World Health Organization

The use of stems in the selection of International Nonproprietary Names (INN) for pharmaceutical substances 2018 (Stem Book 2018)

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Contents

Preface

The document *"The Use of Common Stems in the Selection of INN"* is intended primarily for persons and companies applying to the WHO INN Programme for the selection of an INN for a new pharmaceutical substance and has been designed to assist in the process of devising a suitable proposal. It will also be of assistance to institutions and specialists involved in the review of proposed INN, including drug regulatory authorities, pharmaceutical manufacturers, patent offices and trade mark officers as well as for scientists, teachers, health professionals and other persons interested generally in drug nomenclature. The document is composed of four main parts and six annexes.

Part I *"Introduction"* describes the WHO INN Programme, INN selection procedure and criteria for name selection and provides general information on the INN stem system.

Part II contains the list of all INN stems. It is composed of two indexes, one entitled *"Alphabetical List of Common Stems"* which presents the list of stems, and another entitled *"Alphabetical List of Common Stems and their definitions"* which includes a definition for each stem.

Part III presents the stem classification system used by the INN Programme to categorize the principal activity of pharmaceutical substances. Each category included in the list is given an appropriate code consisting of a capital letter and three digits. When INN for substances belonging to a given category include a specific stem, appropriate information is included in the table.

Part IV of the document entitled *"Alphabetical List of Stems Together With Corresponding INN"* serves as a listing of all proposed INN (published in Lists 1 - 119) containing INN stems. The list is organized in alphabetical order (as set out in Part II) and includes all INN containing a stem. In addition, under each stem heading, information is given on INN in which the preferred stem has been used but not in accordance with its definition, as well as on INN which belong to the same group of pharmaceutical substances but in which no preferred stem has been used. To facilitate the use of Part IV, the lay-out of information is presented as a diagram on page 7 and is complemented by additional information given at the end of part I *"Introduction"*.

Six annexes attached to the document are intended to be of assistance to users. Annex 1 reproduces the *Procedure for the Selection of Recommended International Nonproprietary Names for Pharmaceutical Substances* as approved by the WHO Executive Board in its resolution EB15.R7 as amended by resolution EB115.R4. Annex 2 reproduces *General Principles for Guidance in Devising International Nonproprietary Names for Pharmaceutical Substances* as approved by the WHO Executive Board in the above-mentioned resolution, as amended. Annex 3 explains the nomenclature scheme for monoclonal antibodies. Annex 4 explains the nomenclature scheme for gene therapy substances. Annex 5 gives reference to the volumes of the *WHO Drug Information* in which proposed lists of INN have been published. Annex 6 *"Why INN?"* gives general information on the current situation of the WHO INN Programme and its achievements.

Part I

Introduction

WHO'S INN PROGRAMME

The World Health Organization (WHO) has a constitutional responsibility to "develop, establish and promote international standards with respect to biological, pharmaceutical and similar products". The International Nonproprietary Names (INN) Programme is a core activity embedded in the normative functions of WHO and has served the global public health and medicines community for over fifty years. The Programme was established to assign nonproprietary names to pharmaceutical substances so that each substance would be recognized by a unique name. Such names are needed for the clear identification, safe prescription and dispensing of medicines, and for communication and exchange of information among health professionals. INN can be used freely because they are in the public domain. In addition to being a basic component of many WHO medicines activities and programmes, INN are used in regulatory and administrative processes in many countries. They are also intended for use in pharmacopoeias, labelling and product information and to provide standardized terminology for the international exchange of scientific information.

INN SELECTION PROCEDURE

Each name proposed for designation as an INN is examined and selected in accordance with a formal procedure. Requests for INN can be submitted directly to WHO (application forms online at http://www.who.int/medicines/services/inn/en/index.html). In some countries where national nomenclature commissions exist, applications may also be made through the national nomenclature authority.

Members of the WHO Expert Panel on the International Pharmacopoeia and Pharmaceutical Preparations (or other Panel as appropriate) are officially designated to select nonproprietary names. Based on the information provided, an agreed name is selected and published as a ***proposed*** INN. During a four month period, any person can make comments or lodge a formal objection to the proposed name. If no objection is raised, this agreed name is published as the ***recommended*** INN.

In 1993, the World Health Assembly endorsed resolution WHA46.19 which states that trade marks should not be derived from INN and INN stems should not be used in trade marks. The Assembly reasoned that such practice could frustrate the rational selection of INN and ultimately compromise the safety of patients by promoting confusion in drug nomenclature. Above all, INN are protected for use in the public domain.

CRITERIA FOR SELECTION

International Nonproprietary Names (INN) should be distinctive in sound and spelling. They should not be inconveniently long and not be liable to confusion with names in common use. Information on the selection procedure and general criteria in devising INN is set out in Annexes 1 and 2.

INN STEMS

Stems define the pharmacologically related group to which the INN belongs. The present document describes stem use procedure and includes, in Parts II and IV, the list of common stems for which chemical and/or pharmacological categories have been established. These stems and their definitions have been selected by WHO experts and are used when selecting new international nonproprietary names. Because the nomenclature process is ongoing and constantly under revision, definitions of older stems are modified as and when newer information becomes available.

Whenever possible, an INN should include the stem that expresses the pharmacologically-related group to which the substance belongs. Names that are likely to convey an anatomical, physiological, pathological or therapeutic suggestion should be avoided.

In addition, certain rules have been established in devising INN to facilitate their use internationally. For example, to make pronunciation possible in various languages, the letters "h" and "k" should be avoided; "e" should be used instead of "ae" and "oe", "i" instead of "y", "t" instead of "th" and "f" instead of "ph".

INFORMATION ON USING PART IV "ALPHABETICAL LIST OF STEMS TOGETHER WITH CORRESPONDING INN"

The following information complements or describes the diagram set out on page 7.

1. The list includes INN published in *Proposed International Nonproprietary Names Lists 1 - 119* categorized according to the list of stems (see Annex 5).

   For each stem, INN have been classified as:

   a. INN in which the preferred stem has been used in accordance with its definition;

   b. INN in which the preferred stem has been used, but not in accordance with its definition;

   c. INN which belong to the same group of pharmaceutical substances but in which the preferred stem has not been used. (This part of the list is not exhaustive).

2. References to nationally used syllables published in the British Approved Names (BAN) Dictionary and the USP Dictionary of USAN and International Drug Names have also been made wherever applicable. Whenever the BAN or USAN definitions are not identical to the INN definition they are set out in brackets under the INN definition.

3. The codes presented on the diagram as Stem Classification refer to the stem classification system used by the INN Programme described in Part III of the document.
4. Symbol (x) indicates stems included as examples in Article 9 of the *"General Principles for Guidance in Devising International Nonproprietary Names for Pharmaceutical Substances"* (see Annex 2).
5. Symbol (d) indicates stems that were formerly used, but are no longer formally acknowledged by the INN Programme.

