

# CPC COOPERATIVE PATENT CLASSIFICATION

**A61K PREPARATIONS FOR MEDICAL, DENTAL, OR TOILET PURPOSES** (devices or methods specially adapted for bringing pharmaceutical products into particular physical or administering forms [A61J 3/00](#); chemical aspects of, or use of materials for deodorisation of air, for disinfection or sterilisation, or for bandages, dressings, absorbent pads or surgical articles [A61L](#); {compounds per se [C01](#), [C07](#), [C08](#), [C12N](#)} ; soap compositions [C11D](#); {micro-organisms per se [C12N](#)})

## NOTES

1. This subclass covers the following subject matter, whether set forth as a composition (mixture), process of preparing the composition or process of treating using the composition:
  - a. Drug or other biological compositions which are capable of:
    - preventing, alleviating, treating or curing abnormal or pathological conditions of the living body by such means as destroying a parasitic organism, or limiting the effect of the disease or abnormality by chemically altering the physiology of the host or parasite (biocides [A01N 25/00](#) - [A01N 65/00](#));
    - maintaining, increasing, decreasing, limiting, or destroying a physiological body function, e.g. vitamin compositions, sex sterilants, fertility inhibitors, growth promoters, or the like (sex sterilants for invertebrates, e.g. insects, [A01N](#); plant growth regulators [A01N 25/00](#) - [A01N 65/00](#));
    - diagnosing a physiological condition or state by an in vivo test, e.g. X-ray contrast or skin patch test compositions (measuring or testing processes involving enzymes or micro-organisms [C12Q](#); in vitro testing of biological material, e.g. blood, urine, [G01N](#), e.g. [G01N 33/48](#))
  - b. Body treating compositions generally intended for deodorising, protecting, adorning or grooming the body, e.g. cosmetics, dentifrices, tooth filling materials.
2. Attention is drawn to the definitions of groups of chemical elements following the title of section [C](#).
3. Attention is drawn to the notes in class [C07](#), for example the notes following the title of the subclass [C07D](#), setting forth the rules for classifying organic compounds in that class, which rules are also applicable, if not otherwise indicated, to the classification of organic compounds in [A61K](#).
4. In this subclass, with the exception of group [A61K 8/00](#), the last place priority rule is applied, i.e. at each hierarchical level, in the absence of an indication to the contrary, classification is made in the last appropriate place.

## WARNINGS

1. The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

<a href="#">A61K 9/133</a>	covered by	<a href="#">A61K 9/127</a>
<a href="#">A61K 9/18</a>	covered by	<a href="#">A61K 9/14</a>
<a href="#">A61K 9/22</a>	covered by	<a href="#">A61K 9/20</a>
<a href="#">A61K 9/24</a>	covered by	<a href="#">A61K 9/209</a>
<a href="#">A61K 9/26</a>	covered by	<a href="#">A61K 9/2077</a> , <a href="#">A61K 9/2081</a>
<a href="#">A61K 9/30</a>	covered by	<a href="#">A61K 9/28</a>
<a href="#">A61K 9/32</a>	covered by	<a href="#">A61K 9/28</a>
<a href="#">A61K 9/34</a>	covered by	<a href="#">A61K 9/28</a>
<a href="#">A61K 9/36</a>	covered by	<a href="#">A61K 9/28</a>
<a href="#">A61K 9/38</a>	covered by	<a href="#">A61K 9/28</a>
<a href="#">A61K 9/40</a>	covered by	<a href="#">A61K 9/28</a>
<a href="#">A61K 9/42</a>	covered by	<a href="#">A61K 9/28</a>
<a href="#">A61K 9/44</a>	covered by	<a href="#">A61K 9/2072</a>
<a href="#">A61K 9/46</a>	covered by	<a href="#">A61K 9/0007</a>
<a href="#">A61K 9/52</a>	covered by	<a href="#">A61K 9/50</a>
<a href="#">A61K 9/54</a>	covered by	<a href="#">A61K 9/5073</a> , <a href="#">A61K 9/5078</a> , <a href="#">A61K 9/5084</a>
<a href="#">A61K 9/56</a>	covered by	<a href="#">A61K 9/50</a>
<a href="#">A61K 9/58</a>	covered by	<a href="#">A61K 9/50</a>
<a href="#">A61K 9/60</a>	covered by	<a href="#">A61K 9/50</a>
<a href="#">A61K 9/62</a>	covered by	<a href="#">A61K 9/50</a>
<a href="#">A61K 9/64</a>	covered by	<a href="#">A61K 9/50</a>
<a href="#">A61K 9/66</a>	covered by	<a href="#">A61K 9/48</a>
<a href="#">A61K 9/68</a>	covered by	<a href="#">A61K 9/0058</a>
<a href="#">A61K 9/72</a>	covered by	<a href="#">A61K 9/0073</a>
<a href="#">A61K 45/08</a>	covered by	<a href="#">A61K 31/00</a> , <a href="#">A61K 47/00</a>
<a href="#">A61K 47/04</a>	covered by	<a href="#">A61K 47/02</a>
<a href="#">A61K 50/00</a>	covered by	<a href="#">A61K 9/0009</a> , <a href="#">C09J 9/02</a>

The following IPC indexing codes are not used in the CPC scheme:

## A61K

A61K  
(continued)

[A61K 101/00 - A61K 135/00](#)

2. Subgroups of [A61K 48/00](#) are incomplete (Jan. 2003). Documents are being reclassified from [A61K 48/00](#) to its subgroups

- 6/00 Preparations for dentistry** (teeth cleaning preparations [A61K 8/00](#), [A61Q 11/00](#); {dental prostheses [A61C 13/00](#); apparatus or methods for oral or dental hygiene [A61C](#)})
- NOTE**
- In groups [A61K 6/00 - A61K 6/0044](#) and [A61K 6/083 - A61K 6/10](#), the use of specific polymers is indicated by addition of classification symbols of the subclass [C08L](#) preceded by the sign "+", e.g. compositions for taking dental impressions containing alginates are classified in [A61K 6/10 + C08L 5/04](#)
- 6/0002 . {Compositions characterised by physical properties}
  - 6/0005 . . {by refractive index}
  - 6/0008 . . {by particle size}
  - 6/0011 . . {by retraction, e.g. compositions for widening the sulcus for making dental impressions or removing teeth}
  - 6/0014 . . {Self-expanding, e.g. for filling teeth}
  - 6/0017 . . {Protective coating for natural or artificial teeth, such as sealing, dye coating, varnish}
  - 6/002 . . {Compositions for detecting or measuring, e.g. contact points, irregularities on natural or artificial teeth}
  - 6/0023 . {Chemical means for temporarily or permanently fixing teeth, palates or the like}
  - 6/0026 . . {Preparations for stabilising dentures in the mouth}
  - 6/0029 . {Primers (adhesive primers [A61K 6/0023](#))}
  - 6/0032 . {Use of preparations for dental root treatment}
  - 6/0035 . . {Cleaning; Disinfecting}
  - 6/0038 . . {Filling; Sealing}
  - 6/0041 . . {Apical treatment}
  - 6/0044 . . {in combination with dental implants}
  - 6/0047 . {Preparations for dentistry characterised by the presence of organic or organo-metallic additives}
  - 6/005 . . {Cationic, anionic or redox initiators}
  - 6/0052 . . {Photochemical radical initiators}
  - 6/0055 . . {Thermal radical initiators}
  - 6/0058 . . {Dyes}
  - 6/0061 . . . {photochromic}
  - 6/0064 . . . {thermochromic}
  - 6/0067 . . {Medicaments; Drugs}
  - 6/007 . {Preparations for dentistry characterized by the presence of inorganic additives}
  - 6/0073 . . {Fillers}
  - 6/0076 . . . {comprising nitrogen-containing compounds}
  - 6/0079 . . . {comprising sulfur-containing compounds}
  - 6/0082 . . . {comprising phosphorus-containing compounds}
  - 6/0085 . . . . {Apatite}
  - 6/0088 . . . {comprising silicon-containing compounds}
  - 6/0091 . . . {Glass}
  - 6/0094 . . {Pigments}
  - 6/0097 . . {Initiators}
  - 6/02 . Use of preparations for artificial teeth, for filling or for capping teeth
  - 6/0205 . . {Ceramics}
  - 6/021 . . . {comprising manganese oxide}
  - 6/0215 . . . {comprising magnesium oxide}
  - 6/022 . . . {comprising beryllium oxide}
  - 6/0225 . . . {comprising chromium oxide}
  - 6/023 . . . {comprising iron oxide}
  - 6/0235 . . . {comprising titanium oxide}
  - 6/024 . . . {comprising zirconium oxide}
  - 6/0245 . . . {comprising hafnium oxide}
  - 6/025 . . . {comprising rare earth metal oxides}
  - 6/0255 . . . {comprising transition metal oxides}
  - 6/026 . . . {Leucite}
  - 6/0265 . . {Cermet-composites}
  - 6/027 . . Use of non-metallic elements or compounds thereof, e.g. carbon {(non-metallic elements [per se C01B](#))}
  - 6/0273 . . . {Glass-ceramic-composites}
  - 6/0276 . . . {Glasses}
  - 6/033 . . . {Phosphorus compounds, e.g. apatite}
  - 6/04 . . Use of metals or alloys (alloys [per se C22C](#))
  - 6/043 . . . {Rare earth metals}
  - 6/046 . . . {Noble metals}
  - 6/05 . . . Amalgams
  - 6/06 . . Use of inorganic cements (cements [per se C04B](#))
  - 6/0606 . . . {Portland cements}
  - 6/0612 . . . {Silicates}
  - 6/0618 . . . {Pozzolans}
  - 6/0625 . . . {Calcium sulfates/gypsum}
  - 6/0631 . . . {Al-cements}
  - 6/0637 . . . {Ca-Al-sulfate-cements}
  - 6/0643 . . . {Phosphate cements (apatite [A61K 6/033](#))}
  - 6/065 . . . {Ammonium cements}
  - 6/0656 . . . {Zeolite}
  - 6/0662 . . . {Quartz or SiO<sub>2</sub>}
  - 6/0668 . . . {Carbonates}
  - 6/0675 . . . {Calcium oxide}
  - 6/0681 . . . {comprising zirconium oxide}
  - 6/0687 . . . {comprising chromium oxide}
  - 6/0693 . . . {comprising carbides}
  - 6/08 . . Use of natural or synthetic resins (resins [per se C08](#))
  - 6/083 . . . Compounds obtained by reactions only involving carbon-to-carbon unsaturated bonds
  - 6/0835 . . . . {Polycarboxylate cements or glass ionomer cements}
  - 6/087 . . . Compounds obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds
  - 6/09 . . . . Polyurethanes
  - 6/093 . . . . Polyorganosilicon compounds
  - 6/097 . . . Polysaccharides
  - 6/10 . Compositions for taking dental impressions (impression methods [A61C 9/00](#))

**8/00** **Cosmetic or similar toilet preparations** (casings or accessories for storing or handling of solid or pasty toilet or cosmetic substances [A45D 40/00](#))

**NOTES**

1. Use of cosmetics or similar toilet preparations is further classified in subclass [A61Q](#).
2. Use of cosmetics or similar toilet preparations is mandatorily further classified in subclass [A61Q](#).
3. Attention is drawn to the Notes in class [C07](#), for example the notes following the title of subclass [C07D](#), setting forth the rules for classifying organic compounds in that class, which rules are also applicable, if not otherwise indicated, to the classification of organic compounds in group [A61K 8/00](#).
4. Salts or complexes of organic compounds are classified according to the base compounds. If a complex is formed between two or more compounds, classification is made for each compound.

8/02 . . characterised by special physical form

**NOTE**

In this group, the last place priority rule is applied, i.e. at each hierarchical level, in the absence of an indication to the contrary, classification is made in the last appropriate place.

- 8/0204 . . {Specific forms not provided for by any of groups [A61K 8/0208](#) - [A61K 8/14](#)}
- 8/0208 . . {Tissues; Wipes; Patches}
- 8/0212 . . {Face masks}
- 8/0216 . . {Solid or semisolid forms}
- 8/022 . . . {Powders; Compacted Powders}
- 8/0225 . . . . {Granulated powders}
- 8/0229 . . . {Sticks}
- 8/0233 . . . {Distinct layers, e.g. core/shell sticks}
- 8/0237 . . . . {Striped compositions}
- 8/0241 . . {Containing particulates characterized by their shape and/or structure (see also [A61K 8/04](#), [A61K 8/11](#), and [A61K 8/14](#), further aspects are classified in [A61K 2800/40](#) and subcodes)}
- 8/0245 . . . {Specific shapes or structures not provided for by any of the groups of [A61K 8/0241](#)}
- 8/025 . . . {Explicitly spheroidal or spherical shape}
- 8/0254 . . . {Platelets; Flakes}
- 8/0258 . . . . {Layered structure}
- 8/0262 . . . . . {Characterized by the central layer}
- 8/0266 . . . . . {Characterized by the sequence of layers}
- 8/027 . . . {Fibers; Fibrils}
- 8/0275 . . . {Containing agglomerated particulates}
- 8/0279 . . . {Porous; Hollow}
- 8/0283 . . . {Matrix particles}
- 8/0287 . . . . {the particulate containing a solid-in-solid dispersion}
- 8/0291 . . {Micelles}
- 8/0295 . . {Liquid crystals}
- 8/03 . . Liquid compositions with two or more distinct layers
- 8/04 . . Dispersions; Emulsions
- 8/042 . . . {Gels}
- 8/044 . . . {Suspensions}

- 8/046 . . . {Aerosols; Foams}
- 8/06 . . . Emulsions
- 8/062 . . . . {Oil-in-water emulsions}
- 8/064 . . . . {Water-in-oil emulsions, e.g. Water-in-silicone emulsions}
- 8/066 . . . . {Multiple emulsions, e.g. water-in-oil-in-water}
- 8/068 . . . . {Microemulsions}
- 8/11 . . Encapsulated compositions
- 8/14 . . Liposomes; Vesicles
- 8/18 . . characterised by the composition
- NOTE**
- In this group, the last place priority rule is applied, i.e. at each hierarchical level, in the absence of an indication to the contrary, classification is made in the last appropriate place.
- 8/19 . . containing inorganic ingredients
- 8/20 . . . Halogens; Compounds thereof
- 8/21 . . . . Fluorides; Derivatives thereof
- 8/22 . . . Peroxides; Oxygen; Ozone
- 8/23 . . . Sulfur; Selenium; Tellurium; Compounds thereof
- 8/24 . . . Phosphorous; Compounds thereof
- 8/25 . . . Silicon; Compounds thereof
- 8/26 . . . Aluminium; Compounds thereof
- 8/27 . . . Zinc; Compounds thereof
- 8/28 . . . Zirconium; Compounds thereof
- 8/29 . . . Titanium; Compounds thereof
- 8/30 . . containing organic compounds
- 8/31 . . . Hydrocarbons
- 8/315 . . . . {Halogenated hydrocarbons}
- 8/33 . . . containing oxygen
- 8/34 . . . . Alcohols
- 8/342 . . . . . {Alcohols having more than seven atoms in an unbroken chain}
- 8/345 . . . . . {containing more than one hydroxy group}
- 8/347 . . . . . {Phenols}
- 8/35 . . . . Ketones, e.g. benzophenone
- 8/355 . . . . . {Quinones}
- 8/36 . . . . Carboxylic acids; Salts or anhydrides thereof
- 8/361 . . . . . {Carboxylic acids having more than seven carbon atoms in an unbroken chain; Salts or anhydrides thereof}
- 8/362 . . . . . Polycarboxylic acids
- 8/365 . . . . . Hydroxycarboxylic acids; Ketocarboxylic acids
- 8/368 . . . . . with carboxyl groups directly bound to carbon atoms or aromatic rings
- 8/37 . . . . Esters of carboxylic acids
- 8/375 . . . . . {the alcohol moiety containing more than one hydroxy group}
- 8/38 . . . . Percompounds, e.g. peracids
- 8/39 . . . . Derivatives containing from 2 to 10 oxyalkylene groups
- 8/40 . . . containing nitrogen (quinones containing nitrogen [A61K 8/355](#))
- 8/41 . . . . Amines
- 8/411 . . . . . {Aromatic amines, i.e. where the amino group is directly linked to the aromatic nucleus}

8/413	. . . . . {Indoanilines; Indophenol; Indoamines}	8/63	. . . Steroids; Derivatives thereof
8/415	. . . . . {Aminophenols}		<b>NOTE</b>
8/416	. . . . . {Quaternary ammonium compounds (A61K 8/35 takes precedence)}		This group covers steroids, as defined in Note (1) after the title of subclass C07J.
8/418	. . . . . {containing nitro groups}		
8/42	. . . . . Amides	8/64	. . . Proteins; Peptides; Derivatives or degradation products thereof
8/43	. . . . . Guanidines	8/645	. . . . . {Proteins of vegetable origin; Derivatives or degradation products thereof}
8/44	. . . . . Aminocarboxylic acids or derivatives thereof, e.g. aminocarboxylic acids containing sulfur; Salts; Esters or N-acylated derivatives thereof	8/65	. . . . . Collagen; Gelatin; Keratin; Derivatives or degradation products thereof
8/442	. . . . . {substituted by amido group(s)}	8/66	. . . . . Enzymes
8/445	. . . . . {aromatic, i.e. the carboxylic acid directly linked to the aromatic ring}	8/67	. . . Vitamins
8/447	. . . . . {containing sulfur}	8/671	. . . . . {Vitamin A; Derivatives thereof, e.g. ester of vitamin A acid, ester of retinol, retinol, retinal}
8/45	. . . . . Derivatives containing from 2 to 10 oxyalkylene groups	8/673	. . . . . {Vitamin B group}
8/46	. . . containing sulfur (A61K 8/44 takes precedence)	8/675	. . . . . {Vitamin B3 or vitamin B3 active, e.g. nicotinamide, nicotinic acid, nicotinyl aldehyde (tocopheryl nicotinate A61K 8/678)}
8/463	. . . . . {containing sulfuric acid derivatives, e.g. sodium lauryl sulfate}	8/676	. . . . . {Ascorbic acid, i.e. vitamin C}
8/466	. . . . . {containing sulfonic acid derivatives; Salts}	8/678	. . . . . {Tocopherol, i.e. vitamin E}
8/49	. . . containing heterocyclic compounds	8/68	. . . Sphingolipids, e.g. ceramides, cerebroside, gangliosides
8/4906	. . . . . {with one nitrogen as the only hetero atom}	8/69	. . . containing fluorine
8/4913	. . . . . {having five membered rings, e.g. pyrrolidone carboxylic acid}	8/70	. . . . . containing perfluoro groups, e.g. perfluoroethers
8/492	. . . . . {having condensed rings, e.g. indol}	8/72	. . containing organic macromolecular compounds
8/4926	. . . . . {having six membered rings}	8/73	. . . Polysaccharides
8/4933	. . . . . {having sulfur as an exocyclic substituent, e.g. pyridinethione}	8/731	. . . . . {Cellulose; Quaternized cellulose derivatives}
8/494	. . . . . {with more than one nitrogen as the only hetero atom}	8/732	. . . . . {Starch; Amylose; Amylopectin; Derivatives thereof}
8/4946	. . . . . {Imidazoles or their condensed derivatives, e.g. benzimidazoles}	8/733	. . . . . {Alginic acid; Salts thereof}
8/4953	. . . . . {containing pyrimidine ring derivatives, e.g. minoxidil}	8/735	. . . . . {Mucopolysaccharides, e.g. hyaluronic acid; Derivatives thereof}
8/496	. . . . . {Triazoles or their condensed derivatives, e.g. benzotriazoles}	8/736	. . . . . {Chitin; Chitosan; Derivatives thereof}
8/4966	. . . . . {Triazines or their condensed derivatives}	8/737	. . . . . {Galactomannans, e.g. guar; Derivatives thereof}
8/4973	. . . . . {with oxygen as the only hetero atom}	8/738	. . . . . {Cyclodextrins}
8/498	. . . . . {having 6-membered rings or their condensed derivatives, e.g. coumarin}	8/81	. . . obtained by reactions involving only carbon-to- carbon unsaturated bonds
8/4986	. . . . . {with sulfur as the only hetero atom}	8/8105	. . . . . {Compositions of homopolymers or copolymers of unsaturated aliphatic hydrocarbons having only one carbon- to-carbon double bond; Compositions of derivatives of such polymers}
8/4993	. . . . . {Derivatives containing from 2 to 10 oxyalkylene groups}	8/8111	. . . . . {Homopolymers or copolymers of aliphatic olefines, e.g. polyethylene, polyisobutene; Compositions of derivatives of such polymers}
8/55	. . . Phosphorus compounds	8/8117	. . . . . {Homopolymers or copolymers of aromatic olefines, e.g. polystyrene; Compositions of derivatives of such polymers}
8/553	. . . . . {Phospholipids, e.g. lecithin}	8/8123	. . . . . {Compositions of homopolymers or copolymers of compounds having one carbon-to-carbon double bond, and at least one being terminated by a halogen; Compositions of derivatives of such polymers, e.g. PVC, PTFE}
8/556	. . . . . {Derivatives containing from 2 to 10 oxyalkylene groups}		
8/58	. . . containing atoms other than carbon, hydrogen, halogen, oxygen, nitrogen, sulfur or phosphorus		
8/585	. . . . . {Organosilicon compounds}		
8/60	. . . Sugars; Derivatives thereof		
8/602	. . . . . {Glycosides, e.g. rutin}		
8/604	. . . . . {Alkylpolyglycosides; Derivatives thereof, e.g. esters}		
8/606	. . . . . {Nucleosides; Nucleotides; Nucleic acids}		
8/608	. . . . . {Derivatives containing from 2 to 10 oxyalkylene groups}		

- 8/8129 . . . . {Compositions of homopolymers or copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and at least one being terminated by an alcohol, ether, aldehydo, ketonic, acetal or ketal radical; Compositions of hydrolysed polymers or esters of unsaturated alcohols with saturated carboxylic acids; Compositions of derivatives of such polymers, e.g. polyvinylmethylether}
- 8/8135 . . . . {Compositions of homopolymers or copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and at least one being terminated by an acyloxy radical of a saturated carboxylic acid, of carbonic acid or of a haloformic acid; Compositions of derivatives of such polymers, e.g. vinyl esters (polyvinylacetate)}
- 8/8141 . . . . {Compositions of homopolymers or copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and at least one being terminated by only one carboxyl radical, or of salts, anhydrides, esters, amides, imides or nitriles thereof; Compositions of derivatives of such polymers}
- 8/8147 . . . . {Homopolymers or copolymers of acids; Metal or ammonium salts thereof, e.g. crotonic acid, (meth)acrylic acid; Compositions of derivatives of such polymers}
- 8/8152 . . . . {Homopolymers or copolymers of esters, e.g. (meth)acrylic acid esters; Compositions of derivatives of such polymers}
- 8/8158 . . . . {Homopolymers or copolymers of amides or imides, e.g. (meth) acrylamide; Compositions of derivatives of such polymers}
- 8/8164 . . . . {Compositions of homopolymers or copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and at least one being terminated by a carboxyl radical, and containing at least one other carboxyl radical in the molecule, or of salts, anhydrides, esters, amides, imides or nitriles thereof; Compositions of derivatives of such polymers, e.g. poly (methyl vinyl ether-co-maleic anhydride)}
- 8/817 . . . . {Compositions of homopolymers or copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and at least one being terminated by a single or double bond to nitrogen or by a heterocyclic ring containing nitrogen; Compositions or derivatives of such polymers, e.g. vinylimidazol, vinylcaprolactame, allylamines (Polyquaternium 6)}
- 8/8176 . . . . {Homopolymers of N-vinyl-pyrrolidones. Compositions of derivatives of such polymers}
- 8/8182 . . . . {Copolymers of vinyl-pyrrolidones. Compositions of derivatives of such polymers}
- 8/8188 . . . . {Compositions of homopolymers or copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bonds, and at least one being terminated by a bond to sulfur or by a heterocyclic ring containing sulfur; Compositions of derivatives of such polymers}
- 8/8194 . . . . {Compositions of homopolymers or copolymers of compounds having one or more unsaturated aliphatic radicals, at least one having two or more carbon-to-carbon double bonds; Compositions of derivatives of such polymers}
- 8/84 . . . . obtained by reactions otherwise than those involving only carbon-carbon unsaturated bonds
- 8/85 . . . . Polyesters
- 8/86 . . . . Polyethers
- 8/87 . . . . Polyurethanes
- 8/88 . . . . Polyamides
- 8/89 . . . . Polysiloxanes
- 8/891 . . . . saturated, e.g. dimethicone, phenyl trimethicone, C24-C28 methicone or stearyl dimethicone
- 8/892 . . . . modified by a hydroxy group, e.g. dimethiconol
- 8/893 . . . . modified by an alkoxy or aryloxy group, e.g. behenoxy dimethicone or stearoxy dimethicone
- 8/894 . . . . modified by a polyoxyalkylene group, e.g. cetyl dimethicone copolyol
- 8/895 . . . . containing silicon bound to unsaturated aliphatic groups, e.g. vinyl dimethicone
- 8/896 . . . . containing atoms other than silicon, carbon, oxygen and hydrogen, e.g. dimethicone copolyol phosphate
- 8/897 . . . . containing halogen, e.g. fluorosilicones
- 8/898 . . . . containing nitrogen, e.g. amodimethicone, trimethyl silyl amodimethicone or dimethicone propyl PG-betaine
- 8/899 . . . . containing sulfur, e.g. sodium PG-propyldimethicone thiosulfate copolyol
- 8/90 . . . . Block copolymers ([A61K 8/89 takes precedence](#))
- 8/91 . . . . Graft copolymers ([A61K 8/89 takes precedence](#))
- 8/92 . . . . Oils, fats or waxes; Derivatives thereof, e.g. hydrogenation products thereof
- 8/922 . . . . {of vegetable origin}
- 8/925 . . . . {of animal origin}
- 8/927 . . . . {of insects, e.g. shellac}
- 8/96 . . . . containing material, or derivatives thereof of undetermined constitution
- 8/965 . . . . {of inanimate origin}
- 8/97 . . . . of vegetable origin, e.g. plant extracts
- 8/975 . . . . {Pollen; Algae, Higher fungi}



- 8/98 . . . of animal origin
- 8/981 . . . . {of mammals or bird}
- 8/982 . . . . . {Reproductive organs; Embryos, Eggs}
- 8/983 . . . . . {Blood, e.g. plasma}
- 8/985 . . . . . {Skin or skin outgrowth, e.g. hair, nails}
- 8/986 . . . . . {Milk; Derivatives thereof, e.g. butter}
- 8/987 . . . . . {of species other than mammals or birds}
- 8/988 . . . . . {Honey; Royal jelly, Propolis}
- 8/99 . . . from micro-organisms

**9/00 Medicinal preparations characterised by special physical form** (nuclear magnetic resonance contrast preparations or magnetic resonance imaging contrast preparataions [A61K 49/18](#); preparations containing radioactive substances [A61K 51/12](#))

#### NOTE

Among the one-dot groups of [A61K 9/00](#), classification is not made in the last appropriate place.

[A61K 9/00](#) is subdivided according to the following concepts:

- the drug release technique ( [A61K 9/0002](#) and subgroups),
- the site of application ( [A61K 9/0012](#) and subgroups), and
- the physical form ( [A61K 9/0087](#) - [A61K 9/7023](#) ).

Where relevant, documents are classified in more than one of these subdivisions.

