

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](#)})

NOTE

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](#) to [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](#) to [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.

WARNING

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:

A61K 9/133	covered by	A61K 9/127
A61K 9/18	covered by	A61K 9/14

A61K

(continued)

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

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

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

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

A61K 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](#)

[A61K 6/0002](#)

. {Compositions characterised by physical properties}

[A61K 6/0005](#)

.. {by refractive index}

A61K 6/0008	.. {by particle size}
A61K 6/0011	.. {by retraction, e.g. compositions for widening the sulcus for making dental impressions or removing teeth}
A61K 6/0014	.. {Self-expanding, e.g. for filling teeth}
A61K 6/0017	.. {Protective coating for natural or artificial teeth, such as sealing, dye coating, varnish}
A61K 6/002	.. {Compositions for detecting or measuring, e.g. contact points, irregularities on natural or artificial teeth}
A61K 6/0023	. {Chemical means for temporarily or permanently fixing teeth, palates or the like}
A61K 6/0026	.. {Preparations for stabilising dentures in the mouth}
A61K 6/0029	. {Primers (adhesive primers A61K 6/0023)}
A61K 6/0032	. {Use of preparations for dental root treatment}
A61K 6/0035	.. {Cleaning; Disinfecting}
A61K 6/0038	.. {Filling; Sealing}
A61K 6/0041	.. {Apical treatment}
A61K 6/0044	.. {in combination with dental implants}
A61K 6/0047	. {Preparations for dentistry characterised by the presence of organic or organo-metallic additives}
A61K 6/005	.. {Cationic, anionic or redox initiators}
A61K 6/0052	.. {Photochemical radical initiators}
A61K 6/0055	.. {Thermal radical initiators}
A61K 6/0058	.. {Dyes}
A61K 6/0061	... {photochromic}
A61K 6/0064	... {thermochromic}
A61K 6/0067	.. {Medicaments; Drugs}
A61K 6/007	. {Preparations for dentistry characterized by the presence of inorganic additives}
A61K 6/0073	.. {Fillers}
A61K 6/0076	... {comprising nitrogen-containing compounds}
A61K 6/0079	... {comprising sulfur-containing compounds}
A61K 6/0082	... {comprising phosphorus-containing compounds}
A61K 6/0085	.... {Apatite}
A61K 6/0088	... {comprising silicon-containing compounds}
A61K 6/0091	... {Glass}
A61K 6/0094	.. {Pigments}
A61K 6/0097	.. {Initiators}
A61K 6/02	. Use of preparations for artificial teeth, for filling or for capping teeth
A61K 6/0205	.. {Ceramics}
A61K 6/021	... {comprising manganese oxide}
A61K 6/0215	... {comprising magnesium oxide}
A61K 6/022	... {comprising beryllium oxide}
A61K 6/0225	... {comprising chromium oxide}

A61K 6/023	...	{comprising iron oxide}
A61K 6/0235	...	{comprising titanium oxide}
A61K 6/024	...	{comprising zirconium oxide}
A61K 6/0245	...	{comprising hafnium oxide}
A61K 6/025	...	{comprising rare earth metal oxides}
A61K 6/0255	...	{comprising transition metal oxides}
A61K 6/026	...	{Leucite}
A61K 6/0265	..	{Cermets-composites}
A61K 6/027	..	Use of non-metallic elements or compounds thereof, e.g. carbon {(non-metallic elements per se C01B)}
A61K 6/0273	...	{Glass-ceramic-composites}
A61K 6/0276	...	{Glasses}
A61K 6/033	...	{Phosphorus compounds, e.g. apatite}
A61K 6/04	..	Use of metals or alloys (alloys per se C22C)
A61K 6/043	...	{Rare earth metals}
A61K 6/046	...	{Noble metals}
A61K 6/05	...	Amalgams
A61K 6/06	..	Use of inorganic cements (cements per se C04B)
A61K 6/0606	...	{Portland cements}
A61K 6/0612	...	{Silicates}
A61K 6/0618	...	{Pozzolans}
A61K 6/0625	...	{Calcium sulfates/gypsum}
A61K 6/0631	...	{Al-cements}
A61K 6/0637	...	{Ca-Al-sulfate-cements}
A61K 6/0643	...	{Phosphate cements (apatite A61K 6/033)}
A61K 6/065	...	{Ammonium cements}
A61K 6/0656	...	{Zeolite}
A61K 6/0662	...	{Quartz or SiO ₂ }
A61K 6/0668	...	{Carbonates}
A61K 6/0675	...	{Calcium oxide}
A61K 6/0681	...	{comprising zirconium oxide}
A61K 6/0687	...	{comprising chromium oxide}
A61K 6/0693	...	{comprising carbides}
A61K 6/08	..	Use of natural or synthetic resins (resins per se C08)
A61K 6/083	...	Compounds obtained by reactions only involving carbon-to-carbon unsaturated bonds
A61K 6/0835	....	{Polycarboxylate cements or glass ionomer cements}
A61K 6/087	...	Compounds obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds
A61K 6/09	....	Polyurethanes
A61K 6/093	....	Polyorganosilicon compounds

A61K 6/097

... Polysaccharides

A61K 6/10

. Compositions for taking dental impressions ([impression methods A61C 9/00](#))**A61K 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](#))**NOTE**

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.

WARNING

Group [A61K 8/00](#) and subgroups are incomplete. See provisionally also [A61K7/00](#) and subgroups.

A61K 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.

A61K 8/0204

.. {Specific forms not provided for by any of groups [A61K 8/0208](#) to [A61K 8/14](#)}

A61K 8/0208

.. {Tissues; Wipes; Patches}

A61K 8/0212

.. {Face masks}

A61K 8/0216

.. {Solid or semisolid forms}

A61K 8/022

... {Powders; Compacted Powders}

A61K 8/0225

.... {Granulated powders}

A61K 8/0229

... {Sticks}

A61K 8/0233

... {Distinct layers, e.g. core/shell sticks}

A61K 8/0237

.... {Striped compositions}

A61K 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)}

A61K 8/0245

... {Specific shapes or structures not provided for by any of the groups of [A61K 8/0241](#)}

A61K 8/025

... {Explicitly spheroidal or spherical shape}

A61K 8/0254	...	{Platelets; Flakes}
A61K 8/0258	....	{Layered structure}
A61K 8/0262	.....	{Characterized by the central layer}
A61K 8/0266	.....	{Characterized by the sequence of layers}
A61K 8/027	...	{Fibers; Fibrils}
A61K 8/0275	...	{Containing agglomerated particulates}
A61K 8/0279	...	{Porous; Hollow}
A61K 8/0283	...	{Matrix particles}
A61K 8/0287	....	{the particulate containing a solid-in-solid dispersion}
A61K 8/0291	..	{Micelles}
A61K 8/0295	..	{Liquid crystals}
A61K 8/03	..	Liquid compositions with two or more distinct layers
A61K 8/04	..	Dispersions; Emulsions
A61K 8/042	...	{Gels}
A61K 8/044	...	{Suspensions}
A61K 8/046	...	{Aerosols; Foams}
A61K 8/06	...	Emulsions
A61K 8/062	....	{Oil-in-water emulsions}
A61K 8/064	....	{Water-in-oil emulsions, e.g. Water-in-silicone emulsions}
A61K 8/066	....	{Multiple emulsions, e.g. water-in-oil-in-water}
A61K 8/068	....	{Microemulsions}
A61K 8/11	..	Encapsulated compositions
A61K 8/14	..	Liposomes; Vesicles
A61K 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.

A61K 8/19	..	containing inorganic ingredients
A61K 8/20	...	Halogens; Compounds thereof
A61K 8/21	....	Fluorides; Derivatives thereof
A61K 8/22	...	Peroxides; Oxygen; Ozone
A61K 8/23	...	Sulfur; Selenium; Tellurium; Compounds thereof
A61K 8/24	...	Phosphorous; Compounds thereof
A61K 8/25	...	Silicon; Compounds thereof
A61K 8/26	...	Aluminium; Compounds thereof
A61K 8/27	...	Zinc; Compounds thereof
A61K 8/28	...	Zirconium; Compounds thereof
A61K 8/29	...	Titanium; Compounds thereof

A61K 8/30	..	containing organic compounds
A61K 8/31	...	Hydrocarbons
A61K 8/315	....	{Halogenated hydrocarbons}
A61K 8/33	...	containing oxygen
A61K 8/34	....	Alcohols
A61K 8/342	.....	{Alcohols having more than seven atoms in an unbroken chain}
A61K 8/345	.....	{containing more than one hydroxy group}
A61K 8/347	.....	{Phenols}
A61K 8/35	....	Ketones, e.g. benzophenone
A61K 8/355	.....	{Quinones}
A61K 8/36	....	Carboxylic acids; Salts or anhydrides thereof
A61K 8/361	.....	{Carboxylic acids having more than seven carbon atoms in an unbroken chain; Salts or anhydrides thereof}
A61K 8/362	.....	Polycarboxylic acids
A61K 8/365	.....	Hydroxycarboxylic acids; Ketocarboxylic acids
A61K 8/368	.....	with carboxyl groups directly bound to carbon atoms or aromatic rings
A61K 8/37	....	Esters of carboxylic acids
A61K 8/375	.....	{the alcohol moiety containing more than one hydroxy group}
A61K 8/38	....	Percompounds, e.g. peracids
A61K 8/39	....	Derivatives containing from 2 to 10 oxyalkylene groups
A61K 8/40	...	containing nitrogen (quinones containing nitrogen A61K 8/355)
A61K 8/41	....	Amines
A61K 8/411	.....	{Aromatic amines, i.e. where the amino group is directly linked to the aromatic nucleus}
A61K 8/413	.....	{Indoanilines; Indophenol; Indoamines}
A61K 8/415	.....	{Aminophenols}
A61K 8/416	.....	{Quaternary ammonium compounds (A61K 8/35 takes precedence)}
A61K 8/418	.....	{containing nitro groups}
A61K 8/42	....	Amides
A61K 8/43	....	Guanidines
A61K 8/44	....	Aminocarboxylic acids or derivatives thereof, e.g. aminocarboxylic acids containing sulfur; Salts; Esters or N-acylated derivatives thereof
A61K 8/442	.....	{substituted by amido group(s)}
A61K 8/445	.....	{aromatic, i.e. the carboxylic acid directly linked to the aromatic ring}
A61K 8/447	.....	{containing sulfur}
A61K 8/45	....	Derivatives containing from 2 to 10 oxyalkylene groups
A61K 8/46	...	containing sulfur (A61K 8/44 takes precedence)
A61K 8/463	....	{containing sulfuric acid derivatives, e.g. sodium lauryl sulfate}
A61K 8/466	....	{containing sulfonic acid derivatives; Salts}
A61K 8/49	...	containing heterocyclic compounds
A61K 8/4906	....	{with one nitrogen as the only hetero atom}

A61K 8/4913	.....	{having five membered rings, e.g. pyrrolidone carboxylic acid}
A61K 8/492	.....	{having condensed rings, e.g. indol}
A61K 8/4926	.....	{having six membered rings}
A61K 8/4933	.....	{having sulfur as an exocyclic substituent, e.g. pyridinethione}
A61K 8/494	....	{with more than one nitrogen as the only hetero atom}
A61K 8/4946	.....	{Imidazoles or their condensed derivatives, e.g. benzimidazoles}
A61K 8/4953	.....	{containing pyrimidine ring derivatives, e.g. minoxidil}
A61K 8/496	.....	{Triazoles or their condensed derivatives, e.g. benzotriazoles}
A61K 8/4966	.....	{Triazines or their condensed derivatives}
A61K 8/4973	....	{with oxygen as the only hetero atom}
A61K 8/498	.....	{having 6-membered rings or their condensed derivatives, e.g. coumarin}
A61K 8/4986	....	{with sulfur as the only hetero atom}
A61K 8/4993	....	{Derivatives containing from 2 to 10 oxyalkylene groups}
A61K 8/55	...	Phosphorus compounds
A61K 8/553	....	{Phospholipids, e.g. lecithin}
A61K 8/556	....	{Derivatives containing from 2 to 10 oxyalkylene groups}
A61K 8/58	...	containing atoms other than carbon, hydrogen, halogen, oxygen, nitrogen, sulfur or phosphorus
A61K 8/585	....	{Organosilicon compounds}
A61K 8/60	...	Sugars; Derivatives thereof
A61K 8/602	....	{Glycosides, e.g. rutin}
A61K 8/604	....	{Alkylpolyglycosides; Derivatives thereof, e.g. esters}
A61K 8/606	....	{Nucleosides; Nucleotides; Nucleic acids}
A61K 8/608	....	{Derivatives containing from 2 to 10 oxyalkylene groups}
A61K 8/63	...	Steroids; Derivatives thereof

NOTE

This group covers steroids, as defined in Note (1) after the title of subclass [C07J](#).

A61K 8/64	...	Proteins; Peptides; Derivatives or degradation products thereof
A61K 8/645	....	{Proteins of vegetable origin; Derivatives or degradation products thereof}
A61K 8/65	....	Collagen; Gelatin; Keratin; Derivatives or degradation products thereof
A61K 8/66	....	Enzymes
A61K 8/67	...	Vitamins
A61K 8/671	....	{Vitamin A; Derivatives thereof, e.g. ester of vitamin A acid, ester of retinol, retinol, retinal}
A61K 8/673	....	{Vitamin B group}
A61K 8/675	.....	{Vitamin B3 or vitamin B3 active, e.g. nicotinamide, nicotinic acid, nicotinyl aldehyde (tocopheryl nicotinate A61K 8/678)}
A61K 8/676	....	{Ascorbic acid, i.e. vitamin C}
A61K 8/678	....	{Tocopherol, i.e. vitamin E}

A61K 8/68	...	Sphingolipids, e.g. ceramides, cerebrosides, gangliosides
A61K 8/69	...	containing fluorine
A61K 8/70	....	containing perfluoro groups, e.g. perfluoroethers
A61K 8/72	..	containing organic macromolecular compounds
A61K 8/73	...	Polysaccharides
A61K 8/731	....	{Cellulose; Quaternized cellulose derivatives}
A61K 8/732	....	{Starch; Amylose; Amylopectin; Derivatives thereof}
A61K 8/733	....	{Alginic acid; Salts thereof}
A61K 8/735	....	{Mucopolysaccharides, e.g. hyaluronic acid; Derivatives thereof}
A61K 8/736	....	{Chitin; Chitosan; Derivatives thereof}
A61K 8/737	....	{Galactomannans, e.g. guar; Derivatives thereof}
A61K 8/738	....	{Cyclodextrins}
A61K 8/81	...	obtained by reactions involving only carbon-to-carbon unsaturated bonds
A61K 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}
A61K 8/8111	.....	{Homopolymers or copolymers of aliphatic olefines, e.g. polyethylene, polyisobutene; Compositions of derivatives of such polymers}
A61K 8/8117	.....	{Homopolymers or copolymers of aromatic olefines, e.g. polystyrene; Compositions of derivatives of such polymers}
A61K 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}
A61K 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}
A61K 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)}
A61K 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}
A61K 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}
A61K 8/8152	.....	{Homopolymers or copolymers of esters, e.g. (meth)acrylic acid esters; Compositions of derivatives of such polymers}
A61K 8/8158	.....	{Homopolymers or copolymers of amides or imides, e.g. (meth)acrylamide; Compositions of derivatives of such polymers}

A61K 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)}
A61K 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 of derivatives of such polymers, e.g. vinylimidazol, vinylcaprolactame, allylamines (Polyquaternium 6)}
A61K 8/8176	.....	{Homopolymers of N-vinyl-pyrrolidones. Compositions of derivatives of such polymers}
A61K 8/8182	.....	{Copolymers of vinyl-pyrrolidones. Compositions of derivatives of such polymers}
A61K 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}
A61K 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}
A61K 8/84	...	obtained by reactions otherwise than those involving only carbon-carbon unsaturated bonds
A61K 8/85	....	Polyesters
A61K 8/86	....	Polyethers
A61K 8/87	....	Polyurethanes
A61K 8/88	....	Polyamides
A61K 8/89	....	Polysiloxanes
A61K 8/891	.....	saturated, e.g. dimethicone, phenyl trimethicone, C24-C28 methicone or stearyl dimethicone
A61K 8/892	.....	modified by a hydroxy group, e.g. dimethiconol
A61K 8/893	.....	modified by an alkoxy or aryloxy group, e.g. behenoxy dimethicone or stearoxy dimethicone
A61K 8/894	.....	modified by a polyoxyalkylene group, e.g. cetyl dimethicone copolyol
A61K 8/895	.....	containing silicon bound to unsaturated aliphatic groups, e.g. vinyl dimethicone
A61K 8/896	.....	containing atoms other than silicon, carbon, oxygen and hydrogen, e.g. dimethicone copolyol phosphate
A61K 8/897	.....	containing halogen, e.g. fluorosilicones
A61K 8/898	.....	containing nitrogen, e.g. amodimethicone, trimethyl silyl amodimethicone or dimethicone propyl PG-betaine
A61K 8/899	.....	containing sulfur, e.g. sodium PG-propyldimethicone thiosulfate copolyol

A61K 8/90	...	Block copolymers (A61K 8/89 takes precedence)
A61K 8/91	...	Graft copolymers (A61K 8/89 takes precedence)
A61K 8/92	..	Oils, fats or waxes; Derivatives thereof, e.g. hydrogenation products thereof
A61K 8/922	...	{of vegetable origin}
A61K 8/925	...	{of animal origin}
A61K 8/927	...	{of insects, e.g. shellac}
A61K 8/96	..	containing material, or derivatives thereof of undetermined constitution
A61K 8/965	...	{of inanimate origin}
A61K 8/97	...	of vegetable origin, e.g. plant extracts
A61K 8/975	....	{Pollen; Algae, Higher fungi}
A61K 8/98	...	of animal origin
A61K 8/981	....	{of mammals or bird}
A61K 8/982	.....	{Reproductive organs; Embryos, Eggs}
A61K 8/983	.....	{Blood, e.g. plasma}
A61K 8/985	.....	{Skin or skin outgrowth, e.g. hair, nails}
A61K 8/986	.....	{Milk; Derivatives thereof, e.g. butter}
A61K 8/987	....	{of species other than mammals or birds}
A61K 8/988	.....	{Honey; Royal jelly, Propolis}
A61K 8/99	...	from micro-organisms

A61K 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](#) to [A61K 9/7023](#)).

