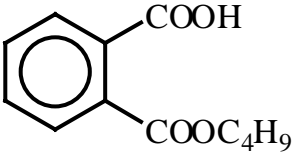
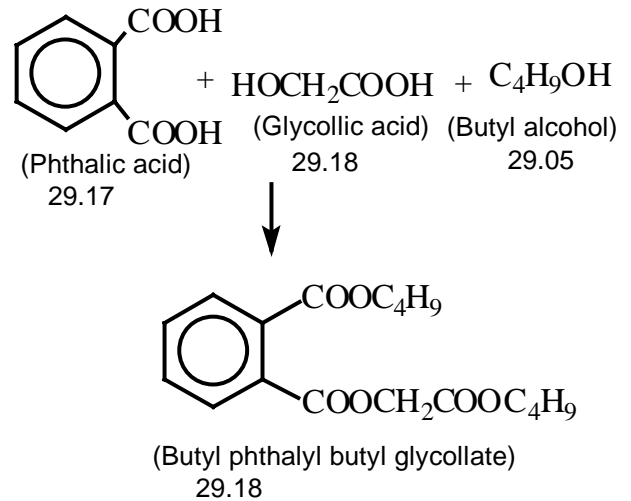
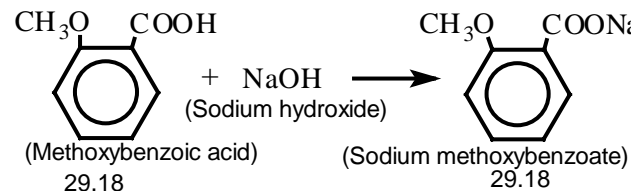
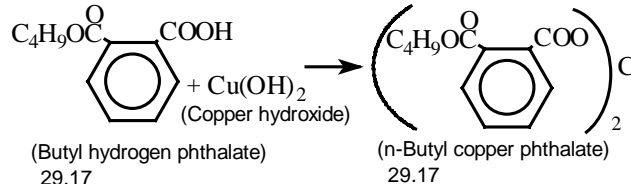
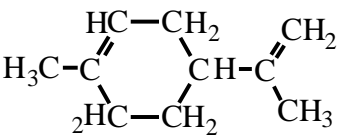
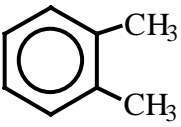
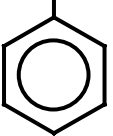
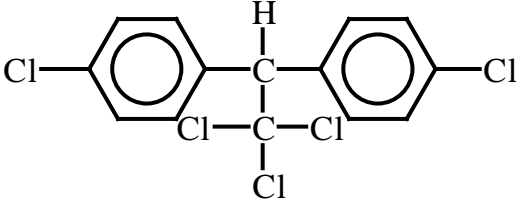
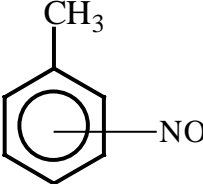
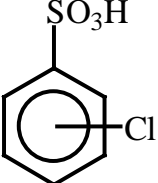


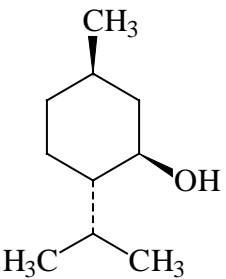
“CHEMICAL STRUCTURES OF CERTAIN PRODUCTS DESCRIBED IN THE EXPLANATORY NOTES TO CHAPTER 29

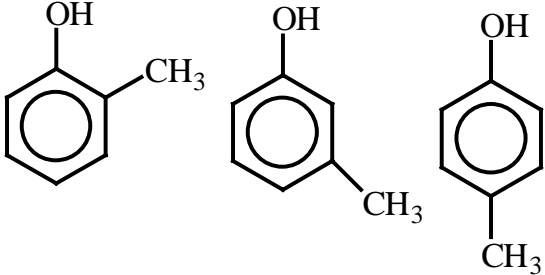
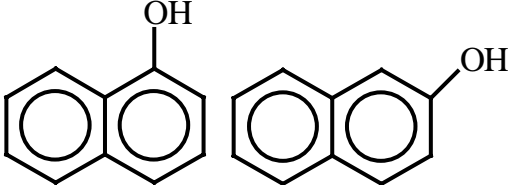
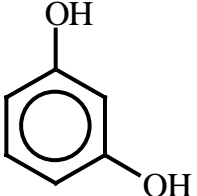
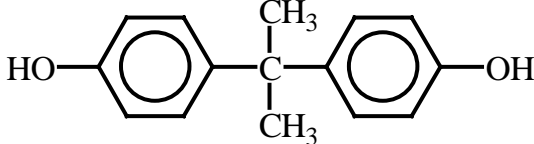
Page	Heading	Paragraph	Description in the Explanatory Notes	Chemical Structure
	General	(G)	Classification of esters, salts and certain halides	
		(1)	Esters	
345		(a)		$ \begin{array}{c} \text{O} \\ \parallel \\ \text{CH}_3\text{C}\text{OH} \\ \text{(Acetic acid)} \\ 29.15 \end{array} + \begin{array}{c} \text{HO-CH}_2\text{-CH}_2 \\ \\ \text{HO-CH}_2\text{-CH}_2 \\ \text{(Diethylene glycol)} \\ 29.09 \end{array} \rightarrow \begin{array}{c} \text{O} \qquad \text{O} \\ \parallel \qquad \parallel \\ \text{CH}_3\text{C-O-CH}_2\text{CH}_2 \\ \\ \text{CH}_3\text{C-O-CH}_2\text{CH}_2 \\ \text{(Diethylene glycol acetate)} \\ 29.15 \end{array} $
		(b)		$ \begin{array}{c} \text{SO}_3\text{H} \\ \\ \text{C}_6\text{H}_5 \\ \text{(Benzenesulphonic acid)} \\ 29.04 \end{array} + \begin{array}{c} \text{CH}_3\text{OH} \\ \text{(Methyl alcohol)} \\ 29.05 \end{array} \rightarrow \begin{array}{c} \text{OCH}_3 \\ \\ \text{O}=\text{S}=\text{O} \\ \\ \text{C}_6\text{H}_5 \\ \text{(Methyl benzenesulphonate)} \\ 29.05 \end{array} $
		(c)		 <p>(Butyl hydrogenphthalate) 29.17</p>

