

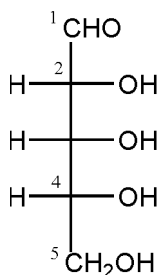
**CLASS 536, ORGANIC COMPOUNDS -- PART
OF THE CLASS 532-570 SERIES**

SUBCLASSES

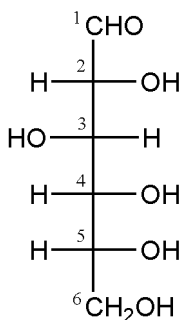
1.11 Carbohydrates and derivatives:

This subclass is indented under subclass 1.

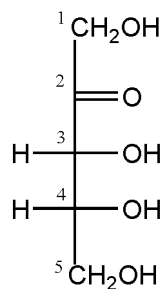
Compounds which are carbohydrates or derivatives thereof, i.e., those compounds which satisfy one of the three criteria set forth below (unless otherwise indicated, figures are representative examples only): Criterion 1: compounds whose monomeric units are polyhydroxy mono-aldehydes [1, 2] or polyhydroxy mono-ketones [3, 4] having the formula $C_n(H_2O)_n$ (wherein $n = 5$ or 6 – subsequent references to “n” refer to these values), i.e., “*acyclic saccharides*,” of which representative samples are:



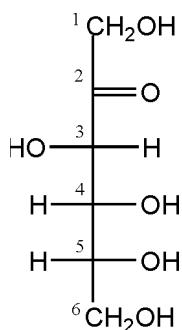
D-ribose [1]



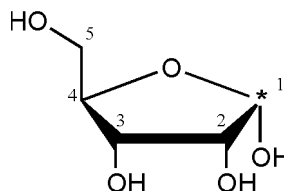
D-glucose [2]



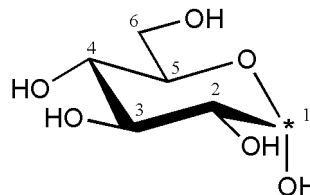
D-ribulose [3]



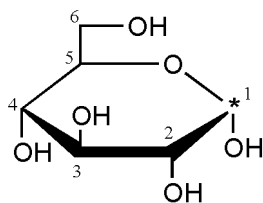
D-fructose [4] Criterion 2: the corresponding cyclic hemiacetals, i.e. “cyclic saccharides” of which representative examples are:



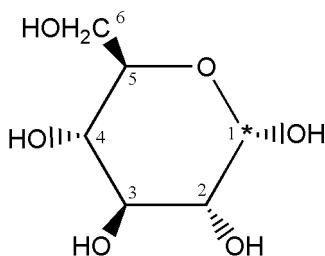
α -D-ribose D-ribofuranose [5]



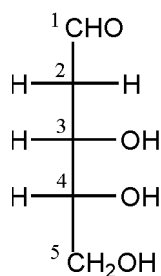
α -D-glucose D-glucopyranose [6]



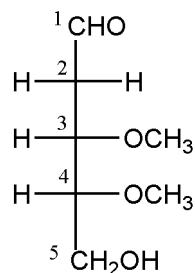
α -D-glucose D-glucopyranose [7]



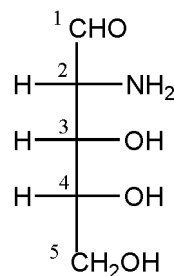
α -D-glucose D-glucopyranose [8] wherein: (i) figure [5] is the cyclic form of figure [1], (ii) figures [6-8] each depict, in a different way, α -D-glucose, which is one of the two cyclic forms of D-glucose shown in figure [2], (iii) figure [2] is a Fischer projection, figure [6] is a conformational projection, figure [7] is a Haworth projection, and figure [8] is a Mills projection, (iv) the number one carbon atom, the asterisked carbon atom, is the hemiacetal carbon and is also known as the anomeric carbon. Criterion 3: the derivatives of (1) or (2) wherein: (a) for acyclic saccharides, (i) the 5 or 6 carbon member skeleton and **the carbonyl function are not destroyed**, (ii) there are no fewer than $(n - 2)$ total $-OR$ moieties directly bonded to the carbon skeleton (wherein R is H or a group bonded to oxygen through carbon), (iii) no more than one oxygen atom is attached to any one carbon of the carbon skeleton, and structures [9-14] are illustrative:



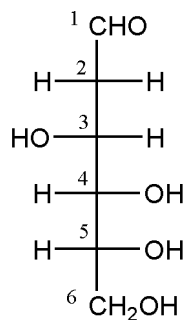
[9]



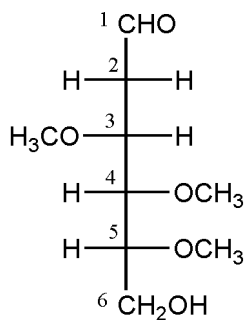
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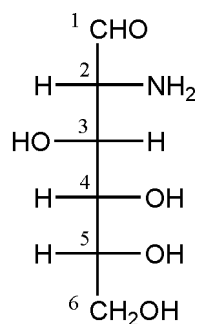
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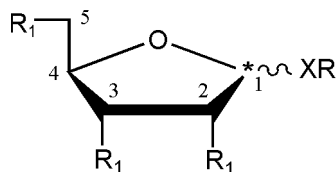
[12]



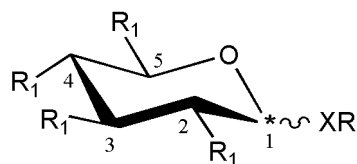
[13]