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

A61K 9/0002	.	{Galenical forms characterised by the drug release technique; Application systems commanded by energy}
A61K 9/0004	..	{Osmotic delivery systems; Sustained release driven by osmosis, thermal energy or gas}
A61K 9/0007	..	{Effervescent (A61K 9/0065 takes precedence)}
A61K 9/0009	..	{involving or responsive to electricity, magnetism or acoustic waves; Galenical aspects of sonophoresis, iontophoresis, electroporation or electroosmosis (microelectromechanical systems A61K 9/0097)}
A61K 9/0012	.	{Galenical forms characterised by the site of application}

A61K 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)}
A61K 9/0017	...	{Non-human animal skin, e.g. pour-on, spot-on}
A61K 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)}
A61K 9/0021	...	{Intradermal administration, e.g. through microneedle arrays, needleless injectors (mechanical aspects A61M)}
A61K 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)}
A61K 9/0026	...	{Blood substitute; Oxygen transporting formulations; Plasma extender}
A61K 9/0029	...	{Parenteral nutrition; Parenteral nutrition compositions as drug carriers}
A61K 9/0031	..	{Rectum, anus}
A61K 9/0034	..	{Urogenital system, e.g. vagina, uterus, cervix, penis, scrotum, urethra, bladder; Personal lubricants}
A61K 9/0036	...	{Devices retained in the vagina or cervix for a prolonged period, e.g. intravaginal rings, medicated tampons, medicated diaphragms}
A61K 9/0039	...	{Devices retained in the uterus for a prolonged period, e.g. intrauterine devices for contraception}
A61K 9/0041	..	{Mammary glands, e.g. breasts, udder; Intramammary administration}
A61K 9/0043	..	{Nose}
A61K 9/0046	..	{Ear}
A61K 9/0048	..	{Eye, e.g. artificial tears}
A61K 9/0051	...	{Ocular inserts, ocular implants}
A61K 9/0053	..	{Mouth and digestive tract, i.e. intraoral and peroral administration (rectal administration A61K 9/0031)}
A61K 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}
A61K 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)}
A61K 9/006	...	{Oral mucosa, e.g. mucoadhesive forms, sublingual droplets; Buccal patches or films; Buccal sprays}
A61K 9/0063	...	{Periodont}
A61K 9/0065	...	{Forms with gastric retention, e.g. floating on gastric juice, adhering to gastric mucosa, expanding to prevent passage through the pylorus}
A61K 9/0068	...	{Rumen, e.g. rumen bolus}
A61K 9/007	..	{Pulmonary tract; Aromatherapy}

- A61K 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](#))}
- A61K 9/0075 {for inhalation via a dry powder inhaler [DPI], e.g. comprising micronized drug mixed with lactose carrier particles}
- A61K 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}
- A61K 9/008 {comprising drug dissolved or suspended in liquid propellant for inhalation via a pressurized metered dose inhaler [MDI]}
- A61K 9/0082 . . . {Lung surfactant, artificial mucus}
- A61K 9/0085 . . {Brain, e.g. brain implants; Spinal cord}
- A61K 9/0087 . {Galenical forms not covered by [A61K 9/02](#) to [A61K 9/7023](#)}
- A61K 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](#))}
- A61K 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](#))}
- A61K 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](#))}
- A61K 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](#))}
- A61K 9/02 . Suppositories; Bougies; Bases therefor; {Ovules} (apparatus for making [A61J 3/08](#); devices for introducing into the body [A61M 31/00](#))
- A61K 9/025 . . {characterised by shape or structure, e.g. hollow layered, coated}
- A61K 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](#)

- A61K 9/08 . Solutions; {(composition of solutions [A61K 47/00](#))}

WARNING

incomplete, see also [A61K 9/0012](#), [A61K 47/00](#), [A61K 9/0095](#)

- A61K 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](#)

- A61K 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](#)
- A61K 9/1075 ... {Microemulsions or submicron emulsions; Preconcentrates or solids thereof; Micelles, e.g. made of phospholipids or block copolymers ([A61K 9/0026](#) takes precedence)}
- A61K 9/113 ... Multiple emulsions, e.g. oil-in-water-in-oil; {([A61K 9/0026](#) takes precedence)}
- A61K 9/12 .. Aerosols; Foams {([A61K 9/0043](#), [A61K 9/0056](#), [A61K 9/006](#), [A61K 9/0073](#) take precedence; spray-films [A61K 9/7015](#))}
- A61K 9/122 ... {Foams; Dry foams (edible foams [A61K 9/0056](#))}
- A61K 9/124 ... {characterised by the propellant}
- A61K 9/127 .. Liposomes
- A61K 9/1271 ... {Non-conventional liposomes, e.g. PEGylated liposomes, liposomes coated with polymers (see also [A61K 47/48815](#))}
- A61K 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](#))}
- A61K 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](#))}
- A61K 9/1274 ... {Non-vesicle bilayer structures, e.g. liquid crystals, tubules, cubic phases, cochleates; Sponge phases}
- A61K 9/1275 ... {Lipoproteins; Chylomicrons; Artificial HDL, LDL, VLDL, protein-free species thereof; Precursors thereof}
- A61K 9/1276 ... {Globules of milk or constituents thereof}
- A61K 9/1277 ... {Processes for preparing; Proliposomes}
- A61K 9/1278 {Post-loading, e.g. by ion or pH gradient}
- A61K 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](#))}
- A61K 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](#))}
- A61K 9/143 ... {with inorganic compounds}
- A61K 9/145 ... {with organic compounds}
- A61K 9/146 ... {with organic macromolecular compounds}
- A61K 9/148 ... {with compounds of unknown constitution, e.g. material from plants or animals (with oils, fats, waxes, shellac [A61K 9/145](#))}

A61K 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)}
A61K 9/1605	...	{Excipients; Inactive ingredients}
A61K 9/1611	....	{Inorganic compounds}
A61K 9/1617	....	{Organic compounds, e.g. phospholipids, fats}
A61K 9/1623	.....	{Sugars or sugar alcohols, e.g. lactose; Derivatives thereof; Homeopathic globules}
A61K 9/1629	....	{Organic macromolecular compounds}
A61K 9/1635	.....	{obtained by reactions only involving carbon-to-carbon unsaturated bonds, e.g. polyvinyl pyrrolidone, poly(meth)acrylates}
A61K 9/1641	.....	{obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds, e.g. polyethylene glycol, poloxamers}
A61K 9/1647	.....	{Polyesters, e.g. poly(lactide-co-glycolide)}
A61K 9/1652	.....	{Polysaccharides, e.g. alginate, cellulose derivatives; Cyclodextrin (homeopathic globules A61K 9/1623)}
A61K 9/1658	.....	{Proteins, e.g. albumin, gelatin}
A61K 9/1664	....	{Compounds of unknown constitution, e.g. material from plants or animals (oils, fats, waxes, shellac A61K 9/1617)}
A61K 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)}
A61K 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)}
A61K 9/1682	...	{Processes}
A61K 9/1688	....	{resulting in pure drug agglomerate optionally containing up to 5% of excipient}
A61K 9/1694	....	{resulting in granules or microspheres of the matrix type containing more than 5% of excipient}
A61K 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)}
A61K 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)}
A61K 9/2004	..	{Excipients; Inactive ingredients}
A61K 9/2009	...	{Inorganic compounds}
A61K 9/2013	...	{Organic compounds, e.g. phospholipids, fats}
A61K 9/2018	....	{Sugars, or sugar alcohols, e.g. lactose, mannitol; Derivatives thereof, e.g. polysorbates}
A61K 9/2022	...	{Organic macromolecular compounds}

A61K 9/2027	....	{obtained by reactions only involving carbon-to-carbon unsaturated bonds, e.g. polyvinyl pyrrolidone, poly(meth)acrylates}
A61K 9/2031	....	{obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds, e.g. polyethylene glycol, polyethylene oxide, poloxamers}
A61K 9/2036	.....	{Silicones; Polysiloxanes}
A61K 9/204	.....	{Polyesters, e.g. poly(lactide-co-glycolide)}
A61K 9/2045	.....	{Polyamides; Polyaminoacids, e.g. polylysine}
A61K 9/205	....	{Polysaccharides, e.g. alginate, gums; Cyclodextrin}
A61K 9/2054	.....	{Cellulose; Cellulose derivatives, e.g. hydroxypropyl methylcellulose}
A61K 9/2059	.....	{Starch, including chemically or physically modified derivatives; Amylose; Amylopectin; Dextrin}
A61K 9/2063	....	{Proteins, e.g. gelatin}
A61K 9/2068	...	{Compounds of unknown constitution, e.g. material from plants or animals (oils, fats, waxes, shellac A61K 9/2013)}
A61K 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)}
A61K 9/2077	...	{Tablets comprising drug-containing microparticles in a substantial amount of supporting matrix; Multiparticulate tablets}
A61K 9/2081	....	{with microcapsules or coated microparticles according to A61K 9/50 }
A61K 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)}
A61K 9/209	....	{containing drug in at least two layers or in the core and in at least one outer layer}
A61K 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)}
A61K 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)}
A61K 9/2806	...	{Coating materials}
A61K 9/2813	....	{Inorganic compounds}
A61K 9/282	....	{Organic compounds, e.g. fats}
A61K 9/2826	.....	{Sugars or sugar alcohols, e.g. sucrose; Derivatives thereof}
A61K 9/2833	....	{Organic macromolecular compounds}
A61K 9/284	.....	{obtained by reactions only involving carbon-to-carbon unsaturated bonds, e.g. polyvinyl pyrrolidone}
A61K 9/2846	.....	{Poly(meth)acrylates}
A61K 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)}
A61K 9/286	.....	{Polysaccharides, e.g. gums; Cyclodextrin}
A61K 9/2866	.....	{Cellulose; Cellulose derivatives, e.g. hydroxypropyl methylcellulose}
A61K 9/2873	.....	{Proteins, e.g. gelatin}

A61K 9/288	....	{Compounds of unknown constitution, e.g. material from plants or animals (oils, fats, waxes, shellac A61K 9/282)}
A61K 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)}
A61K 9/2893	...	{Tablet coating processes (mechanical aspects A61J 3/06)}
A61K 9/48	.	Preparations in capsules, e.g. of gelatin, of chocolate; {(A61K 9/0004 takes precedence; bite capsules A61K 9/0056)}
A61K 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)}
A61K 9/4816	..	{Wall or shell material}
A61K 9/4825	...	{Proteins, e.g. gelatin (gelatin capsule shells with substantial amounts of other macromolecular substances A61K 9/4816)}
A61K 9/4833	..	{Encapsulating processes; Filling of capsules (mechanical aspects A61J 3/07)}
A61K 9/4841	..	{Filling excipients; Inactive ingredients}
A61K 9/485	...	{Inorganic compounds}
A61K 9/4858	...	{Organic compounds}
A61K 9/4866	...	{Organic macromolecular compounds}
A61K 9/4875	...	{Compounds of unknown constitution, e.g. material from plants or animals (oils, fats, waxes, shellac A61K 9/4858)}
A61K 9/4883	..	{Capsule finishing, e.g. dyeing, aromatising, polishing}
A61K 9/4891	..	{Coated capsules; Multilayered drug free capsule shells (with drug coating for immediate release A61K 9/4808 ; osmotic devices A61K 9/0004)}
A61K 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)}
A61K 9/5005	...	{Wall or coating material}
A61K 9/501	....	{Inorganic compounds}
A61K 9/5015	....	{Organic compounds, e.g. fats, sugars}
A61K 9/5021	....	{Organic macromolecular compounds}
A61K 9/5026	.....	{obtained by reactions only involving carbon-to-carbon unsaturated bonds, e.g. polyvinyl pyrrolidone, poly(meth)acrylates}
A61K 9/5031	.....	{obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds, e.g. polyethylene glycol, poly(lactide-co-glycolide)}
A61K 9/5036	.....	{Polysaccharides, e.g. gums, alginate; Cyclodextrin}
A61K 9/5042	.....	{Cellulose; Cellulose derivatives, e.g. phthalate or acetate succinate esters of hydroxypropyl methylcellulose}
A61K 9/5047	.....	{Cellulose ethers containing no ester groups, e.g. hydroxypropyl methylcellulose}
A61K 9/5052	.....	{Proteins, e.g. albumin}
A61K 9/5057	.....	{Gelatin}

A61K 9/5063	....	{Compounds of unknown constitution, e.g. material from plants or animals (oils, fats, waxes, shellac A61K 9/5015)}
A61K 9/5068	.....	{Cell membranes or bacterial membranes enclosing drugs (with additional exogenous lipids A61K 9/127 ; virus envelopes A61K 9/5184)}
A61K 9/5073	...	{having two or more different coatings optionally including drug-containing subcoatings}
A61K 9/5078	....	{with drug-free core}
A61K 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)}
A61K 9/5089	...	{Processes}
A61K 9/5094	...	{Microcapsules containing magnetic carrier material, e.g. ferrite for drug targetting}
A61K 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)}
A61K 9/5107	....	{Excipients; Inactive ingredients}
A61K 9/5115	.....	{Inorganic compounds}
A61K 9/5123	.....	{Organic compounds, e.g. fats, sugars}
A61K 9/513	.....	{Organic macromolecular compounds; Dendrimers}
A61K 9/5138	.....	{obtained by reactions only involving carbon-to-carbon unsaturated bonds, e.g. polyvinyl pyrrolidone, poly(meth)acrylates}
A61K 9/5146	.....	{obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds, e.g. polyethylene glycol, polyamines, polyanhydrides}
A61K 9/5153	.....	{Polyesters, e.g. poly(lactide-co-glycolide)}
A61K 9/5161	.....	{Polysaccharides, e.g. alginate, chitosan, cellulose derivatives; Cyclodextrin}
A61K 9/5169	.....	{Proteins, e.g. albumin, gelatin}
A61K 9/5176	.....	{Compounds of unknown constitution, e.g. material from plants or animals (oils, fats, waxes, shellac A61K 9/5123)}
A61K 9/5184	.....	{Virus capsids or envelopes enclosing drugs (with additional exogenous lipids A61K 9/127 ; bacterial membranes A61K 9/5068)}
A61K 9/5192	....	{Processes}
A61K 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)}
A61K 9/7007	..	{Drug-containing films, membranes or sheets (A61K 9/0041 , A61K 9/0043 , A61K 9/006 , A61K 9/0063 take precedence)}
A61K 9/7015	..	{Drug-containing film-forming compositions, e.g. spray-on}
A61K 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)}

A61K 9/703	...	{characterised by shape or structure; Details concerning release liner or backing; Refillable patches; User-activated patches}
A61K 9/7038	....	{Transdermal patches of the drug-in-adhesive type, i.e. comprising drug in the skin-adhesive layer}
A61K 9/7046	.....	{the adhesive comprising macromolecular compounds}
A61K 9/7053	.....	{obtained by reactions only involving carbon to carbon unsaturated bonds, e.g. polyvinyl, polyisobutylene, polystyrene}
A61K 9/7061	.....	{Polyacrylates}
A61K 9/7069	.....	{obtained otherwise than by reactions only involving carbon to carbon unsaturated bonds, e.g. polysiloxane, polyesters, polyurethane, polyethylene oxide}
A61K 9/7076	.....	{the adhesive comprising ingredients of undetermined constitution or reaction products thereof, e.g. rosin or other plant resins}
A61K 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}
A61K 9/7092	....	{Transdermal patches having multiple drug layers or reservoirs, e.g. for obtaining a specific release pattern, or for combining different drugs}

A61K 31/00**Medicinal preparations containing organic active ingredients****NOTE**

1. When classifying in groups [A61K 31/00](#) to [A61K 41/00](#) the symbol [A61K 2300/00](#) may be added, using Combination Sets, to indicate a mixture of active ingredients.
2. In the preparation of new organic compounds and their use in medicinal preparations, classification is only made in the relevant subclasses [C07C](#) to [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](#) to [C07J](#).
3. 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](#).
4. 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](#) to [A61K 33/38](#) and not in subgroups [A61K 31/28](#) to [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](#).
5. From January 2003 onwards, the EPO copies into CPC the IPC classification of the first document received (family representative). However, blends

A61K 31/00

(continued)

of active ingredients receive the additional symbol [A61K 2300/00](#) as Combination Set.

- A61K 31/01 . Hydrocarbons
- A61K 31/015 .. carbocyclic
- A61K 31/02 . Halogenated hydrocarbons
- A61K 31/025 .. carbocyclic
- A61K 31/03 ... aromatic
- A61K 31/035 .. having aliphatic unsaturation
- A61K 31/04 . Nitro compounds
- A61K 31/045 . Hydroxy compounds, e.g. alcohols; Salts thereof, e.g. alcoholates
- A61K 31/047 .. having two or more hydroxy groups, e.g. sorbitol
- A61K 31/05 .. Phenols
- A61K 31/055 ... the aromatic ring being substituted by halogen
- A61K 31/06 ... the aromatic ring being substituted by nitro groups
- A61K 31/065 .. Diphenyl-substituted acyclic alcohols
- A61K 31/07 .. Retinol compounds, e.g. vitamin A ([retinoic acids A61K 31/203](#))
- A61K 31/075 . Ethers or acetals
- A61K 31/08 .. acyclic, e.g. paraformaldehyde
- A61K 31/085 .. having an ether linkage to aromatic ring nuclear carbon
- A61K 31/09 ... having two or more such linkages
- A61K 31/095 . Sulfur, selenium, or tellurium compounds, e.g. thiols
- A61K 31/10 .. Sulfides; Sulfoxides; Sulfones
- A61K 31/105 .. Persulfides ([thiuram disulfides A61K 31/145](#); [thiosulfonic acids A61K 31/185](#))
- A61K 31/11 . Aldehydes
- A61K 31/115 .. Formaldehyde
- A61K 31/12 . Ketones
- A61K 31/121 .. acyclic
- A61K 31/122 .. having the oxygen directly attached to a ring, e.g. quinones, vitamin K1, anthralin
- A61K 31/125 ... Camphor; Nuclear substituted derivatives thereof
- A61K 31/13 . Amines {([A61K 31/04](#) takes precedence)}
- A61K 31/131 .. acyclic
- A61K 31/132 .. having two or more amino groups, e.g. spermidine, putrescine
- A61K 31/133 .. having hydroxy groups, e.g. sphingosine
- A61K 31/135 .. having aromatic rings {e.g. [ketamine](#), [nortriptyline](#) ([methadone A61K 31/137](#))}
- A61K 31/136 ... having the amino group directly attached to the aromatic ring, e.g. benzeneamine
- A61K 31/137 ... Arylalkylamines, e.g. amphetamine, epihephrine, salbutamol, ephedrine {or [methadone](#)}
- A61K 31/138 ... Aryloxyalkylamines, e.g. propanolol, tamoxifen, phenoxybenzamine ([atenolol A61K 31/165](#); [pindolol A61K 31/404](#); [timolol A61K 31/5377](#))

- A61K 31/14 .. Quaternary ammonium compounds, e.g. edrophonium, choline ([betaines A61K 31/205](#))
- A61K 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=SO₂) ([isothiouraea A61K 31/155](#))
- A61K 31/15 .. Oximes (>C=N-O); Hydrazines (>N-N<); Hydrazones (>N=N=) {[Imines \(C=N=C\)](#)}
- A61K 31/155 .. Amidines (-N=C-N-), e.g. guanidine (H₂N-C(=NH)-NH₂), isourea (N=C(OH)-NH₂), isothiouraea (-N=C(SH)-NH₂)
- A61K 31/16 . Amides, e.g. hydroxamic acids
- A61K 31/164 .. of a carboxylic acid with an aminoalcohol, e.g. ceramides
- A61K 31/165 .. having aromatic rings, e.g. colchicine, atenolol, progabide
- A61K 31/166 ... having the carbon of a carboxamide group directly attached to the aromatic ring, e.g. procainamide, procabazine, metoclopramide, labetalol
- A61K 31/167 ... having the nitrogen of a carboxamide group directly attached to the aromatic ring, e.g. lidocaine, paracetamol
- A61K 31/17 .. having the group >N-C(O)-N< or >N-C(S)-N<, e.g. urea, thiourea, carmustine ([isoureas, isothiouraea A61K 31/155](#); [sulfonylureas A61K 31/64](#))
- A61K 31/175 ... having the group $\text{>N-C}(\text{O})\text{-N=N-}$ or $\text{>N-C}(\text{O})\text{-N=N-}$, e.g. carbonohydrazides, carbazones, semicarbazides, semicarbazones; Thioanalogues thereof
- A61K 31/18 .. Sulfonamides ([compounds containing a para-N-benzene-sulfonyl-N- group A61K 31/63](#))
- A61K 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

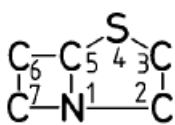
Cyclic anhydrides are considered to be heterocyclic rings

- A61K 31/19 .. Carboxylic acids, e.g. valproic acid ([Salicylic acid A61K 31/60](#))
- A61K 31/191 ... having two or more hydroxy groups, e.g. gluconic acid
- A61K 31/192 ... having aromatic groups, e.g. sulindac, 2-arylpropionic acids, ethacrynic acid
- A61K 31/194 ... having two or more carboxyl groups, e.g. succinic, maleic or phthalic acid
- A61K 31/195 ... having an amino group
- A61K 31/196 the amino group being directly attached to a ring, e.g. anthranilic acid, mefenamic acid, diclofenac, chlorambucil
- A61K 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](#))
- A61K 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](#))
- A61K 31/20 ... having a carboxyl group bound to a chain of seven or more carbon atoms, e.g. stearic, palmitic, arachidic acids
- A61K 31/201 having one or two double bonds, e.g. oleic, linoleic acids