- 9/0002 . {Galenical forms characterised by the drug release technique; Application systems commanded by energy}
- 9/0004 . . {Osmotic delivery systems; Sustained release driven by osmosis, thermal energy or gas}
- 9/0007 . . {Effervescent ([A61K 9/0065](#) takes precedence)}
- 9/0009 . . {involving or responsive to electricity, magnetism or acoustic waves; Galenical aspects of sonophoresis, iontophoresis, electroporation or electroosmosis ([microelectromechanical systems A61K 9/0097](#))}
- 9/0012 . {Galenical forms characterised by the site of application}
- 9/0014 . . {Skin, i.e. galenical aspects of topical compositions (non-active ingredients are additionally classified in [A61K 47/00](#); [A61K 9/0009](#), [A61K 9/0021](#), [A61K 9/7015](#), [A61K 9/7023](#) take precedence; cosmetic preparations [A61K 8/00](#), [A61Q](#); preparations for wound dressings or bandages [A61L 26/00](#))}
- 9/0017 . . . {Non-human animal skin, e.g. pour-on, spot-on}
- 9/0019 . . {Injectable compositions; Intramuscular, intravenous, arterial, subcutaneous administration; Compositions to be administered through the skin in an invasive manner (non-active ingredients are additionally classified in [A61K 47/00](#))}
- 9/0021 . . . {Intradermal administration, e.g. through microneedle arrays, needleless injectors ([mechanical aspects A61M](#))}
- 9/0024 . . . {Solid, semi-solid or solidifying implants, which are implanted or injected in body tissue (compositions for intravenous administration, normal injectable solutions or dispersions for, e.g. subcutaneous administration [A61K 9/0019](#); brain implants [A61K 9/0085](#); (coated) prostheses, catheters or stents [A61L](#))}
- 9/0026 . . . {Blood substitute; Oxygen transporting formulations; Plasma extender}
- 9/0029 . . . {Parenteral nutrition; Parenteral nutrition compositions as drug carriers}
- 9/0031 . . {Rectum, anus}
- 9/0034 . . {Urogenital system, e.g. vagina, uterus, cervix, penis, scrotum, urethra, bladder; Personal lubricants}
- 9/0036 . . . {Devices retained in the vagina or cervix for a prolonged period, e.g. intravaginal rings, medicated tampons, medicated diaphragms}
- 9/0039 . . . {Devices retained in the uterus for a prolonged period, e.g. intrauterine devices for contraception}
- 9/0041 . . {Mammary glands, e.g. breasts, udder; Intramammary administration}
- 9/0043 . . {Nose}
- 9/0046 . . {Ear}
- 9/0048 . . {Eye, e.g. artificial tears}
- 9/0051 . . . {Ocular inserts, ocular implants}
- 9/0053 . . {Mouth and digestive tract, i.e. intraoral and peroral administration ([rectal administration A61K 9/0031](#))}
- 9/0056 . . . {Mouth soluble or dispersible forms; Suckable, eatable, chewable coherent forms; Forms rapidly disintegrating in the mouth; Lozenges; Lollipops; Bite capsules; Baked products; Baits or other oral forms for animals}
- 9/0058 . . . . {Chewing gums (non-medicinal aspects, preparing chewing gum [A23G 4/00](#); chewing gum for care of the teeth or oral cavity, e.g. with breath freshener [A61Q 11/00](#))}
- 9/006 . . . {Oral mucosa, e.g. mucoadhesive forms, sublingual droplets; Buccal patches or films; Buccal sprays}
- 9/0063 . . . {Periodont}
- 9/0065 . . . {Forms with gastric retention, e.g. floating on gastric juice, adhering to gastric mucosa, expanding to prevent passage through the pylorus}
- 9/0068 . . . {Rumen, e.g. rumen bolus}
- 9/007 . . {Pulmonary tract; Aromatherapy}
- 9/0073 . . . {Sprays or powders for inhalation; Aerolised or nebulised preparations generated by other means than thermal energy; ([nasal sprays A61K 9/0043](#); inhalation of vapours of volatile or heated drugs, e.g. essential oils or nicotine, [A61K 9/007](#); devices [A61M](#))}
- 9/0075 . . . . {for inhalation via a dry powder inhaler [DPI], e.g. comprising micronized drug mixed with lactose carrier particles}
- 9/0078 . . . . {for inhalation via a nebulizer such as a jet nebulizer, ultrasonic nebulizer, e.g. in the form of aqueous drug solutions or dispersions}
- 9/008 . . . . {comprising drug dissolved or suspended in liquid propellant for inhalation via a pressurized metered dose inhaler [MDI]}

- 9/0082 . . . {Lung surfactant, artificial mucus}
- 9/0085 . . {Brain, e.g. brain implants; Spinal cord}
- 9/0087 . {Galenical forms not covered by [A61K 9/02](#) - [A61K 9/7023](#)}
- 9/009 . . {Sachets, pouches characterised by the material or function of the envelope (with gastric retention [A61K 9/0065](#); sachets which are not administered but function merely as a container are classified according to the content, e.g. sachets comprising powder for reconstitution of a drink [A61K 9/0095](#))}
- 9/0092 . . {Hollow drug-filled fibres, tubes of the core-shell type, coated fibres, coated rods, microtubules, nanotubes (fibres of the matrix type containing drug [A61K 9/70](#))}
- 9/0095 . . {Drinks; Beverages; Syrups; Compositions for reconstitution thereof, e.g. powders or tablets to be dispersed in a glass of water; Veterinary drenches ([A61K 9/0007](#) takes precedence; eatable gels or foams [A61K 9/0056](#); oral mucosa adhesive forms [A61K 9/006](#))}
- 9/0097 . . {Micromachined devices; Microelectromechanical systems [MEMS]; Devices obtained by lithographic treatment of silicon; Devices comprising chips (intradermal microneedle arrays [A61K 9/0021](#); MEMS in general [B81B 7/02](#))}
- 9/02 . Suppositories; Bougies; Bases therefor; {Ovules} (apparatus for making [A61J 3/08](#); devices for introducing into the body [A61M 31/00](#))
- 9/025 . . {characterised by shape or structure, e.g. hollow layered, coated}
- 9/06 . Ointments; Bases therefor; {Other semi-solid forms, e.g. creams, sticks, gels (composition of ointments, creams or gels [A61K 47/00](#))}
- WARNING**  
incomplete, see also [A61K 9/0012](#), [A61K 47/00](#)
- 9/08 . Solutions; {(composition of solutions [A61K 47/00](#))}
- WARNING**  
incomplete, see also [A61K 9/0012](#), [A61K 47/00](#), [A61K 9/0095](#)
- 9/10 . Dispersions; Emulsions; {([A61K 9/06](#) takes precedence; composition of dispersions, emulsions [A61K 47/00](#))}
- WARNING**  
incomplete, see also [A61K 9/0012](#), [A61K 47/00](#), [A61K 9/0095](#)
- 9/107 . . Emulsions; {Emulsion preconcentrates; Micelles (composition of emulsions [A61K 47/00](#))}
- WARNING**  
incomplete, see also [A61K 9/0012](#), [A61K 47/00](#), [A61K 9/0095](#)
- 9/1075 . . . {Microemulsions or submicron emulsions; Preconcentrates or solids thereof; Micelles, e.g. made of phospholipids or block copolymers ([A61K 9/0026](#) takes precedence)}
- 9/113 . . . Multiple emulsions, e.g. oil-in-water-in-oil; {([A61K 9/0026](#) takes precedence)}
- 9/12 . . Aerosols; Foams {([A61K 9/0043](#), [A61K 9/0056](#), [A61K 9/006](#), [A61K 9/0073](#) take precedence; spray-films [A61K 9/7015](#))}
- 9/122 . . . {Foams; Dry foams (edible foams [A61K 9/0056](#))}
- 9/124 . . . {characterised by the propellant}
- 9/127 . . Liposomes
- 9/1271 . . . {Non-conventional liposomes, e.g. PEGylated liposomes, liposomes coated with polymers (see also [A61K 47/48815](#))}
- 9/1272 . . . . {with substantial amounts of non-phosphatidyl, i.e. non-acylglycerophosphate, surfactants as bilayer-forming substances, e.g. cationic lipids (with cholesterol as the only non-phosphatidyl surfactant [A61K 9/127](#); cationic lipid/DNA complexes see also [A61K 47/48046](#))}
- 9/1273 . . . . {Polymersomes; Liposomes with polymerisable or polymerised bilayer-forming substances (polymers grafted or coated on phosphatidyl liposomes [A61K 9/1271](#), on non-phosphatidyl liposomes [A61K 9/1272](#))}
- 9/1274 . . . . {Non-vesicle bilayer structures, e.g. liquid crystals, tubules, cubic phases, cochleates; Sponge phases}
- 9/1275 . . . {Lipoproteins; Chylomicrons; Artificial HDL, LDL, VLDL, protein-free species thereof; Precursors thereof}
- 9/1276 . . . {Globules of milk or constituents thereof}
- 9/1277 . . . {Processes for preparing; Proliposomes}
- 9/1278 . . . . {Post-loading, e.g. by ion or pH gradient}
- 9/14 . Particulate form, e.g. powders, {Processes for size reducing of pure drugs or the resulting products, Pure drug nanoparticles (microspheres [A61K 9/16](#); microcapsules [A61K 9/50](#); nanocapsules, nanoparticles of the matrix type [A61K 9/51](#))}
- 9/141 . . {Intimate drug-carrier mixtures characterised by the carrier, e.g. ordered mixtures, adsorbates, solid solutions, eutectica, co-dried, co-solubilised, co-kneaded, co-milled, co-ground products, co-precipitates, co-evaporates, co-extrudates, co-melts; Drug nanoparticles with adsorbed surface modifiers ((co) spray-dried products [A61K 9/16](#), (co) lyophilised products [A61K 9/19](#); the carrier being chemically bound to the active ingredient [A61K 47/48](#))}
- 9/143 . . . {with inorganic compounds}
- 9/145 . . . {with organic compounds}
- 9/146 . . . {with organic macromolecular compounds}
- 9/148 . . . {with compounds of unknown constitution, e.g. material from plants or animals (with oils, fats, waxes, shellac [A61K 9/145](#))}
- 9/16 . . Agglomerates; Granulates; Microbeadlets; {Microspheres; Pellets; Solid products obtained by spray drying, spray freeze drying, spray congealing, (multiple) emulsion solvent evaporation or extraction ([A61K 9/20](#) takes precedence if the final form is a tablet; microspheres with drug-free outer coating, microcapsules [A61K 9/50](#); mixture of different granules, microcapsules, (coated) microparticles [A61K 9/5084](#); nanoparticles [A61K 9/51](#))}
- 9/1605 . . . {Excipients; Inactive ingredients}
- 9/1611 . . . . {Inorganic compounds}

- 9/1617 . . . . {Organic compounds, e.g. phospholipids, fats}
- 9/1623 . . . . {Sugars or sugar alcohols, e.g. lactose; Derivatives thereof; Homeopathic globules}
- 9/1629 . . . . {Organic macromolecular compounds}
- 9/1635 . . . . {obtained by reactions only involving carbon-to-carbon unsaturated bonds, e.g. polyvinyl pyrrolidone, poly(meth)acrylates}
- 9/1641 . . . . {obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds, e.g. polyethylene glycol, poloxamers}
- 9/1647 . . . . {Polyesters, e.g. poly(lactide-co-glycolide)}
- 9/1652 . . . . {Polysaccharides, e.g. alginate, cellulose derivatives; Cyclodextrin ([homeopathic globules A61K 9/1623](#))}
- 9/1658 . . . . {Proteins, e.g. albumin, gelatin}
- 9/1664 . . . . {Compounds of unknown constitution, e.g. material from plants or animals ([oils, fats, waxes, shellac A61K 9/1617](#))}
- 9/167 . . . {with an outer layer or coating comprising drug; with chemically bound drugs or non-active substances on their surface ([with further drug-free outer coating A61K 9/5073](#))}
- 9/1676 . . . . {having a drug-free core with discrete complete coating layer containing drug (adsorbates of liquid drug formulations on inert powders without simultaneous granulation step [A61K 9/141](#); with further drug-free outer coating [A61K 9/5078](#); drug conjugated to non-active particles [A61K 47/48853](#))}
- 9/1682 . . . {Processes}
- 9/1688 . . . . {resulting in pure drug agglomerate optionally containing up to 5% of excipient}
- 9/1694 . . . . {resulting in granules or microspheres of the matrix type containing more than 5% of excipient}
- 9/19 . . lyophilised, {i.e. freeze-dried, solutions or dispersions ([lyophilised products with subsequent particle size reduction A61K 9/14](#); granules or pellets made by lyophilisation [A61K 9/1682](#); solid oral dosage forms made by lyophilisation [A61K 9/2095](#); lyophilisation additives [A61K 47/00](#))}
- 9/20 . Pills, tablets, {discs, rods ([A61K 9/0004](#), [A61K 9/0007](#), [A61K 9/0056](#), [A61K 9/0065](#) take precedence; for reconstitution of a drink [A61K 9/0095](#))}
- 9/2004 . . {Excipients; Inactive ingredients}
- 9/2009 . . . {Inorganic compounds}
- 9/2013 . . . {Organic compounds, e.g. phospholipids, fats}
- 9/2018 . . . . {Sugars, or sugar alcohols, e.g. lactose, mannitol; Derivatives thereof, e.g. polysorbates}
- 9/2022 . . . {Organic macromolecular compounds}
- 9/2027 . . . . {obtained by reactions only involving carbon-to-carbon unsaturated bonds, e.g. polyvinyl pyrrolidone, poly(meth)acrylates}
- 9/2031 . . . . {obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds, e.g. polyethylene glycol, polyethylene oxide, poloxamers}
- 9/2036 . . . . {Silicones; Polysiloxanes}
- 9/204 . . . . {Polyesters, e.g. poly(lactide-co-glycolide)}
- 9/2045 . . . . {Polyamides; Polyaminoacids, e.g. polylysine}
- 9/205 . . . . {Polysaccharides, e.g. alginate, gums; Cyclodextrin}
- 9/2054 . . . . {Cellulose; Cellulose derivatives, e.g. hydroxypropyl methylcellulose}
- 9/2059 . . . . {Starch, including chemically or physically modified derivatives; Amylose; Amylopectin; Dextrin}
- 9/2063 . . . . {Proteins, e.g. gelatin}
- 9/2068 . . . {Compounds of unknown constitution, e.g. material from plants or animals ([oils, fats, waxes, shellac A61K 9/2013](#))}
- 9/2072 . . {characterised by shape, structure or size; Tablets with holes, special break lines or identification marks; Partially coated tablets; Disintegrating flat shaped forms ([A61K 9/0004](#), [A61K 9/0056](#), [A61K 9/0065](#) take precedence)}
- 9/2077 . . . {Tablets comprising drug-containing microparticles in a substantial amount of supporting matrix; Multiparticulate tablets}
- 9/2081 . . . . {with microcapsules or coated microparticles according to [A61K 9/50](#)}
- 9/2086 . . . {Layered tablets, e.g. bilayer tablets; Tablets of the type inert core-active coat ([active cores with a complete drug-free outer coat A61K 9/28](#))}
- 9/209 . . . . {containing drug in at least two layers or in the core and in at least one outer layer}
- 9/2095 . . {Tabletting processes; Dosage units made by direct compression of powders or specially processed granules, by eliminating solvents, by melt-extrusion, by injection molding, by 3D printing ([mechanical aspects A61J 3/00](#))}
- 9/28 . . Dragees; Coated pills or tablets {, e.g. with film or compression coating ([A61K 9/2072](#) takes precedence, e.g. partially coated tablets [A61K 9/2072](#), coated multilayer tablets [A61K 9/2086](#), tablets with drug-coated core [A61K 9/209](#))}
- 9/2806 . . . {Coating materials}
- 9/2813 . . . . {Inorganic compounds}
- 9/282 . . . . {Organic compounds, e.g. fats}
- 9/2826 . . . . {Sugars or sugar alcohols, e.g. sucrose; Derivatives thereof}
- 9/2833 . . . . {Organic macromolecular compounds}
- 9/284 . . . . {obtained by reactions only involving carbon-to-carbon unsaturated bonds, e.g. polyvinyl pyrrolidone}
- 9/2846 . . . . {Poly(meth)acrylates}
- 9/2853 . . . . {obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds, e.g. polyethylene glycol, polyethylene oxide, poloxamers, poly(lactide-co-glycolide)}
- 9/286 . . . . {Polysaccharides, e.g. gums; Cyclodextrin}



- 9/2866 . . . . . {Cellulose; Cellulose derivatives, e.g. hydroxypropyl methylcellulose}
- 9/2873 . . . . . {Proteins, e.g. gelatin}
- 9/288 . . . . . {Compounds of unknown constitution, e.g. material from plants or animals (oils, fats, waxes, shellac [A61K 9/282](#))}
- 9/2886 . . . . . {having two or more different drug-free coatings; Tablets of the type inert core-drug layer-inactive layer (of the type active core-drug layer-inactive layer [A61K 9/209](#))}
- 9/2893 . . . . . {Tablet coating processes (mechanical aspects [A61J 3/06](#))}
- 9/48 . . . . . Preparations in capsules, e.g. of gelatin, of chocolate; {([A61K 9/0004](#) takes precedence; bite capsules [A61K 9/0056](#))}
- 9/4808 . . . . . {characterised by the form of the capsule or the structure of the filling; Capsules containing small tablets; Capsules with outer layer for immediate drug release (capsules filled with granules or microparticles [A61K 9/16](#); filled with microcapsules or coated microparticles [A61K 9/50](#); with mixture of different granules, microcapsules, (coated) microparticles [A61K 9/5084](#))}
- 9/4816 . . . . . {Wall or shell material}
- 9/4825 . . . . . {Proteins, e.g. gelatin (gelatin capsule shells with substantial amounts of other macromolecular substances [A61K 9/4816](#))}
- 9/4833 . . . . . {Encapsulating processes; Filling of capsules (mechanical aspects [A61J 3/07](#))}
- 9/4841 . . . . . {Filling excipients; Inactive ingredients}
- 9/485 . . . . . {Inorganic compounds}
- 9/4858 . . . . . {Organic compounds}
- 9/4866 . . . . . {Organic macromolecular compounds}
- 9/4875 . . . . . {Compounds of unknown constitution, e.g. material from plants or animals (oils, fats, waxes, shellac [A61K 9/4858](#))}
- 9/4883 . . . . . {Capsule finishing, e.g. dyeing, aromatising, polishing}
- 9/4891 . . . . . {Coated capsules; Multilayered drug free capsule shells (with drug coating for immediate release [A61K 9/4808](#); osmotic devices [A61K 9/0004](#))}
- 9/50 . . . . . Microcapsules {having a gas, liquid or semi-solid filling; Solid microparticles or pellets surrounded by a distinct coating layer, e.g. coated microspheres, coated drug crystals ([A61K 9/2081](#) takes precedence; particles with a single coating comprising drug [A61K 9/167](#))}
- 9/5005 . . . . . {Wall or coating material}
- 9/501 . . . . . {Inorganic compounds}
- 9/5015 . . . . . {Organic compounds, e.g. fats, sugars}
- 9/5021 . . . . . {Organic macromolecular compounds}
- 9/5026 . . . . . {obtained by reactions only involving carbon-to-carbon unsaturated bonds, e.g. polyvinyl pyrrolidone, poly(meth)acrylates}
- 9/5031 . . . . . {obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds, e.g. polyethylene glycol, poly(lactide-co-glycolide)}
- 9/5036 . . . . . {Polysaccharides, e.g. gums, alginate; Cyclodextrin}
- 9/5042 . . . . . {Cellulose; Cellulose derivatives, e.g. phthalate or acetate succinate esters of hydroxypropyl methylcellulose}
- 9/5047 . . . . . {Cellulose ethers containing no ester groups, e.g. hydroxypropyl methylcellulose}
- 9/5052 . . . . . {Proteins, e.g. albumin}
- 9/5057 . . . . . {Gelatin}
- 9/5063 . . . . . {Compounds of unknown constitution, e.g. material from plants or animals (oils, fats, waxes, shellac [A61K 9/5015](#))}
- 9/5068 . . . . . {Cell membranes or bacterial membranes enclosing drugs (with additional exogenous lipids [A61K 9/127](#); virus envelopes [A61K 9/5184](#))}
- 9/5073 . . . . . {having two or more different coatings optionally including drug-containing subcoatings}
- 9/5078 . . . . . {with drug-free core}
- 9/5084 . . . . . {Mixtures of one or more drugs in different galenical forms, at least one of which being granules, microcapsules or (coated) microparticles according to [A61K 9/16](#) or [A61K 9/50](#), e.g. for obtaining a specific release pattern or for combining different drugs (tablets containing such a mixture [A61K 9/2077](#))}
- 9/5089 . . . . . {Processes}
- 9/5094 . . . . . {Microcapsules containing magnetic carrier material, e.g. ferrite for drug targeting}
- 9/51 . . . . . Nanocapsules; {Nanoparticles; (nanotubes [A61K 9/0092](#); polymeric micelles [A61K 9/1075](#); polymersomes [A61K 9/1273](#); pure drug nanoparticles [A61K 9/14](#); drug nanoparticles with adsorbed surface modifiers [A61K 9/141](#); conjugates, e.g. between drug and non-active nanoparticles, [A61K 47/48](#); preparations for *in vivo* diagnosis [A61K 49/00](#); with radioactive substances [A61K 51/00](#))}
- 9/5107 . . . . . {Excipients; Inactive ingredients}
- 9/5115 . . . . . {Inorganic compounds}
- 9/5123 . . . . . {Organic compounds, e.g. fats, sugars}
- 9/513 . . . . . {Organic macromolecular compounds; Dendrimers}
- 9/5138 . . . . . {obtained by reactions only involving carbon-to-carbon unsaturated bonds, e.g. polyvinyl pyrrolidone, poly(meth)acrylates}
- 9/5146 . . . . . {obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds, e.g. polyethylene glycol, polyamines, polyanhydrides}
- 9/5153 . . . . . {Polyesters, e.g. poly(lactide-co-glycolide)}
- 9/5161 . . . . . {Polysaccharides, e.g. alginate, chitosan, cellulose derivatives; Cyclodextrin}
- 9/5169 . . . . . {Proteins, e.g. albumin, gelatin}
- 9/5176 . . . . . {Compounds of unknown constitution, e.g. material from plants or animals (oils, fats, waxes, shellac [A61K 9/5123](#))}
- 9/5184 . . . . . {Virus capsids or envelopes enclosing drugs (with additional exogenous lipids [A61K 9/127](#); bacterial membranes [A61K 9/5068](#))}
- 9/5192 . . . . . {Processes}

- 9/70 . Web, sheet or filament bases; {Films; Fibres of the matrix type containing drug; (hollow drug-filled fibres [A61K 9/0092](#); bandages, dressings or absorbent pads [A61F 13/00](#), chemical aspects thereof [A61L 15/00](#))}
- 9/7007 . . {Drug-containing films, membranes or sheets ([A61K 9/0041](#), [A61K 9/0043](#), [A61K 9/006](#), [A61K 9/0063](#) take precedence)}
- 9/7015 . . {Drug-containing film-forming compositions, e.g. spray-on}
- 9/7023 . . {Transdermal patches and similar drug-containing composite devices, e.g. cataplasms (galenical aspects of iontophoretic devices [A61K 9/0009](#); microneedle arrays [A61K 9/0021](#); buccal patches [A61K 9/006](#))}
- 9/703 . . . {characterised by shape or structure; Details concerning release liner or backing; Refillable patches; User-activated patches}
- 9/7038 . . . . {Transdermal patches of the drug-in-adhesive type, i.e. comprising drug in the skin-adhesive layer}
- 9/7046 . . . . . {the adhesive comprising macromolecular compounds}
- 9/7053 . . . . . {obtained by reactions only involving carbon to carbon unsaturated bonds, e.g. polyvinyl, polyisobutylene, polystyrene}
- 9/7061 . . . . . {Polyacrylates}
- 9/7069 . . . . . {obtained otherwise than by reactions only involving carbon to carbon unsaturated bonds, e.g. polysiloxane, polyesters, polyurethane, polyethylene oxide}
- 9/7076 . . . . . {the adhesive comprising ingredients of undetermined constitution or reaction products thereof, e.g. rosin or other plant resins}
- 9/7084 . . . . {Transdermal patches having a drug layer or reservoir, and one or more separate drug-free skin-adhesive layers, e.g. between drug reservoir and skin, or surrounding the drug reservoir; Liquid-filled reservoir patches}
- 9/7092 . . . . {Transdermal patches having multiple drug layers or reservoirs, e.g. for obtaining a specific release pattern, or for combining different drugs}

### 31/00 Medicinal preparations containing organic active ingredients

#### NOTES

- When classifying in groups [A61K 31/00](#) - [A61K 41/00](#) the symbol [A61K 2300/00](#) may be added, using Combination Sets, to indicate a mixture of active ingredients.
- In the preparation of new organic compounds and their use in medicinal preparations, classification is only made in the relevant subclasses [C07C](#) - [C07J](#) according to the type of compound. However, the inventions dealing with medicinal preparations containing at least two active organic ingredients are always classified in this group in addition to the classification for the type of compounds in [C07C](#) - [C07J](#).
- Attention is drawn to the notes in class [C07](#), particularly to the definition of steroids given in Note (1) following the title of [C07J](#) and to the

definition of carbohydrates and sugars given in the notes following the title of [C07H](#).

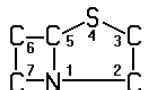
- Salts and complexes of organic active compounds are always classified according to the free active compounds. If a complex is formed between two or more active compounds, then they are classified according to all compounds forming the salts or complexes followed by the symbol [A61K 2300/00](#) (i.e. as a mixture of active organic compounds). According to the last place rule, organic active compounds forming salts with heavy metals should be classified in [A61K 33/24](#) - [A61K 33/38](#) and not in subgroups [A61K 31/28](#) - [A61K 31/32](#), [A61K 31/555](#) or [A61K 31/714](#).  
This does not apply to complexes, as apparent from the [A61K 31/00](#) scheme, wherein the complexes hemin and hematin are classified in [A61K 31/555](#) and cyanocobalamin in [A61K 31/714](#).
- From January 2003 onwards, the EPO copies into CPC the IPC classification of the first document received (family representative). However, blends of active ingredients receive the additional symbol [A61K 2300/00](#) as Combination Set.

