

CPC**COOPERATIVE PATENT CLASSIFICATION****C07J****STEROIDS** ([seco-steroids](#) [C07C](#))**NOTE**

This subclass covers compounds containing a cyclopenta[a]hydrophenanthrene skeleton or a ring structure derived therefrom:

- by contraction or expansion of one ring by one or two atoms;
- by contraction or expansion of two rings each by one atom;
- by contraction of one ring by one atom and expansion of one ring by one atom;
- by substitution of one or two carbon atoms of the cyclopenta[a]hydrophenanthrene skeleton, which are not shared by rings, by hetero atoms, in combination with the above defined contraction or expansion or not, or;
- by condensation with carbocyclic or heterocyclic rings in combination with one or more of the foregoing alterations or not.

Guidance heading: Normal steroids, i.e. cyclopenta(a)hydrophenanthrenes, containing carbon, hydrogen, halogen or oxygen

C07J 1/00

Normal steroids containing carbon, hydrogen, halogen or oxygen, not substituted in position 17 beta by a carbon atom, e.g. estrane, androstane

- C07J 1/0003 . { Androstane derivatives }
- C07J 1/0007 .. { not substituted in position 17 }
- C07J 1/0011 .. { substituted in position 17 by a keto group }
- C07J 1/0014 .. { substituted in position 17 alfa, not substituted in position 17 beta }
- C07J 1/0018 .. { substituted in position 17 beta, not substituted in position 17 alfa }
- C07J 1/0022 ... { the substituent being an OH group free esterified or etherified }
- C07J 1/0025 { Esters }
- C07J 1/0029 { Ethers }
- C07J 1/0033 .. { substituted in position 17 alfa and 17 beta }
- C07J 1/0037 ... { the substituent in position 17 alfa being a saturated hydrocarbon group }
- C07J 1/004 ... { the substituent in position 17 alfa being an unsaturated hydrocarbon group }
- C07J 1/0044 { Alkenyl derivatives }
- C07J 1/0048 { Alkynyl derivatives }
- C07J 1/0051 . { Estrane derivatives }
- C07J 1/0055 .. { not substituted in position 17 }
- C07J 1/0059 .. { substituted in position 17 by a keto group }
- C07J 1/0062 .. { substituted in position 17 alfa not substituted in position 17 beta }
- C07J 1/0066 .. { substituted in position 17 beta not substituted in position 17 alfa }

C07J 1/007	...	{ the substituent being an OH group free esterified or etherified }
C07J 1/0074	....	{ Esters }
C07J 1/0077	....	{ Ethers }
C07J 1/0081	..	{ Substituted in position 17 alfa and 17 beta }
C07J 1/0085	...	{ the substituent in position 17 alfa being a saturated hydrocarbon group }
C07J 1/0088	...	{ the substituent in position 17 alfa being an unsaturated hydrocarbon group }
C07J 1/0092	....	{ Alkenyl derivatives }
C07J 1/0096	....	{ Alkynyl derivatives }

C07J 3/00 **Normal steroids containing carbon, hydrogen, halogen or oxygen, substituted in position 17 beta by one carbon atom**

C07J 3/005	.	{ the carbon atom being part of a carboxylic function }
------------	---	---

C07J 5/00 **Normal steroids containing carbon, hydrogen, halogen or oxygen, substituted in position 17 beta by a chain of two carbon atoms, e.g. pregnane and substituted in position 21 by only one singly bound oxygen atom, { i.e. only one oxygen bound to position 21 by a single bond }**

C07J 5/0007	.	{ not substituted in position 17 alfa }
C07J 5/0015	..	{ not substituted in position 16 }
C07J 5/0023	..	{ substituted in position 16 }
C07J 5/003	...	{ by a saturated or unsaturated hydrocarbon group including 16-alkylidene substitutes }
C07J 5/0038	{ by an alkyl group }
C07J 5/0046	.	{ substituted in position 17 alfa }
C07J 5/0053	..	{ not substituted in position 16 }
C07J 5/0061	..	{ substituted in position 16 }
C07J 5/0069	...	{ by a saturated or unsaturated hydrocarbon group }
C07J 5/0076	{ by an alkyl group }
C07J 5/0084	{ by an alkylene group }
C07J 5/0092	...	{ by an OH group free esterified or etherified }

C07J 7/00 **Normal steroids containing carbon, hydrogen, halogen or oxygen substituted in position 17 beta by a chain of two carbon atoms ([C07J 5/00](#) takes precedence)**

C07J 7/0005	.	{ not substituted in position 21 }
C07J 7/001	..	{ substituted in position 20 by a keto group }
C07J 7/0015	...	{ not substituted in position 17 alfa }
C07J 7/002	....	{ not substituted in position 16 }
C07J 7/0025	....	{ substituted in position 16 }
C07J 7/003	.....	{ by a saturated or unsaturated hydrocarbon group }
C07J 7/0035	.....	{ by a hydroxy group free esterified or etherified }
C07J 7/004	...	{ substituted in position 17 alfa }