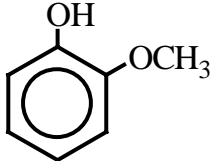
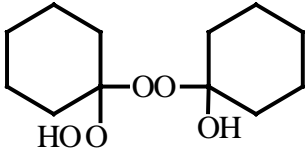
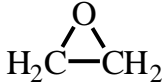
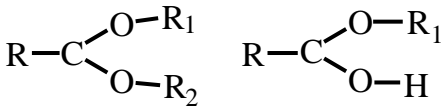
(345)	(G)	(1)	(d)		 <p>(Phthalic acid) 29.17 + HOCH₂COOH (Glycollic acid) 29.18 + C₄H₉OH (Butyl alcohol) 29.05</p> <p>(Butyl phthalyl butyl glycollate) 29.18</p>
			(d)		$\text{CH}_3\text{COOH} + \text{HOCH}_2\text{CH}_3 \longrightarrow \text{CH}_3\text{COOCH}_2\text{CH}_3$ <p>(Acetic acid) 29.15 (Ethyl alcohol) 29.15 → (Ethyl acetate) 29.15</p>
		(2)		Salts	
346			(a)(i)		 <p>(Methoxybenzoic acid) 29.18 + NaOH (Sodium hydroxide) → (Sodium methoxybenzoate) 29.18</p>
					 <p>(Butyl hydrogen phthalate) 29.17 + Cu(OH)₂ (Copper hydroxide) → (n-Butyl copper phthalate) 29.17</p>
			(ii)		$(\text{C}_2\text{H}_5)_2\text{NH} + \text{HCl} \longrightarrow (\text{C}_2\text{H}_5)_2\text{NH}^+\text{HCl}^-$ <p>(Diethylamine) 29.21 (Hydrochloric acid) 28.06 → (Diethylamine hydrochloride) 29.21</p>

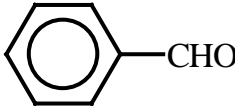
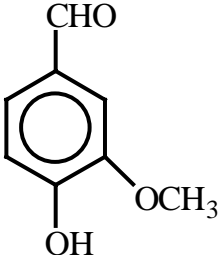
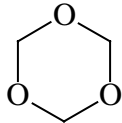
(346)	(G)	(2)	(b)(i)		$\text{CH}_3\text{C}(=\text{O})\text{OH} + \text{C}_6\text{H}_5\text{NH}_2 \rightarrow \text{C}_6\text{H}_5\text{NH}_3^+\text{COO}^-$ <p>(Acetic acid) 29.15 (Aniline) 29.21 (Aniline acetate) 29.21</p>
			(ii)		$\text{CH}_3\text{NH}_2 + \text{C}_6\text{H}_5\text{OCH}_2\text{COOH} \rightarrow \text{C}_6\text{H}_5\text{OCH}_2\text{COO}^-\text{NH}_3^+\text{CH}_3$ <p>(Methylamine) 29.21 (Phenoxyacetic acid) 29.18 (Methylamine phenoxyacetate) 29.18</p>
		(3)		Halides of carboxylic acids (Isobutyryl chloride : 29.15)	$(\text{CH}_3)_2\text{CH}-\overset{\text{O}}{\parallel}{\text{C}}-\text{Cl}$
29.02				CYCLIC HYDROCARBONS	
	(B)			CYCLOTERPENES	
351		(3)		Limonene	
352	(C)			AROMATIC HYDROCARBONS	
		(l)	(c)	o-xylene	
			(d)(1)	styrene	$\text{HC}=\text{CH}_2$ 

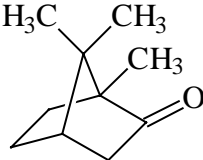
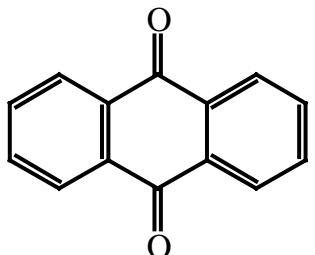
	29.03			HALOGENATED DERIVATIVES OF HYDROCARBONS	
		(F)		HALOGENATED DERIVATIVES OF AROMATIC HYDROCARBONS	
356		(6)		1,1,1-Trichloro-2,2-bis(p-chlorophenyl)ethane or dichlorodiphenyltrichloroethane (DDT)	
	29.04			SULPHONATED, NITRATED OR NITROSATED DERIVATIVES OF HYDROCARBONS, WHETHER OR NOT HALOGENATED	
		(A)		SULPHONATED DERIVATIVES	
357		(1)	(a)	Ethylenesulphonic acid	$\text{CH}_2=\text{CHSO}_3\text{H}$
		(B)		NITRATED DERIVATIVES	
		(1)	(d)	Trinitromethane	$\text{CH}(\text{NO}_2)_3$
		(C)		NITROSATED DERIVATIVES	
358		(2)		Nitrosotoluene	
		(D)		SULPHOHALOGENATED DERIVATIVES	
		(1)		Chlorobenzenesulphonic acid	

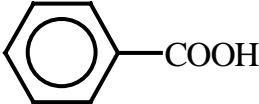
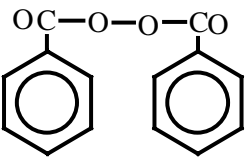
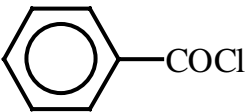
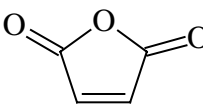
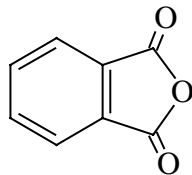
	29.05			ACYCLIC ALCOHOLS AND THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES	
		(B)		UNSATURATED MONOHYDRIC ALCOHOLS	
360			(1)	Allyl alcohol	$\text{H}_2\text{C}=\text{CHCH}_2\text{OH}$
		(C)		DIOLS AND OTHER POLYHYDRIC ALCOHOLS	
361			(II) (4)	Mannitol	$\begin{array}{c} \text{CH}_2\text{OH} \\ \\ \text{HOCH} \\ \\ \text{HOCH} \\ \\ \text{HCOH} \\ \\ \text{HCOH} \\ \\ \text{CH}_2\text{OH} \end{array}$
	29.06			CYCLIC ALCOHOLS AND THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES	
		(A)		CYCLANIC, CYCLENIC OR CYCLOTERPENIC ALCOHOLS AND THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES	
362			(1)	Menthol	

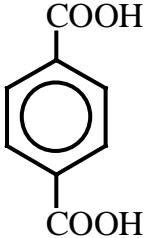
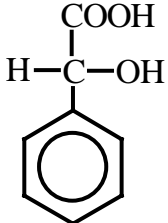
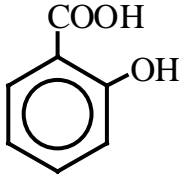
	29.07			PHENOLS; PHENOL-ALCOHOLS	
365		(A)	(2)	MONONUCLEAR MONOPHENOLS Cresol(s)	 <p>(o-Cresol) (m-Cresol) (p-Cresol)</p>
		(B)	(1)	POLYNUCLEAR MONOPHENOLS Naphthol(s)	 <p>(α-Naphthol) (β-Naphthol)</p>
		(C)	(1)	POLYPHENOLS Resorcinol	
			(3)	Bisphenol A	

