0 0 0	161	0.040	0.038
3514.535	3514.5363			0.361D-21	1774.619	12	1	12	12	1	11	0 0 1	0 0 0	161	0.012	0.013
3514.625	3514.6230	-14	H	0.589D-21	2905.435	6	6	0	7	6	1	0 1 1	0 1 0	161	0.029	0.023
3514.628			D	0.196D-21	2905.431	6	6	1	7	6	2	0 1 1	0 1 0	161		0.008
3516.121	3516.1238	-38	H	0.330D-21	2248.067	13	1	12	13	3	11	0 0 1	0 0 0	161	0.012	0.012
3516.125			D	0.131D-22	6716.168	7	7	1	7	7	0	1 1 1	1 1 0	161		0.001
3517.185	3517.1873			0.296D-21	2612.801	11	8	3	12	7	6	1 0 0	0 0 0	161	0.011	0.011
3517.190			D	0.217D-22	5610.766	5	4	2	6	4	3	0 3 1	0 3 0	161		0.001
3517.321	3517.3205			0.992D-21	2246.888	13	2	12	13	2	11	0 0 1	0 0 0	161	0.031	0.035
3517.426	3517.4270	5	C	0.328D-20	1411.647	7	6	1	8	6	2	0 0 1	0 0 0	161	0.123	0.122
3517.450	3517.4496	-6	C	0.983D-20	1411.612	7	6	2	8	6	3	0 0 1	0 0 0	161	0.343	0.365
3517.676	3517.6755	-4	H	0.639D-21	2746.024	14	2	12	14	4	11	0 0 1	0 0 0	161	0.019	0.024
3518.992	3518.9929	8	C	0.159D-20	508.812	4	1	3	5	3	2	0 0 1	0 0 0	161	0.145	0.168
3519.035	3519.0332	10	C	0.386D-21	1477.297	9	6	3	9	5	4	0 2 0	0 0 0	161	0.012	0.014
3519.842			D	0.439D-22	1474.981	9	6	4	9	5	5	0 2 0	0 0 0	161		0.002
3519.849	3519.8478	-4	C	0.109D-20	1006.116	8	2	7	8	3	6	1 0 0	0 0 0	161	0.047	0.052
3520.966	3520.9647			0.308D-21	4052.837	6	3	3	7	3	4	0 2 1	0 2 0	161	0.020	0.014
3521.116	3521.1153	0	C	0.660D-21	931.237	7	2	6	7	4	3	0 0 1	0 0 0	161	0.030	0.034

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$	$v_1v_2v_3$	ISO	I_{obs}	I_{calc}
3521.290	3521.2904	2	C	0.106D-20	1122.709	8	3	6	8	4	5	1 0 0	0 0 0	161	0.038	0.046
3522.226	3522.2266	5	C	0.605D-21	542.906	5	2	4	6	1	5	1 0 0	0 0 0	161	0.050	0.060
3522.570	3522.5718			0.511D-21	2670.792	7	4	4	8	3	5	1 1 0	0 1 0	161	0.018	0.019
3522.741	3522.7413	5	C	0.120D-20	212.156	2	1	2	3	2	1	1 0 0	0 0 0	161	0.195	0.260
3522.776	3522.7748	-5	C	0.304D-21	709.609	7	1	7	7	2	6	1 0 0	0 0 0	161	0.016	0.022
3522.824			D	0.161D-21	4408.027	5	3	2	6	3	3	0 0 2	0 0 1	161		0.008
3522.825	3522.8215			0.152D-20	2595.813	7	2	5	8	2	6	0 1 1	0 1 0	161	0.062	0.056
3523.141	3523.1415	6	C	0.381D-19	1201.922	8	2	6	9	2	7	0 0 1	0 0 0	161	1.441	1.558
3523.962			D	0.422D-20	2688.080	8	1	7	9	1	8	0 1 1	0 1 0	161		0.158
3523.972	3523.9720	-10	C	0.117D-19	1293.019	9	1	8	10	1	9	0 0 1	0 0 0	161	0.487	0.455
3524.102	3524.1021	2	C	0.347D-19	1293.634	9	2	8	10	2	9	0 0 1	0 0 0	161	1.278	1.349
3524.123				0.487D-21	4488.090	7	0	7	8	0	8	0 0 2	0 0 1	161		0.025
3524.569	3524.5685	5	H	0.136D-20	2690.595	8	2	7	9	2	8	0 1 1	0 1 0	161	0.047	0.051
3524.835	3524.8362	4	C	0.982D-20	1216.232	8	3	6	9	3	7	0 0 1	0 0 0	161	0.373	0.398
3524.906	3524.9006			0.167D-21	4062.837	7	1	6	8	1	7	0 2 1	0 2 0	161	0.009	0.008
3525.638			D	0.122D-19	1327.119	10	1	10	11	1	11	0 0 1	0 0 0	161		0.467
3525.640	3525.6389	0	C	0.366D-19	1327.110	10	0	10	11	0	11	0 0 1	0 0 0	161	1.854	1.401
3525.844	3525.8422			0.332D-21	4452.352	6	2	5	7	2	6	0 0 2	0 0 1	161	0.016	0.017
3526.310	3526.3096	15	H	0.344D-20	2630.194	7	3	5	8	3	6	0 1 1	0 1 0	161	0.119	0.128
3526.394	3526.3927	5	C	0.295D-20	1581.336	9	5	4	10	4	7	1 0 0	0 0 0	161	0.096	0.105
3526.572	3526.5685			0.645D-21	2144.047	10	7	4	11	6	5	1 0 0	0 0 0	161	0.020	0.023
3526.601				0.202D-21	4491.371	5	4	1	6	4	2	0 0 2	0 0 1	161		0.010
3526.623	3526.6154			0.463D-21	4071.733	7	2	6	8	2	7	0 2 1	0 2 0	161	0.025	0.022
3527.007	3527.0081	-5	C	0.591D-20	1255.913	7	5	2	8	5	3	0 0 1	0 0 0	161	0.208	0.234
3527.031	3527.0300	-16	C	0.230D-20	300.362	3	1	2	4	2	3	1 0 0	0 0 0	161	0.316	0.397
3527.036			D	0.451D-22	1059.647	7	3	4	7	5	3	0 0 1	0 0 0	161		0.002
3527.414	3527.4132			0.448D-21	4350.699	5	2	3	6	2	4	0 0 2	0 0 1	161	0.016	0.022
3527.496	3527.4960	5	C	0.177D-19	1255.167	7	5	3	8	5	4	0 0 1	0 0 0	161	0.650	0.701
3527.548	3527.5475			0.147D-20	2724.168	6	5	1	7	5	2	0 1 1	0 1 0	161	0.051	0.055
3527.641	3527.6412			0.489D-21	2724.043	6	5	2	7	5	3	0 1 1	0 1 0	161	0.016	0.018
3527.829	3527.8255			0.525D-21	3967.489	6	2	4	7	2	5	0 2 1	0 2 0	161	0.026	0.024
3527.971	3527.9705	0	C	0.922D-21	704.214	7	0	7	7	1	6	1 0 0	0 0 0	161	0.057	0.067
3528.121	3528.1199	-6	C	0.117D-20	446.511	4	0	4	5	2	3	0 0 1	0 0 0	161	0.120	0.142
3528.853				0.151D-20	2705.097	9	0	9	10	0	10	0 1 1	0 1 0	161		0.057
3528.866	3528.8641			0.452D-20	2705.141	9	1	9	10	1	10	0 1 1	0 1 0	161	0.184	0.170
3529.056	3529.0555	-9	C	0.445D-20	447.252	5	0	5	6	1	6	1 0 0	0 0 0	161	0.470	0.539
3529.222	3529.2212	-7	C	0.523D-20	1360.236	8	5	4	9	4	5	1 0 0	0 0 0	161	0.186	0.197
3530.074	3530.0744	4	C	0.381D-21	927.744	7	3	5	7	4	4	1 0 0	0 0 0	161	0.015	0.020
3530.760	3530.7595	-8	C	0.144D-20	446.697	5	1	5	6	0	6	1 0 0	0 0 0	161	0.154	0.174
3530.940	3530.9365			0.265D-21	1538.150	10	2	8	10	3	7	1 0 0	0 0 0	161	0.008	0.009
3531.253	3531.2490			0.179D-21	3314.857	11	2	10	11	2	9	0 1 1	0 1 0	161	0.008	0.007
3531.375	3531.3754	0	C	0.867D-20	1131.776	7	4	3	8	4	4	0 0 1	0 0 0	161	0.349	0.371
3531.675	3531.6770			0.488D-21	1724.707	9	6	4	10	5	5	1 0 0	0 0 0	161	0.014	0.017
3532.839	3532.8364			0.454D-21	2918.244	14	3	11	14	5	10	0 0 1	0 0 0	161	0.013	0.018
3533.463	3533.4598			0.558D-21	4068.704	8	0	8	9	0	9	0 2 1	0 2 0	161	0.030	0.026
	3535.3159														0.007	
3536.185	3536.1858	9	C	0.112D-20	756.725	6	3	4	6	4	3	1 0 0	0 0 0	161	0.061	0.074
3536.266	3536.2665	3	C	0.257D-19	1122.709	7	4	4	8	4	5	0 0 1	0 0 0	161	1.034	1.106
3536.526	3536.5254	-5	C	0.130D-19	1050.158	7	3	4	8	3	5	0 0 1	0 0 0	161	0.562	0.594
3536.538				0.421D-21	816.694	7	2	6	7	3	5	1 0 0	0 0 0	161		0.025
3536.880	3536.8743	43	B	0.497D-21	1525.137	11	0	11	11	2	10	0 0 1	0 0 0	161	0.015	0.018
3537.171	3537.1664	-45	C	0.149D-20	1524.849	11	1	11	11	1	10	0 0 1	0 0 0	161	0.058	0.053
3537.174			D	0.376D-21	1255.167	8	3	5	8	5	4	0 0 1	0 0 0	161		0.015
3537.197	3537.1964	0	H	0.261D-20	2572.140	6	4	2	7	4	3	0 1 1	0 1 0	161	0.091	0.096
3537.730	3537.7292			0.137D-20	1718.719	9	6	3	10	5	6	1 0 0	0 0 0	161	0.043	0.048
3538.350	3538.3496			0.142D-20	1962.508	12	1	11	12	3	10	0 0 1	0 0 0	161	0.043	0.049
3538.719	3538.7155			0.318D-21	2426.195	13	2	11	13	4	10	0 0 1	0 0 0	161	0.008	0.011
3538.783	3538.7830	-3	C	0.362D-21	757.780	6	2	5	6	4	2	0 0 1	0 0 0	161	0.021	0.024
3538.806			D	0.385D-22	5496.980	10	6	4	10	6	5	1 0 1	1 0 0	161		0.002
3538.808	3538.8061			0.861D-21	2569.508	6	4	3	7	4	4	0 1 1	0 1 0	161	0.029	0.032
3539.415			D	0.145D-21	648.979	7	4	3	6	3	4	0 2 0	0 0 0	161		0.012
3539.418	3539.4157	3	C	0.355D-20	2462.876	6	3	3	7	3	4	0 1 1	0 1 0	161	0.131	0.129
3539.691	3539.6909	25	H	0.151D-21	5020.027	7	7	1	7	7	0	1 0 1	1 0 0	161	0.006	0.008
3539.691			D	0.503D-22	5020.027	7	7	0	7	7	1	1 0 1	1 0 0	161		0.003

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$	$v_1v_2v_3$	ISO	I_{obs}	I_{calc}
3540.050	3540.0489			0.588D-21	1899.008	11	3	8	11	4	7	1 0 0	0 0 0	161	0.016	0.020
3540.173	3540.1737	10	C	0.316D-21	610.114	5	3	3	5	4	2	1 0 0	0 0 0	161	0.023	0.027
3540.677	3540.6778	11	C	0.384D-21	982.912	8	1	7	8	2	6	1 0 0	0 0 0	161	0.017	0.019
3540.709	3540.7090			0.474D-21	1960.208	12	2	11	12	2	10	0 0 1	0 0 0	161	0.015	0.016
3540.860	3540.8635			0.217D-21	4015.515	5	4	2	6	4	3	0 2 1	0 2 0	161	0.011	0.010
3540.871			D	0.115D-21	3072.728	9	4	5	10	3	8	1 1 0	0 1 0	161		0.005
3540.956	3540.9567			0.614D-22	2398.382	6	2	4	6	4	3	0 1 1	0 1 0	161	0.006	0.002
3542.639	3542.6380			0.481D-21	4290.758	5	1	4	6	1	5	0 0 2	0 0 1	161	0.018	0.024
3542.731	3542.7308	-3	C	0.587D-21	488.108	4	3	2	4	4	1	1 0 0	0 0 0	161	0.055	0.065
3542.892	3542.8928	11	C	0.104D-20	552.912	6	1	6	6	2	5	1 0 0	0 0 0	161	0.087	0.100
3543.020	3543.0197	2	C	0.311D-21	383.842	3	1	2	4	3	1	0 0 1	0 0 0	161	0.036	0.043
3543.597	3543.5957	-14	C	0.116D-20	610.341	5	3	2	5	4	1	1 0 0	0 0 0	161	0.086	0.099
3543.659	3543.6593	-2	C	0.673D-20	1216.194	6	6	0	7	6	1	0 0 1	0 0 0	161	0.323	0.271
3543.664			D	0.224D-20	1216.189	6	6	1	7	6	2	0 0 1	0 0 0	161		0.090
3543.701			D	0.269D-21	2321.905	10	8	3	11	7	4	1 0 0	0 0 0	161		0.010
3543.719	3543.7189	0	C	0.209D-21	488.134	4	3	1	4	4	0	1 0 0	0 0 0	161	0.016	0.023
3544.163	3544.1629	-2	C	0.655D-21	206.301	2	1	1	3	2	2	1 0 0	0 0 0	161	0.113	0.143
3544.483	3544.4831			0.236D-21	3072.728	10	1	9	10	3	8	0 1 1	0 1 0	161	0.009	0.009
3544.637	3544.6352	-13	H	0.164D-20	2490.355	7	1	6	8	1	7	0 1 1	0 1 0	161	0.058	0.060
3544.942	3544.9427			0.521D-21	4332.914	6	1	6	7	1	7	0 0 2	0 0 1	161	0.018	0.026
3545.037	3545.0376	-4	C	0.153D-19	982.912	7	2	5	8	2	6	0 0 1	0 0 0	161	0.715	0.746
3545.223	3545.2228	-6	C	0.423D-19	1079.080	8	1	7	9	1	8	0 0 1	0 0 0	161	1.800	1.881
3545.509	3545.5055			0.562D-21	3879.336	6	1	5	7	1	6	0 2 1	0 2 0	161	0.024	0.025
3545.552	3545.5505	-12	C	0.137D-19	1080.386	8	2	7	9	2	8	0 0 1	0 0 0	161	0.597	0.608
3545.906	3545.9057	-4	H	0.460D-20	2495.168	7	2	6	8	2	7	0 1 1	0 1 0	161	0.163	0.167
3545.993	3545.9929	-1	C	0.104D-20	1446.129	9	4	5	10	3	8	1 0 0	0 0 0	161	0.036	0.038
3546.124	3546.1158			0.231D-21	2586.529	13	3	10	13	5	9	0 0 1	0 0 0	161	0.006	0.009
3546.744	3546.7437			0.514D-20	2392.594	6	2	4	7	2	5	0 1 1	0 1 0	161	0.179	0.185
3546.893			D	0.149D-19	1114.534	9	0	9	10	0	10	0 0 1	0 0 0	161		0.643
3546.899	3546.8979	3	S	0.446D-19	1114.550	9	1	9	10	1	10	0 0 1	0 0 0	161	2.362	1.926
3547.158	3547.1577	-1	C	0.299D-19	1006.116	7	3	5	8	3	6	0 0 1	0 0 0	161	1.343	1.422
	3547.6167														0.006	
3548.357	3548.3589	16	C	0.694D-22	285.219	2	1	2	3	3	1	0 0 1	0 0 0	161	0.010	0.012
3548.392	3548.3917	0	C	0.130D-20	326.625	4	0	4	5	1	5	1 0 0	0 0 0	161	0.172	0.209
3548.519	3548.5196	8	C	0.107D-20	1340.886	8	5	3	9	4	6	1 0 0	0 0 0	161	0.036	0.040
3549.639	3549.6366	-36	H	0.529D-20	2512.283	8	0	8	9	0	9	0 1 1	0 1 0	161	0.191	0.193
3549.665	3549.6635			0.176D-20	2512.378	8	1	8	9	1	9	0 1 1	0 1 0	161	0.060	0.064
3550.203				0.712D-21	1446.129	9	6	3	10	3	8	0 2 0	0 0 0	161		0.026
3550.226	3550.2244			0.122D-20	2439.956	6	3	4	7	3	5	0 1 1	0 1 0	161	0.040	0.044
3550.413	3550.4114	-10	C	0.137D-20	648.979	6	2	5	6	3	4	1 0 0	0 0 0	161	0.092	0.108
3550.755	3550.7523	-40	H	0.958D-21	2414.725	13	3	11	13	3	10	0 0 1	0 0 0	161	0.029	0.034
3551.732	3551.7328			0.206D-21	1695.071	10	4	6	11	3	9	1 0 0	0 0 0	161	0.008	0.007
3551.858	3551.8579	3	C	0.110D-20	399.457	4	2	3	5	1	4	1 0 0	0 0 0	161	0.124	0.148
3552.104			D	0.667D-22	839.550	6	3	3	7	3	4	0 0 1	0 0 0	181		0.004
3552.108	3552.1081	2	C	0.707D-20	842.357	6	4	3	7	3	4	1 0 0	0 0 0	161	0.379	0.408
3552.228	3552.2269	-10	C	0.365D-20	325.348	4	1	4	5	0	5	1 0 0	0 0 0	161	0.483	0.587
3552.410	3552.4083	-14	C	0.356D-21	542.906	6	0	6	6	1	5	1 0 0	0 0 0	161	0.029	0.035
3552.418			D	0.213D-22	6569.930	14	13	1	14	13	2	0 1 1	0 1 0	161		0.002
3552.806	3552.8060	-11	C	0.135D-20	1216.232	8	4	4	9	3	7	1 0 0	0 0 0	161	0.055	0.054
3553.420			D	0.325D-21	2552.880	5	5	0	6	5	1	0 1 1	0 1 0	161		0.012
3553.440	3553.4397	0	H	0.975D-21	2552.858	5	5	1	6	5	2	0 1 1	0 1 0	161	0.034	0.036
3553.738	3553.7378	-3	C	0.161D-19	1059.835	6	5	1	7	5	2	0 0 1	0 0 0	161	0.696	0.726
3553.755				0.868D-21	931.237	7	3	4	7	4	3	1 0 0	0 0 0	161		0.045
3553.825	3553.8204			0.209D-21	3894.800	7	0	7	8	0	8	0 2 1	0 2 0	161	0.008	0.009
3553.880	3553.8804	7	C	0.536D-20	1059.647	6	5	2	7	5	3	0 0 1	0 0 0	161	0.228	0.242
3553.951	3553.9473			0.625D-21	3895.253	7	1	7	8	1	8	0 2 1	0 2 0	161	0.028	0.028
3554.068	3554.0635			0.278D-21	3864.966	5	3	3	6	3	4	0 2 1	0 2 0	161	0.017	0.013
3554.443	3554.4460	15	C	0.113D-21	916.260	8	0	8	9	0	9	0 0 1	0 0 0	181	0.008	0.006
3554.721	3554.7189	-83	H	0.185D-21	1875.464	9	7	3	10	6	4	1 0 0	0 0 0	161	0.010	0.006
3554.722			D	0.408D-22	3738.544	12	3	10	12	3	9	0 1 1	0 1 0	161		0.002
3554.781	3554.7796	-2	C	0.110D-20	1282.919	9	2	7	9	3	6	1 0 0	0 0 0	161	0.036	0.043
3554.886	3554.8859			0.864D-21	2275.373	12	3	9	12	5	8	0 0 1	0 0 0	161	0.025	0.031
3554.914	3554.9147			0.834D-21	1718.719	10	3	7	10	5	6	0 0 1	0 0 0	161	0.024	0.029
3555.214	3555.2096			0.555D-21	1874.974	9	7	2	10	6	5	1 0 0	0 0 0	161	0.015	0.019