C07J 7/0045	.... { not substituted in position 16 }
C07J 7/005	.... { substituted in position 16 }
C07J 7/0055	..... { by a saturated or unsaturated hydrocarbon group }
C07J 7/006	..... { by a hydroxy group free esterified or etherified }
C07J 7/0065	.. { substituted in position 20 by an OH group free esterified or etherified }
C07J 7/007	... { not substituted in position 17 alfa }
C07J 7/0075	... { substituted in position 17 alfa }
C07J 7/008	. { substituted in position 21 }
C07J 7/0085	.. { by an halogen atom }
C07J 7/009	.. { by only one oxygen atom doubly bound }
C07J 7/0095	.. { carbon in position 21 is part of carboxylic group }
C07J 9/00	Normal steroids containing carbon, hydrogen, halogen or oxygen substituted in position 17 beta by a chain of more than two carbon atoms, e.g. cholane, cholestane, coprostane
C07J 9/005	. { containing a carboxylic function directly attached or attached by a chain containing only carbon atoms to the cyclopenta[a]hydrophenanthrene skeleton }
C07J 11/00	Normal steroids containing carbon, hydrogen, halogen or oxygen, not substituted in position 3
C07J 13/00	Normal steroids containing carbon, hydrogen, halogen or oxygen having a carbon-to-carbon double bond from or to position 17 { (for carbonyl groups C07J 1/00) }
C07J 13/002	. { with double bond in position 13 (17) }
C07J 13/005	. { with double bond in position 16 (17) }
C07J 13/007	. { with double bond in position 17 (20) }
C07J 15/00	Stereochemically pure steroids containing carbon, hydrogen, halogen or oxygen having a partially or totally inverted skeleton, e.g. retrosteroids, L-isomers
C07J 15/005	. { Retrosteroids (9 beta 10 alfa) }
C07J 17/00	Normal steroids containing carbon, hydrogen, halogen or oxygen, having an oxygen-containing hetero ring not condensed with the cyclopenta(a)hydrophenanthrene skeleton (cardanolide, bufanolide C07J 19/00)
C07J 17/005	. { Glycosides }
C07J 19/00	Normal steroids containing carbon, hydrogen, halogen or oxygen, substituted in position 17 by a lactone ring

C07J 19/005 . { Glycosides }

C07J 21/00 Normal steroids containing carbon, hydrogen, halogen or oxygen having an oxygen-containing hetero ring spiro-condensed with the cyclopenta(a)hydrophenanthrene skeleton

C07J 21/001 . { Lactones }

C07J 21/003 .. { at position 17 }

C07J 21/005 . { Ketals }

C07J 21/006 .. { at position 3 }

C07J 21/008 .. { at position 17 }

Guidance heading: Normal steroids, i.e. cyclopenta(a)hydrophenanthrenes, containing sulfur

C07J 31/00 Normal steroids containing one or more sulfur atoms not belonging to a hetero ring

C07J 31/003 . { the S atom directly linked to a ring carbon atom of the cyclopenta(a)hydrophenanthrene skeleton }

C07J 31/006 . { not covered by [C07J 31/003](#) }

C07J 33/00 Normal steroids having a sulfur-containing hetero ring spiro-condensed or not condensed with the cyclopenta(a)hydrophenanthrene skeleton

C07J 33/002 . { not condensed }

C07J 33/005 . { spiro-condensed }

C07J 33/007 .. { Cyclic thioketals }

Guidance heading: Normal steroids, i.e. cyclopenta(a)hydrophenanthrenes, containing nitrogen

C07J 41/00 Normal steroids containing one or more nitrogen atoms not belonging to a hetero ring

C07J 41/0005 . { the nitrogen atom being directly linked to the cyclopenta(a)hydro phenanthrene skeleton }

C07J 41/0011 .. { Unsubstituted amino radicals }

C07J 41/0016 .. { Oximes }

C07J 41/0022 .. { Isocyanates; Isothiocyanates }

C07J 41/0027 .. { Azides }

C07J 41/0033 . { not covered by [C07J 41/0005](#) }

NOTE

In groups [C07J 41/0038](#) to [C07J 41/0094](#) all references to substituents in position 17-beta of the steroid skeleton include substituents at the 17-position when there is a double bond to or from position 17, and all references to an amide group include all nitrogen substituted carbonyl groups