	29.09			ETHERS, ETHER-ALCOHOLS, ETHER-PHENOLS, ETHER-ALCOHOL-PHENOLS, ALCOHOL PEROXIDES, ETHER PEROXIDES, KETONE PEROXIDES (WHETHER OR NOT CHEMICALLY DEFINED), AND THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES	
		(C)		ETHER-PHENOLS AND ETHER-ALCOHOL-PHENOLS	
370		(1)		Guaiacol	
		(D)		ALCOHOL PEROXIDES, ETHER PEROXIDES AND KETONE PEROXIDES	
				Ketone peroxides (Cyclohexanone peroxide)	
	29.10			EPOXIDES, EPOXYALCOHOLS, EPOXYPHENOLS AND EPOXYETHERS, WITH A THREE-MEMBERED RING, AND THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES	
371		(1)		Oxirane	
	29.11			ACETALS AND HEMIACETALS, WHETHER OR NOT WITH OTHER OXYGEN FUNCTION, AND THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES	
372		(A)		ACETALS AND HEMIACETALS	

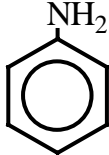
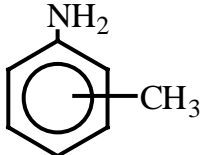
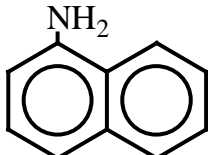
	29.12			ALDEHYDES, WHETHER OR NOT WITH OTHER OXYGEN FUNCTION; CYCLIC POLYMERS OF ALDEHYDES; PARAFORMALDEHYDE	
374		(A)		ALDEHYDES	$\text{R}-\overset{\text{O}}{\parallel}{\text{C}}-\text{H}$
			(IV) (1)	Benzaldehyde	
		(C)		ALDEHYDE-ETHERS, ALDEHYDE-PHENOLS AND ALDEHYDES WITH OTHER OXYGEN FUNCTION	
375			(1)	Vanillin	
		(D)		CYCLIC POLYMERS OF ALDEHYDES	
			(1)	Trioxan	
	29.14			KETONES AND QUINONES, WHETHER OR NOT WITH OTHER OXYGEN FUNCTION, AND THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES	
378		(A)		KETONES	$\text{R}_1-\overset{\text{O}}{\parallel}{\text{C}}-\text{R}_2$

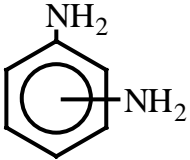
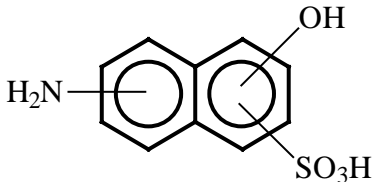
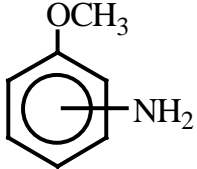
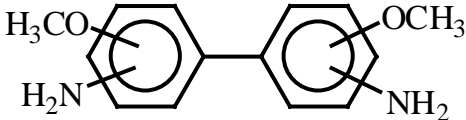
(378)	(29.14)	(A)	(II)	(1)	Camphor	
380		(E)	(1)		QUINONES Anthraquinone	
	29.15				SATURATED ACYCLIC MONOCARBOXYLIC ACIDS AND THEIR ANHYDRIDES HALIDES, PEROXIDES AND PEROXYACIDS; THEIR HALOGENATED SULPHONATED, NITRATED OR NITROSATED DERIVATIVES	
384		(V)	(a)		n-Butyric acid	$\text{CH}_3\text{CH}_2\text{CH}_2\text{COOH}$
	29.16				UNSATURATED ACYCLIC MONOCARBOXYLIC ACIDS, CYCLIC MONOCARBOXYLIC ACIDS, THEIR ANHYDRIDES, HALIDES, PEROXIDES AND PEROXYACIDS; THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES	
		(A)			UNSATURATED ACYCLIC MONOCARBOXYLIC ACIDS AND THEIR SALTS, ESTERS AND OTHER DERIVATIVES	
386		(A)	(1)		Acrylic acid	$\text{CH}_2=\text{CHCOOH}$
		(C)			AROMATIC SATURATED MONOCARBOXYLIC ACIDS AND THEIR SALTS, ESTERS AND OTHER DERIVATIVES	

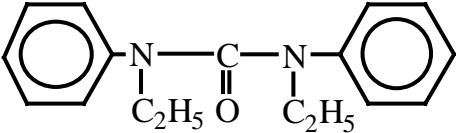
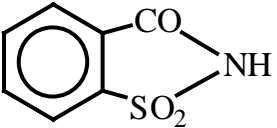
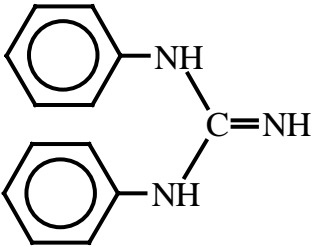
387	(29.16)	(1)	Benzoic acid	
		(a)	Benzoyl peroxide	
		(b)	Benzoyl chloride	
29.17			POLYCARBOXYLIC ACIDS, THEIR ANHYDRIDES, HALIDES, PEROXIDES AND PEROXYACIDS; THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES	
		(A)	ACYCLIC POLYCARBOXYLIC ACIDS AND THEIR ESTERS, SALTS AND DERIVATIVES	
389		(3)	Azelaic acid	$\text{HOOC}(\text{CH}_2)_7\text{COOH}$
		(5)	Maleic anhydride	
		(C)	AROMATIC POLYCARBOXYLIC ACIDS AND THEIR ESTERS, SALTS AND OTHER DERIVATIVES	
		(1)	Phthalic anhydride	

(389)	(29.17)	(C)	(2)	Terephthalic acid	
	29.18			CARBOXYLIC ACIDS WITH ADDITIONAL OXYGEN FUNCTION AND THEIR ANHYDRIDES, HALIDES, PEROXIDES AND PEROXYACIDS; THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES	
		(A)		CARBOXYLIC ACIDS WITH ALCOHOL FUNCTION AND THEIR ESTERS, SALTS AND OTHER DERIVATIVES	
391			(3)	Citric acid	$\begin{array}{c} \text{CH}_2\text{COOH} \\ \\ \text{C}(\text{OH})\text{COOH} \\ \\ \text{CH}_2\text{COOH} \end{array}$
			(6)	Phenylglycolic acid	
		(B)		CARBOXYLIC ACIDS WITH PHENOL FUNCTION AND THEIR ESTERS, SALTS AND OTHER DERIVATIVES	
			(1)	Salicylic acid	