- 31/01 . Hydrocarbons
- 31/015 . . carbocyclic
- 31/02 . Halogenated hydrocarbons
- 31/025 . . carbocyclic
- 31/03 . . . aromatic
- 31/035 . . having aliphatic unsaturation
- 31/04 . Nitro compounds
- 31/045 . Hydroxy compounds, e.g. alcohols; Salts thereof, e.g. alcoholates
- 31/047 . . having two or more hydroxy groups, e.g. sorbitol
- 31/05 . . Phenols
- 31/055 . . . the aromatic ring being substituted by halogen
- 31/06 . . . the aromatic ring being substituted by nitro groups
- 31/065 . . Diphenyl-substituted acyclic alcohols
- 31/07 . . Retinol compounds, e.g. vitamin A ([retinoic acids](#) [A61K 31/203](#))
- 31/075 . Ethers or acetals
- 31/08 . . acyclic, e.g. paraformaldehyde
- 31/085 . . having an ether linkage to aromatic ring nuclear carbon
- 31/09 . . . having two or more such linkages
- 31/095 . Sulfur, selenium, or tellurium compounds, e.g. thiols
- 31/10 . . Sulfides; Sulfoxides; Sulfones
- 31/105 . . Persulfides ([thiuram disulfides](#) [A61K 31/145](#); [thiosulfonic acids](#) [A61K 31/185](#))
- 31/11 . Aldehydes
- 31/115 . . Formaldehyde
- 31/12 . Ketones
- 31/121 . . acyclic
- 31/122 . . having the oxygen directly attached to a ring, e.g. quinones, vitamin K<sub>1</sub>, anthralin
- 31/125 . . . Camphor; Nuclear substituted derivatives thereof
- 31/13 . Amines {([A61K 31/04](#) takes precedence)}
- 31/131 . . acyclic
- 31/132 . . having two or more amino groups, e.g. spermidine, putrescine

- 31/133 . . having hydroxy groups, e.g. sphingosine
- 31/135 . . having aromatic rings {, e.g. [ketamine](#), [nortriptyline](#) ([methadone](#) [A61K 31/137](#))}
- 31/136 . . . having the amino group directly attached to the aromatic ring, e.g. benzeneamine
- 31/137 . . . Arylalkylamines, e.g. amphetamine, ephedrine, salbutamol, ephedrine {or [methadone](#)}
- 31/138 . . . Aryloxyalkylamines, e.g. propanolol, tamoxifen, phenoxybenzamine ([atenolol](#) [A61K 31/165](#); [pindolol](#) [A61K 31/404](#); [timolol](#) [A61K 31/5377](#))
- 31/14 . . Quaternary ammonium compounds, e.g. edrophonium, choline ([betaines](#) [A61K 31/205](#))
- 31/145 . . having sulfur, e.g. thiurams (>N-C(S)-S-C(S)-N< and >N-C(S)-S-S-C(S)-N<), Sulfinylamines (-N=SO), Sulfonylamines (-N=SO<sub>2</sub>) ([isothiurea](#) [A61K 31/155](#))
- 31/15 . . Oximes (>C=N-O-); Hydrazines (>N-N<); Hydrazones (>N=N=) {[Imines](#) (C=N=C)}
- 31/155 . . Amidines ( $\text{>N}=\text{C}(\text{NH})-\text{N}<$ ), e.g. guanidine (H<sub>2</sub>N-C(=NH)-NH<sub>2</sub>), isourea (N=C(OH)-NH<sub>2</sub>), isothiurea (-N=C(SH)-NH<sub>2</sub>)
- 31/16 . . Amides, e.g. hydroxamic acids
- 31/164 . . of a carboxylic acid with an aminoalcohol, e.g. ceramides
- 31/165 . . having aromatic rings, e.g. colchicine, atenolol, progabide
- 31/166 . . . having the carbon of a carboxamide group directly attached to the aromatic ring, e.g. procainamide, procabazine, metoclopramide, labetalol
- 31/167 . . . having the nitrogen of a carboxamide group directly attached to the aromatic ring, e.g. lidocaine, paracetamol
- 31/17 . . having the group >N-C(O)-N< or >N-C(S)-N<, e.g. urea, thiourea, carmustine ([isoureas](#), [isothiureas](#) [A61K 31/155](#); [sulfonylureas](#) [A61K 31/64](#))
- 31/175 . . . having the group  $\text{>N}-\text{C}(\text{O})-\text{N}-\text{N}<$ ,  $\text{>N}-\text{C}(\text{O})-\text{N}=\text{N}-$  or  $\text{>N}-\text{C}(\text{O})-\text{N}=\text{N}=\text{N}<$ , e.g. carbonohydrazides, carbazones, semicarbazides, semicarbazones; Thioanalogues thereof
- 31/18 . . Sulfonamides ([compounds containing a para-N-benzene-sulfonyl-N- group](#) [A61K 31/63](#))
- 31/185 . . Acids; Anhydrides, halides or salts thereof, e.g. sulfur acids, imidic, hydrazonic, hydroxamic acids ([hydroxamic acids](#) [A61K 31/16](#); [peroxy acids](#) [A61K 31/327](#))
- NOTE**  
Cyclic anhydrides are considered to be heterocyclic rings
- 31/19 . . Carboxylic acids, e.g. valproic acid ([Salicylic acid](#) [A61K 31/60](#))
- 31/191 . . . having two or more hydroxy groups, e.g. gluconic acid
- 31/192 . . . having aromatic groups, e.g. sulindac, 2-arylpropionic acids, ethacrynic acid
- 31/194 . . . having two or more carboxyl groups, e.g. succinic, maleic or phthalic acid
- 31/195 . . . having an amino group
- 31/196 . . . . the amino group being directly attached to a ring, e.g. anthranilic acid, mefenamic acid, diclofenac, chlorambucil
- 31/197 . . . . the amino and the carboxyl group being attached to the same acyclic carbon chain, e.g. gamma-aminobutyric acid [GABA], beta-alanine, epsilon-aminocaproic acid, pantothenic acid ([carnitine](#) [A61K 31/205](#))
- 31/198 . . . . . Alpha-aminoacids, e.g. alanine, edetic acids [EDTA], ([betaine](#) [A61K 31/205](#); [proline](#) [A61K 31/401](#); [tryptophan](#) [A61K 31/405](#); [histidine](#) [A61K 31/4172](#); [peptides not degraded to individual aminoacids](#) [A61K 38/00](#))
- 31/20 . . . having a carboxyl group bound to a chain of seven or more carbon atoms, e.g. stearic, palmitic, arachidic acids
- 31/201 . . . . having one or two double bonds, e.g. oleic, linoleic acids
- 31/202 . . . . having three or more double bonds, e.g. linolenic ([eicosanoids](#), e.g. [leukotrienes](#) [A61K 31/557](#))
- 31/203 . . . . Retinoic acids {[Salts thereof](#)}
- 31/205 . . Amine addition salts of organic acids; Inner quaternary ammonium salts, e.g. betaine, carnitine
- 31/21 . . Esters, e.g. nitroglycerine, selenocyanates
- 31/215 . . of carboxylic acids
- 31/216 . . . of acids having aromatic rings, e.g. benactizyne, clofibrate
- 31/22 . . . of acyclic acids, e.g. pravastatin
- 31/221 . . . . with compounds having an amino group, e.g. acetylcholine, acetylcarnitine
- 31/222 . . . . with compounds having aromatic groups, e.g. dipivefrine, ibopamine
- 31/223 . . . . of alpha-aminoacids
- 31/225 . . . . Polycarboxylic acids
- 31/23 . . . . of acids having a carboxyl group bound to a chain of seven or more carbon atoms
- 31/231 . . . . . having one or two double bonds
- 31/232 . . . . . having three or more double bonds, e.g. tretinate
- 31/235 . . . having an aromatic ring attached to a carboxyl group
- 31/24 . . . . having an amino or nitro group
- 31/245 . . . . . Amino benzoic acid types, e.g. procaine, novocaine ([salicylic acid esters](#) [A61K 31/60](#))
- 31/25 . . . with polyoxyalkylated alcohols, e.g. esters of polyethylene glycol
- 31/255 . . of sulfoxy acids or sulfur analogues thereof
- 31/26 . . Cyanate or isocyanate esters; Thiocyanate or isothiocyanate esters
- 31/265 . . of carbonic, thiocarbonic, or thiocarboxylic acids, e.g. thioacetic acid, xanthogenic acid, trithiocarbonic acid
- 31/27 . . of carbamic or thiocarbamic acids, meprobamate, carbachol, neostigmine
- 31/275 . Nitriles; Isonitriles
- 31/277 . . having a ring, e.g. verapamil
- 31/28 . . Compounds containing heavy metals
- 31/282 . . Platinum compounds
- 31/285 . . Arsenic compounds

- 31/29 . . . . . Antimony or bismuth compounds
- 31/295 . . . . . Iron group metal compounds
- 31/30 . . . . . Copper compounds
- 31/305 . . . . . Mercury compounds
- 31/31 . . . . . containing nitrogen
- 31/315 . . . . . Zinc compounds
- 31/32 . . . . . Tin compounds
- 31/325 . . . . . Carbamic acids; Thiocarbamic acids; Anhydrides or salts thereof ([thiurams A61K 31/145](#))
- 31/327 . . . . . Peroxy compounds, e.g. hydroperoxides, peroxides, peroxyacids
- 31/33 . . . . . Heterocyclic compounds
- 31/335 . . . . . having oxygen as the only ring hetero atom, e.g. fungichromin
- 31/336 . . . . . having three-membered rings, e.g. oxirane, fumagillin
- 31/337 . . . . . having four-membered rings, e.g. taxol
- 31/34 . . . . . having five-membered rings with one oxygen as the only ring hetero atom, e.g. isosorbide
- 31/341 . . . . . not condensed with another ring, e.g. ranitidine, furosemide, bufetolol, muscarine
- 31/343 . . . . . condensed with a carbocyclic ring, e.g. coumaran, bufuralol, befunolol, clobenfurol, amiodarone
- 31/345 . . . . . Nitrofurans ([nitrofurantoin A61K 31/4178](#))
- 31/35 . . . . . having six-membered rings with one oxygen as the only ring hetero atom
- 31/351 . . . . . not condensed with another ring
- 31/352 . . . . . condensed with carbocyclic rings, e.g. cannabinoids, methantheline
- 31/353 . . . . . 3,4-Dihydrobenzopyrans, e.g. chroman, catechin
- 31/355 . . . . . Tocopherols, e.g. vitamin E
- 31/357 . . . . . having two or more oxygen atoms in the same ring, e.g. crown ethers, guanadrel
- 31/36 . . . . . Compounds containing methylenedioxyphenyl groups, e.g. sesamin
- 31/365 . . . . . Lactones
- 31/366 . . . . . having six-membered rings, e.g. delta-lactones
- 31/37 . . . . . Coumarins, e.g. psoralen
- 31/375 . . . . . Ascorbic acid, i.e. vitamin C; Salts thereof
- 31/38 . . . . . having sulfur as a ring hetero atom
- 31/381 . . . . . having five-membered rings
- 31/382 . . . . . having six-membered rings, e.g. thioxanthenes ([thiotixene A61K 31/496](#))
- 31/385 . . . . . having two or more sulfur atoms in the same ring
- 31/39 . . . . . having oxygen in the same ring
- 31/395 . . . . . having nitrogen as a ring hetero atom, e.g. guanethidine, rifamycins ([rifampin A61K 31/496](#))
- 31/396 . . . . . having three-membered rings, e.g. aziridine
- 31/397 . . . . . having four-membered rings, e.g. azetidine
- 31/40 . . . . . having five-membered rings with one nitrogen as the only ring hetero atom, e.g. sulpiride, succinimide, tolmetin, buflomedil
- 31/401 . . . . . Proline; Derivatives thereof, e.g. captopril
- 31/4015 . . . . . having oxo groups directly attached to the heterocyclic ring, e.g. piracetam, ethosuximide
- 31/402 . . . . . 1-aryl substituted, e.g. piretanide
- 31/4025 . . . . . not condensed and containing further heterocyclic rings, e.g. cromakalim
- 31/403 . . . . . condensed with carbocyclic rings, e.g. carbazole
- 31/4035 . . . . . Isoindoles, e.g. phthalimide
- 31/404 . . . . . Indoles, e.g. pindolol
- 31/4045 . . . . . Indole-alkylamines; Amides thereof, e.g. serotonin, melatonin
- 31/405 . . . . . Indole-alkanecarboxylic acids; Derivatives thereof, e.g. tryptophan, indomethacin
- 31/407 . . . . . condensed with other heterocyclic ring systems, e.g. ketorolac, physostigmine
- 31/409 . . . . . having four such rings, e.g. porphyrine derivatives, bilirubin, biliverdine ([hemin, hematin A61K 31/555](#))
- 31/41 . . . . . having five-membered rings with two or more ring hetero atoms, at least one of which being nitrogen, e.g. tetrazole
- 31/415 . . . . . 1,2-Diazoles
- 31/4152 . . . . . having oxo groups directly attached to the heterocyclic ring, e.g. antipyrine, phenylbutazone, sulfipyrazone
- 31/4155 . . . . . non condensed and containing further heterocyclic rings
- 31/416 . . . . . condensed with carbocyclic ring systems, e.g. indazole
- 31/4162 . . . . . condensed with heterocyclic ring systems
- 31/4164 . . . . . 1,3-Diazoles
- 31/4166 . . . . . having oxo groups directly attached to the heterocyclic ring, e.g. phenytoin
- 31/4168 . . . . . having a nitrogen attached in position 2, e.g. clonidine
- 31/417 . . . . . Imidazole-alkylamines, e.g. histamine, phenolamine
- 31/4172 . . . . . Imidazole-alkanecarboxylic acids, e.g. histidine
- 31/4174 . . . . . Arylalkylimidazoles, e.g. oxymetazolin, naphazoline, miconazole
- 31/4178 . . . . . not condensed 1,3-diazoles and containing further heterocyclic rings, e.g. pilocarpine, nitrofurantoin
- 31/4184 . . . . . condensed with carbocyclic rings, e.g. benzimidazoles
- 31/4188 . . . . . condensed with other heterocyclic ring systems, e.g. biotin, sorbinil
- 31/4192 . . . . . 1,2,3-Triazoles
- 31/4196 . . . . . 1,2,4-Triazoles
- 31/42 . . . . . Oxazoles
- 31/421 . . . . . 1,3-Oxazoles, e.g. pemoline, trimethadione
- 31/422 . . . . . not condensed and containing further heterocyclic rings
- 31/423 . . . . . condensed with carbocyclic rings
- 31/424 . . . . . condensed with heterocyclic ring systems, e.g. clavulanic acid
- 31/4245 . . . . . Oxadiazoles
- 31/425 . . . . . Thiazoles
- 31/426 . . . . . 1,3-Thiazoles
- 31/427 . . . . . not condensed and containing further heterocyclic rings
- 31/428 . . . . . condensed with carbocyclic rings
- 31/429 . . . . . condensed with heterocyclic ring systems



- 31/43 . . . . . Compounds containing 4-thia-1-azabicyclo [3.2.0] heptane ring systems, i.e. compounds containing a ring system of the formula , e.g. penicillins, penems
- 31/431 . . . . . containing further heterocyclic rings, e.g. ticarcillin, azlocillin, oxacillin
- 31/433 . . . . . Thidiazoles
- 31/435 . . . . . having six-membered rings with one nitrogen as the only ring hetero atom
- 31/4353 . . . . . ortho- or peri-condensed with heterocyclic ring systems
- 31/4355 . . . . . the heterocyclic ring system containing a five-membered ring having oxygen as a ring hetero atom
- 31/436 . . . . . the heterocyclic ring system containing a six-membered ring having oxygen as a ring hetero atom, e.g. rapamycin
- 31/4365 . . . . . the heterocyclic ring system having sulfur as a ring hetero atom, e.g. ticlopidine
- 31/437 . . . . . the heterocyclic ring system containing a five-membered ring having nitrogen as a ring hetero atom, e.g. indolizine, beta-carboline
- 31/4375 . . . . . the heterocyclic ring system containing a six-membered ring having nitrogen as a ring heteroatom, e.g. quinolizines, naphthyridines, berberine, vincamine
- 31/438 . . . . . the ring being spiro-condensed with carbocyclic ring systems
- 31/439 . . . . . the ring forming part of a bridged ring system, e.g. quinuclidine (8-azabicyclo [3.2.1] octanes [A61K 31/46](#))
- 31/44 . . . . . Non condensed pyridines; Hydrogenated derivatives thereof
- 31/4402 . . . . . only substituted in position 2, e.g. pheniramine, bisacodyl
- 31/4406 . . . . . only substituted in position 3, e.g. zimeldine ([nicotinic acid A61K 31/455](#))
- 31/4409 . . . . . only substituted in position 4, e.g. isoniazid, iproniazid
- 31/4412 . . . . . having oxo groups directly attached to the heterocyclic ring
- 31/4415 . . . . . Pyridoxine, i.e. Vitamin B<sub>6</sub> ([pyridoxal phosphate A61K 31/675](#))
- 31/4418 . . . . . having a carbocyclic group directly attached to the heterocyclic ring, e.g. cyproheptadine
- 31/4422 . . . . . 1,4-Dihydropyridines, e.g. nifedipine, nicardipine
- 31/4425 . . . . . Pyridinium derivatives, e.g. pralidoxime, pyridostigmine
- 31/4427 . . . . . containing further heterocyclic ring systems
- 31/443 . . . . . containing a five-membered ring with oxygen as a ring hetero atom
- 31/4433 . . . . . containing a six-membered ring with oxygen as a ring hetero atom
- 31/4436 . . . . . containing a heterocyclic ring having sulfur as a ring hetero atom
- 31/4439 . . . . . containing a five-membered ring with nitrogen as a ring hetero atom, e.g. omeprazole ([nicotine A61K 31/465](#))
- 31/444 . . . . . containing a six-membered ring with nitrogen as a ring heteroatom, e.g. amrinone
- 31/445 . . . . . Non condensed piperidines, e.g. piperocaine
- 31/4453 . . . . . only substituted in position 1, e.g. propipocaine, diperodon
- 31/4458 . . . . . only substituted in position 2, e.g. methylphenidate
- 31/4462 . . . . . only substituted in position 3
- 31/4465 . . . . . only substituted in position 4
- 31/4468 . . . . . having a nitrogen directly attached in position 4, e.g. clebopride, fentanyl
- 31/45 . . . . . having oxo groups directly attached to the heterocyclic ring, e.g. cycloheximide
- 31/451 . . . . . having a carbocyclic group directly attached to the heterocyclic ring, e.g. glutethimide, meperidine, loperamide, phenylcyclidine, piminodine
- 31/4515 . . . . . having a butyrophenone group in position 1, e.g. haloperidol ([pipamperone A61K 31/4545](#))
- 31/452 . . . . . Piperidinium derivatives ([pancuronium A61K 31/58](#))
- 31/4523 . . . . . containing further heterocyclic ring systems
- 31/4525 . . . . . containing a five-membered ring with oxygen as a ring hetero atom
- 31/453 . . . . . containing a six-membered ring with oxygen as a ring hetero atom
- 31/4535 . . . . . containing a heterocyclic ring having sulfur as a ring hetero atom, e.g. pizotifen
- 31/454 . . . . . containing a five-membered ring with nitrogen as a ring hetero atom, e.g. pimozone, domperidone
- 31/4545 . . . . . containing a six-membered ring with nitrogen as a ring hetero atom, e.g. pipamperone, anabasine
- 31/455 . . . . . Nicotinic acids, e.g. niacin; Derivatives thereof, e.g. esters, amides
- 31/46 . . . . . 8-Azabicyclo [3.2.1] octane; Derivatives thereof, e.g. atropine, cocaine
- 31/465 . . . . . Nicotine; Derivatives thereof
- 31/47 . . . . . Quinolines; Isoquinolines
- 31/4704 . . . . . 2-Quinolines, e.g. carbostyryl
- 31/4706 . . . . . 4-Aminoquinolines; 8-Aminoquinolines, e.g. chloroquine, primaquine
- 31/4709 . . . . . Non-condensed quinolines and containing further heterocyclic rings
- 31/472 . . . . . Non-condensed isoquinolines, e.g. papaverine
- 31/4725 . . . . . containing further heterocyclic rings
- 31/473 . . . . . ortho- or peri-condensed with carbocyclic ring systems, e.g. acridines, phenanthridines
- 31/4738 . . . . . ortho- or peri-condensed with heterocyclic ring systems

- 31/4741 . . . . . condensed with ring systems having oxygen as a ring hetero atom, e.g. tubocuraran derivatives, noscapine, bicuculline
- 31/4743 . . . . . condensed with ring systems having sulfur as a ring hetero atom
- 31/4745 . . . . . condensed with ring systems having nitrogen as a ring hetero atom, e.g. phenantrolines ([yohimbine derivatives](#), [vinblastine A61K 31/475](#); [ergoline derivatives A61K 31/48](#))
- 31/4747 . . . . . Spiro-condensed
- 31/4748 . . . . . forming part of bridged ring systems ([strychnine A61K 31/475](#); [morphinan derivatives A61K 31/485](#))
- 31/475 . . . . . having an indole ring, e.g. yohimbine, reserpine, strychnine, vinblastine ([vincamine A61K 31/4375](#))
- 31/48 . . . . . Ergoline derivatives, e.g. lysergic acid, ergotamine
- 31/485 . . . . . Morphinan derivatives, e.g. morphine, codeine
- 31/49 . . . . . Cinchonan derivatives, e.g. quinine
- 31/495 . . . . . having six-membered rings with two {or more} nitrogen atoms as the only ring heteroatoms, e.g. piperazine {or [tetrazines](#)} ([A61K 31/48 takes precedence](#) (; with three nitrogen atoms [A61K 31/53](#)))
- 31/496 . . . . . Non-condensed piperazines containing further heterocyclic rings, e.g. rifampin, thiothixene
- 31/4965 . . . . . Non-condensed pyrazines
- 31/497 . . . . . containing further heterocyclic rings
- 31/498 . . . . . Pyrazines or piperazines ortho- and peri-condensed with carbocyclic ring systems, e.g. quinoxaline, phenazine
- 31/4985 . . . . . Pyrazines or piperazines ortho- or peri-condensed with heterocyclic ring systems
- 31/499 . . . . . Spiro-condensed pyrazines or piperazines
- 31/4995 . . . . . Pyrazines or piperazines forming part of bridged ring systems
- 31/50 . . . . . Pyridazines; Hydrogenated pyridazines
- 31/501 . . . . . not condensed and containing further heterocyclic rings
- 31/502 . . . . . ortho- or peri-condensed with carbocyclic ring systems, e.g. cinnoline, phthalazine
- 31/5025 . . . . . ortho- or peri-condensed with heterocyclic ring systems
- 31/503 . . . . . spiro-condensed
- 31/504 . . . . . forming part of bridged ring systems
- 31/505 . . . . . Pyrimidines; Hydrogenated pyrimidines, e.g. trimethoprim
- 31/506 . . . . . not condensed and containing further heterocyclic rings
- 31/51 . . . . . Thiamines, e.g. vitamin B<sub>1</sub>
- 31/513 . . . . . having oxo groups directly attached to the heterocyclic ring, e.g. cytosine
- 31/515 . . . . . Barbituric acids; Derivatives thereof, e.g. sodium pentobarbital
- 31/517 . . . . . ortho- or peri-condensed with carbocyclic ring systems, e.g. quinazoline, perimidine
- 31/519 . . . . . ortho- or peri-condensed with heterocyclic rings
- 31/52 . . . . . Purines, e.g. adenine
- 31/522 . . . . . having oxo groups directly attached to the heterocyclic ring, e.g. hypoxanthine, guanine, acyclovir
- 31/525 . . . . . Isoalloxazines, e.g. riboflavins, vitamin B<sub>2</sub>
- 31/527 . . . . . spiro-condensed
- 31/529 . . . . . forming part of bridged ring systems
- 31/53 . . . . . having six-membered rings with three nitrogens as the only ring hetero atoms, e.g. chlorazaniol, melamine ([melarsoprol A61K 31/555](#) (; with four nitrogen atoms [A61K 31/495](#)))
- 31/535 . . . . . having six-membered rings with at least one nitrogen and one oxygen as the ring hetero atoms, e.g. 1,2-oxazines
- 31/5355 . . . . . non-condensed oxazines and containing further heterocyclic rings
- 31/536 . . . . . ortho- or peri-condensed with carbocyclic ring systems
- 31/5365 . . . . . ortho- or peri-condensed with heterocyclic ring systems
- 31/537 . . . . . spiro-condensed or forming part of bridged ring systems
- 31/5375 . . . . . 1,4-Oxazines, e.g. morpholine
- 31/5377 . . . . . not condensed and containing further heterocyclic rings, e.g. timolol
- 31/538 . . . . . ortho- or peri-condensed with carbocyclic ring systems
- 31/5383 . . . . . ortho- or peri-condensed with heterocyclic ring systems
- 31/5386 . . . . . Spiro-condensed or forming part of bridged ring systems
- 31/539 . . . . . having two or more oxygen atoms in the same ring, e.g. dioxazines
- 31/5395 . . . . . having two or more nitrogen atoms in the same ring, e.g. oxadiazines
- 31/54 . . . . . having six-membered rings with at least one nitrogen and one sulfur as the ring hetero atoms, e.g. sulthiame
- 31/541 . . . . . non-condensed thiazines containing further heterocyclic rings
- 31/5415 . . . . . ortho- or peri-condensed with carbocyclic ring systems, e.g. phenothiazine, chlorpromazine, piroxicam
- 31/542 . . . . . ortho- or peri-condensed with heterocyclic ring systems
- 31/545 . . . . . Compounds containing 5-thia-1-azabicyclo [4.2.0] octane ring systems, i.e. compounds containing a ring system of the formula:  , e.g. cephalosporins, {[cefaclor](#), or [cephalexine](#)}
- 31/546 . . . . . containing further heterocyclic rings, e.g. cephalothin
- 31/547 . . . . . spiro-condensed or forming part of bridged ring systems
- 31/548 . . . . . having two or more sulfur atoms in the same ring
- 31/549 . . . . . having two or more nitrogen atoms in the same ring, e.g. hydrochlorothiazide
- 31/55 . . . . . having seven-membered rings, e.g. azelastine, pentylenetetrazole
- 31/551 . . . . . having two nitrogen atoms, e.g. dilazep

- 31/5513 . . . . . 1,4-Benzodiazepines, e.g. diazepam {or clozapine}
- 31/5517 . . . . . condensed with five-membered rings having nitrogen as a ring hetero atom, e.g. imidazobenzodiazepines, triazolam
- 31/553 . . . . . having at least one nitrogen and one oxygen as ring hetero atoms, e.g. loxapine, staurosporine
- 31/554 . . . . . having at least one nitrogen and one sulfur as ring hetero atoms, e.g. chlothiapine, diltiazem
- 31/555 . . . . . containing heavy metals, e.g. hemin, hematin, melarsoprol
- 31/557 . . . . . Eicosanoids, e.g. leukotrienes {or prostaglandins}
- 31/5575 . . . . . having a cyclopentane, e.g. Prostaglandin E<sub>2</sub>, Prostaglandin F<sub>2-alpha</sub>
- 31/5578 . . . . . having a pentalene ring system, e.g. carbacyclin, iloprost
- 31/558 . . . . . having heterocyclic rings containing oxygen as the only ring hetero atom, e.g. thromboxanes
- 31/5585 . . . . . having five-membered rings containing oxygen as the only ring hetero atom, e.g. prostacyclin
- 31/559 . . . . . having heterocyclic rings containing hetero atoms other than oxygen
- 31/56 . . . . . Compounds containing cyclopenta[a]hydrophenanthrene ring systems; Derivatives, e.g. steroids
- NOTE**
- Attention is drawn to Note (1) following the title of subclass C07J which explains what is covered by the term "steroids"
- 31/565 . . . . . not substituted in position 17 beta by a carbon atom, e.g. estrane, estradiol
- 31/566 . . . . . having an oxo group in position 17, e.g. estrone
- 31/567 . . . . . substituted in position 17 alpha, e.g. mestranol, norethandrolone
- 31/568 . . . . . substituted in positions 10 and 13 by a chain having at least one carbon atom, e.g. androstanes, e.g. testosterone
- 31/5685 . . . . . having an oxo group in position 17, e.g. androsterone
- 31/569 . . . . . substituted in position 17 alpha, e.g. ethisterone
- 31/57 . . . . . substituted in position 17 beta by a chain of two carbon atoms, e.g. pregnane, progesterone
- 31/573 . . . . . substituted in position 21, e.g. cortisone, dexamethasone, prednisone {or aldosterone}
- 31/575 . . . . . substituted in position 17 beta by a chain of three or more carbon atoms, e.g. cholane, cholestane, ergosterol, sitosterol
- 31/58 . . . . . containing heterocyclic rings, e.g. danazol, stanozolol, pancuronium or digitogenin {(digitoxin A61K 31/7048)}
- 31/585 . . . . . containing lactone rings, e.g. oxandrolone, bufalin
- 31/59 . . . . . Compounds containing 9, 10- seco-cyclopenta[a]hydrophenanthrene ring systems
- 31/592 . . . . . 9,10-Secoergostane derivatives, e.g. ergocalciferol, i.e. vitamin D<sub>2</sub>
- 31/593 . . . . . 9,10-Secocholestane derivatives, e.g. cholecalciferol, i.e. vitamin D<sub>3</sub>
- 31/60 . . . . . Salicylic acid; Derivatives thereof
- 31/603 . . . . . having further aromatic rings, e.g. diflunisal
- 31/606 . . . . . having amino groups
- 31/609 . . . . . Amides, e.g. salicylamide {(labetalol, metoclopramide A61K 31/166)}
- 31/612 . . . . . having the hydroxy group in position 2 esterified, e.g. salicylsulfuric acid (fosfosal A61K 31/661)
- 31/616 . . . . . by carboxylic acids, e.g. acetylsalicylic acid
- 31/618 . . . . . having the carboxyl group in position 1 esterified, e.g. salsalate
- 31/621 . . . . . having the hydroxy group in position 2 esterified, e.g. benorylate
- 31/625 . . . . . having heterocyclic substituents, e.g. 4-salicylcloylmorpholine, (sulfasalazine A61K 31/635)
- 31/63 . . . . . Compounds containing para-N-benzenesulfonyl-N-groups, e.g. sulfanilamide, p-nitrobenzenesulfonyl hydrazide
- 31/635 . . . . . having a heterocyclic ring, e.g. sulfasalazine
- 31/64 . . . . . Sulfonylureas, e.g. glibenclamide, tolbutamide, chlorpropamide
- 31/65 . . . . . Tetracyclines
- 31/655 . . . . . Azo (-N=N-), diazo (=N<sub>2</sub>), azoxy (>N-O-N< or N(=O)-N<), azido (-N<sub>3</sub>) or diazoamino (-N=N-N<) compounds
- 31/66 . . . . . Phosphorus compounds
- 31/661 . . . . . Phosphorus acids or esters thereof not having P-C bonds, e.g. fosfosal, dichlorvos, malathion {or mevinphos}
- 31/6615 . . . . . Compounds having two or more esterified phosphorus acid groups, e.g. inositol triphosphate, phytic acid
- 31/662 . . . . . Phosphorus acids or esters thereof having P-C bonds, e.g. foscarnet, trichlorfon
- 31/663 . . . . . Compounds having two or more phosphorus acid groups or esters thereof, e.g. clodronic acid, pamidronic acid
- 31/664 . . . . . Amides of phosphorus acids
- 31/665 . . . . . having oxygen as a ring hetero atom, e.g. fosfomycin
- 31/67 . . . . . having sulfur as a ring hetero atom
- 31/675 . . . . . having nitrogen as a ring hetero atom, e.g. pyridoxal phosphate
- 31/683 . . . . . Diesters of a phosphorus acid with two hydroxy compounds, e.g. phosphatidylinositols
- 31/685 . . . . . one of the hydroxy compounds having nitrogen atoms, e.g. phosphatidylserine, lecithin
- 31/688 . . . . . both hydroxy compounds having nitrogen atoms, e.g. sphingomyelin
- 31/69 . . . . . Boron compounds
- 31/695 . . . . . Silicon compounds
- 31/70 . . . . . Carbohydrates; Sugars; Derivatives thereof (sorbitol A61K 31/047)
- NOTE**
- In this group, the expressions are used with the meanings indicated in Note (3) following the title of the subclass C07H
- 31/7004 . . . . . Monosaccharide having only carbon, hydrogen and oxygen atoms
- 31/7008 . . . . . Compounds having an amino group directly attached to a carbon atom of the saccharide radical, e.g. D-galactosamine, ranimustine

