

# CPC COOPERATIVE PATENT CLASSIFICATION

## C CHEMISTRY; METALLURGY

(NOTES omitted)

### CHEMISTRY

## C07 ORGANIC CHEMISTRY

(NOTES omitted)

## 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.

### WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

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

#### **1/00 Normal steroids containing carbon, hydrogen, halogen or oxygen, not substituted in position 17 beta by a carbon atom, e.g. estrane, androstane**

- 1/0003 . {Androstane derivatives}
- 1/0007 . . {not substituted in position 17}
- 1/0011 . . {substituted in position 17 by a keto group}
- 1/0014 . . {substituted in position 17 alfa, not substituted in position 17 beta}
- 1/0018 . . {substituted in position 17 beta, not substituted in position 17 alfa}
- 1/0022 . . . {the substituent being an OH group free esterified or etherified}
- 1/0025 . . . . {Esters}
- 1/0029 . . . . {Ethers}
- 1/0033 . . {substituted in position 17 alfa and 17 beta}
- 1/0037 . . . {the substituent in position 17 alfa being a saturated hydrocarbon group}
- 1/004 . . . {the substituent in position 17 alfa being an unsaturated hydrocarbon group}
- 1/0044 . . . . {Alkenyl derivatives}
- 1/0048 . . . . {Alkynyl derivatives}
- 1/0051 . {Estrane derivatives}
- 1/0055 . . {not substituted in position 17}
- 1/0059 . . {substituted in position 17 by a keto group}
- 1/0062 . . {substituted in position 17 alfa not substituted in position 17 beta}
- 1/0066 . . {substituted in position 17 beta not substituted in position 17 alfa}
- 1/007 . . . {the substituent being an OH group free esterified or etherified}
- 1/0074 . . . . {Esters}
- 1/0077 . . . . {Ethers}

1/0081 . . {Substituted in position 17 alfa and 17 beta}

1/0085 . . . {the substituent in position 17 alfa being a saturated hydrocarbon group}

1/0088 . . . {the substituent in position 17 alfa being an unsaturated hydrocarbon group}

1/0092 . . . . {Alkenyl derivatives}

1/0096 . . . . {Alkynyl derivatives}

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

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

#### **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}**

5/0007 . {not substituted in position 17 alfa}

5/0015 . . {not substituted in position 16}

5/0023 . . {substituted in position 16}

5/003 . . . {by a saturated or unsaturated hydrocarbon group including 16-alkylidene substitutes}

5/0038 . . . . {by an alkyl group}

5/0046 . {substituted in position 17 alfa}

5/0053 . . {not substituted in position 16}

5/0061 . . {substituted in position 16}

5/0069 . . . {by a saturated or unsaturated hydrocarbon group}

5/0076 . . . . {by an alkyl group}

5/0084 . . . . {by an alkylene group}

5/0092 . . . {by an OH group free esterified or etherified}

<b>7/00</b>	<b>Normal steroids containing carbon, hydrogen, halogen or oxygen substituted in position 17 beta by a chain of two carbon atoms (<a href="#">C07J 5/00</a> takes precedence)</b>	<b>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>
7/0005	. {not substituted in position 21}	21/001	. {Lactones}
7/001	. . {substituted in position 20 by a keto group}	21/003	. . {at position 17}
7/0015	. . . {not substituted in position 17 alfa}	21/005	. {Ketals}
7/002	. . . . {not substituted in position 16}	21/006	. . {at position 3}
7/0025	. . . . {substituted in position 16}	21/008	. . {at position 17}
7/003	. . . . . {by a saturated or unsaturated hydrocarbon group}	<b><u>Normal steroids, i.e. cyclopenta(a)hydrophenanthrenes, containing sulfur</u></b>	
7/0035	. . . . . {by a hydroxy group free esterified or etherified}	<b>31/00</b>	<b>Normal steroids containing one or more sulfur atoms not belonging to a hetero ring</b>
7/004	. . . {substituted in position 17 alfa}	31/003	. {the S atom directly linked to a ring carbon atom of the cyclopenta(a)hydrophenanthrene skeleton}
7/0045	. . . . {not substituted in position 16}	31/006	. {not covered by <a href="#">C07J 31/003</a> }
7/005	. . . . {substituted in position 16}	<b>33/00</b>	<b>Normal steroids having a sulfur-containing hetero ring spiro-condensed or not condensed with the cyclopenta(a)hydrophenanthrene skeleton</b>
7/0055	. . . . . {by a saturated or unsaturated hydrocarbon group}	33/002	. {not condensed}
7/006	. . . . . {by a hydroxy group free esterified or etherified}	33/005	. {spiro-condensed}
7/0065	. . {substituted in position 20 by an OH group free esterified or etherified}	33/007	. . {Cyclic thioketals}
7/007	. . . {not substituted in position 17 alfa}	<b><u>Normal steroids, i.e. cyclopenta(a)hydrophenanthrenes, containing nitrogen</u></b>	
7/0075	. . . {substituted in position 17 alfa}	<b>41/00</b>	<b>Normal steroids containing one or more nitrogen atoms not belonging to a hetero ring</b>
7/008	. {substituted in position 21}	41/0005	. {the nitrogen atom being directly linked to the cyclopenta(a)hydro phenanthrene skeleton}
7/0085	. . {by an halogen atom}	41/0011	. . {Unsubstituted amino radicals}
7/009	. . {by only one oxygen atom doubly bound}	41/0016	. . {Oximes}
7/0095	. . {carbon in position 21 is part of carboxylic group}	41/0022	. . {Isocyanates; Isothiocyanates}
<b>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, coprostan</b>	41/0027	. . {Azides}
9/005	. {containing a carboxylic function directly attached or attached by a chain containing only carbon atoms to the cyclopenta[a]hydrophenanthrene skeleton}	41/0033	. {not covered by <a href="#">C07J 41/0005</a> }
<b>11/00</b>	<b>Normal steroids containing carbon, hydrogen, halogen or oxygen, not substituted in position 3</b>	<b><u>NOTE</u></b>	
<b>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>	{ In groups <a href="#">C07J 41/0038</a> - <a href="#">C07J 41/0094</a> 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. }	
13/002	. {with double bond in position 13 (17)}	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}
13/005	. {with double bond in position 16 (17)}	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}
13/007	. {with double bond in position 17 (20)}	41/005	. . {the 17-beta position being substituted by an uninterrupted chain of only two carbon atoms, e.g. pregnane derivatives}
<b>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>	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}
15/005	. {Retrosteroids (9 beta 10 alfa)}		
<b>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 (cardanolide, bufanolide <a href="#">C07J 19/00</a>)</b>		
17/005	. {Glycosides}		
<b>19/00</b>	<b>Normal steroids containing carbon, hydrogen, halogen or oxygen, substituted in position 17 by a lactone ring</b>		
19/005	. {Glycosides}		