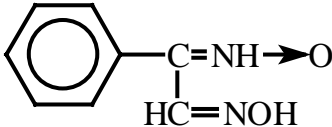
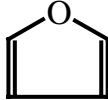
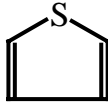
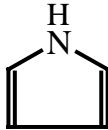
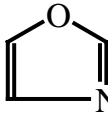
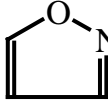
393	29.19			PHOSPHORIC ESTERS AND THEIR SALTS, INCLUDING LACTOPHOSPHATES: THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES	$\begin{array}{c} \text{OR}_1 \\ \\ \text{R}_2\text{O}-\text{P}=\text{O} \\ \\ \text{OR}_3 \end{array}$
		(3)		Tributyl phosphate	$\begin{array}{c} \text{C}_4\text{H}_9\text{O} \\ \diagdown \\ \text{C}_4\text{H}_9\text{O}-\text{P}=\text{O} \\ \diagup \\ \text{C}_4\text{H}_9\text{O} \end{array}$
	29.20			ESTERS OF OTHER INORGANIC ACIDS (EXCLUDING ESTERS OF HYDROGEN HALIDES) AND THEIR SALTS; THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES	
		(A)		Thiophosphoric esters	
394				Sodium O,O-dibutyldithiophosphates	$\begin{array}{c} \text{S} \\ \\ \text{NaS}-\text{P} \\ \diagup \quad \diagdown \\ \text{O}-\text{C}_4\text{H}_9 \\ \text{O}-\text{C}_4\text{H}_9 \end{array}$
		(C)		Nitrous and nitric esters	
				Methyl nitrite	CH ₃ ONO
				Nitroglycerol	$\begin{array}{c} \text{CH}_2\text{ONO}_2 \\ \\ \text{CHONO}_2 \\ \\ \text{CH}_2\text{ONO}_2 \end{array}$
		(D)		Carbonic or peroxocarbonic esters and their salts	
		(1)		Diguaiacyl carbonate	

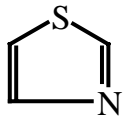
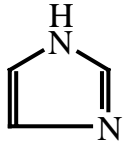
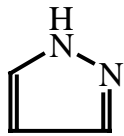
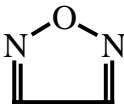
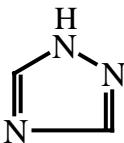
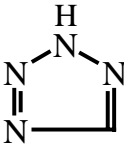
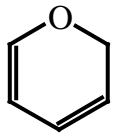
(394)	(29.20)	(E)		Silicic acid esters and their salts Tetraethyl silicate	$\begin{array}{c} \text{C}_2\text{H}_5\text{O} \diagup \text{Si} \diagdown \text{OC}_2\text{H}_5 \\ \text{C}_2\text{H}_5\text{O} \diagdown \text{OC}_2\text{H}_5 \end{array}$
395	29.21			AMINE-FUNCTION COMPOUNDS	$\text{R}-\text{NH}_2 \quad \text{R}-\text{NH}-\text{R} \quad \begin{array}{c} \text{R} \\ \diagdown \\ \text{N}-\text{R} \\ \diagup \\ \text{R} \end{array}$
		(A)		ACYCLIC MONOAMINES AND THEIR DERIVATIVES; SALTS THEREOF	
396			(4)	Ethylamine	$\text{CH}_3-\text{CH}_2-\text{NH}_2$
		(B)		ACYCLIC POLYAMINES AND THEIR DERIVATIVES; SALTS THEREOF	
			(2)	Hexamethylenediamine	$\text{H}_2\text{N}-\text{CH}_2-\text{CH}_2-\text{CH}_2-\text{CH}_2-\text{CH}_2-\text{NH}_2$
		(D)		AROMATIC MONOAMINES AND THEIR DERIVATIVES; SALTS THEREOF	
397			(1)	Aniline	
			(2)	Toluidine(s)	
			(4)	1-Naphthylamine	

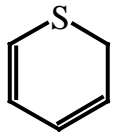
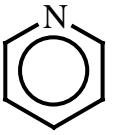
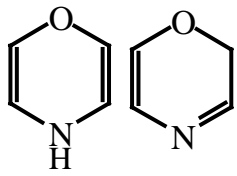
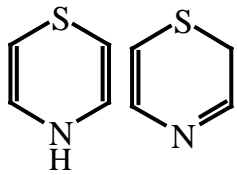

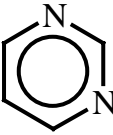
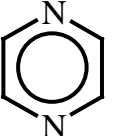
(397)	(29.21)	(E)		AROMATIC POLYAMINES AND THEIR DERIVATIVES; SALTS THEREOF	
			(1)	Phenylenediamine(s)	
	29.22			OXYGEN-FUNCTION AMINO-COMPOUNDS	
		(A)		AMINO-ALCOHOLS, THEIR ETHERS AND ESTERS; SALTS THEREOF	
399			(1)	Monoethanolamine	$\text{H}_2\text{N}-\text{CH}_2\text{CH}_2\text{OH}$
		(B)		AMINO-NAPHTHOLS AND OTHER AMINO-PHENOLS, THEIR ETHERS AND ESTERS; SALTS THEREOF	
			(1)	Aminohydroxynaphthalenesulphonic acids	
			(a)	Anisidine(s)	
			(b)	Dianisidine(s)	
		(D)		AMINO-ACIDS AND THEIR ESTERS; SALTS THEREOF	
400			(1)	Lysine	$\begin{array}{c} \text{NH}_2 \\ \\ \text{H}_2\text{N}(\text{CH}_2)_4\text{C}-\text{COOH} \\ \\ \text{H} \end{array}$

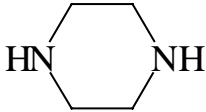
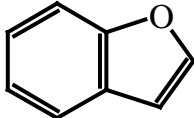
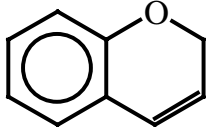
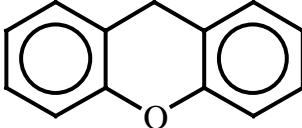
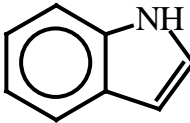
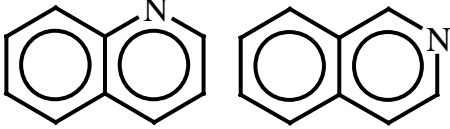
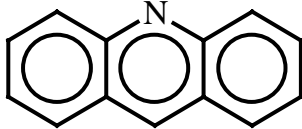
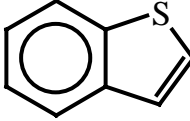
	29.23				QUATERNARY AMMONIUM SALTS AND HYDROXIDES; LECITHINS AND OTHER PHOSPHOAMINOLIPIDS	
401		(1)			Choline (Choline hydroxide)	$[(\text{CH}_3)_3\text{N}^+\text{CH}_2\text{CH}_2\text{OH}]\text{OH}^-$
		(2)			Lecithin	$\begin{array}{c} \text{CH}_2\text{OCOR} \\ \\ \text{RCOO}-\text{C}-\text{H} \\ \\ \text{H}_2\text{C}-\text{O}-\text{P}(=\text{O})(\text{O}^-)-\text{O}-\text{R} \end{array}$
	29.24				CARBOXYAMIDE-FUNCTION COMPOUNDS; AMIDE-FUNCTION COMPOUNDS OF CARBONIC ACID	
		(B)			CYCLIC AMIDES	
402		(1)	(ii)		Diethyldiphenylurea	
	29.25				CARBOXYIMIDE-FUNCTION COMPOUNDS (INCLUDING SACCHARIN AND ITS SALTS) AND IMINE-FUNCTION COMPOUNDS	
		(A)			IMIDES	
403		(1)			Saccharin	
		(B)			IMINES	
404		(1)	(a)		Diphenylguanidine	