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$\nu'_1\nu'_2\nu'_3$	$\nu_1\nu_2\nu_3$	ISO	I_{obs}	I_{calc}
3557.130	3557.1297	-2	C	0.481D-21	136.164	1	1	1	2	2	0	1 0 0	0 0 0	161	0.093	0.127
3557.553	3557.5518	-4	C	0.326D-21	1131.776	8	3	5	8	4	4	1 0 0	0 0 0	161	0.013	0.014
3557.850	3557.8526			0.308D-21	1985.788	11	3	8	11	5	7	0 0 1	0 0 0	161	0.011	0.011
3557.999	3557.9983	-4	C	0.937D-21	1360.236	9	3	6	9	4	5	1 0 0	0 0 0	161	0.029	0.035
3558.383	3558.3816			0.135D-20	2124.953	12	2	10	12	4	9	0 0 1	0 0 0	161	0.040	0.047
3559.115	3559.1150	0	C	0.199D-20	1293.634	10	0	10	10	2	9	0 0 1	0 0 0	161	0.073	0.077
3559.670	3559.6699			0.550D-21	2462.876	6	4	3	7	3	4	1 1 0	0 1 0	161	0.018	0.020
3559.737	3559.7374	3	C	0.666D-21	1293.019	10	1	10	10	1	9	0 0 1	0 0 0	161	0.024	0.026
3560.133	3560.1327	-2	C	0.269D-19	931.237	6	4	2	7	4	3	0 0 1	0 0 0	161	1.322	1.383
3560.136			D	0.658D-21	1695.071	11	1	10	11	3	9	0 0 1	0 0 0	161		0.023
3561.164	3561.1638	2	C	0.448D-21	503.968	5	2	4	5	3	3	1 0 0	0 0 0	161	0.040	0.047
3561.241			D	0.633D-22	4526.719	6	5	2	6	5	1	1 0 1	1 0 0	161		0.003
3561.248	3561.2485	8	C	0.375D-21	416.209	5	1	5	5	2	4	1 0 0	0 0 0	161	0.048	0.048
3562.320	3562.3203	0	C	0.888D-20	927.744	6	4	3	7	4	4	0 0 1	0 0 0	161	0.449	0.458
3562.330			D	0.117D-20	1477.297	8	6	3	9	5	4	1 0 0	0 0 0	161		0.042
3562.405	3562.4036	-13	C	0.259D-21	488.108	5	5	0	4	4	1	0 2 0	0 0 0	161	0.018	0.028
3563.590	3563.5891	-10	C	0.169D-20	134.902	1	1	0	2	2	1	1 0 0	0 0 0	161	0.337	0.446
3563.967	3563.9668	5	C	0.357D-21	285.419	2	1	1	3	3	0	0 0 1	0 0 0	161	0.049	0.063
3564.020	3564.0178			0.761D-21	2399.166	5	4	1	6	4	2	0 1 1	0 1 0	161	0.026	0.027
3564.061	3564.0612	5	C	0.110D-20	1131.776	7	5	3	8	4	4	1 0 0	0 0 0	161	0.056	0.047
3564.067			D	0.282D-21	4381.902	5	5	1	5	5	0	1 0 1	1 0 0	161		0.014
3564.068			D	0.941D-22	4381.902	5	5	0	5	5	1	1 0 1	1 0 0	161		0.005
3564.583	3564.5821	61	H	0.228D-20	2398.382	5	4	2	6	4	3	0 1 1	0 1 0	161	0.079	0.082
3564.666				0.537D-21	4195.477	5	0	5	6	0	6	0 0 2	0 0 1	161		0.026
3564.682			D	0.197D-20	1690.665	11	2	10	11	2	9	0 0 1	0 0 0	161		0.068
3564.690	3564.6891	-9	C	0.426D-20	842.357	6	6	1	7	3	4	0 2 0	0 0 0	161	0.220	0.245
3565.017	3565.0161	-14	H	0.552D-20	2309.731	6	1	5	7	1	6	0 1 1	0 1 0	161	0.194	0.196
3565.017			D	0.331D-22	6147.078	17	14	4	17	14	3	0 0 1	0 0 0	161		0.002
3565.672	3565.6715	-12	C	0.316D-19	842.357	6	3	3	7	3	4	0 0 1	0 0 0	161	1.733	1.818
3566.005	3566.0061	11	C	0.147D-20	782.410	7	1	6	7	2	5	1 0 0	0 0 0	161	0.078	0.092
3566.080	3566.0805	0	C	0.164D-19	882.891	7	1	6	8	1	7	0 0 1	0 0 0	161	0.847	0.894
3566.330	3566.3306	0	C	0.841D-20	1006.116	7	4	3	8	3	6	1 0 0	0 0 0	161	0.390	0.398
3566.534	3566.5332	-5	C	0.315D-20	224.838	3	0	3	4	1	4	1 0 0	0 0 0	161	0.516	0.652
3566.753	3566.7519	-9	S	0.459D-19	885.600	7	2	6	8	2	7	0 0 1	0 0 0	161		2.492
3566.754			D	0.302D-21	2495.168	8	0	8	8	2	7	0 1 1	0 1 0	161		0.011
3567.198	3567.1948	-62	H	0.161D-20	2318.541	6	2	5	7	2	6	0 1 1	0 1 0	161	0.064	0.057
3567.922	3567.9228	4	S	0.523D-19	920.169	8	0	8	9	0	9	0 0 1	0 0 0	161		2.719
3567.935				0.174D-19	920.211	8	1	8	9	1	9	0 0 1	0 0 0	161		0.905
3568.084	3568.0841	5	C	0.461D-21	508.812	5	1	5	5	3	2	0 0 1	0 0 0	161	0.042	0.048
3568.290	3568.2899	1	S	0.519D-19	782.410	6	2	4	7	2	5	0 0 1	0 0 0	161		3.258
3568.679	3568.6781			0.123D-20	2282.591	5	3	2	6	3	3	0 1 1	0 1 0	161	0.041	0.043
3568.799	3568.7977	-8	C	0.113D-20	382.517	4	2	3	4	3	2	1 0 0	0 0 0	161	0.130	0.157
3569.368	3569.3612			0.935D-22	3680.454	0	0	0	1	0	1	1 0 1	1 0 0	161	0.007	0.004
3570.172	3570.1722			0.198D-20	2337.468	7	0	7	8	0	8	0 1 1	0 1 0	161	0.070	0.070
3570.249	3570.2486	26	H	0.593D-20	2337.669	7	1	7	8	1	8	0 1 1	0 1 0	161	0.212	0.210
3570.321	3570.3175			0.484D-21	3736.171	5	2	4	6	2	5	0 2 1	0 2 0	161	0.024	0.021
3570.541	3570.5399	-5	C	0.968D-20	816.694	6	3	4	7	3	5	0 0 1	0 0 0	161	0.539	0.577
3572.213	3572.2127	-12	H	0.179D-20	2211.192	5	2	3	6	2	4	0 1 1	0 1 0	161	0.059	0.063
3572.749	3572.7480	-9	C	0.480D-21	1050.158	8	2	6	8	3	5	1 0 0	0 0 0	161	0.018	0.022
3572.949	3572.9493	-3	C	0.117D-21	701.696	6	1	5	7	1	6	0 0 1	0 0 0	181	0.007	0.008
3573.127	3573.1276	1	C	0.277D-20	1122.709	7	5	2	8	4	5	1 0 0	0 0 0	161	0.116	0.118
3573.656	3573.6562	0	C	0.235D-21	285.219	3	2	2	3	3	1	1 0 0	0 0 0	161	0.035	0.042
3573.886	3573.8842	-46	H	0.675D-21	3738.609	6	0	6	7	0	7	0 2 1	0 2 0	161	0.037	0.030
3573.889			D	0.404D-22	5339.676	15	14	1	15	14	2	0 0 1	0 0 0	161		0.002
3573.889			D	0.121D-21	5339.676	15	14	2	15	14	1	0 0 1	0 0 0	161		0.007
3574.487	3574.4871	0	C	0.906D-21	222.052	3	1	3	4	0	4	1 0 0	0 0 0	161	0.153	0.189
3574.801	3574.7986	-18	H	0.364D-20	2271.712	5	3	3	6	3	4	0 1 1	0 1 0	161	0.127	0.128
3575.050	3575.0495	-6	C	0.547D-21	315.779	3	0	3	4	2	2	0 0 1	0 0 0	161	0.073	0.089
3575.773	3575.7729	-31	H	0.604D-21	1843.030	11	2	9	11	4	8	0 0 1	0 0 0	161	0.019	0.021
3576.732	3576.7305			0.255D-21	3722.731	4	3	1	5	3	2	0 2 1	0 2 0	161	0.013	0.011
3576.851	3576.8506	-3	C	0.123D-20	399.457	5	0	5	5	1	4	1 0 0	0 0 0	161	0.141	0.164
3577.213	3577.2125	-6	C	0.113D-20	300.362	4	1	4	4	2	3	1 0 0	0 0 0	161	0.155	0.192
3577.901	3577.9042	-10	H	0.220D-21	4967.043	14	14	0	14	14	1	0 0 1	0 0 0	161	0.011	0.012
3577.901			D	0.732D-22	4967.043	14	14	1	14	14	0	0 0 1	0 0 0	161		0.004

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$			$v_1v_2v_3$			ISO	I_{obs}	I_{calc}
3578.015	3578.0149	6	C	0.127D-21	488.108	4	2	2	4	4	1	0	0	1	0	0	0	161	0.013	0.014
3578.501	3578.4976			0.526D-21	3626.922	4	2	2	5	2	3	0	2	1	0	2	0	161	0.016	0.023
3578.651	3578.6620			0.458D-21	2105.876	12	3	10	12	3	9	0	0	1	0	0	0	161	0.016	0.016
3579.345	3579.3462	11	C	0.739D-21	285.419	3	2	1	3	3	0	1	0	0	0	0	0	161	0.147	0.130
3580.066	3580.0654	0	C	0.359D-20	888.632	5	5	0	6	5	1	0	0	1	0	0	0	161	0.197	0.193
3580.094	3580.0942	-5	C	0.108D-19	888.599	5	5	1	6	5	2	0	0	1	0	0	0	161	0.562	0.582
3581.041	3581.0410	4	C	0.862D-21	1080.386	9	0	9	9	2	8	0	0	1	0	0	0	161	0.037	0.038
3581.045			D	0.442D-22	2053.969	4	3	2	5	2	3	1	1	0	0	1	0	161		0.002
3581.127			D	0.407D-22	5866.230	17	13	5	17	13	4	0	0	1	0	0	0	161		0.003
3581.128	3581.1285	4	C	0.264D-20	1446.129	10	1	9	10	3	8	0	0	1	0	0	0	161	0.091	0.095
3581.848	3581.8501	-11	H	0.351D-21	2630.194	8	1	7	8	3	6	0	1	1	0	1	0	161	0.011	0.013
3581.884	3581.8870			0.388D-21	1631.384	8	7	2	9	6	3	1	0	0	0	0	0	161	0.011	0.014
3582.156	3582.1539	6	H	0.320D-21	3935.345	3	3	1	3	3	0	1	0	1	1	0	0	161	0.010	0.015
3582.369	3582.3692	4	C	0.258D-20	1079.080	9	1	9	9	1	8	0	0	1	0	0	0	161	0.110	0.114
3582.717	3582.7169	2	C	0.462D-21	383.842	4	2	2	4	3	1	1	0	0	0	0	0	161	0.054	0.064
3583.379	3583.3792	9	C	0.172D-21	275.497	3	2	2	4	1	3	1	0	0	0	0	0	161	0.025	0.031
3583.664	3583.6631	-4	C	0.776D-21	142.278	2	0	2	3	1	3	1	0	0	0	0	0	161	0.153	0.199
3583.710	3583.7100	2	C	0.170D-20	842.357	7	2	5	7	3	4	1	0	0	0	0	0	161	0.086	0.097
3585.248	3585.2478	0	C	0.393D-20	816.694	6	4	2	7	3	5	1	0	0	0	0	0	161	0.216	0.233
3585.292	3585.2903			0.501D-21	4076.896	4	1	4	5	1	5	0	0	2	0	0	1	161	0.018	0.023
3585.619	3585.6186			0.444D-21	4027.804	3	1	2	4	1	3	0	0	2	0	0	1	161	0.016	0.020
3585.654	3585.6530			0.197D-20	2146.265	5	1	4	6	1	5	0	1	1	0	1	0	161	0.068	0.068
3586.543				0.548D-19	704.214	6	1	5	7	1	6	0	0	1	0	0	0	161		3.888
3586.604	3586.6036	0	C	0.652D-20	661.549	5	3	2	6	3	3	0	0	1	0	0	0	161	0.431	0.499
3586.955	3586.9550	-1	C	0.134D-19	709.609	6	2	5	7	2	6	0	0	1	0	0	0	161	0.861	0.942
3587.108	3587.1081	-1	C	0.141D-20	508.812	5	2	3	5	3	2	1	0	0	0	0	0	161	0.119	0.146
3587.249			D	0.680D-22	610.114	6	5	1	5	4	2	0	2	0	0	0	0	161		0.006
3587.256	3587.2539	61	C	0.177D-21	3441.040	11	3	9	11	3	8	0	1	1	0	1	0	161	0.010	0.007
3587.489	3587.4884	-1	C	0.616D-21	602.774	6	1	5	6	2	4	1	0	0	0	0	0	161	0.044	0.053
3587.779	3587.7779	-13	C	0.801D-20	757.780	5	4	1	6	4	2	0	0	1	0	0	0	161	0.480	0.520
3587.975	3587.9743	-12	C	0.575D-21	661.549	6	2	4	6	3	3	1	0	0	0	0	0	161	0.037	0.044
3588.379	3588.3770			0.425D-20	2161.286	5	2	4	6	2	5	0	1	1	0	1	0	161	0.149	0.148
3588.547	3588.5471	-2	C	0.239D-19	756.725	5	4	2	6	4	3	0	0	1	0	0	0	161	1.458	1.553
3588.704			D	0.399D-22	3894.168	6	3	3	7	2	6	1	2	0	0	2	0	161		0.002
3588.711	3588.7108	2	C	0.197D-19	744.064	7	0	7	8	0	8	0	0	1	0	0	0	161	1.333	1.307
3588.750	3588.7504	3	S	0.588D-19	744.163	7	1	7	8	1	8	0	0	1	0	0	0	161		3.899
3589.026	3589.0237			0.613D-21	3565.455	4	1	3	5	1	4	0	2	1	0	2	0	161	0.030	0.026
3589.099			D	0.122D-21	2318.541	7	0	7	7	2	6	0	1	1	0	1	0	161		0.004
3589.108	3589.1049	-17	H	0.317D-21	2818.398	9	2	8	9	2	7	0	1	1	0	1	0	161	0.018	0.012
3589.285	3589.2795			0.250D-21	3788.695	2	2	0	2	2	1	1	0	1	1	0	0	161	0.009	0.011
3589.592	3589.5903	-15	C	0.875D-21	1437.969	10	2	9	10	2	8	0	0	1	0	0	0	161	0.030	0.032
3589.724	3589.7241	-2	C	0.223D-20	1581.336	10	2	8	10	4	7	0	0	1	0	0	0	161	0.069	0.078
3590.075	3590.0799	18	H	0.168D-21	5066.223	15	13	3	15	13	2	0	0	1	0	0	0	161	0.010	0.009
3590.075			D	0.561D-22	5066.223	15	13	2	15	13	3	0	0	1	0	0	0	161		0.003
3590.167	3590.1663			0.148D-20	2251.863	4	4	0	5	4	1	0	1	1	0	1	0	161	0.050	0.052
3590.238	3590.2368	-16	C	0.336D-21	206.301	3	1	3	3	2	2	1	0	0	0	0	0	161	0.056	0.073
3590.308	3590.3057			0.493D-21	2251.696	4	4	1	5	4	2	0	1	1	0	1	0	161	0.019	0.017
3590.432	3590.4308	-6	C	0.642D-20	2180.644	6	0	6	7	0	7	0	1	1	0	1	0	161	0.224	0.223
3590.627	3590.6253	-27	H	0.212D-20	2181.092	6	1	6	7	1	7	0	1	1	0	1	0	161	0.073	0.074
3590.862	3590.8617	-13	C	0.259D-21	1255.913	7	6	2	8	5	3	1	0	0	0	0	0	161	0.012	0.010
3591.609	3591.6090	1	C	0.773D-21	1255.167	7	6	1	8	5	4	1	0	0	0	0	0	161	0.033	0.030
3593.197	3593.1975	-3	C	0.182D-19	602.774	5	2	3	6	2	4	0	0	1	0	0	0	161	1.387	1.554
3593.975	3593.9734	-10	C	0.924D-21	756.725	6	2	4	6	4	3	0	0	1	0	0	0	161	0.051	0.060
3594.127			D	0.102D-21	4697.656	14	13	2	14	13	1	0	0	1	0	0	0	161		0.005
3594.127	3594.1285	11	H	0.307D-21	4697.656	14	13	1	14	13	2	0	0	1	0	0	0	161	0.016	0.016
3594.282	3594.2842	41	H	0.675D-21	3601.859	5	1	5	6	1	6	0	2	1	0	2	0	161	0.031	0.029
3595.326	3595.3261	-2	C	0.287D-19	648.979	5	3	3	6	3	4	0	0	1	0	0	0	161		2.242
3595.482	3595.4818	-11	C	0.194D-20	931.237	6	5	2	7	4	3	1	0	0	0	0	0	161	0.095	0.099
3595.553	3595.5519	-9	C	0.137D-21	583.779	6	0	6	7	0	7	0	0	1	0	0	0	181	0.010	0.012
3596.238	3596.2378	-1	C	0.719D-20	661.549	5	4	2	6	3	3	1	0	0	0	0	0	161	0.502	0.549
3597.078	3597.0758	-29	H	0.320D-20	2130.495	4	3	1	5	3	2	0	1	1	0	1	0	161	0.109	0.111
3597.178			D	0.409D-22	2144.047	11	7	4	11	6	5	0	2	0	0	0	0	161		0.001
3597.179			D	0.657D-22	5037.332	11	11	0	11	11	1	0	1	1	0	1	0	161		0.004
3597.179	3597.1777	-15	H	0.197D-21	5037.332	11	11	1	11	11	0	0	1	1	0	1	0	161	0.014	0.011

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$	$v_1v_2v_3$	ISO	I_{obs}	I_{calc}
3597.893	3597.9063			0.540D-21	4350.602	13	13	1	13	13	0	0 0 1	0 0 0	161	0.029	0.026
3597.893			D	0.180D-21	4350.602	13	13	0	13	13	1	0 0 1	0 0 0	161		0.009
3598.136	3598.1352	-4	C	0.164D-20	136.761	2	1	2	3	0	3	1 0 0	0 0 0	161	0.324	0.426
3598.186	3598.1834			0.368D-21	2309.731	7	1	7	7	1	6	0 1 1	0 1 0	161	0.016	0.013
3598.603	3598.6030	-5	C	0.391D-20	709.609	6	3	3	7	2	6	1 0 0	0 0 0	161	0.260	0.274
3598.909	3598.9093	-7	C	0.801D-21	1340.886	9	2	7	9	4	6	0 0 1	0 0 0	161	0.028	0.030
3598.976	3598.9763	-3	C	0.612D-21	927.744	6	5	1	7	4	4	1 0 0	0 0 0	161	0.029	0.031
3599.059	3599.0571	-1	C	0.502D-20	2053.969	4	2	2	5	2	3	0 1 1	0 1 0	161	0.172	0.173
3599.392	3599.3922	2	C	0.176D-20	885.600	7	3	4	8	2	7	1 0 0	0 0 0	161	0.092	0.095
3599.520	3599.5202	0	C	0.478D-21	275.497	4	0	4	4	1	3	1 0 0	0 0 0	161	0.064	0.086
3599.743	3599.7412			0.973D-21	2161.286	5	3	2	6	2	5	1 1 0	0 1 0	161	0.036	0.034
3599.850	3599.8481			0.105D-20	2126.407	4	3	2	5	3	3	0 1 1	0 1 0	161	0.037	0.036
3599.995	3599.9952	-4	C	0.681D-21	134.902	2	1	2	2	2	1	1 0 0	0 0 0	161	0.136	0.178
3600.205	3600.2051	0	C	0.526D-21	927.744	7	2	5	7	4	4	0 0 1	0 0 0	161	0.025	0.027
3600.760	3600.7604	11	C	0.113D-20	1216.232	9	1	8	9	3	7	0 0 1	0 0 0	161	0.039	0.045
3600.958	3600.9580	5	C	0.158D-20	79.496	1	0	1	2	1	2	1 0 0	0 0 0	161	0.358	0.480
3601.027	3601.0265	-3	C	0.516D-20	552.912	5	3	2	6	2	5	1 0 0	0 0 0	161	0.424	0.486
3602.354	3602.3538	3	C	0.217D-20	1122.709	8	2	6	8	4	5	0 0 1	0 0 0	161	0.087	0.092
3602.485			D	0.220D-22	6197.461	19	11	9	19	11	8	0 0 1	0 0 0	161		0.002
3602.490	3602.4905	2	C	0.325D-20	885.600	8	0	8	8	2	7	0 0 1	0 0 0	161	0.170	0.175
3603.026	3603.0248	-10	C	0.214D-20	446.511	5	1	4	5	2	3	1 0 0	0 0 0	161	0.219	0.254
3603.036			D	0.318D-21	2271.712	6	1	5	6	3	4	0 1 1	0 1 0	161		0.011
3603.342	3603.3418			0.475D-21	3974.632	3	0	3	4	0	4	0 0 2	0 0 1	161	0.017	0.022
3603.930	3603.9275			0.205D-21	3597.866	3	3	1	4	3	2	0 2 1	0 2 0	161	0.011	0.009
3605.239				0.846D-21	2533.793	13	4	10	13	4	9	0 0 1	0 0 0	161		0.030
3605.255	3605.2549	-3	C	0.108D-20	882.891	8	1	8	8	1	7	0 0 1	0 0 0	161	0.059	0.058
3605.383	3605.3831	3	C	0.111D-21	445.159	4	2	2	5	2	3	0 0 1	0 0 0	181	0.011	0.013
3605.679			D	0.688D-22	1006.116	9	4	5	8	3	6	0 2 0	0 0 0	161		0.003
3605.681	3605.6798			0.186D-21	2271.712	5	4	1	6	3	4	1 1 0	0 1 0	161	0.009	0.006
3605.911			D	0.787D-22	4796.961	15	12	3	15	12	4	0 0 1	0 0 0	161		0.004
3605.911	3605.9084	-16	H	0.236D-21	4796.961	15	12	4	15	12	3	0 0 1	0 0 0	161	0.014	0.012
3605.985	3605.9847	1	H	0.317D-21	3360.598	15	5	11	15	5	10	0 0 1	0 0 0	161	0.016	0.013
3606.994	3606.9934	-2	C	0.195D-19	542.906	5	1	4	6	1	5	0 0 1	0 0 0	161	1.639	1.872
3607.263	3607.2623	-5	C	0.111D-19	648.979	5	4	1	6	3	4	1 0 0	0 0 0	161	0.799	0.864
3607.421	3607.4218	11	C	0.593D-20	2000.866	4	1	3	5	1	4	0 1 1	0 1 0	161	0.207	0.203
3607.905	3607.8971	17	H	0.104D-21	4291.906	17	6	12	17	6	11	0 0 1	0 0 0	161	0.009	0.005
3608.045	3608.0434	-13	C	0.192D-20	1813.224	11	3	9	11	3	8	0 0 1	0 0 0	161	0.058	0.066
3608.708	3608.7049			0.901D-22	5381.543	13	10	4	13	10	3	0 1 1	0 1 0	161	0.007	0.005
3608.708			D	0.300D-22	5381.543	13	10	3	13	10	4	0 1 1	0 1 0	161		0.002
3609.234	3609.2350	15	S	0.636D-19	586.243	6	0	6	7	0	7	0 0 1	0 0 0	161		5.585
3609.241			D	0.747D-21	2024.150	4	2	3	5	2	4	0 1 1	0 1 0	161		0.026
3609.339	3609.3397	6	C	0.211D-19	586.479	6	1	6	7	1	7	0 0 1	0 0 0	161	1.653	1.852
3609.790	3609.7887			0.418D-21	2161.286	6	0	6	6	2	5	0 1 1	0 1 0	161	0.013	0.014
3609.969	3609.9731	-13	H	0.425D-21	4431.637	14	12	2	14	12	3	0 0 1	0 0 0	161	0.027	0.021
3609.969			D	0.142D-21	4431.637	14	12	3	14	12	2	0 0 1	0 0 0	161		0.007
3610.170	3610.1702	9	C	0.132D-21	285.419	3	1	3	3	3	0	0 0 1	0 0 0	161	0.019	0.023
3610.355			D	0.507D-22	1693.652	2	0	2	2	1	1	1 1 0	0 1 0	161		0.002
3610.359	3610.3597	-35	H	0.220D-20	2041.784	5	0	5	6	0	6	0 1 1	0 1 0	161	0.076	0.075
3610.811	3610.8106	-4	H	0.648D-20	2042.755	5	1	5	6	1	6	0 1 1	0 1 0	161	0.225	0.222
3612.023	3612.0231	-3	C	0.725D-21	315.779	4	1	3	4	2	2	1 0 0	0 0 0	161	0.093	0.117
3612.563	3612.5622	-4	S	0.478D-19	552.912	5	2	4	6	2	5	0 0 1	0 0 0	161		4.488
3612.936	3612.9320			0.675D-21	3478.987	4	0	4	5	0	5	0 2 1	0 2 0	161	0.032	0.028
3613.058	3613.0568	-1	C	0.156D-20	212.156	2	0	2	3	2	1	0 0 1	0 0 0	161	0.257	0.330
3613.768			D	0.247D-21	4087.981	13	12	1	13	12	2	0 0 1	0 0 0	161		0.011
3613.769	3613.7635	-22	H	0.742D-21	4087.981	13	12	2	13	12	1	0 0 1	0 0 0	161	0.036	0.034
3614.301	3614.3013	5	C	0.320D-21	136.164	2	1	1	2	2	0	1 0 0	0 0 0	161	0.067	0.083
3614.359				0.255D-21	4769.242	11	10	2	11	10	1	0 1 1	0 1 0	161		0.013
3614.359				0.851D-22	4769.242	11	10	1	11	10	2	0 1 1	0 1 0	161		0.004
3614.381	3614.3789	-12	C	0.126D-21	398.361	4	1	3	5	1	4	0 0 1	0 0 0	181	0.017	0.017
3614.510	3614.5102	2	C	0.158D-19	610.341	4	4	0	5	4	1	0 0 1	0 0 0	161	1.180	1.321
3614.702	3614.7028	5	C	0.527D-20	610.114	4	4	1	5	4	2	0 0 1	0 0 0	161	0.394	0.441
3615.237	3615.2363	-2	C	0.173D-20	212.156	3	1	2	3	2	1	1 0 0	0 0 0	161	0.286	0.365
3615.329	3615.3294	6	C	0.165D-21	173.365	2	2	1	3	1	2	1 0 0	0 0 0	161	0.032	0.039
3615.582	3615.5777			0.888D-21	2024.150	4	3	1	5	2	4	1 1 0	0 1 0	161	0.029	0.030