- A61K 31/202 having three or more double bonds, e.g. linolenic ([eicosanoids](#), e.g. [leukotrienes A61K 31/557](#))
- A61K 31/203 Retinoic acids {[Salts thereof](#)}
- A61K 31/205 . . Amine addition salts of organic acids; Inner quaternary ammonium salts, e.g. betaine, carnitine
- A61K 31/21 . Esters, e.g. nitroglycerine, selenocyanates
- A61K 31/215 . . of carboxylic acids
- A61K 31/216 . . . of acids having aromatic rings, e.g. benactizyne, clofibrate
- A61K 31/22 . . . of acyclic acids, e.g. pravastatin
- A61K 31/221 with compounds having an amino group, e.g. acetylcholine, acetylcarnitine
- A61K 31/222 with compounds having aromatic groups, e.g. dipivefrine, ibopamine
- A61K 31/223 of alpha-aminoacids
- A61K 31/225 Polycarboxylic acids
- A61K 31/23 of acids having a carboxyl group bound to a chain of seven or more carbon atoms
- A61K 31/231 having one or two double bonds
- A61K 31/232 having three or more double bonds, e.g. etretinate
- A61K 31/235 . . . having an aromatic ring attached to a carboxyl group
- A61K 31/24 having an amino or nitro group
- A61K 31/245 Amino benzoic acid types, e.g. procaine, novocaine ([salicylic acid esters A61K 31/60](#))
- A61K 31/25 . . . with polyoxyalkylated alcohols, e.g. esters of polyethylene glycol
- A61K 31/255 . . of sulfoxy acids or sulfur analogues thereof
- A61K 31/26 . . Cyanate or isocyanate esters; Thiocyanate or isothiocyanate esters
- A61K 31/265 . . of carbonic, thiocarbonic, or thiocarboxylic acids, e.g. thioacetic acid, xanthogenic acid, trithiocarbonic acid
- A61K 31/27 . . of carbamic or thiocarbamic acids, meprobamate, carbachol, neostigmine
- A61K 31/275 . Nitriles; Isonitriles
- A61K 31/277 . . having a ring, e.g. verapamil
- A61K 31/28 . Compounds containing heavy metals
- A61K 31/282 . . Platinum compounds
- A61K 31/285 . . Arsenic compounds
- A61K 31/29 . . Antimony or bismuth compounds
- A61K 31/295 . . Iron group metal compounds
- A61K 31/30 . . Copper compounds
- A61K 31/305 . . Mercury compounds
- A61K 31/31 . . . containing nitrogen
- A61K 31/315 . . Zinc compounds
- A61K 31/32 . . Tin compounds
- A61K 31/325 . Carbamic acids; Thiocarbamic acids; Anhydrides or salts thereof ([thiurams A61K 31/145](#))
- A61K 31/327 . Peroxy compounds, e.g. hydroperoxides, peroxides, peroxyacids

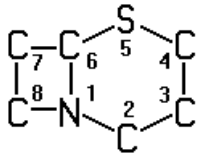
A61K 31/33	. Heterocyclic compounds
A61K 31/335	.. having oxygen as the only ring hetero atom, e.g. fungichromin
A61K 31/336	... having three-membered rings, e.g. oxirane, fumagillin
A61K 31/337	... having four-membered rings, e.g. taxol
A61K 31/34	... having five-membered rings with one oxygen as the only ring hetero atom, e.g. isosorbide
A61K 31/341	.... not condensed with another ring, e.g. ranitidine, furosemide, bufetolol, muscarine
A61K 31/343	.... condensed with a carbocyclic ring, e.g. coumaran, bufuralol, befunolol, clobenfurol, amiodarone
A61K 31/345	.... Nitrofurans (nitrofurantoin A61K 31/4178)
A61K 31/35	... having six-membered rings with one oxygen as the only ring hetero atom
A61K 31/351	.... not condensed with another ring
A61K 31/352	.... condensed with carbocyclic rings, e.g. cannabinoids, methantheline
A61K 31/353	..... 3,4-Dihydrobenzopyrans, e.g. chroman, catechin
A61K 31/355	..... Tocopherols, e.g. vitamin E
A61K 31/357	... having two or more oxygen atoms in the same ring, e.g. crown ethers, guanadrel
A61K 31/36	.... Compounds containing methylenedioxyphenyl groups, e.g. sesamin
A61K 31/365	... Lactones
A61K 31/366	.... having six-membered rings, e.g. delta-lactones
A61K 31/37	..... Coumarins, e.g. psoralen
A61K 31/375	.... Ascorbic acid, i.e. vitamin C; Salts thereof
A61K 31/38	.. having sulfur as a ring hetero atom
A61K 31/381	... having five-membered rings
A61K 31/382	... having six-membered rings, e.g. thioxanthenes (thiotixene A61K 31/496)
A61K 31/385	... having two or more sulfur atoms in the same ring
A61K 31/39	... having oxygen in the same ring
A61K 31/395	.. having nitrogen as a ring hetero atom, e.g. guanethidine, rifamycins (rifampin A61K 31/496)
A61K 31/396	... having three-membered rings, e.g. aziridine
A61K 31/397	... having four-membered rings, e.g. azetidine
A61K 31/40	... having five-membered rings with one nitrogen as the only ring hetero atom, e.g. sulpiride, succinimide, tolmetin, buflomedil
A61K 31/401	.... Proline; Derivatives thereof, e.g. captopril
A61K 31/4015	.... having oxo groups directly attached to the heterocyclic ring, e.g. piracetam, ethosuximide
A61K 31/402	.... 1-aryl substituted, e.g. piretanide
A61K 31/4025	.... not condensed and containing further heterocyclic rings, e.g. cromakalim
A61K 31/403	.... condensed with carbocyclic rings, e.g. carbazole
A61K 31/4035	..... Isoindoles, e.g. phthalimide
A61K 31/404	..... Indoles, e.g. pindolol

A61K 31/4045	.....	Indole-alkylamines; Amides thereof, e.g. serotonin, melatonin
A61K 31/405	.....	Indole-alkanecarboxylic acids; Derivatives thereof, e.g. tryptophan, indomethacin
A61K 31/407	....	condensed with other heterocyclic ring systems, e.g. ketorolac, physostigmine
A61K 31/409	....	having four such rings, e.g. phorphine derivatives, bilirubin, biliverdine (hemin , hematin A61K 31/555)
A61K 31/41	...	having five-membered rings with two or more ring hetero atoms, at least one of which being nitrogen, e.g. tetrazole
A61K 31/415	....	1,2-Diazoles
A61K 31/4152	.....	having oxo groups directly attached to the heterocyclic ring, e.g. antipyrine, phenylbutazone, sulfinpyrazone
A61K 31/4155	.....	non condensed and containing further heterocyclic rings
A61K 31/416	.....	condensed with carbocyclic ring systems, e.g. indazole
A61K 31/4162	.....	condensed with heterocyclic ring systems
A61K 31/4164	....	1,3-Diazoles
A61K 31/4166	.....	having oxo groups directly attached to the heterocyclic ring, e.g. phenytoin
A61K 31/4168	.....	having a nitrogen attached in position 2, e.g. clonidine
A61K 31/417	.....	Imidazole-alkylamines, e.g. histamine, phentolamine
A61K 31/4172	.....	Imidazole-alkanecarboxylic acids, e.g. histidine
A61K 31/4174	.....	Arylalkylimidazoles, e.g. oxymetazolin, naphazoline, miconazole
A61K 31/4178	.....	not condensed 1,3-diazoles and containing further heterocyclic rings, e.g. pilocarpine, nitrofurantoin
A61K 31/4184	.....	condensed with carbocyclic rings, e.g. benzimidazoles
A61K 31/4188	.....	condensed with other heterocyclic ring systems, e.g. biotin, sorbinil
A61K 31/4192	....	1,2,3-Triazoles
A61K 31/4196	....	1,2,4-Triazoles
A61K 31/42	....	Oxazoles
A61K 31/421	.....	1,3-Oxazoles, e.g. pemoline, trimethadione
A61K 31/422	.....	not condensed and containing further heterocyclic rings
A61K 31/423	.....	condensed with carbocyclic rings
A61K 31/424	.....	condensed with heterocyclic ring systems, e.g. clavulanic acid
A61K 31/4245	....	Oxadiazoles
A61K 31/425	....	Thiazoles
A61K 31/426	.....	1,3-Thiazoles
A61K 31/427	.....	not condensed and containing further heterocyclic rings
A61K 31/428	.....	condensed with carbocyclic rings
A61K 31/429	.....	condensed with heterocyclic ring systems

A61K 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
		
A61K 31/431	.....	containing further heterocyclic rings, e.g. ticarcillin, azlocillin, oxacillin
A61K 31/433	....	Thidiazoles
A61K 31/435	...	having six-membered rings with one nitrogen as the only ring hetero atom
A61K 31/4353	....	ortho- or peri-condensed with heterocyclic ring systems
A61K 31/4355	.....	the heterocyclic ring system containing a five-membered ring having oxygen as a ring hetero atom
A61K 31/436	.....	the heterocyclic ring system containing a six-membered ring having oxygen as a ring hetero atom, e.g. rapamycin
A61K 31/4365	.....	the heterocyclic ring system having sulfur as a ring hetero atom, e.g. ticlopidine
A61K 31/437	.....	the heterocyclic ring system containing a five-membered ring having nitrogen as a ring hetero atom, e.g. indolizine, beta-carboline
A61K 31/4375	.....	the heterocyclic ring system containing a six-membered ring having nitrogen as a ring heteroatom, e.g. quinolizines, naphthyridines, berberine, vincamine
A61K 31/438	....	the ring being spiro-condensed with carbocyclic ring systems
A61K 31/439	....	the ring forming part of a bridged ring system, e.g. quinuclidine (8-azabicyclo [3.2.1] octanes A61K 31/46)
A61K 31/44	....	Non condensed pyridines; Hydrogenated derivatives thereof
A61K 31/4402	.....	only substituted in position 2, e.g. pheniramine, bisacodyl
A61K 31/4406	.....	only substituted in position 3, e.g. zimeldine (nicotinic acid A61K 31/455)
A61K 31/4409	.....	only substituted in position 4, e.g. isoniazid, iproniazid
A61K 31/4412	.....	having oxo groups directly attached to the heterocyclic ring
A61K 31/4415	.....	Pyridoxine, i.e. Vitamin B6 (pyridoxal phosphate A61K 31/675)
A61K 31/4418	.....	having a carbocyclic group directly attached to the heterocyclic ring, e.g. cyproheptadine
A61K 31/4422	.....	1,4-Dihydropyridines, e.g. nifedipine, nicardipine
A61K 31/4425	.....	Pyridinium derivatives, e.g. pralidoxime, pyridostigmine
A61K 31/4427	.....	containing further heterocyclic ring systems
A61K 31/443	.....	containing a five-membered ring with oxygen as a ring hetero atom
A61K 31/4433	.....	containing a six-membered ring with oxygen as a ring hetero atom
A61K 31/4436	.....	containing a heterocyclic ring having sulfur as a ring hetero atom
A61K 31/4439	.....	containing a five-membered ring with nitrogen as a ring hetero atom, e.g. omeprazole (nicotine A61K 31/465)
A61K 31/444	.....	containing a six-membered ring with nitrogen as a ring heteroatom, e.g. amrinone
A61K 31/445	.....	Non condensed piperidines, e.g. piperocaine

A61K 31/4453	.....	only substituted in position 1, e.g. propipocaine, dipiperodon
A61K 31/4458	.....	only substituted in position 2, e.g. methylphenidate
A61K 31/4462	.....	only substituted in position 3
A61K 31/4465	.....	only substituted in position 4
A61K 31/4468	.....	having a nitrogen directly attached in position 4, e.g. clebopride, fentanyl
A61K 31/45	.....	having oxo groups directly attached to the heterocyclic ring, e.g. cycloheximide
A61K 31/451	.....	having a carbocyclic group directly attached to the heterocyclic ring, e.g. glutethimide, meperidine, loperamide, phencyclidine, piminodine
A61K 31/4515	.....	having a butyrophenone group in position 1, e.g. haloperidol (pipamperone A61K 31/4545)
A61K 31/452	.....	Piperidinium derivatives (pancuronium A61K 31/58)
A61K 31/4523	.....	containing further heterocyclic ring systems
A61K 31/4525	.....	containing a five-membered ring with oxygen as a ring hetero atom
A61K 31/453	.....	containing a six-membered ring with oxygen as a ring hetero atom
A61K 31/4535	.....	containing a heterocyclic ring having sulfur as a ring hetero atom, e.g. pizotifen
A61K 31/454	.....	containing a five-membered ring with nitrogen as a ring hetero atom, e.g. pimozide, domperidone
A61K 31/4545	.....	containing a six-membered ring with nitrogen as a ring hetero atom, e.g. pipamperone, anabasine
A61K 31/455	.....	Nicotinic acids, e.g. niacin; Derivatives thereof, e.g. esters, amides
A61K 31/46	....	8-Azabicyclo [3.2.1] octane; Derivatives thereof, e.g. atropine, cocaine
A61K 31/465	....	Nicotine; Derivatives thereof
A61K 31/47	....	Quinolines; Isoquinolines
A61K 31/4704	.....	2-Quinolines, e.g. carbostyryl
A61K 31/4706	.....	4-Aminoquinolines; 8-Aminoquinolines, e.g. chloroquine, primaquine
A61K 31/4709	.....	Non-condensed quinolines and containing further heterocyclic rings
A61K 31/472	.....	Non-condensed isoquinolines, e.g. papaverine
A61K 31/4725	.....	containing further heterocyclic rings
A61K 31/473	.....	ortho- or peri-condensed with carbocyclic ring systems, e.g. acridines, phenanthridines
A61K 31/4738	.....	ortho- or peri-condensed with heterocyclic ring systems
A61K 31/4741	.....	condensed with ring systems having oxygen as a ring hetero atom, e.g. tubocuraran derivatives, noscapine, bicuculline
A61K 31/4743	.....	condensed with ring systems having sulfur as a ring hetero atom
A61K 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)
A61K 31/4747	.....	Spiro-condensed
A61K 31/4748	.....	forming part of bridged ring systems (strychnine A61K 31/475 ; morphinan derivatives A61K 31/485)

A61K 31/475	.....	having an indole ring, e.g. yohimbine, reserpine, strychnine, vinblastine (vincamine A61K 31/4375)
A61K 31/48	.....	Ergoline derivatives, e.g. lysergic acid, ergotamine
A61K 31/485	.....	Morphinan derivatives, e.g. morphine, codeine
A61K 31/49	.....	Cinchonan derivatives, e.g. quinine
A61K 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 })
A61K 31/496	....	Non-condensed piperazines containing further heterocyclic rings, e.g. rifampin, thiothixene
A61K 31/4965	....	Non-condensed pyrazines
A61K 31/497	.....	containing further heterocyclic rings
A61K 31/498	....	Pyrazines or piperazines ortho- and peri-condensed with carbocyclic ring systems, e.g. quinoxaline, phenazine
A61K 31/4985	....	Pyrazines or piperazines ortho- or peri-condensed with heterocyclic ring systems
A61K 31/499	....	Spiro-condensed pyrazines or piperazines
A61K 31/4995	....	Pyrazines or piperazines forming part of bridged ring systems
A61K 31/50	....	Pyridazines; Hydrogenated pyridazines
A61K 31/501	.....	not condensed and containing further heterocyclic rings
A61K 31/502	.....	ortho- or peri-condensed with carbocyclic ring systems, e.g. cinnoline, phthalazine
A61K 31/5025	.....	ortho- or peri-condensed with heterocyclic ring systems
A61K 31/503	.....	spiro-condensed
A61K 31/504	.....	forming part of bridged ring systems
A61K 31/505	....	Pyrimidines; Hydrogenated pyrimidines, e.g. trimethoprim
A61K 31/506	.....	not condensed and containing further heterocyclic rings
A61K 31/51	.....	Thiamines, e.g. vitamin B1
A61K 31/513	.....	having oxo groups directly attached to the heterocyclic ring, e.g. cytosine
A61K 31/515	.....	Barbituric acids; Derivatives thereof, e.g. sodium pentobarbital
A61K 31/517	.....	ortho- or peri-condensed with carbocyclic ring systems, e.g. quinazoline, perimidine
A61K 31/519	.....	ortho- or peri-condensed with heterocyclic rings
A61K 31/52	.....	Purines, e.g. adenine
A61K 31/522	.....	having oxo groups directly attached to the heterocyclic ring, e.g. hypoxanthine, guanine, acyclovir
A61K 31/525	.....	Isoalloxazines, e.g. riboflavins, vitamin B2
A61K 31/527	.....	spiro-condensed
A61K 31/529	.....	forming part of bridged ring systems
A61K 31/53	...	having six-membered rings with three nitrogens as the only ring hetero atoms, e.g. chlorazaniil, melamine (melarsoprol A61K 31/555 {; with four nitrogen atoms A61K 31/495 })

- A61K 31/535 . . . having six-membered rings with at least one nitrogen and one oxygen as the ring hetero atoms, e.g. 1,2-oxazines
- A61K 31/5355 non-condensed oxazines and containing further heterocyclic rings
- A61K 31/536 ortho- or peri-condensed with carbocyclic ring systems
- A61K 31/5365 ortho- or peri-condensed with heterocyclic ring systems
- A61K 31/537 spiro-condensed or forming part of bridged ring systems
- A61K 31/5375 1,4-Oxazines, e.g. morpholine
- A61K 31/5377 not condensed and containing further heterocyclic rings, e.g. timolol
- A61K 31/538 ortho- or peri-condensed with carbocyclic ring systems
- A61K 31/5383 ortho- or peri-condensed with heterocyclic ring systems
- A61K 31/5386 Spiro-condensed or forming part of bridged ring systems
- A61K 31/539 having two or more oxygen atoms in the same ring, e.g. dioxazines
- A61K 31/5395 having two or more nitrogen atoms in the same ring, e.g. oxadiazines
- A61K 31/54 . . . having six-membered rings with at least one nitrogen and one sulfur as the ring hetero atoms, e.g. sulthiame
- A61K 31/541 non-condensed thiazines containing further heterocyclic rings
- A61K 31/5415 ortho- or peri-condensed with carbocyclic ring systems, e.g. phenothiazine, chlorpromazine, piroxicam
- A61K 31/542 ortho- or peri-condensed with heterocyclic ring systems
- A61K 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, {ceftaxime, or cephalexine}
- 
- A61K 31/546 containing further heterocyclic rings, e.g. cephalothin
- A61K 31/547 spiro-condensed or forming part of bridged ring systems
- A61K 31/548 having two or more sulfur atoms in the same ring
- A61K 31/549 having two or more nitrogen atoms in the same ring, e.g. hydrochlorothiazide
- A61K 31/55 . . . having seven-membered rings, e.g. azelastine, pentylene-tetrazole
- A61K 31/551 having two nitrogen atoms, e.g. dilazep
- A61K 31/5513 1,4-Benzodiazepines, e.g. diazepam {or clonazepam}
- A61K 31/5517 condensed with five-membered rings having nitrogen as a ring hetero atom, e.g. imidazobenzodiazepines, triazolam
- A61K 31/553 having at least one nitrogen and one oxygen as ring hetero atoms, e.g. loxapine, staurosporine
- A61K 31/554 having at least one nitrogen and one sulfur as ring hetero atoms, e.g. chlothiapine, diltiazem
- A61K 31/555 . . . containing heavy metals, e.g. hemin, hematin, melarsoprol
- A61K 31/557 . . . Eicosanoids, e.g. leukotrienes {or prostaglandins}
- A61K 31/5575 . . . having a cyclopentane, e.g. Prostaglandin E2, Prostaglandin F2-alpha
- A61K 31/5578 . . . having a pentalene ring system, e.g. carbacyclin, iloprost

- A61K 31/558 .. having heterocyclic rings containing oxygen as the only ring hetero atom, e.g. thromboxanes
- A61K 31/5585 ... having five-membered rings containing oxygen as the only ring hetero atom, e.g. prostacyclin
- A61K 31/559 .. having heterocyclic rings containing hetero atoms other than oxygen
- A61K 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"

- A61K 31/565 .. not substituted in position 17 beta by a carbon atom, e.g. estrane, estradiol
- A61K 31/566 ... having an oxo group in position 17, e.g. estrone
- A61K 31/567 ... substituted in position 17 alpha, e.g. mestranol, norethandrolone
- A61K 31/568 ... substituted in positions 10 and 13 by a chain having at least one carbon atom, e.g. androstanes, e.g. testosterone
- A61K 31/5685 having an oxo group in position 17, e.g. androsterone
- A61K 31/569 substituted in position 17 alpha, e.g. ethisterone
- A61K 31/57 .. substituted in position 17 beta by a chain of two carbon atoms, e.g. pregnane, progesterone
- A61K 31/573 ... substituted in position 21, e.g. cortisone, dexamethasone, prednisone {or aldosterone}
- A61K 31/575 .. substituted in position 17 beta by a chain of three or more carbon atoms, e.g. cholane, cholestane, ergosterol, sitosterol
- A61K 31/58 .. containing heterocyclic rings, e.g. danazol, stanozolol, pancuronium or digitogenin {(digitoxin [A61K 31/7048](#))}
- A61K 31/585 ... containing lactone rings, e.g. oxandrolone, bufalin
- A61K 31/59 . Compounds containing 9, 10- seco- cyclopenta[a]hydrophenanthrene ring systems
- A61K 31/592 .. 9,10-Secoergostane derivatives, e.g. ergocalciferol, i.e. vitamin D2
- A61K 31/593 .. 9,10-Secocholestane derivatives, e.g. cholecalciferol, i.e. vitamin D3
- A61K 31/60 . Salicylic acid; Derivatives thereof
- A61K 31/603 .. having further aromatic rings, e.g. diflunisal
- A61K 31/606 .. having amino groups
- A61K 31/609 .. Amides, e.g. salicylamide {(labetalol, metoclopramide [A61K 31/166](#))}
- A61K 31/612 .. having the hydroxy group in position 2 esterified, e.g. salicylsulfuric acid (fosfosal [A61K 31/661](#))
- A61K 31/616 ... by carboxylic acids, e.g. acetylsalicylic acid
- A61K 31/618 .. having the carboxyl group in position 1 esterified, e.g. salsalate
- A61K 31/621 ... having the hydroxy group in position 2 esterified, e.g. benorylate
- A61K 31/625 .. having heterocyclic substituents, e.g. 4-salicylcloylmorpholine, (sulfasalazine [A61K 31/635](#))
- A61K 31/63 . Compounds containing para-N-benzenesulfonyl-N-groups, e.g. sulfanilamide, p-nitrobenzenesulfonyl hydrazide