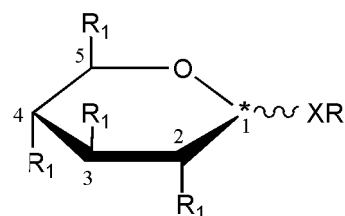
[14] (b) for *cyclicsaccharides*, except for C-glycosyl compounds described in section, and (c) there can be substitution by moieties which do not destroy the cyclic saccharide structure as long as at least one $-XH$ or $-XR$ group is bonded directly to the hemiacetal/anomeric carbon (this carbon is denoted with an asterisk in the figures below), wherein X is $-O-$, $-S-$, or $-NR_S-$ and R is H or a group bonded to X through carbon and R_S is a substituent which completes the valency of the nitrogen atom, and figures [15-18] represent the minimum structure necessary to constitute a cyclic saccharide derivative:



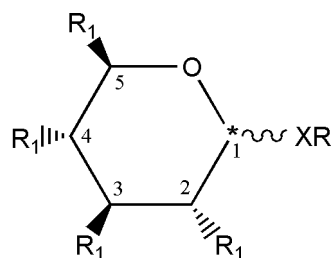
[15] $n=5$



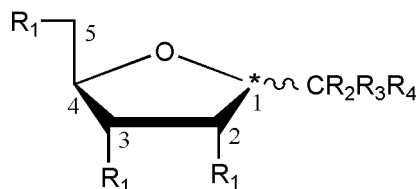
[16] $n=6$



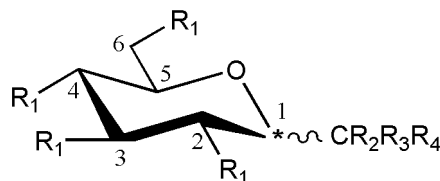
[17] $n=6$



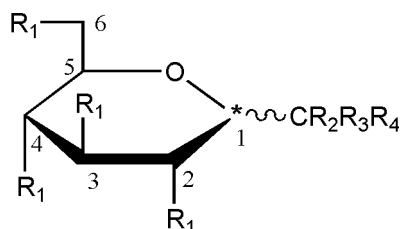
[18] $n=6$ wherein: - at least one of the R_1 (where $n = 5$) or at least two of the R_1 (where $n = 6$) must be $-OR$ wherein R is H or a group bonded to the oxygen of $-OR$ through carbon; and the representation of the bond between XR and the ring position 1 in each of the structures [15-18] signifies an a (i.e., axial) or b (i.e., equatorial) configuration (c) for cyclic saccharide, C-glycosyl-type compounds (also known as C-glycosides) (i) C-glycosyl compounds will have the structure defined below [19-21]



[19] $n=5$



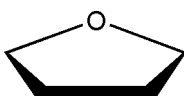
[20] $n=6$



[21] $n=6$ wherein: - at least one of the R_1 (where $n = 5$) or at least two of the R_1 (where $n = 6$) must be $-OR$ wherein R is H or a group bonded to the oxygen of $-OR$ through carbon; - R_2 , R_3 , and R_4 alone or in combination can be any substituent which completes the valency

of the carbon atom. (ii) "C-glycoside", although often used in the art to represent this type compound, is a misnomer—"C-glycosyl" is the proper term.

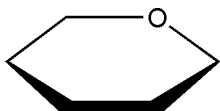
- (1) Note. All statements in this subclass definition are intended to be inclusive of all spatial and stereochemical configurations, except if otherwise specified.
- (2) Note. Oxygen heteroatom-containing cyclic compounds lacking any $-XH$ or $-XR$ bonded to the anomeric carbon of the cyclic structure are not carbohydrates/cyclic hemiacetals; such compounds are tetrahydrofurans [22] or tetrahydropyrans [23, 24]:



Tetrahydrofuran [22]

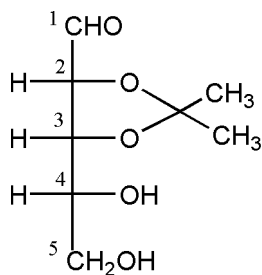


Tetrahydropyran [23]

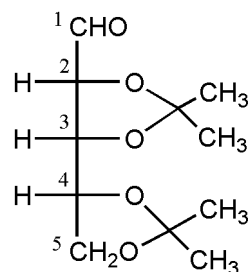


Tetrahydropyran [24]

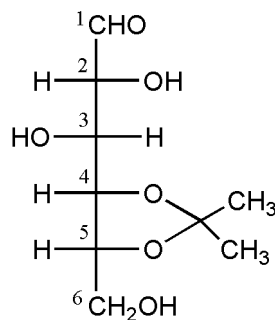
- (3) Note. Included within the scope of this class are compounds wherein oxygens which are attached to carbons of the carbohydrate skeleton are also attached to the same alkylidene or substituted alkylidene groups. See, for example, structures [25-29].



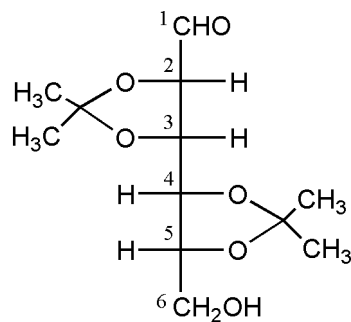
[25]



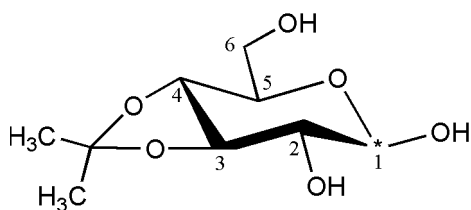
[26]



[27]



[28]



[29]

(4) Note. Carbohydrate degradation products which contain fewer than five carbon atoms in the carbohydrate moiety are not provided for in this class, but are classified elsewhere in the chemical compound area.