LAYOUT OF INFORMATION

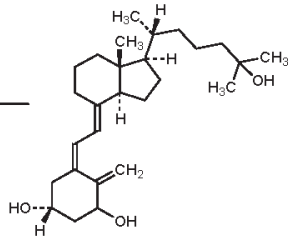
Stem

Stem classification *Stem definition* *National Name(s)*

USAN

calci **Vitamin D analogues/derivatives**

N.8.0.0



(a) alfacalcidol (40), calcifediol (26), calcipotriol (61), calcitriol (39),

colecalciferol (13), doxercalciferol (82), ergocalciferol (13),

falecalcitriol (74), lexacalcitol (71), maxacalcitol (75), paricalcitol (78),
secalciferol (62), seocalcitol (78), tacalcitol (65)

(b) calcitonin (31) (polypeptide)

(c) dihydrotachysterol (1)

Graphic Formula *INN (English)*

List of proposed INN

Names in which the preferred stem has been used in accordance with its definition

Names in which the preferred stem has been used but not in accordance with its definition

Names which belong to the same group of pharmaceutical substances and in which no preferred stem has been used (this part of the list is not exhaustive)

(x) stems that are included in article 9 of the General Principles

(d) stems that were formerly used but are no longer formally acknowledged by the INN Programme.

Part II A

Alphabetical list of common stems

A

-abine (see -arabine and -citabine)
-ac
-acetam (see -racetam)
-actide
-adol/-adol-
-adom
-afenone
-afil
-aj-
-al
-aldrate
-alol (see -olol)
-alox (see -ox)
-amivir (see vir)
-ampanel
andr
-anib
-anide
-anserin
-antel
-antrone
-apine (see -pine)
-apt-
-(ar)abine
-arit
-arol
-arone
-arotene
arte-
-ase
-ast
-astine
-asvir (see –vir)
-azam (see -azepam)
-azenil
-azepam
-azepide
-azocine
-azolam (see -azepam)
-azoline
-azone (see -buzone)
-azosin

B

-bacept (see -cept)
-bactam
-bamate
barb
-begron
-benakin (see -kin)
-bendan (see -dan)
-bendazole
-bercept (see -cept)
-bermin (see -ermin)
-bersat
-betasol (see pred)
bol
-bradine
-brate (see -fibrate)
-brutinib (see –tinib)
-bufen
-bulin
-butazone (see -buzone)
-buvir (see vir)
-buzone

C

-caine
-cain-
calci
-capone
-carbef
-carnil (see -azenil)
-castat (see -stat)
-catib
-cavir (see vir)
cef-
-cel
cell-/cel-
cell-ate (see cell-/cel-)
-cellose (see cell-/cel-)
-cept
-cetrapib
-cic
-ciclovir (see vir)
-cidin
-ciguat
-cillide (see -cillin)
-cillin
-cillinam (see -cillin)
-cilpine (see -pine)
-cisteine (see -steine)
-citabine
-citinib (see –tinib)
-clidine/-clidinium
-clone
-cocept (see -cept)
-cog
-cogin
-conazole

cort
-coxib
-crinat
-crine
-cromil
-curium (see -ium)
-cycline

D

-dan
-dapsone
-decakin (see -kin)
-denoson
-degib
-dermin (see -ermin)
-dil
-dilol (see -dil)
-dipine
-dismase (see -ase)
-distim (see -stim)
-dodekin (see -kin)
-domide
-dopa
-dotin
-dotril (see -tril/-trilat)
-dox (see -ox/-alox)
-dralazine
-drine
-dronic acid
-dustat (see stat)
-dutant (see -tant)
-dyl (see -dil)

E

-ectin
-elestat (see -stat)
-elvekin (see -kin)
-emcinal
-enicokin (see -kin)
-entan
(-)eptacog (see -cog)
erg
-eridine
-ermin
estr
-etanide (see -anide)
-ethidine (see -eridine)
-exakin (see -kin)
-exine

F

-farcept (see -cept)
-fenacin
-fenamate (see -fenamic acid)
-fenamic acid
-fenin
-fenine
-fensine
-fentanil
-fentrine
-fermin (see -ermin)
-fiban
-fibrate
-filermin (see -ermin)
-flapon
-flurane
-formin
fos
-fosine (see -fos)
-fosfamide (see -fos)
-fovir (see vir)
-fradil
-frine (see -drine)
-fungin
-fylline

G

gab
-gacestat (see stat)
gado-
-gatran
-gene
-gepant
gest
-gestr- (see estr)
-giline
-gillin
gli
-gliflozin (see gli)
-gliptin (see gli)
-glitazar (see gli)
-glitazone (see gli)
-glumide
-glurant
-glutide (see -tide)
-golide
-gosivir (see vir)
-gramostim (see -stim)
-grastim (see -stim)
-grel-/-grel
guan-

I

-ibine (see -ribine)
-icam
-ifene
-igetide (see -tide)
-ilide
imex
-imibe
-imod
-imus
-ine
-inostat (see -stat)

io-
iod-/-io-
-irudin
-isant
-isomide
-ium
-izine (-yzine)

K

-kacin
-kalant
-kalim
-kef-
-kin
-ki(n)- (see -mab)
-kinra
-kiren

L

-laner
-lefacept (see -cept)
-leukin (see -kin)
-lisib
-listat (see -stat)
-lubant
-lukast (see -ast)
-lutamide
-lutril (see -tril/-trilat)

M

-mab
-mantadine
-mantine (see -mantadine)
-mantone (see -mantadine)
-mapimod (see -imod)
-mastat (see -stat)
-meline
mer-/-mer
-mer
-mesine
-mestane
-metacin
-met(h)asone (see pred)
-metinib (see –tinib)
-micin
-mifene (see -ifene)
-milast (see -ast)
mito-
-monam
-morelin (see -relin)
-mostim (see -stim)
-motide (see -tide)
-motine
-moxin
-mulin
-mustine
-mycin

N

nab
-nabant
-nacept (see -cept)
-nakin (see -kin)
-nakinra (see -kinra)
nal-
-naritide (see -tide)
-navir (see vir)
-nepag
-nermin (see -ermin)
-nercept (see -cept)
-nertant (see -tant)
-netant (see -tant)
-nicate (see nico-)
-nicline
nico-/nic-/ni-
-nidazole
-nidine (see -onidine)
nifur-
-nil (see -azenil)
nitro-/nitr-/nit-/ni-/-ni-
-nixin
(-)nonacog (see -cog)

O

-octakin (see -kin)
-octadekin (see -kin)
(-)octocog (see -cog)
-ol
-olol
-olone (see pred)
-onakin (see -kin)
-one
-onide
-onidine
-onium (see -ium)
-opamine (see -dopa)
-orex
-orexant
-orph- (see orphan)
orphan
-otermin (see -ermin)
-ox/-alox
-oxacin
-oxan(e)
-oxanide (see -anide)
-oxef (see cef-)
-oxepin (see -pine)
-oxetine
-oxicam (see -icam)
-oxifene (see -ifene)
-oxopine (see -pine)

