

**CPC****COOPERATIVE PATENT CLASSIFICATION****C07J****STERIODS** (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.

**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}

**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}

**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}

**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}