- 31/7012 . . Compounds having a free or esterified carboxyl group attached, directly or through a carbon chain, to a carbon atom of the saccharide radical, e.g. glucuronic acid, neuraminic acid ([gluconic acid A61K 31/191](#); [ascorbic acid A61K 31/375](#))
- 31/7016 . . Disaccharides, e.g. lactose, lactulose ([lactobionic acid A61K 31/7032](#))
- 31/702 . . Oligosaccharides, i.e. having three to five saccharide radicals attached to each other by glycosidic linkages
- 31/7024 . . Esters of saccharides
- 31/7028 . . Compounds having saccharide radicals attached to non-saccharide compounds by glycosidic linkages
- 31/7032 . . . attached to a polyol, i.e. compound having two or more free or esterified hydroxy groups, including the hydroxy group involved in the glycosidic linkage, e.g. monoglucosyldiacylglycerides, lactobionic acid, gangliosides
- 31/7034 . . . attached to a carbocyclic compound, e.g. phloridzin
- 31/7036 . . . . having at least one amino group directly attached to the carbocyclic ring, e.g. streptomycin, gentamycin, amikacin, validamycin, fortimicins
- 31/704 . . . . attached to a condensed carbocyclic ring system, e.g. sennosides, thiocolchicosides, escin, daunorubicin {([digitoxin A61K 31/7048](#))}
- 31/7042 . . Compounds having saccharide radicals and heterocyclic rings
- 31/7048 . . . having oxygen as a ring hetero atom, e.g. leucoglucosan, hesperidin, erythromycin, nystatin ([digitoxin or digoxin](#))
- 31/7052 . . . having nitrogen as a ring hetero atom, e.g. nucleosides, nucleotides
- 31/7056 . . . . containing five-membered rings with nitrogen as a ring hetero atom
- 31/706 . . . . containing six-membered rings with nitrogen as a ring hetero atom
- 31/7064 . . . . . containing condensed or non-condensed pyrimidines
- 31/7068 . . . . . having oxo groups directly attached to the pyrimidine ring, e.g. cytidine, cytidylic acid
- 31/7072 . . . . . having two oxo groups directly attached to the pyrimidine ring, e.g. uridine, uridylic acid, thymidine, zidovudine
- 31/7076 . . . . . containing purines, e.g. adenosine, adenylic acid
- 31/708 . . . . . having oxo groups directly attached to the purine ring system, e.g. guanosine, guanylic acid
- 31/7084 . . Compounds having two nucleosides or nucleotides, e.g. nicotinamide-adenine dinucleotide, flavine-adenine dinucleotide
- 31/7088 . . Compounds having three or more nucleosides or nucleotides
- 31/7105 . . . Natural ribonucleic acids, i.e. containing only riboses attached to adenine, guanine, cytosine or uracil and having 3'-5' phosphodiester links
- 31/711 . . . Natural deoxyribonucleic acids, i.e. containing only 2'-deoxyriboses attached to adenine, guanine, cytosine or thymine and having 3'-5' phosphodiester links
- 31/7115 . . . Nucleic acids or oligonucleotides having modified bases, i.e. other than adenine, guanine, cytosine, uracil or thymine
- 31/712 . . . Nucleic acids or oligonucleotides having modified sugars, i.e. other than ribose or 2'-deoxyribose
- 31/7125 . . . Nucleic acids or oligonucleotides having modified internucleoside linkage, i.e. other than 3'-5' phosphodiester
- 31/713 . . . Double-stranded nucleic acids or oligonucleotides
- 31/7135 . . Compounds containing heavy metals
- 31/714 . . . Cobalamins, e.g. cyanocobalamin, i.e. vitamin B<sub>12</sub>
- 31/715 . . Polysaccharides, i.e. having more than five saccharide radicals attached to each other by glycosidic linkages; Derivatives thereof, e.g. ethers, esters
- 31/716 . . . Glucans
- 31/717 . . . . Celluloses
- 31/718 . . . . Starch or degraded starch, e.g. amylose, amylopectin
- 31/719 . . . . Pullulans
- 31/721 . . . . Dextrans
- 31/722 . . . . Chitin, chitosan
- 31/723 . . . . Xanthans
- 31/724 . . . . Cyclodextrins
- 31/726 . . . Glycosaminoglycans, i.e. mucopolysaccharides ([chondroitin sulfate](#), [dermatan sulfate A61K 31/737](#))
- 31/727 . . . . Heparin; Heparan
- 31/728 . . . . Hyaluronic acid
- 31/729 . . . Agar; Agarose; Agaropectin
- 31/731 . . . Carrageenans
- 31/732 . . . Pectin
- 31/733 . . . Fructosans, e.g. inulin
- 31/734 . . . Alginic acid
- 31/736 . . . Glucmannans or galactomannans, e.g. locust bean gum, guar gum
- 31/737 . . . Sulfated polysaccharides, e.g. chondroitin sulfate, dermatan sulfate ([A61K 31/727 takes precedence](#))
- 31/738 . . . Cross-linked polysaccharides
- 31/739 . . . Lipopolysaccharides
- 31/74 . Synthetic polymeric materials
- 31/745 . . Polymers of hydrocarbons
- 31/75 . . . of ethene
- 31/755 . . Polymers containing halogen
- 31/76 . . . of vinyl chloride
- 31/765 . . Polymers containing oxygen
- 31/77 . . . of oxiranes
- 31/775 . . . Phenolic resins
- 31/78 . . . of acrylic acid or derivatives thereof
- 31/785 . . Polymers containing nitrogen
- 31/787 . . . containing heterocyclic rings having nitrogen as a ring hetero atom
- 31/79 . . . . Polymers of vinyl pyrrolidone
- 31/795 . . Polymers containing sulfur



31/80	. . Polymers containing hetero atoms not provided for in groups <a href="#">A61K 31/755</a> - <a href="#">A61K 31/795</a>	35/12	. Materials from mammals; Compositions comprising non-specified tissues or cells; Compositions comprising non-embryonic stem cells; Genetically modified cells ( <a href="#">uncharacterised stem cells A61K 35/545</a> ; vaccines or medicinal preparations containing antigens or antibodies <a href="#">A61K 39/00</a> )
<b>33/00</b>	<b>Medicinal preparations containing inorganic active ingredients</b>		<b>NOTE</b> If the cells are characterised, classification is made in the group covering the corresponding tissue or tissue of origin.
33/02	. Ammonia; Compounds thereof	2035/122	. . {for inducing tolerance or suppression of immune responses}
33/04	. Sulfur, selenium or tellurium; Compounds thereof	2035/124	. . {the cells being hematopoietic, bone marrow derived or blood cells}
33/06	. Aluminium, calcium or magnesium; Compounds thereof, {e.g. clay}	2035/126	. . {Immunoprotecting barriers, e.g. jackets, diffusion chambers}
33/08	. . Oxides; Hydroxides	2035/128	. . . {capsules, e.g. microcapsules}
33/10	. . Carbonates; Bicarbonates	35/13	. . Tumour cells, irrespective of tissue of origin ( <a href="#">tumour vaccines A61K 39/00</a> )
33/12	. . Magnesium silicate	35/14	. . Blood; Artificial blood ( <a href="#">perfluorocarbons A61K 31/02</a> ; <a href="#">umbilical cord blood A61K 35/51</a> ; <a href="#">haemoglobin A61K 38/42</a> )
33/14	. Alkali metal chlorides; Alkaline earth metal chlorides	35/15	. . . Cells of the myeloid line, e.g. granulocytes, basophils, eosinophils, neutrophils, leucocytes, monocytes, macrophages or mast cells; Myeloid precursor cells; Antigen-presenting cells, e.g. dendritic cells ( <a href="#">presenting a specific antigen A61K 39/00</a> ; <a href="#">therapeutic combinations of antibodies, or fragments thereof, and blood-derived cells A61K 39/00</a> )
33/16	. Fluorine compounds	35/16	. . . Blood plasma; Blood serum ( <a href="#">umbilical cord blood A61K 35/51</a> )
33/18	. Iodine; Compounds thereof	35/17	. . . Lymphocytes; B-cells; T-cells; Natural killer cells; Interferon-activated or cytokine-activated lymphocytes ( <a href="#">when activated by a specific antigen A61K 39/00</a> )
33/20	. Elemental chlorine; Inorganic compounds releasing chlorine	35/18	. . . Erythrocytes ( <a href="#">haemoglobin A61K 38/42</a> )
33/22	. Boron compounds	35/19	. . . Platelets; Megacaryocytes
33/24	. Heavy metals; Compounds thereof	35/20	. . Milk; Whey; Colostrum
33/245	. . {Bismuth; Derivatives thereof}	35/22	. . Urine; Urinary tract, e.g. kidney or bladder; Intraglomerular mesangial cells; Renal mesenchymal cells; Adrenal gland
33/26	. . Iron; Compounds thereof	35/24	. . Mucus; Mucous glands; Bursa; Synovial fluid; Arthral fluid; Excreta; Spinal fluid ( <a href="#">saliva A61K 35/38</a> )
33/28	. . Mercury; Compounds thereof	35/26	. . Lymph; Lymph nodes; Thymus; Spleen; Splenocytes; Thymocytes
33/30	. . Zinc; Compounds thereof	35/28	. . Bone marrow; Haematopoietic stem cells; Mesenchymal stem cells of any origin, e.g. adipose-derived stem cells
33/32	. . Manganese; Compounds thereof	35/30	. . Nerves; Brain; Eyes; Corneal cells; Cerebrospinal fluid; Neuronal stem cells; Neuronal precursor cells; Glial cells; Oligodendrocytes; Schwann cells; Astroglia; Astrocytes; Choroid plexus; Spinal cord tissue
33/34	. . Copper; Compounds thereof	35/32	. . Bones; Osteocytes; Osteoblasts; Tendons; Tenocytes; Teeth; Odontoblasts; Cartilage; Chondrocytes; Synovial membrane
33/36	. . Arsenic; Compounds thereof	35/33	. . Fibroblasts
33/38	. . Silver; Compounds thereof	35/34	. . Muscles; Smooth muscle cells; Heart; Cardiac stem cells; Myoblasts; Myocytes; Cardiomyocytes ( <a href="#">vascular smooth muscle A61K 35/44</a> )
33/40	. Peroxides		
33/42	. Phosphorus; Compounds thereof		
33/44	. Elemental carbon, e.g. charcoal, carbon black		
<b>35/00</b>	<b>Medicinal preparations containing materials or reaction products thereof with undetermined constitution</b>		
	<b>NOTES</b> 1. In this group, classification is made for each active component or material. For each active component or material, classification is then made in the last appropriate place. 2. When classifying in this group, classification is also made in group <a href="#">B01D 15/08</a> insofar as subject matter of general interest relating to chromatography is concerned.		
35/02	. from inanimate materials ( <a href="#">carbon A61K 33/44</a> )		
35/04	. . Tars; Bitumens; Mineral oils; Ammonium bituminosulfonate		
35/06	. . . Mineral oils, e.g. paraffinic oils or aromatic oils based on aromatic hydrocarbons		
35/08	. . Mineral waters; Sea water		
35/10	. . Peat; Amber; Turf; Humus		
2035/11	. {Medicinal preparations comprising living procariotic cells}		
2035/115	. . {Probiotics}		

- 35/35 . . Fat tissue; Adipocytes; Stromal cells; Connective tissues ([adipose-derived stem cells A61K 35/28](#); [collagen A61K 38/39](#))
- 35/36 . . Skin; Hair; Nails; Sebaceous glands; Cerumen; Epidermis; Epithelial cells; Keratinocytes; Langerhans cells; Ectodermal cells ([islets of Langerhans A61K 35/39](#))
- 35/37 . . Digestive system
- 35/38 . . . Stomach; Intestine; Goblet cells; Oral mucosa; Saliva
- 35/39 . . . Pancreas; Islets of Langerhans ([Langerhans cells of epidermis A61K 35/36](#))
- 35/407 . . . Liver; Hepatocytes
- 35/413 . . . Gall bladder; Bile
- 35/42 . . Respiratory system, e.g. lungs, bronchi or lung cells
- 35/44 . . Vessels; Vascular smooth muscle cells; Endothelial cells; Endothelial progenitor cells
- 35/48 . . Reproductive organs
- 35/50 . . . Placenta; Placental stem cells; Amniotic fluid; Amnion; Amniotic stem cells
- 35/51 . . . Umbilical cord; Umbilical cord blood; Umbilical stem cells
- 35/52 . . . Sperm; Prostate; Seminal fluid; Leydig cells of testes
- 35/54 . . . Ovaries; Ova; Ovules; Embryos; Foetal cells; Germ cells
- 35/545 . . . . Embryonic stem cells; Pluripotent stem cells; Induced pluripotent stem cells; Uncharacterised stem cells
- 35/55 . . Glands not provided for in groups [A61K 35/22](#) - [A61K 35/545](#), e.g. thyroids, parathyroids or pineal glands
- 35/56 . . Materials from animals other than mammals
- 35/57 . . Birds; Materials from birds, e.g. eggs, feathers, egg white, egg yolk or endothelium corneum gigeriae galli
- 35/58 . . Reptiles ([antigens from snakes A61K 39/38](#))
- 35/583 . . . Snakes; Lizards, e.g. chameleons ([therapeutic use of a snake venom protein A61K 38/00](#))
- 35/586 . . . Turtles; Tortoises, e.g. terrapins
- 35/60 . . Fish, e.g. seahorses; Fish eggs
- 35/612 . . Crustaceans, e.g. crabs, lobsters, shrimps, krill or crayfish; Barnacles
- 35/614 . . Cnidaria, e.g. sea anemones, corals, coral animals or jellyfish
- 35/616 . . Echinodermata, e.g. starfish, sea cucumbers or sea urchins
- 35/618 . . Molluscs, e.g. fresh-water molluscs, oysters, clams, squids, octopus, cuttlefish, snails or slugs
- 35/62 . . Leeches; Worms, e.g. cestodes, tapeworms, nematodes, roundworms, earth worms, ascarids, filarias, hookworms, trichinella or taenia
- 35/63 . . Arthropods ([aquatic crustaceans A61K 35/612](#))
- 35/64 . . . Insects, e.g. bees, wasps or fleas
- 35/644 . . . . Beeswax; Propolis; Royal jelly; Honey
- 35/646 . . . Arachnids, e.g. spiders, scorpions, ticks or mites
- 35/648 . . . Myriapods, e.g. centipedes or millipedes
- 35/65 . . Amphibians, e.g. toads, frogs, salamanders or newts
- 35/655 . . Aquatic animals other than those covered by groups [A61K 35/57](#) - [A61K 35/65](#)
- 35/66 . . Micro-organisms or materials therefrom ([fungi, yeasts or candida A61K 36/06](#))
- 35/68 . . Protozoa, e.g. flagella, amoebas, sporozoans, plasmodium or toxoplasma
- 35/74 . . Bacteria ([therapeutic use of a bacterial protein A61K 38/00](#))
- 35/741 . . . Probiotics ([probiotic yeast, e.g. saccharomyces A61K 36/06](#))
- 35/742 . . . . Spore-forming bacteria, e.g. Bacillus coagulans, Bacillus subtilis, clostridium or Lactobacillus sporogenes
- 35/744 . . . . Lactic acid bacteria, e.g. enterococci, pediococci, lactococci, streptococci or leuconostocs
- 35/745 . . . . . Bifidobacteria
- 35/747 . . . . . Lactobacilli, e.g. L. acidophilus or L. brevis
- 35/748 . . . Cyanobacteria, i.e. blue-green bacteria or blue-green algae, e.g. spirulina ([algae, microalgae or microphytes A61K 36/02](#))
- 35/76 . . Viruses; Subviral particles; Bacteriophages
- 35/761 . . . Adenovirus
- 35/763 . . . Herpes virus
- 35/765 . . . Reovirus; Rotavirus
- 35/766 . . . Rhabdovirus, e.g. vesicular stomatitis virus
- 35/768 . . . Oncolytic viruses not provided for in groups [A61K 35/761](#) - [A61K 35/766](#)
- 36/00 Medicinal preparations of undetermined constitution containing material from algae, lichens, fungi or plants, or derivatives thereof, e.g. traditional herbal medicines {(antigens from pollen A61K 39/36)}**
- NOTE**
- In this group, common names of plants, where given, are presented in brackets following their corresponding Latin names.
- 36/02 . . Algae
- 36/03 . . Phaeophycota or phaeophyta (brown algae), e.g. Fucus
- 36/04 . . Rhodophycota or rhodophyta (red algae), e.g. Porphyra
- 36/05 . . Chlorophycota or chlorophyta (green algae), e.g. Chlorella
- 36/06 . . Fungi, e.g. yeasts
- 36/062 . . Ascomycota
- 36/064 . . . Saccharomycetales, e.g. baker's yeast
- 36/066 . . . Clavicipitaceae
- 36/068 . . . . Cordyceps
- 36/07 . . Basidiomycota, e.g. Cryptococcus
- 36/074 . . . Ganoderma
- 36/076 . . . Poria
- 36/09 . . Lichens
- 36/10 . . Bryophyta
- 36/11 . . Pteridophyta or Filicophyta (ferns)
- 36/12 . . Filicopsida or Pteridopsida
- 36/126 . . . Drynaria
- 36/13 . . Coniferophyta (gymnosperms)
- 36/14 . . Cupressaceae (Cypress family), e.g. juniper or cypress
- 36/15 . . Pinaceae (Pine family), e.g. pine or cedar
- 36/16 . . Ginkgoophyta, e.g. Ginkgoaceae (Ginkgo family)

36/17	. Gnetophyta, e.g. Ephedraceae (Mormon-tea family)	36/37	. . . Celastraceae (Staff-tree or Bittersweet family), e.g. tripterygium or spindletree
36/18	. Magnoliophyta (angiosperms)	36/38	. . . Clusiaceae, Hypericaceae or Guttiferae (Hypericum or Mangosteen family), e.g. common St. Johnswort
36/185	. . Magnoliopsida (dicotyledons)	36/39	. . . Convolvulaceae (Morning-glory family), e.g. bindweed
36/19	. . . Acanthaceae (Acanthus family)	36/40	. . . Cornaceae (Dogwood family)
36/195	. . . . Strobilanthes	36/41	. . . Crassulaceae (Stonecrop family)
36/20	. . . Aceraceae (Maple family)	36/42	. . . Cucurbitaceae (Cucumber family)
36/21	. . . . Amaranthaceae (Amaranth family), e.g. pigweed, rockwort or globe amaranth	36/424	. . . . Gynostemma
36/22	. . . Anacardiaceae (Sumac family), e.g. smoketree, sumac or poison oak	36/428	. . . . Trichosanthes
36/23	. . . Apiaceae or Umbelliferae (Carrot family), e.g. dill, chervil, coriander or cumin	36/43	. . . Cuscutaceae (Dodder family), e.g. Cuscuta epithymum or greater dodder
36/232	. . . . Angelica	36/44	. . . Ebenaceae (Ebony family), e.g. persimmon
36/233	. . . . Bupleurum	36/45	. . . Ericaceae or Vacciniaceae (Heath or Blueberry family), e.g. blueberry, cranberry or bilberry
36/234	. . . . Cnidium (snowparsley)	36/46	. . . Eucommiaceae (Eucommia family), e.g. hardy rubber tree
36/235	. . . . Foeniculum (fennel)	36/47	. . . Euphorbiaceae (Spurge family), e.g. Ricinus (castorbean)
36/236	. . . . Ligusticum (licorice-root)	36/48	. . . Fabaceae or Leguminosae (Pea or Legume family); Caesalpiniaceae; Mimosaceae; Papilionaceae
36/237	. . . . Notopterygium	36/481	. . . . Astragalus (milkvetch)
36/238	. . . . Saposhnikovia	36/482	. . . . Cassia, e.g. golden shower tree
36/24	. . . Apocynaceae (Dogbane family), e.g. plumeria or periwinkle	36/483	. . . . Gleditsia (locust)
36/25	. . . Araliaceae (Ginseng family), e.g. ivy, aralia, schefflera or tetrapanax	36/484	. . . . Glycyrrhiza (licorice)
36/254	. . . . Acanthopanax or Eleutherococcus	36/485	. . . . Gueldenstaedtia
36/258	. . . . Panax (ginseng)	36/486	. . . . Millettia
36/26	. . . Aristolochiaceae (Birthwort family), e.g. heartleaf	36/487	. . . . Psoralea
36/264	. . . . Aristolochia (Dutchman's pipe)	36/488	. . . . Pueraria (kudzu)
36/268	. . . . Asarum (wild ginger)	36/489	. . . . Sophora, e.g. necklacepod or mamani
36/27	. . . Asclepiadaceae (Milkweed family), e.g. hoya	36/49	. . . Fagaceae (Beech family), e.g. oak or chestnut
36/28	. . . Asteraceae or Compositae (Aster or Sunflower family), e.g. chamomile, feverfew, yarrow or echinacea	36/50	. . . Fumariaceae (Fumitory family), e.g. bleeding heart
36/282	. . . . Artemisia, e.g. wormwood or sagebrush	36/505	. . . . Corydalis
36/284	. . . . Atractylodes	36/51	. . . Gentianaceae (Gentian family)
36/285	. . . . Aucklandia	36/515	. . . . Gentiana
36/286	. . . . Carthamus (distaff thistle)	36/52	. . . Juglandaceae (Walnut family)
36/287	. . . . Chrysanthemum, e.g. daisy	36/53	. . . Lamiaceae or Labiatae (Mint family), e.g. thyme, rosemary or lavender
36/288	. . . . Taraxacum (dandelion)	36/532	. . . . Agastache, e.g. giant hyssop
36/289	. . . . Vladimiria	36/533	. . . . Leonurus (motherwort)
36/29	. . . Berberidaceae (Barberry family), e.g. barberry, cohosh or mayapple	36/534	. . . . Mentha (mint)
36/296	. . . . Epimedium	36/535	. . . . Perilla (beefsteak plant)
36/30	. . . Boraginaceae (Borage family), e.g. comfrey, lungwort or forget-me-not	36/536	. . . . Prunella or Brunella (selfheal)
36/31	. . . Brassicaceae or Cruciferae (Mustard family), e.g. broccoli, cabbage or kohlrabi	36/537	. . . . Salvia (sage)
36/315	. . . . Isatis, e.g. Dyer's woad	36/538	. . . . Schizonepeta
36/32	. . . Burseraceae (Frankincense family)	36/539	. . . . Scutellaria (skullcap)
36/324	. . . . Boswellia, e.g. frankincense	36/54	. . . Lauraceae (Laurel family), e.g. cinnamon or saffron
36/328	. . . . Commiphora, e.g. mecca myrrh or balm of Gilead	36/55	. . . Linaceae (Flax family), e.g. Linum
36/33	. . . Cactaceae (Cactus family), e.g. pricklypear or Cereus	36/56	. . . Loganiaceae (Logania family), e.g. trumpetflower or pinkroot
36/34	. . . Campanulaceae (Bellflower family)	36/57	. . . Magnoliaceae (Magnolia family)
36/342	. . . . Adenophora	36/575	. . . . Magnolia
36/344	. . . . Codonopsis	36/58	. . . Meliaceae (Chinaberry or Mahogany family), e.g. Azadirachta (neem)
36/346	. . . . Platycodon	36/59	. . . Menispermaceae (Moonseed family), e.g. hyperbaena or coralbead
36/35	. . . Caprifoliaceae (Honeysuckle family)	36/60	. . . Moraceae (Mulberry family), e.g. breadfruit or fig
36/355	. . . . Lonicera (honeysuckle)		
36/36	. . . Caryophyllaceae (Pink family), e.g. babysbreath or soapwort		

36/605	. . . . Morus (mulberry)	36/84	. . . . Valerianaceae (Valerian family), e.g. valerian
36/61	. . . . Myrtaceae (Myrtle family), e.g. teatree or eucalyptus	36/85	. . . . Verbenaceae (Verbena family)
36/62	. . . . Nymphaeaceae (Water-lily family)	36/855	. . . . Clerodendrum, e.g. glorybower
36/63	. . . . Oleaceae (Olive family), e.g. jasmine, lilac or ash tree	36/86	. . . . Violaceae (Violet family)
36/634	. . . . Forsythia	36/87	. . . . Vitaceae or Ampelidaceae (Vine or Grape family), e.g. wine grapes, muscadine or peppervine
36/638	. . . . Ligustrum, e.g. Chinese privet	36/88	. . . . Liliopsida (monocotyledons)
36/64	. . . . Orobanchaceae (Broom-rape family)	36/882	. . . . Acoraceae (Calamus family), e.g. sweetflag or Acorus calamus
36/65	. . . . Paeoniaceae (Peony family), e.g. Chinese peony	36/884	. . . . Alismataceae (Water-plantain family)
36/66	. . . . Papaveraceae (Poppy family), e.g. bloodroot	36/886	. . . . Aloeaceae (Aloe family), e.g. aloe vera
36/67	. . . . Piperaceae (Pepper family), e.g. Jamaican pepper or kava	36/888	. . . . Araceae (Arum family), e.g. caladium, calla lily or skunk cabbage
36/68	. . . . Plantaginaceae (Plantain Family)	36/8884	. . . . Arisaema, e.g. Jack in the pulpit
36/69	. . . . Polygalaceae (Milkwort family)	36/8888	. . . . Pinellia
36/70	. . . . Polygonaceae (Buckwheat family), e.g. spineflower or dock	36/889	. . . . Arecaceae, Palmae or Palmaceae (Palm family), e.g. date or coconut palm or palmetto
36/704	. . . . Polygonum, e.g. knotweed	36/8895	. . . . Calamus, e.g. rattan
36/708	. . . . Rheum (rhubarb)	36/89	. . . . Cyperaceae (Sedge family)
36/71	. . . . Ranunculaceae (Buttercup family), e.g. larkspur, hepatica, hydrastis, columbine or goldenseal	36/8905	. . . . Cyperus (flatsedge)
36/714	. . . . Aconitum (monkshood)	36/894	. . . . Dioscoreaceae (Yam family)
36/716	. . . . Clematis (leather flower)	36/8945	. . . . Dioscorea, e.g. yam, Chinese yam or water yam
36/718	. . . . Coptis (goldthread)	36/896	. . . . Liliaceae (Lily family), e.g. daylily, plantain lily, Hyacinth or narcissus
36/72	. . . . Rhamnaceae (Buckthorn family), e.g. buckthorn, chewstick or umbrella-tree	36/8962	. . . . Allium, e.g. garden onion, leek, garlic or chives
36/725	. . . . Ziziphus, e.g. jujube	36/8964	. . . . Anemarrhena
36/73	. . . . Rosaceae (Rose family), e.g. strawberry, chokeberry, blackberry, pear or firethorn	36/8965	. . . . Asparagus, e.g. garden asparagus or asparagus fern
36/732	. . . . Chaenomeles, e.g. flowering quince	36/8966	. . . . Fritillaria, e.g. checker lily or mission bells
36/734	. . . . Crataegus (hawthorn)	36/8967	. . . . Lilium, e.g. tiger lily or Easter lily
36/736	. . . . Prunus, e.g. plum, cherry, peach, apricot or almond	36/8968	. . . . Ophiopogon (Lilyturf)
36/738	. . . . Rosa (rose)	36/8969	. . . . Polygonatum (Solomon's seal)
36/739	. . . . Sanguisorba (burnet)	36/898	. . . . Orchidaceae (Orchid family)
36/74	. . . . Rubiaceae (Madder family)	36/8984	. . . . Dendrobium
36/744	. . . . Gardenia	36/8988	. . . . Gastrodia
36/746	. . . . Morinda	36/899	. . . . Poaceae or Gramineae (Grass family), e.g. bamboo, corn or sugar cane
36/748	. . . . Oldenlandia or Hedyotis	36/8994	. . . . Coix (Job's tears)
36/75	. . . . Rutaceae (Rue family)	36/8998	. . . . Hordeum (barley)
36/752	. . . . Citrus, e.g. lime, orange or lemon	36/90	. . . . Smilacaceae (Catbrier family), e.g. greenbrier or sarsaparilla
36/754	. . . . Evodia	36/902	. . . . Sparganiaceae (Bur-reed family)
36/756	. . . . Phellodendron, e.g. corktree	36/904	. . . . Stemonaceae (Stemona family), e.g. croomia
36/758	. . . . Zanthoxylum, e.g. pricklyash	36/906	. . . . Zingiberaceae (Ginger family)
36/76	. . . . Salicaceae (Willow family), e.g. poplar	36/9062	. . . . Alpinia, e.g. red ginger or galangal
36/77	. . . . Sapindaceae (Soapberry family), e.g. lychee or soapberry	36/9064	. . . . Amomum, e.g. round cardamom
36/78	. . . . Saururaceae (Lizard's-tail family)	36/9066	. . . . Curcuma, e.g. common turmeric, East Indian arrowroot or mango ginger
36/79	. . . . Schisandraceae (Schisandra family)	36/9068	. . . . Zingiber, e.g. garden ginger
36/80	. . . . Scrophulariaceae (Figwort family)		
36/804	. . . . Rehmannia		
36/808	. . . . Scrophularia (figwort)		
36/81	. . . . Solanaceae (Potato family), e.g. tobacco, nightshade, tomato, belladonna, capsicum or jimsonweed		
36/815	. . . . Lycium (desert-thorn)		
36/82	. . . . Theaceae (Tea family), e.g. camellia		
36/83	. . . . Thymelaeaceae (Mezereum family), e.g. leatherwood or false ohelo		
36/835	. . . . Aquilaria		



**38/00 Medicinal preparations containing peptides**

(peptides containing beta-lactam rings [A61K 31/00](#); cyclic dipeptides not having in their molecule any other peptide link than those which form their ring, e.g. piperazine-2,5-diones, [A61K 31/00](#); ergot alkaloids of the cyclic peptide type [A61K 31/48](#); containing macromolecular compounds having statistically distributed amino acid units [A61K 31/74](#); medicinal preparations containing antigens or antibodies [A61K 39/00](#); medicinal preparations characterised by the non-active ingredients, e.g. peptides as drug carriers, [A61K 47/00](#))

**NOTES**

1. The terms or expressions used in this group follow exactly the definitions given in Note (1) following the title of subclass [C07K](#).
2. Preparations containing fragments of peptides or peptides modified by removal or addition of amino acids, by substitution of amino acids by others, or by combination of these modifications are classified as the preparations containing parent peptides. However, preparations containing fragments of peptides having only four or less amino acids are also classified in groups [A61K 38/05](#) - [A61K 38/07](#).
3. Preparations containing peptides prepared by recombinant DNA technology are not classified according to the host, but according to the original peptide expressed, e.g. preparations containing HIV peptide expressed in *E. coli* are classified with the preparations containing HIV peptides.
4. This group covers also medicinal preparation containing DNA or RNA encoding for peptides as active ingredient.
5. Documents relating to new peptides, e.g. enzymes, or new DNA or RNA encoding for peptides and their use in medicinal preparations are classified in subclass [C07K](#) or in group [C12N 9/00](#) according to the peptides, with the appropriate indexing codes relating to their medical uses.