P

-pafant
-pamide
-pamil
-parcin
-parib
-parin
-parinux (see -parin)
-patril/-patrilat (see -tril/-trilat)
-pendyl (see -dil)
-penem
perfl(u)-
-peridol (see -perone)
-peridone (see -perone)
-perone
-pidem
-pin(e)
-piprazole (see -prazole)
-pirone (see -spirone)
-pirox (see -ox/-alox)
-pitant (see -tant)
-plact
-pladib
-planin
-plase (see -ase)
-plasmid (see -gene)
-platin
-plermin (see -ermin)
-plestim (see -stim and -kin)
-plon
-poetin
-porfin
-poride
-pramine
-prazan
-prazole
pred
-prenaline (see -terol)
-pressin
-previr (see vir)
-pride
-pril
-prilat (see -pril)
-prim
pris
-pristin
-profen
prost
-prostil (see prost)

Q

-quidar
-quin(e)
-quinil (see -azenil)

R

-racetam
-racil
-rafenib
-relin
-relix
-renone
-reotide (see –tide)
-restat (see -stat)
retin
-ribine
rifa-
-rinone
-ritide (see –tide)
-rixin
-rizine (see -izine)
-rolimus (see -imus)
-rozole
-rsen
-rubicin

S

sal
salazo- (see sal)
-salazine/-salazide (see sal)
-salan (see sal)
-sartan
-semide
-sermin (see -ermin)
-serod
-serpine
-sertib
-setron
-siban
-siran
som-
-sopine (see -pine)
-spirone
-stat/-stat-
-steine
-ster-
-steride (see -ster-)
-stigmine
-stim
sulfa-
-sulfan

T

-tacept (see cept)
-tadine
-tansine
-tant
-tapide
-taxel
-tecan
-tegravir (see vir)
-tepa
-tepine (see -pine)
-teplase (see -ase)

-termin (see -ermin)
-terol
-terone
-thiouracil (see -racil)
-tiazem
-tibant
-tide
-tidine
-tiline (see -triptyline)
-tinib
-tirelin (see -relin)
-tizide
-tocin
-toin
-tolimod (see –imod)
-trakin (see -kin)
-trakinra (see -kinra)
-traline
-tredekin (see -kin)
-trexate
-trexed
-tricin
-trigine
-tril/-trilat
-triptan
-triptyline
-troban
-trodast (see -ast)
trop

U

-uplase (see -ase)
-uridine

V

-vaptan
-vastatin (see -stat)
-vec (see -gene)
-verine
-vetmab (see mab)
vin-/-vin-
vir
-vircept (see -cept)
-virine (see vir)
-viroc (see vir)
-virsen
-vi(.)mab (see mab)
-vos (see fos)
-vudine (see -uridine)

X

-xaban
-xanox (see -ox/-alox)
-xetan

Y

-yzine (see -izine)

Z

-zafone
-zepine (see -pine)
-zolast (see -ast)
-zolid

Part II B

Alphabetical list of common stems and their definition

A

-abine (see -arabine and -citabine)	arabinofuranosyl derivatives; nucleosides antiviral or antineoplastic agents, cytarabine or azacitidine derivatives
-ac	anti-inflammatory agents, ibufenac derivatives
-acetam (see -racetam)	amide type nootrope agents, piracetam derivatives
-actide	synthetic polypeptide with a corticotropin-like action
-adol/-adol-	analgesics
-adom	analgesics, tifluadom derivatives
-afenone	antiarrhythmics, propafenone derivatives
-afil	inhibitors of phosphodiesterase PDE5 with vasodilator action
-aj-	antiarrhythmics, ajmaline derivatives
-al	aldehydes
-aldrate	antacids, aluminium salts
-alol (see -olol)	aromatic ring related to -olols
-alox (see -ox)	antacids, aluminium derivatives
-amivir (see vir)	neuraminidase inhibitors
-ampanel	antagonists of the ionotropic non-NMDA (*N*-methyl-d-aspartate) glutamate receptors (Namely the AMPA (amino-hydroxymethyl-isoxazole-propionic acid) and/or KA (kainite antagonist) receptors)
andr	steroids, androgens
-anib	angiogenesis inhibitors
-anide	-
-anserin	serotonin receptor antagonists (mostly 5-HT_2)
-antel	anthelminthics (undefined group)
-antrone	antineoplastics; anthraquinone derivatives

-apine (see -pine)	tricyclic compounds
-apt-	aptamers, classical and mirror ones
-(ar)abine	arabinofuranosyl derivatives
-arit	antiarthritic substances, acting like clobuzarit and lobenzarit, (mechanism different from anti-inflammatory type substances, e.g. -fenamates or -profens)
-arol	anticoagulants, dicoumarol derivatives
-arone	-
-arotene	arotinoid derivatives
arte-	antimalarial agents, artemisinin related compounds
-ase	enzymes
-ast	anti-allergic or anti-inflammatory, not acting as anti-histaminics
-astine	antihistaminics
-asvir (see –vir)	antivirals, hepatitis C Virus (HCV) NS5A inhibitors
-azam (see -azepam)	diazepam derivatives
-azenil	benzodiazepine receptor antagonists/agonists (benzodiazepine derivatives)
-azepam	diazepam derivatives
-azepide	cholecystokinin receptor antagonists, benzodiazepine derivatives
-azocine	narcotic antagonists/agonists related to 6,7-benzomorphan
-azolam (see -azepam)	diazepam derivatives
-azoline	antihistaminics or local vasoconstrictors, antazoline derivatives
-azone (see -buzone)	anti-inflammatory analgesics, phenylbutazone derivatives
-azosin	antihypertensive substances, prazosin derivatives

B

-bacept (see -cept)	B-cell activating factor receptors
-bactam	β-lactamase inhibitors

-bamate	tranquillizers, propanediol and pentanediol derivatives
barb	hypnotics, barbituric acid derivatives
-begron	β_3-adrenoreceptor agonists
-benakin (see -kin)	interleukin-1 analogues and derivatives
-bendan (see -dan)	cardiac stimulants, pimobendan derivatives
-bendazole	anthelminthics, tiabendazole derivatives
-bercept (see -cept)	target: VEGF receptors
-bermin (see -ermin)	vascular endothelial growth factors
-bersat	anticonvulsants, benzoylamino-benzpyran derivatives
-betasol (see pred)	prednisone and prednisolone derivatives
bol	anabolic steroids
-bradine	bradycardic agents
-brate (see -fibrate)	clofibrate derivatives
-brutinib (see tinib)	agammaglobulinaemia tyrosine kinase (Bruton tyrosine kinase) inhibitors
-bufen	non-steroidal anti-inflammatory agents, arylbutanoic acid derivatives
-bulin	antineoplastics; mitotic inhibitor, tubulin binder
-butazone (see -buzone)	anti-inflammatory analgesics, phenylbutazone derivatives
-buvir (see vir)	RNA polymerase (NS5B) inhibitors
-buzone	anti-inflammatory analgesics, phenylbutazone derivatives

