C07H

SUGARS; DERIVATIVES THEREOF; NUCLEOSIDES; NUCLEOTIDES; NUCLEIC ACIDS (derivatives of aldonic or saccharic acids C07C, C07D; aldonic acids, saccharic acids C07C 59/105, C07C 59/285; cyanohydrins C07C 255/16; glycals C07D; compounds of unknown constitution C07G; polysaccharides, derivatives thereof C08B; DNA or RNA concerning genetic engineering, vectors, e.g. plasmids, or their isolation, preparation or purification C12N 15/00; sugar industry C13)

Definition statement

This place covers:

Compounds containing saccharide radicals, sugars and their derivatives, e.g.:

- Saccharides, deoxysugars, anhydrosugars and 1,2-ketoaldoses;
- Aminosugars, aza-, thio-, seleno- and telluro analogues;
- Sugar esters, sugar ethers, glucosides and cyclic acetals;
- Sugar derivatives containing acylic, carbocyclic or heterocyclic radicals;
- Sugar derivatives containing boron, silicon or a metal;

Nucleosides, nucleotides

Nucleic acids produced by chemical preparation

Processes for the preparation of the above compounds.

Relationships with other classification places

In class C07, the last place priority rule is used, i.e. in the absence of an indication to the contrary, a compound is classified in the last appropriate subclass. Hence, while individual heterocycle-containing amino acids are classified in C07D, peptides are generally classified in C07K. Similarly, compounds containing saccharide radicals, with the exception of polysaccharides, are classified in this subclass, and heterocyclic steroids are classified under C07J. Heterocycles incorporating elements other than C, H, halogen, N, O, S, Se, Te are classified in C07F.

This subclass is a function oriented entry for the compounds themselves and does not cover the application or use of the compounds under the subclass definition. For classifying such information other entries in IPC exist, for example:

- Compounds or compositions for preservation of bodies of humans, animals, plants, or parts thereof, as biocides, e.g. disinfectants, pesticides, herbicides, as pest repellents or attractants, and as plant growth regulators are classified in A01N.
- Preparations for medical, dental, or toilet purposes are classified in A61K.

MULTIPLE CLASSIFICATION

Compounds classified in C07H are given additional classification according to the table below:

Field	Further classified in subclass
Preservation of bodies of humans or animals or plants or parts thereof; biocides, e.g. as disinfectants, as pesticides or as herbicides; pest repellants or attractants; plant growth regulators	A01N
Biocidal, pest attractant, or plant growth regulatory activity of chemical compounds or preparations	**A01P** (IPC)
Foods or foodstuffs; Their preparation or treatment	A23L

Preparations for medical, dental, or toilet purposes	A61K (IPC)
Therapeutic activity of chemical compounds	A61P
Uses of cosmetics or similar toilet preparations	A61Q
Chemical or physical processes, e.g. catalysis, colloid chemistry; their relevant apparatus	B01J
Nanotechnology	B82B, B82Y
General methods of organic chemistry; apparatus therefor	C07B
Macromolecular compounds obtained by reactions only involving carbon-to-carbon unsaturated bonds	C08F
Macromolecular compounds obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds	C08G
Organic dyes or closely-related compounds for producing dyes; mordants; lakes	C09B
Measuring or testing processes involving enzymes or microorganisms; compositions therefor; processes of preparing such compositions	C12Q
Combinatorial chemistry; libraries, e.g. chemical libraries, in silico libraries	C40B

References

Limiting references

This place does not cover:

Derivatives of aldonic or saccharic acids	C07C, C07D
Sugar alcohols that are hydrogenated forms of carbohydrates, whose carbonyl group (aldehyde or ketone) has been reduced to a primary or secondary hydroxyl group, when they do not have an anomeric acetal or ketal (such as xylitol, mannitol, sorbitol).Maltitol ((4-O-α-D-Glucopyranosyl-D-glucitol) contains a glycosidic linkage (i.e. anomeric acetal group) and is classified in C07H.	C07C
Alcohols (polyols) of cyclohexane, such as inositol	C07C 35/16
Aldonic acids, saccharic acids	C07C 59/105, C07C 59/285
Cyanohydrins	C07C 255/16
Glycals	C07D
Compounds of unknown constitution, glycosides	C07G
Steroid glycosides	C07J, C07J 17/00
Peptides	C07K
Polysaccharides, derivatives thereofwhich for the purpose of this subclass are defined as having more than five saccharide radicals attached to each other by glycosidic linkages	C08B
DNA or RNA concerning genetic engineering, vectors, e.g. plasmids, or their isolation, preparation or purification	C12N 15/00
Using enzymes or microorganisms for the preparation of compounds containing saccharide radicals	C12P 19/00

Production of sucrose. Saccharides, other than sucrose, obtained from natural sources or by hydrolysis of naturally occurring di-, oligo- or polysaccharides	C13B, C13K

Application-oriented references

Examples of places where the subject matter of this place is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:

Sugar industry	C13

Informative references

Attention is drawn to the following places, which may be of interest for search:

Brewing of beer	C12C
Preparation of wine or other alcoholic beverages	C12G
Measuring or testing processes involving nucleic acids	C12Q 1/68
Electrolytic or electrophoretic processes for the production of compounds.	C25B
Chemical features in the manufacture of artificial filaments, threads, fibres, bristles, or ribbons; apparatus specially adapted for the manufacture of carbon filaments	D01F
Investigating or analysing materials by determining their chemical or physical properties	G01N

Special rules of classification

Only explicitly disclosed examples that are covered by the claims ("claimed examples") are classified.

The examiner first look at the claims and only classify the single examples of the description/claims falling within the scope of the claims.

Claimed embodiments are thus classified only if they represent an enabling disclosure, which could be used for a novelty/inventive step reasoning against another document.

Further compounds/processes of the description, which have not been claimed, are not classified.

Broad claims are hence disregarded for the purporse of classification as they would not be useful for novelty/inventive step.

If the patent (application) is of interest for other fields, further classification(s) must be given ("circulation of documents"), in order to ensure that the document can be found when searching in the relevant field.

Should the compound/process be classifed in C07H, the two following additional classifications are given only in the IPC (not in CPC).

Preparations for medical, dental, or toilet purposes	A61K (IPC)
Therapeutic activity of chemical compounds	A61P

In this subclass, in the absence of an indication to the contrary, a compound is classified in the last appropriate place.

In general, and in the absence of any indication to the contrary, the terms "acyclic" and "aliphatic" are used to describe compounds in which there is no ring; and, if a ring were present, the compound would be taken by the "last place" rule to a later group for cycloaliphatic or aromatic compounds, if such a group exists.

Where a compound or an entire group of compounds exists in tautomeric forms, it is classified as though existing in the form which is classified last in the system, unless the other form is specifically mentioned earlier in the system.

Chemical compounds and their preparation are classified in the groups for the type of compound prepared. The processes of preparation are also classified in the groups for the types of reaction employed, if of interest.

General processes for the preparation of a class of compounds falling into more than one main group are classified in the groups for the processes employed, when such groups exist.

The compounds prepared are also always classified in the groups for the types of compound prepared.

That means that a process will be always be given at least a class for the products obtained by that process, regardless of whether the product is known or not.

For instance, a process for preparing glucose will always be assigned the classification for glucose (i.e. C07H 3/02) and additionally main group C07H 1/00 or one of its subgroups, if the process is of interest.

Salts of a compound, unless specifically provided for, are classified as that compound.

Metal chelates are classified in C07H 23/00.

Salts, adducts or complexes formed between two or more organic compounds are classified according to all compounds forming the salts, adducts or complexes.

In this subclass only compounds derived from acyclic polyhydroxy-aldehydes or acyclic polyhydroxy-ketones, or from their cyclic tautomers, by removing hydrogen atoms or by replacing hetero bonds to oxygen by the same number of hetero bonds to halogen, nitrogen, sulfur, selenium, or tellurium are classified.