(5) Note. Alcohol, acid, and amine derivatives of carbohydrates which are formed by an alcohol, carboxylic acid, or amine function replacing the oxygen of the carbonyl group of an acyclic carbohydrate are not provided for in this class, but are classified elsewhere.

(6) Note. The heteroatom of the cyclic carbohydrate must be an oxygen. Compounds with different heteroatoms or compounds without a heteroatom in the cyclic structure (e.g. inositol) are not classified in this class; they are classified elsewhere.

(7) Note. Some names of common carbohydrates include:

Monosaccharides: Fructose (Fru), Fucose (Fuc), Galactosamine (GalN), Galactose (Gal), Glucosamine (GlcN), Glucose (Glc), Glucuronic acid (GlcA), Idose (Ido), Mannose (Man), Neuraminic acid (e.g., Neu5Ac, etc.), Sialic acid, Xylose (Xyl).

Oligosaccharides: Cyclodextrin, Lactose (Lac), Maltose, Raffinose, Sialyl Lewis x (sLe^x), Sucrose, Trehalose.

Homopolysaccharides (all the monomeric units are the same): Amylose/Amylopectin, Cellulose, Chitin/Chitosan, Dextran, Glucan, Inulin, Starch.

Heteropolysaccharides (different monomers comprise the repeating unit): Algin/Alginic acid, Bacterial/capsular polysaccharides; Glycosaminoglycans

(Mucopolysaccharides including Chondroitin sulfate, Dermatan sulfate, Heparin, Heparan sulfate, Hyaluronic acid, Keratan sulfate); Gums, Mannans, Pectins, Xylan.

SEE OR SEARCH THIS CLASS, SUBCLASS:

22.1 through 24.5, for nucleic acids and oligomeric or polymeric forms thereof, including DNA or RNA fragments (e.g., genes, etc.)

SEE OR SEARCH CLASS:

127, Sugar, Starch, and Carbohydrates, subclasses 36 through 41 for hydrolysis of carbohydrates by nonbiochemical methods wherein the process stops with such hydrolysis or is followed by purification, concentration, or crystallization of the sugar or sugar solution thereby produced.

162, Paper Making and Fiber Liberation, appropriate subclasses for liberating, recovering, or purifying of cellulose fibers from natural sources.

424, Drug, Bio-Affecting and Body Treating Compositions, subclass 1.73 for carbohydrates attached to radionuclides; subclasses 9.35-9.351 for carbohydrates attached to magnetic imaging agents; and subclass 9.43 for carbohydrates attached to X-ray contrast imaging agents.

428, Stock Material or Miscellaneous Articles, subclasses 532 through 537.7 for a nonstructural laminate containing a carbohydrate.

435, Chemistry: Molecular Biology and Microbiology, subclasses 72 through 105 for enzymatic or microbial processes for synthesizing a saccharide containing compound; subclasses 274-279 for using an enzyme or microorganism to recover or purify a carbohydrate material from animal, plant, or microbial material.

506, Combinatorial Chemistry Technology: Method, Library, Apparatus, for a carbohydrate library and a process of creating said library.

- 514, Drug, Bio-Affecting and Body Treating Compositions, subclasses 23 through 62 for pharmaceutical and cosmetic compositions containing a carbohydrate as the active ingredient.
- 527, Synthetic Resins or Natural Rubbers, subclasses 300 through 315 for a solid polymer derived from a carbohydrate or derivative reactant and an ethylenic reactant, a SICP or a SPFI or a process of preparing said polymer.
- 530, Chemistry: Natural Resins or Derivatives; Peptides or Proteins; Lignins or Reaction Products Thereof, subclasses 395 through 398 for glycoproteins such as proteoglycans, mucins, etc.
- 544, Organic Compounds, appropriate subclasses for purines and pyrimidines which do not have a carbohydrate attached.
- 549, Organic Compounds, subclass 315 for ascorbic acid; subclasses 356-428 for tetrahydropyrans; and subclasses 429-509 for tetrahydrofurans. Such tetrahydropyrans and tetrahydrofurans lack an -XH or -XR bonded to what would be the anomeric carbon atom of a cyclic saccharide.
- 562, Organic Compounds, subclasses 512 through 609 for compounds wherein a carboxylic acid group has replaced the carbonyl function of an acyclic carbohydrate, especially subclass 597 for oxalic acid.
- 564, Organic Compounds, for compounds wherein an amine function has replaced the carbonyl function of an acyclic carbohydrate.
- 568, Organic Compounds, subclasses 852 through 872 for compounds wherein an alcohol group has replaced the carbonyl group of an acyclic carbohydrate.
- 2** This subclass is indented under subclass 1.11. Compounds which are pectins and reaction products thereof.
- SEE OR SEARCH CLASS:
426, Food or Edible Material: Processes, Compositions, and Products, subclass 577, for food compositions containing pectin.
- 3** This subclass is indented under subclass 1.11. Compounds which are alginates or reaction products thereof.
- SEE OR SEARCH CLASS:
426, Food or Edible Material: Processes, Compositions, and Products, subclass 656, for food compositions containing algin.
- 4.1 O- or S-Glycosides:**
This subclass is indented under subclass 1.11. Compounds which an acetal or thiocetal derivatives of the cyclic forms of sugars in which the hydrogen atom of the hemiacetal hydroxyl or hemithioacetal sulfhydryl group has been replaced by an alkyl, aralkyl, or aryl group.
- (1) Note. An O- or S- glycoside is basically a compound having a sugar moiety connected to an aglycone moiety via oxygen or sulfur.
- (2) Note. On complete hydrolysis these compounds yield one or more monosaccharides, and mono or polyhydric alcohol or phenol, or sulfur analogs thereof.
- (3) Note. The cyclic sugars referred to in the definitions are normally pyranoses or furanoses.
- (4) Note. Glycosides derived from aldoses are referred to as aldoses, and those from ketoses are ketosides.
- (5) Note. This subclass includes arbutin, amygdalin, and salicin, etc.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
2, for pectins.
- SEE OR SEARCH CLASS:
560, Organic Compounds, subclass 68 for tannins some of which are probably glycosides.