- A61K 31/635 . . . having a heterocyclic ring, e.g. sulfasalazine
- A61K 31/64 . Sulfonyleureas, e.g. glibenclamide, tolbutamide, chlorpropamide
- A61K 31/65 . Tetracyclines
- A61K 31/655 . Azo (-N=N-), diazo (=N2), azoxy (>N-O-N< or N(=O)-N<), azido (-N3) or diazoamino (-N=N-N<) compounds
- A61K 31/66 . Phosphorus compounds
- A61K 31/661 . . Phosphorus acids or esters thereof not having P-C bonds, e.g. fosfosal, dichlorvos, malathion {or mevinphos}
- A61K 31/6615 . . . Compounds having two or more esterified phosphorus acid groups, e.g. inositol triphosphate, phytic acid
- A61K 31/662 . . Phosphorus acids or esters thereof having P-C bonds, e.g. foscarnet, trichlorfon
- A61K 31/663 . . . Compounds having two or more phosphorus acid groups or esters thereof, e.g. clodronic acid, pamidronic acid
- A61K 31/664 . . Amides of phosphorus acids
- A61K 31/665 . . having oxygen as a ring hetero atom, e.g. fosfomycin
- A61K 31/67 . . having sulfur as a ring hetero atom
- A61K 31/675 . . having nitrogen as a ring hetero atom, e.g. pyridoxal phosphate
- A61K 31/683 . . Diesters of a phosphorus acid with two hydroxy compounds, e.g. phosphatidylinositols
- A61K 31/685 . . . one of the hydroxy compounds having nitrogen atoms, e.g. phosphatidylserine, lecithin
- A61K 31/688 . . . both hydroxy compounds having nitrogen atoms, e.g. sphingomyelin
- A61K 31/69 . Boron compounds
- A61K 31/695 . Silicon compounds
- A61K 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](#)

- A61K 31/7004 . . Monosaccharide having only carbon, hydrogen and oxygen atoms
- A61K 31/7008 . . Compounds having an amino group directly attached to a carbon atom of the saccharide radical, e.g. D-galactosamine, ranimustine
- A61K 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](#))
- A61K 31/7016 . . Disaccharides, e.g. lactose, lactulose ([lactobionic acid A61K 31/7032](#))
- A61K 31/702 . . Oligosaccharides, i.e. having three to five saccharide radicals attached to each other by glycosidic linkages
- A61K 31/7024 . . Esters of saccharides
- A61K 31/7028 . . Compounds having saccharide radicals attached to non-saccharide compounds by glycosidic linkages
- A61K 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

A61K 31/7034	...	attached to a carbocyclic compound, e.g. phloridzin
A61K 31/7036	....	having at least one amino group directly attached to the carbocyclic ring, e.g. streptomycin, gentamycin, amikacin, validamycin, fortimicins
A61K 31/704	....	attached to a condensed carbocyclic ring system, e.g. sennosides, thiocolchicosides, escin, daunorubicin {(digitoxin A61K 31/7048)}
A61K 31/7042	..	Compounds having saccharide radicals and heterocyclic rings
A61K 31/7048	...	having oxygen as a ring hetero atom, e.g. leucoglucosan, hesperidin, erythromycin, nystatin {digitoxin or digoxin}
A61K 31/7052	...	having nitrogen as a ring hetero atom, e.g. nucleosides, nucleotides
A61K 31/7056	....	containing five-membered rings with nitrogen as a ring hetero atom
A61K 31/706	....	containing six-membered rings with nitrogen as a ring hetero atom
A61K 31/7064	.....	containing condensed or non-condensed pyrimidines
A61K 31/7068	.....	having oxo groups directly attached to the pyrimidine ring, e.g. cytidine, cytidylic acid
A61K 31/7072	.....	having two oxo groups directly attached to the pyrimidine ring, e.g. uridine, uridylic acid, thymidine, zidovudine
A61K 31/7076	.....	containing purines, e.g. adenosine, adenylic acid
A61K 31/708	.....	having oxo groups directly attached to the purine ring system, e.g. guanosine, guanylic acid
A61K 31/7084	..	Compounds having two nucleosides or nucleotides, e.g. nicotinamide-adenine dinucleotide, flavine-adenine dinucleotide
A61K 31/7088	..	Compounds having three or more nucleosides or nucleotides
A61K 31/7105	...	Natural ribonucleic acids, i.e. containing only riboses attached to adenine, guanine, cytosine or uracil and having 3'-5' phosphodiester links
A61K 31/711	...	Natural deoxyribonucleic acids, i.e. containing only 2'-deoxyriboses attached to adenine, guanine, cytosine or thymine and having 3'-5' phosphodiester links
A61K 31/7115	...	Nucleic acids or oligonucleotides having modified bases, i.e. other than adenine, guanine, cytosine, uracil or thymine
A61K 31/712	...	Nucleic acids or oligonucleotides having modified sugars, i.e. other than ribose or 2'-deoxyribose
A61K 31/7125	...	Nucleic acids or oligonucleotides having modified internucleoside linkage, i.e. other than 3'-5' phosphodiester
A61K 31/713	...	Double-stranded nucleic acids or oligonucleotides
A61K 31/7135	..	Compounds containing heavy metals
A61K 31/714	...	Cobalamins, e.g. cyanocobalamin, i.e. vitamin B12
A61K 31/715	..	Polysaccharides, i.e. having more than five saccharide radicals attached to each other by glycosidic linkages; Derivatives thereof, e.g. ethers, esters
A61K 31/716	...	Glucans
A61K 31/717	....	Celluloses
A61K 31/718	....	Starch or degraded starch, e.g. amylose, amylopectin
A61K 31/719	....	Pullulans
A61K 31/721	....	Dextrans
A61K 31/722	....	Chitin, chitosan
A61K 31/723	....	Xanthans

A61K 31/724	....	Cyclodextrins
A61K 31/726	...	Glycosaminoglycans, i.e. mucopolysaccharides (chondroitin sulfate , dermatan sulfate A61K 31/737)
A61K 31/727	....	Heparin; Heparan
A61K 31/728	....	Hyaluronic acid
A61K 31/729	...	Agar; Agarose; Agaropectin
A61K 31/731	...	Carrageenans
A61K 31/732	...	Pectin
A61K 31/733	...	Fructosans, e.g. inulin
A61K 31/734	...	Alginic acid
A61K 31/736	...	Glucomannans or galactomannans, e.g. locust bean gum, guar gum
A61K 31/737	...	Sulfated polysaccharides, e.g. chondroitin sulfate, dermatan sulfate (A61K 31/727 takes precedence)
A61K 31/738	...	Cross-linked polysaccharides
A61K 31/739	...	Lipopolysaccharides
A61K 31/74	.	Synthetic polymeric materials
A61K 31/745	..	Polymers of hydrocarbons
A61K 31/75	...	of ethene
A61K 31/755	..	Polymers containing halogen
A61K 31/76	...	of vinyl chloride
A61K 31/765	..	Polymers containing oxygen
A61K 31/77	...	of oxiranes
A61K 31/775	...	Phenolic resins
A61K 31/78	...	of acrylic acid or derivatives thereof
A61K 31/785	..	Polymers containing nitrogen
A61K 31/787	...	containing heterocyclic rings having nitrogen as a ring hetero atom
A61K 31/79	....	Polymers of vinyl pyrrolidone
A61K 31/795	..	Polymers containing sulfur
A61K 31/80	..	Polymers containing hetero atoms not provided for in groups A61K 31/755 to A61K 31/795

A61K 33/00**Medicinal preparations containing inorganic active ingredients**

A61K 33/02	.	Ammonia; Compounds thereof
A61K 33/04	.	Sulfur, selenium or tellurium; Compounds thereof
A61K 33/06	.	Aluminium, calcium or magnesium; Compounds thereof, {e.g. clay}
A61K 33/08	..	Oxides; Hydroxides
A61K 33/10	..	Carbonates; Bicarbonates
A61K 33/12	..	Magnesium silicate
A61K 33/14	.	Alkali metal chlorides; Alkaline earth metal chlorides
A61K 33/16	.	Fluorine compounds
A61K 33/18	.	Iodine; Compounds thereof

- A61K 33/20 . Elemental chlorine; Inorganic compounds releasing chlorine
- A61K 33/22 . Boron compounds
- A61K 33/24 . Heavy metals; Compounds thereof
- A61K 33/245 .. {Bismuth; Derivatives thereof}
- A61K 33/26 .. Iron; Compounds thereof
- A61K 33/28 .. Mercury; Compounds thereof
- A61K 33/30 .. Zinc; Compounds thereof
- A61K 33/32 .. Manganese; Compounds thereof
- A61K 33/34 .. Copper; Compounds thereof
- A61K 33/36 .. Arsenic; Compounds thereof
- A61K 33/38 .. Silver; Compounds thereof
- A61K 33/40 . Peroxides
- A61K 33/42 . Phosphorus; Compounds thereof
- A61K 33/44 . Elemental carbon, e.g. charcoal, carbon black

A61K 35/00 Medicinal preparations containing materials or reaction products thereof with undetermined constitution

NOTE

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 [B01D 15/08](#) insofar as subject matter of general interest relating to chromatography is concerned.

- A61K 35/02 . from inanimate materials ([carbon A61K 33/44](#))
- A61K 35/04 .. Tars; Bitumens; Mineral oils; Ammonium bituminosulfonate
- A61K 35/06 ... Mineral oils, e.g. paraffinic oils or aromatic oils based on aromatic hydrocarbons
- A61K 35/08 .. Mineral waters; Sea water
- A61K 35/10 .. Peat; Amber; Turf; Humus
- A61K 2035/11 . {Medicinal preparations comprising living procariotic cells}
- A61K 2035/115 .. {Probiotics}
- A61K 35/12 . Materials from mammals; Compositions comprising non-specified tissues or cells; Compositions comprising non-embryonic stem cells; Genetically modified cells ([uncharacterised stem cells A61K 35/545](#); [vaccines or medicinal preparations containing antigens or antibodies A61K 39/00](#))

NOTE

If the cells are characterised, classification is made in the group covering the corresponding tissue or tissue of origin.

- A61K 2035/122 .. {for inducing tolerance or suppression of immune responses}
- A61K 2035/124 .. {the cells being hematopoietic, bone marrow derived or blood cells}

A61K 2035/126	..	{Immunoprotecting barriers, e.g. jackets, diffusion chambers}
A61K 2035/128	...	{capsules, e.g. microcapsules}
A61K 35/13	..	Tumour cells, irrespective of tissue of origin (tumour vaccines A61K 39/00)
A61K 35/14	..	Blood; Artificial blood (perfluorocarbons A61K 31/02 ; umbilical cord blood A61K 35/51 ; haemoglobin A61K 38/42)
A61K 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 (presenting a specific antigen A61K 39/00 ; therapeutic combinations of antibodies, or fragments thereof, and blood-derived cells A61K 39/00)
A61K 35/16	...	Blood plasma; Blood serum (umbilical cord blood A61K 35/51)
A61K 35/17	...	Lymphocytes; B-cells; T-cells; Natural killer cells; Interferon-activated or cytokine-activated lymphocytes (when activated by a specific antigen A61K 39/00)
A61K 35/18	...	Erythrocytes (haemoglobin A61K 38/42)
A61K 35/19	...	Platelets; Megacaryocytes
A61K 35/20	..	Milk; Whey; Colostrum
A61K 35/22	..	Urine; Urinary tract, e.g. kidney or bladder; Intraglomerular mesangial cells; Renal mesenchymal cells; Adrenal gland
A61K 35/24	..	Mucus; Mucous glands; Bursa; Synovial fluid; Arthral fluid; Excreta; Spinal fluid (saliva A61K 35/38)
A61K 35/26	..	Lymph; Lymph nodes; Thymus; Spleen; Splenocytes; Thymocytes
A61K 35/28	..	Bone marrow; Haematopoietic stem cells; Mesenchymal stem cells of any origin, e.g. adipose-derived stem cells
A61K 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
A61K 35/32	..	Bones; Osteocytes; Osteoblasts; Tendons; Tenocytes; Teeth; Odontoblasts; Cartilage; Chondrocytes; Synovial membrane
A61K 35/33	..	Fibroblasts
A61K 35/34	..	Muscles; Smooth muscle cells; Heart; Cardiac stem cells; Myoblasts; Myocytes; Cardiomyocytes (vascular smooth muscle A61K 35/44)
A61K 35/35	..	Fat tissue; Adipocytes; Stromal cells; Connective tissues (adipose-derived stem cells A61K 35/28 ; collagen A61K 38/39)
A61K 35/36	..	Skin; Hair; Nails; Sebaceous glands; Cerumen; Epidermis; Epithelial cells; Keratinocytes; Langerhans cells; Ectodermal cells (islets of Langerhans A61K 35/39)
A61K 35/37	..	Digestive system
A61K 35/38	...	Stomach; Intestine; Goblet cells; Oral mucosa; Saliva
A61K 35/39	...	Pancreas; Islets of Langerhans (Langerhans cells of epidermis A61K 35/36)
A61K 35/407	...	Liver; Hepatocytes
A61K 35/413	...	Gall bladder; Bile
A61K 35/42	..	Respiratory system, e.g. lungs, bronchi or lung cells
A61K 35/44	..	Vessels; Vascular smooth muscle cells; Endothelial cells; Endothelial progenitor cells

A61K 35/48	..	Reproductive organs
A61K 35/50	...	Placenta; Placental stem cells; Amniotic fluid; Amnion; Amniotic stem cells
A61K 35/51	...	Umbilical cord; Umbilical cord blood; Umbilical stem cells
A61K 35/52	...	Sperm; Prostate; Seminal fluid; Leydig cells of testes
A61K 35/54	...	Ovaries; Ova; Ovules; Embryos; Foetal cells; Germ cells
A61K 35/545	....	Embryonic stem cells; Pluripotent stem cells; Induced pluripotent stem cells; Uncharacterised stem cells
A61K 35/55	..	Glands not provided for in groups A61K 35/22 - A61K 35/545 , e.g. thyroids, parathyroids or pineal glands
A61K 35/56	.	Materials from animals other than mammals.
A61K 35/57	..	Birds; Materials from birds, e.g. eggs, feathers, egg white, egg yolk or endothelium corneum gigeriae galli
A61K 35/58	..	Reptiles (antigens from snakes A61K 39/38)
A61K 35/583	...	Snakes; Lizards, e.g. chameleons (therapeutic use of a snake venom protein A61K 38/00)
A61K 35/586	...	Turtles; Tortoises, e.g. terrapins
A61K 35/60	..	Fish, e.g. seahorses; Fish eggs
A61K 35/612	..	Crustaceans, e.g. crabs, lobsters, shrimps, krill or crayfish; Barnacles
A61K 35/614	..	Cnidaria, e.g. sea anemones, corals, coral animals or jellyfish
A61K 35/616	..	Echinodermata, e.g. starfish, sea cucumbers or sea urchins
A61K 35/618	..	Molluscs, e.g. fresh-water molluscs, oysters, clams, squids, octopus, cuttlefish, snails or slugs
A61K 35/62	..	Leeches; Worms, e.g. cestodes, tapeworms, nematodes, roundworms, earth worms, ascarids, filarias, hookworms, trichinella or taenia
A61K 35/63	..	Arthropods (aquatic crustaceans A61K 35/612)
A61K 35/64	...	Insects, e.g. bees, wasps or fleas
A61K 35/644	....	Beeswax; Propolis; Royal jelly; Honey
A61K 35/646	...	Arachnids, e.g. spiders, scorpions, ticks or mites
A61K 35/648	...	Myriapods, e.g. centipedes or millipedes
A61K 35/65	..	Amphibians, e.g. toads, frogs, salamanders or newts
A61K 35/655	..	Aquatic animals other than those covered by groups A61K 35/57 - A61K 35/65
A61K 35/66	.	Micro-organisms or materials therefrom (fungi, yeasts or candida A61K 36/06)
A61K 35/68	..	Protozoa, e.g. flagella, amoebas, sporozoans, plasmodium or toxoplasma
A61K 35/74	..	Bacteria (therapeutic use of a bacterial protein A61K 38/00)
A61K 35/741	...	Probiotics (probiotic yeast, e.g. saccharomyces A61K 36/06)
A61K 35/742	....	Spore-forming bacteria, e.g. Bacillus coagulans, Bacillus subtilis, clostridium or Lactobacillus sporogenes
A61K 35/744	....	Lactic acid bacteria, e.g. enterococci, pediococci, lactococci, streptococci or leuconostocs
A61K 35/745	.....	Bifidobacteria
A61K 35/747	.....	Lactobacilli, e.g. L. acidophilus or L. brevis

- A61K 35/748 . . . Cyanobacteria, i.e. blue-green bacteria or blue-green algae, e.g. spirulina (algae, microalgae or microphytes [A61K 36/02](#))
- A61K 35/76 . . . Viruses; Subviral particles; Bacteriophages
- A61K 35/761 . . . Adenovirus
- A61K 35/763 . . . Herpes virus
- A61K 35/765 . . . Reovirus; Rotavirus
- A61K 35/766 . . . Rhabdovirus, e.g. vesicular stomatitis virus
- A61K 35/768 . . . Oncolytic viruses not provided for in groups [A61K 35/761](#) - [A61K 35/766](#)

A61K 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.