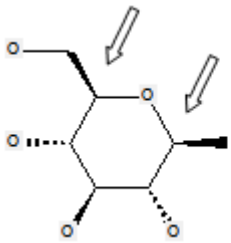
The compounds of this subclass must have at least one of the following functional groups, wherein the two hetero bonds to oxygen can be replaced by the same number of hetero bonds to halogen, nitrogen, sulfur, selenium, or tellurium:

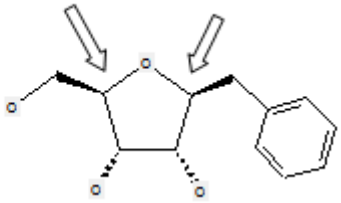
- aldehyde
- ketone
- hemiacetal
- hemiketal
- acetal
- ketal

Examples:

These compounds are not classified in C07H but in C07D, as no acetal group is present (the carbon atoms not forming a cyclic acetal are indicated by the arrows in the formulas below):

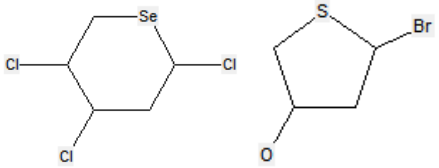
(classified only in C07D)

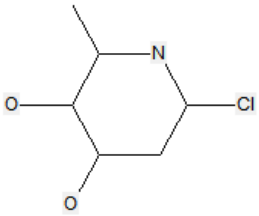




According to definition (a)(iii) and (b) below for a saccharide radical, some compounds comprising hetero bonds to halogen, nitrogen, sulfur, selenium, or tellurium should be classified in C07H and not in C07D (following the last place rule). Nonetheless, both classifications C07H and C07D have sometimes been given, for example, the following compounds should be classified in C07H but might also have additional classification in C07D:

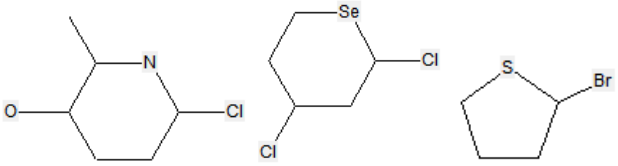
(should be classified in C07H but might have additional classification in C07D)



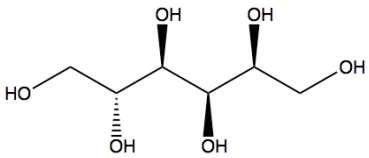


The following compounds should only be classified in C07D (see definition (a)(iii) and (b) below for a saccharide radical), as they do not have at least three carbon atoms - at least two in the case of a skeleton having only four carbon atoms - having one single bond to oxygen (or to halogen, nitrogen, sulfur, selenium, or tellurium atom) as the only hetero bond:

(classified only in C07D)



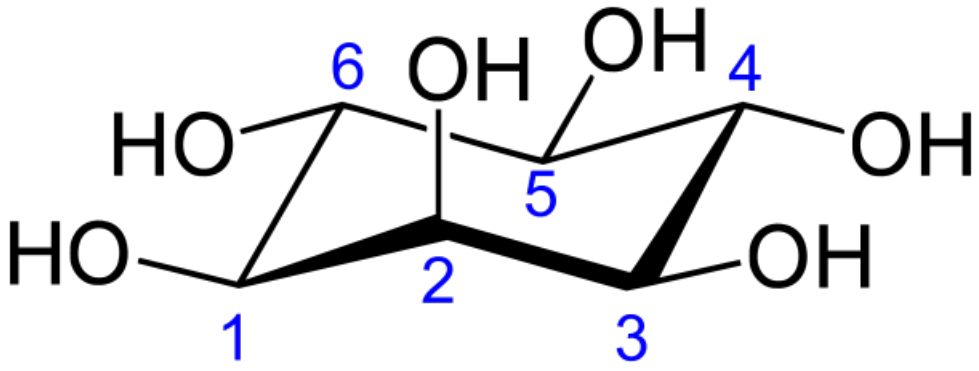
Sugar alcohols are not classified in C07H, if they have neither a carbonyl group (aldehyde or ketone) nor an anomeric acetal or ketal. For example sorbitol, is classified only in C07C



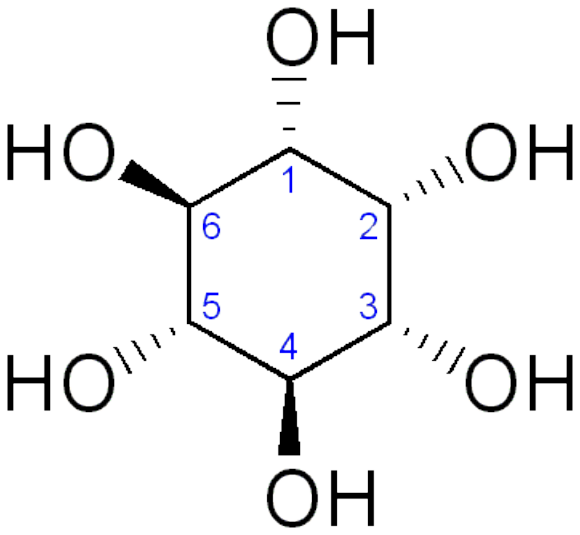
sorbitol (classified in C07C)

Inositol or cyclohexane-1,2,3,4,5,6-hexol is a sixfold alcohol (polyol) of cyclohexane, does not contain, in the cyclic sequence, at least one other carbon atom having two single bonds to oxygen atoms as the only hetero bonds

myo-inositol (classified in C07C 35/16)

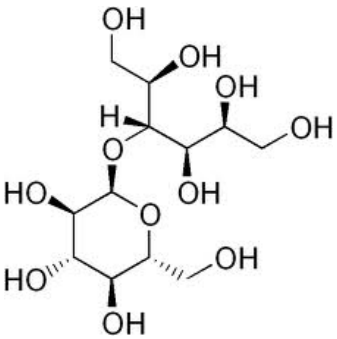


or



Maltitol ((4-O-α-D-Glucopyranosyl-D-glucitol) contains a glycosidic linkage (i.e. anomeric acetal group) and is classified in C07H.

maltitol (classified in C07H)

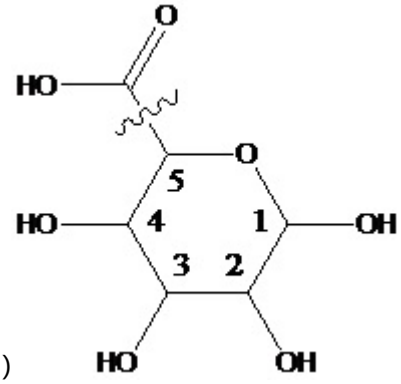
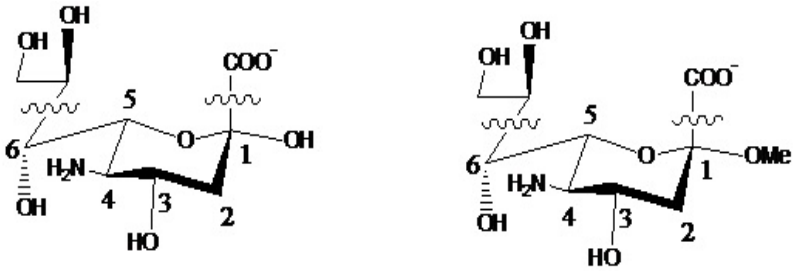


Glossary of terms

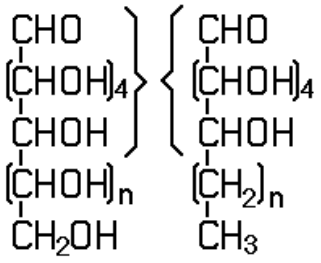
In this place, the following terms or expressions are used with the meaning indicated:

Acyclic, aliphatic	Describe compounds in which there is no ring. Acyclic chains may be linear or branched.