C

-caine	local anaesthetics
-cain-	class I antiarrhythmics, procainamide and lidocaine derivatives
calci	vitamin D analogues/derivatives
-capone	catechol-*O*-methyltransferase (COMT) inhibitors
carbef	antibiotics, carbacephem derivatives

-carnil (see -azenil)	benzodiazepine receptor antagonists/agonists (carboline derivatives)
-castat (see -stat)	dopamine-hydroxylase inhibitors
-catib	cathepsin inhibitors
-cavir (see vir)	carbocyclic nucleosides
cef-	antibiotics, cefalosporanic acid derivatives
-cel	substances for cell therapies
cell-/cel-	cellulose derivatives
cell-ate (see cell-/cel-)	cellulose ester derivatives for substances containing acidic residues
-cellose (see cell-/cel-)	cellulose ether derivatives
-cept	receptor molecules or membrane ligands, native, modified or synthetic
-cetrapib	cholesteryl ester transfer protein (CETP) inhibitors
-cic	hepatoprotective substances with a carboxylic acid group
-ciclovir (see vir)	antivirals, bicyclic heterocycles compounds
-cidin	naturally occurring antibiotics (undefined group)
-ciguat	guanylate cyclase activators and stimulators
-cillide (see -cillin)	antibiotics, 6-aminopenicillanic acid derivatives
-cillin	antibiotics, 6-aminopenicillanic acid derivatives
-cillinam (see -cillin)	antibiotics, 6-aminopenicillanic acid derivatives
-cilpine (see -pine)	tricyclic compounds
-cisteine (see -steine)	mucolytics, other than bromhexine derivatives
-citabine	nucleosides antiviral or antineoplastic agents, cytarabine or azacitidine derivatives
-citinib (see –tinib)	Janus kinase inhibitors
-clidine/-clidinium	muscarinic receptor agonists/antagonists
-clone	hypnotic tranquillizers
-cocept (see -cept)	complement receptors
-cog	blood coagulation factors
-cogin	blood coagulation cascade inhibitors
-conazole	systemic antifungal agents, miconazole derivatives

cort	corticosteroids, except prednisolone derivatives
-coxib	selective cyclo-oxygenase inhibitors
-crinat	diuretics, etacrynic acid derivatives
-crine	acridine derivatives
-cromil	antiallergics, cromoglicic acid derivatives
-curium (see -ium)	curare-like substances
-cycline	antibiotics, protein-synthesis inhibitors, tetracycline derivatives

D

-dan	cardiac stimulants, pimobendan derivatives
-dapsone	antimycobacterials, diaminodiphenylsulfone derivatives
-decakin (see -kin)	interleukin-10 analogues and derivatives
-degib	SMO receptor antagonists
-denoson	adenosine A receptor agonists
-dermin (see -ermin)	epidermal growth factors
-dil	vasodilators
-dilol (see -dil)	vasodilators
-dipine	calcium channel blockers, nifedipine derivatives
-dismase (see -ase)	enzymes with superoxide dismutase activity, see -ase
-distim (see -stim)	combination of two different types of colony stimulating factors
-dodekin (see -kin)	interleukin-12 analogues and derivatives
-domide	antineoplastics, thalidomide derivatives
-dopa	dopamine receptor agonists, dopamine derivatives, used as antiparkinsonism/prolactin inhibitors
-dotin	synthetic derivatives of dolastatin series
-dox (see -ox/-alox)	antibacterials, quinazoline dioxide derivatives
-dralazine	antihypertensives, hydrazinephthalazine derivatives
-drine	sympathomimetics

-dronic acid	calcium metabolism regulator, pharmaceutical aid
-dustat (see stat)	hypoxia inducible factor (HIF) prolyl hydroxylase inhibitors
-dutant (see -tant)	neurokinin NK_2 receptor antagonist
-dyl (see -dil)	vasodilators

E

-ectin	antiparasitics, ivermectin derivatives
-elestat (see -stat)	elastase inhibitors
-elvekin (see -kin)	interleukin-11 analogues and derivatives
-emcinal	erythromycin derivatives lacking antibiotic activity, motilin agonists
-enicokin (see -kin)	interleukin-21 human analogues and derivatives
-entan	endothelin receptor antagonists
(-)eptacog (see -cog)	blood coagulation VII
erg	ergot alkaloid derivatives
-eridine	analgesics, pethidine derivatives
-ermin	growth factors
estr	estrogens
-etanide (see -anide)	diuretics, piretanide derivatives
-ethidine (see -eridine)	analgesics, pethidine derivatives
-exakin (see -kin)	interleukin-6 analogues and derivatives
-exine	mucolytic, bromhexine derivatives

F

-farcept (see -cept)	subgroup of interferon receptors
-fenacin	muscarinic receptor antagonists
-fenamate (see -fenamic acid)	"fenamic acid" derivatives
-fenamic acid	anti-inflammatory, anthranilic acid derivatives
-fenin	diagnostic aids; (phenylcarbamoyl)methyl iminodiacetic acid derivatives

-fenine	analgesics, glafenine derivatives (subgroup of fenamic acid group)
-fensine	noreinephrine, serotonin, dopamine reuptake inhibitors
-fentanil	opioid receptor agonists, analgesics, fentanyl derivatives
-fentrine	inhibitors of phosphodiesterases
-fermin (see -ermin)	fibroblast growth factors
-fiban	fibrinogen receptor antagonists (glycoprotein IIb/IIIa receptor antagonists)
-fibrate	clofibrate derivatives, peroxisome proliferator activated receptor-α (PPAR-α) agonists
-filermin (see -ermin)	leukemia-inhibiting factor
-flapon	5-lipoxygenase-activating protein (FLAP) inhibitor
-flurane	halogenated compounds used as general inhalation anaesthetics
-formin	antihyperglycaemics, phenformin derivatives
fos	insecticides, anthelminthics, pesticides etc., phosphorous derivatives
-fosfamide (see -fos)	alkylating agents of the cyclophosphamide group
-fosine (see -fos)	cytostatic
-fovir (see vir)	phosphonic acid derivatives
-fradil	calcium channel blockers acting as vasodilators
-frine (see -drine)	sympathomimetic, phenethyl derivatives
-fungin	antifungal antibiotics
-fylline	*N*-methylated xanthine derivatives

G

gab	gabamimetic agents
gado-	diagnostic agents, gadolinium derivatives
-gacestat (see stat)	gamma-secretase inhibitors
-gatran	thrombin inhibitor, antithrombotic agent
-gene	gene therapy substances