- A61K 36/02 . Algae
- A61K 36/03 . . Phaeophycota or phaeophyta (brown algae), e.g. Fucus
- A61K 36/04 . . Rhodophycota or rhodophyta (red algae), e.g. Porphyra
- A61K 36/05 . . Chlorophycota or chlorophyta (green algae), e.g. Chlorella
- A61K 36/06 . Fungi, e.g. yeasts
- A61K 36/062 . . Ascomycota
- A61K 36/064 . . . Saccharomycetales, e.g. baker's yeast
- A61K 36/066 . . . Clavicipitaceae
- A61K 36/068 Cordyceps
- A61K 36/07 . . Basidiomycota, e.g. Cryptococcus
- A61K 36/074 . . . Ganoderma
- A61K 36/076 . . . Poria
- A61K 36/09 . Lichens
- A61K 36/10 . Bryophyta
- A61K 36/11 . Pteridophyta or Filicophyta (ferns)
- A61K 36/12 . . Filicopsida or Pteridopsida
- A61K 36/126 . . . Drynaria
- A61K 36/13 . Coniferophyta (gymnosperms)
- A61K 36/14 . . Cupressaceae (Cypress family), e.g. juniper or cypress
- A61K 36/15 . . Pinaceae (Pine family), e.g. pine or cedar
- A61K 36/16 . Ginkgophyta, e.g. Ginkgoaceae (Ginkgo family)
- A61K 36/17 . Gnetophyta, e.g. Ephedraceae (Mormon-tea family)
- A61K 36/18 . Magnoliophyta (angiosperms)
- A61K 36/185 . . Magnoliopsida (dicotyledons)
- A61K 36/19 . . . Acanthaceae (Acanthus family)

A61K 36/195	....	Strobilanthes
A61K 36/20	...	Aceraceae (Maple family)
A61K 36/21	...	Amaranthaceae (Amaranth family), e.g. pigweed, rockwort or globe amaranth
A61K 36/22	...	Anacardiaceae (Sumac family), e.g. smoketree, sumac or poison oak
A61K 36/23	...	Apiaceae or Umbelliferae (Carrot family), e.g. dill, chervil, coriander or cumin
A61K 36/232	....	Angelica
A61K 36/233	....	Bupleurum
A61K 36/234	....	Cnidium (snowparsley)
A61K 36/235	....	Foeniculum (fennel)
A61K 36/236	....	Ligusticum (licorice-root)
A61K 36/237	....	Notopterygium
A61K 36/238	....	Saposhnikovia
A61K 36/24	...	Apocynaceae (Dogbane family), e.g. plumeria or periwinkle
A61K 36/25	...	Araliaceae (Ginseng family), e.g. ivy, aralia, schefflera or tetrapanax
A61K 36/254	....	Acanthopanax or Eleutherococcus
A61K 36/258	....	Panax (ginseng)
A61K 36/26	...	Aristolochiaceae (Birthwort family), e.g. heartleaf
A61K 36/264	....	Aristolochia (Dutchman's pipe)
A61K 36/268	....	Asarum (wild ginger)
A61K 36/27	...	Asclepiadaceae (Milkweed family), e.g. hoya
A61K 36/28	...	Asteraceae or Compositae (Aster or Sunflower family), e.g. chamomile, feverfew, yarrow or echinacea
A61K 36/282	....	Artemisia, e.g. wormwood or sagebrush
A61K 36/284	....	Atractylodes
A61K 36/285	....	Aucklandia
A61K 36/286	....	Carthamus (distaff thistle)
A61K 36/287	....	Chrysanthemum, e.g. daisy
A61K 36/288	....	Taraxacum (dandelion)
A61K 36/289	....	Vladimiria
A61K 36/29	...	Berberidaceae (Barberry family), e.g. barberry, cohosh or mayapple
A61K 36/296	....	Epimedium
A61K 36/30	...	Boraginaceae (Borage family), e.g. comfrey, lungwort or forget-me-not
A61K 36/31	...	Brassicaceae or Cruciferae (Mustard family), e.g. broccoli, cabbage or kohlrabi
A61K 36/315	....	Isatis, e.g. Dyer's woad
A61K 36/32	...	Burseraceae (Frankincense family)
A61K 36/324	....	Boswellia, e.g. frankincense
A61K 36/328	....	Commiphora, e.g. mecca myrrh or balm of Gilead
A61K 36/33	...	Cactaceae (Cactus family), e.g. pricklypear or Cereus
A61K 36/34	...	Campanulaceae (Bellflower family)
A61K 36/342	....	Adenophora

A61K 36/344	....	Codonopsis
A61K 36/346	....	Platycodon
A61K 36/35	...	Caprifoliaceae (Honeysuckle family)
A61K 36/355	....	Lonicera (honeysuckle)
A61K 36/36	...	Caryophyllaceae (Pink family), e.g. babysbreath or soapwort
A61K 36/37	...	Celastraceae (Staff-tree or Bittersweet family), e.g. tripterygium or spindletree
A61K 36/38	...	Clusiaceae, Hypericaceae or Guttiferae (Hypericum or Mangosteen family), e.g. common St. Johnswort
A61K 36/39	...	Convolvulaceae (Morning-glory family), e.g. bindweed
A61K 36/40	...	Cornaceae (Dogwood family)
A61K 36/41	...	Crassulaceae (Stonecrop family)
A61K 36/42	...	Cucurbitaceae (Cucumber family)
A61K 36/424	....	Gynostemma
A61K 36/428	....	Trichosanthes
A61K 36/43	...	Cuscutaceae (Dodder family), e.g. Cuscuta epithymum or greater dodder
A61K 36/44	...	Ebenaceae (Ebony family), e.g. persimmon
A61K 36/45	...	Ericaceae or Vacciniaceae (Heath or Blueberry family), e.g. blueberry, cranberry or bilberry
A61K 36/46	...	Eucommiaceae (Eucommia family), e.g. hardy rubber tree
A61K 36/47	...	Euphorbiaceae (Spurge family), e.g. Ricinus (castorbean)
A61K 36/48	...	Fabaceae or Leguminosae (Pea or Legume family); Caesalpiniaceae; Mimosaceae; Papilionaceae
A61K 36/481	....	Astragalus (milkvetch)
A61K 36/482	....	Cassia, e.g. golden shower tree
A61K 36/483	....	Gleditsia (locust)
A61K 36/484	....	Glycyrrhiza (licorice)
A61K 36/485	....	Gueldenstaedtia
A61K 36/486	....	Millettia
A61K 36/487	....	Psoralea
A61K 36/488	....	Pueraria (kudzu)
A61K 36/489	....	Sophora, e.g. necklacepod or mamani
A61K 36/49	...	Fagaceae (Beech family), e.g. oak or chestnut
A61K 36/50	...	Fumariaceae (Fumitory family), e.g. bleeding heart
A61K 36/505	....	Corydalis
A61K 36/51	...	Gentianaceae (Gentian family)
A61K 36/515	....	Gentiana
A61K 36/52	...	Juglandaceae (Walnut family)
A61K 36/53	...	Lamiaceae or Labiatae (Mint family), e.g. thyme, rosemary or lavender
A61K 36/532	....	Agastache, e.g. giant hyssop
A61K 36/533	....	Leonurus (motherwort)
A61K 36/534	....	Mentha (mint)

A61K 36/535	....	Perilla (beefsteak plant)
A61K 36/536	....	Prunella or Brunella (selfheal)
A61K 36/537	....	Salvia (sage)
A61K 36/538	....	Schizonepeta
A61K 36/539	....	Scutellaria (skullcap)
A61K 36/54	...	Lauraceae (Laurel family), e.g. cinnamon or sassafras
A61K 36/55	...	Linaceae (Flax family), e.g. Linum
A61K 36/56	...	Loganiaceae (Logania family), e.g. trumpetflower or pinkroot
A61K 36/57	...	Magnoliaceae (Magnolia family)
A61K 36/575	....	Magnolia
A61K 36/58	...	Meliaceae (Chinaberry or Mahogany family), e.g. Azadirachta (neem)
A61K 36/59	...	Menispermaceae (Moonseed family), e.g. hyperbaena or coralbead
A61K 36/60	...	Moraceae (Mulberry family), e.g. breadfruit or fig
A61K 36/605	....	Morus (mulberry)
A61K 36/61	...	Myrtaceae (Myrtle family), e.g. teatree or eucalyptus
A61K 36/62	...	Nymphaeaceae (Water-lily family)
A61K 36/63	...	Oleaceae (Olive family), e.g. jasmine, lilac or ash tree
A61K 36/634	....	Forsythia
A61K 36/638	....	Ligustrum, e.g. Chinese privet
A61K 36/64	...	Orobanchaceae (Broom-rape family)
A61K 36/65	...	Paeoniaceae (Peony family), e.g. Chinese peony
A61K 36/66	...	Papaveraceae (Poppy family), e.g. bloodroot
A61K 36/67	...	Piperaceae (Pepper family), e.g. Jamaican pepper or kava
A61K 36/68	...	Plantaginaceae (Plantain Family)
A61K 36/69	...	Polygalaceae (Milkwort family)
A61K 36/70	...	Polygonaceae (Buckwheat family), e.g. spineflower or dock
A61K 36/704	....	Polygonum, e.g. knotweed
A61K 36/708	....	Rheum (rhubarb)
A61K 36/71	...	Ranunculaceae (Buttercup family), e.g. larkspur, hepatica, hydrastis, columbine or goldenseal
A61K 36/714	....	Aconitum (monkshood)
A61K 36/716	....	Clematis (leather flower)
A61K 36/718	....	Coptis (goldthread)
A61K 36/72	...	Rhamnaceae (Buckthorn family), e.g. buckthorn, chewstick or umbrella-tree
A61K 36/725	....	Ziziphus, e.g. jujube
A61K 36/73	...	Rosaceae (Rose family), e.g. strawberry, chokeberry, blackberry, pear or firethorn
A61K 36/732	....	Chaenomeles, e.g. flowering quince
A61K 36/734	....	Crataegus (hawthorn)
A61K 36/736	....	Prunus, e.g. plum, cherry, peach, apricot or almond

A61K 36/738	....	Rosa (rose)
A61K 36/739	....	Sanguisorba (burnet)
A61K 36/74	...	Rubiaceae (Madder family)
A61K 36/744	....	Gardenia
A61K 36/746	....	Morinda
A61K 36/748	....	Oldenlandia or Hedyotis
A61K 36/75	...	Rutaceae (Rue family)
A61K 36/752	....	Citrus, e.g. lime, orange or lemon
A61K 36/754	....	Evodia
A61K 36/756	....	Phellodendron, e.g. corktree
A61K 36/758	....	Zanthoxylum, e.g. pricklyash
A61K 36/76	...	Salicaceae (Willow family), e.g. poplar
A61K 36/77	...	Sapindaceae (Soapberry family), e.g. lychee or soapberry
A61K 36/78	...	Saururaceae (Lizard's-tail family)
A61K 36/79	...	Schisandraceae (Schisandra family)
A61K 36/80	...	Scrophulariaceae (Figwort family)
A61K 36/804	....	Rehmannia
A61K 36/808	....	Scrophularia (figwort)
A61K 36/81	...	Solanaceae (Potato family), e.g. tobacco, nightshade, tomato, belladonna, capsicum or jimsonweed
A61K 36/815	....	Lycium (desert-thorn)
A61K 36/82	...	Theaceae (Tea family), e.g. camellia
A61K 36/83	...	Thymelaeaceae (Mezereum family), e.g. leatherwood or false ohelo
A61K 36/835	....	Aquilaria
A61K 36/84	...	Valerianaceae (Valerian family), e.g. valerian
A61K 36/85	...	Verbenaceae (Verbena family)
A61K 36/855	....	Clerodendrum, e.g. glorybower
A61K 36/86	...	Violaceae (Violet family)
A61K 36/87	...	Vitaceae or Ampelidaceae (Vine or Grape family), e.g. wine grapes, muscadine or peppervine
A61K 36/88	..	Liliopsida (monocotyledons)
A61K 36/882	...	Acoraceae (Calamus family), e.g. sweetflag or Acorus calamus
A61K 36/884	...	Alismataceae (Water-plantain family)
A61K 36/886	...	Aloeaceae (Aloe family), e.g. aloe vera
A61K 36/888	...	Araceae (Arum family), e.g. caladium, calla lily or skunk cabbage
A61K 36/8884	....	Arisaema, e.g. Jack in the pulpit
A61K 36/8888	....	Pinellia
A61K 36/889	...	Arecaceae, Palmae or Palmaceae (Palm family), e.g. date or coconut palm or palmetto
A61K 36/8895	....	Calamus, e.g. rattan
A61K 36/89	...	Cyperaceae (Sedge family)

A61K 36/8905	....	Cyperus (flatsedge)
A61K 36/894	...	Dioscoreaceae (Yam family)
A61K 36/8945	....	Dioscorea, e.g. yam, Chinese yam or water yam
A61K 36/896	...	Liliaceae (Lily family), e.g. daylily, plantain lily, Hyacinth or narcissus
A61K 36/8962	....	Allium, e.g. garden onion, leek, garlic or chives
A61K 36/8964	....	Anemarrhena
A61K 36/8965	....	Asparagus, e.g. garden asparagus or asparagus fern
A61K 36/8966	....	Fritillaria, e.g. checker lily or mission bells
A61K 36/8967	....	Lilium, e.g. tiger lily or Easter lily
A61K 36/8968	....	Ophiopogon (Lilyturf)
A61K 36/8969	....	Polygonatum (Solomon's seal)
A61K 36/898	...	Orchidaceae (Orchid family)
A61K 36/8984	....	Dendrobium
A61K 36/8988	....	Gastrodia
A61K 36/899	...	Poaceae or Gramineae (Grass family), e.g. bamboo, corn or sugar cane
A61K 36/8994	....	Coix (Job's tears)
A61K 36/8998	....	Hordeum (barley)
A61K 36/90	...	Smilacaceae (Catbrier family), e.g. greenbrier or sarsaparilla
A61K 36/902	...	Sparganiaceae (Bur-reed family)
A61K 36/904	...	Stemonaceae (Stemona family), e.g. croomia
A61K 36/906	...	Zingiberaceae (Ginger family)
A61K 36/9062	....	Alpinia, e.g. red ginger or galangal
A61K 36/9064	....	Amomum, e.g. round cardamom
A61K 36/9066	....	Curcuma, e.g. common turmeric, East Indian arrowroot or mango ginger
A61K 36/9068	....	Zingiber, e.g. garden ginger

A61K 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](#))

NOTE

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](#) to [A61K 38/07](#).

A61K 38/00
(continued)

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.

A61K 38/005

- . {Enzyme inhibitors (protease inhibitors [A61K 38/55](#))}

A61K 38/01

- . Hydrolysed proteins; Derivatives thereof

A61K 38/011

- .. {from plants}

A61K 38/012

- .. {from animals}

A61K 38/014

- ... {from connective tissue peptides, e.g. gelatin, collagen}

A61K 38/015

- {from keratin}

A61K 38/017

- ... {from blood}

A61K 38/018

- ... {from milk}

A61K 38/02

- . Peptides of undefined number of amino acids; Derivatives thereof

A61K 38/03

- . Peptides having up to 20 amino acids in an undefined or only partially defined sequence; Derivatives thereof

A61K 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](#))}

A61K 38/043

- .. {Kallidins; Bradykinins; Related peptides}

A61K 38/046

- .. {Tachykinins, e.g. eledoisins, substance P; Related peptides}

A61K 38/05

- .. Dipeptides

A61K 38/06

- .. Tripeptides

A61K 38/063

- ... {Glutathione}

A61K 38/066

- ... {TRH, thyroliberin, thyrotropin releasing hormone}

A61K 38/07

- .. Tetrapeptides

A61K 38/08

- .. Peptides having 5 to 11 amino acids {([A61K 38/043](#) to [A61K 38/046](#) take precedence)}

A61K 38/085

- ... {Angiotensins}

A61K 38/09

- ... Luteinising hormone-releasing hormone [LHRH] {i.e. Gonadotropin-releasing hormone [GnRH]}; Related peptides

A61K 38/10

- .. Peptides having 12 to 20 amino acids {([A61K 38/043](#) to [A61K 38/046](#) take precedence)}

A61K 38/105

- ... {Bombesin; Related peptides}

A61K 38/11

- ... Oxytocins; Vasopressins; Related peptides

A61K 38/12

- .. Cyclic peptides {, e.g. bacitracins; Polymyxins; Gramicidins S, C; Tyrocidins A, B or C ([A61K 38/043](#) to [A61K 38/046](#) take precedence)}

A61K 38/13

- ... Cyclosporins

A61K 38/14	..	Peptides containing saccharide radicals; Derivatives thereof {e.g. bleomycin, phleomycin, muramylpeptides or vancomycin}
A61K 38/15	..	Depsipeptides; Derivatives thereof
A61K 38/16	.	Peptides having more than 20 amino acids; Gastrins; Somatostatins; Melanotropins; Derivatives thereof {(enzyme inhibitors A61K 38/005)}
A61K 38/162	..	{from virus}
A61K 38/164	..	{from bacteria}
A61K 38/166	...	{Streptokinase}
A61K 38/168	..	{from plants}
A61K 38/17	..	from animals; from humans {(enzyme inhibitors A61K 38/005)}
A61K 38/1703	...	{from vertebrates (A61K 38/1767 takes precedence)}
A61K 38/1706	....	{from fish}
A61K 38/1709	....	{from mammals}
A61K 38/1712	.....	{Not used, see subgroup}
A61K 38/1716	.....	{Amyloid plaque core protein}
A61K 38/1719	.....	{Muscle proteins, e.g. myosin, actin}
A61K 38/1722	.....	{Plasma globulins, lactoglobulin}
A61K 38/1725	.....	{Complement proteins, e.g. anaphylatoxin, C3a, C5a}
A61K 38/1729	.....	{Cationic antimicrobial peptides, e.g. defensins}
A61K 38/1732	.....	{Lectins}
A61K 38/1735	.....	{Mucins, e.g. human intestinal mucin}
A61K 38/1738	.....	{Calcium binding proteins, e.g. calmodulin}
A61K 38/1741	.....	{alpha-Glycoproteins}
A61K 38/1745	.....	{C-reactive protein}
A61K 38/1748	.....	{Keratin; Cytokeratin}
A61K 38/1751	.....	{Bactericidal/permeability-increasing protein [BPI]}
A61K 38/1754	.....	{Insulin-like growth factor binding protein}
A61K 38/1758	.....	{p53}
A61K 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}
A61K 38/1764	.....	{Tumor specific antigens; Tumor rejection antigen precursors [TRAP], e.g. MAGE}
A61K 38/1767	...	{from invertebrates}
A61K 38/177	...	{Receptors; Cell surface antigens; Cell surface determinants}
A61K 38/1774	....	{Immunoglobulin superfamily (e.g. CD2, CD4, CD8, ICAM molecules, B7 molecules, Fc-receptors, MHC-molecules)}
A61K 38/1777	....	{Integrin superfamily}
A61K 38/178	....	{Lectin superfamily, e.g. selectins}
A61K 38/1783	....	{Nuclear receptors, e.g. retinoic acid receptor [RAR], RXR, nuclear orphan receptors}

A61K 38/1787	....	{for neuromediators, e.g. serotonin receptor, dopamine receptor}
A61K 38/179	....	{for growth factors; for growth regulators}
A61K 38/1793	....	{for cytokines; for lymphokines; for interferons}
A61K 38/1796	....	{for hormones (for neuromediators A61K 38/1787)}
A61K 38/18	...	Growth factors; Growth regulators
A61K 38/1808	....	{Epidermal growth factor [EGF] urogastrone}
A61K 38/1816	....	{Erythropoietin [EPO]}
A61K 38/1825	....	{Fibroblast growth factor [FGF]}
A61K 38/1833	....	{Hepatocyte growth factor; Scatter factor; Tumor cytotoxic factor II}
A61K 38/1841	....	{Transforming growth factor [TGF]}
A61K 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}
A61K 38/1858	....	{Platelet-derived growth factor [PDGF]}
A61K 38/1866	.....	{Vascular endothelial growth factor [VEGF]}
A61K 38/1875	....	{Bone morphogenic factor; Osteogenins; Osteogenic factor; Bone-inducing factor}
A61K 38/1883	....	{Neuregulins, e.g.. p185erbB2 ligands, glial growth factor, heregulin, ARIA, neu differentiation factor}
A61K 38/1891	....	{Angiogenesis factors; Angiogenin}
A61K 38/19	...	Cytokines; Lymphokines; Interferons
A61K 38/191	....	{Tumor necrosis factors [TNF], e.g. lymphotoxin [LT] i.e. TNF-beta}
A61K 38/193	....	{Colony stimulating factors [CSF]}
A61K 38/195	....	{Chemokines, e.g. RANTES}
A61K 38/196	....	{Thrombopoietin}
A61K 38/20	....	Interleukins [IL]
A61K 38/2006	.....	{IL-1}
A61K 38/2013	.....	{IL-2}
A61K 38/202	.....	{IL-3}
A61K 38/2026	.....	{IL-4}
A61K 38/2033	.....	{IL-5}
A61K 38/204	.....	{IL-6}
A61K 38/2046	.....	{IL-7}
A61K 38/2053	.....	{IL-8}
A61K 38/206	.....	{IL-9}
A61K 38/2066	.....	{IL-10}
A61K 38/2073	.....	{IL-11}
A61K 38/208	.....	{IL-12}
A61K 38/2086	.....	{IL-13 to IL-16}
A61K 38/2093	.....	{Leukaemia inhibitory factor [LIF]}
A61K 38/21	....	Interferons {[IFN]}

A61K 38/212	.....	{IFN-alpha}
A61K 38/215	.....	{IFN-beta}
A61K 38/217	.....	{IFN-gamma}
A61K 38/22	...	Hormones (derived from pro-opiomelanocortin, pro-enkephalin or pro-dynorphin A61K 38/33 , e.g. corticotropin A61K 38/35)
A61K 38/2207	....	{Gastrins; Cholecystokinins [CCK]}
A61K 38/2214	....	{Motilins}
A61K 38/2221	....	{Relaxins}
A61K 38/2228	....	{Corticotropin releasing factor [CRF] (Urotensin)}
A61K 38/2235	....	{Secretins}
A61K 38/2242	....	{Atrial natriuretic factor complex: Atriopeptins, atrial natriuretic protein [ANP]; Cardionatin, Cardiodilatin}
A61K 38/225	....	{Calcitonin gene related peptide}
A61K 38/2257	....	{Prolactin}
A61K 38/2264	....	{Obesity-gene products, e.g. leptin}
A61K 38/2271	....	{Neuropeptide Y}
A61K 38/2278	....	{Vasoactive intestinal peptide [VIP]; Related peptides (e.g. Exendin)}
A61K 38/2285	....	{Endothelin, vasoactive intestinal contractor [VIC]}
A61K 38/2292	....	{Thymosin; Related peptides}
A61K 38/23	....	Calcitonins
A61K 38/24	....	Follicle-stimulating hormone [FSH]; Chorionic gonadotropins, e.g. HCG; Luteinising hormone [LH]; Thyroid-stimulating hormone [TSH]
A61K 38/25	....	Growth hormone-releasing factor (GH-RF) (Somatoliberin)
A61K 38/26	....	Glucagons
A61K 38/27	....	Growth hormone [GH] (Somatotropin)
A61K 38/28	....	Insulins
A61K 38/29	....	Parathyroid hormone (parathormone); Parathyroid hormone-related peptides
A61K 38/30	....	Insulin-like growth factors (somatomedins), e.g. IGF-1, IGF-2 {(insulin-like growth factor binding protein A61K 38/1754)}
A61K 38/31	....	Somatostatins
A61K 38/32	....	Thymopoietins
A61K 38/33	...	derived from pro-opiomelanocortin, pro-enkephalin or pro-dynorphin
A61K 38/34	....	Melanocyte stimulating hormone [MSH], e.g. alpha- or beta-melanotropin
A61K 38/35	....	Corticotropin [ACTH]
A61K 38/36	...	Blood coagulation or fibrinolysis factors
A61K 38/363	....	{Fibrinogen}
A61K 38/366	....	{Thrombomodulin}
A61K 38/37	....	Factors VIII
A61K 38/38	...	Albumins
A61K 38/385	....	{Serum albumin}

A61K 38/39	...	Connective tissue peptides, e.g. collagen, elastin, laminin, fibronectin, vitronectin, cold insoluble globulin [CIG]
A61K 38/395	...	{Alveolar surfactant peptides; Pulmonary surfactant peptides}
A61K 38/40	...	Transferrins, e.g. lactoferrins, ovotransferrins
A61K 38/41	..	Porphyrin- or corrin-ring-containing peptides
A61K 38/415	...	{Cytochromes}
A61K 38/42	...	Haemoglobins; Myoglobins
A61K 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](#).