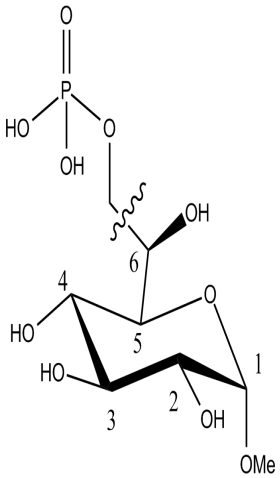
Carbocyclic	Where all ring members in a ring are carbon atoms.
Chelate	Intracomplex compound i.e. compound containing intramolecular donor-acceptor bonds.
Heteroatom	Any atom that is not carbon or hydrogen.
Heterocyclic radical or hetero ring	Wherein at least one ring member in a molecule containing a ring of atoms is not a carbon atom.These are considered to exclude saccharide radicals as defined below.
Inorganic compound	A compound devoid of a carbon atom and containing a non-metallic element, or a compound containing a carbon atom, and satisfying one of the following criteria: the compound cannot have a carbon atom having direct bonding to another carbon atom, or the compound cannot have direct bonding between a carbon atom and a halogen or hydrogen atom, or the compound cannot have direct bonding between a carbon and a nitrogen atom by a single or double bond.The following are exceptions to the above and are to be considered as inorganic compounds: compounds consisting of only carbon atoms, (e.g. fullerenes), cyanogen, cyanogen halides, cyanamide, phosgene, thiophosgene, hydrocyanic acid, isocyanic acid, isothiocyanic acid, fulminic acid, unsubstituted carbamic acid, and salts of the previously mentioned acids and which contain the same limitations as to a carbon atom.
Non-metal	The elements of hydrogen, carbon, halogen (fluorine, chlorine, bromine, iodine and astatine), oxygen, sulfur, phosphorus, silicon, nitrogen, boron, selenium, tellurium and noble gases (helium, neon, argon, krypton, xenon and radon).
Metal	Any element other than a non-metal.
Organic compound	Compound satisfying one of the following criteria: At least two carbon atoms bonded to each other, or One carbon atom bonded to at least one hydrogen atom or halogen atom, or One carbon atom bonded to at least one nitrogen atom by a single or double bond.Exceptions to the above criteria are: compounds consisting of only carbon atoms (e.g., fullerenes, etc.), cyanogen, cyanogen halides, cyanamide, metal carbides, phosgene, thiophosgene, hydrocyanic acid, isocyanic acid, isothiocyanic acid, fulminic acid, unsubstituted carbamic acid, and salts of the previously mentioned acids; these exceptions are considered to be inorganic compounds for classification purposes.
Phosphonic acid	R-P(=O)(OH)2 (wherein R-P is a P-C bond)
Phosphinic acid	(R)2P(=O)OH (wherein R-P is a P-C bond))
Polysaccharide	A compound having more than five saccharide radicals attached to each other by glycosidic linkages.

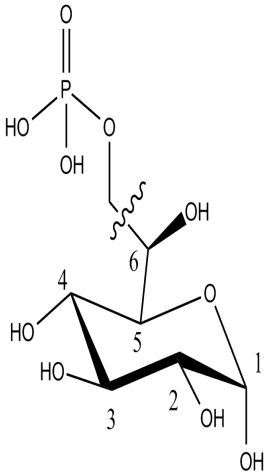
Saccharide radical	Radical derived from acyclic polyhydroxy-aldehydes or acyclic polyhydroxy-ketones, or from their cyclic tautomers, by removing hydrogen atoms or by replacing hetero bonds to oxygen by the same number of hetero bonds to halogen, nitrogen, sulfur, selenium, or tellurium, in accordance with either of the following definitions: Consists of an uninterrupted carbon skeleton and oxygen atoms directly attached thereto, andIs considered to be terminated by every bond to a carbon atom of a cyclic structure and by every bond to a carbon atom having three bonds to hetero atoms, e.g. ester or nitrile radicals, and example:the saccharide radical consists of an uninterrupted carbon skeleton of 5 carbon atoms and oxygen atoms directly attached thereto, and is considered to be terminated by the bond to the carbon atom having three bonds to oygen (i.e.  hetero atom) i) Contains within the carbon skeleton an unbranched sequence of at the most six carbon atoms in which at least three carbon atoms - at least two in the case of a skeleton having only four carbon atoms - have one single bond to an oxygen atom as the only hetero bond, and A) In a cyclic or acyclic sequence, at least one other carbon atom has two single bonds to oxygen atoms as the only hetero bonds, or B) In an acyclic sequence, at least one other arbon atom has one double bond to an oxygen atom as the only hetero bond, example: ii) The said sequence containing at the most one double bond, i.e. C=C or possibly ketalised C(=O), in addition to the hetero bonds mentioned above under (A) or (B), b) It is also a radical derived from a radical as defined in (a) above by replacing at the most four of the specified hetero bonds to oxygen by the same number of hetero bonds to halogen, nitrogen, sulfur, selenium, or tellurium; Note: "heterocyclic radical" or "hetero ring" is considered to exclude saccharide radicals as defined above. Example 1: neuraminic acid  the saccharide radical of neuraminic acid consists of an uninterrupted carbon skeleton and oxygen atoms directly attached thereto, and is considered to be terminated by the bond of carbon number 1 to the carboxylic radical (the saccharide radical has 8 carbon atoms altogether). It contains: - (point i above) within the 8-carbon-atom skeleton an unbranched sequence of at

the most six carbon atoms (see numbering below) in which at least three carbon atoms have one single bond to an oxygen atom as the only hetero bond (see carbon atoms numbered 3, 4, 5, 6), and - (point A above) in the cyclic sequence at least one other carbon atom (carbon 1) has two single bonds to oxygen atoms as the only hetero bonds, - (point ii above) the saccharide radical of neuraminic acid does not contain further double bonds, - it is derived by replacing one of the bond to oxygen by a bond to nitrogen (nitrogen connected to carbon 4) The first molecule (neuraminic acid) has one "non-saccharide" radical attached to carbon 1 and possible classification can only be C07H 7/027 (ketoaldonic acid at position 1, see also the WIPO definition at http://www.wipo.int/ipcpub/illustration/#symbol=C07H0007027000&count=1&version=20110101). The second molecule has one "non-saccharide" radical attached to carbon 1 (C07H 7/027, ketoaldonic acid) another "non-saccharide" radical attached to carbon 1 (C07H 15/02, methyl ether), the right classification is C07H 15/02 according to the last place priority rule, as the anomeric oxygen in methylated. Examples 2-3: in the following two examples the saccharide radical (for the purpose of this classification only) is the whole molecule, and the unbranched sequence of at the most six carbon atoms is indicated with a bracket within the saccharide radical:

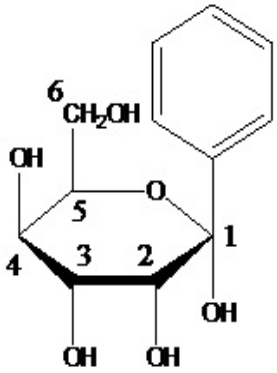


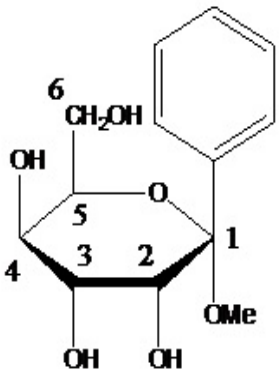
Examples 4-5:



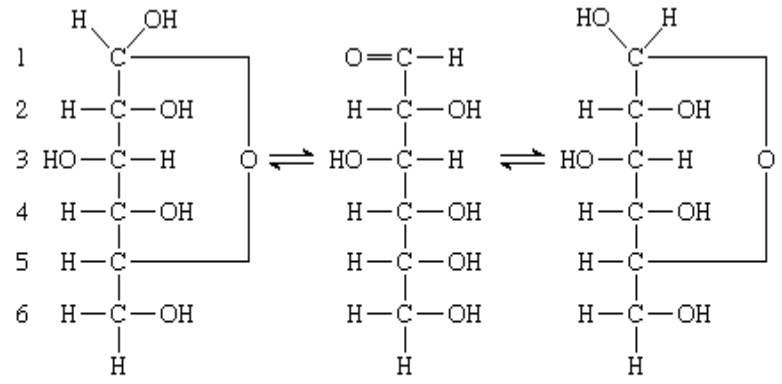


The saccharide radical is the carbon skeleton of 7 carbon atoms, and the unbranched sequence of at the most six carbon atoms is numbered from 1 to 6 in the two molecules. The first molecule has two "non-saccharide" radicals attached to carbons 1 and 7, possible classifications could be C07H 7/04 (phosphate radical at position 7) or C07H 15/02 (radical at oxygen at position 1). The correct classification is then C07H 15/02 according to the last place priority rule. The same applies to the second molecule, which has however only one possible classification, i.e. C07H 11/04. Examples 6-7:

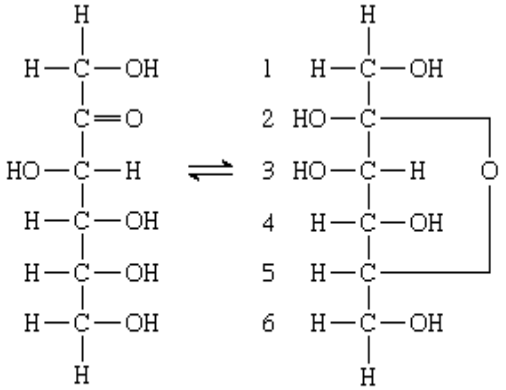




The saccharide radical is the carbon skeleton numbered from 1 to 6 in the two molecules . The saccharide radical starts at the anomeric carbon atom, having a bond to a carbon atom of a cyclic structure (phenyl), wich "terminates" the saccharide radical . The first molecule has one "non-saccharide" radical attached to carbon 1, the only possible classification is C07H 7/04 (phenyl group) . The second molecule has two "non-saccharide" radicals attached to carbon 1, possible classifications could be C07H 7/04 (phenyl group) or C07H 15/02 (methyl at the oxygen connected to carbon 1). The correct classification of the second molecule is then C07H 15/02 according to the last place priority rule. Hemiacetal and hemiketal forms of saccharide radicals Saccharide radicals derived from cyclic tautomers of acyclic polyhydroxy-aldehydes or acyclic polyhydroxy-ketones are in cyclic hemiacetal and hemiketal forms. This is a type of stereoisomerism involving formation of an asymmetrical centre at the aldehyde carbon in aldoses and the keto carbon in ketoses. Examples are given for glucose and fructose below.

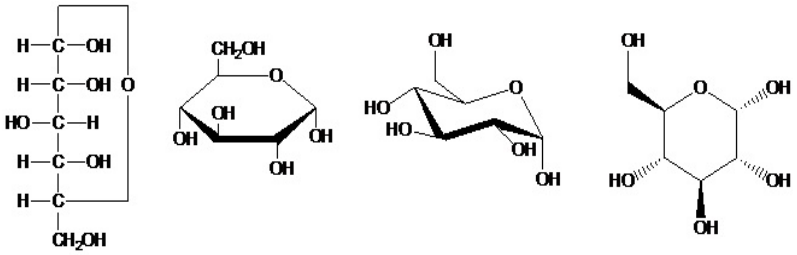


α-D-glucose (hemiacetal form) | D-glucose (linear, open-chain, or free form) | β-D-glucose (hemiacetal form)



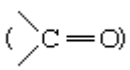
D-fructose (linear, open-chain, or free form) | α-D-fructose (hemiketal form)

Different projections exist for depicting those cyclic tautomers. The projections of α-D-glucopyranose are illustrated below:

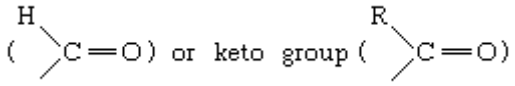
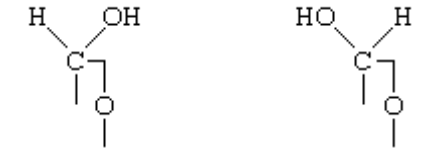


1 **2** **3** **4**

1 = fischer projection; 2 = haworth projection, 3 = chair/ conformation projection, 4 = mills projection As illustrated for glucose and fructose, the cyclic structures are formed by the addition of the hydroxyl group (−OH) from either the fourth, fifth, or sixth carbon atom (in the diagram, the numbers 1 through 6 represent the positions of the carbon atoms) to the



carbonyl group at position 1 in glucose or 2 in fructose. A five-membered ring is illustrated for the ketohexose, fructose; a six-membered ring is illustrated for the aldohexose,

	glucose. By definition, the carbon atom containing the aldehydo  is termed the anomeric carbon atom; similarly, carbohydrate stereoisomers that differ in configuration only at this carbon atom are called anomers. When a cyclic hemiacetal or hemiketal structure forms, the structure with the new hydroxyl group projecting on the same side (in the fisher projection) as that of the oxygen involved in forming the ring is termed the alpha anomer that with the hydroxyl group projecting on the opposite side (in the fisher projection) from that of the oxygen ring is termed the beta anomer (see diagram).  Note: Cyclic structure forms can be classified in C07H only if they have an anomeric carbon atom (i.e. a cyclic hemiacetal/acetal or hemiketal/ketal). Note: on the anomeric carbon the two hetero bonds to oxygen can be replaced by the same number of hetero bonds to halogen, nitrogen, sulfur, selenium, or tellurium (see point (b) above).
Salt	Compound consisting of at least one anionic part and at least one cationic part. Carboxylate salts – products where the hydrogen in a carboxyl group is replaced by an ion of metal or other cation.

C07H 1/00

Processes for the preparation of sugar derivatives

Special rules of classification

Chemical compounds and their preparation are classified in the groups for the type of compound prepared. The processes of preparation are also classified in the groups for the types of reaction employed, if of interest.

General processes for the preparation of a class of compounds falling into more than one main group are classified in the groups for the processes employed, when such groups exist.

The compounds prepared are also always classified in the groups for the types of compound prepared.

That means that a process will be always be given at least a class for the products obtained by that process, regardless of whether the product is known or not.

For instance, a process for preparing glucose will always be assigned the classification for glucose (i.e. C07H 3/02) and additionally main group C07H 1/00 or one of its subgroups, if the process is of interest.

C07H 1/02

Phosphorylation

Definition statement

This place covers:

Phosphorylation is the addition of a phosphate radical (such as PO43- or esters thereof) or polyphosphoric acid radicals (having general formula -O(PO2OH)x-, where x = number of phosphoric units in the molecule). Polyphosphoric acid racidals can be linear or cyclic or be esterified.

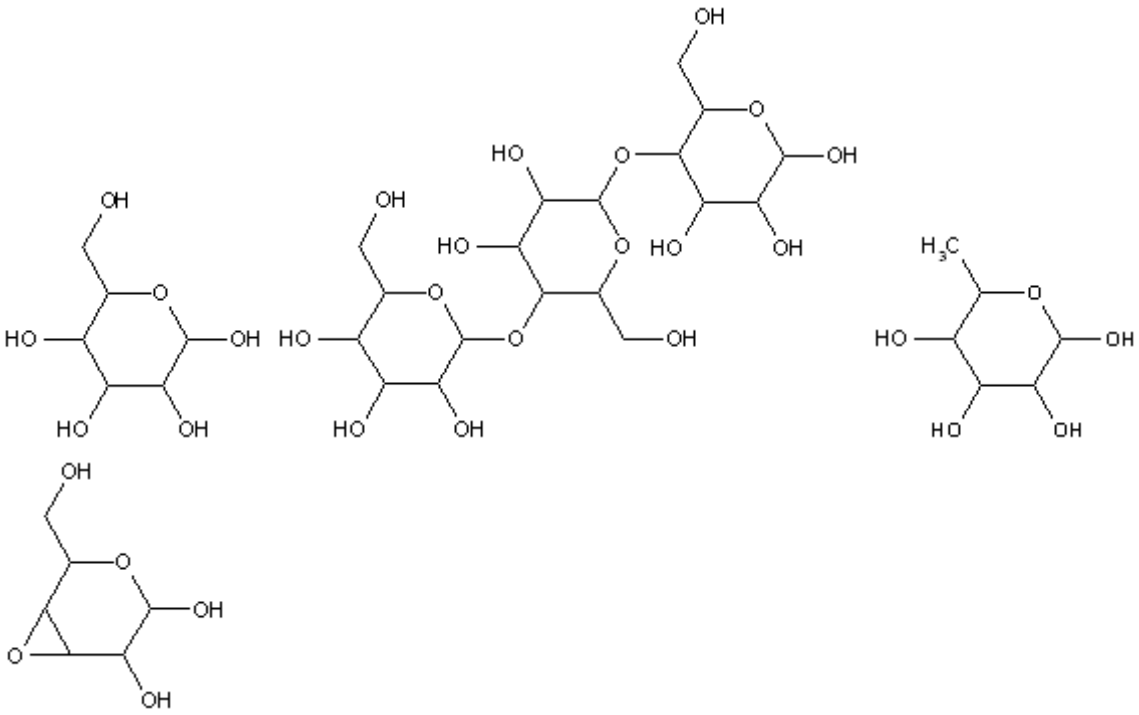
C07H 3/00

Compounds containing only hydrogen atoms and saccharide radicals having only carbon, hydrogen, and oxygen atoms (preparation by hydrolysis of di-or polysaccharides C13; separation or purification of sucrose, glucose, fructose, lactose or maltose C13)