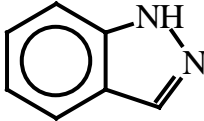
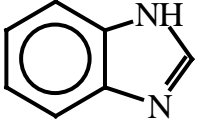
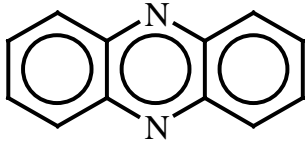
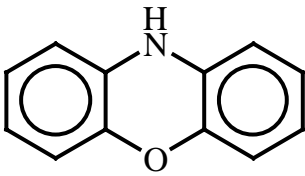
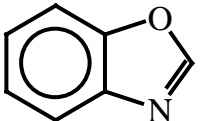
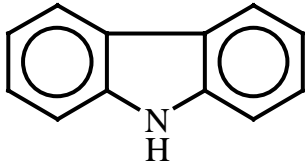
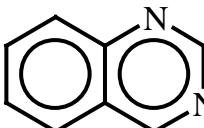
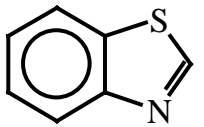
(404)	(29.25)	(B)	(3)		Imino ethers	
	29.26				NITRILE-FUNCTION COMPOUNDS	
		(1)			Acrylonitrile	$\text{CH}_2=\text{CHCN}$
		(2)			1-Cyanoguanidine	
	29.27				DIAZO-, AZO, OR AZOXY-COMPOUNDS	
405		(A)			DIAZO-COMPOUNDS	
			(1)	(a)	Benzenediazonium chloride	
		(B)			AZO-COMPOUNDS	$\text{R}_1\text{N}=\text{NR}_2$
406		(C)			AZOXY-COMPOUNDS	$\text{R}_1-\text{N}_2\text{O}-\text{R}_2$
			(1)		Azoxybenzene	
	29.28				ORGANIC DERIVATIVES OF HYDRAZINE OR OF HYDROXYLAMINE	
		(1)			Phenylhydrazine	

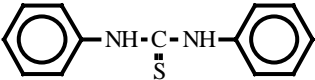
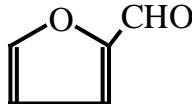
(406)	(29.28)	(11)			Phenylglyoxime	
	29.29				COMPOUNDS WITH OTHER NITROGEN FUNCTION	
407		(1)			Isocyanates	$R-N=C=O$
	S-Ch. X				ORGANO-INORGANIC COMPOUNDS, HETEROCYCLIC COMPOUNDS, NUCLEIC ACIDS AND THEIR SALTS, AND SULPHONAMIDES	
408		(A)			FIVE-MEMBERED RINGS	
			(1)	(a)	Furan	
				(b)	Thiophen	
				(c)	Pyrrole	
			(2)	(a)	Oxazole	
				(a)	Isoxazole	

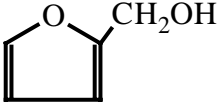
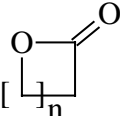
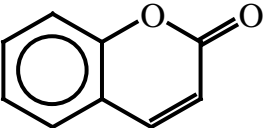
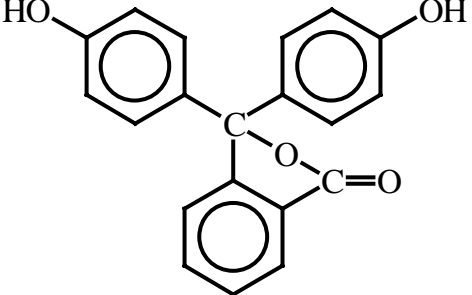
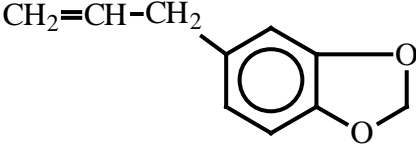
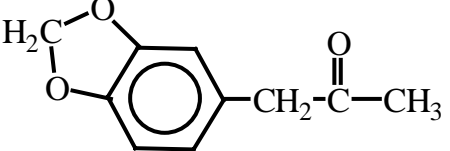
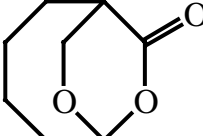
(408)	(A)	(2)	(b)	Thiazole	
			(c)	Imidazole	
			(c)	Pyrazole	
		(3)	(a)	Furazan	
			(b)	Triazole (1,2,4-Triazole)	
			(c)	Tetrazole	
	(B)			SIX-MEMBERED RINGS	
		(1)	(a)	Pyran (2H-Pyran)	

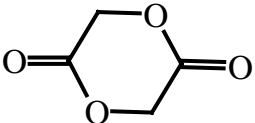
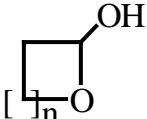
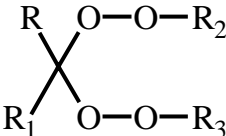
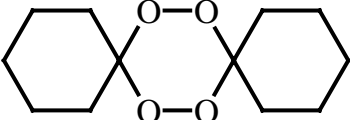
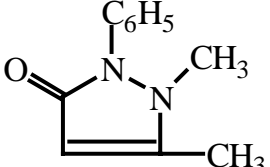
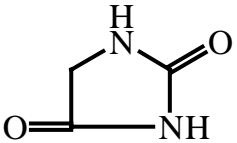
(408)		(B)	(1)	(b)	Thiin	
				(c)	Pyridine	
			(2)	(a)	Oxazine (1,4-Oxazine)	
				(b)	Thiazine (1,4-Thiazine)	
				(c)	Pyridazine	
				(c)	Pyrimidine	
				(c)	Pyrazine	

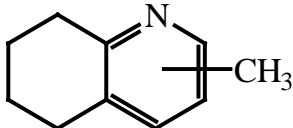
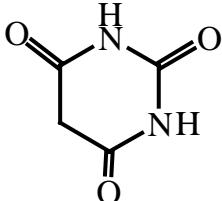
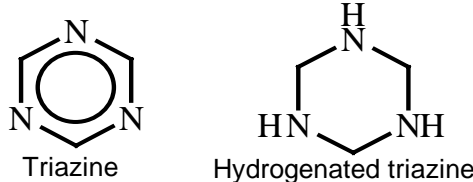
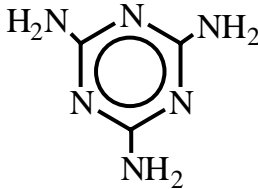
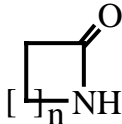
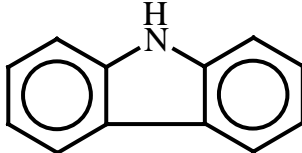
(408)	(B)	(2)	(c)	Piperazine	
	(C)			OTHER MORE COMPLEX HETEROCYCLIC COMPOUNDS	
409		(a)		Coumarone	
		(b)		Benzopyran	
		(c)		Xanthene	
		(d)		Indole	
		(e)		Quinoline and isoquinoline	
		(f)		Acridine	
		(g)		Benzothiophene (Thionaphthene)	