41/0061	. . . {one of the carbon atoms being part of an amide group}	67/00	<b>Steroids in which the cyclopenta(a)hydrophenanthrene skeleton has been modified by expansion of two rings, each by one atom</b>
41/0066	. . {the 17-beta position being substituted by a carbon atom forming part of an amide group}	69/00	<b>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</b>
41/0072	. . {the A ring of the steroid being aromatic}	71/00	<b>Steroids in which the cyclopenta(a)hydrophenanthrene skeleton is condensed with a heterocyclic ring (spiro-condensed heterocyclic rings <a href="#">C07J 21/00</a>, <a href="#">C07J 33/00</a>, <a href="#">C07J 43/00</a>)</b>
41/0077	. . {substituted in position 11-beta by a carbon atom, further substituted by a group comprising at least one further carbon atom}	71/0005	. {Oxygen-containing hetero ring}
41/0083	. . . {substituted in position 11-beta by an optionally substituted phenyl group not further condensed with other rings}	71/001	. . {Oxiranes}
41/0088	. . {containing unsubstituted amino radicals}	71/0015	. . . {at position 9(11)}
41/0094	. . {containing nitrile radicals, including thiocyanide radicals}	71/0021	. . . {at position 14(15)}
<b>43/00</b>	<b>Normal steroids having a nitrogen-containing hetero ring spiro-condensed or not condensed with the cyclopenta(a)hydrophenanthrene skeleton</b>	71/0026	. . {cyclic ketals}
43/003	. {not condensed}	71/0031	. . . {at positions 16, 17}
43/006	. {spiro-condensed}	71/0036	. {Nitrogen-containing hetero ring}
<b>51/00</b>	<b>Normal steroids with unmodified cyclopenta(a)hydrophenanthrene skeleton not provided for in groups <a href="#">C07J 1/00</a> - <a href="#">C07J 43/00</a></b>	71/0042	. . {Nitrogen only}
<b>53/00</b>	<b>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 carbocyclic rings fused to the cyclopenta(a)hydrophenanthrene skeleton are included in this class}</b>	71/0047	. . . {at position 2(3)}
53/001	. {spiro-linked}	71/0052	. . . {at position 16(17)}
53/002	. {Carbocyclic rings fused}	71/0057	. . {Nitrogen and oxygen}
53/004	. . {3 membered carbocyclic rings}	71/0063	. . . {at position 2(3)}
53/005	. . . {in position 12}	71/0068	. . . {at position 16(17)}
53/007	. . . {in position 6-7}	71/0073	. {Sulfur-containing hetero ring}
53/008	. . . {in position 15/16}	71/0078	. . {containing only sulfur}
<b>Nor- or homo steroids</b>		71/0084	. . . {Episulfides}
<b>61/00</b>	<b>Steroids in which the cyclopenta(a)hydrophenanthrene skeleton has been modified by contraction of only one ring by one or two atoms</b>	71/0089	. . {containing sulfur and oxygen}
<b>63/00</b>	<b>Steroids in which the cyclopenta(a)hydrophenanthrene skeleton has been modified by expansion of only one ring by one or two atoms</b>	71/0094	. . {containing sulfur and nitrogen}
63/002	. {Expansion of ring A by one atom, e.g. A homo steroids}	<b>73/00</b>	<b>Steroids in which the cyclopenta[a]hydrophenanthrene skeleton has been modified by substitution of one or two carbon atoms by hetero atoms</b>
63/004	. {Expansion of ring B by one atom, e.g. B homo steroids}	73/001	. {by one hetero atom}
63/006	. {Expansion of ring C by one atom, e.g. C homo steroids}	73/003	. . {by oxygen as hetero atom}
63/008	. {Expansion of ring D by one atom, e.g. D homo steroids}	73/005	. . {by nitrogen as hetero atom}
<b>65/00</b>	<b>Steroids in which the cyclopenta(a)hydrophenanthrene skeleton has been modified by contraction of two rings, each by one atom</b>	73/006	. . {by sulfur as hetero atom}
		73/008	. {by two hetero atoms}
		<b>75/00</b>	<b>Processes for the preparation of steroids in general</b>
		75/005	. {Preparation of steroids by cyclization of non-steroid compounds}