Definition statement

This place covers:

Examples:



References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Production of sucrose; apparatus specially adapted therefor (chemically synthesised sugars or sugar derivatives C07H ; fermentation or enzyme-using processes for preparing compounds containing saccharide radicals C12P 19/00)	C13B

Saccharides, other than sucrose, obtained from natural sources or by hydrolysis of naturally occuring di-, oligo- or polysaccharides (chemically synthesised sugars or sugar derivatives C07H ; polysaccharides, e.g. starch, derivatives thereof C08B ; malt C12C ; fermentation or enzyme-using processes for preparing compounds containing saccharide radicals C12P 19/00)	C13K

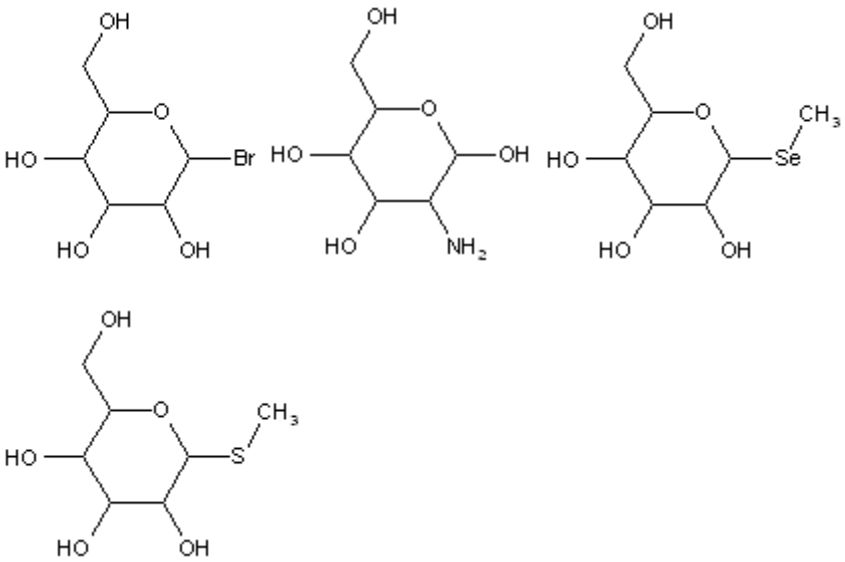
C07H 5/00

Compounds containing saccharide radicals in which the hetero bonds to oxygen have been replaced by the same number of hetero bonds to halogen, nitrogen, sulfur, selenium, or tellurium

Definition statement

This place covers:

Examples:



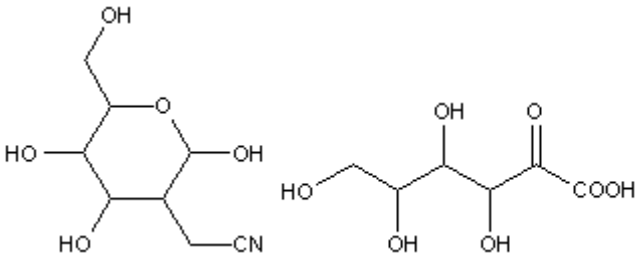
C07H 7/00

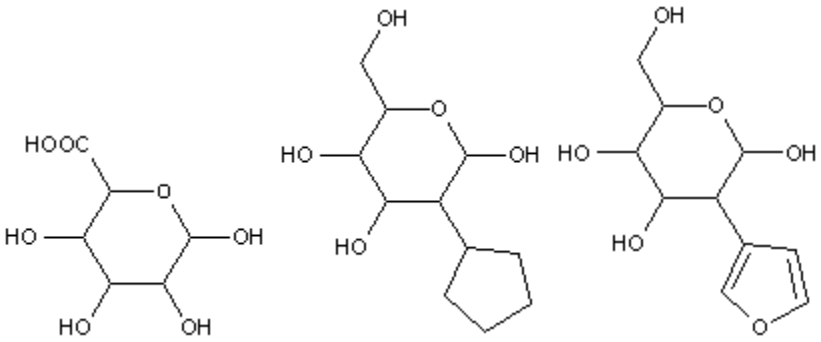
Compounds containing non-saccharide radicals linked to saccharide radicals by a carbon-to-carbon bond

Definition statement

This place covers:

Examples:





Compounds wherein the anomeric carbon is connected to non-saccharide radicals through a carbon-to-carbon bond are not classified in C07H (but in C07D).

The anomeric carbon cannot be connected to non-saccharide radicals through a carbon-to-carbon bond (i.e. the anomeric carbon must have two bonds to oxygen, or the two hetero bonds to oxygen can be replaced by the same number of hetero bonds to halogen, nitrogen, sulfur, selenium, or tellurium)

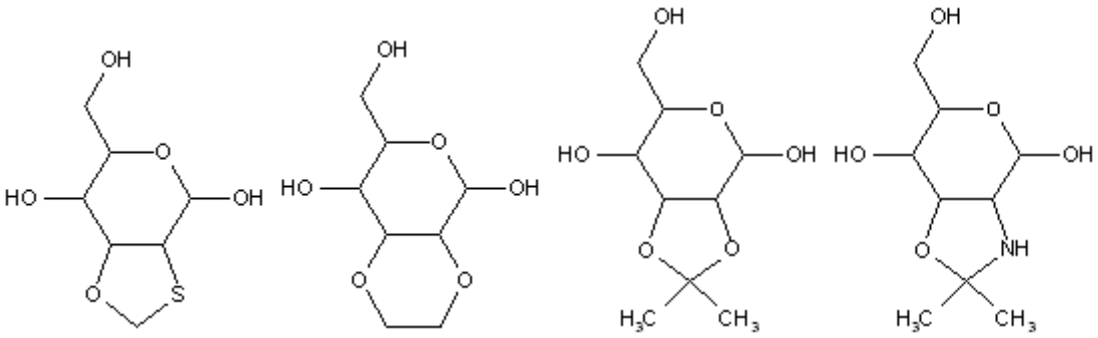
C07H 9/00

Compounds containing a hetero ring sharing at least two hetero atoms with a saccharide radical

Definition statement

This place covers:

Examples:



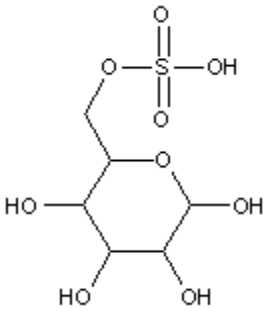
C07H 11/00

Compounds containing saccharide radicals esterified by inorganic acids; Metal salts thereof (halo-sugars C07H 5/02; thio-, seleno-, or telluro-sugars C07H 5/08)

Definition statement

This place covers:

Examples:



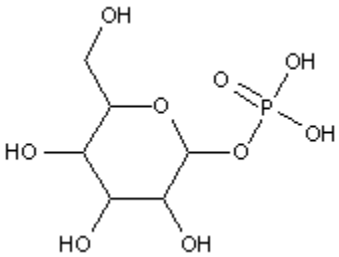
C07H 11/04

Phosphates; Phosphites; Polyphosphates

Definition statement

This place covers:

Examples:



References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Phosphonates i.e. esters of R-P(=O)(OH)2 (wherein R-P is a P-C bond)	C07H 13/00