-gepant	calcitonin gene-related peptide receptor antagonists
gest	steroids, progestogens
-gestr- (see estr)	estrogens
-giline	monoamine oxydase (MAO)-inhibitors type B
-gillin	antibiotics produced by *Aspergillus* strains
gli	antihyperglycaemics
-gliflozin (see gli)	sodium glucose co-transporter inhibitors, phlorizin derivatives
-gliptin (see gli)	dipeptidyl aminopeptidase–IV inhibitors
-glitazar (see gli)	dual peroxisome proliferator activated receptors-α and γ (PPAR- α,γ) agonists
-glitazone (see gli)	peroxisome proliferator activating receptor-γ (PPAR-γ) agonists, thiazolidinedione derivatives
-glumide	cholecystokinin (CCK) antagonists, antiulcer, anxiolytic agent
-glurant	metabotropic glutamate receptor antagonists/ negative allosteric modulators
-glutide (see -tide)	Glucagon-Like Peptide (GLP) analogues
-golide	dopamine receptor agonists, ergoline derivatives
-gosivir (see vir)	glucoside inhibitors
-gramostim (see -stim)	granulocyte macrophage colony stimulating factor (GM-CSF) types substances
-grastim (see -stim)	granulocyte colony stimulating factor (G-CSF) type substances
-grel-/-grel	platelet aggregation inhibitors
guan-	antihypertensives, guanidine derivatives

I

-ibine (see -ribine)	ribofuranyl-derivatives of the "pyrazofurin" type
-icam	anti-inflammatory, isoxicam derivatives
-ifene	antiestrogens or estrogen receptor modulators, clomifene and tamoxifen derivatives
-igetide (see -tide)	peptides and glycopeptides

-ilide	class III antiarrhythmics, sematilide derivatives
imex	immunostimulants
-imibe	antihyperlipidaemics, acyl CoA: cholesterol acyltransferase (ACAT) inhibitors
-imod	immunomodulators, both stimulant/suppressive and stimulant
-imus	immunosuppressants (other than antineoplastics)
-ine	alkaloids and organic bases
-inostat (see stat)	histone deacetylase inhibitors
io-	iodine-containing contrast media
iod-/-io-	iodine-containing compounds other than contrast media
-irudin	thrombin inhibitors, hirudin derivatives
-isant	histamine H_3 receptor antagonists
-isomide	class I antiarrhythmics, disopyramide derivatives
-ium	quaternary ammonium compounds
-izine (-yzine)	diphenylmethyl piperazine derivatives

K

-kacin	antibiotics, kanamycin and bekanamycin derivatives (obtained from *Streptomyces kanamyceticus*)
-kalant	potassium channel blockers
-kalim	potassium channel activators, antihypertensive
-kef-	enkephalin agonists
-kin	interleukin type substances
-ki(n)- (see -mab)	target: interleukin
-kinra (see -kin)	interleukin receptor antagonists
-kiren	renin inhibitors

L

-laner	antagonists of GABA (gamma-aminobutyric acid) regulated chloride channels, antiparasitic agents

-lefacept (see -cept)	lymphocyte function-associated antigen 3 receptors
-leukin (see -kin)	interleukin-2 analogues and derivatives
-lisib	phosphatidylinositol 3-kinase inhibitors, antineoplastics
-listat (see –stat)	gastrointestinal lipase inhibitors
-lubant	leukotriene B_4 receptor antagonist
-lukast (see –ast)	leukotriene receptor antagonists
-lutamide	non-steroid antiandrogens

M

-mab	monoclonal antibodies
-mantadine	adamantane derivatives
-mantine (see -mantadine)	adamantane derivatives
-mantone (see -mantadine)	adamantane derivatives
-mapimod (see -imod)	mitogen-activated protein (MAP) kinase inhibitors
-mastat (see -stat)	matrix metalloproteinase inhibitors
-meline	cholinergic agents (muscarine receptor agonists/ partial antagonists used in the treatment of Alzheimer's disease)
mer-/-mer	mercury-containing drugs, antimicrobial or diuretic (deleted from General Principles in List 28 prop. INN)
-mer	polymers
-mesine	sigma receptor ligands
-mestane	aromatase inhibitors
-metacin	anti-inflammatory, indometacin derivatives
-met(h)asone (see pred)	prednisone and prednisolone derivatives
-metinib (see –tinib)	MEK (MAPK# kinase) tyrosine kinase inhibitors # MAPK: mitogen activated protein kinase
-micin	aminoglycosides, antibiotics obtained from various *Micromonospora*
-mifene (see -ifene)	antiestrogens, clomifene and tamoxifen derivatives
-milast (see -ast)	phosphodiesterase IV (PDE IV) inhibitors

mito-	antineoplastics, nucleotoxic agents (deleted from General Principles in List 24 prop. INN)
-monam	monobactam antibiotics
-morelin (see -relin)	growth hormone release-stimulating peptides
-mostim (see -stim)	macrophage stimulating factors (M-CSF) type substances
-motide (see -tide)	immunological agents for active immunization
-motine	antivirals, quinoline derivatives
-moxin	monoamine oxidase inhibitors, hydrazine derivatives
-mulin	antibacterials, pleuromulin derivatives
-mustine	antineoplastic, alkylating agents, (β-chloroethyl) amine derivatives
-mycin	antibiotics, produced by *Streptomyces* strains (see also -kacin)

N

nab	cannabinoid receptors agonists
-nabant	cannabinoid receptors antagonists
-nacept (see -cept)	interleukin-1 receptors
-nakin (see -kin)	interleukin-1 analogues and derivatives
-nakinra (see -kin)	interleukin-1 receptor antagonists
nal-	opioid receptor antagonists/agonists related to normorphine
-naritide (see -tide)	peptides and glycopeptides
-navir (see vir)	Human Immunodeficiency Virus (HIV) protease inhibitors
-nepag	prostaglandins receptors agonists, non-prostanoids
-nermin (see -ermin)	tumour necrosis factor
-nercept (see -cept)	tumour necrosis factor receptors
-nertant (see -tant)	neurotensin antagonists
-netant (see -tant)	neurokinin NK_3 receptor antagonists
-nicate (see nico-)	antihypercholesterolaemic and/or vasodilating nicotinic acid esters

-nicline	nicotinic acetylcholine receptor partial agonists / agonists
nico-/nic-/ni-	nicotinic acid or nicotinoyl alcohol derivatives
-nidazole	antiprotozoals and radiosensitizers, metronidazole derivatives
-nidine (see -onidine)	antihypertensives, clonidine derivatives
nifur-	5-nitrofuran derivatives
-nil (see -azenil)	benzodiazepine receptor antagonists/agonists (benzodiazepine derivatives)
nitro-/nitr-/nit-/ni-/-ni-	NO_2 - derivatives
-nixin	anti-inflammatory, anilinonicotinic acid derivatives
(-)nonacog (see -cog)	blood factor IX

O

octakin (see -kin)	interleukin-8 analogues and derivatives
-octadekin (see -kin)	interleukin-18 human analogues and derivatives
(-)octocog (see -cog)	blood factor VIII
-ol	for alcohols and phenols (deleted from General Principles in 14th Report)
-olol	β-adrenoreceptor antagonists
-olone (see pred)	steroids other than prednisolone derivatives
-onakin (see -kin)	interleukin-1 analogues and derivatives
-one	ketones
-onide	steroids for topical use, acetal derivatives
-onidine	antihypertensives, clonidine derivatives
-onium (see -ium)	quaternary ammonium compounds
-opamine (see -dopa)	dopaminergic agents dopamine derivatives used as cardiac stimulant/antihypertensives/diuretics
-orex	anorexics
-orexant	orexin receptor antagonists
-orph- (see orphan)	opioid receptor antagonists/agonists, morphinan derivates
orphan	opioid receptor antagonists/agonists, morphinan derivates