A61K 38/44	...	Oxidoreductases (1)
A61K 38/443	....	{acting on CH-OH groups as donors, e.g. glucose oxidase, lactate dehydrogenase (1.1)}
A61K 38/446	....	{Superoxide dismutase (1.15)}
A61K 38/45	...	Transferases (2)
A61K 38/46	...	Hydrolases (3)
A61K 38/465	....	{acting on ester bonds (3.1), e.g. lipases, ribonucleases}
A61K 38/47	....	acting on glycosyl compounds (3.2), e.g. cellulases, lactases
A61K 38/48	....	acting on peptide bonds (3.4)
A61K 38/4806	.....	{from animals other than mammals, e.g. snakes}
A61K 38/4813	.....	{Exopeptidases (3.4.11. to 3.4.19)}
A61K 38/482	.....	{Serine endopeptidases (3.4.21)}
A61K 38/4826	.....	{Trypsin (3.4.21.4) Chymotrypsin (3.4.21.1)}
A61K 38/4833	.....	{Thrombin (3.4.21.5)}
A61K 38/484	.....	{Plasmin (3.4.21.7)}
A61K 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)}
A61K 38/4853	.....	{Kallikrein (3.4.21.34 or 3.4.21.35)}
A61K 38/486	.....	{Elastase (3.4.21.36 or 3.4.21.37)}
A61K 38/4866	.....	{Protein C (3.4.21.69)}
A61K 38/4873	.....	{Cysteine endopeptidases (3.4.22), e.g. stem bromelain, papain, ficin, cathepsin H}
A61K 38/488	.....	{Aspartic endopeptidases (3.4.23), e.g. pepsin, chymosin, renin, cathepsin E}
A61K 38/4886	.....	{Metalloendopeptidases (3.4.24), e.g. collagenase}

A61K 38/4893	.....	{Botulinum neurotoxin (3.4.24.69) }
A61K 38/49	.....	Urokinase; Tissue plasminogen activator
A61K 38/50	....	acting on carbon-nitrogen bonds, other than peptide bonds (3.5), e.g. asparaginase
A61K 38/51	...	Lyases (4)
A61K 38/52	...	Isomerases (5)
A61K 38/53	...	Ligases (6)
A61K 38/54	...	Mixtures of enzymes or proenzymes covered by more than a single one of groups A61K 38/44 to A61K 38/46 or A61K 38/51 to A61K 38/53
A61K 38/55	..	Protease inhibitors
A61K 38/553	...	{ Renin inhibitors }
A61K 38/556	...	{ Angiotensin converting enzyme inhibitors }
A61K 38/56	...	from plants
A61K 38/57	...	from animals; from humans {(A61K 38/553 , A61K 38/556 take precedence)}
A61K 38/58	....	from leeches, e.g. hirudin, eglin

A61K 39/00 **Medicinal preparations containing antigens or antibodies** ([materials for immunoassay G01N 33/53](#))

NOTE

1. Groups [A61K 39/002](#) to [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](#) to [A61K 39/42](#), in association with symbol [A61K 2300/00](#) in Combination Sets.

[A61K 39/0001](#) . {[Archaeal antigens](#)}

A61K 39/0002	. {Fungal antigens, e.g. Trichophyton, Aspergillus, Candida}
A61K 39/0003	. {Invertebrate antigens}
A61K 39/0005	. {Vertebrate antigens (from snakes A61K 39/38)}
A61K 39/0006	.. {Contraceptive vaccins; Vaccines against sex hormones}
A61K 39/0007	.. {Nervous system antigens; Prions}
A61K 39/0008	.. {Antigens related to auto-immune diseases; Preparations to induce self-tolerance}
A61K 39/001	.. {Preparations to induce tolerance to non-self, e.g. prior to transplantation}
A61K 39/0011	.. {Cancer antigens}
A61K 39/0012	.. {Lipids; Lipoproteins}
A61K 39/0013	. {Therapeutic immunisation against small organic molecules, e.g. cocaine, nicotine}
A61K 39/0015	. {Combination vaccines based on measles-mumps-rubella}
A61K 39/0016	. {Combination vaccines based on diphtheria-tetanus-pertussis}
A61K 39/0017	.. {Combination vaccines based on whole cell diphtheria-tetanus-pertussis}
A61K 39/0018	.. {Combination vaccines based on acellular diphtheria-tetanus-pertussis}
A61K 39/002	. Protozoa antigens
A61K 39/005	.. Trypanosoma antigens
A61K 39/008	.. Leishmania antigens
A61K 39/012	.. Coccidia antigens
A61K 39/015	.. Hemosporidia antigens, e.g. Plasmodium antigens
A61K 39/018	... Babesia antigens, e.g. Theileria antigens
A61K 39/02	. Bacterial antigens
A61K 39/0208	.. {Specific bacteria not otherwise provided for}
A61K 39/0216	.. {Bacterioidetes, e.g. Bacteroides, Ornithobacter, Porphyromonas}
A61K 39/0225	.. {Spirochetes, e.g. Treponema, Leptospira, Borrelia}
A61K 39/0233	.. {Rickettsiales, e.g. Anaplasma}
A61K 39/0241	.. {Mollicutes, e.g. Mycoplasma, Erysipelothrix}
A61K 39/025	.. {Enterobacteriales, e.g. Enterobacter}
A61K 39/0258	... {Escherichia}
A61K 39/0266	... {Klebsiella}
A61K 39/0275	... {Salmonella}
A61K 39/0283	... {Shigella}
A61K 39/0291	... {Yersinia}
A61K 39/04	.. Mycobacterium, e.g. Mycobacterium tuberculosis
A61K 39/05	.. {Actinobacteria, e.g. Actinomyces, Streptomyces, Nocardia, Bifidobacterium, Gardnerella}, Corynebacterium; Propionibacterium {(Mycobacterium A61K 39/04)}
A61K 39/07	.. Bacillus
A61K 39/08	.. Clostridium, e.g. Clostridium tetani
A61K 39/085	.. Staphylococcus
A61K 39/09	.. {Lactobacillales, e.g. aerococcus, enterococcus, lactobacillus, lactococcus}, streptococcus

A61K 39/092	...	{Streptococcus}
A61K 39/095	..	Neisseria
A61K 39/098	..	{Brucella}
A61K 39/099	..	{Bordetella}
A61K 2039/10	..	{Brucella; Bordetella, e.g. Bordetella pertussis; Not used, see subgroups}
A61K 39/102	..	{Pasteurellales, e.g. Actinobacillus}, Pasteurella; Haemophilus
A61K 39/104	..	{Pseudomonadales, e.g.} Pseudomonas
A61K 39/1045	...	{Moraxella}
A61K 39/105	..	{Delta proteobacteriales, e.g. Lawsonia; Epsilon proteobacteriales, e.g. campylobacter, helicobacter}
A61K 2039/106	..	{Vibrio; Campylobacter; Not used, see subgroups}
A61K 39/107	..	{Vibrio}
A61K 39/114	..	Fusobacterium
A61K 39/116	..	Polyvalent bacterial antigens

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 subgroups of [A61K 39/0016](#) and of [A61K 39/02](#)

A61K 39/118	.	Chlamydiaceae, e.g. Chlamydia trachomatis or Chlamydia psittaci
A61K 39/12	.	Viral antigens
A61K 39/125	..	Picornaviridae, e.g. calicivirus
A61K 39/13	...	Poliovirus
A61K 39/135	...	Foot- and mouth-disease virus
A61K 39/145	..	Orthomyxoviridae, e.g. influenza virus
A61K 39/15	..	Reoviridae, e.g. calf diarrhea virus
A61K 39/155	..	Paramyxoviridae, e.g. parainfluenza virus
A61K 39/165	...	Mumps or measles virus
A61K 39/17	...	Newcastle disease virus
A61K 39/175	...	Canine distemper virus
A61K 39/187	..	Hog cholera virus
A61K 39/193	..	Equine encephalomyelitis virus
A61K 39/20	..	Rubella virus
A61K 39/205	..	Rhabdoviridae, e.g. rabies virus
A61K 39/21	..	Retroviridae, e.g. equine infectious anemia virus
A61K 39/215	..	Coronaviridae, e.g. avian infectious bronchitis virus
A61K 39/225	...	Porcine transmissible gastroenteritis virus
A61K 39/23	..	Parvoviridae, e.g. feline panleukopenia virus
A61K 39/235	..	Adenoviridae
A61K 39/245	..	Herpetoviridae, e.g. herpes simplex virus

A61K 39/25	...	Varicella-zoster virus
A61K 39/255	...	Marek's disease virus
A61K 39/265	...	Infectious rhinotracheitis virus
A61K 39/27	...	Equine rhinopneumonitis virus
A61K 39/275	..	Poxviridae, e.g. avipoxvirus
A61K 39/285	...	Vaccinia virus or variola virus
A61K 39/29	..	Hepatitis virus
A61K 39/292	...	{Serum hepatitis virus, hepatitis B virus, e.g. Australia antigen}
A61K 39/295	..	Polyvalent viral antigens (vaccinia virus or variola virus A61K 39/285); Mixtures of viral and bacterial antigens

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](#)

A61K 39/35	.	Allergens
A61K 39/36	..	from pollen
A61K 39/38	.	Antigens from snakes
A61K 39/385	.	Haptens or antigens, bound to carriers
A61K 39/39	.	characterised by the immunostimulating additives, e.g. chemical adjuvants
A61K 39/395	.	Antibodies (agglutinins A61K 38/36 ; {as drug carriers A61K 47/48 }); Immunoglobulins; Immune serum, e.g. antilymphocytic serum
A61K 39/39508	..	{from milk, i.e. lactoglobulins}
A61K 39/39516	..	{from serum, plasma}
A61K 39/39525	...	{Purification}
A61K 39/39533	..	{against materials from animals}
A61K 39/39541	...	{against normal tissues, cells}
A61K 39/3955	...	{against proteinaceous materials, e.g. enzymes, hormones, lymphokines}
A61K 39/39558	...	{against tumor tissues, cells, antigens}
A61K 39/39566	...	{against immunoglobulins, e.g. anti-idiotypic antibodies}
A61K 39/39575	..	{against materials from other living beings excluding bacteria and viruses, e.g. protozoa, fungi, plants}
A61K 39/39583	..	{against materials not provided for elsewhere, e.g. haptens, coenzymes}
A61K 39/39591	..	{Stabilisation, fragmentation}
A61K 39/40	..	bacterial
A61K 39/42	..	viral
A61K 39/44	..	Antibodies bound to carriers
A61K 2039/505	.	{comprising antibodies}
A61K 2039/507	..	{Comprising a combination of two or more separate antibodies}
A61K 2039/51	.	{comprising whole cells, viruses or DNA/RNA}
A61K 2039/515	..	{Animal cells}

A61K 2039/5152	...	{Tumor cells}
A61K 2039/5154	...	{Antigen presenting cells [APCs], e.g. dendritic cells, macrophages}
A61K 2039/5156	...	{expressing foreign proteins}
A61K 2039/5158	...	{Antigen-pulsed cells e.g. T-cells}
A61K 2039/517	..	{Plant cells}
A61K 2039/52	..	{Bacterial cells; Fungal cells; Protozoal cells}
A61K 2039/521	...	{inactivated (killed)}
A61K 2039/522	...	{avirulent or attenuated}
A61K 2039/523	...	{expressing foreign proteins}
A61K 2039/525	..	{Virus}
A61K 2039/5252	...	{inactivated (killed)}
A61K 2039/5254	...	{avirulent or attenuated}
A61K 2039/5256	...	{expressing foreign proteins}
A61K 2039/5258	...	{Virus-like particles}
A61K 2039/53	..	{DNA (RNA) vaccination}
A61K 2039/54	.	{characterised by the route of administration}
A61K 2039/541	..	{Mucosal route}
A61K 2039/542	...	{oral/gastrointestinal}
A61K 2039/543	...	{intranasal}
A61K 2039/544	...	{to the airways (intranasal A61K 2039/543)}
A61K 2039/545	.	{characterised by the dose, timing or administration schedule}
A61K 2039/55	.	{characterised by the host/recipient, e.g. newborn with maternal antibodies}
A61K 2039/552	..	{Veterinary vaccine}
A61K 2039/555	.	{characterised by a specific combination antigen/adjuvant}
A61K 2039/55505	..	{Inorganic adjuvants}
A61K 2039/55511	..	{Organic adjuvants}
A61K 2039/55516	...	{Proteins; Peptides}
A61K 2039/55522	...	{Cytokines; Lymphokines; Interferons}
A61K 2039/55527	....	{Interleukins}
A61K 2039/55533	.....	{IL-2}
A61K 2039/55538	.....	{IL-12}
A61K 2039/55544	...	{Bacterial toxins}
A61K 2039/5555	...	{Muramyl dipeptides}
A61K 2039/55555	...	{Liposomes; Vesicles, e.g. nanoparticles; Spheres, e.g. nanospheres; Polymers}
A61K 2039/55561	...	{CpG containing adjuvants; Oligonucleotide containing adjuvants}
A61K 2039/55566	...	{Emulsions, e.g. Freund's adjuvant, MF59}
A61K 2039/55572	...	{Lipopolysaccharides; Lipid A; Monophosphoryl lipid A}
A61K 2039/55577	...	{Saponins; Quil A; QS21; ISCOMS}
A61K 2039/55583	...	{Polysaccharides}

- A61K 2039/55588 . . {Adjuvants of undefined constitution}
- A61K 2039/55594 . . . {from bacteria}
- A61K 2039/57 . {characterised by the type of response, e.g. Th1, Th2}
- A61K 2039/572 . . {cytotoxic response}
- A61K 2039/575 . . {humoral response}
- A61K 2039/577 . . {tolerising response}
- A61K 2039/58 . {raising an immune response against a target which is not the antigen used for immunisation}
- A61K 2039/585 . . {wherein the target is cancer}
- A61K 2039/60 . {characteristics by the carrier linked to the antigen}
- A61K 2039/6006 . . {Cells (recombinantly expressing antigens [A61K 2039/5156](#), [A61K 2039/523](#))}
- A61K 2039/6012 . . {Haptens, e.g. di- or trinitrophenyl (DNP, TNP)}
- A61K 2039/6018 . . {Lipids, e.g. in lipopeptides}
- A61K 2039/6025 . . {Nucleotides}
- A61K 2039/6031 . . {Proteins}
- A61K 2039/6037 . . . {Bacterial toxins, e.g. diphtheria toxoid [DT], tetanus toxoid [TT]}
- A61K 2039/6043 . . . {Heat shock proteins}
- A61K 2039/605 . . . {MHC molecules or ligands thereof}
- A61K 2039/6056 . . . {Antibodies}
- A61K 2039/6062 . . . {Muramyl peptides}
- A61K 2039/6068 . . . {Other bacterial proteins, e.g. OMP}
- A61K 2039/6075 . . . {Viral proteins}
- A61K 2039/6081 . . . {Albumin; Keyhole limpet haemocyanin [KLH]}
- A61K 2039/6087 . . {Polysaccharides; Lipopolysaccharides [LPS]}
- A61K 2039/6093 . . {Synthetic polymers, e.g. polyethyleneglycol [PEG], Polymers or copolymers of (D) glutamate and (D) lysine}
- A61K 2039/62 . {characterised by the link between antigen and carrier}
- A61K 2039/622 . . {non-covalent binding}
- A61K 2039/625 . . {binding through the biotin-streptavidin system or similar}
- A61K 2039/627 . . {characterised by the linker}
- A61K 2039/64 . {characterised by the architecture of the carrier-antigen complex, e.g. repetition of carrier-antigen units}
- A61K 2039/645 . . {Dendrimers; Multiple antigen peptides}
- A61K 2039/70 . {Multivalent vaccine}
- A61K 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](#))**
- A61K 41/0004 . {Homeopathy; Vitalisation; Resonance; Dynamisation, e.g. esoteric applications; Oxygenation of blood}

A61K 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

A61K 41/0014

- .. {by ultrasonic waves}

A61K 41/0019

- .. {by UV, IR, Rx or gamma rays}

A61K 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 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

A61K 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}

A61K 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](#))}

A61K 41/0038

- . {Radiosensitizing, i.e. administration of pharmaceutical agents that enhance the effect of radiotherapy ([radiotherapy per se A61N 5/10](#))}

A61K 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}

A61K 41/0047

- . {Sonoporesis, 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]

A61K 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](#)

- A61K 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}
- A61K 41/0061 . . {5-aminolevulinic acid-based PDT: 5-ALA-PDT involving porphyrins or precursors of protoporphyrins generated in vivo from 5-ALA}
- A61K 41/0066 . . {Psoralene-activated UV-A photochemotherapy (PUVA-therapy), e.g. for treatment of psoriasis or eczema, extracorporeal photopheresis with psoralens or fucocoumarins}
- A61K 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}
- A61K 41/0076 . . {PDT with expanded (metallo)porphyrins, i.e. having more than 20 ring atoms, e.g. texaphyrins, sapphyrins, hexaphyrins, pentaphyrins, porphocyanines}
- A61K 41/008 . . {Two-Photon or Multi-Photon PDT, e.g. with upconverting dyes or photosensitisers}
- A61K 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}
- A61K 41/009 . {Neutron capture therapy, e.g. using uranium or non-boron material}
- A61K 41/0095 . . {Boron neutron capture therapy, i.e. BNCT, e.g. using boronated porphyrins}

- A61K 45/00** **Medicinal preparations containing active ingredients not provided for in groups [A61K 31/00](#) to [A61K 41/00](#)**
- A61K 45/05 . Immunological preparations stimulating the reticulo-endothelial system, e.g. against cancer
- A61K 45/06 . Mixtures of active ingredients without chemical characterisation, e.g. antiphlogistics and cardiaca

- A61K 47/00** **Medicinal preparations characterised by the non-active ingredients used, e.g. carriers, inert additives**
- A61K 47/02 . Inorganic compounds
- A61K 47/06 . Organic compounds, {e.g. mineral oil, petrolatum, synthetic polyolefins}
- A61K 47/08 . . containing oxygen, {e.g. ethers, acetals, ketones, quinones, aldehydes, peroxides}
- A61K 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](#))}
- A61K 47/12 . . . Carboxylic acids; Salts or anhydrides thereof
- A61K 47/14 . . . Esters of carboxylic acids {e.g. fatty acid monoglycerides, medium-chain triglycerides, parabens}
- A61K 47/16 . . containing nitrogen, {e.g. nitro-, nitroso-, azo-compounds, nitriles, cyanates}
- A61K 47/18 . . . Amines; Quaternary ammonium compounds, {e.g. amides, ureas}
- A61K 47/183 {Amino acids or aminosulphonic acids, e.g. glycine, EDTA, aspartame}
- A61K 47/186 {Quaternary ammonium compounds, e.g. benzalkonium chloride, cetrimide}
- A61K 47/20 . . containing sulfur, {e.g. DMSO, docusate, sodium lauryl sulfate ([A61K 47/183](#), [A61K 47/186](#) take precedence)}
- A61K 47/22 . . Heterocyclic compounds, {e.g. ascorbic acid, tocopherol, pyrrolidones ([A61K 47/183](#), [A61K 47/186](#) take precedence)}