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$	$v_1v_2v_3$	ISO	I_{obs}	I_{calc}
3615.644	3615.6443	−6	C	0.230D-21	416.209	4	3	1	5	2	4	1 0 0	0 0 0	161	0.023	0.029
3615.815	3615.8147	1	C	0.341D-20	1201.922	9	2	8	9	2	7	0 0 1	0 0 0	161	0.127	0.136
3615.934	3615.9361	24	C	0.138D-21	445.346	5	1	5	6	1	6	0 0 1	0 0 0	181	0.014	0.016
3616.009	3616.0055			0.415D-21	3482.064	3	2	2	4	2	3	0 2 1	0 2 0	161	0.018	0.017
3616.833	3616.8316	−19	H	0.413D-21	4497.199	10	10	0	10	10	1	0 1 1	0 1 0	161	0.023	0.021
3616.833			D	0.138D-21	4497.199	10	10	1	10	10	0	0 1 1	0 1 0	161		0.007
3617.289			D	0.419D-21	3766.388	12	12	1	12	12	0	0 0 1	0 0 0	161		0.018
3617.289	3617.2943	59	H	0.126D-20	3766.388	12	12	0	12	12	1	0 0 1	0 0 0	161	0.060	0.055
3617.651	3617.6506	−10	S	0.263D-19	508.812	4	3	1	5	3	2	0 0 1	0 0 0	161		2.707
3618.007	3618.0066	1	C	0.164D-20	173.365	3	0	3	3	1	2	1 0 0	0 0 0	161	0.293	0.384
3618.187	3618.1873	3	C	0.405D-20	1006.116	8	1	7	8	3	6	0 0 1	0 0 0	161	0.176	0.189
3619.612	3619.6176	54	S	0.517D-19	446.511	4	2	2	5	2	3	0 0 1	0 0 0	161		6.107
3619.916	3619.9159	−5	C	0.325D-21	37.137	0	0	0	1	1	1	1 0 0	0 0 0	161	0.082	0.111
3621.181	3621.1810	4	C	0.920D-20	503.968	4	3	2	5	3	3	0 0 1	0 0 0	161	0.846	0.956
3621.340	3621.3457			0.314D-21	4534.961	15	11	5	15	11	4	0 0 1	0 0 0	161	0.018	0.016
3621.340			D	0.105D-21	4534.961	15	11	4	15	11	5	0 0 1	0 0 0	161		0.005
3623.166	3623.1665	9	C	0.131D-20	709.609	7	0	7	7	2	6	0 0 1	0 0 0	161	0.084	0.091
3623.203	3623.2030	0	C	0.225D-21	70.091	1	1	1	2	0	2	1 0 0	0 0 0	161	0.053	0.070
3624.123	3624.1239	−3	C	0.260D-21	757.780	5	5	1	6	4	2	1 0 0	0 0 0	161	0.017	0.017
3624.228	3624.2258	−50	H	0.681D-21	2005.917	3	3	0	4	3	1	0 1 1	0 1 0	161	0.027	0.023
3625.128	3625.1276	2	C	0.204D-20	2004.817	3	3	1	4	3	2	0 1 1	0 1 0	161	0.066	0.069
3625.179	3625.1802	9	C	0.770D-21	756.725	5	5	0	6	4	3	1 0 0	0 0 0	161	0.046	0.050
3625.396			D	0.188D-21	4172.148	14	11	4	14	11	3	0 0 1	0 0 0	161		0.009
3625.396	3625.3940	−41	H	0.564D-21	4172.148	14	11	3	14	11	4	0 0 1	0 0 0	161	0.027	0.026
3626.206	3626.2060	−2	C	0.791D-20	508.812	4	4	1	5	3	2	1 0 0	0 0 0	161	0.704	0.812
3626.803	3626.8011	−38	H	0.135D-20	1922.902	3	2	1	4	2	2	0 1 1	0 1 0	161	0.052	0.046
3628.347	3628.3508	32	S	0.590D-19	399.457	4	1	3	5	1	4	0 0 1	0 0 0	161		7.755
3628.699	3628.6979	−3	C	0.393D-20	704.214	7	1	7	7	1	6	0 0 1	0 0 0	161	0.281	0.276
3629.177	3629.1782			0.982D-21	3831.174	13	11	3	13	11	2	0 0 1	0 0 0	161	0.050	0.043
3629.177			D	0.327D-21	3831.173	13	11	2	13	11	3	0 0 1	0 0 0	161		0.014
3629.446	3629.4473	4	S	0.218D-19	446.697	5	0	5	6	0	6	0 0 1	0 0 0	161		2.567
3629.644	3629.6383	−54	S	0.638D-19	447.252	5	1	5	6	1	6	0 0 1	0 0 0	161		7.502
3629.904	3629.9044	4	C	0.644D-20	1920.769	4	0	4	5	0	5	0 1 1	0 1 0	161	0.249	0.218
3630.148	3630.1480	−9	C	0.161D-20	1922.831	4	1	4	5	1	5	0 1 1	0 1 0	161	0.062	0.055
3630.208	3630.2093			0.164D-21	5475.758	8	8	1	8	8	0	0 0 2	0 0 1	161	0.011	0.010
3630.208			D	0.545D-22	5475.758	8	8	0	8	8	1	0 0 2	0 0 1	161		0.003
3630.766	3630.7666	3	C	0.550D-21	95.176	2	0	2	2	1	1	1 0 0	0 0 0	161	0.135	0.159
3630.785				0.641D-21	1908.017	3	3	0	4	2	3	1 1 0	0 1 0	161		0.022
3630.831	3630.8309	4	C	0.203D-20	503.968	4	4	0	5	3	3	1 0 0	0 0 0	161	0.242	0.210
3630.840			D	0.181D-20	1875.474	3	1	2	4	1	3	0 1 1	0 1 0	161		0.061
3630.979	3630.9729	−101	H	0.323D-21	4510.895	11	9	3	11	9	2	0 1 1	0 1 0	161	0.021	0.016
3630.979			D	0.108D-21	4510.895	11	9	2	11	9	3	0 1 1	0 1 0	161		0.005
3632.122	3632.1249	33	H	0.215D-21	4665.969	16	10	6	16	10	7	0 0 1	0 0 0	161	0.016	0.011
3632.134			D	0.206D-21	3375.298	3	0	3	4	0	4	0 2 1	0 2 0	161		0.008
3632.277	3632.2762	−5	C	0.146D-20	816.694	7	1	6	7	3	5	0 0 1	0 0 0	161	0.089	0.086
3632.703	3632.7046	14	H	0.166D-20	3512.401	12	11	1	12	11	2	0 0 1	0 0 0	161	0.083	0.069
3632.703			D	0.554D-21	3512.401	12	11	2	12	11	1	0 0 1	0 0 0	161		0.023
3633.448			D	0.173D-21	4240.941	10	9	2	10	9	1	0 1 1	0 1 0	161		0.008
3633.448	3633.4500	29	H	0.518D-21	4240.941	10	9	1	10	9	2	0 1 1	0 1 0	161	0.030	0.024
3633.844	3633.8434	−3	C	0.163D-19	416.209	4	2	3	5	2	4	0 0 1	0 0 0	161		2.057
3634.983	3634.9828	3	C	0.118D-21	300.362	3	3	0	4	2	3	1 0 0	0 0 0	161	0.019	0.020
3635.021			D	0.488D-21	1922.831	4	2	2	5	1	5	1 1 0	0 1 0	161		0.017
3635.024	3635.0222			0.588D-21	3381.704	3	1	3	4	1	4	0 2 1	0 2 0	161	0.048	0.024
3635.417	3635.4174	7	C	0.136D-21	324.047	4	0	4	5	0	5	0 0 1	0 0 0	181	0.016	0.021
3635.700			D	0.270D-21	3994.259	9	9	0	9	9	1	0 1 1	0 1 0	161		0.012
3635.700	3635.6979	−22	H	0.810D-21	3994.259	9	9	1	9	9	0	0 1 1	0 1 0	161	0.049	0.037
3635.976			D	0.911D-21	3216.185	11	11	0	11	11	1	0 0 1	0 0 0	161		0.036
3635.976	3635.9740	−6	H	0.273D-20	3216.185	11	11	1	11	11	0	0 0 1	0 0 0	161	0.128	0.108
3636.234	3636.2317	−25	C	0.340D-20	1908.017	3	2	2	4	2	3	0 1 1	0 1 0	161	0.130	0.115
3636.349	3636.3524	12	H	0.397D-21	4283.305	15	10	6	15	10	5	0 0 1	0 0 0	161	0.018	0.019
3636.357			D	0.132D-21	4283.301	15	10	5	15	10	6	0 0 1	0 0 0	161		0.006
3636.563			D	0.697D-22	4812.191	7	7	0	7	7	1	0 2 1	0 2 0	161		0.004
3636.564	3636.5639			0.209D-21	4812.191	7	7	1	7	7	0	0 2 1	0 2 0	161	0.020	0.011
3636.565			D	0.170D-21	5289.961	8	7	2	8	7	1	0 0 2	0 0 1	161		0.010

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$	$v_1v_2v_3$	ISO	I_{obs}	I_{calc}
3636.567			D	0.568D-22	5289.961	8	7	1	8	7	2	0 0 2	0 0 1	161		0.003
3637.806	3637.8042			0.888D-21	1538.150	10	3	8	10	3	7	0 0 1	0 0 0	161	0.030	0.031
3638.082	3638.0822	0	C	0.125D-20	42.372	1	0	1	1	1	0	1 0 0	0 0 0	161	0.343	0.417
3638.116	3638.1128			0.458D-21	3334.626	2	1	1	3	1	2	0 2 1	0 2 0	161	0.020	0.018
3639.926			D	0.665D-23	224.838	3	2	1	4	1	4	1 0 0	0 0 0	161		0.001
3639.934	3639.9344	6	C	0.493D-21	326.625	4	2	2	5	1	5	1 0 0	0 0 0	161	0.074	0.077
3640.351			D	0.238D-21	3922.325	14	10	5	14	10	4	0 0 1	0 0 0	161		0.011
3640.351	3640.3484	0	H	0.713D-21	3922.324	14	10	4	14	10	5	0 0 1	0 0 0	161	0.038	0.032
3641.643	3641.6431	4	C	0.137D-21	285.219	3	1	2	3	3	1	0 0 1	0 0 0	161	0.021	0.024
3641.779	3641.7780	-4	C	0.400D-20	648.979	6	1	5	6	3	4	0 0 1	0 0 0	161	0.310	0.308
3642.297	3642.2980	0	C	0.871D-22	298.620	3	2	2	4	2	3	0 0 1	0 0 0	181	0.010	0.015
3642.566	3642.5662	2	C	0.455D-20	552.912	6	0	6	6	2	5	0 0 1	0 0 0	161	0.426	0.424
3642.655	3642.6529			0.398D-21	1908.017	4	0	4	4	2	3	0 1 1	0 1 0	161	0.013	0.013
3643.025	3643.0251	-3	C	0.143D-20	982.912	8	2	7	8	2	6	0 0 1	0 0 0	161	0.072	0.068
3643.330	3643.3290	-4	C	0.242D-21	136.164	1	0	1	2	2	0	0 0 1	0 0 0	161	0.053	0.062
3644.093	3644.0932	-13	H	0.124D-20	3583.372	13	10	4	13	10	3	0 0 1	0 0 0	161	0.061	0.052
3644.093			D	0.414D-21	3583.372	13	10	3	13	10	4	0 0 1	0 0 0	161		0.017
3645.288	3645.2870	-5	C	0.139D-20	382.517	4	1	3	4	3	2	0 0 1	0 0 0	161	0.173	0.189
3645.931	3645.9310	-3	C	0.934D-21	503.968	5	1	4	5	3	3	0 0 1	0 0 0	161	0.092	0.096
3646.464	3646.4637	-1	C	0.709D-20	383.842	3	3	0	4	3	1	0 0 1	0 0 0	161	0.906	0.962
3646.933	3646.9367			0.384D-21	4265.980	11	8	4	11	8	3	0 1 1	0 1 0	161	0.032	0.018
3646.934			D	0.253D-21	4427.117	16	9	7	16	9	8	0 0 1	0 0 0	161		0.012
3646.940			D	0.128D-21	4265.977	11	8	3	11	8	4	0 1 1	0 1 0	161		0.006
3647.139	3647.1381	-5	S	0.141D-19	315.779	3	2	1	4	2	2	0 0 1	0 0 0	161		2.260
3647.553	3647.5526	-5	S	0.212D-19	382.517	3	3	1	4	3	2	0 0 1	0 0 0	161		2.886
3647.595	3647.5914			0.210D-20	3266.762	12	10	2	12	10	3	0 0 1	0 0 0	161	0.111	0.083
3647.595			D	0.700D-21	3266.762	12	10	3	12	10	2	0 0 1	0 0 0	161		0.028
3648.479	3648.4788			0.534D-21	2392.594	7	2	6	7	2	5	0 1 1	0 1 0	161	0.022	0.019
3648.529	3648.5276			0.388D-21	2904.672	9	3	7	9	3	6	0 1 1	0 1 0	161	0.014	0.015
3648.668	3648.6671	-10	C	0.124D-20	447.252	5	2	3	6	1	6	1 0 0	0 0 0	161	0.147	0.145
3648.879	3648.8691			0.160D-22	299.440	3	2	2	4	2	3	0 0 1	0 0 0	171	0.010	0.003
3649.186	3649.1893			0.196D-20	1817.451	3	0	3	4	0	4	0 1 1	0 1 0	161	0.065	0.066
3649.284	3649.2762	-65	S	0.638D-19	325.348	4	0	4	5	0	5	0 0 1	0 0 0	161		9.980
3649.382				0.615D-21	3997.511	10	8	2	10	8	3	0 1 1	0 1 0	161		0.028
	3649.7219														0.009	
3650.636	3650.6363	-1	S	0.204D-19	326.625	4	1	4	5	1	5	0 0 1	0 0 0	161		3.180
3650.843			D	0.471D-21	4045.316	15	9	7	15	9	6	0 0 1	0 0 0	161		0.021
3650.845	3650.8434			0.346D-20	2972.824	11	10	2	11	10	1	0 0 1	0 0 0	161	0.180	0.131
3650.845			D	0.115D-20	2972.824	11	10	1	11	10	2	0 0 1	0 0 0	161		0.043
3651.365	3651.3657	2	C	0.181D-19	275.497	3	1	2	4	1	3	0 0 1	0 0 0	161		3.209
3651.547	3651.5474	9	S	0.558D-20	1821.599	3	1	3	4	1	4	0 1 1	0 1 0	161	0.221	0.188
3651.621	3651.6208			0.961D-21	3752.417	9	8	2	9	8	1	0 1 1	0 1 0	161	0.054	0.041
3651.621			D	0.320D-21	3752.417	9	8	1	9	8	2	0 1 1	0 1 0	161		0.014
3651.922	3651.9213			0.519D-21	3289.242	2	0	2	3	0	3	0 2 1	0 2 0	161	0.026	0.021
3652.692			D	0.485D-22	4775.090	8	6	3	8	6	2	0 2 1	0 2 0	161		0.003
3652.700	3652.7015			0.507D-21	2000.866	5	1	5	5	1	4	0 1 1	0 1 0	161	0.021	0.017
3652.912	3652.9117	-9	C	0.153D-20	542.906	6	1	6	6	1	5	0 0 1	0 0 0	161	0.143	0.145
3653.151	3653.1553			0.653D-22	5581.523	10	6	5	10	6	4	0 0 2	0 0 1	161	0.006	0.004
3653.642			D	0.489D-21	3530.958	8	8	1	8	8	0	0 1 1	0 1 0	161		0.020
3653.642	3653.6449	-16	H	0.147D-20	3530.958	8	8	0	8	8	1	0 1 1	0 1 0	161	0.085	0.061
3653.652			D	0.138D-21	4612.789	17	8	10	17	8	9	0 0 1	0 0 0	161		0.007
3653.849			D	0.185D-20	2701.890	10	10	1	10	10	0	0 0 1	0 0 0	161		0.067
3653.849	3653.8483	-10	H	0.554D-20	2701.890	10	10	0	10	10	1	0 0 1	0 0 0	161	0.254	0.201
3653.924	3653.9203			0.366D-21	4759.852	6	6	1	6	6	0	0 0 2	0 0 1	161	0.021	0.019
3653.925			D	0.122D-21	4759.852	6	6	0	6	6	1	0 0 2	0 0 1	161		0.006
3654.321	3654.3210	17	C	0.253D-20	1819.337	2	2	0	3	2	1	0 1 1	0 1 0	161	0.099	0.085
3654.432	3654.4292			0.222D-21	4578.977	7	6	2	7	6	1	0 2 1	0 2 0	161	0.012	0.011
3654.797	3654.8000	74	H	0.849D-21	3685.403	14	9	5	14	9	6	0 0 1	0 0 0	161	0.034	0.036
3654.808			D	0.414D-22	221.233	3	0	3	4	0	4	0 0 1	0 0 0	181		0.008
3655.761	3655.7581	0	C	0.436D-20	1772.413	2	1	1	3	1	2	0 1 1	0 1 0	161	0.173	0.147
3655.969	3655.9670			0.331D-21	4407.047	6	6	0	6	6	1	0 2 1	0 2 0	161	0.017	0.016
3656.304	3656.3034	-6	C	0.409D-19	300.362	3	2	2	4	2	3	0 0 1	0 0 0	161		6.797
3656.736	3656.7337	-12	C	0.119D-21	223.828	3	1	3	4	1	4	0 0 1	0 0 0	181	0.020	0.024
3658.448	3658.4466	-7	H	0.148D-20	3347.780	13	9	5	13	9	4	0 0 1	0 0 0	161	0.068	0.059

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$	$v_1v_2v_3$	ISO	I_{obs}	I_{calc}
3658.565	3658.5629			0.832D-21	1813.788	2	2	1	3	2	2	0 1 1	0 1 0	161	0.031	0.028
3658.750	3658.7486	-78	H	0.402D-21	3472.880	15	6	10	15	6	9	0 0 1	0 0 0	161	0.013	0.016
3658.780	3658.7868			0.905D-22	4408.027	6	3	4	6	3	3	0 0 2	0 0 1	161	0.006	0.004
3659.935	3659.9349	-2	C	0.163D-20	416.209	5	0	5	5	2	4	0 0 1	0 0 0	161	0.193	0.204
3660.700	3660.7003	-5	C	0.551D-22	210.799	2	2	0	3	2	1	0 0 1	0 0 0	181	0.009	0.012
3661.776	3661.7760	-3	C	0.932D-22	172.882	2	1	1	3	1	2	0 0 1	0 0 0	181	0.017	0.022
3661.888			D	0.839D-21	3032.691	12	9	4	12	9	3	0 0 1	0 0 0	161		0.032
3661.890	3661.8892	-16	H	0.252D-20	3032.690	12	9	3	12	9	4	0 0 1	0 0 0	161	0.117	0.096
3662.109	3662.1087	-25	H	0.425D-21	4038.404	11	7	5	11	7	4	0 1 1	0 1 0	161	0.019	0.019
3662.239	3662.2431	51	H	0.142D-21	4038.355	11	7	4	11	7	5	0 1 1	0 1 0	161	0.008	0.006
3662.703	3662.7034	-7	H	0.266D-21	4206.332	16	8	8	16	8	9	0 0 1	0 0 0	161	0.010	0.012
3662.783	3662.7847	36	H	0.101D-20	2629.337	13	5	9	13	5	8	0 0 1	0 0 0	161	0.035	0.036
3663.045	3663.0449	4	C	0.806D-22	586.479	6	2	4	7	1	7	1 0 0	0 0 0	161	0.008	0.007
3663.381	3663.3882			0.245D-22	5610.766	6	4	2	6	4	3	0 3 1	0 3 0	161	0.006	0.001
3663.749	3663.7497			0.210D-21	4782.660	7	5	2	7	5	3	0 0 2	0 0 1	161	0.008	0.011
3663.801	3663.8059			0.318D-21	4613.574	6	5	2	6	5	1	0 0 2	0 0 1	161	0.010	0.016
3663.999			D	0.157D-21	4468.699	5	5	1	5	5	0	0 0 2	0 0 1	161		0.008
3664.010	3664.0086			0.472D-21	4468.691	5	5	0	5	5	1	0 0 2	0 0 1	161	0.026	0.023
3664.306			D	0.603D-22	1774.752	11	3	8	12	2	11	1 0 0	0 0 0	161		0.002
3664.310	3664.3069	-48	H	0.511D-21	3824.994	15	8	8	15	8	7	0 0 1	0 0 0	161	0.023	0.022
3664.389			D	0.195D-22	5342.195	4	4	1	4	4	0	0 3 1	0 3 0	161		0.001
3664.393	3664.3913	-70	H	0.212D-20	1899.008	11	4	8	11	4	7	0 0 1	0 0 0	161	0.073	0.071
3664.543	3664.5439	32	H	0.684D-21	3770.713	10	7	3	10	7	4	0 1 1	0 1 0	161	0.027	0.029
3665.099	3665.0962	-18	H	0.415D-20	2740.420	11	9	3	11	9	2	0 0 1	0 0 0	161	0.186	0.151
3665.099			D	0.138D-20	2740.420	11	9	2	11	9	3	0 0 1	0 0 0	161		0.050
3665.419	3665.4188	0	C	0.365D-22	212.156	4	1	4	3	2	1	1 0 0	0 0 0	161	0.008	0.008
3666.084	3666.0836	-6	C	0.371D-20	1282.919	9	3	7	9	3	6	0 0 1	0 0 0	161	0.146	0.139
3666.697	3666.7008	2	H	0.107D-20	3526.630	9	7	3	9	7	2	0 1 1	0 1 0	161	0.054	0.044
3666.709			D	0.357D-21	3526.627	9	7	2	9	7	3	0 1 1	0 1 0	161		0.015
3668.069	3668.0698	37	H	0.667D-20	2471.254	10	9	1	10	9	2	0 0 1	0 0 0	161	0.292	0.234
3668.069			D	0.222D-20	2471.254	10	9	2	10	9	1	0 0 1	0 0 0	161		0.078
3668.425	3668.4148			0.311D-21	3465.060	14	8	7	14	8	6	0 0 1	0 0 0	161	0.010	0.013
3668.693			D	0.545D-21	3306.296	8	7	2	8	7	1	0 1 1	0 1 0	161		0.022
3668.694	3668.6950			0.164D-20	3306.296	8	7	1	8	7	2	0 1 1	0 1 0	161	0.082	0.065
3668.777	3668.7776	6	S	0.194D-19	222.052	3	0	3	4	0	4	0 0 1	0 0 0	161		3.931
3668.841	3668.8395			0.494D-20	1731.898	2	0	2	3	0	3	0 1 1	0 1 0	161	0.205	0.166
3668.895	3668.8902			0.930D-21	3464.885	14	8	6	14	8	7	0 0 1	0 0 0	161	0.039	0.038
3669.943	3669.9432	-1	C	0.523D-20	782.410	7	2	6	7	2	5	0 0 1	0 0 0	161	0.338	0.319
3670.509			D	0.815D-21	3109.911	7	7	0	7	7	1	0 1 1	0 1 0	161		0.031
3670.509	3670.5094			0.244D-20	3109.911	7	7	1	7	7	0	0 1 1	0 1 0	161	0.129	0.094
3670.517			D	0.229D-21	4491.371	6	4	3	6	4	2	0 0 2	0 0 1	161		0.011
3670.750				0.558D-19	224.838	3	1	3	4	1	4	0 0 1	0 0 0	161		11.219
3670.803	3670.8025			0.104D-19	2225.468	9	9	1	9	9	0	0 0 1	0 0 0	161	0.482	0.355
3670.803			D	0.348D-20	2225.468	9	9	0	9	9	1	0 0 1	0 0 0	161		0.119
3671.048	3671.0439			0.208D-21	4368.637	7	5	3	7	5	2	0 2 1	0 2 0	161	0.010	0.010
3671.929	3671.9276			0.146D-20	1739.485	2	1	2	3	1	3	0 1 1	0 1 0	161	0.059	0.049
3672.094	3672.0945	5	H	0.165D-20	3127.862	13	8	6	13	8	5	0 0 1	0 0 0	161	0.058	0.064
3672.245	3672.2521	-25	H	0.549D-21	3127.808	13	8	5	13	8	6	0 0 1	0 0 0	161	0.020	0.021
3672.595	3672.5942			0.539D-21	4224.852	4	4	1	4	4	0	0 0 2	0 0 1	161	0.021	0.025
3672.698	3672.6980			0.354D-21	4345.273	5	4	1	5	4	2	0 0 2	0 0 1	161	0.014	0.017
3673.092	3673.0908			0.469D-21	4050.513	5	5	1	5	5	0	0 2 1	0 2 0	161	0.025	0.021
3673.621	3673.6217	12	H	0.506D-21	3629.095	15	7	9	15	7	8	0 0 1	0 0 0	161	0.018	0.021
3674.269	3674.2683	-11	C	0.456D-20	300.362	4	0	4	4	2	3	0 0 1	0 0 0	161	0.688	0.754
3674.348	3674.3471	-4	C	0.104D-21	136.336	2	0	2	3	0	3	0 0 1	0 0 0	181	0.020	0.026
3674.697	3674.6967	-4	C	0.108D-20	23.794	1	1	0	1	0	1	1 0 0	0 0 0	161	0.311	0.376
3674.959				0.258D-19	212.156	2	2	0	3	2	1	0 0 1	0 0 0	161		5.357
3675.486	3675.4828			0.939D-21	2813.533	12	8	5	12	8	4	0 0 1	0 0 0	161	0.030	0.034
3675.525	3675.5266			0.282D-20	2813.515	12	8	4	12	8	5	0 0 1	0 0 0	161	0.095	0.103
3675.605	3675.6054			0.411D-21	3833.146	11	6	6	11	6	5	0 1 1	0 1 0	161	0.021	0.018
3676.020				0.437D-19	173.365	2	1	1	3	1	2	0 0 1	0 0 0	161		10.058
3677.439	3677.4376	-10	C	0.499D-20	399.457	5	1	5	5	1	4	0 0 1	0 0 0	161	0.616	0.647
3678.498	3678.4920			0.224D-21	3565.004	10	6	5	10	6	4	0 1 1	0 1 0	161	0.008	0.009
3678.627	3678.6287	25	H	0.468D-20	2522.267	11	8	4	11	8	3	0 0 1	0 0 0	161	0.187	0.165
3678.634			D	0.156D-20	2522.263	11	8	3	11	8	4	0 0 1	0 0 0	161		0.055