-otermin (see -ermin)	bone morphogenetic proteins
-ox/-alox	antacids, aluminium derivatives
-oxacin	antibacterials, nalidixic acid derivatives
-oxan(e)	benzodioxane derivatives
-oxanide (see -anide)	antiparasitics, salicylanilides and analogues
-oxef (see cef-)	antibiotics, oxacefalosporanic acid derivatives
-oxepin (see -pine)	tricyclic compounds
-oxetine	serotonin and/or norepinephrine reuptake inhibitors, fluoxetine derivatives
-oxicam (see -icam)	anti-inflammatory, isoxicam derivatives
-oxifene (see -ifene)	antiestrogens or estrogen receptor modulators, clomifene and tamoxifen derivatives
-oxopine (see -pine)	tricyclic compounds

P

-pafant	platelet-activating factor antagonists
-pamide	diuretics, sulfamoylbenzoic acid derivatives (could be sulfamoylbenzamide)
-pamil	calcium channel blocker, verapamil derivatives
-parcin	for glycopeptide antibiotics
-parib	poly-ADP-Ribose polymerase inhibitors
-parin	heparin derivatives including low molecular mass heparins
-parinux (see -parin)	synthetic heparinoids
-pendyl (see -dil)	vasodilators
-penem	analogues of penicillanic acid antibiotics modified in the five-membered ring
perfl(u)-	perfluorinated compounds used as blood substitutes and/or diagnostic agents
-peridol (see -perone)	antipsychotics, haloperidol derivatives
-peridone (see -perone)	antipsychotics, risperidone derivatives
-perone	tranquillizers, neuroleptics, 4′-fluoro-4-piperidinobutyrophenone derivatives
-pidem	hypnotics/sedatives, zolpidem derivatives

-pin(e)	tricyclic compounds
-piprazole (see -prazole)	psychotropics, phenylpiperazine derivatives
-pirone (see -spirone)	anxiolytics, buspirone derivatives
-pirox (see -ox/-alox)	antimycotic pyridone derivatives
-pitant (see -tant)	neurokinin NK_1 (substance P) receptor antagonist
-plact	platelet factor 4 analogues and derivatives
-pladib	phospholipase A_2 inhibitors
-planin	glycopeptide antibacterials (*Actinoplanes* strains)
-plase (see -ase)	enzymes
-plasmid (see -gene)	gene therapy substances
-platin	antineoplastic agents, platinum derivatives
-plermin (see -ermin)	platelet-derived growth factor
-plestim (see -stim and -kin)	interleukin-3 analogues and derivatives
-plon	imidazopyrimidine or pyrazolopyrimidine derivatives, used as anxiolytics, sedatives, hypnotics
-poetin	erythropoietin type blood factors
-porfin	benzoporphyrin derivatives
-poride	Na^+/H^+ antiport inhibitor
-pramine	substances of the imipramine group
-prazan	proton pump inhibitors, not dependent on acid activation
-prazole	antiulcer, benzimidazole derivatives
pred	prednisone and prednisolone derivatives
-prenaline (see -terol)	bronchodilators, phenethylamine derivatives
-pressin	vasoconstrictors, vasopressin derivatives
-previr (see vir)	Hepatitis Virus C (HVC) protease inhibitors
-pride	sulpiride derivatives
-pril	angiotensin-converting enzyme inhibitors
-prilat (see -pril)	angiotensin-converting enzyme inhibitors
-prim	antibacterials, dihydrofolate reductase (DHFR) inhibitors, trimethoprim derivatives

-pris-	steroidal compounds acting on progesterone receptors (excluding *-gest-* compounds)
-pristin	antibacterials, streptogramins, protein synthesis inhibitors, pristinamycin derivatives
-profen	anti-inflammatory agents, ibuprofen derivatives
prost	prostaglandins
-prostil (see prost)	prostaglandins, anti-ulcer

Q

-quidar	drugs used in multidrug resistance, quinoline derivatives
-quin(e)	quinoline derivatives (deleted from General Principles in List 28 prop. INN)
-quinil (see -azenil)	benzodiazepine receptor agonists, also partial or inverse (quinoline derivatives)

R

-racetam	amide type nootrope agents, piracetam derivatives
-racil	uracil type antineoplastics
-rafenib	Raf (rapidly accelerated fibrosarcoma) kinase inhibitors
-relin	pituitary hormone-release stimulating peptides
-relix	gonadotropin-releasing-hormone (GnRH) inhibitors, peptides
-renone	aldosterone antagonists, spironolactone derivates
-reotide (see tide)	somatostatin receptor agonists/antagonists
-restat (see -stat)	aldose reductase inhibitors
retin	retinol derivatives
-ribine	ribofuranyl-derivatives of the "pyrazofurin" type
rifa-	antibiotics, rifamycin derivatives
-rinone	cardiac stimulants, amrinone derivatives
-ritide	natriuretic peptides
-rixin	chemokine CXCR receptors antagonists

-rizine (see -izine)	antihistaminics/cerebral (or peripheral) vasodilators
-rolimus (see -imus)	immunosuppressants, rapamycin derivatives
-rozole	aromatase inhibitors, imidazole-triazole derivatives
-rsen	antisense oligonucleotides
-rubicin	antineoplastics, daunorubicin derivatives

S

sal	salicylic acid derivatives
salazo-	phenylazosalicylic acid derivatives antibacterial
-salan	brominated salicylamide derivatives disinfectant
-sartan	angiotensin II receptor antagonists, antihypertensive (non-peptidic)
-semide	diuretics, furosemide derivatives
-sermin (see -ermin)	insulin-like growth factors
-serod	serotonin receptor antagonists and partial agonists
-serpine	derivatives of *Rauwolfia* alkaloids
-sertib	serine/threonine kinase inhibitors
-setron	serotonin receptor antagonists ($5\text{-}HT_3$) not fitting into other established groups of serotonin receptor antagonists
-siban	oxytocin antagonists
-siran	small interfering RNA
som-	growth hormone derivatives
-sopine (see -pine)	tricyclic compounds
-spirone	anxiolytics, buspirone derivatives
-stat/-stat-	enzyme inhibitors
-steine	mucolytics, other than bromhexine derivatives
-ster-	androgens/anabolic steroids
-steride (see -ster-)	androgens/anabolic steroids
-stigmine	acetylcholinesterase inhibitors
-stim	colony stimulating factors
sulfa-	anti-infectives, sulfonamides
-sulfan	antineoplastic, alkylating agents, methanesulfonates