4.4 Aescin or derivative:

This subclass is indented under subclass 4.1. Products which consist of a mixture of saponin glycosides (saponins) obtained from the seed of the horse chestnut tree (*Aesculus hippocastanum*).

5 This subclass is indented under subclass 4.1. Compounds in which the aglycone moiety of the glycoside contains a cyclopentanohydrophenanthrene nucleus.

6 This subclass is indented under subclass 5. Compounds wherein a six-membered hetero-O-cyclic substituent is connected directly to a carbon atom of the cyclopentanohydrophenanthrene nucleus.

6.1 Oxygen containing five-membered hetero ring:

This subclass is indented under subclass 5. Compounds wherein a five-membered hetero-O-cyclic substituent is connected directly to a carbon atom of the cyclopentanohydrophenanthrene nucleus.

- (1) Note. This subclass includes, for example, neutral saponins and glycosides having an aglycone moiety described as cardenolide. Acid saponins (i.e., triterpenoid saponins) are not subject matter for this subclass. For purposes of classification, saponins which are not designated as acid or neutral are considered neutral and are classified herein.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 4.1, for acid saponins (i.e., triterpenoid saponins) which are known not to contain the cyclopentanohydrophenanthrene nucleus.
4.4, for aescin or derivatives.

6.2 Nitrogen, phosphorus or halogen containing:

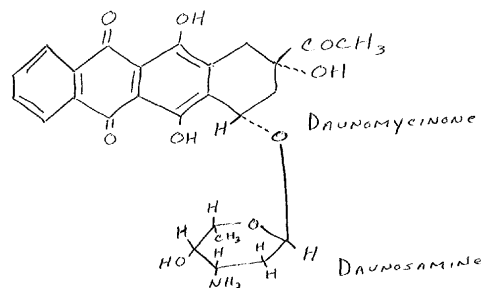
This subclass is indented under subclass 6.1. Compounds which contain nitrogen, phosphorus, or halogen.

6.3 Processes of extracting from plant materials:

This subclass is indented under subclass 6.1. Processes which include extracting the compound from plant materials.

6.4 Daunomycin or derivative:

This subclass is indented under subclass 4.1. Compounds which have the following structural formula and derivatives thereof:



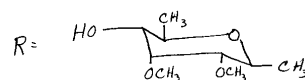
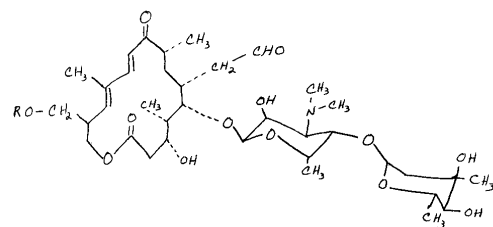
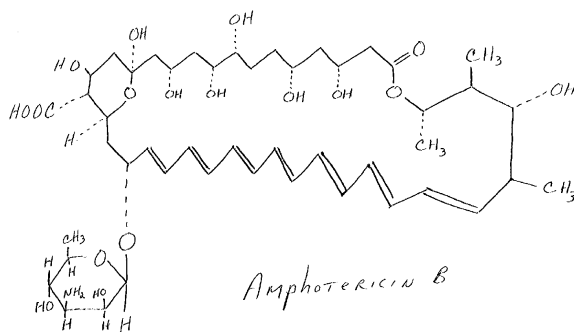
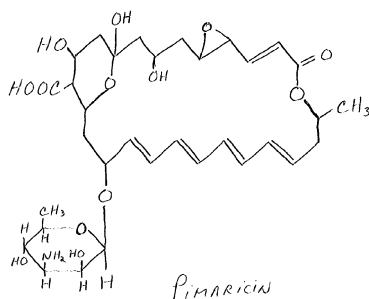
SEE OR SEARCH THIS CLASS, SUBCLASS:

- 16.8, for glycoside antibiotics structurally similar to daunomycin wherein the anthracycline structure is destroyed or wherein the amino group is removed from daunosamine.
18.7, for daunosamine, per se.

6.5 Oxygen containing hetero ring of at least twenty ring members (e.g., amphotericin, nystatin, pimarin, etc.):

This subclass is indented under subclass 4.1. Compounds which contain a hetero-O-cyclic substituent of twenty or more ring members.

- (1) Note. The compounds provided for herein are commonly referred to as "macrolide antibiotics" or "polyene macrolide antibiotics". They include a macrocyclic lactone ring with various ketonic and hydroxyl functions glycosidically bound to deoxysugars. As representative of this class of compounds there may be mentioned amphotericin A, amphotericin B, candicidin, nystatin, perimycin, and pimarin.
(2) Note. Examples of compounds provided for herein are:

*Tylosin*

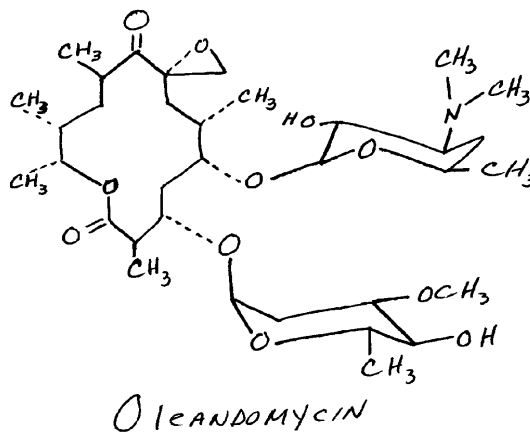
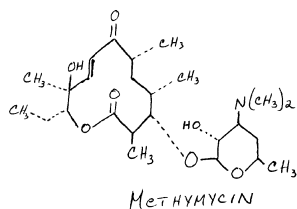
7.2 Erythromycin or derivative (e.g., oleandomycin, etc.):

This subclass is indented under subclass 7.1. Compounds which have the following structure and derivatives thereof wherein the three-part structure shown is not destroyed, and wherein the dimethylamine group of desosamine is not removed, but may be substituted.