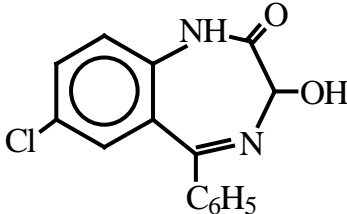
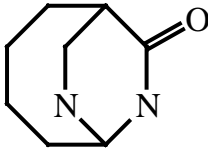
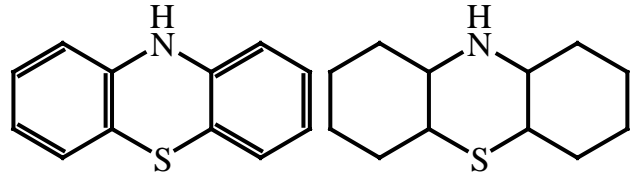
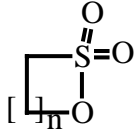
(409)	(C)	(h)	Indazole	
		(ij)	Benzimidazole	
		(k)	Phenazine	
		(l)	Phenoxazine	
		(m)	Benzoxazole	
		(n)	Carbazole	
		(o)	Quinazoline	
		(p)	Benzothiazole	

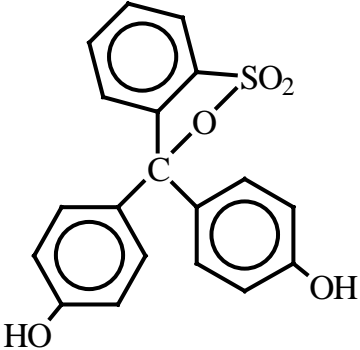
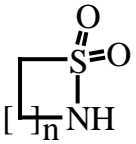
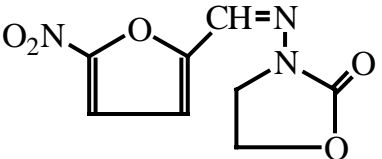
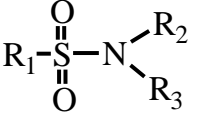
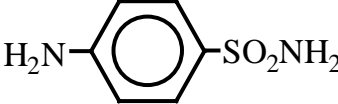
(409)	29.30			ORGANO-SULPHUR COMPOUNDS	Compounds with C—S bond
		(A)		DITHIOCARBONATES (XANTHATES)	CS(OR)(SR') R'=Metal
		(1)		Sodium ethyldithiocarbonate	C ₂ H ₅ O—CS ₂ Na
410		(B)		THIOCARBAMATES, DITHIOCARBAMATES AND THIURAM SULPHIDES	
		(2)		Dithiocarbamates	$\begin{array}{c} \diagdown \\ \text{N} \\ \diagup \end{array} - \text{C} = \overset{\text{S}}{\parallel} - \text{SM}$
		(C)		SULPHIDES (OR THIOETHERS)	R.S.R ₁
		(1)		Methionine	$\text{CH}_3\text{SCH}_2\text{CH}_2\underset{\text{NH}_2}{\text{CH}}\text{COOH}$
		(D)		THIOAMIDES	$\begin{array}{c} \diagdown \\ \text{N} \\ \diagup \end{array} - \text{C} = \overset{\text{S}}{\parallel} - \text{R}$
		(2)		Thiocarbanilide	
	29.31			OTHER ORGANO-INORGANIC COMPOUNDS	
412		(3)		Organo-silicon compounds	Compounds with C—Si bond
				Hexamethyldisiloxane	$\begin{array}{c} \text{CH}_3 \\ \\ \text{CH}_3 - \text{Si} - \text{O} - \text{Si} - \text{CH}_3 \\ \qquad \qquad \\ \text{CH}_3 \qquad \qquad \text{CH}_3 \end{array}$
	29.32			HETEROCYCLIC COMPOUNDS WITH OXYGEN HETERO-ATOM(S) ONLY	
413		(A)		Compounds containing an unfused furan ring (whether or not hydrogenated) in the structure	(See structure of furan against page 408 for Sub-Chapter X (A) (1) (a))
		(2)		2-Furaldehyde	

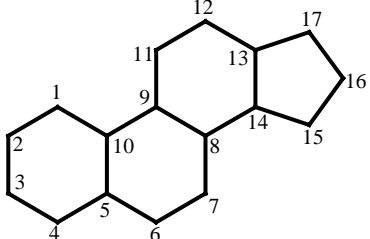
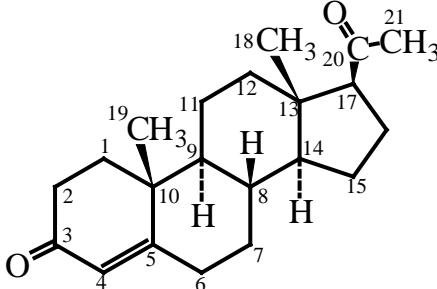
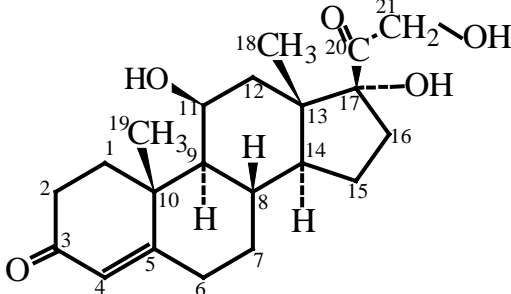
(413)	(29.32)	(A)	(3)	Furfuryl alcohol	
		(B)		Lactones	
		(a)		Coumarin	
414			(p)	Phenolphthalein	
		(C)		Other heterocyclic compounds with oxygen hetero-atom(s) only	
			(5)	Safrole	
415			(10)	1-(1,3-Benzodioxol-5-yl)propan-2-one	
				Example for esters (lactone) forming part of two rings	