T

-tacept (see -cept)	cytotoxic T lymphocyte-associated antigen 4 (CTLA-4) receptors
-tadine	tricyclic histamine-H_1 receptor antagonists, tricyclic compounds
-tansine	maytansinoid derivatives, antineoplastics
-tant	neurokinin (tachykinin) receptor antagonists
-tapide	microsomal triglyceride transfer protein (MTP) inhibitors
-taxel	antineoplastics; taxane derivatives
-tecan	antineoplastics, topoisomerase I inhibitors
-tegravir	HIV integrase inhibitors
-tepa	antineoplastics, thiotepa derivatives
-tepine (see -pine)	tricyclic compounds
-teplase (see -ase)	tissue type plasminogen activators, see -ase
-tercept (see -cept)	transforming growth factors receptors
-termin (see -ermin)	transforming growth factor
-terol	bronchodilators, phenethylamine derivatives
-terone	antiandrogens
-thiouracil (see -racil)	uracil derivatives used as thyroid antagonists
-tiazem	calcium channel blockers, diltiazem derivatives
-tibant	bradykinin receptor antagonists
-tide	peptides and glycopeptides (for special groups of peptides see -actide, -pressin, -relin, -tocin)
-tidine	histamine-H_2-receptor antagonists, cimetidine derivatives
-tilide (see -ilide)	class III antiarrhythmics, sematilide derivatives
-tiline (see -triptyline)	antidepressants, dibenzo[a,d]cycloheptane or cyclopheptene derivatives
-tinib	tyrosine kinase inhibitors
-tirelin (see -relin)	thyrotropin releasing hormone analogues
-tizide	diuretics, chlorothiazide derivatives
-tocin	oxytocin derivatives

-toin	antiepileptics, hydantoin derivatives
-tolimod (see –imod)	toll-like receptors (TLR) agonists
-trakin (see -kin)	interleukin-4 analogues and derivatives
-trakinra (see -kinra)	interleukin-4 receptor antagonists
-traline	serotonin reuptake inhibitors
-tredekin (see -kin)	interleukin-13 analogues and derivatives
-trexate	folic acid analogues
-trexed	antineoplastics; thymidilate synthetase inhibitors
-tricin	antibiotics, polyene derivatives
-trigine	sodium channel blockers, signal transduction modulators
-tril/trilat	endopeptidase inhibitors
-triptan	serotonin ($5HT_1$) receptor agonists, sumatriptan derivatives
-triptyline	antidepressants, dibenzo[a,d]cycloheptane or cyclopheptene derivatives
-troban	thromboxane A_2-receptor antagonists; antithrombotic agents
-trodast (see -ast)	thromboxane A_2-receptor antagonists, antiasthmatics
trop	atropine derivatives

U

-uplase (see -ase)	urokinase type plasminogen activators, see -ase
-ur (see -uridine)	uridine derivatives used as antiviral agents and as antineoplastics
-uridine	uridine derivatives used as antiviral agents and as antineoplastics

V

-vaptan	vasopressin receptor antagonists
-vastatin (see -stat)	antihyperlipidaemic substances, HMG CoA reductase inhibitors
-vec (see -gene)	gene therapy product

-verine	spasmolytics with a papaverine-like action
-vetmab (see -mab)	monoclonal antibodies for veterinary use
vin-/-vin-	vinca alkaloids
vir	antivirals (undefined group)
-vircept (see -cept)	antiviral receptors
-virine (see vir)	non-nucleoside reverse transcriptase inhibitors (NNRTI)
-viroc (see -vir)	CCR5 (Chemokine CC motif receptor 5) receptor antagonists
-virsen	antisense oligonucleotides
-vos (see fos)	insecticides, anthelminthics, pesticides etc., phosphorus derivatives
-vudine (see -uridine)	uridine derivatives used as antiviral agents and as antineoplastics

X

-xaban	blood coagulation factor X_A inhibitors, antithrombotics
-xanox (see -ox/-alox)	anti-allergics, tixanox group
-xetan	chelating agents

Y

-yzine (see -izine)	diphenylmethyl piperazine derivatives

Z

-zafone	alozafone derivatives
-zepine (see -pine)	tricyclic compounds
-zolast (see -ast)	leukotriene biosynthesis inhibitors
-zolid	oxazolidinone antibacterials
-zomib	proteasome inhibitors
-zone (see -buzone)	anti-inflammatory analgesics, phenylbutazone derivatives
-zotan	5-HT_{1A} receptor agonists / antagonists acting primarily as neuroprotectors

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Part III

Stem classification with corresponding examples of stems and their definition

A000	**CNS DEPRESSANTS**		
A100	**General anaesthetics**		
A110	General anaesthetics, volatile	*-flurane*	halogenated compounds used as general inhalation anaesthetics
A120	General anaesthetics, other		
A200	**Hypnotics - sedatives**		
A210	Barbiturates	*barb*	hypnotics, barbituric acid derivatives
A220	Hypnotic sedatives, other	*-clone*	hypnotic tranquillizers
A220		*-plon*	imidazopyrimidine or pyrazolopyrimidine derivatives, used as anxiolytics, sedatives, hypnotics
A240	Chloral derivatives, hypnotic sedatives		
A300	**Centrally acting voluntary muscle tone modifying drugs**		
A310	Antiepileptics	*-bersat*	anticonvulsants, benzoylamino-benzpyran derivatives
A311	Hydantoins, Antiepileptics	*-toin*	antiepileptics, hydantoin derivatives
A312	Acetylureas, Antiepileptics		
A313	Oxazolidinediones, Antiepileptics		
A314	Succinimides, Antiepileptics		
A315	Barbiturates, Antiepileptics		
A316	Antiepileptics, other		
A320	Central anticholinergics		
A330	Centrally acting voluntary-muscle relaxants		
A400	**Analgesics and antipyretics,** please see AA code here below.		
A500	**Antivertigo drugs**		

AA- ANALGESICS AND ANTIPYRETICS*

* The stems here below have been extracted from the A-CNS depressant category since not all analgesics are CNS depressants. In this context, a subcategory "AA- Analgesics and antipyretics" has been created to better reflect this information.

A400	**Analgesics**		
A410	**Opioids**	-adol or -adol-	analgesics
A410		-azocine	narcotic antagonists/agonists related to 6,7-benzomorphan
A410		-eridine	analgesics, pethidine derivatives
A410		-ethidine	see -eridine
A410		-fentanil	opioid receptor agonists, analgesics, fentanyl derivatives
A410		nal-	opioid receptor antagonists/agonists related to normorphine
A410		orphan	opioid receptor antagonists/agonists, morphinan derivates; -orphine, -orphinol, -orphone
A420	**Analgesics - Antipyretics**	-ac	anti-inflammatory agents, ibufenac derivatives
A420		-adol or -adol-	analgesics
A420		-arit	antiarthritic substances, acting like clobuzarit and lobenzarit (mechanism different from anti-inflammatory type substances, e.g. -fenamates or -profens)
A420		-bufen	non-steroidal anti-inflammatory agents, arylbutanoic acid derivatives
A420		-butazone	-buzone: anti-inflammatory analgesics, phenylbutazone derivatives
A420		-buzone	anti-inflammatory analgesics, phenylbutazone derivatives
A420		-coxib	selective cyclo-oxygenase inhibitors
A420		-fenamate	"-fenamic acid" derivatives
A420		-fenamic acid	anti-inflammatory, anthranilic acid derivatives
A420		-icam	anti-inflammatory, isoxicam derivatives
A420		-metacin	anti-inflammatory, indometacin derivatives
A420		-nixin	anti-inflammatory, anilinonicotinic acid derivatives