7.1 Oxygen containing hetero ring having 12-19 members (e.g., methymycin, carbomycin, spiramycin, etc.):

This subclass is indented under subclass 4.1. Compounds which contain a hetero-O-cyclic substituent of twelve or more ring members.

- (1) Note. Examples of compounds provided for herein are:



SEE OR SEARCH THIS CLASS, SUBCLASS:

- 7.1, for desdimethylamine erythromycins.
18.7, for desosamine, per se.

7.3 Boron, phosphorus or sulfur containing:

This subclass is indented under subclass 7.2. Compounds which contain boron, phosphorus, or sulfur.

7.4 Additional nitrogen containing:

This subclass is indented under subclass 7.2. Compounds which contain at least one nitrogen other than the desosamine nitrogen.

7.5 Purification or recovery:

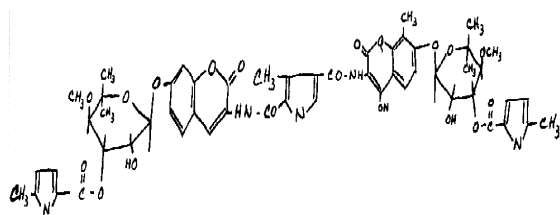
This subclass is indented under subclass 7.2. Processes which include separating the compound from impurities or from the reaction mixture.

8 This subclass is indented under subclass 4.1. Compounds which upon hydrolysis yield a sugar, or mixture of sugars, and the anthoxanthins.

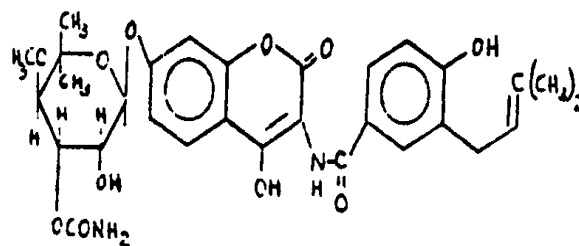
- (1) Note. The anthoxanthins include the flavones, the flavonols, the flavonones, the isoflavones and the xanthenes.
- (2) Note. The compounds are usually plant pigments.
- (3) Note. The subclass provides for rutin, quercitrin, hesperidin, citronin and eriodictin, etc.
- (4) Note. The flavone moiety is the aglycone portion of the compound.

8.8 Coumermycin or derivative:

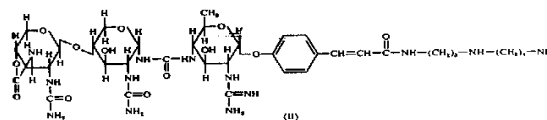
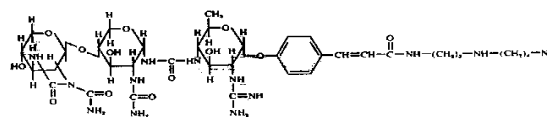
This subclass is indented under subclass 4.1. Compounds which have the following structural formula (below) and derivatives thereof.:



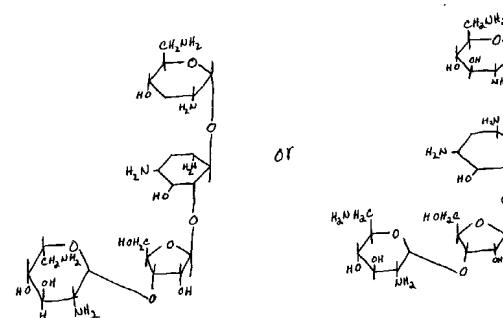
13 This subclass is indented under subclass 4.1. Compounds which have the following structural formula (below) and derivatives thereof.

**13.1 Antibiotic BM 123 or derivative:**

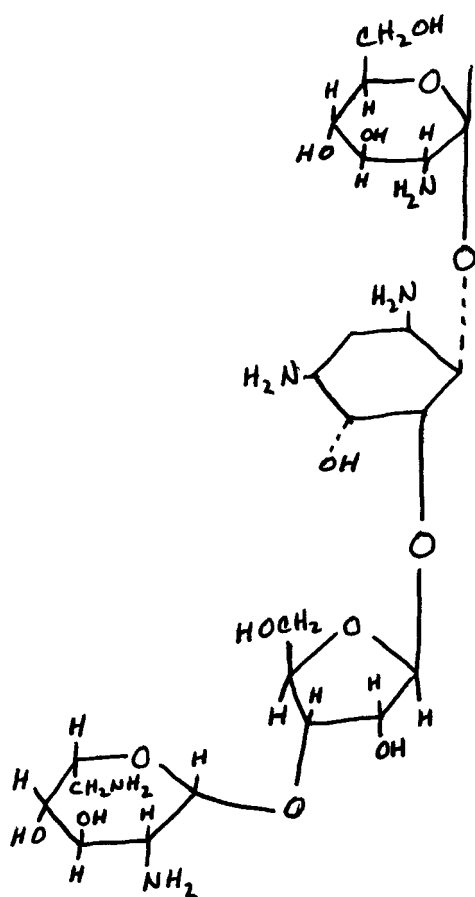
This subclass is indented under subclass 4.1. Compounds which have the following isomeric structural formulae (below) and derivatives thereof.:

**13.2 Neomycin B or neomycin C or derivative:**

This subclass is indented under subclass 4.1. Compounds which have the following structural formulae (below): and derivatives, complexes, or mixtures thereof.