- A61K 47/24 .. containing atoms other than carbon, hydrogen, oxygen, halogen, nitrogen or sulfur, {e.g. cyclomethicone, phospholipids}
- A61K 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)}
- A61K 47/28 .. Steroids, {e.g. cholesterol, bile acids, glycyrrhetinic acid ([A61K 47/183](#), [A61K 47/186](#) take precedence)}
- A61K 47/30 . Macromolecular compounds
- A61K 47/32 .. Macromolecular compounds obtained by reactions only involving carbon-to-carbon unsaturated bonds, {e.g. carbomers, poly(meth)acrylates, polyvinyl pyrrolidone}
- A61K 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](#)

- A61K 47/36 .. Polysaccharides; Derivatives thereof, {e.g. gums, starch, alginate, dextrin, hyaluronic acid, chitosan, inulin, agar, pectin}
- A61K 47/38 ... Cellulose; Derivatives thereof
- A61K 47/40 ... Cyclodextrins; Derivatives thereof {(cyclodextrin inclusion compounds [A61K 47/48969](#))}
- A61K 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](#))}
- A61K 47/44 . Oils, fats or waxes according to more than one of groups [A61K 47/02](#) to [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](#))}
- A61K 47/46 . Ingredients of undetermined constitution or reaction products thereof, {e.g. skin, bone, milk, cotton fiber, eggshell, oxgall, plant extracts}
- A61K 47/48 . the non-active ingredient being chemically bound to the active ingredient, e.g. polymer drug conjugates
- A61K 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](#)

A61K 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](#)

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

A61K 47/4803 {the modifying agent being an organic ion that forms an ion pair complex with the pharmacologically or therapeutically active agent.}

A61K 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

A61K 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](#)

A61K 47/48053 {the modifying agent being a phospholipid.}

A61K 47/48061 {the modifying agent being a heterocyclic compound ([A61K 47/48153](#) takes precedence)}

A61K 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](#)

A61K 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, 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

A61K 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](#)

A61K 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

A61K 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](#)

A61K 47/48107 {one of the codrug's components being a vitamin, e.g. niacinamide (vitamin B3), cobalamin (vitamin B12), folate, vitamin A, retinoic acid}

A61K 47/48115 {one of the codrug's components being an antibiotic}

A61K 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](#)

A61K 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]

A61K 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

A61K 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

A61K 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](#)

A61K 47/48161 {Redox delivery systems, e.g. dihydropyridine pyridinium salt redox systems}

A61K 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

A61K 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}

A61K 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}

A61K 47/48192 . . . {the organic macromolecular compound has been obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds, e.g. polyureas, polyurethanes}

A61K 47/482 {the macromolecule is/contains a polyester, e.g. PLGA, polylactide-co-glycolide}

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

A61K 47/48215 {the organic macromolecular compound being a polyoxyalkylene oligomer, polymer, dendrimer, e.g. PEG, PPG, PEO, polyglycerol}

A61K 47/48223 {the macromolecule contains phosphorus in the main chain, e.g. polyphosphazene}

A61K 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

A61K 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.

A61K 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.

A61K 47/48253 . . . {the peptide, protein or polyamino acid in the drug conjugate being a branched, dendritic or hypercomb peptide}

A61K 47/48261 . . . {the peptide or protein in the drug conjugate being a toxin or a lectin, e.g. clostridial toxins or *Pseudomonas* exotoxin}

A61K 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

A61K 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

A61K 47/48284	....	{the peptide or protein in the drug conjugate being an albumin, e.g. HSA, BSA, ovalbumin, or a Keyhole Limpet Hemocyanin [KHL]}
A61K 47/48292	....	{the peptide or protein in the drug conjugate being a connective tissue peptide, e.g. collagen, fibronectin, gelatin}
A61K 47/483	....	{the peptide or protein in the drug conjugate being a transferrin, e.g. a lactoferrin or ovotransferrin}
A61K 47/48307	....	{the peptide or protein in the drug conjugate being a haemoglobin}
A61K 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}
A61K 47/48323	.....	{polyanionic oligopeptide, polypeptide or polyamino acid, used to complex nucleic acids being the therapeutic agent}
A61K 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](#)

A61K 47/48338	...	{peptidic linker, binder, spacer, e.g. peptidic enzyme-labile linker}
A61K 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

A61K 47/48353	{pretargeting system, clearing therapy or rescue therapy involving biotin-(strept) avidin systems}
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NOTE

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

A61K 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

A61K 47/48369 . . {the modifying part being an antibody, an immunoglobulin, or a fragment thereof, e.g. a Fc-fragment}

A61K 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

A61K 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 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

A61K 47/48392 {the drug being a vinca alkaloid}

A61K 47/484 {the drug or compound being a sugar, nucleoside, nucleotide, nucleic acid, e.g. RNA antisense}

A61K 47/48407 {the drug being an antibiotic, e.g. one of the antitumor antibiotics: anthracyclins, adriamycin, doxorubicin, daunomycin}

A61K 47/48415 {the drug being a protein or peptide, e.g. transferrin or bleomycin}

A61K 47/48423 {the drug being a peptidic cytokine, e.g. an interleukin or interferon}

A61K 47/4843 {the drug being an enzyme}

A61K 47/48438 {the drug being a toxin}

A61K 47/48446 {the drug being a plant toxin}

A61K 47/48453 {the drug being a plant heterodimeric toxin; chains A or B containing toxins, e.g. abrin, modeccin}

A61K 47/48461 {the drug being ricin (double chain)}

A61K 47/48469	.....	{the drug being a ribosomal inhibitory protein,(RIP-i or RIP-II), e.g. Pap, gelonin, dianthin}
A61K 47/48476	.....	{the drug being ricin A}
A61K 47/48484	.....	{the drug being a bacterial toxin, e.g. diphtheria toxin, Pseudomonas exotoxin A}
A61K 47/48492	.....	{the drug being a fungal toxin, e.g. alpha sarcine, mitogillin, zinniol, restrictocin}
A61K 47/485	.....	{the drug being a viral toxin}
A61K 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

A61K 47/48515	....	{not used; see subgroups}
A61K 47/48523	.....	{the antibody being against material from viruses}
A61K 47/4853	.....	{the antibody being targeting a RNA virus}
A61K 47/48538	.....	{the antibody being targeting a material from animals or humans.}
A61K 47/48546	.....	{the antibody being targeting a cytokine, e.g. growth factors, VEGF, TNF, a lymphokine or an interferon}
A61K 47/48553	.....	{the antibody being targeting an hormone, or an hormone-releasing or -inhibiting factor}
A61K 47/48561	.....	{the antibody being targeting a receptor, a cell surface antigen, a cell surface determinant}
A61K 47/48569	.....	{the antibody being targeting a determinant of a tumour cell}
A61K 47/48576	.....	{the tumour determinant being carcino-embryonic antigen}
A61K 47/48584	.....	{the tumour determinant being from breast cancer cell}
A61K 47/48592	.....	{the tumour determinant being from lung cancer cell}
A61K 47/486	.....	{the tumour determinant being from liver or pancreas cancer cell}
A61K 47/48607	.....	{the tumour determinant being from kidney or bladder cancer cell}
A61K 47/48615	.....	{the tumour determinant being from stomach or intestines cancer cell}
A61K 47/48623	.....	{the tumour determinant being from skin, nerves or brain cancer cell}
A61K 47/4863	.....	{the tumour determinant being from a cell of a blood cancer}
A61K 47/48638	.....	{the tumour determinant being from a cell of the reproductive system: ovaria, uterus, testes, prostate}
A61K 47/48646	.....	{the antibody being targeting an enzyme}
A61K 47/48653	.....	{the antibody being targeting an immunoglobulin, being an anti-idiotypic antibody}
A61K 47/48661	.....	{the antibody being a hybrid immunoglobulin}
A61K 47/48669	.....	{the antibody being an immunoglobulin containing regions, domains, residues from different species}

A61K 47/48676	.....	{the immunoglobulin has two or more different antigen-binding sites, e.g. bispecific or multispecific immunoglobulin}
A61K 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 that are covalently linked to each other}
A61K 47/48692	....	{polymer-drug antibody conjugates, e.g. mitomycin-dextran-Ab; DNA-polylysine-antibody complex or conjugate, used for therapy}
A61K 47/487	.....	{the conjugate or the polymer being a starburst, a dendrimer, a cascade}
A61K 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)}
A61K 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}
A61K 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

A61K 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 }
A61K 47/48738	....	{rescue therapy; agonist-antagonist; antidote; targeted rescue or protection e.g. folic acid-folinic acid, conjugated to antibodies both or only one}
A61K 47/48746	....	{two or three steps pretargeting systems, wherein an antibody conjugate being used in at least one of the steps; ligand-antiligand therapy}
A61K 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

A61K 47/48753

(continued)

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

A61K 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

A61K 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

A61K 47/48776

...

{forms of ingredients not provided for by groups [A61K 47/48784](#) to [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 isclassified in [A61K 9/5068](#); simple encapsulation in a virus capsid is classified in [A61K 9/5184](#)

A61K 47/48784

...

{the form being semi-solid, an ointment, a gel, a hydrogel, a solidifying gel}

A61K 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}

A61K 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](#)

A61K 47/48807 {micelles formed by phospholipids}

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

A61K 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

A61K 47/4883 {the form being a polymersome, i.e. a liposome with polymerisable or polymerized bilayer-forming substances}

NOTE

A61K 47/4883

(continued)

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](#)

A61K 47/48838 {the form being a lipoprotein vesicle, e.g. HDL and LDL proteins}

A61K 47/48846 {the form being a ribbon, tubule cochleate}

A61K 47/48853 . . . {the form being a particulate, powder, adsorbate, bead, sphere}

A61K 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

A61K 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](#)

A61K 47/48876 {the form being a solid microparticle having no hollow or gas-filled core}

NOTE

{ Note Its size or diameter being higher or equal to 1 micrometer }

A61K 47/48884 {the form being a nanoparticle, e.g. an immuno-nanoparticle}

NOTE

{ Note Its size or diameter being smaller than 1 micrometer. Classification being also made according to the nature of the antibody with the appropriate [A61K 47/48515](#) subgroup }

A61K 47/48892 {the material constituting the nanoparticle being a polymer}

NOTE

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

A61K 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}

A61K 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}
A61K 47/48915	.....	{the polymer being PLGA, PLA or polyglycolic acid}
A61K 47/48923	.....	{the polymer being a polysaccharide, e.g. starch, chitosan, chitin, cellulose, pectin}
A61K 47/4893	....	{the form being a granulate or an agglomerate}
A61K 47/48938	...	{the form being a pill, tablet, lozenge, capsule}
A61K 47/48946	...	{Microcapsules}
A61K 47/48953	....	{Nanocapsules; Nanoparticles, e.g. immunonanoparticles}
A61K 47/48961	...	{the conjugate being in the form of a host-guest, i.e. being an inclusion complex, e.g. clathrate, cavitare, fullerene}
A61K 47/48969	....	{inclusion being performed with a cyclodextrin (cyclodextrins used as simple excipients A61K 47/40)}
A61K 47/48976	...	{the form being a fibre, textile, slabb, sheet}
A61K 47/48984	...	{the form being a plaster, bandage, dressing, patch}
A61K 47/48992	...	{the form being a device, kit .e.g. stent, microdevice}

A61K 48/00 **Medicinal preparations containing genetic material which is inserted into cells of the living body to treat genetic diseases; Gene therapy**

NOTE

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.

A61K 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}
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- A61K 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}
- A61K 48/0025 .. {wherein the non-active part clearly interacts with the delivered nucleic acid}
- A61K 48/0033 ... {the non-active part being non-polymeric}
- A61K 48/0041 ... {the non-active part being polymeric}
- A61K 48/005 . {characterised by an aspect of the `active` part of the composition delivered, i.e. the nucleic acid delivered}
- A61K 48/0058 .. {Nucleic acids adapted for tissue specific expression, e.g. having tissue specific promoters as part of a construct}
- A61K 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}
- A61K 48/0075 . {characterised by an aspect of the delivery route, e.g. oral, subcutaneous}
- A61K 48/0083 . {characterised by an aspect of the administration regime}
- A61K 48/0091 . {Purification or manufacturing processes for gene therapy compositions}

A61K 49/00**Preparations for testing in vivo**

- A61K 49/0002 . {General or multifunctional contrast agents, e.g. chelated agents}
- A61K 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}
- A61K 49/0006 .. {Skin tests, e.g. intradermal testing, test strips, delayed hypersensitivity}
- A61K 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}
- A61K 49/001 . {Preparation for luminescence or biological staining}
- A61K 49/0013 .. {Luminescence}
- A61K 49/0015 ... {Phosphorescence}
- A61K 49/0017 ... {Fluorescence in vivo}
- A61K 49/0019 {characterised by the fluorescent group}
- A61K 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

- A61K 49/0023 {Di- or triarylmethane dye ([xanthene dyes A61K 49/0041](#))}
- A61K 49/0026 {Acridine dyes}
- A61K 49/0028 {Oxazine dyes}
- A61K 49/003 {Thiazine dyes}
- A61K 49/0032 {Methine dyes, e.g. cyanine dyes}
- A61K 49/0034 {Indocyanine green, i.e. ICG, cardiogreen üC1206}

A61K 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)}
A61K 49/0039	.....	{Coumarin dyes}
A61K 49/0041	.....	{Xanthene dyes, used in vivo, e.g. administered to a mice, e.g. rhodamines, rose Bengal (in vivo G01N)}
A61K 49/0043	.....	{Fluorescein, used in vivo}
A61K 49/0045	.....	{the fluorescent agent being a peptide or protein used for imaging or diagnosis in vivo}
A61K 49/0047	.....	{Green fluorescent protein [GFP]}
A61K 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](#)

A61K 49/0052	.....	{Small organic molecules (oligomers, polymers, dendrimers A61K 49/0054)}
A61K 49/0054	.....	{Macromolecular compounds, i.e. oligomers, polymers, dendrimers}
A61K 49/0056	.....	{Peptides, proteins, polyamino acids}
A61K 49/0058	.....	{Antibodies}
A61K 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](#)]

A61K 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

A61K 49/0065	...	{the luminescent/fluorescent agent having itself a special physical form, e.g. gold nanoparticle}
A61K 49/0067	....	{quantum dots, fluorescent nanocrystals}

NOTE

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

A61K 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

A61K 49/0071 {solution, solute}

A61K 49/0073 {semi-solid, gel, hydrogel, ointment}

A61K 49/0076 {dispersion, suspension, e.g. particles in a liquid, colloid, emulsion}

A61K 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

A61K 49/008 {lipoprotein vesicle, e.g. HDL or LDL proteins}

A61K 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

A61K 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 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](#)

A61K 49/0086 {Polymersome, i.e. liposome with polymerisable or polymerized bilayered-forming substances}

A61K 49/0089 {Particulate, powder, adsorbate, bead, sphere}

A61K 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](#)

A61K 49/0093 {Nanoparticle, nanocapsule, nanobubble, nanosphere, nanobead, i.e. having a size or diameter smaller than 1 micrometer, e.g. polymeric nanoparticle}

A61K 49/0095 {Nanotubes}

A61K 49/0097 {Cells, viruses, ghosts, red blood cells, viral vectors, used for imaging or diagnosis in vivo}

A61K 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](#) to [C07J](#) according to the type of compound

A61K 49/0404 . . {containing barium sulfate}

A61K 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}

A61K 49/0414 . . . {Particles, beads, capsules or spheres}

A61K 49/0419 {Microparticles, microbeads, microcapsules, microspheres, i.e. having a size or diameter higher or equal to 1 micrometer}

A61K 49/0423 {Nanoparticles, nanobeads, nanospheres, nanocapsules, i.e. having a size or diameter smaller than 1 micrometer}

A61K 49/0428 {Surface-modified nanoparticles, e.g. immuno-nanoparticles}

A61K 49/0433 . . {containing an organic halogenated X-ray contrast-enhancing agent}

A61K 49/0438 . . . {Organic X-ray contrast-enhancing agent comprising an iodinated group or an iodine atom, e.g. iopamidol}

A61K 49/0442 . . . {Polymeric X-ray contrast-enhancing agent comprising a halogenated group}

A61K 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}

A61K 49/0452 {Solutions, e.g. for injection}

A61K 49/0457 {Semi-solid forms, ointments, gels, hydrogels}

A61K 49/0461 {Dispersions, colloids, emulsions or suspensions}

A61K 49/0466 {Liposomes, lipoprotein vesicles, e.g. HDL or LDL lipoproteins, phospholipidic or polymeric micelles}

A61K 49/0471 {Perflubron, i.e. perfluorooctylbromide, C₈F₁₇Br emulsions}

- A61K 49/0476 {Particles, beads, capsules, spheres}
- A61K 49/048 {Microparticles, microbeads, microcapsules, microspheres, i.e. having a size or diameter higher or equal to 1 micrometer}
- A61K 49/0485 {Nanoparticles, nanobeads, nanospheres, nanocapsules, i.e. having a size or diameter smaller than 1 micrometer}
- A61K 49/049 {Surface-modified nanoparticles, e.g. immune-nanoparticles}
- A61K 49/0495 {intended for oral administration}
- A61K 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. ^{129}Xe

- A61K 49/08 . . characterised by the carrier

NOTE

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

- A61K 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. $[\text{Gd}^{3+}]\text{DOTA}$ -polymer to be classified in [A61K 49/085](#) and in the appropriate [A61K 49/12](#) adequate subgroup

- A61K 49/10 . . . Organic compounds

NOTE

the carrier being an organic compound, e.g. ^{13}C -labelled molecule or perfluorinated alkane, used as MRI in vivo probe, or a small organic molecule, e.g. a sugar, linked to a Gd-chelate

- A61K 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,

A61K 49/101

(continued)

peptide, protein or antibody. In that latter case, the MRI probe being e.g. a paramagnetic metal chelate]

A61K 49/103

.....

{the complex-forming compound being acyclic, e.g. DTPA}

A61K 49/105

.....

{the metal complex being Gd-DTPA}

A61K 49/106

.....

{the complex-forming compound being cyclic, e.g. DOTA}

A61K 49/108

.....

{the metal complex being Gd-DOTA}

A61K 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](#))

A61K 49/122

.....

{dimers of complexes or complex-forming compounds}

A61K 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](#)

A61K 49/126

.....

{Linear polymers, e.g. dextran, inulin, PEG}

A61K 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](#)

A61K 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

A61K 49/143

.....

{the protein being an albumin, e.g. HSA, BSA, ovalbumin}

A61K 49/146

.....

