

# 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

<b>1/00</b>	<b>Normal steroids containing carbon, hydrogen, halogen or oxygen, not substituted in position 17 beta by a carbon atom, e.g. estrane, androstane</b>	1/0081	. . {Substituted in position 17 alfa and 17 beta}
1/0003	. {Androstane derivatives}	1/0085	. . . {the substituent in position 17 alfa being a saturated hydrocarbon group}
1/0007	. . {not substituted in position 17}	1/0088	. . . {the substituent in position 17 alfa being an unsaturated hydrocarbon group}
1/0011	. . {substituted in position 17 by a keto group}	1/0092	. . . . {Alkenyl derivatives}
1/0014	. . {substituted in position 17 alfa, not substituted in position 17 beta}	1/0096	. . . . {Alkynyl derivatives}
1/0018	. . {substituted in position 17 beta, not substituted in position 17 alfa}	<b>3/00</b>	<b>Normal steroids containing carbon, hydrogen, halogen or oxygen, substituted in position 17 beta by one carbon atom</b>
1/0022	. . . {the substituent being an OH group free esterified or etherified}	3/005	. {the carbon atom being part of a carboxylic function}
1/0025	. . . . {Esters}	<b>5/00</b>	<b>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}</b>
1/0029	. . . . {Ethers}	5/0007	. {not substituted in position 17 alfa}
1/0033	. . {substituted in position 17 alfa and 17 beta}	5/0015	. . {not substituted in position 16}
1/0037	. . . {the substituent in position 17 alfa being a saturated hydrocarbon group}	5/0023	. . {substituted in position 16}
1/004	. . . {the substituent in position 17 alfa being an unsaturated hydrocarbon group}	5/003	. . . {by a saturated or unsaturated hydrocarbon group including 16-alkylidene substitutes}
1/0044	. . . . {Alkenyl derivatives}	5/0038	. . . . {by an alkyl group}
1/0048	. . . . {Alkynyl derivatives}	5/0046	. {substituted in position 17 alfa}
1/0051	. {Estrane derivatives}	5/0053	. . {not substituted in position 16}
1/0055	. . {not substituted in position 17}	5/0061	. . {substituted in position 16}
1/0059	. . {substituted in position 17 by a keto group}	5/0069	. . . {by a saturated or unsaturated hydrocarbon group}
1/0062	. . {substituted in position 17 alfa not substituted in position 17 beta}	5/0076	. . . . {by an alkyl group}
1/0066	. . {substituted in position 17 beta not substituted in position 17 alfa}	5/0084	. . . . {by an alkylene group}
1/007	. . . {the substituent being an OH group free esterified or etherified}	5/0092	. . . {by an OH group free esterified or etherified}
1/0074	. . . . {Esters}		
1/0077	. . . . {Ethers}		

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

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