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$	$v_1v_2v_3$	ISO	I_{obs}	I_{calc}
3679.249	3679.2469			0.670D-21	3564.705	10	6	4	10	6	5	0 1 1	0 1 0	161	0.029	0.028
3679.437	3679.4364	-2	C	0.846D-20	206.301	2	2	1	3	2	2	0 0 1	0 0 0	161	1.564	1.782
3679.611	3679.6096			0.342D-21	3659.906	11	5	7	11	5	6	0 1 1	0 1 0	161	0.016	0.014
3679.868	3679.8679			0.527D-21	4030.070	3	3	0	3	3	1	0 0 2	0 0 1	161	0.021	0.024
3680.374	3680.3738	-6	C	0.451D-21	70.091	2	1	1	2	0	2	1 0 0	0 0 0	161	0.118	0.138
3680.804	3680.8015	-73	H	0.107D-20	3321.013	9	6	4	9	6	3	0 1 1	0 1 0	161	0.046	0.042
3681.017	3681.0135	-60	H	0.356D-21	3320.933	9	6	3	9	6	4	0 1 1	0 1 0	161	0.016	0.014
3681.069	3681.0730			0.647D-22	5065.457	3	3	1	3	3	0	0 3 1	0 3 0	161	0.006	0.004
3681.548			D	0.252D-20	2254.284	10	8	3	10	8	2	0 0 1	0 0 0	161		0.086
3681.550	3681.5482	15	C	0.755D-20	2254.283	10	8	2	10	8	3	0 0 1	0 0 0	161	0.329	0.258
3681.713	3681.7122	0	C	0.885D-21	1693.652	1	1	0	2	1	1	0 1 1	0 1 0	161	0.035	0.030
3682.789				0.551D-21	3101.144	8	6	3	8	6	2	0 1 1	0 1 0	161		0.021
3682.824	3682.8290	-3	H	0.165D-20	3101.124	8	6	2	8	6	3	0 1 1	0 1 0	161	0.065	0.063
3683.989	3683.9903			0.617D-21	2300.689	12	5	8	12	5	7	0 0 1	0 0 0	161	0.019	0.021
3684.245	3684.2435	-8	C	0.119D-19	2009.805	9	8	2	9	8	1	0 0 1	0 0 0	161	0.520	0.399
3684.245			D	0.395D-20	2009.805	9	8	1	9	8	2	0 0 1	0 0 0	161		0.132
3684.528	3684.5291	8	C	0.107D-20	206.301	3	0	3	3	2	2	0 0 1	0 0 0	161	0.284	0.225
3684.537			D	0.250D-20	2905.435	7	6	2	7	6	1	0 1 1	0 1 0	161		0.093
3684.541				0.832D-21	2905.431	7	6	1	7	6	2	0 1 1	0 1 0	161		0.031
3684.612	3684.6070			0.170D-20	2927.939	13	7	7	13	7	6	0 0 1	0 0 0	161	0.056	0.063
3685.241	3685.2430	-23	H	0.926D-21	3264.338	14	7	7	14	7	8	0 0 1	0 0 0	161	0.032	0.036
3686.094			D	0.123D-20	2733.965	6	6	1	6	6	0	0 1 1	0 1 0	161		0.044
3686.095	3686.0941	6	H	0.370D-20	2733.965	6	6	0	6	6	1	0 1 1	0 1 0	161	0.190	0.134
3686.199	3686.1950			0.137D-21	3885.738	2	2	0	2	2	1	0 0 2	0 0 1	161	0.005	0.006
3686.549	3686.5494			0.915D-22	4244.305	5	3	2	5	3	3	0 0 2	0 0 1	161	0.009	0.004
3686.715	3686.7127	0	C	0.182D-19	1789.041	8	8	0	8	8	1	0 0 1	0 0 0	161	0.918	0.608
3686.715			D	0.606D-20	1789.041	8	8	1	8	8	0	0 0 1	0 0 0	161		0.203
3686.758				0.561D-21	2927.076	13	7	6	13	7	7	0 0 1	0 0 0	161		0.021
3687.200	3687.1948			0.245D-21	4015.515	6	4	2	6	4	3	0 2 1	0 2 0	161	0.014	0.011
3687.389	3687.3874			0.384D-21	3868.987	5	4	2	5	4	1	0 2 1	0 2 0	161	0.021	0.017
3688.218	3688.2210			0.145D-20	2756.418	13	6	8	13	6	7	0 0 1	0 0 0	161	0.050	0.053
3688.276				0.117D-20	1616.452	10	4	7	10	4	6	0 0 1	0 0 0	161		0.040
3688.304				0.979D-21	2613.104	12	7	6	12	7	5	0 0 1	0 0 0	161		0.035
3688.412				0.585D-21	3746.763	4	4	0	4	4	1	0 2 1	0 2 0	161		0.025
3688.453				0.489D-19	136.761	2	0	2	3	0	3	0 0 1	0 0 0	161		12.384
3688.766	3688.7627			0.662D-21	2998.768	9	4	6	9	4	5	0 1 1	0 1 0	161	0.024	0.025
3688.805	3688.8045	-7	C	0.143D-21	37.137	2	0	2	1	1	1	1 0 0	0 0 0	161	0.037	0.048
3689.070	3689.0728			0.292D-20	2612.801	12	7	5	12	7	6	0 0 1	0 0 0	161	0.100	0.104
3689.903	3689.9057	-23	C	0.120D-20	1664.971	1	0	1	2	0	2	0 1 1	0 1 0	161	0.048	0.040
3690.313	3690.3116	-7	C	0.128D-20	134.902	2	0	2	2	2	1	0 0 1	0 0 0	161	0.272	0.326
3690.632	3690.6314	-2	C	0.123D-20	136.761	3	1	2	3	0	3	1 0 0	0 0 0	161	0.267	0.311
3690.910	3690.9094	-1	C	0.172D-20	1050.158	8	3	6	8	3	5	0 0 1	0 0 0	161	0.082	0.075
3691.062	3691.0620	-5	C	0.202D-21	275.497	4	2	2	4	1	3	1 0 0	0 0 0	161	0.032	0.035
3691.298	3691.2984	-2	S	0.146D-19	142.278	2	1	2	3	1	3	0 0 1	0 0 0	161		3.639
3691.398	3691.3977	-7	C	0.999D-21	173.365	3	2	1	3	1	2	1 0 0	0 0 0	161	0.204	0.229
3691.462	3691.4597			0.490D-20	2321.905	11	7	5	11	7	4	0 0 1	0 0 0	161	0.158	0.168
3691.697	3691.6974			0.163D-20	2321.814	11	7	4	11	7	5	0 0 1	0 0 0	161	0.053	0.056
3692.159	3692.1608	-7	H	0.946D-21	3141.047	9	5	5	9	5	4	0 1 1	0 1 0	161	0.038	0.036
3692.491	3692.4922	11	C	0.112D-21	134.902	3	1	2	2	2	1	1 0 0	0 0 0	161	0.029	0.028
3692.701	3692.7011	11	C	0.265D-20	1677.063	1	1	1	2	1	2	0 1 1	0 1 0	161	0.109	0.089
3693.235	3693.2364			0.216D-21	3791.702	1	1	0	1	1	1	0 0 2	0 0 1	161	0.011	0.009
3693.294	3693.2941	1	C	0.221D-21	0.0	1	1	1	0	0	0	1 0 0	0 0 0	161	0.076	0.082
3693.629	3693.6273			0.968D-21	2462.876	7	3	5	7	3	4	0 1 1	0 1 0	161	0.040	0.034
3693.790	3693.7890	-13	C	0.154D-20	602.774	6	2	5	6	2	4	0 0 1	0 0 0	161	0.127	0.128
3694.294	3694.2933	33	B	0.265D-20	2054.369	10	7	4	10	7	3	0 0 1	0 0 0	161	0.098	0.089
3694.294			D	0.355D-22	4409.312	17	7	10	17	7	11	0 0 1	0 0 0	161		0.002
3694.351	3694.3528	3	C	0.795D-20	2054.348	10	7	3	10	7	4	0 0 1	0 0 0	161	0.271	0.266
3694.794	3694.7934	-4	C	0.193D-21	95.176	2	2	0	2	1	1	1 0 0	0 0 0	161	0.046	0.055
3695.133	3695.1335	1	H	0.497D-21	2920.133	8	5	4	8	5	3	0 1 1	0 1 0	161	0.016	0.018
3695.696	3695.6943			0.850D-21	2053.969	5	2	4	5	2	3	0 1 1	0 1 0	161	0.034	0.028
3696.271	3696.2727			0.866D-21	2437.501	12	6	7	12	6	6	0 0 1	0 0 0	161	0.024	0.030
3696.338	3696.3367			0.148D-20	2919.634	8	5	3	8	5	4	0 1 1	0 1 0	161	0.054	0.055
3696.463	3696.4621	-9	C	0.232D-20	399.457	5	2	3	5	1	4	1 0 0	0 0 0	161	0.284	0.299
3696.887	3696.8874	0	C	0.125D-19	1810.589	9	7	3	9	7	2	0 0 1	0 0 0	161	0.480	0.416

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$	$v_1v_2v_3$	ISO	I_{obs}	I_{calc}
3696.902				0.418D-20	1810.584	9	7	2	9	7	3	0 0 1	0 0 0	161		0.139
3697.177				0.558D-21	3383.266	10	5	5	10	5	6	0 1 1	0 1 0	161		0.022
3697.193	3697.1915	-2	H	0.228D-20	2724.168	7	5	3	7	5	2	0 1 1	0 1 0	161	0.096	0.082
3697.496	3697.4971	99	H	0.760D-21	2724.043	7	5	2	7	5	3	0 1 1	0 1 0	161	0.028	0.027
3698.804	3698.8022			0.114D-20	2552.880	6	5	2	6	5	1	0 1 1	0 1 0	161	0.048	0.040
3698.857	3698.8566			0.342D-20	2552.858	6	5	1	6	5	2	0 1 1	0 1 0	161	0.131	0.120
3699.270			D	0.644D-20	1590.691	8	7	2	8	7	1	0 0 1	0 0 0	161		0.218
3699.271	3699.2681	-4	C	0.193D-19	1590.690	8	7	1	8	7	2	0 0 1	0 0 0	161	0.900	0.655
3699.494	3699.4945	-12	C	0.334D-20	1998.996	11	5	7	11	5	6	0 0 1	0 0 0	161	0.114	0.111
3700.154	3700.1543	-6	H	0.504D-20	2406.144	5	5	1	5	5	0	0 1 1	0 1 0	161	0.248	0.174
3700.159			D	0.168D-20	2406.142	5	5	0	5	5	1	0 1 1	0 1 0	161		0.058
3700.733	3700.7303	9	C	0.988D-21	1772.413	3	1	3	3	1	2	0 1 1	0 1 0	161	0.039	0.033
3701.157	3701.1543			0.618D-21	3500.639	3	3	1	3	3	0	0 2 1	0 2 0	161	0.031	0.025
3701.425			D	0.105D-21	3650.506	11	5	6	11	5	7	0 1 1	0 1 0	161		0.004
3701.431	3701.4318	3	C	0.291D-19	1394.814	7	7	1	7	7	0	0 0 1	0 0 0	161	1.453	1.034
3701.431			D	0.970D-20	1394.814	7	7	0	7	7	1	0 0 1	0 0 0	161		0.345
3701.597			D	0.298D-21	3597.866	4	3	1	4	3	2	0 2 1	0 2 0	161		0.012
3701.607	3701.6063	24	C	0.448D-20	2144.047	11	6	6	11	6	5	0 0 1	0 0 0	161	0.143	0.151
3701.765	3701.7652	-3	C	0.271D-20	275.497	4	1	4	4	1	3	0 0 1	0 0 0	161	0.440	0.474
3701.806	3701.8057	-1	S	0.888D-20	95.176	1	1	0	2	1	1	0 0 1	0 0 0	161		2.511
3702.583	3702.5825	-2	C	0.214D-20	782.410	7	3	4	7	2	5	1 0 0	0 0 0	161	0.130	0.129
3705.088			D	0.254D-22	445.159	5	2	4	5	2	3	0 0 1	0 0 0	181		0.003
3705.089	3705.0897	10	C	0.248D-20	2433.803	12	6	6	12	6	7	0 0 1	0 0 0	161	0.085	0.086
3705.112				0.147D-20	2142.597	11	6	5	11	6	6	0 0 1	0 0 0	161		0.049
3705.358	3705.3561	8	C	0.248D-20	1875.464	10	6	5	10	6	4	0 0 1	0 0 0	161	0.077	0.082
3705.438	3705.4390	7	C	0.172D-20	602.774	6	3	3	6	2	4	1 0 0	0 0 0	161	0.141	0.142
3705.726	3705.7232	75	H	0.175D-20	2572.140	7	4	4	7	4	3	0 1 1	0 1 0	161	0.064	0.062
3705.750	3705.7501	0	C	0.310D-21	222.052	4	1	3	4	0	4	1 0 0	0 0 0	161	0.055	0.062
3706.417	3706.4161	-11	C	0.441D-21	982.912	8	3	5	8	2	6	1 0 0	0 0 0	161	0.019	0.021
3706.551	3706.5505	-12	C	0.741D-20	1874.974	10	6	4	10	6	5	0 0 1	0 0 0	161	0.235	0.246
3706.618	3706.6193	4	C	0.478D-21	542.906	6	2	4	6	1	5	1 0 0	0 0 0	161	0.039	0.045
3706.841	3706.8420	7	C	0.601D-20	1360.236	9	4	6	9	4	5	0 0 1	0 0 0	161	0.221	0.216
3706.852			D	0.244D-22	5634.121	6	1	5	5	1	4	1 1 1	1 1 0	161		0.001
3707.428	3707.4273	-2	C	0.105D-21	446.511	5	3	2	5	2	3	1 0 0	0 0 0	161	0.010	0.012
3708.258	3708.2584	2	C	0.120D-19	1631.384	9	6	4	9	6	3	0 0 1	0 0 0	161	0.399	0.404
3708.597	3708.5980	4	C	0.399D-20	1631.251	9	6	3	9	6	4	0 0 1	0 0 0	161	0.132	0.134
3708.837	3708.8369			0.131D-21	3864.966	6	3	3	6	3	4	0 2 1	0 2 0	161	0.008	0.006
3709.151	3709.1515			0.899D-21	2399.166	6	4	3	6	4	2	0 1 1	0 1 0	161	0.026	0.031
3709.199	3709.1996	10	C	0.369D-21	79.496	2	2	1	2	1	2	1 0 0	0 0 0	161	0.109	0.109
3709.203			D	0.892D-21	1282.919	9	4	5	9	3	6	1 0 0	0 0 0	161		0.033
3709.403	3709.4023	-4	S	0.119D-19	70.091	1	0	1	2	0	2	0 0 1	0 0 0	161		3.601
3709.777	3709.7781	1	C	0.195D-20	1724.707	10	5	6	10	5	5	0 0 1	0 0 0	161	0.062	0.065
3710.704			D	0.701D-22	3966.559	5	2	3	4	2	2	1 0 1	1 0 0	161		0.003
3710.706	3710.7061	5	C	0.623D-20	1411.647	8	6	3	8	6	2	0 0 1	0 0 0	161	0.218	0.220
3710.781	3710.7818	2	C	0.187D-19	1411.612	8	6	2	8	6	3	0 0 1	0 0 0	161	0.671	0.659
3710.917	3710.9175	-1	C	0.729D-20	842.357	7	3	5	7	3	4	0 0 1	0 0 0	161	0.416	0.403
3710.955	3710.9550			0.268D-20	2398.382	6	4	2	6	4	3	0 1 1	0 1 0	161	0.101	0.092
3711.102			D	0.405D-20	2251.863	5	4	2	5	4	1	0 1 1	0 1 0	161		0.137
3711.103	3711.1026	-4	C	0.843D-21	23.794	2	1	2	1	0	1	1 0 0	0 0 0	161	0.386	0.290
3711.348	3711.3472			0.497D-21	1813.224	11	4	7	11	3	8	1 0 0	0 0 0	161	0.015	0.016
3711.490	3711.4891			0.135D-20	2251.696	5	4	1	5	4	2	0 1 1	0 1 0	161	0.048	0.046
3711.727	3711.7280			0.570D-21	2569.508	7	4	3	7	4	4	0 1 1	0 1 0	161	0.016	0.020
3711.876	3711.8762	-3	C	0.766D-21	79.496	3	0	3	2	1	2	1 0 0	0 0 0	161	0.187	0.226
3712.206				0.265D-19	79.496	1	1	1	2	1	2	0 0 1	0 0 0	161		7.805
3712.385	3712.3792			0.201D-20	2129.619	4	4	1	4	4	0	0 1 1	0 1 0	161	0.064	0.067
3712.407				0.511D-21	3316.145	2	2	0	2	2	1	0 2 1	0 2 0	161		0.020
3712.430	3712.4283	7	C	0.603D-20	2129.600	4	4	0	4	4	1	0 1 1	0 1 0	161	0.204	0.202
3712.710	3712.7099	5	C	0.189D-20	1618.559	0	0	0	1	0	1	0 1 1	0 1 0	161	0.071	0.064
3712.869	3712.8687	-28	C	0.284D-19	1216.194	7	6	2	7	6	1	0 0 1	0 0 0	161	1.289	1.093
3712.883				0.948D-20	1216.189	7	6	1	7	6	2	0 0 1	0 0 0	161		0.365
3712.992	3712.9919	-7	C	0.117D-21	733.683	5	5	1	5	5	0	0 0 1	0 0 0	181	0.006	0.008
3712.999			D	0.389D-22	733.679	5	5	0	5	5	1	0 0 1	0 0 0	181		0.003
3713.404			D	0.408D-22	382.517	5	2	3	4	3	2	1 0 0	0 0 0	161		0.005
3713.413	3713.4121	-5	C	0.544D-21	1282.919	9	6	3	9	3	6	0 2 0	0 0 0	161	0.020	0.020