- 38/005 . {Enzyme inhibitors (protease inhibitors [A61K 38/55](#))}
- 38/01 . Hydrolysed proteins; Derivatives thereof
- 38/011 . . {from plants}
- 38/012 . . {from animals}
- 38/014 . . . {from connective tissue peptides, e.g. gelatin, collagen}
- 38/015 . . . . {from keratin}
- 38/017 . . . {from blood}
- 38/018 . . . {from milk}
- 38/02 . Peptides of undefined number of amino acids; Derivatives thereof
- 38/03 . Peptides having up to 20 amino acids in an undefined or only partially defined sequence; Derivatives thereof
- 38/04 . Peptides having up to 20 amino acids in a fully defined sequence; Derivatives thereof ({enzyme inhibitors [A61K 38/005](#)}; gastrins [A61K 38/2207](#)}; somatostatins [A61K 38/31](#), melanotropins [A61K 38/34](#); {protease inhibitors [A61K 38/55](#)})
- 38/043 . . {Kallidins; Bradykinins; Related peptides}
- 38/046 . . {Tachykinins, e.g. eledoisins, substance P; Related peptides}

- 38/05 . . Dipeptides
- 38/06 . . Tripeptides
- 38/063 . . . {Glutathione}
- 38/066 . . . {TRH, thyroliberin, thyrotropin releasing hormone}
- 38/07 . . Tetrapeptides
- 38/08 . . Peptides having 5 to 11 amino acids ({[A61K 38/043](#) - [A61K 38/046](#) take precedence})
- 38/085 . . . {Angiotensins}
- 38/09 . . . Luteinising hormone-releasing hormone [LHRH] {, i.e. Gonadotropin-releasing hormone [GnRH]}; Related peptides
- 38/10 . . Peptides having 12 to 20 amino acids ({[A61K 38/043](#) - [A61K 38/046](#) take precedence})
- 38/105 . . . {Bombesin; Related peptides}
- 38/11 . . . Oxytocins; Vasopressins; Related peptides
- 38/12 . . Cyclic peptides {, e.g. bacitracins; Polymyxins; Gramicidins S, C; Tyrocidins A, B or C ([A61K 38/043](#) - [A61K 38/046](#) take precedence)}
- 38/13 . . . Cyclosporins
- 38/14 . . Peptides containing saccharide radicals; Derivatives thereof {, e.g. bleomycin, phleomycin, muramylpeptides or vancomycin}
- 38/15 . . Depsipeptides; Derivatives thereof
- 38/16 . . Peptides having more than 20 amino acids; Gastrins; Somatostatins; Melanotropins; Derivatives thereof ({enzyme inhibitors [A61K 38/005](#)})
- 38/162 . . {from virus}
- 38/164 . . {from bacteria}
- 38/166 . . . {Streptokinase}
- 38/168 . . {from plants}
- 38/17 . . from animals; from humans ({enzyme inhibitors [A61K 38/005](#)})
- 38/1703 . . . {from vertebrates ([A61K 38/1767](#) takes precedence)}
- 38/1706 . . . . {from fish}
- 38/1709 . . . . {from mammals}
- 38/1712 . . . . . {Not used, see subgroup}
- 38/1716 . . . . . {Amyloid plaque core protein}
- 38/1719 . . . . . {Muscle proteins, e.g. myosin, actin}
- 38/1722 . . . . . {Plasma globulins, lactoglobulin}
- 38/1725 . . . . . {Complement proteins, e.g. anaphylatoxin, C3a, C5a}
- 38/1729 . . . . . {Cationic antimicrobial peptides, e.g. defensins}
- 38/1732 . . . . . {Lectins}
- 38/1735 . . . . . {Mucins, e.g. human intestinal mucin}
- 38/1738 . . . . . {Calcium binding proteins, e.g. calmodulin}
- 38/1741 . . . . . {alpha-Glycoproteins}
- 38/1745 . . . . . {C-reactive protein}
- 38/1748 . . . . . {Keratin; Cytokeratin}
- 38/1751 . . . . . {Bactericidal/permeability-increasing protein [BPI]}
- 38/1754 . . . . . {Insulin-like growth factor binding protein}
- 38/1758 . . . . . {p53}
- 38/1761 . . . . . {Apoptosis related proteins, e.g. Apoptotic protease-activating factor-1 (APAF-1), Bax, Bax-inhibitory protein(s)(BI; bax-I), Myeloid cell leukemia associated protein (MCL-1), Inhibitor of apoptosis [IAP], Bcl-2}

38/1764	. . . . . {Tumor specific antigens; Tumor rejection antigen precursors [TRAP], e.g. MAGE}	38/21	. . . . . Interferons {[IFN]}
38/1767	. . . . {from invertebrates}	38/212	. . . . . {IFN-alpha}
38/177	. . . {Receptors; Cell surface antigens; Cell surface determinants}	38/215	. . . . . {IFN-beta}
38/1774	. . . . {Immunoglobulin superfamily (e.g. CD2, CD4, CD8, ICAM molecules, B7 molecules, Fc-receptors, MHC-molecules)}	38/217	. . . . . {IFN-gamma}
38/1777	. . . . {Integrin superfamily}	38/22	. . . Hormones (derived from pro-opiomelanocortin, pro-enkephalin or pro-dynorphin <a href="#">A61K 38/33</a> , e.g. corticotropin <a href="#">A61K 38/35</a> )
38/178	. . . . {Lectin superfamily, e.g. selectins}	38/2207	. . . . {Gastrins; Cholecystokinins [CCK]}
38/1783	. . . . {Nuclear receptors, e.g. retinoic acid receptor [RAR], RXR, nuclear orphan receptors}	38/2214	. . . . {Motilins}
38/1787	. . . . {for neuromediators, e.g. serotonin receptor, dopamine receptor}	38/2221	. . . . {Relaxins}
38/179	. . . . {for growth factors; for growth regulators}	38/2228	. . . . {Corticotropin releasing factor [CRF] (Urotensin)}
38/1793	. . . . {for cytokines; for lymphokines; for interferons}	38/2235	. . . . {Secretins}
38/1796	. . . . {for hormones (for neuromediators <a href="#">A61K 38/1787</a> )}	38/2242	. . . . {Atrial natriuretic factor complex: Atriopeptins, atrial natriuretic protein [ANP]; Cardionatin, Cardiodilatin}
38/18	. . . Growth factors; Growth regulators	38/225	. . . . {Calcitonin gene related peptide}
38/1808	. . . . {Epidermal growth factor [EGF] urogastrone}	38/2257	. . . . {Prolactin}
38/1816	. . . . {Erythropoietin [EPO]}	38/2264	. . . . {Obesity-gene products, e.g. leptin}
38/1825	. . . . {Fibroblast growth factor [FGF]}	38/2271	. . . . {Neuropeptide Y}
38/1833	. . . . {Hepatocyte growth factor; Scatter factor; Tumor cytotoxic factor II}	38/2278	. . . . {Vasoactive intestinal peptide [VIP]; Related peptides (e.g. Exendin)}
38/1841	. . . . {Transforming growth factor [TGF]}	38/2285	. . . . {Endothelin, vasoactive intestinal contractor [VIC]}
38/185	. . . . {Nerve growth factor [NGF]; Brain derived neurotrophic factor [BDNF]; Ciliary neurotrophic factor [CNTF]; Glial derived neurotrophic factor [GDNF]; Neurotrophins, e.g. NT-3}	38/2292	. . . . {Thymosin; Related peptides}
38/1858	. . . . {Platelet-derived growth factor [PDGF]}	38/23	. . . . Calcitonins
38/1866	. . . . {Vascular endothelial growth factor [VEGF]}	38/24	. . . . Follicle-stimulating hormone [FSH]; Chorionic gonadotropins, e.g. HCG; Luteinising hormone [LH]; Thyroid-stimulating hormone [TSH]
38/1875	. . . . {Bone morphogenic factor; Osteogenins; Osteogenic factor; Bone-inducing factor}	38/25	. . . . Growth hormone-releasing factor (GH-RF) (Somatoliberin)
38/1883	. . . . {Neuregulins, e.g. p185erbB2 ligands, glial growth factor, heregulin, ARIA, neu differentiation factor}	38/26	. . . . Glucagons
38/1891	. . . . {Angiogenesis factors; Angiogenin}	38/27	. . . . Growth hormone [GH] (Somatotropin)
38/19	. . . Cytokines; Lymphokines; Interferons	38/28	. . . . Insulins
38/191	. . . . {Tumor necrosis factors [TNF], e.g. lymphotoxin [LT], i.e. TNF-beta}	38/29	. . . . Parathyroid hormone (parathormone); Parathyroid hormone-related peptides
38/193	. . . . {Colony stimulating factors [CSF]}	38/30	. . . . Insulin-like growth factors (somatomedins), e.g. IGF-1, IGF-2 ( <a href="#">insulin-like growth factor binding protein A61K 38/1754</a> )
38/195	. . . . {Chemokines, e.g. RANTES}	38/31	. . . . Somatostatins
38/196	. . . . {Thrombopoietin}	38/32	. . . . Thymopoietins
38/20	. . . . Interleukins [IL]	38/33	. . . derived from pro-opiomelanocortin, pro-enkephalin or pro-dynorphin
38/2006	. . . . . {IL-1}	38/34	. . . . Melanocyte stimulating hormone [MSH], e.g. alpha- or beta-melanotropin
38/2013	. . . . . {IL-2}	38/35	. . . . Corticotropin [ACTH]
38/202	. . . . . {IL-3}	38/36	. . . Blood coagulation or fibrinolysis factors
38/2026	. . . . . {IL-4}	38/363	. . . . {Fibrinogen}
38/2033	. . . . . {IL-5}	38/366	. . . . {Thrombomodulin}
38/204	. . . . . {IL-6}	38/37	. . . . Factors VIII
38/2046	. . . . . {IL-7}	38/38	. . . . Albumins
38/2053	. . . . . {IL-8}	38/385	. . . . {Serum albumin}
38/206	. . . . . {IL-9}	38/39	. . . Connective tissue peptides, e.g. collagen, elastin, laminin, fibronectin, vitronectin, cold insoluble globulin [CIG]
38/2066	. . . . . {IL-10}	38/395	. . . {Alveolar surfactant peptides; Pulmonary surfactant peptides}
38/2073	. . . . . {IL-11}	38/40	. . . Transferrins, e.g. lactoferrins, ovotransferrins
38/208	. . . . . {IL-12}	38/41	. . Porphyrin- or corrin-ring-containing peptides
38/2086	. . . . . {IL-13 to IL-16}	38/415	. . . {Cytochromes}
38/2093	. . . . . {Leukaemia inhibitory factor [LIF]}	38/42	. . . Haemoglobins; Myoglobins

38/43 . . Enzymes; Proenzymes; Derivatives thereof

**NOTE**

In this group,

1. proenzymes are classified with the corresponding enzymes;
2. enzymes are generally categorised according to the "Nomenclature and Classification of Enzymes" of the International Commission of Enzymes. Where appropriate, this designation appears in the subgroups below in parenthesis.
3. the specific enzyme(s) used are additionally classified in [C12Y](#).

38/44 . . . Oxidoreductases (1)  
 38/443 . . . . {acting on CH-OH groups as donors, e.g. glucose oxidase, lactate dehydrogenase (1.1)}  
 38/446 . . . . {Superoxide dismutase (1.15)}  
 38/45 . . . Transferases (2)  
 38/46 . . . Hydrolases (3)  
 38/465 . . . . {acting on ester bonds (3.1), e.g. lipases, ribonucleases}  
 38/47 . . . . acting on glycosyl compounds (3.2), e.g. cellulases, lactases  
 38/48 . . . . acting on peptide bonds (3.4)  
 38/4806 . . . . . {from animals other than mammals, e.g. snakes}  
 38/4813 . . . . . {Exopeptidases (3.4.11. to 3.4.19)}  
 38/482 . . . . . {Serine endopeptidases (3.4.21)}  
 38/4826 . . . . . {Trypsin (3.4.21.4) Chymotrypsin (3.4.21.1)}  
 38/4833 . . . . . {Thrombin (3.4.21.5)}  
 38/484 . . . . . {Plasmin (3.4.21.7)}  
 38/4846 . . . . . {Factor VII (3.4.21.21); Factor IX (3.4.21.22); Factor Xa (3.4.21.6); Factor XI (3.4.21.27); Factor XII (3.4.21.38)}  
 38/4853 . . . . . {Kallikrein (3.4.21.34 or 3.4.21.35)}  
 38/486 . . . . . {Elastase (3.4.21.36 or 3.4.21.37)}  
 38/4866 . . . . . {Protein C (3.4.21.69)}  
 38/4873 . . . . . {Cysteine endopeptidases (3.4.22), e.g. stem bromelain, papain, ficin, cathepsin H}  
 38/488 . . . . . {Aspartic endopeptidases (3.4.23), e.g. pepsin, chymosin, renin, cathepsin E}  
 38/4886 . . . . . {Metalloendopeptidases (3.4.24), e.g. collagenase}  
 38/4893 . . . . . {Botulinum neurotoxin (3.4.24.69)}  
 38/49 . . . . . Urokinase; Tissue plasminogen activator  
 38/50 . . . . acting on carbon-nitrogen bonds, other than peptide bonds (3.5), e.g. asparaginase  
 38/51 . . . Lyases (4)  
 38/52 . . . Isomerases (5)  
 38/53 . . . Ligases (6)  
 38/54 . . . Mixtures of enzymes or proenzymes covered by more than a single one of groups [A61K 38/44](#) - [A61K 38/46](#) or [A61K 38/51](#) - [A61K 38/53](#)  
 38/55 . . Protease inhibitors  
 38/553 . . . {Renin inhibitors}  
 38/556 . . . {Angiotensin converting enzyme inhibitors}  
 38/56 . . . from plants

38/57 . . . from animals; from humans {[A61K 38/553](#), [A61K 38/556](#) take precedence}

38/58 . . . . from leeches, e.g. hirudin, eglin

**39/00 Medicinal preparations containing antigens or antibodies (materials for immunoassay [G01N 33/53](#))**

**NOTES**

1. Groups [A61K 39/002](#) - [A61K 39/295](#) cover preparations containing protozoa, bacteria, viruses, or subunits thereof, e.g. membrane parts.
2. Preparation of antigen or antibody compositions is also classified in subclass [C12N](#), if the step of cultivating the micro-organism is of interest.
3. Documents relating to new peptides, e.g. enzymes, or new DNA or RNA encoding for peptides and their use in medicinal preparations are classified in subclass [C07K](#) or in group [C12N 9/00](#) according to the peptides, with the appropriate indexing codes relating to their medical uses.
4. Documents relating to antibodies or DNA or RNA encoding for antibodies and their use in medicinal preparations are classified in group [C07K 16/00](#) or in group [C12N 9/0002](#) according to the antibodies, with the appropriate indexing codes relating to their medical uses.
5. Documents relating to new therapeutical uses of antibodies or DNA or RNA encoding for antibodies are classified in group [C07K 16/00](#) or in group [C12N 9/0002](#) according to the antibodies, with the appropriate indexing codes relating to their medical uses.
6. Documents relating to medicinal preparations containing different antibodies as active ingredients are classified in group [C07K 16/00](#) according to the different active antibodies, with the appropriate indexing codes relating to their medical uses. However, documents relating to medicinal preparations containing antibodies and other compounds as active ingredients are classified in groups [A61K 39/395](#) - [A61K 39/42](#), in association with symbol [A61K 2300/00](#) in Combination Sets.

39/0001 . {Archaeal antigens}  
 39/0002 . {Fungal antigens, e.g. Trichophyton, Aspergillus, Candida}  
 39/0003 . {Invertebrate antigens}  
 39/0005 . {Vertebrate antigens (from snakes [A61K 39/38](#))}  
 39/0006 . . {Contraceptive vaccines; Vaccines against sex hormones}  
 39/0007 . . {Nervous system antigens; Prions}  
 39/0008 . . {Antigens related to auto-immune diseases; Preparations to induce self-tolerance}  
 39/001 . . {Preparations to induce tolerance to non-self, e.g. prior to transplantation}  
 39/0011 . . {Cancer antigens}  
 39/0012 . . {Lipids; Lipoproteins}  
 39/0013 . {Therapeutic immunisation against small organic molecules, e.g. cocaine, nicotine}  
 39/0015 . {Combination vaccines based on measles-mumps-rubella}  
 39/0016 . {Combination vaccines based on diphtheria-tetanus-pertussis}  
 39/0017 . . {Combination vaccines based on whole cell diphtheria-tetanus-pertussis}

39/0018	. . {Combination vaccines based on acellular diphtheria-tetanus-pertussis}	39/135	. . . Foot- and mouth-disease virus
39/002	. Protozoa antigens	39/145	. . Orthomyxoviridae, e.g. influenza virus
39/005	. . Trypanosoma antigens	39/15	. . Reoviridae, e.g. calf diarrhea virus
39/008	. . Leishmania antigens	39/155	. . Paramyxoviridae, e.g. parainfluenza virus
39/012	. . Coccidia antigens	39/165	. . . Mumps or measles virus
39/015	. . Hemosporidia antigens, e.g. Plasmodium antigens	39/17	. . . Newcastle disease virus
39/018	. . . Babesia antigens, e.g. Theileria antigens	39/175	. . . Canine distemper virus
39/02	. Bacterial antigens	39/187	. . Hog cholera virus
39/0208	. . {Specific bacteria not otherwise provided for}	39/193	. . Equine encephalomyelitis virus
39/0216	. . {Bacterioidetes, e.g. Bacteroides, Ornithobacter, Porphyromonas}	39/20	. . Rubella virus
39/0225	. . {Spirochetes, e.g. Treponema, Leptospira, Borrelia}	39/205	. . Rhabdoviridae, e.g. rabies virus
39/0233	. . {Rickettsiales, e.g. Anaplasma}	39/21	. . Retroviridae, e.g. equine infectious anemia virus
39/0241	. . {Mollicutes, e.g. Mycoplasma, Erysipelothrix}	39/215	. . Coronaviridae, e.g. avian infectious bronchitis virus
39/025	. . {Enterobacteriales, e.g. Enterobacter}	39/225	. . . Porcine transmissible gastroenteritis virus
39/0258	. . . {Escherichia}	39/23	. . Parvoviridae, e.g. feline panleukopenia virus
39/0266	. . . {Klebsiella}	39/235	. . Adenoviridae
39/0275	. . . {Salmonella}	39/245	. . Herpetoviridae, e.g. herpes simplex virus
39/0283	. . . {Shigella}	39/25	. . . Varicella-zoster virus
39/0291	. . . {Yersinia}	39/255	. . . Marek's disease virus
39/04	. . Mycobacterium, e.g. Mycobacterium tuberculosis	39/265	. . . Infectious rhinotracheitis virus
39/05	. . {Actinobacteria, e.g. Actinomyces, Streptomyces, Nocardia, Bifidobacterium, Gardnerella}, Corynebacterium; Propionibacterium {Mycobacterium <a href="#">A61K 39/04</a> }	39/27	. . . Equine rhinopneumonitis virus
39/07	. . Bacillus	39/275	. . Poxviridae, e.g. avipoxvirus
39/08	. . Clostridium, e.g. Clostridium tetani	39/285	. . . Vaccinia virus or variola virus
39/085	. . Staphylococcus	39/29	. . Hepatitis virus
39/09	. . {Lactobacillales, e.g. aerococcus, enterococcus, lactobacillus, lactococcus}, streptococcus	39/292	. . . {Serum hepatitis virus, hepatitis B virus, e.g. Australia antigen}
39/092	. . . {Streptococcus}	39/295	. . Polyvalent viral antigens ( <a href="#">vaccinia virus</a> or <a href="#">variola virus A61K 39/285</a> ); Mixtures of viral and bacterial antigens
39/095	. . Neisseria		
39/098	. . {Brucella}		
39/099	. . {Bordetella}		
2039/10	. . {Brucella; Bordetella, e.g. Bordetella pertussis; Not used, see subgroups}		
39/102	. . {Pasteurellales, e.g. Actinobacillus}, Pasteurella; Haemophilus		
39/104	. . {Pseudomonadales, e.g.} Pseudomonas		
39/1045	. . . {Moraxella}		
39/105	. . {Delta proteobacteriales, e.g. Lawsonia; Epsilon proteobacteriales, e.g. campylobacter, helicobacter}		
2039/106	. . {Vibrio; Campylobacter; Not used, see subgroups}		
39/107	. . {Vibrio}		
39/114	. . Fusobacterium		
39/116	. . Polyvalent bacterial antigens		
	<b>WARNING</b>		
	This group is no longer used for the classification of new documents as from April 1, 2012. The backlog of this group is being continuously reclassified to subgroups of <a href="#">A61K 39/0016</a> and of <a href="#">A61K 39/02</a>		
39/118	. Chlamydiaceae, e.g. Chlamydia trachomatis or Chlamydia psittaci	39/35	. Allergens
39/12	. Viral antigens	39/36	. . from pollen
39/125	. . Picornaviridae, e.g. calicivirus	39/38	. Antigenes from snakes
39/13	. . . Poliovirus	39/385	. Haptens or antigens, bound to carriers
		39/39	. characterised by the immunostimulating additives, e.g. chemical adjuvants
		39/395	. Antibodies ( <a href="#">agglutinins A61K 38/36</a> ; {as drug carriers <a href="#">A61K 47/48</a> }); Immunoglobulins; Immune serum, e.g. antilymphocytic serum
		39/39508	. . {from milk, i.e. lactoglobulins}
		39/39516	. . {from serum, plasma}
		39/39525	. . . {Purification}
		39/39533	. . {against materials from animals}
		39/39541	. . . {against normal tissues, cells}
		39/3955	. . . {against proteinaceous materials, e.g. enzymes, hormones, lymphokines}
		39/39558	. . . {against tumor tissues, cells, antigens}
		39/39566	. . . {against immunoglobulins, e.g. anti-idiotypic antibodies}
		39/39575	. . {against materials from other living beings excluding bacteria and viruses, e.g. protozoa, fungi, plants}
		39/39583	. . {against materials not provided for elsewhere, e.g. haptens, coenzymes}

**WARNING**

This group is no longer used for the classification of new documents as from April 1, 2012. The backlog of this group is being continuously reclassified to [A61K 39/0015](#), to subgroups of [A61K 39/0016](#) and of [A61K 39/12](#)



- 39/39591 . . {Stabilisation, fragmentation}
- 39/40 . . bacterial
- 39/42 . . viral
- 39/44 . . Antibodies bound to carriers
- 2039/505 . {comprising antibodies}
- 2039/507 . . {Comprising a combination of two or more separate antibodies}
- 2039/51 . {comprising whole cells, viruses or DNA/RNA}
- 2039/515 . . {Animal cells}
- 2039/5152 . . . {Tumor cells}
- 2039/5154 . . . {Antigen presenting cells [APCs], e.g. dendritic cells, macrophages}
- 2039/5156 . . . {expressing foreign proteins}
- 2039/5158 . . . {Antigen-pulsed cells, e.g. T-cells}
- 2039/517 . . {Plant cells}
- 2039/52 . . {Bacterial cells; Fungal cells; Protozoal cells}
- 2039/521 . . . {inactivated (killed)}
- 2039/522 . . . {avirulent or attenuated}
- 2039/523 . . . {expressing foreign proteins}
- 2039/525 . . {Virus}
- 2039/5252 . . . {inactivated (killed)}
- 2039/5254 . . . {avirulent or attenuated}
- 2039/5256 . . . {expressing foreign proteins}
- 2039/5258 . . . {Virus-like particles}
- 2039/53 . . {DNA (RNA) vaccination}
- 2039/54 . {characterised by the route of administration}
- 2039/541 . . {Mucosal route}
- 2039/542 . . . {oral/gastrointestinal}
- 2039/543 . . . {intranasal}
- 2039/544 . . . {to the airways ([intranasal A61K 2039/543](#))}
- 2039/545 . {characterised by the dose, timing or administration schedule}
- 2039/55 . {characterised by the host/recipient, e.g. newborn with maternal antibodies}
- 2039/552 . . {Veterinary vaccine}
- 2039/555 . {characterised by a specific combination antigen/adjuvant}
- 2039/55505 . . {Inorganic adjuvants}
- 2039/55511 . . {Organic adjuvants}
- 2039/55516 . . . {Proteins; Peptides}
- 2039/55522 . . . {Cytokines; Lymphokines; Interferons}
- 2039/55527 . . . . {Interleukins}
- 2039/55533 . . . . . {IL-2}
- 2039/55538 . . . . . {IL-12}
- 2039/55544 . . . {Bacterial toxins}
- 2039/5555 . . . {Muramyl dipeptides}
- 2039/55555 . . . {Liposomes; Vesicles, e.g. nanoparticles; Spheres, e.g. nanospheres; Polymers}
- 2039/55561 . . . {CpG containing adjuvants; Oligonucleotide containing adjuvants}
- 2039/55566 . . . {Emulsions, e.g. Freund's adjuvant, MF59}
- 2039/55572 . . . {Lipopolysaccharides; Lipid A; Monophosphoryl lipid A}
- 2039/55577 . . . {Saponins; Quil A; QS21; ISCOMS}
- 2039/55583 . . . {Polysaccharides}
- 2039/55588 . . {Adjuvants of undefined constitution}
- 2039/55594 . . . {from bacteria}
- 2039/57 . {characterised by the type of response, e.g. Th1, Th2}
- 2039/572 . . {cytotoxic response}
- 2039/575 . . {humoral response}
- 2039/577 . . {tolerising response}
- 2039/58 . {raising an immune response against a target which is not the antigen used for immunisation}
- 2039/585 . . {wherein the target is cancer}
- 2039/60 . {characteristics by the carrier linked to the antigen}
- 2039/6006 . . {Cells ([recombinantly expressing antigens A61K 2039/5156](#), [A61K 2039/523](#))}
- 2039/6012 . . {Haptens, e.g. di- or trinitrophenyl (DNP, TNP)}
- 2039/6018 . . {Lipids, e.g. in lipopeptides}
- 2039/6025 . . {Nucleotides}
- 2039/6031 . . {Proteins}
- 2039/6037 . . . {Bacterial toxins, e.g. diphteria toxoid [DT], tetanus toxoid [TT]}
- 2039/6043 . . . {Heat shock proteins}
- 2039/605 . . . {MHC molecules or ligands thereof}
- 2039/6056 . . . {Antibodies}
- 2039/6062 . . . {Muramyl peptides}
- 2039/6068 . . . {Other bacterial proteins, e.g. OMP}
- 2039/6075 . . . {Viral proteins}
- 2039/6081 . . . {Albumin; Keyhole limpet haemocyanin [KLH]}
- 2039/6087 . . {Polysaccharides; Lipopolysaccharides [LPS]}
- 2039/6093 . . {Synthetic polymers, e.g. polyethyleneglycol [PEG], Polymers or copolymers of (D) glutamate and (D) lysine}
- 2039/62 . {characterised by the link between antigen and carrier}
- 2039/622 . . {non-covalent binding}
- 2039/625 . . {binding through the biotin-streptavidin system or similar}
- 2039/627 . . {characterised by the linker}
- 2039/64 . {characterised by the architecture of the carrier-antigen complex, e.g. repetition of carrier-antigen units}
- 2039/645 . . {Dendrimers; Multiple antigen peptides}
- 2039/70 . {Multivalent vaccine}
- 41/00** **Medicinal preparations obtained by treating materials with wave energy or particle radiation; {Therapies using these preparations} ([A61K 31/59](#) takes precedence; generation of ultrasonic waves [B06B](#); electric discharge tubes [H01J](#))**
- 41/0004 . {Homeopathy; Vitalisation; Resonance; Dynamisation, e.g. esoteric applications; Oxygenation of blood}
- 41/0009 . {Inactivation or decontamination of a medicinal preparation prior to administration to the animal or human, e.g. : inactivation of viruses or bacteria for vaccines, sterilisation by electromagnetic radiation}
- NOTE**  
See [A61K 41/0019](#) for the specific method; see [A61L 2/0029](#) if the invention lies in the method of sterilization of the medicinal preparation rather than the sterilized medicinal preparation
- 41/0014 . . {by ultrasonic waves}
- 41/0019 . . {by UV, IR, Rx or gamma rays}
- 41/0023 . {Aggression treatment or altering}
- NOTE**  
This groups covers aggression treatment or altering  
– of a medicinal preparation prior to administration to the human/animal, e.g. altering a binding specificity of a monoclonal