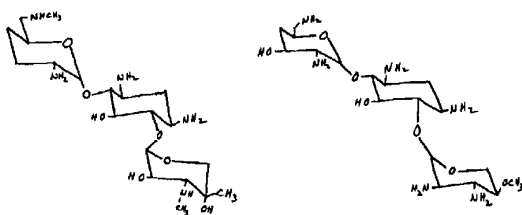
**13.3 Paromomycin or derivative (e.g., neomycin E, etc.):**

This subclass is indented under subclass 4.1. Compounds which have the following structural formula (below) and derivatives thereof.:



13.4 Antibiotic XK or derivative:

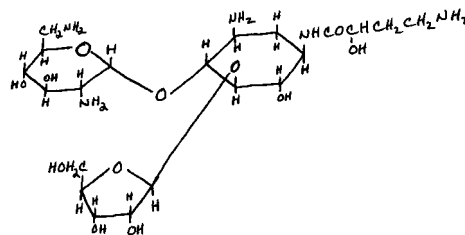
This subclass is indented under subclass 4.1. Compounds which may have any of the following structural formulae (below) and derivatives thereof.



- (1) Note. Included herein are antibiotics of the XK-88 series, such as XK-88-5, also named seldomycin factor 5, and those of the XK-62 series, such as XK-62-2.

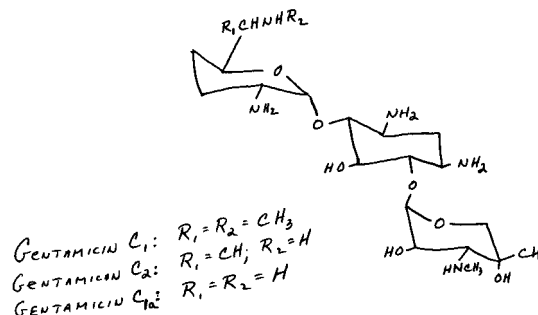
13.5 Butirosin or derivative (e.g., ambutirosin, etc.):

This subclass is indented under subclass 4.1. Compounds which have the following structural formula (below) and derivatives thereof.



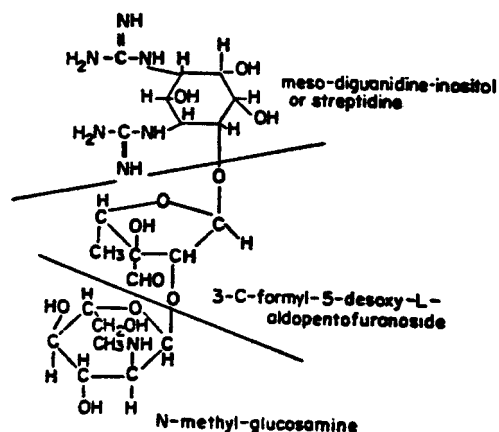
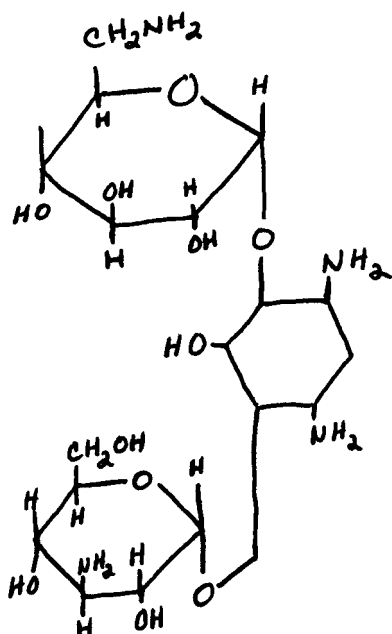
13.6 Gentamicin or derivative:

This subclass is indented under subclass 4.1. Compounds which have the following structural formula (below) and derivatives thereof.



13.7 Kanamycin or derivative:

This subclass is indented under subclass 4.1. Compounds which have the following structural formula: (below) and derivatives thereof.



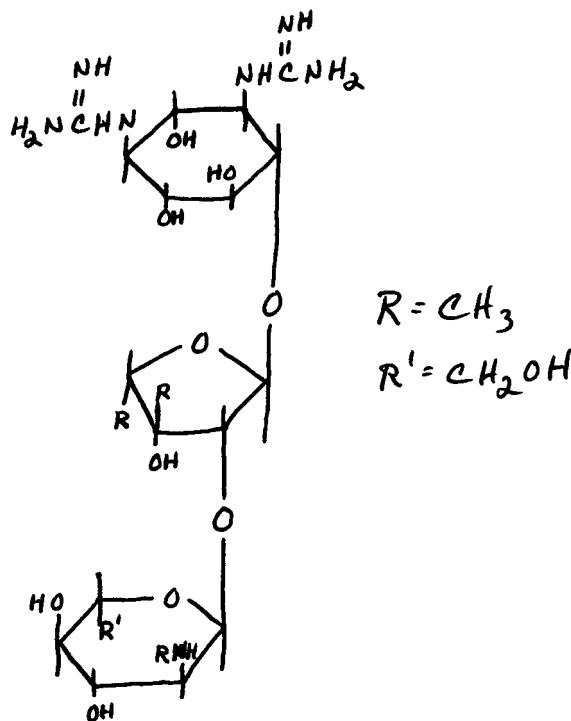
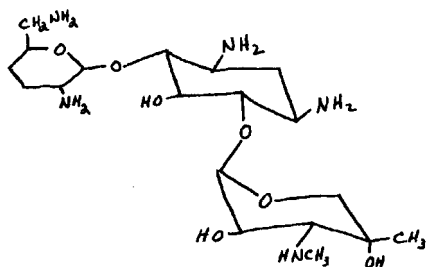
- 15 This subclass is indented under subclass 14. Compounds which are reduction products of streptomycin and have the following formula (below) and derivatives thereof.