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$	$v_1v_2v_3$	ISO	I_{obs}	I_{calc}
3713.882	3713.8824	44	H	0.629D-21	3084.835	14	6	8	14	6	9	0 0 1	0 0 0	161	0.021	0.024
3714.794			D	0.141D-19	1045.059	6	6	1	6	6	0	0 0 1	0 0 0	161		0.617
3714.795	3714.7945	-11	S	0.424D-19	1045.058	6	6	0	6	6	1	0 0 1	0 0 0	161	2.634	1.854
3715.196	3715.1948	-7	H	0.103D-20	2764.699	8	4	4	8	4	5	0 1 1	0 1 0	161	0.038	0.037
3715.789	3715.7806			0.747D-22	3244.601	15	5	10	15	4	11	1 0 0	0 0 0	161	0.010	0.003
3716.019	3716.0174	-8	H	0.253D-20	2130.495	5	3	3	5	3	2	0 1 1	0 1 0	161	0.094	0.085
3716.160	3716.1601	-2	C	0.980D-20	1477.297	9	5	5	9	5	4	0 0 1	0 0 0	161	0.342	0.338
3716.313	3716.3132	-4	C	0.817D-21	1201.922	9	3	6	9	2	7	1 0 0	0 0 0	161	0.030	0.032
3716.597	3716.5968	-6	C	0.171D-21	142.278	3	2	2	3	1	3	1 0 0	0 0 0	161	0.036	0.042
3717.762	3717.7616	-44	H	0.480D-21	1693.652	2	1	2	2	1	1	0 1 1	0 1 0	161	0.017	0.016
3717.812	3717.8112	-8	C	0.401D-22	23.755	0	0	0	1	0	1	0 0 1	0 0 0	181	0.008	0.014
3718.881				0.774D-21	1050.158	8	4	4	8	3	5	1 0 0	0 0 0	161		0.034
3718.964	3718.9636	-4	C	0.134D-19	446.511	5	2	4	5	2	3	0 0 1	0 0 0	161	1.471	1.540
3719.466	3719.4676			0.352D-21	1819.337	3	3	0	3	2	1	1 1 0	0 1 0	161	0.014	0.012
3719.762	3719.7628	4	C	0.342D-20	1131.776	8	4	5	8	4	4	0 0 1	0 0 0	161	0.144	0.139
3719.860	3719.8579			0.279D-21	4095.803	7	1	7	6	1	6	1 0 1	1 0 0	161	0.011	0.013
3720.131	3720.1323	6	C	0.526D-20	1255.913	8	5	4	8	5	3	0 0 1	0 0 0	161	0.204	0.197
3720.260	3720.2688			0.943D-22	2105.876	12	4	8	12	3	9	1 0 0	0 0 0	161	0.005	0.003
3720.340	3720.3380	-13	H	0.132D-20	2005.917	4	3	2	4	3	1	0 1 1	0 1 0	161	0.048	0.044
3721.164	3721.1661	18	C	0.894D-22	604.793	5	4	2	5	4	1	0 0 1	0 0 0	181	0.010	0.007
3721.168			D	0.572D-22	751.033	6	4	2	6	4	3	0 0 1	0 0 0	181		0.004
3721.520				0.318D-20	1474.981	9	5	4	9	5	5	0 0 1	0 0 0	161		0.110
3721.853				0.925D-21	704.214	7	2	5	7	1	6	1 0 0	0 0 0	161		0.063
3721.878	3721.8778	0	C	0.157D-19	1255.167	8	5	3	8	5	4	0 0 1	0 0 0	161	0.614	0.589
3722.223	3722.2182	-47	C	0.982D-20	173.365	3	1	3	3	1	2	0 0 1	0 0 0	161		2.232
3722.327			D	0.740D-21	1899.008	11	5	6	11	4	7	1 0 0	0 0 0	161		0.024
3722.328	3722.3268	-4	C	0.616D-20	1907.617	3	3	1	3	3	0	0 1 1	0 1 0	161	0.254	0.204
3722.693	3722.6914	-1	C	0.205D-20	1907.452	3	3	0	3	3	1	0 1 1	0 1 0	161	0.073	0.068
3722.753			D	0.260D-22	4252.449	13	5	8	13	5	9	0 1 1	0 1 0	161		0.001
3722.756	3722.7545	-11	C	0.392D-20	2004.817	4	3	1	4	3	2	0 1 1	0 1 0	161	0.141	0.130
3722.827	3722.8264	-8	C	0.246D-19	1059.835	7	5	3	7	5	2	0 0 1	0 0 0	161	1.109	1.059
3723.273	3723.2736	-1	C	0.819D-20	1059.647	7	5	2	7	5	3	0 0 1	0 0 0	161	0.373	0.353
3723.379	3723.3786	-4	C	0.542D-20	1718.719	10	5	5	10	5	6	0 0 1	0 0 0	161	0.174	0.180
3724.189	3724.1885	-3	C	0.655D-21	325.348	5	1	4	5	0	5	1 0 0	0 0 0	161	0.092	0.100
3724.863				0.807D-21	2126.407	5	3	2	5	3	3	0 1 1	0 1 0	161		0.027
3724.894	3724.8940	-2	C	0.124D-19	888.632	6	5	2	6	5	1	0 0 1	0 0 0	161	0.644	0.642
3724.914				0.271D-20	1819.337	3	2	2	3	2	1	0 1 1	0 1 0	161		0.090
3724.974	3724.9753	5	S	0.373D-19	888.599	6	5	1	6	5	2	0 0 1	0 0 0	161	2.019	1.931
3725.465	3725.4656			0.240D-21	4049.536	6	1	5	5	1	4	1 0 1	1 0 0	161	0.010	0.011
3725.472			D	0.870D-22	1731.898	4	1	4	3	0	3	1 1 0	0 1 0	161		0.003
3725.686	3725.6863	1	C	0.366D-20	661.549	6	3	4	6	3	3	0 0 1	0 0 0	161	0.270	0.270
3726.449	3726.4499	6	C	0.322D-21	70.091	3	1	3	2	0	2	1 0 0	0 0 0	161	0.076	0.097
3726.477	3726.4780	6	C	0.529D-21	224.838	4	2	3	4	1	4	1 0 0	0 0 0	161	0.084	0.105
3726.617				0.556D-19	742.076	5	5	1	5	5	0	0 0 1	0 0 0	161		3.561
3726.625				0.185D-19	742.073	5	5	0	5	5	1	0 0 1	0 0 0	161		1.185
3727.738	3727.7375	-7	C	0.171D-19	931.237	7	4	4	7	4	3	0 0 1	0 0 0	161	0.880	0.840
3728.747	3728.7462	-63	H	0.929D-21	1985.788	11	5	6	11	5	7	0 0 1	0 0 0	161	0.029	0.031
3728.861	3728.8651	16	C	0.166D-20	1743.492	2	2	1	2	2	0	0 1 1	0 1 0	161	0.063	0.055
3728.909	3728.9095	0	C	0.221D-22	206.301	3	3	1	3	2	2	1 0 0	0 0 0	161	0.006	0.005
3729.256	3729.2578	14	C	0.269D-20	1640.508	1	1	1	1	1	0	0 1 1	0 1 0	161	0.107	0.090
3730.089	3730.0901	0	C	0.430D-20	842.357	7	4	3	7	3	4	1 0 0	0 0 0	161	0.243	0.236
3730.477	3730.4767	-1	C	0.243D-21	300.362	4	3	2	4	2	3	1 0 0	0 0 0	161	0.038	0.040
3730.558				0.135D-21	282.307	3	3	1	3	3	0	0 0 1	0 0 0	181		0.023
3730.582	3730.5786	-114	H	0.135D-20	2271.712	6	3	3	6	3	4	0 1 1	0 1 0	161	0.049	0.046
3730.681	3730.6799	-1	C	0.762D-22	379.292	4	3	1	4	3	2	0 0 1	0 0 0	181	0.007	0.010
3731.351	3731.3497	-4	C	0.496D-20	1742.307	2	2	0	2	2	1	0 1 1	0 1 0	161	0.189	0.164
3732.135				0.189D-19	23.794	0	0	0	1	0	1	0 0 1	0 0 0	161		6.472
3732.284	3732.2840	0	C	0.910D-20	757.780	6	4	3	6	4	2	0 0 1	0 0 0	161	0.552	0.567
3732.739	3732.7380	-10	C	0.310D-21	142.278	4	0	4	3	1	3	1 0 0	0 0 0	161	0.066	0.076
3734.078	3734.0813	31	C	0.138D-21	416.209	5	3	3	5	2	4	1 0 0	0 0 0	161	0.013	0.017
3734.273	3734.2732	-2	C	0.661D-20	315.779	4	2	3	4	2	2	0 0 1	0 0 0	161	0.945	1.034
3734.645	3734.6454	-2	C	0.270D-19	756.725	6	4	2	6	4	3	0 0 1	0 0 0	161	1.724	1.685
3734.931	3734.9324	11	S	0.423D-19	610.341	5	4	2	5	4	1	0 0 1	0 0 0	161		3.422
3735.407	3735.4077	5	C	0.541D-20	927.744	7	4	3	7	4	4	0 0 1	0 0 0	161	0.276	0.266

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$	$v_1v_2v_3$	ISO	I_{obs}	I_{calc}
3735.446	3735.4453	−1	C	0.141D-19	610.114	5	4	1	5	4	2	0 0 1	0 0 0	161	1.161	1.141
3735.493	3735.4934	6	C	0.184D-19	508.812	5	3	3	5	3	2	0 0 1	0 0 0	161	1.796	1.833
3735.916	3735.9143	43	B	0.985D-21	1813.788	3	2	1	3	2	2	0 1 1	0 1 0	161	0.033	0.032
3736.682				0.215D-19	488.134	4	4	1	4	4	0	0 0 1	0 0 0	161		2.240
3736.743				0.644D-19	488.108	4	4	0	4	4	1	0 0 1	0 0 0	161		6.709
3738.025	3738.0249	8	C	0.106D-21	133.474	2	2	0	2	2	1	0 0 1	0 0 0	181	0.019	0.027
3738.078	3738.0756			0.121D-20	2275.373	12	5	7	12	5	8	0 0 1	0 0 0	161	0.037	0.041
3738.401	3738.4014	4	C	0.480D-20	95.176	2	1	2	2	1	1	0 0 1	0 0 0	161	1.126	1.344
3738.507	3738.5046	−17	C	0.156D-21	326.625	5	2	4	5	1	5	1 0 0	0 0 0	161	0.017	0.024
	3738.8661														0.008	
3739.003	3738.9993			0.317D-22	4585.352	14	5	9	14	5	10	0 1 1	0 1 0	161	0.006	0.002
3739.095	3739.0950	2	C	0.866D-20	1122.709	8	4	4	8	4	5	0 0 1	0 0 0	161	0.369	0.352
3739.884	3739.8842			0.165D-21	2439.956	7	3	4	7	3	5	0 1 1	0 1 0	161	0.007	0.006
3739.998	3739.9988	2	C	0.480D-21	552.912	6	3	4	6	2	5	1 0 0	0 0 0	161	0.039	0.044
3740.393	3740.3933	−1	C	0.237D-20	661.549	6	4	2	6	3	3	1 0 0	0 0 0	161	0.205	0.174
3740.396			D	0.883D-21	1634.970	1	1	0	1	1	1	0 1 1	0 1 0	161		0.029
3740.775	3740.7759	13	C	0.729D-22	325.348	4	2	2	5	0	5	0 0 1	0 0 0	161	0.010	0.011
3740.814	3740.8132	−7	C	0.101D-20	136.761	4	1	4	3	0	3	1 0 0	0 0 0	161	0.224	0.252
3741.306	3741.3063	−6	C	0.111D-19	383.842	4	3	2	4	3	1	0 0 1	0 0 0	161	1.361	1.468
3742.386				0.133D-21	285.419	4	1	3	3	3	0	0 0 1	0 0 0	161		0.022
3743.565	3743.5639	−15	C	0.153D-21	446.697	6	1	5	6	0	6	1 0 0	0 0 0	161	0.018	0.017
3743.947				0.308D-19	382.517	4	3	1	4	3	2	0 0 1	0 0 0	161		4.083
3744.184	3744.1849	−1	C	0.366D-20	503.968	5	3	2	5	3	3	0 0 1	0 0 0	161	0.347	0.368
3744.510				0.308D-19	212.156	3	2	2	3	2	1	0 0 1	0 0 0	161		6.274
3744.651				0.639D-19	285.419	3	3	1	3	3	0	0 0 1	0 0 0	161		10.764
3745.011				0.185D-20	1908.017	4	2	2	4	2	3	0 1 1	0 1 0	161		0.061
3745.087	3745.0848	−27	S	0.213D-19	285.219	3	3	0	3	3	1	0 0 1	0 0 0	161		3.589
3745.486	3745.4857	0	C	0.156D-20	648.979	6	4	3	6	3	4	1 0 0	0 0 0	161	0.107	0.117
3745.553	3745.5526	−9	C	0.187D-22	36.748	1	1	0	1	1	1	0 0 1	0 0 0	181	0.007	0.006
3745.556			D	0.174D-22	503.968	6	2	4	5	3	3	1 0 0	0 0 0	161		0.002
3746.132	3746.1318	−2	C	0.114D-20	1340.886	9	4	5	9	4	6	0 0 1	0 0 0	161	0.042	0.041
3746.323	3746.3230	−3	C	0.718D-21	42.372	2	2	1	1	1	0	1 0 0	0 0 0	161	0.196	0.232
3747.429	3747.4293	−3	C	0.955D-20	508.812	5	4	1	5	3	2	1 0 0	0 0 0	161	0.943	0.948
3747.494	3747.4931	−4	C	0.174D-20	1360.236	9	5	4	9	4	5	1 0 0	0 0 0	161	0.063	0.062
3748.210	3748.2126	21	C	0.148D-21	709.609	7	3	5	7	2	6	1 0 0	0 0 0	161	0.013	0.010
3748.216			D	0.236D-22	4695.836	8	5	4	7	5	3	1 0 1	1 0 0	161		0.001
3748.393	3748.3912			0.266D-21	1690.665	11	3	8	11	2	9	1 0 0	0 0 0	161	0.010	0.009
3748.967	3748.9668	3	C	0.213D-21	446.511	6	0	6	5	2	3	0 0 1	0 0 0	161	0.020	0.024
3749.174				0.280D-21	300.362	5	1	4	4	2	3	1 0 0	0 0 0	161		0.045
3749.331				0.270D-19	42.372	1	1	1	1	1	0	0 0 1	0 0 0	161		8.733
3749.574				0.169D-19	136.164	2	2	1	2	2	0	0 0 1	0 0 0	161		4.215
3750.353	3750.3536	10	C	0.141D-21	136.761	2	2	0	3	0	3	0 0 1	0 0 0	161	0.031	0.035
3750.948			D	0.224D-21	4387.062	9	1	9	8	1	8	1 0 1	1 0 0	161		0.011
3750.956	3750.9564	0	C	0.297D-20	383.842	4	4	0	4	3	1	1 0 0	0 0 0	161	0.380	0.392
3751.112	3751.1122	28	C	0.137D-20	1677.063	2	1	1	2	1	2	0 1 1	0 1 0	161	0.050	0.045
3751.470	3751.4705	4	C	0.922D-21	224.838	5	0	5	4	1	4	1 0 0	0 0 0	161	0.167	0.181
3752.139				0.373D-21	447.252	6	2	5	6	1	6	1 0 0	0 0 0	161		0.042
3752.213				0.502D-19	134.902	2	2	0	2	2	1	0 0 1	0 0 0	161		12.556
3752.496			D	0.502D-22	4308.211	7	3	4	6	3	3	1 0 1	1 0 0	161		0.002
3752.501	3752.5011	0	C	0.111D-19	382.517	4	4	1	4	3	2	1 0 0	0 0 0	161	1.377	1.468
3752.833	3752.8325	0	C	0.214D-21	37.137	2	2	0	1	1	1	1 0 0	0 0 0	161	0.057	0.070
3753.652	3753.6537	4	C	0.476D-21	1581.336	10	5	6	10	4	7	1 0 0	0 0 0	161	0.015	0.016
3753.655			D	0.466D-22	4030.839	5	4	1	4	3	2	2 0 0	1 0 0	161		0.002
3753.819	3753.8194	5	C	0.538D-20	503.968	5	4	2	5	3	3	1 0 0	0 0 0	161	0.520	0.539
3754.666	3754.6655	−1	C	0.116D-21	136.164	3	0	3	2	2	0	0 0 1	0 0 0	161	0.022	0.029
3755.404	3755.4041	3	C	0.319D-21	222.052	5	1	5	4	0	4	1 0 0	0 0 0	161	0.056	0.063
3755.671	3755.6724	17	C	0.289D-22	78.988	2	1	1	2	1	2	0 0 1	0 0 0	181	0.008	0.008
3756.617	3756.6167	−8	C	0.994D-20	206.301	3	2	1	3	2	2	0 0 1	0 0 0	161		2.050
3757.629	3757.6283	−4	C	0.766D-21	1131.776	8	5	3	8	4	4	1 0 0	0 0 0	161	0.029	0.031
3758.068	3758.0686	7	C	0.180D-20	648.979	6	6	1	6	3	4	0 2 0	0 0 0	161	0.101	0.134
3758.394			D	0.471D-22	4457.820	8	3	6	7	3	5	1 0 1	1 0 0	161		0.002
3758.399	3758.3984	0	C	0.354D-21	885.600	8	3	6	8	2	7	1 0 0	0 0 0	161	0.018	0.018
3758.620	3758.6200			0.351D-21	1079.080	9	2	7	9	1	8	1 0 0	0 0 0	161	0.013	0.015
3759.050	3759.0507	1	C	0.136D-19	648.979	6	3	3	6	3	4	0 0 1	0 0 0	161	1.029	1.016

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$	$v_1v_2v_3$	ISO	I_{obs}	I_{calc}
3759.255	3759.2520			0.388D-21	2024.150	5	2	3	5	2	4	0 1 1	0 1 0	161	0.013	0.013
3759.845	3759.8449	-1	S	0.885D-20	37.137	1	1	0	1	1	1	0 0 1	0 0 0	161		2.897
3760.126	3760.1238	-13	C	0.612D-21	1594.748	1	0	1	0	0	0	0 1 1	0 1 0	161	0.020	0.020
3760.364	3760.3640	4	C	0.130D-21	315.779	5	0	5	4	2	2	0 0 1	0 0 0	161	0.017	0.020
3761.674	3761.6760			0.181D-21	1446.129	10	4	7	10	3	8	1 0 0	0 0 0	161	0.005	0.006
3762.172	3762.1707	-6	C	0.312D-21	586.243	7	1	6	7	0	7	1 0 0	0 0 0	161	0.024	0.026
3762.475	3762.4758	8	C	0.534D-21	212.156	4	0	4	3	2	1	0 0 1	0 0 0	161	0.092	0.108
3763.065	3763.0656			0.725D-21	1998.996	11	6	5	11	5	6	1 0 0	0 0 0	161	0.021	0.024
3763.700	3763.7003	4	C	0.230D-21	95.176	3	2	2	2	1	1	1 0 0	0 0 0	161	0.055	0.064
3764.038			D	0.318D-21	3849.386	3	1	2	2	1	1	0 0 2	0 0 1	161		0.014
3764.052	3764.0474	3	H	0.599D-21	2630.194	8	3	5	8	3	6	0 1 1	0 1 0	161	0.025	0.021
3764.599	3764.5996	5	C	0.262D-20	931.237	7	5	2	7	4	3	1 0 0	0 0 0	161	0.131	0.127
3765.760	3765.7602	-3	S	0.182D-19	300.362	4	2	2	4	2	3	0 0 1	0 0 0	161		2.935
3766.057	3766.0574	11	C	0.148D-21	383.842	5	1	4	4	3	1	0 0 1	0 0 0	161	0.019	0.019
3766.600	3766.5996			0.399D-21	3895.589	4	1	4	3	1	3	0 0 2	0 0 1	161	0.014	0.017
3766.749	3766.7497	6	C	0.315D-20	1122.709	8	5	4	8	4	5	1 0 0	0 0 0	161	0.135	0.127
3766.753			D	0.920D-22	586.479	7	2	6	7	1	7	1 0 0	0 0 0	161		0.008
3766.829	3766.8269			0.290D-21	1739.485	3	1	2	3	1	3	0 1 1	0 1 0	161	0.011	0.010
3766.834			D	0.584D-22	1050.158	9	1	8	8	3	5	0 0 1	0 0 0	161		0.003
3767.464	3767.4651	7	C	0.117D-20	1340.886	9	5	5	9	4	6	1 0 0	0 0 0	161	0.045	0.042
3768.092	3768.0936	12	C	0.984D-21	927.744	7	5	3	7	4	4	1 0 0	0 0 0	161	0.052	0.048
3768.690	3768.6908	9	C	0.265D-21	326.625	6	0	6	5	1	5	1 0 0	0 0 0	161	0.041	0.040
3768.940	3768.9416	13	C	0.834D-21	757.780	6	5	1	6	4	2	1 0 0	0 0 0	161	0.054	0.051
3769.890	3769.8903	5	S	0.137D-19	79.496	2	1	1	2	1	2	0 0 1	0 0 0	161		3.972
3769.985			D	0.465D-22	1695.071	11	4	8	11	3	9	1 0 0	0 0 0	161		0.002
3769.989	3769.9916	25	A	0.341D-20	816.694	7	3	4	7	3	5	0 0 1	0 0 0	161	0.323	0.192
3769.995			D	0.259D-20	756.725	6	5	2	6	4	3	1 0 0	0 0 0	161		0.160
3770.456	3770.4556	-2	C	0.810D-21	325.348	6	1	6	5	0	5	1 0 0	0 0 0	161	0.117	0.123
3770.460			D	0.614D-23	141.567	3	1	2	3	1	3	0 0 1	0 0 0	181		0.002
3770.829	3770.8240			0.259D-21	3201.914	2	1	1	1	1	0	0 2 1	0 2 0	161	0.011	0.010
3771.563	3771.5632	-1	C	0.172D-20	610.341	5	5	0	5	4	1	1 0 0	0 0 0	161	0.139	0.138
3771.790	3771.7895	-1	C	0.578D-21	610.114	5	5	1	5	4	2	1 0 0	0 0 0	161	0.048	0.046
3772.509	3772.5094			0.329D-21	1724.707	10	6	4	10	5	5	1 0 0	0 0 0	161	0.011	0.011
3773.927	3773.9271	2	C	0.345D-20	1581.336	10	4	6	10	4	7	0 0 1	0 0 0	161	0.114	0.115
3774.053	3774.0540	9	C	0.990D-22	416.209	6	1	5	5	2	4	1 0 0	0 0 0	161	0.012	0.012
3774.477	3774.4784	11	H	0.792D-21	2275.373	12	6	7	12	5	8	1 0 0	0 0 0	161	0.024	0.026
3776.445	3776.4442	-9	C	0.839D-21	1634.970	2	1	2	1	1	1	0 1 1	0 1 0	161	0.030	0.028
3777.950	3777.9501	5	C	0.631D-21	173.365	4	2	3	3	1	2	1 0 0	0 0 0	161	0.125	0.141
3778.053	3778.0508	-18	H	0.745D-21	2161.286	6	2	4	6	2	5	0 1 1	0 1 0	161	0.026	0.025
3778.261	3778.2634			0.109D-20	1718.719	10	6	5	10	5	6	1 0 0	0 0 0	161	0.034	0.036
3778.810	3778.8069			0.430D-21	3237.917	3	1	3	2	1	2	0 2 1	0 2 0	161	0.019	0.016
3779.151	3779.1515	10	C	0.122D-20	1477.297	9	6	3	9	5	4	1 0 0	0 0 0	161	0.040	0.041
3779.493	3779.4935	-3	C	0.610D-20	0.0	1	0	1	0	0	0	0 0 1	0 0 0	161		2.206
3779.762	3779.7625	-1	C	0.381D-20	416.209	5	2	3	5	2	4	0 0 1	0 0 0	161	0.427	0.462
3780.212	3780.2058			0.153D-21	4750.387	11	1	11	10	1	10	1 0 1	1 0 0	161	0.009	0.008
3781.401	3781.3992			0.422D-21	1474.981	9	6	4	9	5	5	1 0 0	0 0 0	161	0.014	0.014
3781.802	3781.8006	-8	C	0.193D-21	744.163	8	2	7	8	1	8	1 0 0	0 0 0	161	0.009	0.012
3781.945	3781.9457	4	C	0.689D-21	508.812	6	1	5	5	3	2	0 0 1	0 0 0	161	0.078	0.068
3781.946			D	0.361D-21	842.357	8	1	7	7	3	4	0 0 1	0 0 0	161		0.020
3782.180	3782.1802	9	C	0.339D-20	1618.559	2	0	2	1	0	1	0 1 1	0 1 0	161	0.129	0.112
3783.730	3783.7317	12	C	0.451D-21	1255.913	8	6	2	8	5	3	1 0 0	0 0 0	161	0.017	0.017
3784.461	3784.4609	2	C	0.137D-20	1255.167	8	6	3	8	5	4	1 0 0	0 0 0	161	0.051	0.051
3784.584	3784.5835	-6	C	0.292D-20	142.278	3	1	2	3	1	3	0 0 1	0 0 0	161	0.595	0.710
3784.933	3784.9318	-6	C	0.616D-21	447.252	7	0	7	6	1	6	1 0 0	0 0 0	161	0.070	0.069
3785.268	3785.2677	1	C	0.643D-21	79.496	3	2	1	2	1	2	1 0 0	0 0 0	161	0.152	0.186
3785.512	3785.5098			0.466D-21	3974.632	5	0	5	4	0	4	0 0 2	0 0 1	161	0.014	0.020
3785.687	3785.6877	2	C	0.207D-21	446.697	7	1	7	6	0	6	1 0 0	0 0 0	161	0.025	0.023
3786.220			D	0.127D-21	3926.862	4	1	3	3	1	2	0 0 2	0 0 1	161		0.005
3786.225	3786.2245	-1	C	0.618D-20	1006.116	8	3	5	8	3	6	0 0 1	0 0 0	161	0.292	0.275
3786.688			D	0.448D-22	5608.285	5	1	4	4	1	3	0 1 2	0 1 1	161		0.003
3786.688	3786.6886	24	H	0.610D-21	1821.599	4	1	3	4	1	4	0 1 1	0 1 0	161	0.026	0.020
3786.930				0.707D-22	23.755	2	0	2	1	0	1	0 0 1	0 0 0	181		0.024
3786.940	3786.9406	6	B	0.129D-20	1059.835	7	6	1	7	5	2	1 0 0	0 0 0	161	0.062	0.055
3787.127	3787.1276	11	C	0.432D-21	1059.647	7	6	2	7	5	3	1 0 0	0 0 0	161	0.020	0.018