## A61K

A61K 41/0023

(continued)

- antibody used in a medicinal agent with an oxidizing agent or an electric potential;
- of a tissue/organ prior to graft, e.g. destroying immunodominant epitopes;
- the permeability of cell membranes or biological barriers *in vivo*, e.g. by ultrasound, prior to the administration of a medicinal preparation to the animal/human;
- for inducing the production of stress response proteins or heat shock proteins in order to reduce subsequent response to injuries

- 41/0028 . {Disruption, e.g. by heat or ultrasounds, sonophysical or sonochemical activation, e.g. thermosensitive or heat-sensitive liposomes, disruption of calculi with a medicinal preparation and ultrasounds}
- 41/0033 . . {Sonodynamic cancer therapy with sonochemically active agents or sonosensitizers, having their cytotoxic effects enhanced through application of ultrasounds ([ultrasound therapy per se A61N 7/00](#))}
- 41/0038 . {Radiosensitizing, i.e. administration of pharmaceutical agents that enhance the effect of radiotherapy ([radiotherapy per se A61N 5/10](#))}
- 41/0042 . {Photocleavage of drugs *in vivo*, e.g. cleavage of photolabile linkers *in vivo* by UV radiation for releasing the pharmacologically-active agent from the administered agent; photothrombosis or photoocclusion}
- 41/0047 . {Sonophoresis, i.e. ultrasonically-enhanced transdermal delivery, electroporation of a pharmacologically active agent}

### NOTE

To be classified in [A61K 9/0009](#) when it is in relation to the galenic form

- 41/0052 . {Thermotherapy; Hyperthermia; Magnetic induction; Induction heating therapy}

### NOTE

simple magnetic guidance of drugs *in vivo* is to be classified in [A61K 41/00](#), and in [A61K 47/4893](#)

- 41/0057 . {Photodynamic therapy with a photosensitizer, i.e. agent able to produce reactive oxygen species upon exposure to light or radiation, e.g. UV or visible light; photocleavage of nucleic acids with an agent}
- 41/0061 . . {5-aminolevulinic acid-based PDT: 5-ALA-PDT involving porphyrins or precursors of protoporphyrins generated *in vivo* from 5-ALA}
- 41/0066 . . {Psoralene-activated UV-A photochemotherapy (PUVA-therapy), e.g. for treatment of psoriasis or eczema, extracorporeal photopheresis with psoralens or fucocoumarins}
- 41/0071 . . {PDT with porphyrins having exactly 20 ring atoms, i.e. based on the non-expanded tetrapyrrolic ring system, e.g. bacteriochlorin, chlorin-e6, or phthalocyanines}
- 41/0076 . . {PDT with expanded (metallo)porphyrins, i.e. having more than 20 ring atoms, e.g. texaphyrins, sapphyrins, hexaphyrins, pentaphyrins, porphocyanines}
- 41/008 . . {Two-Photon or Multi-Photon PDT, e.g. with upconverting dyes or photosensitisers}

- 41/0085 . {Mossbauer effect therapy based on mossbauer effect of a material, i.e. re-emission of gamma rays after absorption of gamma rays by the material; selective radiation therapy, i.e. involving re-emission of ionizing radiation upon exposure to a first ionizing radiation}
- 41/009 . {Neutron capture therapy, e.g. using uranium or non-boron material}
- 41/0095 . . {Boron neutron capture therapy, i.e. BNCT, e.g. using boronated porphyrins}

## 45/00 Medicinal preparations containing active ingredients not provided for in groups

[A61K 31/00](#) - [A61K 41/00](#)

- 45/05 . {Immunological preparations stimulating the reticulo-endothelial system, e.g. against cancer}
  - 45/06 . Mixtures of active ingredients without chemical characterisation, e.g. antiphlogistics and cardiaca
- ## 47/00 Medicinal preparations characterised by the non-active ingredients used, e.g. carriers, inert additives
- 47/02 . Inorganic compounds
  - 47/06 . Organic compounds, {e.g. mineral oil, petrolatum, synthetic polyolefins}
  - 47/08 . . containing oxygen, {e.g. ethers, acetals, ketones, quinones, aldehydes, peroxides}
  - 47/10 . . . Alcohols; Phenols; Salts thereof, {e.g. glycerol; Polyethylene glycol [PEG]; Poloxamers; PEG/POE alkyl ethers ([sugar alcohols A61K 47/26](#); [copolymers containing polyalkylene glycol or poloxamer A61K 47/34](#))}
  - 47/12 . . . Carboxylic acids; Salts or anhydrides thereof
  - 47/14 . . . Esters of carboxylic acids {, e.g. fatty acid monoglycerides, medium-chain triglycerides, parabens}
  - 47/16 . . containing nitrogen, {e.g. nitro-, nitroso-, azo-compounds, nitriles, cyanates}
  - 47/18 . . . Amines; Quaternary ammonium compounds, {e.g. amides, ureas}
  - 47/183 . . . . {Amino acids or aminosulphonic acids, e.g. glycine, EDTA, aspartame}
  - 47/186 . . . . {Quaternary ammonium compounds, e.g. benzalkonium chloride, cetrimide}
  - 47/20 . . containing sulfur, {e.g. DMSO, docusate, sodium lauryl sulfate ([A61K 47/183](#), [A61K 47/186 take precedence](#))}
  - 47/22 . . Heterocyclic compounds, {e.g. ascorbic acid, tocopherol, pyrrolidones ([A61K 47/183](#), [A61K 47/186 take precedence](#))}
  - 47/24 . . containing atoms other than carbon, hydrogen, oxygen, halogen, nitrogen or sulfur, {e.g. cyclomethicone, phospholipids}
  - 47/26 . . Carbohydrates, {e.g. mono-, di-, oligosaccharides, nucleic acids, sugar alcohols, amino sugars; Derivatives thereof, e.g. polysorbates, sorbitan fatty acid esters, glycyrrhizin ([A61K 47/183](#), [A61K 47/186 take precedence](#))}
  - 47/28 . . Steroids, {e.g. cholesterol, bile acids, glycyrrhetic acid ([A61K 47/183](#), [A61K 47/186 take precedence](#))}
  - 47/30 . Macromolecular compounds
  - 47/32 . . Macromolecular compounds obtained by reactions only involving carbon-to-carbon unsaturated bonds, {e.g. carbomers, poly(meth)acrylates, polyvinyl pyrrolidone}

- 47/34 . . . . Macromolecular compounds obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds, {e.g. polyesters, polyamino acids, polysiloxanes, copolymers of polyalkylene glycol or poloxamer (PEG or poloxamers [A61K 47/10](#))}

**NOTE**

This group does not cover polyalkoxylated compounds, which are classified according to the derivatized compounds. The following list provides examples of such polyalkoxylated compounds together with their relevant group:

- POE alkyl ethers [A61K 47/10](#)
- PEG fatty acid esters [A61K 47/14](#)
- poloxamines [A61K 47/18](#)
- polysorbates [A61K 47/26](#)
- POE castor oil [A61K 47/44](#)

- 47/36 . . . Polysaccharides; Derivatives thereof, {e.g. gums, starch, alginate, dextrin, hyaluronic acid, chitosan, inulin, agar, pectin}
- 47/38 . . . Cellulose; Derivatives thereof
- 47/40 . . . Cyclodextrins; Derivatives thereof {([cyclodextrin inclusion compounds A61K 47/48969](#))}
- 47/42 . . . Proteins; Polypeptides; Degradation products thereof; Derivatives thereof {, e.g. albumin, gelatin, zein ([oligopeptides having up to 5 amino acids A61K 47/183](#); [polyamino acids A61K 47/34](#))}
- 47/44 . . . Oils, fats or waxes according to more than one of groups [A61K 47/02](#) - [A61K 47/42](#); {Natural or modified natural oils, fats or waxes, e.g. (polyethoxylated) castor oil, montan wax, ozokerite, lignite, shellac, rosin, beeswax, lanolin ([synthetic glycerides, e.g. medium-chain triglycerides A61K 47/14](#))}
- 47/46 . . . Ingredients of undetermined constitution or reaction products thereof, {e.g. skin, bone, milk, cotton fiber, eggshell, oxgall, plant extracts}
- 47/48 . . . the non-active ingredient being chemically bound to the active ingredient, e.g. polymer drug conjugates
- 47/48007 . . . {the pharmacologically- or therapeutically-active agent being covalently bound or complexed to a modifying agent}

**NOTE**

The modifying agent being a macromolecular compound [A61K 47/48169](#), a peptide, protein or polyamino acid [A61K 47/48238](#), an antibody or immunoglobulin [A61K 47/48369](#)

- 47/48015 . . . {the modifying agent being an inorganic compound, e.g. inorganic ion that being chemically complexed with the pharmacologically- or therapeutically-active agent ([A61K 47/48161](#) takes precedence)}

**NOTE**

Classic ion pairs of medicinal agents are not classified in [A61K 47/48](#) but in [A61K 31/00](#)

- 47/48023 . . . {the modifying agent being an organic compound ([A61K 47/48161](#) takes precedence)}

- 47/4803 . . . . {the modifying agent being an organic ion that forms an ion pair complex with the pharmacologically or therapeutically active agent}

- 47/48038 . . . . {the modifying agent being a carboxylic acid, e.g. a fatty acid or an amino acid}

**NOTE**

When covalently linked to the pharmacologically or therapeutically-active agent, it can be via its carboxylic function or via another chemical function leaving the carboxylic function free

- 47/48046 . . . . {the modifying agent being a lipid, e.g. a triglyceride; the modifying agent being a polyamine, e.g. spermine or spermidine}

**NOTE**

Fatty acid conjugates are classified in [A61K 47/48038](#); cholesterol conjugates are classified in [A61K 47/48123](#)

- 47/48053 . . . . . {the modifying agent being a phospholipid}
- 47/48061 . . . . . {the modifying agent being a heterocyclic compound ([A61K 47/48153](#) takes precedence)}
- 47/48069 . . . . . {the modifying agent being a heterocyclic compound which being a porphyrine or a porphyrine with an expanded ring system, e.g. texaphyrine}

**NOTE**

Porphyrins used as photosensitizers in photodynamic therapy: see [A61K 41/0071](#) or [A61K 41/0076](#); Porphyrins used as photosensitizers in photodynamic therapy, the photosensitizer being considered as the therapeutically active part, and modified by another compound, e.g. polymer or an antibody, to be classified in [A61K 41/0071](#) or [A61K 41/0076](#) and according to the [A61K 47/48](#) subgroup of the modifying agent; Porphyrins used as fluorescent diagnostic optical agents administered *in vivo* to be classified in [A61K 49/0036](#)

- 47/48076 . . . . . {the modifying agent being a chelate, i.e. single central atom/ion sequestered by a polydentate ligand, e.g. Gd-DOTA or Zinc-amino acid chelate, or a chelate-forming compound, i.e. chelating group, e.g. DOTA or ethylenediamine, that being covalently/complexed to the pharmacologically- or therapeutically-active agent}

**NOTE**

Paramagnetic chelates used in MRI and not linked to by further compound, e.g. polymer, peptide, protein, antibody, small molecules like sugars, are only classified in [A61K 49/101](#) and subgroups. Paramagnetic chelates used in MRI and conjugated to another compound, e.g. a polymer, a peptide, a protein,

## A61K

A61K 47/48076

(continued)

an antibody, a small molecule like a sugar, are classified in [A61K 49/06](#) and subgroups, and not [A61K 47/48169](#), if said other compound being not used as therapeutic agent, according to the nature of the modifying agent, and completed by [A61K 49/085](#). Radiolabelled chelates are classified in [A61K 51/0474](#) and its subgroups, and in [A61K 51/0497](#), [A61K 51/065](#), [A61K 51/088](#) or [A61K 51/1093](#) if the chelate being linked to a further molecule, e.g. an organic compound, polymer, peptide, protein or polyamino acid, antibody

47/48084 . . . . {the modifying agent being a phosphate or phosphonate not being a phospholipid, e.g. bone-seeking}

### NOTE

nucleic acid carriers to be classified in [A61K 47/48092](#)

47/48092 . . . . {the modifying agent linked to the pharmacologically or therapeutically active agent being a sugar, nucleoside, nucleotide, nucleic acid}

### NOTE

nucleic acids can be coding, non-coding, nucleic acid which being therapeutically-active or not, e.g.: oligonucleotides, DNA, RNA, siRNA, nucleic acid aptamers

47/481 . . . . {the modifying agent being also a pharmacologically or therapeutically active agent, i.e. the entire conjugate being a codrug, i.e. a dimer, oligomer or polymer of pharmacologically or therapeutically active compounds, e.g. a polymer of aspirin}

### NOTE

a sugar, nucleoside, nucleotide, nucleic acid is classified in [A61K 47/48092](#);  
a polymer of an active agent is not classified in [A61K 47/48192](#)

47/48107 . . . . {one of the codrug's components being a vitamin, e.g. niacinamide (vitamin B3), cobalamin (vitamin B12), folate, vitamin A, retinoic acid}

47/48115 . . . . {one of the codrug's components being an antibiotic}

47/48123 . . . . {the modifying agent being a steroid plant sterol, glycyrrhetic acid, enoxolone, bile acid}

### NOTE

- Cholesterol only classified here and not in [A61K 47/48046](#)
- Codrugs of pharmacologically active/therapeutically-active steroids are classified in this group and also in [A61K 47/481](#)

47/4813 . . . . {pretargeting systems involving an organic compound, not being a peptide, protein or antibody, for targeting specific cells}

### NOTE

The concept of "pre-targeting" covers the administration of the modifying agent (which being an agent able to target specific cells in the body), and of the pharmacologically or therapeutically active agent (drug D) in several steps, their "binding" occurring at the *in vivo* targeted site. It involves administration in at least two steps, for example: (i) a conjugate T-A corresponding to a targeting agent able to target specific cells or receptors in the body (T) linked to a compound A, and (ii) a conjugate D-M corresponding to the drug linked to a modifying agent M able to target the compound A. The sequence involves e.g. the administration of T-A and then D-M. Between step (i) and step (ii), a further compound able to bind to A and M may also be administered, e.g. during a clearing step. Classification being made according to the nature of T in the subgroups of [A61K 47/4813](#), [A61K 47/48346](#) and [A61K 47/48723](#). In [A61K 47/4813](#) and its subgroups, T being an organic compound, not being a peptide, protein or antibody. Classification being also made according to the nature of organic compound T in the appropriate [A61K 47/48023](#) subgroup. If T being a peptide, protein or antibody, classification being made in the corresponding [A61K 47/48346](#) or [A61K 47/48723](#) pretargeting class

47/48138 . . . . {ECTA, enzyme catalyzed therapeutic agent}

### NOTE

In the definition of [A61K 47/4813](#), an enzyme being used as group A, and being first targeted to specific cells via administration of the conjugate T-A. Then, the conjugate M-D which being a substrate for A being administered. The enzyme A being able to cleave the conjugate M-D, which can be e.g. a prodrug. The drug D being thus released through enzymatic cleavage at particular targeted cells

47/48146 . . . . {the modifying agent being biotin}

### NOTE

In the definition of [A61K 47/4813](#), M and A form a pair of biotin and (strept)avidin, or derivatives of biotin and (strept)avidin



47/48153 . . . . {the modifying agent being a chemiluminescent acceptor}

**NOTE**

A chemical reaction induces the cleavage of the pharmacologically or therapeutically active agent from the carrier while at the same time producing light. If the conjugate is cleaved through activation by light *in vivo* in order to release the drug, then the classification symbol being [A61K 41/0042](#). Dyes/luminescent agents for optical diagnostic imaging [A61K 49/001](#); for photodynamic therapy [A61K 41/0057](#)

47/48161 . . . . {Redox delivery systems, e.g. dihydropyridine pyridinium salt redox systems}

47/48169 . . {the modifying agent being an organic macromolecular compound, i.e. an oligomeric, polymeric, dendrimeric molecule}

**NOTE**

a peptide, protein, polyamino acid being classified in [A61K 47/48238](#) and subgroups; an antibody in [A61K 47/48369](#) and subgroups. In case of block copolymers, the different (large) blocks are classified in the appropriate [A61K 47/48169](#) or [A61K 47/48238](#) subgroups

47/48176 . . . {the organic macromolecular compound has been obtained by reactions only involving carbon-to-carbon unsaturated bonds, e.g. poly(meth)acrylate, polyacrylamide, polystyrene, polyvinylpyrrolidone, polyvinylalcohol}

47/48184 . . . . {the macromolecular compound obtained by reactions only involving carbon-to-carbon unsaturated bonds being an ion exchange resin, e.g. polystyrene sulfonic acid resin}

47/48192 . . . {the organic macromolecular compound has been obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds, e.g. polyureas, polyurethanes}

47/482 . . . . {the macromolecule is/contains a polyester, e.g. PLGA, polylactide-co-glycolide}

47/48207 . . . . {the macromolecule is/contains a polyamide, e.g. nylon ([polyamino acids A61K 47/48238](#))}

47/48215 . . . . {the organic macromolecular compound being a polyoxyalkylene oligomer, polymer, dendrimer, e.g. PEG, PPG, PEO, polyglycerol}

47/48223 . . . . {the macromolecule contains phosphorus in the main chain, e.g. poly-phosphazene}

47/4823 . . . {the organic macromolecular compound being a polysaccharide or a derivative, e.g. starch, chitosan, chitin, cellulose, pectin, cyclodextrin with the pharmacologically active agent being covalently linked to the external surface of the ring structure, a bacterial polysaccharide or oligosaccharide antigen, a glycosaminoglycan}

**NOTE**

if cyclodextrin being used to complex the drug, then the appropriate classification

being [A61K 47/48969](#); proteoglycans as modifying agents attached to the pharmacologically or therapeutically active agent are classified in the appropriate [A61K 47/48238](#) subgroup

47/48238 . . {the modifying agent being a protein, peptide, polyamino acid}

**NOTE**

antibodies or immunoglobulins are classified in [A61K 47/48369](#) subgroups Special physical or galenic forms modified by covalent attachment or complexation of a protein, peptide or polyamino acid, are given the [A61K 47/48238](#) class in addition to their corresponding [A61K 47/48769](#) subgroup, e.g. a liposome modified on its surface by a peptide being classified in [A61K 47/48815](#) and [A61K 47/48238](#), a PLGA nanoparticle modified on its surface by a peptide being classified in [A61K 47/48915](#) and in [A61K 47/48238](#) Peptidic linkers used to connect a drug and a modifying agent are classified in [A61K 47/48338](#), the modifying agent being also classified if it being defined

47/48246 . . . {drug-peptide, protein or polyamino acid conjugates, i.e. the modifying agent being a protein, peptide, polyamino acid which being linked/complexed to a molecule that being the pharmacologically or therapeutically active agent ([peptidic linker are classified in A61K 47/48338](#))}

**NOTE**

The connection of the drug to the peptide, protein or polyamino acid can be by a direct covalent linkage or through a linker Fusion/chimeric proteins genetically produced, e.g. by recombinant DNA technology, are classified in [C07K 2319/00](#) and subgroups, not in [A61K 47/48246](#) and subgroups. [A61K 47/48246](#) and its subgroups only cover the conjugates wherein a peptide or protein being the pharmacologically or therapeutically active agent has been linked to another peptide or protein being the modifying agent via chemical methods. In that latter example of a chemically-produced peptide or protein-peptide or protein conjugate, what being classified in [A61K 47/48246](#) or in one of its subgroups being the peptide or protein used as modifying agent

47/48253 . . . . {the peptide, protein or polyamino acid in the drug conjugate being a branched, dendritic or hypercomb peptide}

47/48261 . . . . {the peptide or protein in the drug conjugate being a toxin or a lectin, e.g. clostridial toxins or Pseudomonas exotoxin}



- 47/48269 . . . . {the peptide or protein in the drug conjugate being a cytokine, e.g. IL2, chemokine, growth factors, interferons being the inactive part of the conjugate}

**NOTE**

ligands of growth factors are not classified here

- 47/48276 . . . . {the peptide or protein in the drug conjugate being a receptor as such, e.g. CD4; a cell surface antigen (therefore not a peptide ligand targeting the antigen); a cell surface determinant, i.e. a part of the surface of a cell}

**NOTE**

a peptide targeting a receptor being not classified here

- 47/48284 . . . . {the peptide or protein in the drug conjugate being an albumin, e.g. HSA, BSA, ovalbumin, or a Keyhole Limpet Hemocyanin [KHL]}
- 47/48292 . . . . {the peptide or protein in the drug conjugate being a connective tissue peptide, e.g. collagen, fibronectin, gelatin}
- 47/483 . . . . {the peptide or protein in the drug conjugate being a transferrin, e.g. a lactoferrin or ovotransferrin}
- 47/48307 . . . . {the peptide or protein in the drug conjugate being a haemoglobin}
- 47/48315 . . . . {the peptide or protein in the drug conjugate being a polycationic or polyanionic oligopeptide, polypeptide or polyamino acid, e.g. polylysine, polyarginine, polyglutamic acid, peptide TAT}
- 47/48323 . . . . {polyanionic oligopeptide, polypeptide or polyamino acid, used to complex nucleic acids being the therapeutic agent}
- 47/4833 . . . . {the entire peptide or protein drug conjugate elicits an immune response, e.g. conjugate vaccines}

**NOTE**

Haptens, e.g. conjugate of morphine or nicotine and KLH inducing an immune response being classified in [A61K 47/4833](#) and [A61K 47/48284](#)

- 47/48338 . . . {peptidic linker, binder, spacer, e.g. peptidic enzyme-labile linker}
- 47/48346 . . . {pretargeting systems involving a peptide or protein (not an antibody [A61K 47/48723](#)) for targeting specific cells}

**NOTE**

The concept of "pre-targeting" covers the administration of the modifying agent (which being an agent able to target specific cells in the body), and of the pharmacologically or therapeutically active agent (drug D) in several steps, their "binding" occurring at the *in vivo* targeted site. It involves administration in at least two steps, for example: (i) a conjugate T-A corresponding to a targeting agent T

able to target specific cells or receptors in the body (T) linked to a compound A, and (ii) a conjugate D-M corresponding to the drug D linked to a modifying agent M, able to target the compound A. The sequence involves e.g. the administration of T-A and then D-M. Between step (i) and step (ii), a further compound able to bind to both A and M may also be administered (e.g. during a clearing step). Classification being made according to the nature of T in the subgroups of [A61K 47/4813](#), [A61K 47/48346](#) and [A61K 47/48723](#). In [A61K 47/48346](#) and its subgroups, T being a peptide or protein, not being an antibody. If M being biotin and A being a (strept)avidin or a derivative thereof, then [A61K 47/48353](#) being used as classification symbol

- 47/48353 . . . . {pretargeting system, clearing therapy or rescue therapy involving biotin-(strept)avidin systems}

**NOTE**

In this group, M and A in the definition of [A61K 47/48346](#) can form a biotin/(strept)avidin system

- 47/48361 . . . . {Enzyme prodrug therapy, e.g. gene directed enzyme drug therapy [GDEPT], VDEPT}

**NOTE**

An enzyme being used as group A in the definition of [A61K 47/4813](#), and being first targeted to specific cells via administration of the conjugate T-A. Then, the conjugate M-D which being a substrate for A being administered. The enzyme A being able to cleave the conjugate M-D, which can be e.g. a prodrug. The drug D being thus released through enzymatic cleavage at particular targeted cells

- 47/48369 . . {the modifying part being an antibody, an immunoglobulin, or a fragment thereof, e.g. a Fc-fragment}
- 47/48376 . . . {drug-antibody or immunoglobulin conjugates defined by the pharmacologically or therapeutically active agent}

**NOTE**

The modifying part being an antibody or immunoglobulin bearing antigen-binding sites

- 47/48384 . . . . {drug conjugated to an antibody or immunoglobulin, e.g. cisplatin-antibody conjugates}

**NOTE**

The modifying part being an antibody or immunoglobulin bearing at least one antigen-binding site. In [A61K 47/48384](#) and its subgroups, classification being made according to the nature of the drug, i.e. the pharmacologically or therapeutically active agent in the

## A61K

A61K 47/48384

(continued)

antibody conjugate. If the nature of the antibody in a specific conjugate being known, it being indicated with the corresponding [A61K 47/48507](#) subgroup, in addition to the subgroup [A61K 47/48384](#) characterizing the drug. If the conjugate comprises also a polymer or a polyamino acid, then the class [A61K 47/48692](#) or [A61K 47/487](#) being also given

- 47/48392 . . . . . {the drug being a vinca alkaloid}
- 47/484 . . . . . {the drug or compound being a sugar, nucleoside, nucleotide, nucleic acid, e.g. RNA antisense}
- 47/48407 . . . . . {the drug being an antibiotic, e.g. one of the antitumor antibiotics: anthracyclins, adriamycin, doxorubicin, daunomycin}
- 47/48415 . . . . . {the drug being a protein or peptide, e.g. transferrin or bleomycin}
- 47/48423 . . . . . {the drug being a peptidic cytokine, e.g. an interleukin or interferon}
- 47/4843 . . . . . {the drug being an enzyme}
- 47/48438 . . . . . {the drug being a toxin}
- 47/48446 . . . . . {the drug being a plant toxin}
- 47/48453 . . . . . {the drug being a plant heterodimeric toxin; chains A or B containing toxins, e.g. abrin, modeccin}
- 47/48461 . . . . . {the drug being ricin (double chain)}
- 47/48469 . . . . . {the drug being a ribosomal inhibitory protein, (RIP-I or RIP-II), e.g. Pap, gelonin, dianthin}
- 47/48476 . . . . . {the drug being ricin A}
- 47/48484 . . . . . {the drug being a bacterial toxin, e.g. diphtheria toxin, Pseudomonas exotoxin A}
- 47/48492 . . . . . {the drug being a fungal toxin, e.g. alpha sarcine, mitogillin, zinniol, restrictocin}
- 47/485 . . . . . {the drug being a viral toxin}
- 47/48507 . . . {the modifying agent being a well defined antibody or immunoglobulin bearing at least one antigen-binding site}

### NOTE

According to the nature of the antibody, the appropriate [A61K 47/48515](#) subgroup being given. If the pharmacologically or therapeutically active agent in the antibody conjugate being known, the appropriate [A61K 47/48384](#) subgroup being also given

- 47/48515 . . . . . {not used; see subgroups}
- 47/48523 . . . . . {the antibody being against material from viruses}
- 47/4853 . . . . . {the antibody being targeting a RNA virus}
- 47/48538 . . . . . {the antibody being targeting a material from animals or humans}
- 47/48546 . . . . . {the antibody being targeting a cytokine, e.g. growth factors, VEGF, TNF, a lymphokine or an interferon}

- 47/48553 . . . . . {the antibody being targeting an hormone, or an hormone-releasing or -inhibiting factor}
- 47/48561 . . . . . {the antibody being targeting a receptor, a cell surface antigen, a cell surface determinant}
- 47/48569 . . . . . {the antibody being targeting a determinant of a tumour cell}
- 47/48576 . . . . . {the tumour determinant being carcino-embryonic antigen}
- 47/48584 . . . . . {the tumour determinant being from breast cancer cell}
- 47/48592 . . . . . {the tumour determinant being from lung cancer cell}
- 47/486 . . . . . {the tumour determinant being from liver or pancreas cancer cell}
- 47/48607 . . . . . {the tumour determinant being from kidney or bladder cancer cell}
- 47/48615 . . . . . {the tumour determinant being from stomach or intestines cancer cell}
- 47/48623 . . . . . {the tumour determinant being from skin, nerves or brain cancer cell}
- 47/4863 . . . . . {the tumour determinant being from a cell of a blood cancer}
- 47/48638 . . . . . {the tumour determinant being from a cell of the reproductive system: ovaria, uterus, testes, prostate}
- 47/48646 . . . . . {the antibody being targeting an enzyme}
- 47/48653 . . . . . {the antibody being targeting an immunoglobulin, being an anti-idiotypic antibody}
- 47/48661 . . . . . {the antibody being a hybrid immunoglobulin}
- 47/48669 . . . . . {the antibody being an immunoglobulin containing regions, domains, residues from different species}
- 47/48676 . . . . . {the immunoglobulin has two or more different antigen-binding sites, e.g. bispecific or multispecific immunoglobulin}
- 47/48684 . . . . {cluster-antibody conjugates, i.e. the modifying agent consists of a plurality of antibodies that are covalently linked to each other, or of different antigen-binding fragments fragments that are covalently linked to each other}
- 47/48692 . . . . {polymer-drug antibody conjugates, e.g. mitomycin-dextran-Ab; DNA-polylysine-antibody complex or conjugate, used for therapy}
- 47/487 . . . . . {the conjugate or the polymer being a starburst, a dendrimer, a cascade}
- 47/48707 . . . . {antibody-chelate conjugate wherein the chelate being used for therapeutic purposes (when radioabeled and used in radiodiagnosis or radiotherapy [A61K 51/1093](#) and the corresponding [A61K 51/1003](#) subgroup; antibody-chelate used for MRI [A61K 49/14](#))}