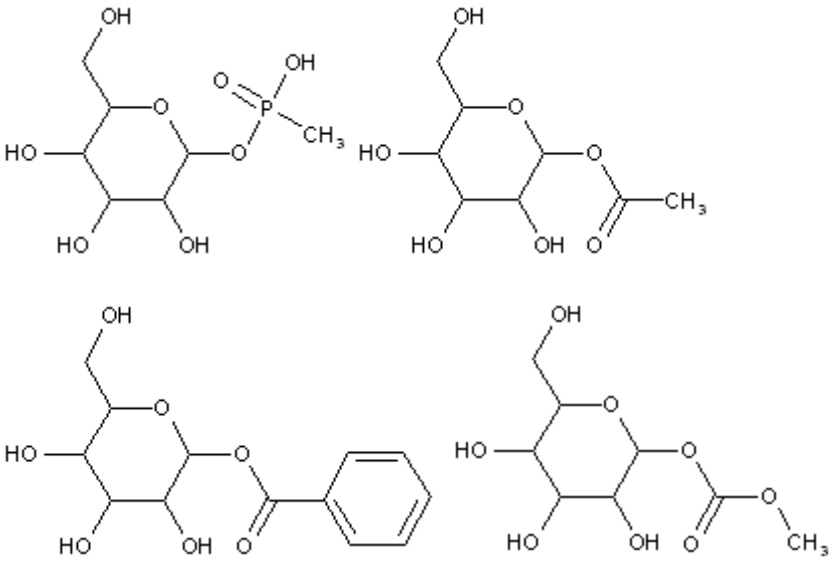
C07H 13/00

Compounds containing saccharide radicals esterified by carbonic acid or derivatives thereof, or by organic acids, e.g. phosphonic acids

Definition statement

This place covers:

Examples:



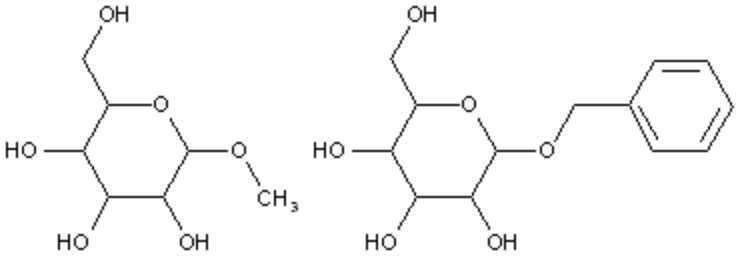
C07H 15/00

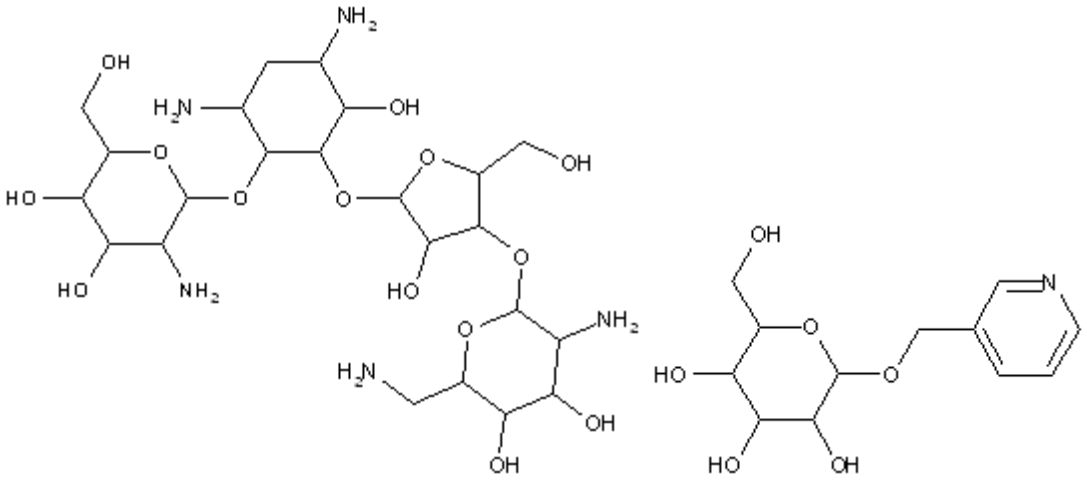
Compounds containing hydrocarbon or substituted hydrocarbon radicals directly attached to hetero atoms of saccharide radicals

Definition statement

This place covers:

Examples:





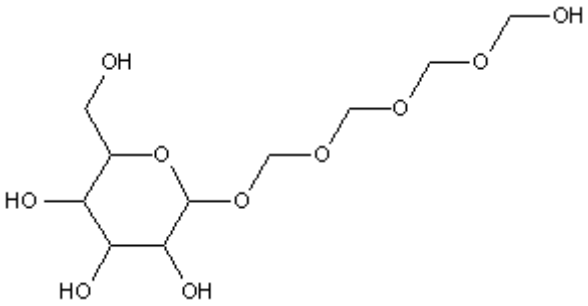
C07H 15/08

Polyoxyalkylene derivatives

Definition statement

This place covers:

Examples:



References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Polyoxyalkylene derivatives of polyols in general	C07C 41/00, C07C 43/00

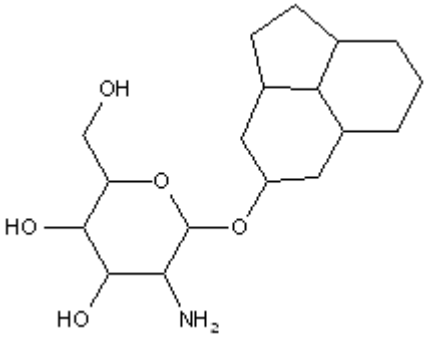
C07H 15/24

Condensed ring systems having three or more rings

Definition statement

This place covers:

Examples:



References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Steroid glycosides	C07J 17/00

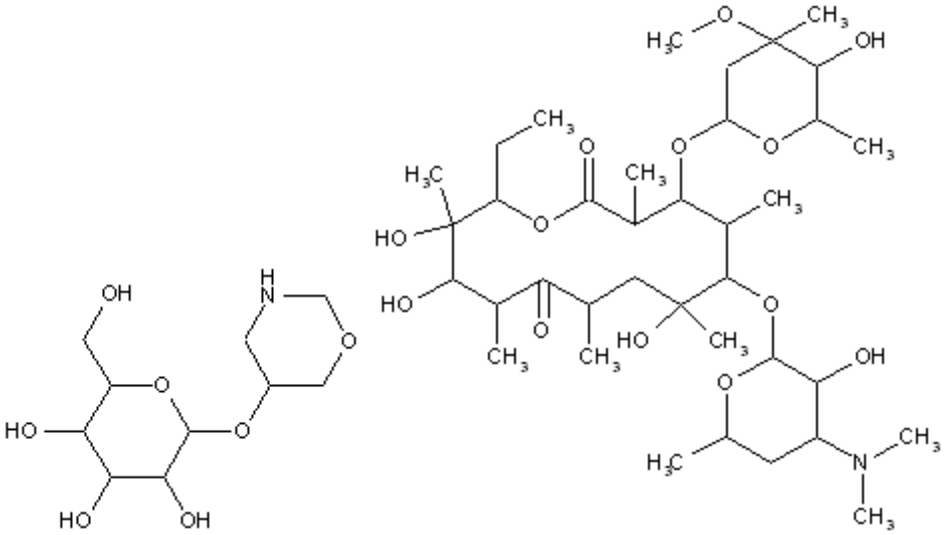
C07H 17/00

Compounds containing heterocyclic radicals directly attached to hetero atoms of saccharide radicals

Definition statement

This place covers:

Examples:



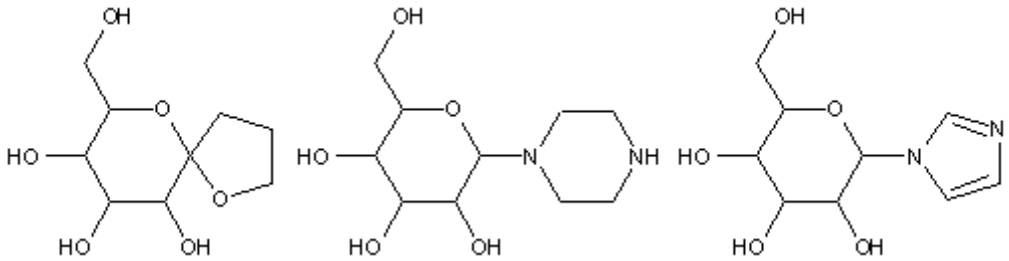
C07H 19/00

Compounds containing a hetero ring sharing one ring hetero atom with a saccharide radical; Nucleosides; Mononucleotides ; Anhydro-derivatives thereof

Definition statement

This place covers:

Examples:



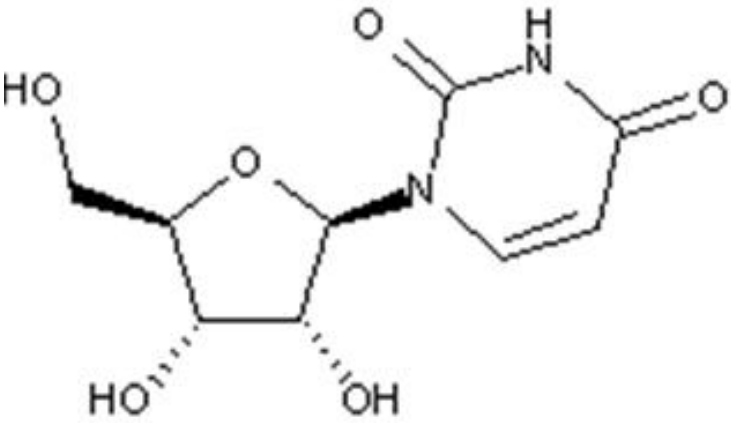
C07H 19/067

with ribosyl as the saccharide radical

Definition statement

This place covers:

Examples:



Special rules of classification

Compound falling within main group C07H 19/00 with ribosyl as the saccharide radical:

This sub-group contains only saccharide radicals wherein the saccharide radical is ribosyl or its derivatives obtained by replacing at the most four of the specified hetero bonds to oxygen by the same number of hetero bonds to halogen, nitrogen, sulfur, selenium, or tellurium (without changing the original stereochemistry of the ribosyl), in accordance with the definition b) above for a saccharide radical.

Compounds not falling exactly within the definition above are classified in a previous sub-group.

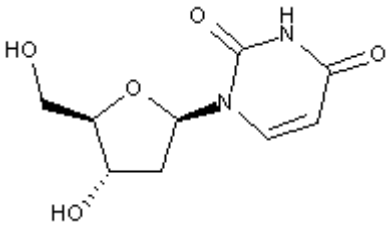
C07H 19/073

with 2-deoxyribosyl as the saccharide radical

Definition statement

This place covers:

Examples:



Special rules of classification

Compound falling within main group C07H 19/00 with 2-deoxyribosyl as the saccharide radical:

This sub-group contains only saccharide radicals wherein the saccharide radical is 2-deoxyribosyl or its derivatives obatained by replacing at the most four of the specified hetero bonds to oxygen by the same number of hetero bonds to halogen, nitrogen, sulfur, selenium, or tellurium (without changing the original stereochemistry of the 2-deoxyribosyl), in accordance with the definition b) above for a saccharide radical.

Compounds not falling exactly within the definition above are classified in a previous sub-group.

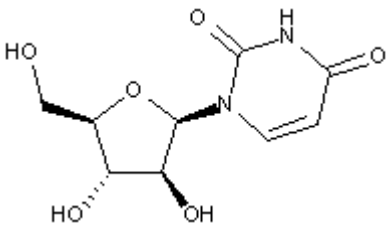
C07H 19/09

with arabinosyl as the saccharide radical

Definition statement

This place covers:

Examples:



Special rules of classification

Compound falling within main group C07H 19/00 with arabinosyl as the saccharide radical:

This sub-groups contains only saccharide radicals wherein the saccharide radical is arabinosyl, or its derivatives obatained by replacing at the most four of the specified hetero bonds to oxygen by the same number of hetero bonds to halogen, nitrogen, sulfur, selenium, or tellurium (without changing the original stereochemistry of the arabinosyl radical), in accordance with the definition b) above for a saccharide radical.

Compounds not falling exactly within the definition above are classified in a previous sub-group.

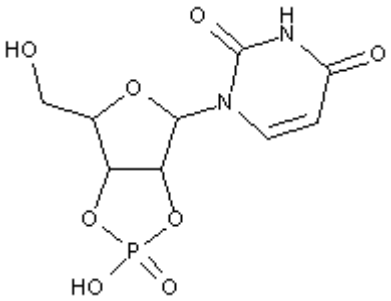
C07H 19/10

with the saccharide radical esterified by phosphoric or polyphosphoric acids

Definition statement

This place covers:

Examples:



Special rules of classification

Compound falling within main group C07H 19/00 with the saccharide radical being esterified by phosphoric or polyphosphoric acids, or cyclic phosphates thereof:

this sub-group contains only saccharide radicals wherein the phosphor has valence (V), i.e. phosphoric acid derivatives.

Compounds wherein the phosphor atom has valence (III) are not classfied in those sub-groups but are classified in a previous sub-group.

The molecule above is classified in the lower sub-group C07H 19/11.

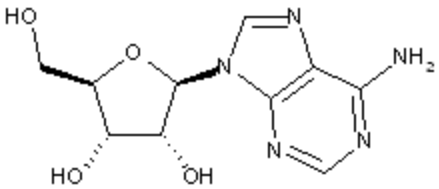
C07H 19/167

with ribosyl as the saccharide radical

Definition statement

This place covers:

Examples:



Special rules of classification

Compound falling within main group C07H 19/00 with ribosyl as the saccharide radical:

This sub-group contains only saccharide radicals wherein the saccharide radical is ribosyl or its derivatives obatained by replacing at the most four of the specified hetero bonds to oxygen by the same number of hetero bonds to halogen, nitrogen, sulfur, selenium, or tellurium (without changing the original stereochemistry of the ribosyl radical), in accordance with the definition b) above for a saccharide radical.

Compounds not falling exactly within the definition above are classified in a previous sub-group.

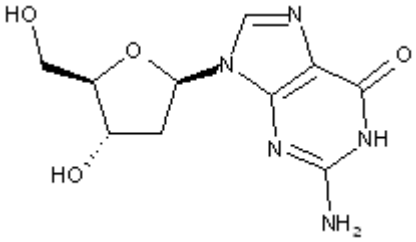
C07H 19/173

with 2-deoxyribosyl as the saccharide radical

Definition statement

This place covers:

Examples:



Special rules of classification

Compound falling within main group C07H 19/00 with 2-deoxyribosyl as the saccharide radical:

This sub-group contains only saccharide radicals wherein the saccharide radical is 2-deoxyribosyl or its derivatives obatained by replacing at the most four of the specified hetero bonds to oxygen by the same number of hetero bonds to halogen, nitrogen, sulfur, selenium, or tellurium (without changing the original stereochemistry of the 2-deoxyribosyl radical), in accordance with the definition b) above for a saccharide radical.

Compounds not falling exactly within the definition above are classified in a previous sub-group.

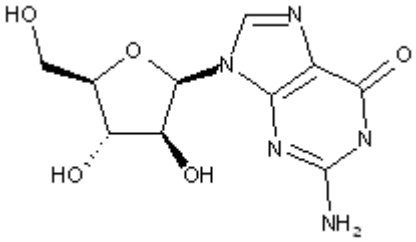
C07H 19/19

with arabinosyl as the saccharide radical

Definition statement

This place covers:

Examples:



Special rules of classification

Compound falling within main group C07H 19/00 with arabinosyl as the saccharide radical:

This sub-group contains only saccharide radicals wherein the saccharide radical is arabinosyl, or its derivatives obatained by replacing at the most four of the specified hetero bonds to oxygen by the same number of hetero bonds to halogen, nitrogen, sulfur, selenium, or tellurium (without changing the original stereochemistry of the arabinosyl radical), in accordance with the definition b) above for a saccharide radical.

Compounds not falling exactly within the definition above are classified in a previous sub-group.

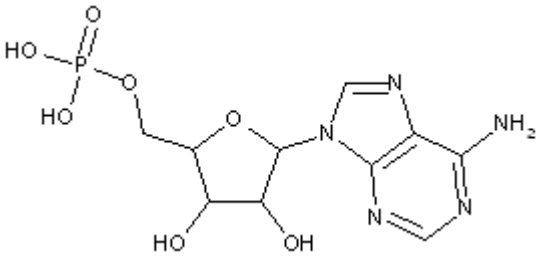
C07H 19/20

with the saccharide radical esterified by phosphoric or polyphosphoric acids

Definition statement

This place covers:

Examples:



Special rules of classification

Compound falling within main group C07H 19/00 with the saccharide radical being esterified by phosphoric or polyphosphoric acids, or cyclic phosphates thereof:

this sub-group contains only saccharide radicals wherein the phosphor has valence (V), i.e. phosphoric acid derivatives.

Compounds wherein the phosphor atom has valence (III) are not classfied in those sub-groups but are classified in a previous sub-group.