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$	$v_1v_2v_3$	ISO	I_{obs}	I_{calc}
3787.348	3787.3490	73	H	0.519D-21	2918.244	14	5	9	14	5	10	0 0 1	0 0 0	161	0.018	0.019
3787.422	3787.4215	2	C	0.202D-21	661.549	7	1	6	6	3	3	0 0 1	0 0 0	161	0.015	0.015
3787.666	3787.6631	-31	C	0.246D-20	1640.508	2	1	1	1	1	0	0 1 1	0 1 0	161	0.091	0.081
3788.808	3788.8098	-2	B	0.739D-21	1843.030	11	4	7	11	4	8	0 0 1	0 0 0	161	0.024	0.024
3789.244	3789.2436	-4	C	0.301D-21	888.632	6	6	0	6	5	1	1 0 0	0 0 0	161	0.015	0.015
3789.277	3789.2770	-6	C	0.903D-21	888.599	6	6	1	6	5	2	1 0 0	0 0 0	161	0.050	0.046
3789.635	3789.6343	-5	C	0.181D-21	275.497	5	2	4	4	1	3	1 0 0	0 0 0	161	0.029	0.031
3790.431	3790.4316	-2	H	0.520D-21	2144.047	11	7	4	11	6	5	1 0 0	0 0 0	161	0.016	0.017
3792.636	3792.6357	-3	C	0.517D-22	42.023	2	1	1	1	1	0	0 0 1	0 0 0	181	0.013	0.017
3793.825	3793.8259	9	C	0.437D-21	931.237	8	2	6	7	4	3	0 0 1	0 0 0	161	0.020	0.021
3795.503	3795.5038	7	C	0.260D-21	552.912	7	1	6	6	2	5	1 0 0	0 0 0	161	0.022	0.023
3795.646	3795.6432	-5	H	0.657D-21	1874.974	10	7	4	10	6	5	1 0 0	0 0 0	161	0.019	0.021
3796.083	3796.0829	-2	C	0.405D-20	1677.063	3	1	3	2	1	2	0 1 1	0 1 0	161	0.151	0.132
3796.440	3796.4393	-7	S	0.843D-20	37.137	2	1	2	1	1	1	0 0 1	0 0 0	161		2.732
3796.495				0.702D-21	1742.307	3	3	0	2	2	1	1 1 0	0 1 0	161		0.023
3797.788	3797.7878	-7	C	0.742D-20	552.912	6	2	4	6	2	5	0 0 1	0 0 0	161	0.632	0.662
3798.803	3798.8007			0.747D-21	1631.384	9	7	2	9	6	3	1 0 0	0 0 0	161	0.024	0.025
3798.934	3798.9333			0.249D-21	1631.251	9	7	3	9	6	4	1 0 0	0 0 0	161	0.007	0.008
3799.047	3799.0471	-4	C	0.353D-21	136.164	3	3	1	2	2	0	1 0 0	0 0 0	161	0.080	0.087
3799.934	3799.9333			0.440D-21	399.457	6	2	5	5	1	4	1 0 0	0 0 0	161	0.052	0.055
3800.443	3800.4418			0.134D-20	134.902	3	3	0	2	2	1	1 0 0	0 0 0	161	0.281	0.331
3800.820	3800.8189			0.432D-21	586.243	8	1	8	7	0	7	1 0 0	0 0 0	161	0.039	0.036
3800.879	3800.8771			0.876D-22	586.479	8	0	8	7	1	7	1 0 0	0 0 0	161	0.008	0.007
3800.958	3800.9598			0.474D-21	4076.896	6	1	6	5	1	5	0 0 2	0 0 1	161	0.016	0.021
3801.417			D	0.112D-21	4837.699	10	2	8	9	2	7	1 0 1	1 0 0	161		0.006
3801.420	3801.4237	41	S	0.336D-19	23.794	2	0	2	1	0	1	0 0 1	0 0 0	161		11.292
3801.576				0.856D-22	78.988	3	1	3	2	1	2	0 0 1	0 0 0	181		0.025
3801.656			D	0.738D-21	1411.612	8	7	2	8	6	3	1 0 0	0 0 0	161		0.025
3801.666	3801.6644			0.151D-20	1664.971	3	0	3	2	0	2	0 1 1	0 1 0	161	0.065	0.049
3801.944	3801.9427			0.164D-20	1742.307	3	2	2	2	2	1	0 1 1	0 1 0	161	0.061	0.053
3802.680	3802.6757			0.559D-21	3289.242	4	0	4	3	0	3	0 2 1	0 2 0	161	0.025	0.021
3802.966	3802.9659	-3	C	0.621D-20	224.838	4	1	3	4	1	4	0 0 1	0 0 0	161	1.005	1.204
3803.833	3803.8327	-2	C	0.532D-21	1216.194	7	7	0	7	6	1	1 0 0	0 0 0	161	0.028	0.020
3803.838			D	0.177D-21	1216.189	7	7	1	7	6	2	1 0 0	0 0 0	161		0.007
3804.390	3804.3880			0.144D-21	4126.465	5	3	2	4	3	1	0 0 2	0 0 1	161	0.008	0.006
3805.592	3805.5900			0.403D-21	4027.804	5	1	4	4	1	3	0 0 2	0 0 1	161	0.014	0.018
3806.050	3806.0500	1	C	0.124D-20	1216.232	9	3	6	9	3	7	0 0 1	0 0 0	161	0.047	0.047
3806.113	3806.1118	-11	C	0.313D-22	69.927	3	0	3	2	0	2	0 0 1	0 0 0	181	0.005	0.009
3806.212	3806.2142	10	C	0.692D-21	1743.492	3	2	1	2	2	0	0 1 1	0 1 0	161	0.026	0.022
3807.014	3807.0160	11	S	0.246D-19	42.372	2	1	1	1	1	0	0 0 1	0 0 0	161		7.834
3807.443	3807.4412	-15	C	0.466D-22	133.474	3	2	2	2	2	1	0 0 1	0 0 0	181	0.008	0.012
3807.603	3807.5982			0.857D-22	5153.191	12	1	11	11	1	10	1 0 1	1 0 0	161	0.007	0.005
3808.019	3808.0191	13	C	0.147D-21	1131.776	9	2	7	8	4	4	0 0 1	0 0 0	161	0.005	0.006
3808.082	3808.0785			0.336D-21	2321.905	11	8	3	11	7	4	1 0 0	0 0 0	161	0.011	0.011
3808.594	3808.5944	-71	H	0.123D-20	2124.953	12	4	8	12	4	9	0 0 1	0 0 0	161	0.036	0.040
3810.326	3810.3248	-7	C	0.110D-21	542.906	7	2	6	6	1	5	1 0 0	0 0 0	161	0.008	0.010
3810.815			D	0.710D-22	3266.762	12	11	2	12	10	3	1 0 0	0 0 0	161		0.003
3810.825	3810.8245	10	C	0.302D-21	1360.236	10	2	8	9	4	5	0 0 1	0 0 0	161	0.010	0.011
3811.256			D	0.275D-22	1114.534	10	1	9	10	0	10	1 0 0	0 0 0	161		0.001
3811.258	3811.2589			0.401D-21	2054.348	10	8	3	10	7	4	1 0 0	0 0 0	161	0.011	0.013
3811.990	3811.9883			0.345D-21	4066.123	5	2	3	4	2	2	0 0 2	0 0 1	161	0.014	0.015
3812.353	3812.3485			0.158D-21	1731.898	3	2	2	3	0	3	0 1 1	0 1 0	161	0.006	0.005
3812.662	3812.6627	16	C	0.130D-20	1693.652	3	1	2	2	1	1	0 1 1	0 1 0	161	0.055	0.042
3812.723	3812.7237			0.309D-21	4165.473	6	2	5	5	2	4	0 0 2	0 0 1	161	0.011	0.014
3813.494	3813.4924	-1	C	0.142D-20	1739.485	4	1	4	3	1	3	0 1 1	0 1 0	161	0.050	0.046
3813.801	3813.7995			0.412D-21	1810.589	9	8	1	9	7	2	1 0 0	0 0 0	161	0.017	0.013
3813.806			D	0.137D-21	1810.584	9	8	2	9	7	3	1 0 0	0 0 0	161		0.004
3814.437	3814.4368			0.593D-21	3381.704	5	1	5	4	1	4	0 2 1	0 2 0	161	0.027	0.023
3815.545	3815.5456	9	C	0.269D-21	744.163	9	0	9	8	1	8	1 0 0	0 0 0	161	0.020	0.017
3815.647	3815.6469	-3	C	0.304D-21	70.091	2	2	1	2	0	2	0 0 1	0 0 0	161	0.066	0.089
3815.680			D	0.326D-22	3512.401	12	12	1	12	11	2	1 0 0	0 0 0	161		0.001
3815.689	3815.6882	0	C	0.899D-22	744.064	9	1	9	8	0	8	1 0 0	0 0 0	161	0.005	0.006
3816.093	3816.0997	78	S	0.409D-19	79.496	3	1	3	2	1	2	0 0 1	0 0 0	161		11.712
3816.736				0.457D-21	4195.477	7	0	7	6	0	6	0 0 2	0 0 1	161		0.020

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$	$v_1v_2v_3$	ISO	I_{obs}	I_{calc}
3818.333			D	0.152D-21	4195.816	7	1	7	6	1	6	0 0 2	0 0 1	161		0.007
3818.341	3818.3411	-3	C	0.167D-20	709.609	7	2	5	7	2	6	0 0 1	0 0 0	161	0.121	0.110
3818.349			D	0.202D-21	3375.298	5	0	5	4	0	4	0 2 1	0 2 0	161		0.008
3818.683	3818.6831	2	C	0.102D-20	212.156	4	3	2	3	2	1	1 0 0	0 0 0	161	0.176	0.204
3818.775	3818.7744	1	C	0.531D-20	1731.898	4	0	4	3	0	3	0 1 1	0 1 0	161	0.194	0.172
3819.603	3819.6031			0.713D-21	1813.788	4	2	3	3	2	2	0 1 1	0 1 0	161	0.022	0.023
3819.854	3819.8535			0.491D-21	3334.626	4	1	3	3	1	2	0 2 1	0 2 0	161	0.021	0.019
3819.905	3819.9049	2	C	0.234D-20	136.761	3	2	2	3	0	3	0 0 1	0 0 0	161	0.462	0.572
3819.956	3819.9533			0.183D-20	1907.617	4	3	1	3	3	0	0 1 1	0 1 0	161	0.064	0.059
3820.739	3820.7395	3	S	0.150D-19	70.091	3	0	3	2	0	2	0 0 1	0 0 0	161		4.404
3821.764	3821.7661	13	S	0.225D-19	134.902	3	2	2	2	2	1	0 0 1	0 0 0	161		5.523
3822.505	3822.5062			0.222D-21	4244.305	6	3	4	5	3	3	0 0 2	0 0 1	161	0.009	0.010
3823.128	3823.1267	0	C	0.110D-21	136.336	4	0	4	3	0	3	0 0 1	0 0 0	181	0.020	0.027
3823.274	3823.2740	-4	C	0.157D-20	326.625	5	1	4	5	1	5	0 0 1	0 0 0	161	0.212	0.233
3823.551	3823.5518			0.333D-21	2495.168	8	2	6	8	2	7	0 1 1	0 1 0	161	0.014	0.011
3824.276			D	0.562D-22	3598.727	5	3	2	4	3	1	0 2 1	0 2 0	161		0.002
3824.281	3824.2809	-2	C	0.851D-21	142.278	4	2	2	3	1	3	1 0 0	0 0 0	161	0.173	0.205
3824.427	3824.4240			0.367D-21	3482.064	5	2	4	4	2	3	0 2 1	0 2 0	161	0.021	0.014
3825.552	3825.5522	-5	C	0.814D-21	206.301	4	3	1	3	2	2	1 0 0	0 0 0	161	0.145	0.165
3825.944	3825.9432			0.501D-21	1813.788	4	3	1	3	2	2	1 1 0	0 1 0	161	0.020	0.016
3826.754	3826.7538	-8	C	0.753D-20	136.164	3	2	1	2	2	0	0 0 1	0 0 0	161	1.497	1.840
3827.504	3827.5043	1	C	0.228D-20	1446.129	10	3	7	10	3	8	0 0 1	0 0 0	161	0.078	0.077
3827.505			D	0.342D-22	3478.987	5	2	4	5	0	5	0 2 1	0 2 0	161		0.001
3828.000	3827.9997	-3	C	0.111D-20	222.052	4	2	3	4	0	4	0 0 1	0 0 0	161	0.184	0.215
3828.590	3828.5906	-1	C	0.376D-21	325.348	5	3	2	5	0	5	1 0 0	0 0 0	161	0.051	0.056
3828.896	3828.8945			0.259D-21	1920.769	5	2	4	5	0	5	0 1 1	0 1 0	161	0.010	0.008
3830.057	3830.0580	12	C	0.202D-22	136.539	4	0	4	3	0	3	0 0 1	0 0 0	171	0.006	0.005
3830.219	3830.2179	-7	C	0.147D-21	920.169	10	1	10	9	0	9	1 0 0	0 0 0	161	0.006	0.007
3830.367	3830.3667	4	C	0.121D-21	885.600	9	1	8	8	2	7	1 0 0	0 0 0	161	0.006	0.006
3831.687	3831.6855	-14	S	0.130D-19	95.176	3	1	2	2	1	1	0 0 1	0 0 0	161		3.549
3831.967	3831.9671	4	C	0.567D-20	1821.599	5	1	5	4	1	4	0 1 1	0 1 0	161	0.203	0.182
3833.365	3833.3648	32	H	0.129D-20	2129.600	5	4	2	4	4	1	0 1 1	0 1 0	161	0.040	0.042
3833.509	3833.5055			0.614D-21	3478.987	6	0	6	5	0	5	0 2 1	0 2 0	161	0.029	0.024
3833.567	3833.5656			0.429D-21	2129.619	5	4	1	4	4	0	0 1 1	0 1 0	161	0.017	0.014
3833.691	3833.6907	-6	C	0.339D-20	1819.337	4	2	2	3	2	1	0 1 1	0 1 0	161	0.122	0.109
3834.508	3834.5085	7	C	0.258D-21	315.779	5	3	3	4	2	2	1 0 0	0 0 0	161	0.033	0.039
3834.692	3834.6887	-18	C	0.191D-20	1817.451	5	0	5	4	0	4	0 1 1	0 1 0	161	0.066	0.061
3834.983	3834.9833	3	S	0.163D-19	142.278	4	1	4	3	1	3	0 0 1	0 0 0	161		3.908
3835.874	3835.8708	-14	C	0.470D-20	1772.413	4	1	3	3	1	2	0 1 1	0 1 0	161	0.168	0.151
3837.453	3837.4531	13	C	0.118D-21	223.828	5	1	5	4	1	4	0 0 1	0 0 0	181	0.020	0.023
3837.458			D	0.465D-22	5579.492	13	3	11	12	3	10	1 0 1	1 0 0	161		0.003
3837.870				0.527D-19	136.761	4	0	4	3	0	3	0 0 1	0 0 0	161		12.816
3839.285	3839.2865	19	C	0.396D-22	221.233	5	0	5	4	0	4	0 0 1	0 0 0	181	0.008	0.008
3839.462	3839.4623	0	C	0.349D-20	885.600	8	2	6	8	2	7	0 0 1	0 0 0	161	0.182	0.176
3839.743	3839.7438	14	C	0.739D-22	210.799	4	2	2	3	2	1	0 0 1	0 0 0	181	0.012	0.015
3839.859				0.971D-22	172.882	4	1	3	3	1	2	0 0 1	0 0 0	181		0.021
3839.930	3839.9303	2	C	0.589D-20	285.219	4	3	2	3	3	1	0 0 1	0 0 0	161	0.854	0.968
3840.127	3840.1269	8	C	0.321D-20	325.348	5	2	4	5	0	5	0 0 1	0 0 0	161	0.430	0.477
3841.045	3841.0453	1	S	0.169D-19	285.419	4	3	1	3	3	0	0 0 1	0 0 0	161		2.774
3841.648	3841.6475	13	C	0.381D-20	1908.017	5	2	4	4	2	3	0 1 1	0 1 0	161	0.128	0.122
3841.697	3841.6957	-2	C	0.277D-20	2004.817	5	3	3	4	3	2	0 1 1	0 1 0	161	0.091	0.089
3843.505	3843.5049	-4	C	0.366D-20	447.252	6	1	5	6	1	6	0 0 1	0 0 0	161	0.378	0.406
3843.751	3843.7507	-7	C	0.115D-19	206.301	4	2	3	3	2	2	0 0 1	0 0 0	161		2.317
3844.324			D	0.218D-22	224.305	5	1	5	4	1	4	0 0 1	0 0 0	171		0.004
3844.329	3844.3295	7	C	0.589D-21	542.906	6	3	4	6	1	5	0 0 1	0 0 0	161	0.053	0.053
3844.847	3844.8476	1	C	0.120D-20	399.457	5	3	3	5	1	4	0 0 1	0 0 0	161	0.133	0.149
3845.354	3845.3529			0.912D-21	2005.917	5	3	2	4	3	1	0 1 1	0 1 0	161	0.030	0.029
3845.543	3845.5412			0.274D-21	2406.142	6	5	2	5	5	1	0 1 1	0 1 0	161	0.011	0.009
3845.572	3845.5731	42	H	0.821D-21	2406.144	6	5	1	5	5	0	0 1 1	0 1 0	161	0.029	0.027
3845.648	3845.6481			0.111D-21	2000.866	5	3	3	5	1	4	0 1 1	0 1 0	161	0.006	0.004
3846.399	3846.3998	6	C	0.514D-21	446.511	6	3	4	5	2	3	1 0 0	0 0 0	161	0.054	0.057
3847.345	3847.3416			0.588D-21	3601.859	7	1	7	6	1	6	0 2 1	0 2 0	161	0.028	0.023
3847.397	3847.3956			0.366D-21	4488.090	9	0	9	8	0	8	0 0 2	0 0 1	161	0.018	0.017
3848.566	3848.5679	-71	H	0.474D-21	1695.071	11	3	8	11	3	9	0 0 1	0 0 0	161	0.026	0.015

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$			$v_1v_2v_3$			ISO	I_{obs}	I_{calc}
3848.573			D	0.196D-21	3600.052	7	0	7	6	0	6	0	2	1	0	2	0	161		0.008
3848.888	3848.8877			0.193D-20	1922.831	6	1	6	5	1	5	0	1	1	0	1	0	161	0.069	0.062
3849.059	3849.0597	1	C	0.219D-20	704.214	7	3	5	7	1	6	0	0	1	0	0	0	161	0.142	0.145
3849.396	3849.3974			0.321D-21	4452.352	8	2	7	7	2	6	0	0	2	0	0	1	161	0.012	0.015
3849.579				0.487D-21	285.219	4	4	0	3	3	1	1	0	0	0	0	0	161		0.080
3849.599	3849.5994	11	C	0.215D-20	285.419	4	4	1	3	3	0	1	0	0	0	0	0	161	0.299	0.352
3849.652	3849.6519	0	C	0.214D-21	275.497	4	3	2	4	1	3	0	0	1	0	0	0	161	0.033	0.036
3849.862			D	0.604D-22	5256.848	8	0	8	7	0	7	0	3	1	0	3	0	161		0.003
3849.867	3849.8672	0	C	0.853D-21	446.697	6	2	5	6	0	6	0	0	1	0	0	0	161	0.090	0.095
3850.307	3850.3085	23	C	0.582D-20	1920.769	6	0	6	5	0	5	0	1	1	0	1	0	161	0.209	0.186
3851.072	3851.0729			0.210D-21	3722.731	6	3	3	5	3	2	0	2	1	0	2	0	161	0.014	0.009
3851.626	3851.6270	16	C	0.559D-22	298.620	5	2	4	4	2	3	0	0	1	0	0	0	181	0.007	0.009
3852.058				0.562D-19	224.838	5	1	5	4	1	4	0	0	1	0	0	0	161		10.757
3853.012	3853.0132			0.486D-21	1908.017	5	3	2	4	2	3	1	1	0	0	1	0	161	0.019	0.016
3853.096	3853.0983			0.247D-21	4408.027	7	3	4	6	3	3	0	0	2	0	0	1	161	0.009	0.011
3853.576	3853.5760	-2	C	0.745D-20	300.362	5	3	2	4	2	3	1	0	0	0	0	0	161	1.047	1.174
3853.966				0.357D-19	212.156	4	2	2	3	2	1	0	0	1	0	0	0	161		7.062
3854.091	3854.0895	-9	S	0.190D-19	222.052	5	0	5	4	0	4	0	0	1	0	0	0	161		3.662
3854.435			D	0.400D-22	325.215	6	1	6	5	1	5	0	0	1	0	0	0	181		0.006
3854.439	3854.4410	18	C	0.469D-19	173.365	4	1	3	3	1	2	0	0	1	0	0	0	161		10.285
3855.285	3855.2834	-7	C	0.120D-21	324.047	6	0	6	5	0	5	0	0	1	0	0	0	181	0.017	0.018
3856.007	3856.0063	13	H	0.479D-21	2733.965	7	6	2	6	6	1	0	1	1	0	1	0	161	0.019	0.017
3856.008			D	0.160D-21	2733.965	7	6	1	6	6	0	0	1	1	0	1	0	161		0.006
3856.248	3856.2440			0.198D-21	4015.515	7	4	4	6	4	3	0	2	1	0	2	0	161	0.011	0.008
3856.445	3856.4460	1	C	0.165D-20	1875.474	5	1	4	4	1	3	0	1	1	0	1	0	161	0.056	0.053
3856.621	3856.6186			0.640D-21	2251.696	6	4	3	5	4	2	0	1	1	0	1	0	161	0.021	0.021
3856.705	3856.7042	-2	C	0.223D-21	173.365	3	3	1	3	1	2	0	0	1	0	0	0	161	0.041	0.049
3856.784	3856.7856	17	C	0.434D-21	399.457	5	4	1	5	1	4	1	0	0	0	0	0	161	0.049	0.054
3857.165	3857.1639	-9	C	0.137D-19	488.108	5	4	2	4	4	1	0	0	1	0	0	0	161	1.296	1.382
3857.425	3857.4242	-13	C	0.458D-20	488.134	5	4	1	4	4	0	0	0	1	0	0	0	161	0.433	0.462
3857.475	3857.4741			0.192D-20	2251.863	6	4	2	5	4	1	0	1	1	0	1	0	161	0.068	0.063
3858.176	3858.1770	0	C	0.759D-21	882.891	8	3	6	8	1	7	0	0	1	0	0	0	161	0.038	0.038
3859.036	3859.0350	-14	C	0.223D-21	542.906	6	4	2	6	1	5	1	0	0	0	0	0	161	0.020	0.020
3859.409	3859.4078	-9	C	0.817D-21	1080.386	9	2	7	9	2	8	0	0	1	0	0	0	161	0.035	0.033
3859.611	3859.6091	-16	C	0.338D-22	274.803	5	1	4	4	1	3	0	0	1	0	0	0	181	0.005	0.006
3860.503	3860.5028			0.136D-20	1922.902	5	2	3	4	2	2	0	1	1	0	1	0	161	0.045	0.043
3861.515	3861.5159	12	C	0.230D-21	446.697	6	3	3	6	0	6	1	0	0	0	0	0	161	0.027	0.025
3861.588	3861.5848	-39	C	0.144D-20	2024.150	6	2	5	5	2	4	0	1	1	0	1	0	161	0.053	0.046
3861.589			D	0.176D-21	782.410	8	3	6	7	2	5	1	0	0	0	0	0	161		0.010
3861.788	3861.7874	-7	S	0.241D-19	382.517	5	3	3	4	3	2	0	0	1	0	0	0	161		3.095
3862.186	3862.1795			0.430D-21	3736.171	7	2	6	6	2	5	0	2	1	0	2	0	161	0.020	0.017
3862.343	3862.3473			0.308D-21	4661.449	10	1	10	9	1	9	0	0	2	0	0	1	161	0.014	0.015
3862.492	3862.4916	0	C	0.947D-21	586.479	7	1	6	7	1	7	0	0	1	0	0	0	161	0.077	0.078
3863.321	3863.3196	-4	C	0.672D-21	23.794	2	2	0	1	0	1	0	0	1	0	0	0	161	0.175	0.222
3863.557	3863.5553			0.539D-21	3738.609	8	0	8	7	0	7	0	2	1	0	2	0	161	0.028	0.022
3863.725	3863.7292			0.279D-21	4624.305	9	1	8	8	1	7	0	0	2	0	0	1	161	0.011	0.013
3863.774	3863.7729			0.104D-20	2126.407	6	3	4	5	3	3	0	1	1	0	1	0	161	0.036	0.033
3864.310	3864.3102	0	C	0.579D-20	383.842	5	3	2	4	3	1	0	0	1	0	0	0	161	0.677	0.741
3865.112	3865.1106	22	S	0.361D-19	300.362	5	2	4	4	2	3	0	0	1	0	0	0	161		5.670
3865.120			D	0.684D-23	70.091	3	3	1	2	0	2	1	0	0	0	0	0	161		0.002
3865.120			D	0.173D-21	2688.080	9	3	7	9	1	8	0	1	1	0	1	0	161		0.006
3865.155			D	0.108D-20	1201.922	9	4	6	9	2	7	0	0	1	0	0	0	161		0.040
3865.161			D	0.117D-21	4368.637	8	5	3	7	5	2	0	2	1	0	2	0	161		0.005
3865.163	3865.1595	41	A	0.557D-20	2042.755	7	1	7	6	1	6	0	1	1	0	1	0	161	0.149	0.178
3865.852			D	0.288D-22	314.458	5	2	3	4	2	2	0	0	1	0	0	0	181		0.004
3865.856	3865.8549	-22	H	0.186D-20	2041.784	7	0	7	6	0	6	0	1	1	0	1	0	161	0.069	0.060
3866.110	3866.1094	-2	C	0.261D-20	586.243	7	2	6	7	0	7	0	0	1	0	0	0	161	0.213	0.214
3866.759	3866.7610	23	C	0.356D-21	1437.969	10	4	7	10	2	8	0	0	1	0	0	0	161	0.012	0.012
3867.680	3867.6805			0.156D-21	2904.429	10	2	8	10	2	9	0	1	1	0	1	0	161	0.009	0.006
3867.751	3867.7530			0.890D-21	1962.508	12	3	9	12	3	10	0	0	1	0	0	0	161	0.025	0.028
3868.232	3868.2319	-3	C	0.559D-21	704.214	7	4	3	7	1	6	1	0	0	0	0	0	161	0.036	0.037
3868.395	3868.3939			0.437D-21	3626.922	6	2	4	5	2	3	0	2	1	0	2	0	161	0.020	0.017
3868.503	3868.5032			0.120D-20	2552.858	7	5	3	6	5	2	0	1	1	0	1	0	161	0.041	0.040
3868.626	3868.6265	4	C	0.308D-21	982.912	8	4	5	8	2	6	0	0	1	0	0	0	161	0.013	0.014