- 47/48715 . . . {conjugates wherein the antibody being the modifying agent and wherein the linker, binder, spacer confers particular properties to the conjugate, e.g. peptidic enzyme-labile linker or acid-labile linker giving rise to an acid-labile immunoconjugate wherein the drug may be released from its antibody conjugated part in an acidic, e.g. tumoural, environment}
- 47/48723 . . . {pretargeting systems involving an antibody for targeting specific cells}

**NOTE**

The concept of "pre-targeting" covers the administration of the modifying agent (which being an agent able to target specific cells in the body), and of the pharmacologically or therapeutically active agent (drug D) in several steps, their "binding" occurring at the in vivo targeted site. It involves administration in at least two steps, for example: (i) a conjugate T-A corresponding to a targeting agent able to target specific cells or receptors in the body (T) linked to a compound A, and (ii) a conjugate D-M corresponding to the drug linked to a modifying agent M, able to target the compound A. The sequence involves e.g. the administration of T-A and then D-M. Between step (i) and step (ii), a further compound able to bind to A and M may also be administered (e.g. during a clearing step). Classification being made according to the nature of T in the subgroups of [A61K 47/4813](#), [A61K 47/48346](#) and [A61K 47/48723](#). In [A61K 47/48723](#) and its subgroups, T being an antibody. Classification being also made according to the nature of the antibody in the appropriate [A61K 47/48515](#) subgroup. If M and A form a pair of biotin and (strept)avidin (or derivatives of biotin and (strept)avidin), then [A61K 47/48753](#) being used as classification symbol

- 47/4873 . . . {clearing therapy or enhanced clearance, i.e. wherein an antibody clearing agent being used in addition to T-A and D-M according to the definitions in [A61K 47/48723](#)}
- 47/48738 . . . {rescue therapy; agonist-antagonist; antidote; targeted rescue or protection, e.g. folic acid-folinic acid, conjugated to antibodies both or only one}
- 47/48746 . . . {two or three steps pretargeting systems, wherein an antibody conjugate being used in at least one of the steps; ligand-antiligand therapy}
- 47/48753 . . . {avidin-biotin system wherein at least one avidin- or biotin-conjugated antibody being used in a two- or three-steps pretargeting system}

**NOTE**

This subgroup covers the case wherein M and A in the definition of [A61K 47/48723](#) form a pair of biotin

and (strept)avidin, or derivatives of biotin and (strept)avidin

- 47/48761 . . . {ADEPT, i.e. Antibody Directed Enzyme Prodrug Therapy}

**NOTE**

An enzyme being used as group A according to the definition in [A61K 47/48723](#) and being first targeted to specific cells via administration of the conjugate T-A. Then, the conjugate M-D which being a substrate for A being administered. The enzyme A being able to cleave the conjugate M-D (which can be e.g. a prodrug). The drug D being thus released through enzymatic cleavage at particular targeted cells

- 47/48769 . . {the conjugate being characterized by a special physical or galenical form}

**NOTE**

The conjugates in the [A61K 47/48769](#) subgroups correspond (i) either to a pharmacologically or therapeutically active agent complexed/covalently linked to the special physical or galenical form, e.g. on the surface of a polymeric nanoparticle or liposome, or to polymeric chains in the matrix of a polymeric gel, (ii) or to a special physical or galenical form encapsulating the pharmacologically or therapeutically active agent and modified on its surface or matrix by a modifying agent. In case (i), classification being made according to the nature of the special physical or galenical form in the appropriate [A61K 47/48769](#) subgroup and may be completed by the appropriate [A61K 47/48](#) subgroup defining the compound to which the pharmacologically or therapeutically active agent being linked, e.g. [A61K 47/48053](#) in case of a drug linked to a phospholipid and inserted in the bilayer surface of a liposome. In case (ii), classification being made according to the nature of the modifying agent. Physical or galenical forms not modified by a modifying agent and/or wherein the pharmacologically or therapeutically active agent being not complexed/covalently linked to said forms, are not classified in [A61K 47/48](#), but in [A61K 9/00](#) and its subgroups

- 47/48776 . . . {forms of ingredients not provided for by groups [A61K 47/48784](#) - [A61K 47/48992](#), e.g. cells, cell fragments, viruses, ghosts, red blood cells, viral vectors having the pharmacologically or therapeutically active agent complexed or covalently linked to, or being themselves modified by complexation or covalent linkage by a modifying agent}

**NOTE**

Simple encapsulation in cells being is classified in [A61K 9/5068](#); simple

## A61K

A61K 47/48776

(continued)

encapsulation in a virus capsid is classified in [A61K 9/5184](#)

are classified in [A61K 47/48815](#) and [A61K 47/48053](#)

47/48784 . . . {the form being semi-solid, an ointment, a gel, a hydrogel, a solidifying gel}

47/48792 . . . {the form being a colloid, emulsion, i.e. having at least a dispersed/continuous oil phase and a dispersed/continuous aqueous phase, dispersion or suspension}

47/488 . . . {the form being a micro-emulsion, nano-emulsion or micelle ([Simple encapsulation of a drug in micelle: A61K 9/1075](#))}

### NOTE

Micro-emulsion means that the dispersed phase being in the form of globules having a diameter above or equal to 1 micrometer. Nano-emulsion means that the dispersed phase being in the form of globules having a diameter below 1 micrometer. Micelles comprise a monolayer of surfactant molecules that are aggregated head-to-head and tail-to-tail, thus forming a small spherical particle; micelles can be normal, i.e. the surfactant heads are hydrophilic, or inverse. Micelles modified by a polymer because they incorporate a polymer-lipid conjugate are only classified in [A61K 47/488](#) if the polymer modifying the lipid being unusual. Micelles which are pegylated because they incorporate a pegylated lipid are not classified in [A61K 47/488](#) but in [A61K 9/1075](#)

47/48807 . . . {micelles formed by phospholipids}

47/48815 . . . {the form being a liposome, i.e. a bilayered vesicle, having its surface modified by covalent attachment or complexation of the pharmacologically or therapeutically active agent and/or modifying agent. ([Simple encapsulation of a drug which being not functionalised on its surface by a modifying agent: see A61K 9/127](#))}

### NOTE

Liposomes modified by a polymer because they incorporate a polymer-lipid conjugate are only additionally classified in [A61K 47/48815](#) if the polymer modifying the lipid being unusual. Liposomes which are pegylated because they incorporate a pegylated lipid are not classified in [A61K 47/48815](#) but in [A61K 9/1271](#). When the surface of the liposome being functionalised by a modifying agent, classification being also made according to the nature of this modifying agent, e.g. a liposome modified on its surface by a peptide being classified in [A61K 47/48815](#) and [A61K 47/48238](#). In case of antibodies, see [A61K 47/48823](#). Liposomes wherein the pharmacologically or therapeutically active agent being linked to a phospholipid of the liposomal surface

47/48823 . . . {the form being a liposome which being modified on its surface by an antibody}

### NOTE

Classification being also made according to the nature of the antibody in the appropriate [A61K 47/48515](#) subgroup

47/4883 . . . {the form being a polymersome, i.e. a liposome with polymerisable or polymerized bilayer-forming substances}

### NOTE

Liposomes comprising polymers grafted on their surface are not classified in [A61K 47/4883](#), but in [A61K 47/48815](#) if the polymer being unusual, or in [A61K 9/1271](#)

47/48838 . . . {the form being a lipoprotein vesicle, e.g. HDL and LDL proteins}

47/48846 . . . {the form being a ribbon, tubule cochleate}

47/48853 . . . {the form being a particulate, powder, adsorbate, bead, sphere}

47/48861 . . . {the form being an inorganic particle, e.g. a ceramic particle, silica particle, ferrite, synsorb}

### NOTE

When the inorganic particle being a magnetic particle and being guided from outside the body with the means of a magnetic field, add the [A61K 41/00](#) classification symbol

47/48869 . . . {the form being a micro- or nano-capsule or a micro/nano-bubble, i.e. a hollow or gas micro- or nano-particle or sphere, a gas-filled micro- or nano-particle for use in therapy ([Micro- or nano-bubbles used only for ultrasound imaging are classified in A61K 49/223 or A61K 49/225 only](#))}

### NOTE

Pharmacologically or therapeutically active agents released from a micro- or nano-capsule by acoustic/ultrasound activation are also classified in [A61K 41/0028](#) and [A61K 9/0009](#)

47/48876 . . . {the form being a solid micro- or nanoparticle having no hollow or gas-filled core}

### NOTE

{In this group the following terms are used with the meaning indicated:

- microparticle indicates a particle whose size or diameter is higher or equal to 1 micrometre;
- nanoparticle indicates a particle whose size or diameter is lower than 1 micrometre}



47/48884 . . . . . {the form being a nanoparticle, e.g. an immuno-nanoparticle}

#### NOTE

{When classifying in this group, classification is also made in group [A61K 47/48515](#) according to the nature of the antibody}

47/48892 . . . . . {the material constituting the nanoparticle being a polymer}

#### NOTE

The subgroups [A61K 47/48169](#) are not additionally used

47/489 . . . . . {the material constituting the nanoparticle being a polymer obtained by reactions only involving carbon to carbon, e.g. poly(meth)acrylate, polystyrene, polyvinylpyrrolidone, polyvinylalcohol}

47/48907 . . . . . {the material constituting the nanoparticle being a polymer obtained otherwise than by reactions involving carbon to carbon unsaturated bonds, e.g. polyesters, polyamides, polyglycerol}

47/48915 . . . . . {the polymer being PLGA, PLA or polyglycolic acid}

47/48923 . . . . . {the polymer being a polysaccharide, e.g. starch, chitosan, chitin, cellulose, pectin}

47/4893 . . . . {the form being a granulate or an agglomerate}

47/48938 . . . {the form being a pill, tablet, lozenge, capsule}

47/48946 . . . {Microcapsules}

47/48953 . . . . {Nanocapsules; Nanoparticles, e.g. immunonanoparticles}

47/48961 . . . {the conjugate being in the form of a host-guest, i.e. being an inclusion complex, e.g. clathrate, cavitare, fullerene}

47/48969 . . . . {inclusion being performed with a cyclodextrin (cyclodextrins used as simple excipients [A61K 47/40](#))}

47/48976 . . . {the form being a fibre, textile, slabb, sheet}

47/48984 . . . {the form being a plaster, bandage, dressing, patch}

47/48992 . . . {the form being a device, kit .e.g. stent, microdevice}

**48/00 Medicinal preparations containing genetic material which is inserted into cells of the living body to treat genetic diseases; Gene therapy**

#### NOTES

1. In this group the following expression is used with the meaning indicated:

"gene therapy" means *in vivo* delivery of nucleic acids encoding for peptides by administration of these nucleic acids or by implanting cells transfected *ex vivo* with the nucleic acids encoding for the peptides.

2. Documents relating to new nucleic acids encoding for peptides, e.g. enzymes, and their use in gene therapy are classified in subclass [C07K](#) or in group [C12N 9/00](#) according to the encoded peptides, with

the appropriate indexing codes relating to gene therapy.

3. Documents relating to new vectors and their use in gene therapy are classified in groups [C12N 15/85](#) - [C12N 15/90](#) according to the vectors, and the appropriate indexing codes, including those relating to gene therapy.
4. Documents describing cells genetically modified to express a gene of interest and their use in gene therapy are classified in [C12N 5/06](#) according to the cells, with the appropriate indexing codes relating to gene therapy.
5. Documents relating to new medical uses of peptides *per se*, which peptides may be encoded by nucleic acids, and wherein the nucleic acids may be administered directly or by implanting cells transfected *ex vivo* with the nucleic acids, are classified in the appropriate groups [A61K 38/00](#) or [A61K 39/00](#) according to the encoded peptides, with the indexing codes relating, *inter alia*, to gene therapy.

48/0008 . {characterised by an aspect of the 'non-active' part of the composition delivered, e.g. wherein such 'non-active' part is not delivered simultaneously with the 'active' part of the composition}

48/0016 . . {wherein the nucleic acid is delivered as a 'naked' nucleic acid, i.e. not combined with an entity such as a cationic lipid}

48/0025 . . {wherein the non-active part clearly interacts with the delivered nucleic acid}

48/0033 . . . {the non-active part being non-polymeric}

48/0041 . . . {the non-active part being polymeric}

48/005 . {characterised by an aspect of the 'active' part of the composition delivered, i.e. the nucleic acid delivered}

48/0058 . . {Nucleic acids adapted for tissue specific expression, e.g. having tissue specific promoters as part of a construct}

48/0066 . . {Manipulation of the nucleic acid to modify its expression pattern, e.g. enhance its duration of expression, achieved by the presence of particular introns in the delivered nucleic acid}

48/0075 . {characterised by an aspect of the delivery route, e.g. oral, subcutaneous}

48/0083 . {characterised by an aspect of the administration regime}

48/0091 . {Purification or manufacturing processes for gene therapy compositions}

#### 49/00 Preparations for testing *in vivo*

49/0002 . {General or multifunctional contrast agents, e.g. chelated agents}

49/0004 . {Screening or testing of compounds for diagnosis of disorders, assessment of conditions, e.g. renal clearance, gastric emptying, testing for diabetes, allergy, rheuma, pancreas functions}

49/0006 . . {Skin tests, e.g. intradermal testing, test strips, delayed hypersensitivity}

49/0008 . . {Screening agents using (non-human) animal models or transgenic animal models or chimeric hosts, e.g. Alzheimer disease animal model, transgenic model for heart failure}

49/001 . {Preparation for luminescence or biological staining}

49/0013 . . {Luminescence}



- 49/0015 . . . {Phosphorescence}
- 49/0017 . . . {Fluorescence *in vivo*}
- 49/0019 . . . . {characterised by the fluorescent group}
- 49/0021 . . . . . {the fluorescent group being a small organic molecule (oligomeric, polymeric, dendritic molecules: [A61K 49/0019](#))}
- NOTE**
- if this fluorescent group is complexed or covalently linked to a carrier, classification is also made according to the nature of the carrier in the appropriate [A61K 49/005](#) subgroup
- 49/0023 . . . . . {Di- or triarylmethane dye (xanthene dyes [A61K 49/0041](#))}
- 49/0026 . . . . . {Acridine dyes}
- 49/0028 . . . . . {Oxazine dyes}
- 49/003 . . . . . {Thiazine dyes}
- 49/0032 . . . . . {Methine dyes, e.g. cyanine dyes}
- 49/0034 . . . . . {Indocyanine green, i.e. ICG, cardiogreen}
- 49/0036 . . . . . {Porphyrins (used in photodynamic therapy [A61K 41/0071](#) or [A61K 41/0076](#); used as targeting group or modifying agent for targeting a therapeutic compound [A61K 47/48069](#))}
- 49/0039 . . . . . {Coumarin dyes}
- 49/0041 . . . . . {Xanthene dyes, used *in vivo*, e.g. administered to a mice, e.g. rhodamines, rose Bengal (*in vivo* [G01N](#))}
- 49/0043 . . . . . {Fluorescein, used *in vivo*}
- 49/0045 . . . . . {the fluorescent agent being a peptide or protein used for imaging or diagnosis *in vivo*}
- 49/0047 . . . . . {Green fluorescent protein [GFP]}
- 49/005 . . . . {characterised by the carrier molecule carrying the fluorescent agent}
- NOTE**
- Classification is also made according to the nature of the fluorescent group in the appropriate subgroup of [A61K 49/0019](#)
- 49/0052 . . . . . {Small organic molecules (oligomers, polymers, dendrimers [A61K 49/0054](#))}
- 49/0054 . . . . . {Macromolecular compounds, i.e. oligomers, polymers, dendrimers}
- 49/0056 . . . . . {Peptides, proteins, polyamino acids}
- 49/0058 . . . . . {Antibodies}
- 49/006 . . . {Biological staining of tissues *in vivo*, e.g. methylene blue or toluidine blue O administered in the buccal area to detect epithelial cancer cells, dyes used for delineating tissues during surgery}
- NOTE**
- If the dye used for staining is fluorescent, classification is also given for the appropriate subgroup of [A61K 49/0019](#)

- 49/0063 . . {characterised by a special physical or galenical form, e.g. emulsions, microspheres}

**NOTE**

Note Classification is also made according to the nature of the luminescent or fluorescent agent and/or the carrier carrying the fluorescent agent

- 49/0065 . . . {the luminescent/fluorescent agent having itself a special physical form, e.g. gold nanoparticle}
- 49/0067 . . . . {quantum dots, fluorescent nanocrystals}

**NOTE**

Quantum dots modified on their surface by an antibody are also classified in [A61K 49/0058](#) )

- 49/0069 . . . {the agent being in a particular physical galenical form}

**NOTE**

If the physical or galenical form containing a fluorescent agent is modified by a particular agent, classification is also made according to the nature of this agent in the appropriate [A61K 49/005](#) subgroup

- 49/0071 . . . . {solution, solute}
- 49/0073 . . . . {semi-solid, gel, hydrogel, ointment}
- 49/0076 . . . . {dispersion, suspension, e.g. particles in a liquid, colloid, emulsion}
- 49/0078 . . . . . {micro-emulsion, nano-emulsion}

**NOTE**

Micro-emulsion means that the dispersed phase is in the form of globules having a diameter above or equal to 1 micrometer. Nano-emulsion means that the dispersed phase is in the form of globules having a diameter below 1 micrometer

- 49/008 . . . . . {lipoprotein vesicle, e.g. HDL or LDL proteins}
- 49/0082 . . . . . {micelle, e.g. phospholipidic micelle and polymeric micelle}

**NOTE**

Micelles comprise a monolayer of surfactant molecules that are aggregated head-to-head and tail-to-tail, thus forming a small spherical particle; micelles can be normal, i.e., the surfactant heads are hydrophilic, or inverse

- 49/0084 . . . . . {liposome, i.e. bilayered vesicular structure}

**NOTE**

When the surface of the liposome encapsulating a fluorescent agent and used *in vivo* is functionalised by a modifying agent, classification is also made according to the nature of this modifying agent: e.g. a liposome modified on its surface by a

## A61K

A61K 49/0084

(continued)

- peptide is classified in [A61K 49/0084](#) and [A61K 49/0056](#). Liposomes encapsulating a fluorescent agent, used *in vivo* and modified on their surface by a polymer because they incorporate a polymer-lipid conjugate, are only additionally classified in [A61K 49/0054](#) if the polymer modifying the lipid is unusual. Liposomes encapsulating a fluorescent agent which are pegylated because they incorporate a pegylated lipid are only classified in [A61K 49/0084](#), not in [A61K 49/0054](#)
- 49/0086 . . . . . {Polymersome, i.e. liposome with polymerisable or polymerized bilayered-forming substances}
- 49/0089 . . . . . {Particulate, powder, adsorbate, bead, sphere}
- 49/0091 . . . . . {Microparticle, microcapsule, microbubble, microsphere, microbead, i.e. having a size or diameter higher or equal to 1 micrometer}

### NOTE

When the surface of the microparticle encapsulating a fluorescent agent and used *in vivo* is functionalised by a modifying agent, classification is also made according to the nature of this modifying agent, e.g. a microparticle modified on its surface by a peptide is classified in [A61K 49/0091](#) and [A61K 49/0056](#)

- 49/0093 . . . . . {Nanoparticle, nanocapsule, nanobubble, nanosphere, nanobead, i.e. having a size or diameter smaller than 1 micrometer, e.g. polymeric nanoparticle}
- 49/0095 . . . . . {Nanotubes}
- 49/0097 . . . . . {Cells, viruses, ghosts, red blood cells, viral vectors, used for imaging or diagnosis *in vivo*}

- 49/04 . . X-ray contrast preparations

### NOTE

In the preparation of new organic compounds and their use in X-ray contrast preparations, classification is only made in the relevant subclasses [C07C](#) - [C07J](#) according to the type of compound

- 49/0404 . . {containing barium sulfate}
- 49/0409 . . {Physical forms of mixtures of two different X-ray contrast-enhancing agents, containing at least one X-ray contrast-enhancing agent which is not a halogenated organic compound}
- 49/0414 . . . {Particles, beads, capsules or spheres}
- 49/0419 . . . . {Microparticles, microbeads, microcapsules, microspheres, i.e. having a size or diameter higher or equal to 1 micrometer}
- 49/0423 . . . . {Nanoparticles, nanobeads, nanospheres, nanocapsules, i.e. having a size or diameter smaller than 1 micrometer}
- 49/0428 . . . . . {Surface-modified nanoparticles, e.g. immuno-nanoparticles}

- 49/0433 . . {containing an organic halogenated X-ray contrast-enhancing agent}
- 49/0438 . . . {Organic X-ray contrast-enhancing agent comprising an iodinated group or an iodine atom, e.g. iopamidol}
- 49/0442 . . . {Polymeric X-ray contrast-enhancing agent comprising a halogenated group}
- 49/0447 . . . {Physical forms of mixtures of two different X-ray contrast-enhancing agents, containing at least one X-ray contrast-enhancing agent which is a halogenated organic compound}
- 49/0452 . . . . {Solutions, e.g. for injection}
- 49/0457 . . . . {Semi-solid forms, ointments, gels, hydrogels}
- 49/0461 . . . . {Dispersions, colloids, emulsions or suspensions}
- 49/0466 . . . . . {Liposomes, lipoprotein vesicles, e.g. HDL or LDL lipoproteins, phospholipidic or polymeric micelles}
- 49/0471 . . . . . {Perflubron, i.e. perfluorooctylbromide, C<sub>8</sub>F<sub>17</sub>Br emulsions}
- 49/0476 . . . . {Particles, beads, capsules, spheres}
- 49/048 . . . . . {Microparticles, microbeads, microcapsules, microspheres, i.e. having a size or diameter higher or equal to 1 micrometer}
- 49/0485 . . . . . {Nanoparticles, nanobeads, nanospheres, nanocapsules, i.e. having a size or diameter smaller than 1 micrometer}
- 49/049 . . . . . {Surface-modified nanoparticles, e.g. immune-nanoparticles}
- 49/0495 . . . . {intended for oral administration}
- 49/06 . . Nuclear magnetic resonance [NMR] contrast preparations; Magnetic resonance imaging [MRI] contrast preparations

### NOTE

characterised only by the (inorganic) MRI-active nucleus, e.g. <sup>129</sup>Xe

- 49/08 . . characterised by the carrier

### NOTE

{characterised by the carrier carrying the MRI-active nucleus, e.g. inorganic carrier}

- 49/085 . . . {conjugated systems}

### NOTE

The MRI-active nucleus being complexed to a complex-forming compound (e.g. chelating group) or being covalently linked to a molecule, which being further covalently linked or conjugated to a carrier, e.g. polymer. Classification being also made according to the nature of the carrier, e.g. [Gd3+]-DOTA-polymer to be classified in [A61K 49/085](#) and in the appropriate [A61K 49/12](#) adequate subgroup

- 49/10 . . . Organic compounds

### NOTE

the carrier being an organic compound, e.g. <sup>13</sup>C-labelled molecule or perfluorinated alkane, used as MRI *in vivo* probe, or a

## A61K

A61K 49/10  
(continued)

- small organic molecule, e.g. a sugar, linked to a Gd-chelate
- 49/101 . . . . {the carrier being a complex-forming compound able to form MRI-active complexes with paramagnetic metals}
- NOTE**
- In the [A61K 49/101](#) subgroups, the MRI-active nucleus being complexed to a complex-forming compound, e.g. chelating group. Classification being made according to the nature of this complex-forming agent, if it being either an uncommon or new complexing agent (not the usual DTPA, DOTA, DOTP, etc...groups) that forms the real contribution to the claimed MRI invention, or if it being not conjugated to any further molecule, e.g. which being not conjugated to a polymer, peptide, protein or antibody. In that latter case, the MRI probe being e.g. a paramagnetic metal chelate
- 49/103 . . . . {the complex-forming compound being acyclic, e.g. DTPA}
- 49/105 . . . . {the metal complex being Gd-DTPA}
- 49/106 . . . . {the complex-forming compound being cyclic, e.g. DOTA}
- 49/108 . . . . {the metal complex being Gd-DOTA}
- 49/12 . . . . Macromolecular compounds

### NOTE

the carrier being an organic macromolecular compound, i.e. an oligomeric, polymeric, dendrimeric molecule (not being a peptide, protein, polyamino acid (see [A61K 49/00](#)) or an antibody (see [A61K 49/00](#) or [A61K 49/16](#) )

- 49/122 . . . . {dimers of complexes or complex-forming compounds}
- 49/124 . . . . {dendrimers, dendrons, hyperbranched compounds}

### NOTE

Said compounds are either complexes or complex-forming compounds, or they form a backbone to which MRI active nuclei are complexed or covalently linked through chelating groups. In that latter case, the subgroup [A61K 49/085](#) being also given. Dendrimeric, dendronised or hyperbranched polyamino acids used as carriers are also classified in [A61K 49/146](#)

- 49/126 . . . . {Linear polymers, e.g. dextran, inulin, PEG}

- 49/128 . . . . {comprising multiple complex or complex-forming groups, being either part of the linear polymeric backbone or being pending groups covalently linked to the linear polymeric backbone}

### NOTE

In that latter case, classification is also made in [A61K 49/085](#)

- 49/14 . . . . Peptides, e.g. proteins

### NOTE

the carrier being a peptide (polyamino acid, [A61K 49/146](#) ) or protein (not an antibody, see [A61K 49/16](#) ). If the MRI-active nucleus being linked to the peptide or protein or polyamino acid via a complexing or chelating group, the subgroup [A61K 49/085](#) should also be given. If the peptide or protein or polyamino acid being a dendrimer, a dendron, or hyperbranched, then the [A61K 49/124](#) being also given

- 49/143 . . . . {the protein being an albumin, e.g. HSA, BSA, ovalbumin}
- 49/146 . . . . {the peptide being a polyamino acid, e.g. poly-lysine}
- 49/16 . . . . Antibodies; Immunoglobulins; Fragments thereof

### NOTE

the protein being an antibody, an immunoglobulin or a fragment thereof. If the MRI-active nucleus being linked to the antibody via a complexing or chelating group, the subgroup [A61K 49/085](#) should also be given

- 49/18 . . characterised by a special physical form, e.g. emulsions, microcapsules, liposomes

### NOTE

Classification being also made according to the molecule complexing or bearing the MRI-active nucleus

- 49/1803 . . . {Semi-solid preparations, e.g. ointments, gels, hydrogels}
- 49/1806 . . . {Suspensions, emulsions, colloids, dispersions}
- 49/1809 . . . {Micelles, e.g. phospholipidic or polymeric micelles}
- 49/1812 . . . {liposomes, polymersomes, e.g. immunoliposomes}

### NOTE

If the paramagnetic metal complexes are covalently linked to the bilayered membrane, then the [A61K 49/085](#) subgroup being also given. Liposomes modified on their external surface by a targeting agent, e.g. an antibody are classified in [A61K 49/1812](#) without further indication for the targeting agent