13.8 Carbonyl bonded directly to kanamycin nitrogen:

This subclass is indented under subclass 13.7. Compounds which include at least one carbonyl group directly bonded to a nitrogen of kanamycin.

13.9 Sisomicin or derivative:

This subclass is indented under subclass 4.1. Compounds which have the following structural formula (below) and derivatives thereof.



- 14 This subclass is indented under subclass 4.1. Compounds which have the following structural formula (below) or which have the structure of any of the three main components shown in the formula; and derivatives thereof.

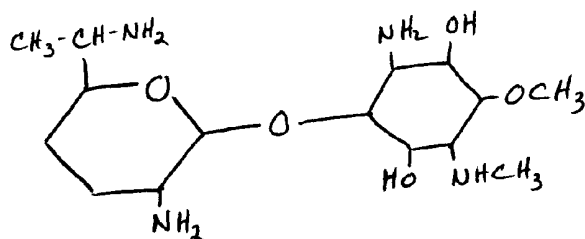
- 16 This subclass is indented under subclass 14. Compounds which result from an addition-type reaction of streptomycin, or a derivative thereof, with another compound.

(1) Note. This subclass provides for the addition salts formed by reacting strepto-

mycin with metal halides, organic amines, organic or inorganic acids, etc.

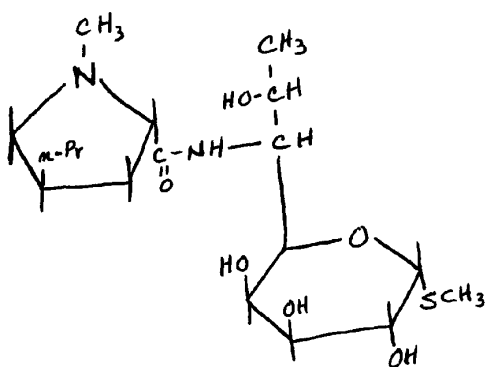
16.1 Fortimicin or derivative:

This subclass is indented under subclass 4.1. Compounds which have the following structural formula (below) and derivatives thereof.



16.2 Lincomycin or derivative:

This subclass is indented under subclass 4.1. Compounds which have the following structural formula (below) and derivatives thereof.



16.3 Cyano or -COO- containing:

This subclass is indented under subclass 16.2. Compounds which contain a -CN or -COO group.

16.4 Additional sulfur containing:

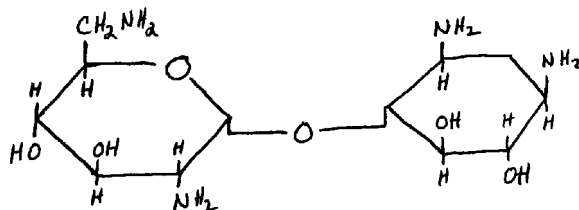
This subclass is indented under subclass 16.2. Compounds which contain at least two sulfurs.

16.5 Phosphorus or halogen containing:

This subclass is indented under subclass 16.2. Compounds which contain phosphorus or halogen.

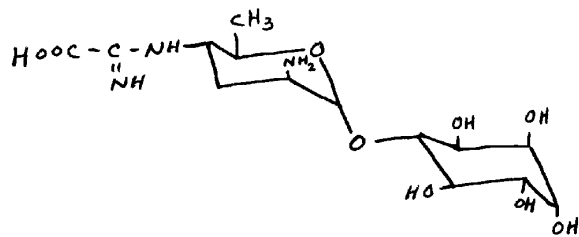
16.6 Neamine or derivative (e.g., neomycin A, etc.):

This subclass is indented under subclass 4.1. Compounds which have the following structural formula (below) and derivatives thereof.



16.7 Kasugamycin or derivative:

This subclass is indented under subclass 4.1. Compounds which have the following structural formula (below) and derivatives thereof.



16.8 Antibiotics:

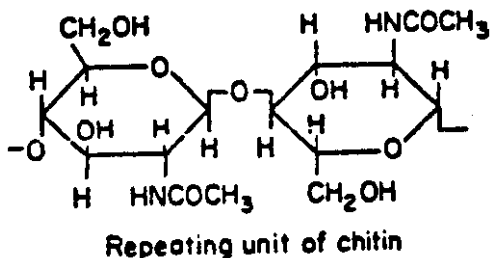
This subclass is indented under subclass 4.1. Compounds which have the capacity to inhibit the growth of or destroy micro-organisms and are generally employed to kill disease in a person or animal.

- (1) Note. Antibiotics are generally produced by a bacterium or fungus, however, such processes are not provided for herein.
- (2) Note. The compound may be antibacterial or antifungal.
- (3) Note. This subclass provides for antibiotics which are not provided for in specific antibiotic subclasses above.

SEE OR SEARCH CLASS:

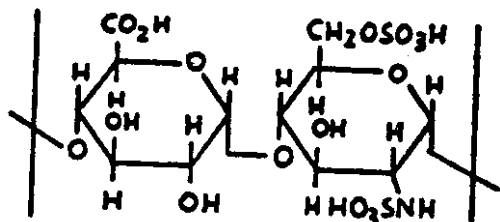
435, Chemistry: Molecular Biology And Microbiology, for processes of making antibiotics by cultivating micro-organisms.