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$	$v_1v_2v_3$	ISO	I_{obs}	I_{calc}
3868.659	3868.6597	77	H	0.398D-21	2552.880	7	5	2	6	5	1	0 1 1	0 1 0	161	0.012	0.013
3869.193	3869.1931	−1	S	0.193D-19	326.625	6	1	6	5	1	5	0 0 1	0 0 0	161		2.835
3869.923	3869.9249	16	S	0.199D-20	1079.080	9	3	7	9	1	8	0 0 1	0 0 0	161	0.078	0.081
3870.130	3870.1356	61	S	0.580D-19	325.348	6	0	6	5	0	5	0 0 1	0 0 0	161		8.546
3870.822	3870.8210	−5	C	0.115D-21	445.346	7	1	7	6	1	6	0 0 1	0 0 0	181	0.013	0.013
3871.082	3871.0825	5	C	0.545D-21	224.838	5	2	3	4	1	4	1 0 0	0 0 0	161	0.092	0.104
3871.453	3871.4529	−5	C	0.301D-20	742.073	6	5	2	5	5	1	0 0 1	0 0 0	161	0.183	0.186
3871.497	3871.4968	−4	C	0.904D-20	742.076	6	5	1	5	5	0	0 0 1	0 0 0	161	0.550	0.557
3871.799	3871.7979			0.293D-20	2130.495	6	3	3	5	3	2	0 1 1	0 1 0	161	0.100	0.094
3872.735	3872.7369			0.912D-21	1690.665	11	4	8	11	2	9	0 0 1	0 0 0	161	0.027	0.029
3873.725	3873.7247	1	C	0.509D-20	382.517	5	4	1	4	3	2	1 0 0	0 0 0	161	0.580	0.652
3873.882	3873.8837	21	C	0.481D-20	2000.866	6	1	5	5	1	4	0 1 1	0 1 0	161	0.161	0.153
3873.944	3873.9451	5	C	0.387D-20	383.842	5	4	2	4	3	1	1 0 0	0 0 0	161	0.436	0.494
3874.402	3874.4026	0	S	0.164D-19	275.497	5	1	4	4	1	3	0 0 1	0 0 0	161		2.737
3876.284	3876.2840	5	C	0.979D-22	398.361	6	1	5	5	1	4	0 0 1	0 0 0	181	0.010	0.012
3876.565	3876.5646	−3	C	0.646D-21	782.410	7	4	4	7	2	5	0 0 1	0 0 0	161	0.033	0.037
3877.426	3877.4257	4	C	0.170D-20	1293.634	10	2	8	10	2	9	0 0 1	0 0 0	161	0.059	0.060
3877.684	3877.6798			0.471D-21	3895.253	9	1	9	8	1	8	0 2 1	0 2 0	161	0.021	0.020
3878.513	3878.5188	152	H	0.679D-21	2905.435	8	6	2	7	6	1	0 1 1	0 1 0	161	0.028	0.024
3879.484	3879.4821	−15	H	0.211D-20	2398.382	7	4	4	6	4	3	0 1 1	0 1 0	161	0.069	0.069
3879.788	3879.7853	−10	C	0.423D-20	2161.286	7	2	6	6	2	5	0 1 1	0 1 0	161	0.145	0.136
3879.950	3879.9500	0	C	0.672D-20	610.114	6	4	3	5	4	2	0 0 1	0 0 0	161	0.503	0.523
3880.140	3880.1415	13	C	0.216D-20	744.163	8	1	7	8	1	8	0 0 1	0 0 0	161	0.121	0.132
3880.192	3880.1911	−10	C	0.140D-19	315.779	5	2	3	4	2	2	0 0 1	0 0 0	161		2.107
3880.355	3880.3552	5	C	0.126D-19	416.209	6	2	5	5	2	4	0 0 1	0 0 0	161	1.347	1.487
3880.952	3880.9531			0.170D-20	2181.092	8	1	8	7	1	7	0 1 1	0 1 0	161	0.053	0.055
3881.029	3881.0285	−3	C	0.201D-19	610.341	6	4	2	5	4	1	0 0 1	0 0 0	161	1.502	1.564
3881.278	3881.2762	8	C	0.510D-20	2180.644	8	0	8	7	0	7	0 1 1	0 1 0	161	0.182	0.164
3881.873	3881.8728	−5	C	0.697D-21	744.064	8	2	7	8	0	8	0 0 1	0 0 0	161	0.041	0.043
3882.070	3882.0692			0.699D-21	2399.166	7	4	3	6	4	2	0 1 1	0 1 0	161	0.023	0.023
3882.937	3882.9371	12	C	0.514D-21	1293.019	10	3	8	10	1	9	0 0 1	0 0 0	161	0.017	0.018
3883.267	3883.2662	−9	C	0.890D-20	503.968	6	3	4	5	3	3	0 0 1	0 0 0	161	0.828	0.861
3884.005	3884.0048	−5	C	0.544D-20	1045.058	7	6	2	6	6	1	0 0 1	0 0 0	161	0.276	0.228
3884.014			D	0.181D-20	1045.059	7	6	1	6	6	0	0 0 1	0 0 0	161		0.076
3884.792	3884.7896	3	H	0.309D-20	2271.712	7	3	5	6	3	4	0 1 1	0 1 0	161	0.102	0.100
3884.876	3884.8753	−3	C	0.872D-22	550.452	7	2	6	6	2	5	0 0 1	0 0 0	181	0.009	0.008
3885.266	3885.2668			0.324D-21	1813.224	11	5	7	11	3	8	0 0 1	0 0 0	161	0.012	0.010
3885.272			D	0.426D-22	2392.594	7	4	4	7	2	5	0 1 1	0 1 0	161		0.001
3885.370	3885.3669	3	C	0.421D-20	2053.969	6	2	4	5	2	3	0 1 1	0 1 0	161	0.143	0.134
3885.652			D	0.842D-20	508.812	6	4	3	5	3	2	1 0 0	0 0 0	161		0.806
3885.660	3885.6508	−15	C	0.556D-19	447.252	7	1	7	6	1	6	0 0 1	0 0 0	161		6.101
3886.078	3886.0767	−10	C	0.185D-19	446.697	7	0	7	6	0	6	0 0 1	0 0 0	161		2.032
3886.924	3886.9234	−1	C	0.104D-21	583.779	8	0	8	7	0	7	0 0 1	0 0 0	181	0.007	0.009
3887.028			D	0.617D-22	3244.601	15	6	10	15	4	11	0 0 1	0 0 0	161		0.002
3887.031	3887.0310	−2	H	0.340D-21	3306.296	9	7	3	8	7	2	0 1 1	0 1 0	161	0.018	0.013
3887.039			D	0.113D-21	3306.296	9	7	2	8	7	1	0 1 1	0 1 0	161		0.004
3888.011	3888.0066			0.405D-21	3879.336	8	1	7	7	1	6	0 2 1	0 2 0	161	0.022	0.017
3888.727	3888.7245	−32	H	0.148D-20	2146.265	7	1	6	6	1	5	0 1 1	0 1 0	161	0.054	0.047
3889.645	3889.6439	−2	C	0.873D-22	445.159	6	2	4	5	2	3	0 0 1	0 0 0	181	0.008	0.010
3891.300	3891.3011	9	S	0.479D-19	399.457	6	1	5	5	1	4	0 0 1	0 0 0	161		5.864
3891.804	3891.8002			0.128D-20	2724.168	8	5	3	7	5	2	0 1 1	0 1 0	161	0.042	0.044
3892.003	3892.0015	−14	C	0.250D-20	416.209	6	3	3	5	2	4	1 0 0	0 0 0	161	0.273	0.294
3892.009			D	0.360D-22	5778.039	11	1	11	10	1	10	0 3 1	0 3 0	161		0.002
3892.145	3892.1435			0.482D-21	2246.888	13	4	10	13	2	11	0 0 1	0 0 0	161	0.015	0.016
3892.827	3892.8271	−6	C	0.526D-21	70.091	3	2	1	2	0	2	0 0 1	0 0 0	161	0.120	0.152
3892.998	3892.9934			0.396D-21	4068.704	10	0	10	9	0	9	0 2 1	0 2 0	161	0.019	0.017
3893.667	3893.6674	−16	C	0.387D-21	1525.137	11	2	9	11	2	10	0 0 1	0 0 0	161	0.013	0.013
3894.064	3894.0622	−15	C	0.131D-19	888.599	7	5	3	6	5	2	0 0 1	0 0 0	161	0.652	0.649
3894.288	3894.2874	−4	C	0.435D-20	888.632	7	5	2	6	5	1	0 0 1	0 0 0	161	0.217	0.215
3894.948	3894.9470			0.337D-21	4071.733	9	2	8	8	2	7	0 2 1	0 2 0	161	0.018	0.014
3895.147			D	0.100D-20	1394.814	8	7	2	7	7	1	0 0 1	0 0 0	161		0.034
3895.148	3895.1459	14	C	0.301D-20	1394.814	8	7	1	7	7	0	0 0 1	0 0 0	161	0.130	0.102
3896.334			D	0.907D-22	1538.150	10	5	6	10	3	7	0 0 1	0 0 0	161		0.003
3896.338	3896.3386	−8	H	0.446D-20	2337.669	9	1	9	8	1	8	0 1 1	0 1 0	161	0.164	0.145

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$			$v_1v_2v_3$			ISO	I_{obs}	I_{calc}
3896.419	3896.4205	10	C	0.111D-20	1524.849	11	3	9	11	1	10	0	0	1	0	0	0	161	0.036	0.036
3896.483	3896.4849	19	C	0.149D-20	2337.468	9	0	9	8	0	8	0	1	1	0	1	0	161	0.054	0.049
3896.484			D	0.163D-22	445.794	6	2	4	5	2	3	0	0	1	0	0	0	171		0.002
3896.624	3896.6231	-14	H	0.128D-20	2318.541	8	2	7	7	2	6	0	1	1	0	1	0	161	0.044	0.042
3896.781	3896.7814	8	C	0.533D-21	920.211	9	1	8	9	1	9	0	0	1	0	0	0	161	0.027	0.025
3897.248	3897.2454	-4	H	0.731D-21	2282.591	7	3	4	6	3	3	0	1	1	0	1	0	161	0.022	0.024
3897.567	3897.5679	7	C	0.158D-20	920.169	9	2	8	9	0	9	0	0	1	0	0	0	161	0.081	0.075
3897.974	3897.9739	-2	C	0.221D-20	503.968	6	4	2	5	3	3	1	0	0	0	0	0	161	0.203	0.213
3898.234	3898.2341	-4	C	0.294D-20	508.812	6	6	1	5	3	2	0	2	0	0	0	0	161	0.209	0.280
3898.762	3898.7604	0	C	0.172D-21	446.511	5	4	2	5	2	3	0	0	1	0	0	0	161	0.017	0.019
3899.217	3899.2166	-7	C	0.216D-19	508.812	6	3	3	5	3	2	0	0	1	0	0	0	161		2.060
3899.442	3899.4424	5	S	0.424D-19	552.912	7	2	6	6	2	5	0	0	1	0	0	0	161		3.684
3900.210	3900.2054			0.162D-21	4381.734	9	4	6	8	4	5	0	2	1	0	2	0	161	0.010	0.007
3900.693	3900.6919	79	H	0.704D-21	3101.124	9	6	4	8	6	3	0	1	1	0	1	0	161	0.026	0.025
3901.657			D	0.672D-21	2569.508	8	4	5	7	4	4	0	1	1	0	1	0	161		0.022
3901.667	3901.6653	-17	C	0.169D-19	586.479	8	1	8	7	1	7	0	0	1	0	0	0	161	1.381	1.371
3901.847	3901.8451	-23	S	0.508D-19	586.243	8	0	8	7	0	7	0	0	1	0	0	0	161		4.122
3902.250	3902.2498	-5	C	0.218D-19	756.725	7	4	4	6	4	3	0	0	1	0	0	0	161	1.278	1.302
3902.311	3902.3086			0.391D-20	2309.731	8	1	7	7	1	6	0	1	1	0	1	0	161	0.120	0.127
3902.441	3902.4406	-3	C	0.933D-21	661.549	7	4	4	6	3	3	1	0	0	0	0	0	161	0.063	0.066
3904.189	3904.1879	-11	S	0.429D-19	446.511	6	2	4	5	2	3	0	0	1	0	0	0	161		4.693
3904.295	3904.2948	-1	C	0.281D-19	648.979	7	3	5	6	3	4	0	0	1	0	0	0	161		2.020
3904.586	3904.5838			0.945D-21	2439.956	8	3	6	7	3	5	0	1	1	0	1	0	161	0.031	0.031
3905.008	3905.0059	7	C	0.154D-20	1789.041	9	8	2	8	8	1	0	0	1	0	0	0	161	0.060	0.049
3905.008			D	0.513D-21	1789.041	9	8	1	8	8	0	0	0	1	0	0	0	161		0.016
3905.371	3905.3705	-1	C	0.711D-20	757.780	7	4	3	6	4	2	0	0	1	0	0	0	161	0.422	0.424
3905.591	3905.5844			0.282D-21	4052.837	8	3	5	7	3	4	0	2	1	0	2	0	161	0.012	0.012
3906.065	3906.0643	-10	C	0.148D-19	542.906	7	1	6	6	1	5	0	0	1	0	0	0	161	1.271	1.311
3906.164	3906.1584	7	C	0.256D-20	1216.189	8	6	3	7	6	2	0	0	1	0	0	0	161	0.086	0.094
3906.199	3906.1985	1	C	0.767D-20	1216.194	8	6	2	7	6	1	0	0	1	0	0	0	161	0.274	0.281
3907.224	3907.2210			0.321D-21	4260.469	11	1	11	10	1	10	0	2	1	0	2	0	161	0.016	0.014
3907.445	3907.4436			0.131D-20	2211.192	7	2	5	6	2	4	0	1	1	0	1	0	161	0.047	0.042
3907.755	3907.7526	-6	H	0.198D-20	2572.140	8	4	4	7	4	3	0	1	1	0	1	0	161	0.065	0.066
3908.584	3908.5818			0.772D-21	1774.752	12	2	10	12	2	11	0	0	1	0	0	0	161	0.023	0.024
3908.626	3908.6281	62	H	0.345D-21	3526.630	10	7	3	9	7	2	0	1	1	0	1	0	161	0.013	0.013
3910.538	3910.5387	-16	C	0.198D-21	1282.919	9	5	5	9	3	6	0	0	1	0	0	0	161	0.006	0.007
3910.770	3910.7732			0.322D-21	2282.591	7	4	4	6	3	3	1	1	0	0	1	0	161	0.014	0.010
3911.346	3911.3442			0.125D-20	2512.378	10	1	10	9	1	9	0	1	1	0	1	0	161	0.044	0.041
3911.427	3911.4267			0.374D-20	2512.283	10	0	10	9	0	9	0	1	1	0	1	0	161	0.138	0.124
3911.768	3911.7625			0.345D-21	3967.489	8	2	6	7	2	5	0	2	1	0	2	0	161	0.019	0.014
3911.949	3911.9526			0.881D-22	4784.664	10	5	5	9	5	4	0	2	1	0	2	0	161	0.006	0.004
3912.339	3912.3379	-7	H	0.319D-20	2495.168	9	2	8	8	2	7	0	1	1	0	1	0	161	0.115	0.105
3912.707	3912.7069	5	C	0.115D-20	1114.550	10	1	9	10	1	10	0	0	1	0	0	0	161	0.050	0.045
3912.834	3912.8357			0.350D-22	2705.097	10	2	9	10	0	10	0	1	1	0	1	0	161	0.004	0.001
3913.027	3913.0283	8	C	0.370D-21	1114.534	10	2	9	10	0	10	0	0	1	0	0	0	161	0.015	0.014
3913.319	3913.3166			0.280D-21	4263.148	10	1	9	9	1	8	0	2	1	0	2	0	161	0.014	0.012
3913.572	3913.5736	11	H	0.119D-20	2919.634	9	5	5	8	5	4	0	1	1	0	1	0	161	0.042	0.042
3913.854	3913.8538	13	H	0.725D-21	2225.468	10	9	1	9	9	0	0	0	1	0	0	0	161	0.027	0.023
3913.854			D	0.242D-21	2225.468	10	9	2	9	9	1	0	0	1	0	0	0	161		0.008
3914.037	3914.0371	-2	C	0.930D-21	842.357	8	4	5	7	3	4	1	0	0	0	0	0	161	0.047	0.049
3915.142	3915.1434			0.543D-21	2462.876	8	4	5	7	3	4	1	1	0	0	1	0	161	0.017	0.018
3915.256	3915.2553	-7	H	0.394D-21	2920.133	9	5	4	8	5	3	0	1	1	0	1	0	161	0.015	0.014
3915.671	3915.6687			0.111D-20	2490.355	9	1	8	8	1	7	0	1	1	0	1	0	161	0.040	0.037
3916.329	3916.3279	-15	C	0.129D-19	709.609	8	2	7	7	2	6	0	0	1	0	0	0	161	0.839	0.830
3916.379				0.622D-21	610.341	6	5	2	5	4	1	1	0	0	0	0	0	161		0.048
3916.397	3916.3961	-4	C	0.461D-20	1059.647	8	5	4	7	5	3	0	0	1	0	0	0	161	0.187	0.189
3916.606	3916.6056	-1	C	0.194D-21	610.114	6	5	1	5	4	2	1	0	0	0	0	0	161	0.014	0.015
3916.786	3916.7863	2	C	0.411D-20	1590.690	9	7	3	8	7	2	0	0	1	0	0	0	161	0.153	0.132
3916.795			D	0.137D-20	1590.691	9	7	2	8	7	1	0	0	1	0	0	0	161		0.044
3917.209	3917.2084	-6	C	0.138D-19	1059.835	8	5	3	7	5	2	0	0	1	0	0	0	161	0.554	0.565
3917.286	3917.2847	-16	S	0.443D-19	744.163	9	1	9	8	1	8	0	0	1	0	0	0	161		2.689
3917.363	3917.3633	1	C	0.148D-19	744.064	9	0	9	8	0	8	0	0	1	0	0	0	161	0.922	0.899
3920.089	3920.0884	-7	S	0.394D-19	704.214	8	1	7	7	1	6	0	0	1	0	0	0	161		2.555
3921.462	3921.4560			0.250D-21	4469.734	12	0	12	11	0	11	0	2	1	0	2	0	161	0.015	0.011