- | | |
|-------------------|--|
| C07J 41/0038 | .. { with an androstane skeleton, including 18- or 19-substituted derivatives, 18-nor derivatives and also derivatives where position 17-beta is substituted by a carbon atom not directly bonded to a further carbon atom and not being part of an amide group } |
| C07J 41/0044 | .. { with an estrane or gonane skeleton, including 18-substituted derivatives and derivatives where position 17-beta is substituted by a carbon atom not directly bonded to another carbon atom and not being part of an amide group } |
| C07J 41/005 | .. { the 17-beta position being substituted by an uninterrupted chain of only two carbon atoms, e.g. pregnane derivatives } |
| C07J 41/0055 | .. { the 17-beta position being substituted by an uninterrupted chain of at least three carbon atoms which may or may not be branched, e.g. cholane or cholestane derivatives, optionally cyclised, e.g. 17-beta-phenyl or 17-beta-furyl derivatives } |
| C07J 41/0061 | ... { one of the carbon atoms being part of an amide group } |
| C07J 41/0066 | .. { the 17-beta position being substituted by a carbon atom forming part of an amide group } |
| C07J 41/0072 | .. { the A ring of the steroid being aromatic } |
| C07J 41/0077 | .. { substituted in position 11-beta by a carbon atom, further substituted by a group comprising at least one further carbon atom } |
| C07J 41/0083 | ... { substituted in position 11-beta by an optionally substituted phenyl group not further condensed with other rings } |
| C07J 41/0088 | .. { containing unsubstituted amino radicals } |
| C07J 41/0094 | .. { containing nitrile radicals, including thiocyanide radicals } |
| C07J 43/00 | Normal steroids having a nitrogen-containing hetero ring spiro-condensed or not condensed with the cyclopenta(a)hydrophenanthrene skeleton |
| C07J 43/003 | . { not condensed } |
| C07J 43/006 | . { spiro-condensed } |
| C07J 51/00 | Normal steroids with unmodified cyclopenta(a)hydrophenanthrene skeleton not provided for in groups C07J 1/00 to C07J 43/00 |
| C07J 53/00 | Steroids in which the cyclopenta(a)hydrophenanthrene skeleton has been modified by condensation with a carbocyclic rings or by formation of an additional ring by means of a direct link between two ring carbon atoms, { including carboxyclic rings fused to the cyclopenta(a)hydrophenanthrene skeleton are included in this class } |
| C07J 53/001 | . { spiro-linked } |
| C07J 53/002 | . { Carbocyclic rings fused } |

- C07J 53/004 .. { 3 membered carbocyclic rings }
- C07J 53/005 ... { in position 12 }
- C07J 53/007 ... { in position 6-7 }
- C07J 53/008 ... { in position 15/16 }

Guidance heading: Nor- or homo steroids

C07J 61/00 Steroids in which the cyclopenta(a)hydrophenanthrene skeleton has been modified by contraction of only one ring by one or two atoms

C07J 63/00 Steroids in which the cyclopenta(a)hydrophenanthrene skeleton has been modified by expansion of only one ring by one or two atoms

- C07J 63/002 . { Expansion of ring A by one atom, e.g. A homo steroids }
- C07J 63/004 . { Expansion of ring B by one atom, e.g. B homo steroids }
- C07J 63/006 . { Expansion of ring C by one atom, e.g. C homo steroids }
- C07J 63/008 . { Expansion of ring D by one atom, e.g. D homo steroids }

C07J 65/00 Steroids in which the cyclopenta(a)hydrophenanthrene skeleton has been modified by contraction of two rings, each by one atom

C07J 67/00 Steroids in which the cyclopenta(a)hydrophenanthrene skeleton has been modified by expansion of two rings, each by one atom

C07J 69/00 Steroids in which the cyclopenta(a)hydrophenanthrene skeleton has been modified by contraction of only one ring by one atom and expansion of only one ring by one atom

C07J 71/00 Steroids in which the cyclopenta(a)hydrophenanthrene skeleton is condensed with a heterocyclic ring (spiro-condensed heterocyclic rings [C07J 21/00](#) , [C07J 33/00](#) , [C07J 43/00](#))

- C07J 71/0005 . { Oxygen-containing hetero ring }
- C07J 71/001 .. { Oxiranes }
- C07J 71/0015 ... { at position 9(11) }
- C07J 71/0021 ... { at position 14(15) }
- C07J 71/0026 .. { cyclic ketals }
- C07J 71/0031 ... { at positions 16, 17 }
- C07J 71/0036 . { Nitrogen-containing hetero ring }
- C07J 71/0042 .. { Nitrogen only }
- C07J 71/0047 ... { at position 2(3) }

- C07J 71/0052 ... { at position 16(17) }
- C07J 71/0057 .. { Nitrogen and oxygen }
- C07J 71/0063 ... { at position 2(3) }
- C07J 71/0068 ... { at position 16(17) }

- C07J 71/0073 . { Sulfur-containing hetero ring }
- C07J 71/0078 .. { containing only sulfur }
- C07J 71/0084 ... { Episulfides }
- C07J 71/0089 .. { containing sulfur and oxygen }
- C07J 71/0094 .. { containing sulfur and nitrogen }

C07J 73/00 Steroids in which the cyclopenta[a]hydrophenanthrene skeleton has been modified by substitution of one or two carbon atoms by hetero atoms

- C07J 73/001 . { by one hetero atom }
- C07J 73/003 .. { by oxygen as hetero atom }
- C07J 73/005 .. { by nitrogen as hetero atom }
- C07J 73/006 .. { by sulfur as hetero atom }

- C07J 73/008 . { by two hetero atoms }

C07J 75/00 Processes for the preparation of steroids in general

- C07J 75/005 . { Preparation of steroids by cyclization of non-steroid compounds }