- 16.9 Purification or recovery:**
This subclass is indented under subclass 16.8. Processes which include separating the antibiotic(s) from impurities or from the reaction mixture.
- 17.1 Boron, phosphorus, heavy metal or aluminum containing:**
This subclass is indented under subclass 4.1. Compounds which contain boron, phosphorus, a metal having a specific gravity greater than four, or aluminum.
- 17.2 Nitrogen containing:**
This subclass is indented under subclass 4.1. Compound which contain nitrogen.
- 17.3 Nitrogen containing hetero ring:**
This subclass is indented under subclass 17.2. Compounds which contain nitrogen containing heterocyclic ring.
- 17.4 Nitrogen in aglycone moiety:**
This subclass is indented under subclass 17.3. Compound which contain nitrogen in the aglycone (nonsugar) moiety of the glycoside.
- 17.5 Sulfur containing (e.g., methylthiolinosaminide, etc.):**
This subclass is indented under subclass 17.2. Compounds which contain sulfur.
- 17.6 Nitrogen or sulfur in aglycone moiety:**
This subclass is indented under subclass 17.5. Compounds which contain nitrogen or sulfur in the aglycone (nonsugar) moiety of the glycoside.
- 17.7 Nitro or nitroso containing:**
This subclass is indented under subclass 17.2. Compounds which contain nitro or nitroso.
- 17.8 Nitrogen in aglycone moiety:**
This subclass is indented under subclass 17.7. Compounds which contain nitrogen in the aglycone (nonsugar) moiety of the glycoside.
- 17.9 Nitrogen in aglycone moiety:**
This subclass is indented under subclass 17.2. Compounds which contain nitrogen in the aglycone (nonsugar) moiety of the glycoside.
- 18.1 Polycyclo ring system (e.g., hellebrin, etc.):**
This subclass is indented under subclass 4.1. Compounds which contain a polycyclo ring system.
- 18.2 Containing -C(=X)X- wherein the X's are the same or diverse chalcogens:**
This subclass is indented under subclass 4.1. Compounds which contain a -C(=X)X- group wherein the X's are the same or different and are O, S, Se, or Te.
- 18.3 Plural oxyalkylene groups bonded directly to each other.**
This subclass is indented under subclass 4.1. Compounds which contain two or more successive oxyalkylene groups.
- 18.4 Halogen containing:**
This subclass is indented under subclass 4.1. Compounds which contain halogen.
- 18.5 Processes:**
This subclass is indented under subclass 4.1. Processes which are directed to the preparation, purification, recovery, stabilization of treatment of an O- or S- glycoside.
- 18.6 Reacting a carbohydrate with an organic -O- containing compound (e.g., reacting glucose with methanol, etc.)**
This subclass is indented under subclass 18.5. Processes which include preparing the glycoside by reacting a carbohydrate with an organic compound containing -O-.
- 18.7 Nitrogen containing:**
This subclass is indented under subclass 1.1. Compounds which are nitrogen containing derivatives of carbohydrates.
- 20**
This subclass is indented under subclass 18.7. Compounds which upon acid hydrolysis yield acetylglucosamine and which are polysaccharides having the following repeating unit (below) and derivatives thereof.



- (1) Note. Chitin is a horny substance that forms part of the hard outer shell of insects and crustaceans and is structurally similar to cellulose.

- 21** This subclass is indented under subclass 18.7. Compounds which are polysaccharides containing the following repeating unit wherein the degree of sulfation of the individual components in the polysaccharide is apparently not uniform and may vary at different areas of the carbohydrate chain, and derivatives thereof.



- (1) Note. Heparin is a natural substance which can be found in various tissues of mammals, especially the lung, spleen, liver and muscle, and has been used medicinally for coagulation of blood and metabolism of lipids.

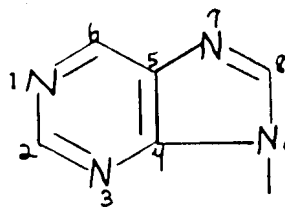
22.1 N-glycosides, polymers thereof, metal derivatives (e.g., nucleic acids, oligonucleotides, etc.):

This subclass is indented under subclass 18.7. Compounds which are glycosidic derivatives of the cyclic forms of sugars in which the aglycone portion is attached thru nitrogen to the sugar moiety by substituting it for the hemiacetal hydroxyl of the sugar.

- (1) Note. The compounds included herein are N-glycosides, nucleic acids, oligonu-

cleotides, metal derivatives of nucleic acids, etc.

- (2) Note. A nucleoside is an N-glycoside wherein the aglycone portion is a pyrimidine ring or a purine ring system attached thru ring nitrogen to a pentose sugar (either a ribose or a deoxyribose).
- (3) Note. A nucleotide is a phosphorylated nucleoside.
- (4) Note. Polynucleotides, also called nucleic acids, are covalently linked series of nucleotides in which the 3i position of the pentose of one nucleotide is joined by a phosphodiester group to the 5i position of the next.
- (5) Note. DNA (deoxyribonucleic acid) and RNA (ribonucleic acid) are biologically occurring polynucleotides in which the nucleotide residues are linked in a specific sequence by phosphodiester linkages.
- (6) Note. The numbering of the members of the purine ring system in these subclasses does not follow the Ring Index numbering system. The numbering system followed is:



SEE OR SEARCH THIS CLASS, SUBCLASS:

- 4+, for glycosides wherein the aglycone moiety is attached to the sugar portion through an oxygen or sulfur atom.
- 25.5, for homopolymers wherein the monomeric unit is a nucleotide or a nucleoside.