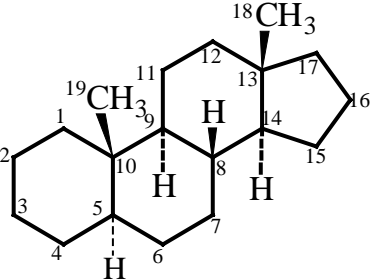
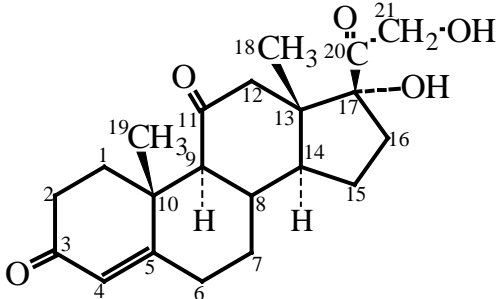
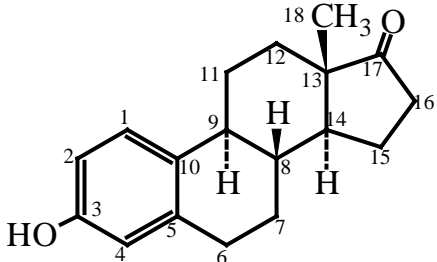
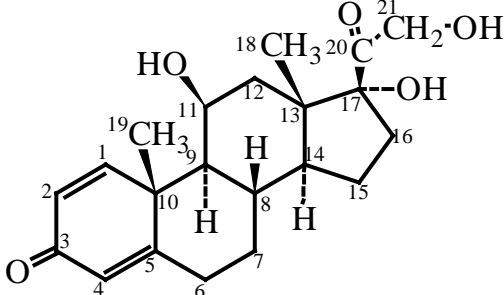
(415)	(29.32)			Example for dilactone	
				Internal Hemiacetals	
				Ketone peroxides (exclusion) - see.29.09	 
	29.33			HETEROCYCLIC COMPOUNDS WITH NITROGEN HETERO-ATOM(S) ONLY	
416		(A)		Compounds containing an unfused pyrazole ring (whether or not hydrogenated) in the structure	(See structure of pyrazole against page 408 for Sub-Chapter X (A) (2) (c))
			(1)	Phenazone	
		(B)		Compounds containing an unfused imidazole ring (whether or not hydrogenated) in the structure	(See structure of imidazole against page 408 for Sub-Chapter X (A) (2) (c))
			(1)	Hydantoin	
		(C)		Compounds containing an unfused pyridine ring (whether or not hydrogenated) in the structure	(See structure of pyridine against page 408 for Sub-Chapter X (B) (1) (c))
417		(D)		Compounds containing a quinoline or isoquinoline ring-system (whether or not hydrogenated), not further fused	(See structures of quinoline and isoquinoline against page 409 for Sub-Chapter X (C) (e))

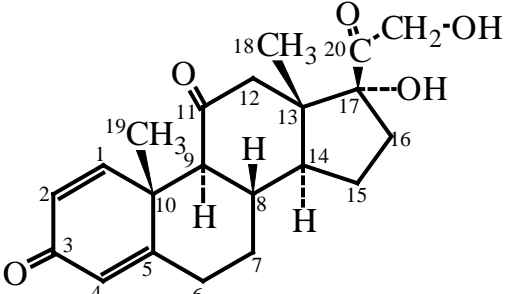
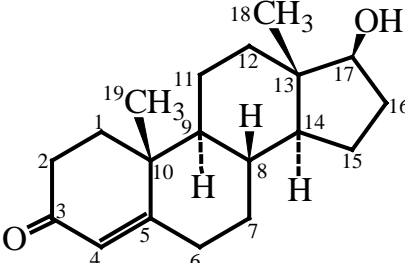
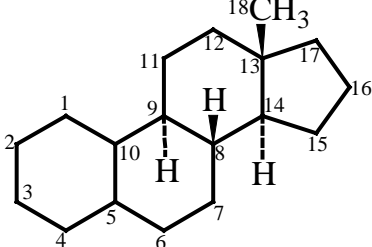
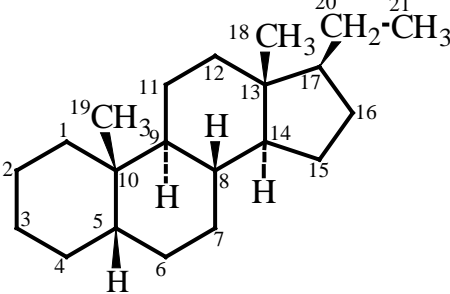
(417)	(29.33)		(4)	Tetrahydromethylquinoline (5,6,7,8-Tetrahydromethylquinoline)	
		(E)		Compounds containing a pyrimidine ring (whether or not hydrogenated) or piperazine ring in the structure	(See structure of pyrimidine against page 408 for Sub-Chapter X (B) (2) (c))
			(1)	Malonylurea (Barbituric acid)	
418		(F)		Compounds containing an unfused triazine ring (whether or not hydrogenated) in the structure	
			(1)	Melamine	
		(G)		Lactams	
		(H)		Other heterocyclic compounds with nitrogen hetero-atom(s) only	
418a		(H)	(1)	Carbazole	
			(2)	Acridine	(See structure of acridine against page 409 for Sub-Chapter X (C) (f))

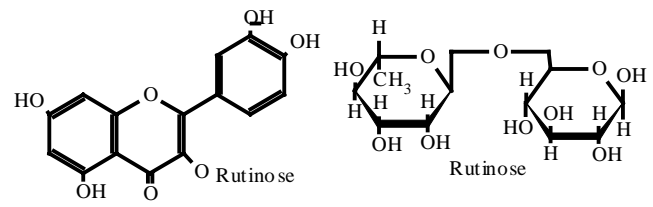
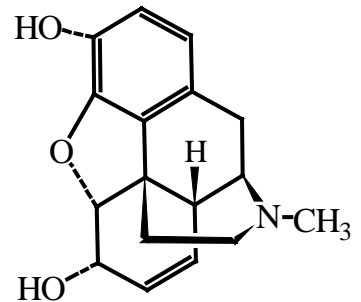
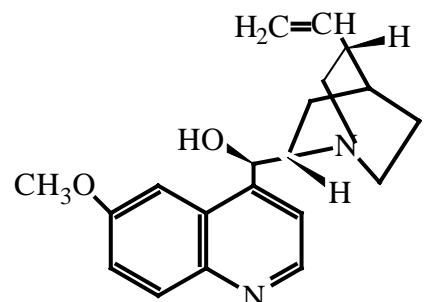
419	(29.33)			Oxazepam	
				Example for amide (lactam) forming part of two rings	
	29.34			NUCLEIC ACIDS AND THEIR SALTS; OTHER HETEROCYCLIC COMPOUNDS	
420		(A)		Compounds containing an unfused thiazole ring (whether or not hydrogenated) in the structure	(See structure of thiazole against page 408 for Sub-Chapter X (A) (2) (b))
		(B)		Compounds containing a benzothiazole ring-system (whether or not hydrogenated), not further fused	(See structure of benzothiazole against page 409 for Sub-Chapter X (C) (p))
		(C)		Compounds containing a phenothiazine ring-system (whether or not hydrogenated), not further fused	
		(D)		Other heterocyclic compounds	
		(1)		Sulfones	

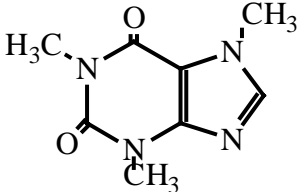
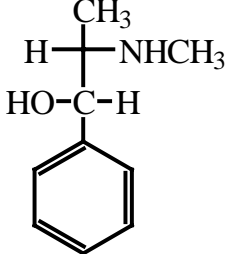
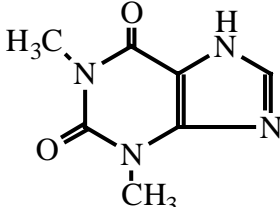
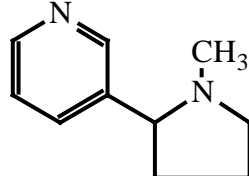
(420)	(29.34)	(D)	(1)	(a)	Phenolsulphonephthalein	
			(2)		Sultams	
			(4)		Furazolidone (INN)	
420a	29.35				SULPHONAMIDES	
421		(4)			p-Aminobenzenesulphonamide	