{the peptide being a polyamino acid, e.g. poly-lysine}

A61K 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

A61K 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

A61K 49/1803 . . . {Semi-solid preparations, e.g. ointments, gels, hydrogels}

A61K 49/1806 . . . {Suspensions, emulsions, colloids, dispersions}

A61K 49/1809 {Micelles, e.g. phospholipidic or polymeric micelles}

A61K 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

A61K 49/1815 {compo-inhalant, e.g. breath tests}

A61K 49/1818 . . . {particles, e.g. uncoated or non-functionalised microparticles or nanoparticles}

NOTE

For nanoparticles, i.e. having a size or diameter smaller than 1 micrometer, the subgroups [B82Y 5/00](#) and [B82Y 15/00](#) are also given

A61K 49/1821 {coated or functionalised microparticles or nanoparticles}

A61K 49/1824 {coated or functionalised nanoparticles ([liposomes A61K 49/1812](#); [nano-emulsions A61K 49/1806](#); [micelles A61K 49/1809](#))}

A61K 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}

A61K 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}

A61K 49/1833 {having a (super)(para)magnetic core coated or functionalised with a small organic molecule ([oligomeric, polymeric, dendrimeric A61K 49/1851](#))}

A61K 49/1836	.....	{the small organic molecule being a carboxylic acid having less than 8 carbon atoms in the main chain}
A61K 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}
A61K 49/1842	.....	{the small organic molecule being a phosphate or a phosphonate, not being a phospholipid}
A61K 49/1845	.....	{the small organic molecule being a carbohydrate (monosaccharides, disaccharides)}
A61K 49/1848	.....	{the small organic molecule being a silane}
A61K 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 A61K 49/1866 ; polyamino acid A61K 49/1872 ; antibody A61K 49/1875)}

NOTE

In case of block copolymers, the different (large) blocks are classified in the appropriate [A61K 47/48169](#) or [A61K 47/48238](#) subgroups

A61K 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}
A61K 49/1857	.....	{the organic macromolecular compound being obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds, e.g. PLGA}
A61K 49/186	.....	{the organic macromolecular compound being polyethyleneglycol [PEG]}
A61K 49/1863	.....	{the organic macromolecular compound being a polysaccharide or derivative thereof, e.g. chitosan, chitin, cellulose, pectin, starch}
A61K 49/1866	.....	{the nanoparticle having a (super)(para)magnetic core coated or functionalised with a peptide, e.g. protein, polyamino acid}
A61K 49/1869	.....	{coated or functionalised with a protein being an albumin, e.g. HSA, BSA, ovalbumin}
A61K 49/1872	.....	{coated or functionalised with a polyamino acid, e.g. polylysine, polyglutamic acid}
A61K 49/1875	.....	{coated or functionalised with an antibody}
A61K 49/1878	.....	{the nanoparticle having a magnetically inert core and a (super)(para)magnetic coating}
A61K 49/1881	.....	{wherein the coating consists of chelates, i.e. chelating group complexing a (super)(para)magnetic ion, bound to the surface}
A61K 49/1884	....	{Nanotubes, nanorods or nanowires}
A61K 49/1887	....	{Agglomerates, clusters, i.e. more than one (super)(para)magnetic microparticle or nanoparticle are aggregated or entrapped in the same matrix}
A61K 49/189	...	{Host-guest complexes, e.g. cyclodextrins}
A61K 49/1893	....	{Molecular sieves}

- A61K 49/1896 . . . {not provided for elsewhere, e.g. cells, viruses, ghosts, red blood cells, virus capsides}
- A61K 49/20 . . containing free radicals {e.g. trityl radical for overhauser}
- A61K 49/22 . Echographic preparations; Ultrasound imaging preparation {Optoacoustic imaging preparations}
- A61K 49/221 . . {characterised by the targeting agent or modifying agent linked to the acoustically-active agent}
- A61K 49/222 . . {characterised by a special physical form, e.g. emulsions, liposomes}
- A61K 49/223 . . . {Micro-bubbles, hollow microspheres, free gas bubbles, gas microspheres}
- A61K 49/225 . . . {Microparticles, microcapsules (gas-filled to be classified in [A61K 49/223](#))}
- A61K 49/226 . . . {Solute, emulsions, suspensions, dispersions, semi-solid forms, e.g. hydrogels}
- A61K 49/227 . . . {Liposomes, lipoprotein vesicles, e.g. LDL or HDL lipoproteins, micelles, e.g. phospholipidic or polymeric}
- A61K 49/228 . . . {Host-guest complexes, clathrates, chelates}

A61K 51/00 Preparations containing radioactive substances for use in therapy or testing in vivo

- A61K 51/02 . characterised by the carrier, {i.e. characterised by the agent or material covalently linked or complexing the radioactive nucleus}
- A61K 51/025 . . {inorganic Tc complexes or compounds}
- A61K 51/04 . . organic compounds

NOTE

Organic compounds used as carriers

- A61K 51/0402 . . . {carboxylic acid carriers, fatty acids (amino acids [A61K 51/0406](#))}
- A61K 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](#))}
- A61K 51/0406 {Amines, polyamines, e.g. spermine, spermidine, amino acids, (bis)guanidines}
- A61K 51/0408 {Phospholipids (liposomes encapsulating the radioactive probe or having no radiolabelled phospholipids [A61K 51/1231](#))}
- A61K 51/041 . . . {Heterocyclic compounds.}

NOTE

Under this group, the last place rule is followed

- A61K 51/0412 {having oxygen as the only ring hetero atom, e.g. fungichromin}
- A61K 51/0414 {having three-membered rings, e.g. oxirane, fumagillin}
- A61K 51/0417 {having four-membered rings, e.g. taxol}
- A61K 51/0419 {having five-membered rings with one oxygen as the only ring hetero atom, e.g. isosorbide}

A61K 51/0421	.....	{having six-membered rings with one oxygen as the only ring hetero atom}
A61K 51/0423	.....	{having two or more oxygen atoms in the same ring, e.g. crown ethers, guanadrel}
A61K 51/0425	.....	{compounds containing methylenedioxyphenol groups, e.g. sesamin}
A61K 51/0427	.....	{Lactones}
A61K 51/0429	....	{having sulfur as a ring hetero atom}
A61K 51/0431	.....	{having five-membered rings}
A61K 51/0434	.....	{having six-membered rings, e.g. thioxanthenes (thiotixene A61K 51/0459)}
A61K 51/0436	.....	{having two or more sulfur atoms in the same ring}
A61K 51/0438	.....	{having oxygen in the same ring}
A61K 51/044	....	{having nitrogen as a ring hetero atom, e.g. guanethidine, rifamycins (rifampin A61K 51/0459)}
A61K 51/0442	.....	{having three-membered rings, e.g. aziridine}
A61K 51/0444	.....	{having four-membered rings, e.g. azetidine}
A61K 51/0446	.....	{having five-membered rings with one nitrogen as the only ring hetero atom, e.g. sulpiride, succinimide, tolmetin, buflomedil}
A61K 51/0448	.....	{tropane or nortropane groups, e.g. cocaine}
A61K 51/0451	.....	{having four such rings, e.g. porphyrine 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](#)

A61K 51/0453	.....	{having five-membered rings with two or more ring hetero atoms, at least one of which being nitrogen, e.g. tetrazole}
A61K 51/0455	.....	{having six-membered rings with one nitrogen as the only ring hetero atom}
A61K 51/0457	.....	{Vesamicol}
A61K 51/0459	.....	{having six-membered rings with two nitrogen atoms as the only ring hetero atoms, e.g. piperazine}
A61K 51/0461	.....	{having six-membered rings with three nitrogens as the only ring hetero atoms, e.g. chlorazanyl, melamine (melarsoprol A61K 51/0472)}
A61K 51/0463	.....	{having six-membered rings with at least one nitrogen and one oxygen as the ring hetero atoms, e.g. 1,2-oxazines}
A61K 51/0465	.....	{having six-membered rings with at least one nitrogen and one sulfur as the ring hetero atoms, e.g. sulthiame}
A61K 51/0468	.....	{having seven-membered rings, e.g. azelastine, pentylentetrazole}
A61K 51/047	.....	{Benzodiazepines}
A61K 51/0472	....	{containing heavy metals, e.g. hemin, hematin, melarsoprol}

A61K 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 N_2S_2 , N_3S , NS_3 , 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

A61K 51/0476 {complexes from monodentate ligands, e.g. sestamibi}

A61K 51/0478 {complexes from non-cyclic ligands, e.g. EDTA, MAG3}

A61K 51/048 {DTPA (diethylenetriamine tetraacetic acid)}

A61K 51/0482 {chelates from cyclic ligands, e.g. DOTA}

A61K 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. ^{11}C) or substituted with a radioactive nucleus (e.g. ^{18}F), are classified in [A61K 51/0451](#)

A61K 51/0487 {Metallocenes, i.e. complexes based on a radioactive metal complexed by two cyclopentadienyl anions}

A61K 51/0489 ... {Phosphates or phosphonates, e.g. bone-seeking phosphonates; (phospholipids: [A61K 51/0408](#); nucleotides or nucleic acids: [A61K 51/0491](#))}

A61K 51/0491 ... {Sugars, nucleosides, nucleotides, oligonucleotides, nucleic acids, e.g. DNA, RNA, nucleic acid aptamers}

A61K 51/0493 ... {Steroids, e.g. cholesterol, testosterone}

A61K 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

A61K 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

A61K 51/0497

(continued)

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. ¹¹¹In-DTPA-glucose is classified in [A61K 51/0497](#) (not in [A61K 51/048](#)) and in [A61K 51/0491](#)

A61K 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](#))}

A61K 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. ¹¹¹In-DTPA-PEG is classified in [A61K 51/065](#) and new DTPA-like derivatives conjugated to PEG and complexing ¹¹¹In for use in vivo is classified in [A61K 51/0478](#) and [A61K 51/065](#)

A61K 51/08

...

Peptides, e.g. proteins, {carriers being peptides, polyamino acids, proteins}

A61K 51/081

....

{the protein being an albumin, e.g. human serum albumin [HSA], bovine serum albumin [BSA], ovalbumin}

A61K 51/082

....

{the peptide being a RGD-containing peptide}

A61K 51/083

....

{the peptide being octreotide or a somatostatin-receptor-binding peptide}

A61K 51/084

....

{the peptide being oxytocin}

A61K 51/085

....

{the peptide being neurotensin}

A61K 51/086

....

{the peptide being alphaMSH, alpha melanocyte stimulating hormone}

A61K 51/087

....

{the peptide being an annexin, e.g. annexin V}

A61K 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. ¹¹¹In-DTPA-interleukin 2 is classified in [A61K 51/088](#); new DTPA-like

A61K 51/088

(continued)

derivatives conjugated to interleukin 2 and complexing ^{111}In for use in vivo is classified in [A61K 51/0478](#) and [A61K 51/088](#)

A61K 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}
A61K 51/1003	.....	{not used, see subgroups}
A61K 51/1006	.....	{the antibody being against or targeting material from viruses}
A61K 51/1009	.....	{against material from bacteria}
A61K 51/1012	.....	{against material from fungi, lichens, algae}
A61K 51/1015	.....	{against material from plants}
A61K 51/1018	.....	{against material from animals or humans}
A61K 51/1021	.....	{against cytokines, e.g. growth factors, VEGF, TNF, lymphokines, interferons}
A61K 51/1024	.....	{against hormones, hormone-releasing or hormone-inhibiting factors}
A61K 51/1027	.....	{against receptors, cell-surface antigens, cell-surface determinants}
A61K 51/103	.....	{against receptors for growth factors or receptors for growth regulators}
A61K 51/1033	.....	{against receptors for cytokines, lymphokines, interferons}
A61K 51/1036	.....	{against hormone receptors}
A61K 51/1039	.....	{against T-cell receptors}
A61K 51/1042	.....	{against Tcell receptor (TcR)-CD3 complex}
A61K 51/1045	.....	{against animal or human tumor cells or tumor cell determinants}
A61K 51/1048	.....	{the tumor cell determinant being a carcino embryonic antigen}
A61K 51/1051	.....	{the tumor cell being from breast, e.g. the antibody being herceptin}
A61K 51/1054	.....	{the tumor cell being from lung}
A61K 51/1057	.....	{the tumour cell being from liver or pancreas}
A61K 51/106	.....	{the tumor cell being from kidney, bladder}
A61K 51/1063	.....	{the tumor cell being from stomach or intestines}
A61K 51/1066	.....	{the tumor cell being from skin}
A61K 51/1069	.....	{the tumor cell being from blood cells, e.g. the cancer being a myeloma}
A61K 51/1072	.....	{the tumor cell being from the reproductive system, e.g. ovaria, uterus, testes, prostate}
A61K 51/1075	.....	{the antibody being against an enzyme}
A61K 51/1078	.....	{the antibody being against an immunoglobulin, i.e. being an (anti)-anti-idiotypic antibody}
A61K 51/1081	.....	{the antibody being against a material not provided elsewhere}
A61K 51/1084	.....	{the antibody being a hybrid immunoglobulin}
A61K 51/1087	.....	{the immunoglobulin comprises domains from different animal species, e.g. chimeric immunoglobulins}

A61K 51/109	.....	{immunoglobulins having two or more different antigen-binding sites, multifunctional antibodies}
A61K 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. ¹¹¹In-DTPA-herceptin being classified in [A61K 51/1093](#) and [A61K 51/1051](#), new DTPA-like derivatives conjugated to herceptin and complexing ¹¹¹In for use in vivo being classified in [A61K 51/0478](#), [A61K 51/1093](#) and [A61K 51/1051](#)

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

NOTE

Liposomes modified on their external surface by a targeting agent, e.g. an antibody, are not additionally classified with the symbol of the targeting agent

A61K 51/1237	....	{Polymersomes, i.e. liposomes with polymerisable or polymerized bilayer-forming substances}
A61K 51/1241	..	{particles, powders, lyophilizates, adsorbates, e.g. polymers or resins for adsorption or ion-exchange resins}
A61K 51/1244	...	{micro- particles or nano-particles, e.g. polymeric nanoparticles}

A61K 51/1248	.... {nanotubes}
A61K 51/1251	.... {micro- or nano-spheres, micro- or nano-beads, micro- or nano-capsules}
A61K 51/1255	... {Granulates, agglomerates, microspheres}
A61K 51/1258	.. {Pills, tablets, lozenges}
A61K 51/1262	.. {Capsules}
A61K 51/1265	... {Microcapsules}
A61K 51/1268	.. {host-guest, closed hollow molecules, inclusion complexes, e.g. with cyclodextrins, clathrates, cavities, fullerenes}
A61K 51/1272	.. {Sponges}
A61K 51/1275	.. {Fibers, textiles, slabs, or sheets}
A61K 51/1279	.. {Plasters, bandages, dressings, patches or adhesives}
A61K 51/1282	.. {Devices used in vivo and carrying the radioactive therapeutic or diagnostic agent, therapeutic or in vivo diagnostic kits, stents}
A61K 51/1286	... {Ampoules, glass carriers carrying the therapeutic or in vivo diagnostic agent}
A61K 51/1289	... {Devices or containers for impregnation, for emanation, e.g. bottles or jars for radioactive water for use in radiotherapy}
A61K 51/1293	.. {Radioactive cosmetics, e.g. radioactive bathsalts, soaps}
A61K 51/1296	.. {Radioactive food, e.g. chocolates, drinks}

A61K 2121/00 Preparations for use in therapy

A61K 2123/00 Preparations for testing in vivo

A61K 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

A61K 2236/10	. Preparation or pretreatment of starting material
A61K 2236/11	.. involving culturing conditions, e.g. cultivation in the dark or under defined water stress
A61K 2236/13	.. involving cleaning, e.g. washing or peeling
A61K 2236/15	.. involving mechanical treatment, e.g. chopping up, cutting or grinding
A61K 2236/17	.. involving drying, e.g. sun-drying or wilting
A61K 2236/19	.. involving fermentation using yeast, bacteria or both; enzymatic treatment (fermentation or enzyme-using processes in general C12P)
A61K 2236/30	. Extraction of the material
A61K 2236/31	.. involving untreated material, e.g. fruit juice or sap obtained from fresh plants
A61K 2236/33	.. involving extraction with hydrophilic solvents, e.g. lower alcohols, esters or ketones

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

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

A61K 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](#)

- A61K 2800/10 . General cosmetic use
- A61K 2800/20 . Chemical, physico-chemical or functional or structural properties of the composition as a whole
- A61K 2800/21 . . Emulsions characterized by droplet sizes below 1 micron
- A61K 2800/22 . . Gas releasing
- A61K 2800/222 . . . Effervescent
- A61K 2800/24 . . Thermal properties
- A61K 2800/242 . . . Exothermic; Self-heating; Heating sensation
- A61K 2800/244 . . . Endothermic; Cooling; Cooling sensation
- A61K 2800/26 . . Optical properties
- A61K 2800/262 . . . Transparent; Translucent
- A61K 2800/28 . . Rubbing or scrubbing compositions; Peeling or abrasive compositions; Containing exfoliants
- A61K 2800/30 . . Characterized by the absence of a particular group of ingredients
- A61K 2800/31 . . . Anhydrous
- A61K 2800/33 . . . Free of surfactant

A61K 2800/34	...	Free of silicones
A61K 2800/40	.	Chemical, physico-chemical or functional or structural properties of particular ingredients
A61K 2800/41	..	Particular ingredients further characterized by their size
A61K 2800/412	...	Micro-sized, i.e. having sizes between 0.1 and 100 microns
A61K 2800/413	...	Nano-sized, i.e. having sizes below 100 nm
A61K 2800/42	..	Colour properties
A61K 2800/43	...	Pigments; Dyes
A61K 2800/432	....	Direct dyes
A61K 2800/4322	.....	in preparations for temporarily coloring the hair further containing an oxidizing agent
A61K 2800/4324	.....	in preparations for permanently dyeing the hair
A61K 2800/434	....	Luminescent, Fluorescent; Optical brighteners; Photosensitizers
A61K 2800/436	....	Interference pigments, e.g. Iridescent, Pearlescent
A61K 2800/437	....	Diffraction phenomena; Photonic arrays
A61K 2800/438	....	Thermochromatic; Photochromic; Phototropic
A61K 2800/45	...	Colour indicators, e.g. pH- or Redox indicators
A61K 2800/47	..	Magnetic materials; Paramagnetic compounds
A61K 2800/48	..	Thickener, Thickening system
A61K 2800/49	..	Solubiliser, Solubilising system
A61K 2800/51	..	Chelating agents
A61K 2800/52	..	Stabilizers
A61K 2800/522	...	Antioxidants; Radical scavengers
A61K 2800/524	...	Preservatives
A61K 2800/526	...	Corrosion inhibitors
A61K 2800/54	..	Polymers characterized by specific structures/properties
A61K 2800/542	...	characterized by the charge
A61K 2800/5422	....	nonionic
A61K 2800/5424	....	anionic
A61K 2800/5426	....	cationic
A61K 2800/5428	....	amphoteric or zwitterionic
A61K 2800/544	...	Dendrimers, Hyperbranched polymers
A61K 2800/546	...	Swellable particulate polymers
A61K 2800/548	...	Associative polymers
A61K 2800/56	..	Compounds, absorbed onto or entrapped into a solid carrier, e.g. encapsulated perfumes, inclusion compounds, sustained release forms
A61K 2800/57	..	Compounds covalently linked to a(n inert) carrier molecule, e.g. conjugates, pro-fragrances
A61K 2800/58	..	Metal complex; Coordination compounds
A61K 2800/59	..	Mixtures

A61K 2800/591	...	Mixtures of compounds not provided for by any of the codes A61K 2800/592 to A61K 2800/596
A61K 2800/592	...	Mixtures of compounds complementing their respective functions
A61K 2800/5922	....	At least two compounds being classified in the same subclass of A61K 8/18
A61K 2800/594	...	Mixtures of polymers
A61K 2800/596	...	Mixtures of surface active compounds
A61K 2800/60	..	Particulates further characterized by their structure or composition
A61K 2800/61	...	Surface treated
A61K 2800/612	....	By organic compounds
A61K 2800/614	....	By macromolecular compounds
A61K 2800/62	....	Coated
A61K 2800/621	.....	by inorganic compounds
A61K 2800/622	.....	by organic compounds
A61K 2800/623	.....	Coating mediated by organosilicone compounds
A61K 2800/624	.....	by macromolecular compounds
A61K 2800/63	.....	More than one coating
A61K 2800/65	...	Characterized by the composition of the particulate/core
A61K 2800/651	....	The particulate/core comprising inorganic material
A61K 2800/652	....	The particulate/core comprising organic material
A61K 2800/654	....	The particulate/core comprising macromolecular material
A61K 2800/70	.	Biological properties of the composition as a whole
A61K 2800/72	..	Hypo-allergenic
A61K 2800/74	.	Biological properties of particular ingredients
A61K 2800/75	..	Anti-irritant
A61K 2800/77	..	Perfumes having both deodorant and antibacterial properties
A61K 2800/78	..	Enzyme modulators, e.g. Enzyme agonists
A61K 2800/782	...	Enzyme inhibitors; Enzyme antagonists
A61K 2800/80	.	Process related aspects concerning the preparation of the cosmetic composition or the storage or application thereof
A61K 2800/805	..	Corresponding aspects not provided for by any of codes A61K 2800/81 to A61K 2800/95
A61K 2800/81	..	Preparation or application process involves irradiation
A61K 2800/82	..	Preparation or application process involves sonication or ultrasonication
A61K 2800/83	..	Electrophoresis; Electrodes; Electrolytic phenomena
A61K 2800/84	..	Products or compounds obtained by lyophilisation, freeze-drying
A61K 2800/85	..	Products or compounds obtained by fermentation, e.g. yoghurt, beer, wine
A61K 2800/86	..	Products or compounds obtained by genetic engineering
A61K 2800/87	..	Application Devices; Containers; Packaging
A61K 2800/872	...	Pencils; Crayons; Felt-tip pens
A61K 2800/874	...	Roll-on
A61K 2800/88	..	Two- or multipart kits

A61K 2800/882	...	Mixing prior to application
A61K 2800/884	...	Sequential application
A61K 2800/91	..	Injection
A61K 2800/92	..	Oral administration
A61K 2800/94	..	Involves covalent bonding to the substrate
A61K 2800/95	..	Involves in-situ formation or cross-linking of polymers