

**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**

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| 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}
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**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}
<b>C07J 9/00</b>	<b>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</b>
C07J 9/005	. {containing a carboxylic function directly attached or attached by a chain containing only carbon atoms to the cyclopenta[a]hydrophenanthrene skeleton}
<b>C07J 11/00</b>	<b>Normal steroids containing carbon, hydrogen, halogen or oxygen, not substituted in position 3</b>
<b>C07J 13/00</b>	<b>Normal steroids containing carbon, hydrogen, halogen or oxygen having a carbon-to-carbon double bond from or to position 17 {(for carbonyl groups <a href="#">C07J 1/00</a>)}</b>
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)}
<b>C07J 15/00</b>	<b>Stereochemically pure steroids containing carbon, hydrogen, halogen or oxygen having a partially or totally inverted skeleton, e.g. retrosteroids, L-isomers</b>
C07J 15/005	. {Retrosteroids (9 beta 10 alfa)}
<b>C07J 17/00</b>	<b>Normal steroids containing carbon, hydrogen, halogen or oxygen, having an oxygen-containing hetero ring not condensed with the cyclopenta(a)hydrophenanthrene skeleton (<a href="#">cardanolide</a>, <a href="#">bufanolide</a> <a href="#">C07J 19/00</a>)</b>
C07J 17/005	. {Glycosides}
<b>C07J 19/00</b>	<b>Normal steroids containing carbon, hydrogen, halogen or oxygen, substituted in position 17 by a lactone ring</b>
C07J 19/005	. {Glycosides}
<b>C07J 21/00</b>	<b>Normal steroids containing carbon, hydrogen, halogen or oxygen having an oxygen-containing hetero ring spiro-condensed with the cyclopenta(a)hydrophenanthrene skeleton</b>
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 carboxylic 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}