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$	$v_1v_2v_3$	ISO	I_{obs}	I_{calc}
3922.835	3922.8331	-21	H	0.176D-20	2764.699	9	4	6	8	4	5	0 1 1	0 1 0	161	0.060	0.060
3922.941	3922.9387			0.632D-21	3321.013	10	6	4	9	6	3	0 1 1	0 1 0	161	0.020	0.024
3923.006	3923.0058			0.245D-20	2630.194	9	3	7	8	3	6	0 1 1	0 1 0	161	0.085	0.082
3923.168	3923.1632			0.494D-21	2042.312	13	3	11	13	1	12	0 0 1	0 0 0	161	0.015	0.016
3923.467	3923.4675	-6	C	0.507D-20	648.979	7	4	3	6	3	4	1 0 0	0 0 0	161	0.364	0.363
3923.794	3923.7944	1	C	0.682D-20	927.744	8	4	5	7	4	4	0 0 1	0 0 0	161	0.319	0.319
3924.068	3924.0608			0.219D-21	4483.227	11	2	10	10	2	9	0 2 1	0 2 0	161	0.010	0.010
3924.373	3924.3735	4	C	0.927D-20	816.694	8	3	6	7	3	5	0 0 1	0 0 0	161	0.508	0.502
3925.135	3925.1340	-5	C	0.998D-20	661.549	7	3	4	6	3	3	0 0 1	0 0 0	161	0.719	0.697
3925.176	3925.1765	4	C	0.132D-19	602.774	7	2	5	6	2	4	0 0 1	0 0 0	161	1.017	1.031
3926.027			D	0.681D-21	2009.805	10	8	3	9	8	2	0 0 1	0 0 0	161		0.021
3926.028			D	0.204D-20	2009.805	10	8	2	9	8	1	0 0 1	0 0 0	161		0.064
3926.035	3926.0289	30	C	0.303D-20	2705.141	11	1	11	10	1	10	0 1 1	0 1 0	161	0.184	0.103
3926.077	3926.0683			0.101D-20	2705.097	11	0	11	10	0	10	0 1 1	0 1 0	161	0.034	0.034
3926.115			D	0.256D-22	5064.137	13	10	4	12	10	3	0 1 1	0 1 0	161		0.001
3926.125	3926.1240			0.338D-20	2392.594	8	2	6	7	2	5	0 1 1	0 1 0	161	0.115	0.110
3927.336	3927.3339	-18	H	0.902D-21	2690.595	10	2	9	9	2	8	0 1 1	0 1 0	161	0.034	0.030
3928.030	3928.0302	4	C	0.791D-20	1411.612	9	6	4	8	6	3	0 0 1	0 0 0	161	0.252	0.264
3928.088	3928.0871	-16	C	0.268D-21	1327.119	11	1	10	11	1	11	0 0 1	0 0 0	161	0.009	0.009
3928.201	3928.2009	-1	C	0.263D-20	1411.647	9	6	3	8	6	2	0 0 1	0 0 0	161	0.083	0.088
3928.235			D	0.182D-22	222.052	5	3	3	4	0	4	1 0 0	0 0 0	161		0.003
3928.238	3928.2372	18	C	0.802D-21	1327.110	11	2	10	11	0	11	0 0 1	0 0 0	161	0.031	0.028
3929.131	3929.1287			0.272D-20	2688.080	10	1	9	9	1	8	0 1 1	0 1 0	161	0.098	0.092
3929.351			D	0.267D-22	416.209	5	4	1	5	2	4	0 0 1	0 0 0	161		0.003
3929.361	3929.3609	-4	C	0.175D-20	136.761	4	2	2	3	0	3	0 0 1	0 0 0	161	0.341	0.415
3929.800	3929.7994	-40	H	0.303D-21	3770.713	11	7	5	10	7	4	0 1 1	0 1 0	161	0.010	0.012
3930.566	3930.5667	4	C	0.190D-19	931.237	8	4	4	7	4	3	0 0 1	0 0 0	161	0.887	0.885
3931.370	3931.3697			0.233D-20	2462.876	8	3	5	7	3	4	0 1 1	0 1 0	161	0.084	0.076
3932.081	3932.0808	-3	C	0.929D-21	552.912	7	3	4	6	2	5	1 0 0	0 0 0	161	0.094	0.080
3932.136	3932.1352	-5	C	0.334D-19	885.600	9	2	8	8	2	7	0 0 1	0 0 0	161	1.757	1.644
3932.546	3932.5460	1	C	0.124D-19	920.211	10	1	10	9	1	9	0 0 1	0 0 0	161	0.770	0.585
3932.581	3932.5820	8	C	0.371D-19	920.169	10	0	10	9	0	9	0 0 1	0 0 0	161	1.991	1.749
3934.101	3934.1008	0	C	0.112D-19	882.891	9	1	8	8	1	7	0 0 1	0 0 0	161	0.581	0.553
3934.266			D	0.310D-21	2471.254	11	9	2	10	9	1	0 0 1	0 0 0	161		0.010
3934.266	3934.2628	-61	H	0.930D-21	2471.254	11	9	3	10	9	2	0 0 1	0 0 0	161	0.033	0.030
3934.407	3934.4048	-26	H	0.563D-21	2771.691	9	4	5	8	4	4	0 1 1	0 1 0	161	0.019	0.019
3935.130	3935.1305	2	C	0.103D-21	95.176	3	3	0	2	1	1	0 0 1	0 0 0	161	0.021	0.027
3935.861	3935.8594	-48	H	0.137D-21	4265.980	12	8	4	11	8	3	0 1 1	0 1 0	161	0.005	0.006
3938.056	3938.0564	-1	C	0.539D-21	757.780	7	5	3	6	4	2	1 0 0	0 0 0	161	0.034	0.032
3938.078	3938.0793			0.137D-20	1810.584	10	7	4	9	7	3	0 0 1	0 0 0	161	0.041	0.043
3938.110	3938.1096	-2	C	0.411D-20	1810.589	10	7	3	9	7	2	0 0 1	0 0 0	161	0.118	0.129
3938.290	3938.2897	-13	C	0.127D-19	1255.167	9	5	5	8	5	4	0 0 1	0 0 0	161	0.443	0.451
3938.458	3938.4592	10	C	0.921D-22	552.912	6	4	2	6	2	5	0 0 1	0 0 0	161	0.007	0.008
3938.985	3938.9927			0.167D-21	4714.828	12	1	11	11	1	10	0 2 1	0 2 0	161	0.010	0.008
3939.112	3939.1121	5	C	0.132D-20	756.725	7	5	2	6	4	3	1 0 0	0 0 0	161	0.076	0.078
3939.396	3939.3985	8	H	0.995D-21	3141.047	10	5	5	9	5	4	0 1 1	0 1 0	161	0.034	0.036
3939.977	3939.9777	23	H	0.671D-21	2841.432	10	3	8	9	3	7	0 1 1	0 1 0	161	0.024	0.023
3940.382				0.787D-21	2915.897	12	1	12	11	1	11	0 1 1	0 1 0	161		0.027
3940.404	3940.4023			0.236D-20	2915.876	12	0	12	11	0	11	0 1 1	0 1 0	161	0.094	0.082
3940.588			D	0.107D-21	4842.137	11	4	8	10	4	7	0 2 1	0 2 0	161		0.005
3940.589	3940.5899	9	C	0.420D-20	1255.913	9	5	4	8	5	3	0 0 1	0 0 0	161	0.149	0.149
3941.275	3941.2793	37	H	0.920D-21	2595.813	9	2	7	8	2	6	0 1 1	0 1 0	161	0.032	0.031
3941.532			D	0.130D-21	2972.824	12	10	3	11	10	2	0 0 1	0 0 0	161		0.005
3941.532	3941.5294	-21	H	0.390D-21	2972.824	12	10	2	11	10	1	0 0 1	0 0 0	161	0.014	0.014
3941.680	3941.6786	0	H	0.214D-20	2904.429	11	2	10	10	2	9	0 1 1	0 1 0	161	0.075	0.074
3942.636				0.716D-21	2903.147	11	1	10	10	1	9	0 1 1	0 1 0	161		0.025
3942.653	3942.6524	-8	C	0.340D-19	782.410	8	2	6	7	2	5	0 0 1	0 0 0	161	1.951	1.930
3942.762	3942.7612	75	H	0.483D-21	2983.324	10	4	7	9	4	6	0 1 1	0 1 0	161	0.015	0.017
3942.887	3942.8860	-12	C	0.250D-19	1006.116	9	3	7	8	3	6	0 0 1	0 0 0	161	1.098	1.070
3943.008	3943.0088	8	C	0.545D-21	1557.850	12	1	11	12	1	12	0 0 1	0 0 0	161	0.015	0.017
3944.045	3944.0457	4	H	0.519D-21	3564.705	11	6	6	10	6	5	0 1 1	0 1 0	161	0.019	0.020
3944.368	3944.3685	1	C	0.178D-19	1122.709	9	4	6	8	4	5	0 0 1	0 0 0	161	0.690	0.687
3946.610	3946.6099	-6	H	0.198D-20	2254.283	11	8	4	10	8	3	0 0 1	0 0 0	161	0.070	0.063
3946.613			D	0.660D-21	2254.284	11	8	3	10	8	2	0 0 1	0 0 0	161		0.021

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$	$v_1v_2v_3$	ISO	I_{obs}	I_{calc}
3947.175	3947.1746	0	C	0.884D-20	1080.386	10	2	9	9	2	8	0 0 1	0 0 0	161	0.383	0.353
3947.470	3947.4648	-50	C	0.299D-19	1114.550	11	1	11	10	1	10	0 0 1	0 0 0	161	1.471	1.160
3947.483				0.998D-20	1114.534	11	0	11	10	0	10	0 0 1	0 0 0	161		0.387
3948.177	3948.1771	-2	C	0.276D-19	1079.080	10	1	9	9	1	8	0 0 1	0 0 0	161	1.180	1.102
3949.572	3949.5717	-5	C	0.235D-20	1631.251	10	6	5	9	6	4	0 0 1	0 0 0	161	0.068	0.074
3949.984	3949.9845	1	C	0.289D-19	842.357	8	3	5	7	3	4	0 0 1	0 0 0	161	1.490	1.500
3950.140	3950.1419	5	C	0.705D-20	1631.384	10	6	4	9	6	3	0 0 1	0 0 0	161	0.202	0.223
3950.574	3950.5736	0	C	0.178D-21	79.496	3	3	1	2	1	2	0 0 1	0 0 0	161	0.042	0.049
3950.810	3950.8082	-24	H	0.242D-21	4038.404	12	7	5	11	7	4	0 1 1	0 1 0	161	0.010	0.010
3952.345	3952.3441	-2	C	0.831D-21	816.694	8	4	4	7	3	5	1 0 0	0 0 0	161	0.045	0.045
3953.098	3953.0971	-5	C	0.774D-21	173.365	4	3	1	3	1	2	0 0 1	0 0 0	161	0.133	0.165
3953.711	3953.7062			0.216D-20	2818.398	10	2	8	9	2	7	0 1 1	0 1 0	161	0.077	0.074
3953.762	3953.7638			0.774D-21	2670.792	9	3	6	8	3	5	0 1 1	0 1 0	161	0.028	0.026
3954.159			D	0.290D-21	2740.420	12	9	4	11	9	3	0 0 1	0 0 0	161		0.010
3954.160	3954.1571	-21	H	0.871D-21	2740.420	12	9	3	11	9	2	0 0 1	0 0 0	161	0.030	0.029
3954.420	3954.4165	-39	H	0.178D-20	3144.579	13	1	13	12	1	12	0 1 1	0 1 0	161	0.069	0.064
3954.452	3954.4571			0.592D-21	3144.573	13	0	13	12	0	12	0 1 1	0 1 0	161	0.024	0.021
3955.241	3955.2420	4	C	0.443D-20	1131.776	9	4	5	8	4	4	0 0 1	0 0 0	161	0.165	0.169
3955.568	3955.5691	48	H	0.157D-20	3072.728	11	3	9	10	3	8	0 1 1	0 1 0	161	0.056	0.056
3956.061	3956.0588	-22	H	0.163D-20	3135.766	12	1	11	11	1	10	0 1 1	0 1 0	161	0.059	0.058
3956.251	3956.2520	3	H	0.793D-21	3383.266	11	5	7	10	5	6	0 1 1	0 1 0	161	0.029	0.030
3956.883	3956.8824	-1	C	0.925D-20	982.912	9	2	7	8	2	6	0 0 1	0 0 0	161	0.413	0.404
3957.536	3957.5340			0.358D-21	1806.672	13	2	12	13	0	13	0 0 1	0 0 0	161	0.011	0.011
3958.177	3958.1781	13	C	0.361D-21	888.599	7	6	1	6	5	2	1 0 0	0 0 0	161	0.013	0.018
3958.220	3958.2200	-1	C	0.317D-20	931.237	8	5	4	7	4	3	1 0 0	0 0 0	161	0.147	0.147
3958.333	3958.3345			0.190D-21	4493.805	10	3	7	9	3	6	0 2 1	0 2 0	161	0.009	0.009
3959.019	3959.0199	-10	H	0.355D-20	2054.348	11	7	5	10	7	4	0 0 1	0 0 0	161	0.096	0.111
3959.142	3959.1419	-9	H	0.118D-20	2054.369	11	7	4	10	7	3	0 0 1	0 0 0	161	0.032	0.037
3959.503	3959.5027	-2	C	0.355D-20	1474.981	10	5	6	9	5	5	0 0 1	0 0 0	161	0.109	0.115
3959.724	3959.7235	-3	C	0.692D-20	1216.232	10	3	8	9	3	7	0 0 1	0 0 0	161	0.256	0.250
3960.654	3960.6577	-27	A	0.128D-20	2998.768	10	4	6	9	4	5	0 1 1	0 1 0	161	0.041	0.045
3961.121	3961.1237			0.950D-22	2572.140	8	5	4	7	4	3	1 1 0	0 1 0	161	0.009	0.003
3961.304	3961.3056	0	H	0.113D-20	3224.548	11	4	8	10	4	7	0 1 1	0 1 0	161	0.039	0.041
3961.653	3961.6565			0.157D-21	173.365	4	4	1	3	1	2	1 0 0	0 0 0	161	0.046	0.033
3961.661			D	0.626D-21	927.744	8	5	3	7	4	4	1 0 0	0 0 0	161		0.029
3961.713	3961.7115	-16	C	0.217D-19	1293.634	11	2	10	10	2	9	0 0 1	0 0 0	161	0.800	0.751
3962.035			D	0.776D-20	1327.119	12	1	12	11	1	11	0 0 1	0 0 0	161		0.265
3962.044	3962.0392	-14	C	0.233D-19	1327.110	12	0	12	11	0	11	0 0 1	0 0 0	161	1.116	0.794
3962.187	3962.1873	1	C	0.725D-20	1293.019	11	1	10	10	1	9	0 0 1	0 0 0	161	0.267	0.251
3963.066	3963.0610	-70	H	0.121D-21	4905.648	12	2	10	11	2	9	0 2 1	0 2 0	161	0.007	0.006
3963.843	3963.8422	-2	C	0.493D-20	1340.886	10	4	7	9	4	6	0 0 1	0 0 0	161	0.162	0.167
3964.530	3964.5295	-8	H	0.260D-21	3387.402	11	5	6	10	5	5	0 1 1	0 1 0	161	0.009	0.010
3964.800	3964.8009	5	C	0.104D-19	1477.297	10	5	5	9	5	4	0 0 1	0 0 0	161	0.316	0.337
3965.613	3965.6208	22	H	0.366D-21	3391.135	14	1	14	13	1	13	0 1 1	0 1 0	161	0.006	0.014
3966.773	3966.7720	46	H	0.166D-20	2522.267	12	8	4	11	8	3	0 0 1	0 0 0	161	0.045	0.054
3967.399	3967.3978	-3	H	0.126D-20	3391.131	14	0	14	13	0	13	0 1 1	0 1 0	161	0.053	0.047
3967.504	3967.5000		H	0.396D-21	3833.146	12	6	6	11	6	5	0 1 1	0 1 0	161	0.015	0.016
3967.562	3967.5617	-5	C	0.569D-22	325.348	6	3	4	5	0	5	1 0 0	0 0 0	161	0.010	0.008
3968.999	3969.0014			0.120D-20	3386.382	13	2	12	12	2	11	0 1 1	0 1 0	161	0.045	0.045
3969.139	3969.1385	-3	C	0.219D-19	1201.922	10	2	8	9	2	7	0 0 1	0 0 0	161	0.799	0.795
3969.331	3969.3329	6	H	0.400D-21	3386.053	13	1	12	12	1	11	0 1 1	0 1 0	161	0.016	0.015
3969.994	3969.9932	-4	H	0.393D-21	3323.271	12	3	10	11	3	9	0 1 1	0 1 0	161	0.014	0.014
3970.681	3970.6805	0	C	0.575D-20	1874.974	11	6	6	10	6	5	0 0 1	0 0 0	161	0.156	0.178
3972.124	3972.1239	-1	C	0.823D-20	1050.158	9	3	6	8	3	5	0 0 1	0 0 0	161	0.331	0.335
3972.245	3972.2446	-12	C	0.191D-20	1875.464	11	6	5	10	6	4	0 0 1	0 0 0	161	0.050	0.059
3972.655	3972.6567	11	C	0.362D-21	275.497	5	3	2	4	1	3	0 0 1	0 0 0	161	0.051	0.059
3973.538	3973.5404	-4	H	0.705D-21	3032.690	13	9	5	12	9	4	0 0 1	0 0 0	161	0.026	0.025
3973.543			D	0.235D-21	3032.691	13	9	4	12	9	3	0 0 1	0 0 0	161		0.008
3973.801	3973.8062	109	H	0.187D-20	2904.672	10	3	7	9	3	6	0 1 1	0 1 0	161	0.068	0.064
3973.919	3973.9188	0	C	0.425D-21	222.052	5	2	3	4	0	4	0 0 1	0 0 0	161	0.061	0.079
3974.753	3974.7526	-2	C	0.493D-20	1360.236	10	5	6	9	4	5	1 0 0	0 0 0	161	0.155	0.165
3975.140	3975.1389	-3	C	0.163D-19	1446.129	11	3	9	10	3	8	0 0 1	0 0 0	161	0.523	0.531
3975.771			D	0.121D-20	3314.857	12	2	10	11	2	9	0 1 1	0 1 0	161		0.044
3975.780	3975.7780	-17	C	0.552D-20	1525.137	12	2	11	11	2	10	0 0 1	0 0 0	161	0.203	0.176

TABLE 2. Observed and calculated hot water vapor lines between 2965 and 4005 cm^{-1}—Continued

σ_{calc}	σ_{obs}	DIFF	C	S_{calc}	E''	J'	K'_a	K'_c	J	K_a	K_c	$v'_1v'_2v'_3$	$v_1v_2v_3$	ISO	I_{obs}	I_{calc}
3976.009	3976.0087	0	C	0.166D-19	1524.849	12	1	11	11	1	10	0 0 1	0 0 0	161	0.536	0.530
3976.263	3976.2645	9	C	0.175D-19	1557.850	13	1	13	12	1	12	0 0 1	0 0 0	161	0.772	0.556
3976.268			D	0.583D-20	1557.844	13	0	13	12	0	12	0 0 1	0 0 0	161		0.185
3976.574	3976.5728	-7	C	0.211D-20	1131.776	9	5	5	8	4	4	1 0 0	0 0 0	161	0.079	0.080
3979.304	3979.3051	16	H	0.275D-21	3583.372	14	10	4	13	10	3	0 0 1	0 0 0	161	0.012	0.011
3979.304			D	0.918D-22	3583.372	14	10	5	13	10	4	0 0 1	0 0 0	161		0.004
3979.594	3979.5959	-3	H	0.930D-21	2321.814	12	7	6	11	7	5	0 0 1	0 0 0	161	0.023	0.030
3979.771	3979.7704	4	C	0.838D-20	1718.719	11	5	7	10	5	6	0 0 1	0 0 0	161	0.238	0.261
3979.792				0.724D-21	1059.835	8	6	3	7	5	2	1 0 0	0 0 0	161		0.029
3979.967	3979.9686	13	H	0.279D-20	2321.905	12	7	5	11	7	4	0 0 1	0 0 0	161	0.070	0.089
3980.835	3980.8347	1	C	0.558D-20	1437.969	11	2	9	10	2	8	0 0 1	0 0 0	161	0.180	0.182
3981.131	3981.1274	-19	H	0.908D-21	3655.487	15	1	15	14	1	14	0 1 1	0 1 0	161	0.043	0.035
3981.132			D	0.303D-21	3655.486	15	0	15	14	0	14	0 1 1	0 1 0	161		0.012
3982.064	3982.0636	2	C	0.118D-19	1581.336	11	4	8	10	4	7	0 0 1	0 0 0	161	0.352	0.373
3982.290	3982.2894	-4	C	0.232D-21	275.497	5	4	2	4	1	3	1 0 0	0 0 0	161	0.033	0.038
3982.752	3982.7515	2	H	0.833D-21	3654.050	14	1	13	13	1	12	0 1 1	0 1 0	161	0.037	0.032
3982.870	3982.8710	10	C	0.989D-22	142.278	4	3	2	3	1	3	0 0 1	0 0 0	161	0.015	0.023
3983.487	3983.4857	-13	H	0.851D-21	3592.425	13	3	11	12	3	10	0 1 1	0 1 0	161	0.029	0.033
3983.764	3983.7631			0.232D-21	1806.672	14	3	12	13	0	13	0 2 0	0 0 0	161	0.011	0.007
3985.021	3985.0206	3	C	0.195D-20	1122.709	9	5	4	8	4	5	1 0 0	0 0 0	161	0.076	0.074
3985.079	3985.0767			0.321D-21	1616.452	11	5	7	10	4	6	1 0 0	0 0 0	161	0.012	0.010
3986.006	3986.0058	2	C	0.638D-21	1006.116	9	4	5	8	3	6	1 0 0	0 0 0	161	0.030	0.027
3986.442	3986.4449	11	H	0.127D-20	2813.515	13	8	6	12	8	5	0 0 1	0 0 0	161	0.034	0.043
3986.520	3986.5262	112	H	0.422D-21	2813.533	13	8	5	12	8	4	0 0 1	0 0 0	161	0.009	0.014
3986.983	3986.9878	64	H	0.288D-21	3587.669	13	2	11	12	2	10	0 1 1	0 1 0	161	0.010	0.011
3989.456			D	0.408D-20	1695.071	12	3	10	11	3	9	0 0 1	0 0 0	161		0.127
3989.456	3989.4538	-8	C	0.122D-19	1774.752	13	2	12	12	2	11	0 0 1	0 0 0	161	0.453	0.377
3989.569	3989.5693	8	C	0.406D-20	1774.619	13	1	12	12	1	11	0 0 1	0 0 0	161	0.122	0.126
3989.828	3989.8257	-4	C	0.263D-20	1724.707	11	5	6	10	5	5	0 0 1	0 0 0	161	0.071	0.082
3990.216			D	0.517D-21	1006.116	9	6	3	8	3	6	0 2 0	0 0 0	161		0.022
3990.220	3990.2147	-8	C	0.420D-20	1806.673	14	1	14	13	1	13	0 0 1	0 0 0	161	0.152	0.130
3990.271	3990.2723	-2	C	0.125D-19	1806.672	14	0	14	13	0	13	0 0 1	0 0 0	161	0.397	0.386
3990.443	3990.4449	34	H	0.574D-21	3659.906	12	5	7	11	5	6	0 1 1	0 1 0	161	0.021	0.022
3990.713	3990.7125	-13	C	0.195D-19	1282.919	10	3	7	9	3	6	0 0 1	0 0 0	161	0.656	0.673
3991.174	3991.1766	-5	H	0.146D-20	2142.597	12	6	7	11	6	6	0 0 1	0 0 0	161	0.039	0.046
3992.420	3992.4198	-2	H	0.521D-21	3347.780	14	9	5	13	9	4	0 0 1	0 0 0	161	0.015	0.019
3992.670	3992.6686	4	C	0.124D-19	1690.665	12	2	10	11	2	9	0 0 1	0 0 0	161	0.369	0.385
3993.996	3993.9988	-29	H	0.613D-21	3770.880	13	4	10	12	4	9	0 1 1	0 1 0	161	0.027	0.024
3994.110			D	0.207D-21	3937.576	16	1	16	15	1	15	0 1 1	0 1 0	161		0.008
3994.111	3994.1114	8	H	0.621D-21	3937.575	16	0	16	15	0	15	0 1 1	0 1 0	161	0.037	0.025
3994.844	3994.8423	27	H	0.433D-20	2144.047	12	6	6	11	6	5	0 0 1	0 0 0	161	0.114	0.135
3995.007				0.764D-21	399.457	6	4	3	5	1	4	1 0 0	0 0 0	161		0.091
3995.027	3995.0275	3	C	0.113D-19	1360.236	10	4	6	9	4	5	0 0 1	0 0 0	161	0.368	0.377
3995.980	3995.9756	-17	H	0.504D-21	3939.834	15	2	14	14	2	13	0 1 1	0 1 0	161	0.019	0.021
3998.769	3998.7660	-49	H	0.591D-21	3877.090	14	2	12	13	2	11	0 1 1	0 1 0	161	0.021	0.024
3998.833	3998.8323	1	C	0.299D-20	1843.030	12	4	9	11	4	8	0 0 1	0 0 0	161	0.083	0.092
3998.890	3998.8898	18	C	0.209D-20	1985.788	12	5	8	11	5	7	0 0 1	0 0 0	161	0.059	0.065
3999.750	3999.7478	-6	H	0.204D-20	2612.801	13	7	7	12	7	6	0 0 1	0 0 0	161	0.056	0.067
4000.730				0.680D-21	2613.104	13	7	6	12	7	5	0 0 1	0 0 0	161		0.022
4001.282	4001.2814	0	C	0.981D-21	1255.167	9	6	3	8	5	4	1 0 0	0 0 0	161	0.033	0.034
4002.767	4002.7678	27	C	0.288D-20	2042.374	14	2	13	13	2	12	0 0 1	0 0 0	161	0.083	0.089
4002.841				0.933D-21	3441.040	12	3	9	11	3	8	0 1 1	0 1 0	161		0.035
4002.863	4002.8608	4	C	0.864D-20	2042.312	14	1	13	13	1	12	0 0 1	0 0 0	161	0.262	0.267
4002.972	4002.9667	-11	C	0.884D-20	1962.508	13	3	11	12	3	10	0 0 1	0 0 0	161	0.257	0.273
4003.591	4003.5882	-7	C	0.889D-20	2073.519	15	1	15	14	1	14	0 0 1	0 0 0	161	0.374	0.275
4003.592			D	0.296D-20	2073.518	15	0	15	14	0	14	0 0 1	0 0 0	161		0.092
4004.705	4004.7052	28	C	0.297D-20	1960.208	13	2	11	12	2	10	0 0 1	0 0 0	161	0.086	0.092

See footnotes to table 2 on next page.

Footnotes to table 2:

σ_{calc}: calculated wavenumber in cm^{-1}

σ_{obs}: observed wavenumber in cm^{-1}

DIFF: difference (in 10^{-4} cm^{-1}) between σ_{obs} and previous measurements coded in the C column

C: code with the signification

C, cold water vapor data [1]
H, hot water vapor data [2]
D, blended line
S, very strong cold water line
A, theoretical wavenumber in [1]
B, hand measured wavenumber in [1]

S_{calc}: calculated intensity at 1000 K in cm^{-1}/molecule cm^{-2}

E'': lower level energy of the transition in cm^{-1}

J', K'_a, K'_c; J, K_a, K_c: upper and lower rotational quantum numbers of the transition

$v'_1v'_2v'_3$; $v_1v_2v_3$: upper and lower vibrational quantum numbers of the transition

ISO: isotopic species; 161, 171, and 181 stand, respectively, for $H_2{}^{16}O$, $H_2{}^{17}O$, and $H_2{}^{18}O$

I_{obs}: observed peak intensity in $(Torr\ m)^{-1}$

I_{calc}: calculated peak intensity in $(Torr\ m)^{-1}$ using the temperature profile of figure 5.