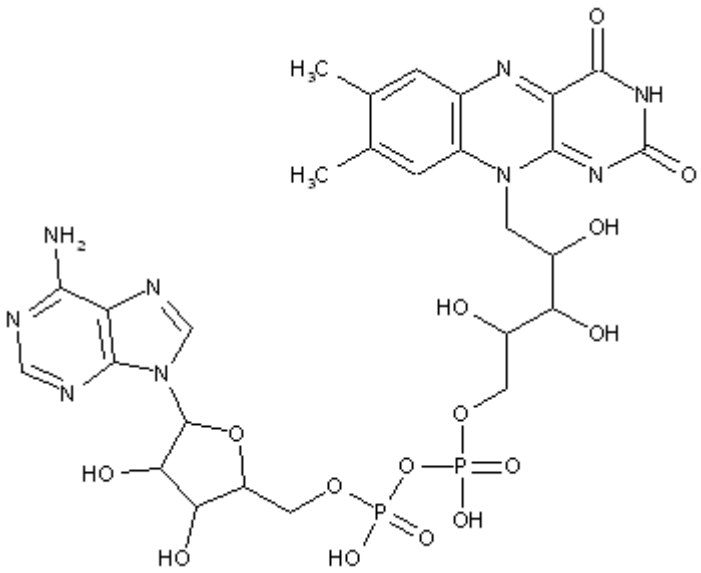
C07H 19/207

the phosphoric or polyphosphoric acids being esterified by a further hydroxylic compound, e.g. flavine adenine dinucleotide or nicotinamide-adenine dinucleotide

Definition statement

This place covers:

Examples:



Special rules of classification

Compound falling within main group C07H 19/00 with the saccharide radical being esterified by phosphoric or polyphosphoric acids, or cyclic phosphates thereof:

this sub-group contains only saccharide radicals wherein the phosphor has valence (V), i.e. phosphoric acid derivatives.

Compounds wherein the phosphor atom has valence (III) are not classfied in those sub-groups but are classified in a previous sub-group.

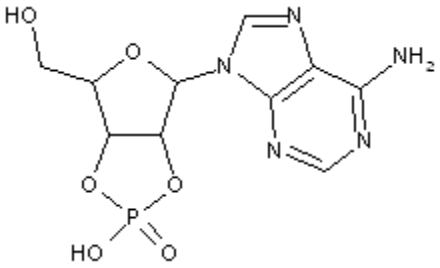
C07H 19/213

containing cyclic phosphate

Definition statement

This place covers:

Examples:



Special rules of classification

Compound falling within main group C07H 19/00 with the saccharide radical being esterified by phosphoric or polyphosphoric acids, or cyclic phosphates thereof:

this sub-group contains only saccharide radicals wherein the phosphor has valence (V), i.e. phosphoric acid derivatives.

Compounds wherein the phosphor atom has valence (III) are not classfied in those sub-groups but are classified in a previous sub-group.

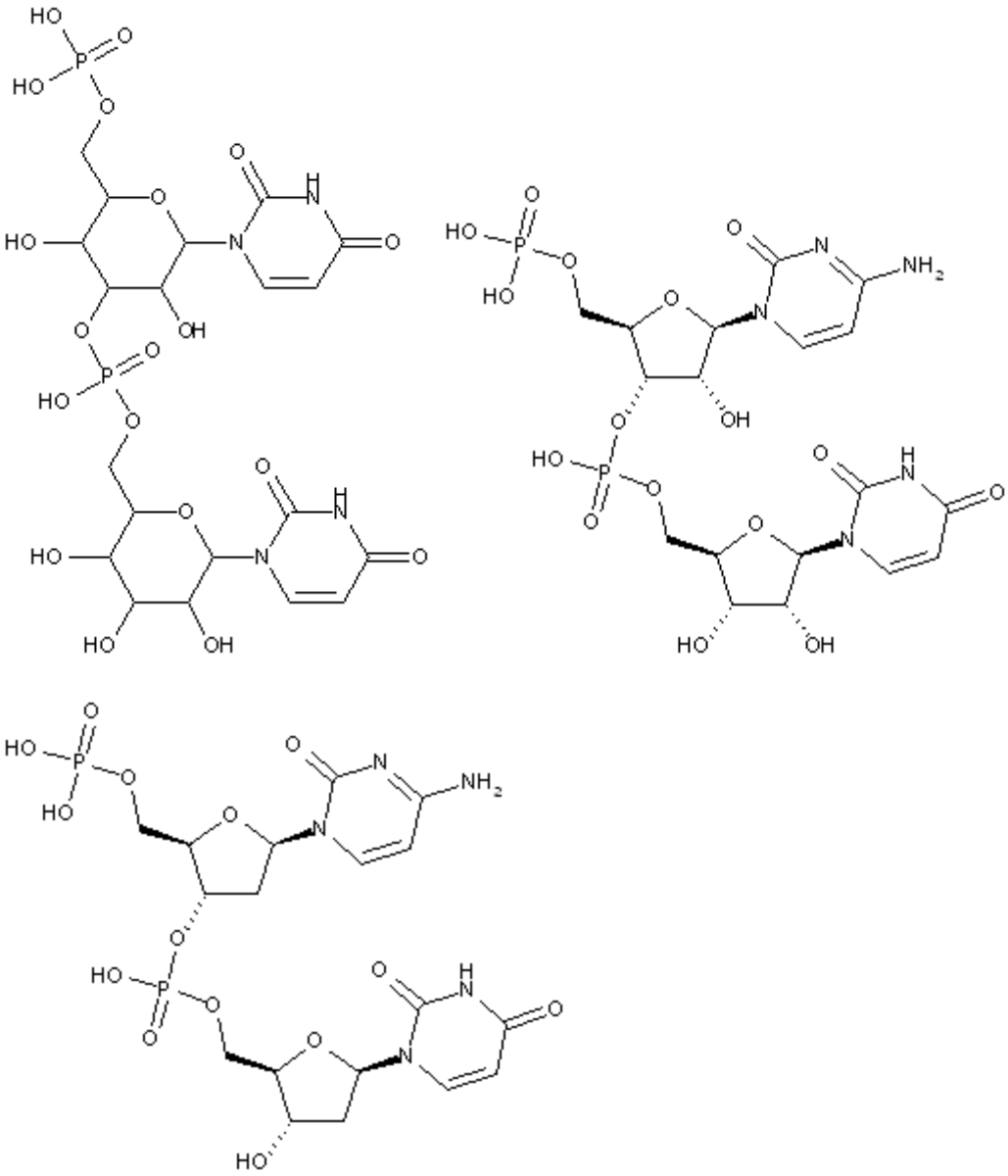
C07H 21/00

Compounds containing two or more mononucleotide units having separate phosphate or polyphosphate groups linked by saccharide radicals of nucleoside groups, e.g. nucleic acids

Definition statement

This place covers:

Examples:



Compounds are classified in this main group only if they are obtained by chemical synthesis using nucleoside/nucleotide building blocks.

Compounds containing two or more mononucleotide units that are not obtained by chemical coupling of nucleoside/nucleotide building blocks together are classified in the two groups below. No classification in C07H 21/00 or sub-groups is given in this case.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

DNA or RNA prepared by recombinant technology, concerning genetic engineering, vectors, e.g. plasmids, or their isolation, preparation or purification	C12N 15/00
Fermentation or enzyme-using processes for the preparation of compounds containing saccharide radicals	C12P 19/00

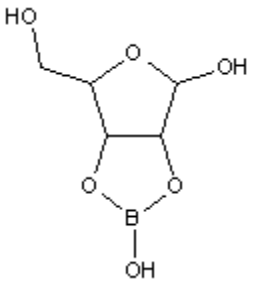
C07H 23/00

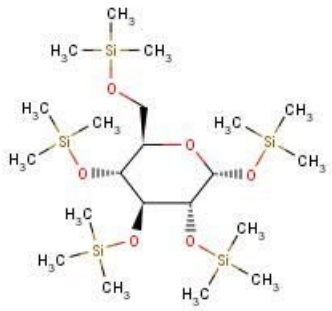
Compounds containing boron, silicon, or a metal, e.g. chelates, vitamin B_{12} (esters with inorganic acids C07H 11/00; metal salts, see parent compounds)

Definition statement

This place covers:

Examples:





Many saccharide radicals contain silicon-protecting groups. They are to be classified in this main group.