- 49/1815 . . . . {compo-inhalant, e.g. breath tests}

49/1818	. . . {particles, e.g. uncoated or non-functionalised microparticles or nanoparticles}	49/1854	. . . . . {the organic macromolecular compound being obtained by reactions only involving carbon-to-carbon unsaturated bonds, e.g. poly(meth)acrylate, polyacrylamide, polyvinylpyrrolidone, polyvinylalcohol}
<b>NOTE</b> For nanoparticles, i.e. having a size or diameter smaller than 1 micrometer, the subgroups <a href="#">B82Y 5/00</a> and <a href="#">B82Y 15/00</a> are also given		49/1857	. . . . . {the organic macromolecular compound being obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds, e.g. PLGA}
49/1821	. . . . {coated or functionalised microparticles or nanoparticles}	49/186	. . . . . {the organic macromolecular compound being polyethyleneglycol [PEG]}
49/1824	. . . . . {coated or functionalised nanoparticles (liposomes <a href="#">A61K 49/1812</a> ; nano-emulsions <a href="#">A61K 49/1806</a> ; micelles <a href="#">A61K 49/1809</a> )}	49/1863	. . . . . {the organic macromolecular compound being a polysaccharide or derivative thereof, e.g. chitosan, chitin, cellulose, pectin, starch}
49/1827	. . . . . {having a (super)(para)magnetic core, being a solid MRI-active material, e.g. magnetite, or composed of a plurality of MRI-active, organic agents, e.g. Gd-chelates, or nuclei, e.g. Eu3+, encapsulated or entrapped in the core of the coated or functionalised nanoparticle}	49/1866	. . . . . {the nanoparticle having a (super) (para)magnetic core coated or functionalised with a peptide, e.g. protein, polyamino acid}
49/183	. . . . . {having a (super)(para)magnetic core coated or functionalised with an inorganic material or being composed of an inorganic material entrapping the MRI-active nucleus, e.g. silica core doped with a MRI-active nucleus}	49/1869	. . . . . {coated or functionalised with a protein being an albumin, e.g. HSA, BSA, ovalbumin}
49/1833	. . . . . {having a (super)(para)magnetic core coated or functionalised with a small organic molecule (oligomeric, polymeric, dendrimeric <a href="#">A61K 49/1851</a> )}	49/1872	. . . . . {coated or functionalised with a polyamino acid, e.g. polylysine, polyglutamic acid}
49/1836	. . . . . {the small organic molecule being a carboxylic acid having less than 8 carbon atoms in the main chain}	49/1875	. . . . . {coated or functionalised with an antibody}
49/1839	. . . . . {the small organic molecule being a lipid, a fatty acid having 8 or more carbon atoms in the main chain, or a phospholipid}	49/1878	. . . . . {the nanoparticle having a magnetically inert core and a (super)(para)magnetic coating}
49/1842	. . . . . {the small organic molecule being a phosphate or a phosphonate, not being a phospholipid}	49/1881	. . . . . {wherein the coating consists of chelates, i.e. chelating group complexing a (super)(para)magnetic ion, bound to the surface}
49/1845	. . . . . {the small organic molecule being a carbohydrate (monosaccharides, disaccharides)}	49/1884	. . . . {Nanotubes, nanorods or nanowires}
49/1848	. . . . . {the small organic molecule being a silane}	49/1887	. . . . {Agglomerates, clusters, i.e. more than one (super)(para)magnetic microparticle or nanoparticle are aggregated or entrapped in the same matrix}
49/1851	. . . . . {having a (super)(para)magnetic core coated or functionalised with an organic macromolecular compound, i.e. oligomeric, polymeric, dendrimeric organic molecule (peptide or protein <a href="#">A61K 49/1866</a> ; polyamino acid <a href="#">A61K 49/1872</a> ; antibody <a href="#">A61K 49/1875</a> )}	49/189	. . . {Host-guest complexes, e.g. cyclodextrins}
<b>NOTE</b> In case of block copolymers, the different (large) blocks are classified in the appropriate <a href="#">A61K 47/48169</a> or <a href="#">A61K 47/48238</a> subgroups		49/1893	. . . . {Molecular sieves}
		49/1896	. . . {not provided for elsewhere, e.g. cells, viruses, ghosts, red blood cells, virus capsids}
		49/20	. . containing free radicals {, e.g. trityl radical for overhauser}
		49/22	. Echographic preparations; Ultrasound imaging preparation {Optoacoustic imaging preparations}
		49/221	. . {characterised by the targeting agent or modifying agent linked to the acoustically-active agent}
		49/222	. . {characterised by a special physical form, e.g. emulsions, liposomes}
		49/223	. . . {Micro-bubbles, hollow microspheres, free gas bubbles, gas microspheres}
		49/225	. . . {Microparticles, microcapsules (gas-filled to be classified in <a href="#">A61K 49/223</a> )}
		49/226	. . . {Solutes, emulsions, suspensions, dispersions, semi-solid forms, e.g. hydrogels}

- 49/227 . . . {Liposomes, lipoprotein vesicles, e.g. LDL or HDL lipoproteins, micelles, e.g. phospholipidic or polymeric}
- 49/228 . . . {Host-guest complexes, clathrates, chelates}
- 51/00 Preparations containing radioactive substances for use in therapy or testing in vivo**
- 51/02 . characterised by the carrier, {i.e. characterised by the agent or material covalently linked or complexing the radioactive nucleus}
- 51/025 . . {inorganic Tc complexes or compounds}
- 51/04 . . organic compounds

**NOTE**

Organic compounds used as carriers

- 51/0402 . . . {carboxylic acid carriers, fatty acids (amino acids [A61K 51/0406](#))}
- 51/0404 . . . {Lipids, e.g. triglycerides; Polycationic carriers (fatty acids [A61K 51/0402](#); cholesterol [A61K 51/0493](#); polycationic carriers being oligomers, polymers, dendrimers [A61K 47/48169](#))}
- 51/0406 . . . . {Amines, polyamines, e.g. spermine, spermidine, amino acids, (bis)guanidines}
- 51/0408 . . . . {Phospholipids (liposomes encapsulating the radioactive probe or having no radiolabelled phospholipids [A61K 51/1231](#))}
- 51/041 . . . {Heterocyclic compounds}

**NOTE**

Under this group, the last place rule is followed

- 51/0412 . . . . {having oxygen as the only ring hetero atom, e.g. fungichromin}
- 51/0414 . . . . . {having three-membered rings, e.g. oxirane, fumagillin}
- 51/0417 . . . . . {having four-membered rings, e.g. taxol}
- 51/0419 . . . . . {having five-membered rings with one oxygen as the only ring hetero atom, e.g. isosorbide}
- 51/0421 . . . . . {having six-membered rings with one oxygen as the only ring hetero atom}
- 51/0423 . . . . . {having two or more oxygen atoms in the same ring, e.g. crown ethers, guanadrel}
- 51/0425 . . . . . {compounds containing methylenedioxyphenol groups, e.g. sesamin}
- 51/0427 . . . . . {Lactones}
- 51/0429 . . . . {having sulfur as a ring hetero atom}
- 51/0431 . . . . . {having five-membered rings}
- 51/0434 . . . . . {having six-membered rings, e.g. thioxanthenes (thiotixene [A61K 51/0459](#))}
- 51/0436 . . . . . {having two or more sulfur atoms in the same ring}
- 51/0438 . . . . . {having oxygen in the same ring}
- 51/044 . . . . {having nitrogen as a ring hetero atom, e.g. guanethidine, rifamycins (rifampin [A61K 51/0459](#))}
- 51/0442 . . . . . {having three-membered rings, e.g. aziridine}
- 51/0444 . . . . . {having four-membered rings, e.g. azetidine}

- 51/0446 . . . . . {having five-membered rings with one nitrogen as the only ring hetero atom, e.g. sulpiride, succinimide, tolmetin, buflomedil}
- 51/0448 . . . . . {tropane or nortropane groups, e.g. cocaine}
- 51/0451 . . . . . {having four such rings, e.g. porphine derivatives, bilirubin, biliverdine ([hemin, hematin A61K 51/0472](#))}

**NOTE**

Porphyrins or texaphyrins used as complex-forming compounds, i.e. wherein the nitrogen atoms forming the central ring system complex the radioactive metal, are classified in [A61K 51/0485](#)

- 51/0453 . . . . . {having five-membered rings with two or more ring hetero atoms, at least one of which being nitrogen, e.g. tetrazole}
- 51/0455 . . . . . {having six-membered rings with one nitrogen as the only ring hetero atom}
- 51/0457 . . . . . {Vesamicol}
- 51/0459 . . . . . {having six-membered rings with two nitrogen atoms as the only ring hetero atoms, e.g. piperazine}
- 51/0461 . . . . . {having six-membered rings with three nitrogens as the only ring hetero atoms, e.g. chlorazani, melamine ([melarsoprol A61K 51/0472](#))}
- 51/0463 . . . . . {having six-membered rings with at least one nitrogen and one oxygen as the ring hetero atoms, e.g. 1,2-oxazines}
- 51/0465 . . . . . {having six-membered rings with at least one nitrogen and one sulfur as the ring hetero atoms, e.g. sulthiame}
- 51/0468 . . . . . {having seven-membered rings, e.g. azelastine, pentylenetetrazole}
- 51/047 . . . . . {Benzodiazepines}
- 51/0472 . . . . {containing heavy metals, e.g. hemin, hematin, melarsoprol}
- 51/0474 . . . {complexes or complex-forming compounds, i.e. wherein a radioactive metal (e.g.  $^{111}\text{In}^{3+}$ ) is complexed or chelated by, e.g. a  $\text{N}_2\text{S}_2$ ,  $\text{N}_3\text{S}$ ,  $\text{NS}_3$ ,  $\text{N}_4$  chelating group}

**NOTE**

Classification is made according to the nature of this complex-forming agent, if it is either an uncommon or new complexing agent (not the usual DTPA, DOTA, DOTP, MAG3 etc...groups) that forms the real contribution to the claimed invention (radioimaging or radiotherapeutic agent), or if it is not conjugated to any further molecule, e.g. which is not conjugated to a polymer, peptide, protein or antibody. In that latter case, the radioactive agent is e.g. a radioactive metal chelate

- 51/0476 . . . . {complexes from monodentate ligands, e.g. sestamibi}
- 51/0478 . . . . {complexes from non-cyclic ligands, e.g. EDTA, MAG3}



- 51/048 . . . . {DTPA (diethylenetriamine tetraacetic acid)}
- 51/0482 . . . . {chelates from cyclic ligands, e.g. DOTA}
- 51/0485 . . . . {Porphyrins, texaphyrins wherein the nitrogen atoms forming the central ring system complex the radioactive metal}

**NOTE**

Porphyrins used as simple heterocyclic carriers containing a radioactive nucleus (e.g. <sup>111</sup>C) or substituted with a radioactive nucleus (e.g. <sup>18</sup>F), are classified in [A61K 51/0451](#)

- 51/0487 . . . . {Metallocenes, i.e. complexes based on a radioactive metal complexed by two cyclopentadienyl anions}
- 51/0489 . . . {Phosphates or phosphonates, e.g. bone-seeking phosphonates; (phospholipids: [A61K 51/0408](#); nucleotides or nucleic acids: [A61K 51/0491](#))}
- 51/0491 . . . {Sugars, nucleosides, nucleotides, oligonucleotides, nucleic acids, e.g. DNA, RNA, nucleic acid aptamers}
- 51/0493 . . . {Steroids, e.g. cholesterol, testosterone}
- 51/0495 . . . {Pretargeting}

**NOTE**

Pretargeting is the administration of an agent X bearing the radioisotope or radioactive nucleus and of an agent Y capable of binding X and a cell Y in several steps, e.g. the radiolabelled agent is a radiolabelled biotin and the agent Y is a (strept)avidin molecule targeting specific cells. Classification is also made according to the nature of the carrier bearing/linked to the radioactive nucleus, e.g. an antibody

- 51/0497 . . . {conjugates with a carrier being an organic compounds}

**NOTE**

The compound which bears, complexes or chelates the radioactive nucleus, is covalently linked or complexed to the carrier being another (small) organic molecule, i.e. not oligomeric, polymeric, dendrimeric. Classification is also made according to the nature of this small organic molecule. In case of a conjugate comprising a complex-forming compound (chelating group) complexing a radioactive metal linked to the carrier (organic compound in [A61K 51/0497](#)), the nature of this complex-forming compound is not classified except if the complexing/chelating group is the subject of the invention and is uncommon, e.g. <sup>111</sup>In-DTPA-glucose is classified in [A61K 51/0497](#) (not in [A61K 51/048](#)) and in [A61K 51/0491](#)

- 51/06 . . . Macromolecular compounds, {carriers being organic macromolecular compounds, i.e. organic oligomeric, polymeric, dendrimeric molecules (peptides, proteins, polyamino acids [A61K 51/08](#); antibodies [A61K 51/10](#))}

- 51/065 . . . . {conjugates with carriers being macromolecules}

**NOTE**

The compound which bears, complexes or chelates the radioactive nucleus, is covalently linked or complexed to the carrier being a macromolecule (not being a peptide, polyamino acid, protein, antibody). In case of a conjugate comprising a complex-forming compound (chelating group) complexing a radioactive metal linked to the carrier (organic macromolecular compound in [A61K 51/065](#)), the nature of this complex-forming compound is not classified except if it is the real contribution of the claimed invention and it is an uncommon complexing/chelating group, e.g. <sup>111</sup>In-DTPA-PEG is classified in [A61K 51/065](#) and new DTPA-like derivatives conjugated to PEG and complexing <sup>111</sup>In for use *in vivo* is classified in [A61K 51/0478](#) and [A61K 51/065](#)

- 51/08 . . . Peptides, e.g. proteins, {carriers being peptides, polyamino acids, proteins}
- 51/081 . . . . {the protein being an albumin, e.g. human serum albumin [HSA], bovine serum albumin [BSA], ovalbumin}
- 51/082 . . . . {the peptide being a RGD-containing peptide}
- 51/083 . . . . {the peptide being octreotide or a somatostatin-receptor-binding peptide}
- 51/084 . . . . {the peptide being oxytocin}
- 51/085 . . . . {the peptide being neurotensin}
- 51/086 . . . . {the peptide being alphaMSH, alpha melanocyte stimulating hormone}
- 51/087 . . . . {the peptide being an annexin, e.g. annexin V}
- 51/088 . . . . {conjugates with carriers being peptides, polyamino acids, proteins (antibodies [A61K 51/10](#))}

**NOTE**

The compound which bears, complexes or chelates the radioactive nucleus, is covalently linked/complexed to the carrier being a peptide, polyamino acid, protein (not being an antibody). Classification is also made according to the nature of the peptide or protein (e.g. if it is BSA, then [A61K 51/081](#) is also indicated). In case of a conjugate comprising a complex-forming compound (chelating group) complexing a radioactive metal linked to the carrier (peptide, protein, polyamino acid in [A61K 51/088](#)), the nature of this complex-forming compound is not classified except if it is the real contribution of the claimed invention and it is an uncommon complexing or chelating group, e.g. <sup>111</sup>In-DTPA-interleukin 2 is classified in [A61K 51/088](#); new DTPA-like derivatives conjugated to interleukin

## A61K

A61K 51/088  
(continued)

2 and complexing <sup>111</sup>In for use in vivo is classified in [A61K 51/0478](#) and [A61K 51/088](#)

- 51/10 . . . . . Antibodies or immunoglobulins; Fragments thereof, {the carrier being an antibody or an immunoglobulin, or a fragment thereof, e.g. a camelised human single domain antibody, or the Fc fragment of an antibody}
- 51/1003 . . . . . {not used, see subgroups}
- 51/1006 . . . . . {the antibody being against or targeting material from viruses}
- 51/1009 . . . . . {against material from bacteria}
- 51/1012 . . . . . {against material from fungi, lichens, algae}
- 51/1015 . . . . . {against material from plants}
- 51/1018 . . . . . {against material from animals or humans}
- 51/1021 . . . . . {against cytokines, e.g. growth factors, VEGF, TNF, lymphokines, interferons}
- 51/1024 . . . . . {against hormones, hormone-releasing or hormone-inhibiting factors}
- 51/1027 . . . . . {against receptors, cell-surface antigens, cell-surface determinants}
- 51/103 . . . . . {against receptors for growth factors or receptors for growth regulators}
- 51/1033 . . . . . {against receptors for cytokines, lymphokines, interferons}
- 51/1036 . . . . . {against hormone receptors}
- 51/1039 . . . . . {against T-cell receptors}
- 51/1042 . . . . . {against Tcell receptor (TcR)-CD3 complex}
- 51/1045 . . . . . {against animal or human tumor cells or tumor cell determinants}
- 51/1048 . . . . . {the tumor cell determinant being a carcino embryonic antigen}
- 51/1051 . . . . . {the tumor cell being from breast, e.g. the antibody being herceptin}
- 51/1054 . . . . . {the tumor cell being from lung}
- 51/1057 . . . . . {the tumour cell being from liver or pancreas}
- 51/106 . . . . . {the tumor cell being from kidney, bladder}
- 51/1063 . . . . . {the tumor cell being from stomach or intestines}
- 51/1066 . . . . . {the tumor cell being from skin}
- 51/1069 . . . . . {the tumor cell being from blood cells, e.g. the cancer being a myeloma}
- 51/1072 . . . . . {the tumor cell being from the reproductive system, e.g. ovaria, uterus, testes, prostate}
- 51/1075 . . . . . {the antibody being against an enzyme}
- 51/1078 . . . . . {the antibody being against an immunoglobulin, i.e. being an (anti)-anti-idiotypic antibody}
- 51/1081 . . . . . {the antibody being against a material not provided elsewhere}
- 51/1084 . . . . . {the antibody being a hybrid immunoglobulin}
- 51/1087 . . . . . {the immunoglobulin comprises domains from different animal species, e.g. chimeric immunoglobulins}

- 51/109 . . . . . {immunoglobulins having two or more different antigen-binding sites, multifunctional antibodies}
- 51/1093 . . . . . {conjugates with carriers being antibodies}

### NOTE

The compound which bears, complexes or chelates the radioactive nucleus, being covalently linked or complexed to the carrier being an antibody Classification being also made according to the appropriate [A61K 51/1003](#) subclass. In case of a conjugate comprising a complex-forming compound (chelating group) complexing a radioactive metal linked to the carrier (antibody in [A61K 51/1093](#)), the nature of this complex-forming compound being not classified except if it being the real contribution of the claimed invention and it being an uncommon complexing/chelating group, e.g. <sup>111</sup>In-DTPA-herceptin being classified in [A61K 51/1093](#) and [A61K 51/1051](#), new DTPA-like derivatives conjugated to herceptin and complexing <sup>111</sup>In for use in vivo being classified in [A61K 51/0478](#), [A61K 51/1093](#) and [A61K 51/1051](#)

- 51/1096 . . . . . {radioimmunotoxins, i.e. conjugates being structurally as defined in [A61K 51/1093](#), and including a radioactive nucleus for use in radiotherapeutic applications}
- 51/12 . . . characterised by a special physical form, e.g. emulsion, microcapsules, liposomes, {characterized by a special physical form, e.g. emulsions, dispersions, microcapsules ([liposomes A61K 51/1234](#))}
- 51/1203 . . . {in a form not provided for by groups [A61K 51/1206](#) - [A61K 51/1296](#), e.g. cells, cell fragments, viruses, virus capsids, ghosts, red blood cells, viral vectors}
- 51/1206 . . . {Administration of radioactive gases, aerosols or breath tests}
- 51/121 . . . {Solutions, i.e. homogeneous liquid formulation}
- 51/1213 . . . {Semi-solid forms, gels, hydrogels, ointments, fats and waxes that are solid at room temperature}
- 51/1217 . . . {Dispersions, suspensions, colloids, emulsions, e.g. perfluorinated emulsion, sols}
- 51/122 . . . {Micro-emulsions, nano-emulsions}
- 51/1224 . . . {Lipoprotein vesicles, e.g. HDL and LDL proteins}
- 51/1227 . . . {Micelles, e.g. phospholipidic or polymeric micelles}
- 51/1231 . . . {Aerosols or breath tests, e.g. administration of gasses, emanators}
- 51/1234 . . . {Liposomes}

### NOTE

Liposomes modified on their external surface by a targeting agent, e.g. an

## A61K

A61K 51/1234

(continued)

antibody, are not additionally classified with the symbol of the targeting agent

- 51/1237 . . . . {Polymersomes, i.e. liposomes with polymerisable or polymerized bilayer-forming substances}
- 51/1241 . . {particles, powders, lyophilizates, adsorbates, e.g. polymers or resins for adsorption or ion-exchange resins}
- 51/1244 . . . {micro- particles or nano-particles, e.g. polymeric nanoparticles}
- 51/1248 . . . . {nanotubes}
- 51/1251 . . . . {micro- or nano-spheres, micro- or nano-beads, micro- or nano-capsules}
- 51/1255 . . . {Granulates, agglomerates, microspheres}
- 51/1258 . . {Pills, tablets, lozenges}
- 51/1262 . . {Capsules}
- 51/1265 . . . {Microcapsules}
- 51/1268 . . {host-guest, closed hollow molecules, inclusion complexes, e.g. with cyclodextrins, clathrates, cavitates, fullerenes}
- 51/1272 . . {Sponges}
- 51/1275 . . {Fibers, textiles, slabbs, or sheets}
- 51/1279 . . {Plasters, bandages, dressings, patches or adhesives}
- 51/1282 . . {Devices used in vivo and carrying the radioactive therapeutic or diagnostic agent, therapeutic or in vivo diagnostic kits, stents}
- 51/1286 . . . {Ampoules, glass carriers carrying the therapeutic or in vivo diagnostic agent}
- 51/1289 . . . {Devices or containers for impregnation, for emanation, e.g. bottles or jars for radioactive water for use in radiotherapy}
- 51/1293 . . {Radioactive cosmetics, e.g. radioactive bathsalts, soaps}
- 51/1296 . . {Radioactive food, e.g. chocolates, drinks}

### 2121/00 Preparations for use in therapy

### 2123/00 Preparations for testing in vivo

### 2236/00 Isolation or extraction methods of medicinal preparations of undetermined constitution containing material from algae, lichens, fungi or plants, or derivatives thereof, e.g. traditional herbal medicine

#### NOTE

If the isolation or extraction method is considered relevant, at least one symbol of [A61K 36/30](#) should always be given. The method can be further characterized by additional [A61K 36/10](#) and/or [A61K 36/50](#) symbols. The last place priority rule does not apply in this part of the scheme

- 2236/10 . Preparation or pretreatment of starting material
- 2236/11 . . involving culturing conditions, e.g. cultivation in the dark or under defined water stress
- 2236/13 . . involving cleaning, e.g. washing or peeling
- 2236/15 . . involving mechanical treatment, e.g. chopping up, cutting or grinding
- 2236/17 . . involving drying, e.g. sun-drying or wilting
- 2236/19 . . involving fermentation using yeast, bacteria or both; enzymatic treatment ([fermentation or enzyme-using processes in general C12P](#))
- 2236/30 . Extraction of the material

- 2236/31 . . involving untreated material, e.g. fruit juice or sap obtained from fresh plants
- 2236/33 . . involving extraction with hydrophilic solvents, e.g. lower alcohols, esters or ketones
- 2236/331 . . . using water, e.g. cold water, infusion, tea, steam distillation, decoction ([subcritical water extraction A61K 2236/37](#))
- 2236/333 . . . using mixed solvents, e.g. 70% EtOH
- 2236/35 . . Extraction with lipophilic solvents, e.g. Hexane or petrol ether
- 2236/37 . . Extraction at elevated pressure or temperature, e.g. pressurized solvent extraction [PSE], supercritical carbon dioxide extraction or subcritical water extraction
- 2236/39 . . Complex extraction schemes, e.g. fractionation or repeated extraction steps
- 2236/50 . Methods involving additional extraction steps
- 2236/51 . . Concentration or drying of the extract, e.g. Lyophilisation, freeze-drying or spray-drying
- 2236/53 . . Liquid-solid separation, e.g. centrifugation, sedimentation or crystallization
- 2236/55 . . Liquid-liquid separation; Phase separation

### 2300/00 Mixtures or combinations of active ingredients, wherein at least one active ingredient is fully defined in groups [A61K 31/00](#) - [A61K 41/00](#)

#### NOTE

This code is meant to be allocated in combination with the CPC classification symbol of the active ingredients, and replaces the former +M Combi symbols used in this subclass

### 2800/00 Properties of cosmetic compositions or active ingredients thereof or formulation aids used therein and process related aspects

#### NOTE

This subclass is a secondary classification, e.g. obligatory supplementary classification when already classified in group [A61K 8/00](#) or subclass [A61Q](#)

- 2800/10 . General cosmetic use
- 2800/20 . Chemical, physico-chemical or functional or structural properties of the composition as a whole
- 2800/21 . . Emulsions characterized by droplet sizes below 1 micron
- 2800/22 . . Gas releasing
- 2800/222 . . . Effervescent
- 2800/24 . . Thermal properties
- 2800/242 . . . Exothermic; Self-heating; Heating sensation
- 2800/244 . . . Endothermic; Cooling; Cooling sensation
- 2800/26 . . Optical properties
- 2800/262 . . . Transparent; Translucent
- 2800/28 . . Rubbing or scrubbing compositions; Peeling or abrasive compositions; Containing exfoliants
- 2800/30 . . Characterized by the absence of a particular group of ingredients
- 2800/31 . . . Anhydrous
- 2800/33 . . . Free of surfactant
- 2800/34 . . . Free of silicones
- 2800/40 . Chemical, physico-chemical or functional or structural properties of particular ingredients

2800/41	. . Particular ingredients further characterized by their size	2800/623	. . . . . Coating mediated by organosilicone compounds
2800/412	. . . Micro-sized, i.e. having sizes between 0.1 and 100 microns	2800/624	. . . . . by macromolecular compounds
2800/413	. . . Nano-sized, i.e. having sizes below 100 nm	2800/63	. . . . . More than one coating
2800/42	. . Colour properties	2800/65	. . . Characterized by the composition of the particulate/core
2800/43	. . . Pigments; Dyes	2800/651	. . . . The particulate/core comprising inorganic material
2800/432	. . . . Direct dyes	2800/652	. . . . The particulate/core comprising organic material
2800/4322	. . . . . in preparations for temporarily coloring the hair further containing an oxidizing agent	2800/654	. . . . The particulate/core comprising macromolecular material
2800/4324	. . . . . in preparations for permanently dyeing the hair	2800/70	. Biological properties of the composition as a whole
2800/434	. . . . Luminescent, Fluorescent; Optical brighteners; Photosensitizers	2800/72	. . Hypo-allergenic
2800/436	. . . . Interference pigments, e.g. Iridescent, Pearlescent	2800/74	. Biological properties of particular ingredients
2800/437	. . . . Diffractive phenomena; Photonic arrays	2800/75	. . Anti-irritant
2800/438	. . . . Thermochromatic; Photochromic; Phototropic	2800/77	. . Perfumes having both deodorant and antibacterial properties
2800/45	. . . Colour indicators, e.g. pH- or Redox indicators	2800/78	. . Enzyme modulators, e.g. Enzyme agonists
2800/47	. . Magnetic materials; Paramagnetic compounds	2800/782	. . . Enzyme inhibitors; Enzyme antagonists
2800/48	. . Thickener, Thickening system	2800/80	. Process related aspects concerning the preparation of the cosmetic composition or the storage or application thereof
2800/49	. . Solubiliser, Solubilising system	2800/805	. . Corresponding aspects not provided for by any of codes <a href="#">A61K 2800/81</a> - <a href="#">A61K 2800/95</a>
2800/51	. . Chelating agents	2800/81	. . Preparation or application process involves irradiation
2800/52	. . Stabilizers	2800/82	. . Preparation or application process involves sonication or ultrasonication
2800/522	. . . Antioxidants; Radical scavengers	2800/83	. . Electrophoresis; Electrodes; Electrolytic phenomena
2800/524	. . . Preservatives	2800/84	. . Products or compounds obtained by lyophilisation, freeze-drying
2800/526	. . . Corrosion inhibitors	2800/85	. . Products or compounds obtained by fermentation, e.g. yoghurt, beer, wine
2800/54	. . Polymers characterized by specific structures/properties	2800/86	. . Products or compounds obtained by genetic engineering
2800/542	. . . characterized by the charge	2800/87	. . Application Devices; Containers; Packaging
2800/5422	. . . . nonionic	2800/872	. . . Pencils; Crayons; Felt-tip pens
2800/5424	. . . . anionic	2800/874	. . . Roll-on
2800/5426	. . . . cationic	2800/88	. . Two- or multipart kits
2800/5428	. . . . amphoteric or zwitterionic	2800/882	. . . Mixing prior to application
2800/544	. . . Dendrimers, Hyperbranched polymers	2800/884	. . . Sequential application
2800/546	. . . Swellable particulate polymers	2800/91	. . Injection
2800/548	. . . Associative polymers	2800/92	. . Oral administration
2800/56	. . Compounds, absorbed onto or entrapped into a solid carrier, e.g. encapsulated perfumes, inclusion compounds, sustained release forms	2800/94	. . Involves covalent bonding to the substrate
2800/57	. . Compounds covalently linked to a(n inert) carrier molecule, e.g. conjugates, pro-fragrances	2800/95	. . Involves in-situ formation or cross-linking of polymers
2800/58	. . Metal complex; Coordination compounds		
2800/59	. . Mixtures		
2800/591	. . . Mixtures of compounds not provided for by any of the codes <a href="#">A61K 2800/592</a> - <a href="#">A61K 2800/596</a>		
2800/592	. . . Mixtures of compounds complementing their respective functions		
2800/5922	. . . . At least two compounds being classified in the same subclass of <a href="#">A61K 8/18</a>		
2800/594	. . . Mixtures of polymers		
2800/596	. . . Mixtures of surface active compounds		
2800/60	. . Particulates further characterized by their structure or composition		
2800/61	. . . Surface treated		
2800/612	. . . . By organic compounds		
2800/614	. . . . By macromolecular compounds		
2800/62	. . . . Coated		
2800/621	. . . . . by inorganic compounds		
2800/622	. . . . . by organic compounds		