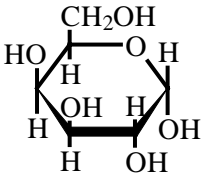
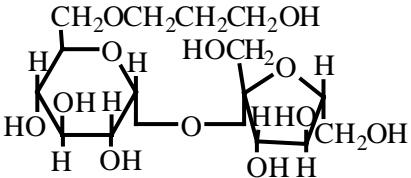
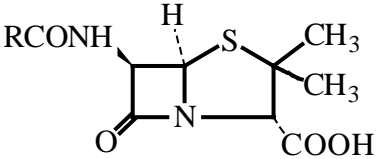
	29.37			HORMONES, NATURAL OR REPRODUCED BY SYNTHESIS; DERIVATIVES THEREOF, USED PRIMARILY AS HORMONES; OTHER STEROID USED PRIMARILY AS HORMONES	
429		-		Gonane	
431		(III)	(C)	STEROIDS USED PRIMARILY FOR THEIR HORMONE FUNCTION Progesterone (INN)	
				Hydrocortisone (INN)	

433	(29.37)			Androstane	 <p>The structure shows the androstane skeleton with carbons numbered 1 through 17. Methyl groups are attached at C-10 (labeled 19CH₃) and C-13 (labeled 18CH₃). Hydrogen atoms are explicitly shown at C-5, C-8, C-10, C-13, and C-14.</p>
				Cortisone (INN)	 <p>The structure shows the cortisone skeleton with carbons numbered 1 through 17. It features a ketone group at C-3, a double bond between C-4 and C-5, a methyl group at C-10 (labeled 19CH₃), and a methyl group at C-13 (labeled 18CH₃). The D-ring has a ketone group at C-17 and a hydroxyl group at C-20. A hydroxymethyl group (labeled 21CH₂-OH) is attached to C-20. Hydrogen atoms are explicitly shown at C-5, C-8, C-10, C-13, and C-14.</p>
434				Estrone (INN)	 <p>The structure shows the estrone skeleton with carbons numbered 1 through 17. It features an aromatic A-ring with a hydroxyl group at C-3. The D-ring has a ketone group at C-17. A methyl group is attached to C-13 (labeled 18CH₃). Hydrogen atoms are explicitly shown at C-8, C-10, C-13, and C-14.</p>
437				Prednisolone (INN)	 <p>The structure shows the prednisolone skeleton with carbons numbered 1 through 17. It features a ketone group at C-3, a double bond between C-4 and C-5, a hydroxyl group at C-11, a methyl group at C-10 (labeled 19CH₃), and a methyl group at C-13 (labeled 18CH₃). The D-ring has a ketone group at C-17 and a hydroxyl group at C-20. A hydroxymethyl group (labeled 21CH₂-OH) is attached to C-20. Hydrogen atoms are explicitly shown at C-5, C-8, C-10, C-13, and C-14.</p>

(437)	(29.37)		Prednisone (INN)	 <p>The structure shows the steroid nucleus with a ketone group at C3, a double bond between C4 and C5, a methyl group at C10, and a side chain at C13 consisting of a ketone group at C11, a methyl group at C12, and a 2-hydroxyethyl group at C14. Carbons are numbered 1 through 17, and the side chain carbons are numbered 18 through 20.</p>
			Testosterone (INN)	 <p>The structure shows the steroid nucleus with a ketone group at C3, a double bond between C4 and C5, a methyl group at C10, and a hydroxyl group at C17. Carbons are numbered 1 through 17, and the methyl group at C13 is numbered 18.</p>
-			Estrane	 <p>The structure shows the steroid nucleus with a methyl group at C10 and a methyl group at C13. Carbons are numbered 1 through 17, and the methyl groups are numbered 18 and 19.</p>
-			Pregnane	 <p>The structure shows the steroid nucleus with a methyl group at C10, a methyl group at C13, and an ethyl group at C14. Carbons are numbered 1 through 17, and the side chain carbons are numbered 18 through 21.</p>

	29.38			GLYCOSIDES, NATURAL OR REPRODUCED BY SYNTHESIS, AND THEIR SALTS, ETHERS, ESTERS AND OTHER DERIVATIVES	
439		(1)		Rutinside	
	29.39			VEGETABLE ALKALOIDS, NATURAL OR REPRODUCED BY SYNTHESIS, AND THEIR SALTS, ETHERS, ESTERS AND OTHER DERIVATIVES	
		(A)		ALKALOIDS OF OPIUM AND THEIR DERIVATIVES; SALTS THEREOF	
440a		(1)		Morphine	
		(B)		ALKALOIDS OF CINCHONA AND THEIR DERIVATIVES; SALTS THEREOF	
441		(1)		Quinine	

(441)	(29.39)	(C)		CAFFEINE AND ITS SALTS Caffeine	
		(D)	(1)	EPHEDRINES AND THEIR SALTS Ephedrine	
		(E)		THEOPHYLLINE AND AMINOPHYLLINE (THEOPHYLLINE-ETHYLENEDIAMINE) AND THEIR DERIVATIVES; SALTS THEREOF	
442				Theophylline	
		(G)		NICOTINE AND ITS SALTS Nicotine	

	29.40			SUGARS, CHEMICALLY PURE, OTHER THAN SUCROSE, LACTOSE, MALTOSE, GLUCOSE AND FRUCTOSE; SUGAR ETHERS AND SUGAR ESTERS, AND THEIR SALTS, OTHER THAN PRODUCTS OF HEADING No.29.37, 29.38 or 29.39	
444		(A)	(1)	SUGARS, CHEMICALLY PURE Galactose	$ \begin{array}{c} \text{CHO} \\ \\ \text{HCOH} \\ \\ \text{HOCH} \\ \\ \text{HOCH} \\ \\ \text{HCOH} \\ \\ \text{CH}_2\text{OH} \end{array} $ 
		(B)		SUGAR ETHERS AND ESTERS, AND THEIR SALTS	
			(1)	Hydroxypropyl sucrose	
445	29.41	(1)		ANTIBIOTICS Penicillins	
446	29.42	(1)		OTHER ORGANIC COMPOUNDS Ketenes	$ \begin{array}{c} \text{R} \\ \diagdown \\ \text{C}=\text{C}=\text{O} \\ \diagup \\ \text{R}' \end{array} $
		(2)		Copper acetoarsenite	$ \text{Cu}(\text{CH}_3\text{CO}_2)_2 \cdot 3\text{Cu}(\text{AsO}_2)_2 $
		(3)		Boron trifluoride complexes with diethyl ether	$ (\text{C}_2\text{H}_5)_2\text{O} \cdot \text{BF}_3 $