A420		-profen	anti-inflammatory agents, ibuprofen derivatives
A430	**Analgesics, other**	-adom	analgesics, tifluadom derivatives
A430		-fenine, phenine	analgesics, glafenine derivatives - (subgroup of fenamic acid group)
A440	**Central antiemetics**		

B000	**CNS STIMULANTS**	*-ampanel*	antagonists of the ionotropic non-NMDA (*N*-methyl-d-aspartate) glutamate receptors (Namely the AMPA (amino-hydroxymethyl-isoxazole-propionic acid) and/or KA (kainite antagonist) receptors)
B100	**Analeptics**	*-fylline*	*N*-methylated xanthine derivatives
B100		*-racetam*	amide type nootrope agents, piracetam derivatives
B100		*vin-* (and *-vin-*)	vinca alkaloids
B200	**Opioid receptor antagonists**	*nal-*	narcotic antagonists/agonists related to normorphine
B200		*orphan*	opioid receptor antagonists/agonists, morphinan derivates
B300	**Benzodiazepine receptor antagonists**		

C000	**PSYCHOPHARMACOLOGICS**	*-glurant*	Metabotropic glutamate receptor antagonists/negative allosteric modulators
		-isant	Histamine H_3 receptor antagonists
		-orexant	Orexin receptor antagonists
		-piprazole	psychotropics, phenylpiperazine derivatives *(future use is discouraged due to conflict with the stem –prazole)*
C000		*-pride*	sulpiride derivatives
C000		*-racetam*	amide type nootrope agents, piracetam derivatives
C000		*-triptan*	serotonin (5-HT_1) receptor agonists, sumatriptan derivatives
C000		*-zotan*	serotonin 5-HT_{1A} receptor agonists/ antagonists acting primarily as neuroprotectors
C100	**Anxiolytic sedatives**	*-azenil*	benzodiazepine receptor antagonists/ agonists (benzodiazepine derivatives)
C100		*-azepam*	diazepam derivatives

C100		*-bamate*	tranquillizers, propanediol and pentanediol derivatives
C100		*-carnil*	benzodiazepine receptor antagonists/ agonists (carboline derivatives)
C100		*-peridone*	see *-perone*: antipsychotics, risperidone derivatives
C100		*-perone*	tranquillizers, neuroleptics, 4′-fluoro-4-piperidino-butyrophenone derivatives
C100		*-pidem*	hypnotics/sedatives, zolpidem derivatives
C100		*-plon*	imidazopyrimidine or pyrazolopyrimidine derivatives, used as anxiolytics, sedatives, hypnotics
C100		*-quinil*	benzodiazepine receptor agonists also partial or inverse (quinoline derivatives), see *-azenil*
C100		*-spirone*	anxiolytics, buspirone derivatives
C100		*-zafone*	alozafone derivatives
C200	**Antipsychotics (neuroleptics)**	*-perone*	tranquillizers, neuroleptics, 4′-fluoro-4-piperidinobutyrophenone derivatives; *-peridol*: antipsychotics, haloperidol derivatives; *-peridone*: antipsychotics, risperidone derivatives
C210	Brain amine depleters		
C220	Central adrenoreceptor antagonists		
C300	**Antidepressants**	*-fensine*	Norepinephrine, serotonin, dopamine reuptake inhibitors
		-oxetine	serotonin and/or norepinephrine reuptake inhibitors, fluoxetine derivatives
		-traline	serotonin reuptake inhibitors
C310	MAO inhibitors	*-giline*	MAO-inhibitors type B
C310		*-moxin*	monoamine oxidase inhibitors, hydrazine derivatives
C320	Tricyclic antidepressants	*-pin(e)*	tricyclic compounds; *dipine*: see *-dipine*; *-zepine*: antidepressant/ neuroleptic; C.0.0.0 *-apine*: psychoactive; A.3.1.0 *cilpine*: antiepileptic; *-oxepin, -oxopine, -sopine, -tepine*
C320		*-pramine*	substances of the imipramine group
C320		*-triptyline*	antidepressants, dibenzo[a,d] cycloheptane or cyclopheptene derivatives
C330	Tetracyclic antidepressants		

C340	Bicyclic antidepressants		
C400	**Indirect releasers of catecholamines**		
C500	**Psychodysleptics (hallucinogens)**		
C600	**CNS metabolites**		
C700	**Serotonin receptor antagonists**	*-anserin*	serotonin receptor antagonists (mostly 5-HT_2)
C700		*erg*	ergot alkaloid derivatives
C700		*-setron*	serotonin receptor antagonists (5-HT_3) not fitting into other established groups of serotonin receptor antagonists, see *-anserin*

E000	**DRUGS ACTING AT SYNAPTIC AND NEUROEFFECTOR JUNCTIONAL SITES**	*gab*	gabamimetic agents
E000		*-nabant*	cannabinoid receptors antagonists
E000	Local anaesthetics	*-caine*	local anaesthetics
E100	**Cholinergic agents**	*-meline*	cholinergic agents (muscarinic receptor agonists/partial antagonists used in the treatment of Alzheimer's disease)
E100		*-clidine/* *-clidinium*	muscarinic receptor agonists/ antagonists
E110	Dopaminergic receptor agonists	*-dopa*	dopamine receptor agonists, dopamine derivatives, used as antiparkinsonism/prolactin inhibitors
E110		*-golide*	dopamine receptor agonists, ergoline derivatives
E111	Muscarinic receptor agonists		
E112	Nicotinic receptor agonists	*-nicline*	nicotinic acetylcholine receptor partial agonists / agonists
E120	Anticholinesterase agents	*-stigmine*	anticholinesterases
E200	**Cholinergic antagonists**	*trop*	atropine derivatives
E210	Peripheral cholinergic antagonists		
E220	Ganglionic antagonists		
E300	**Neuromuscular blocking agents**	*-curium*	curare-like substance; see *-ium*
E300		*-ium*	quaternary ammonium compounds; *-curium*: curare-like substances; *-onium*
E400	**Adrenergic agents**	*-azoline*	antihistaminics or local vasoconstrictors, antazoline derivatives

E400		*-drine*	sympathomimetics; -frine: sympathomimetic, phenethyl derivatives
E400		*-frine*	sympathomimetic, phenethyl derivatives
E400		*-terol*	bronchodilators, phenethylamine derivatives [previously -prenaline or -terenol]
E410	Beta adrenoreceptor agonists		
E420	Alpha adrenoreceptor agonists		
E500	**Adrenoreceptor antagonists**		
E510	Alpha adrenoreceptor antagonists	*-oxan(e)*	benzodioxane derivatives
E520	Beta adrenoreceptor antagonists	*-alol*	aromatic ring -CHOH-CH_2-NH-R related to - olols
E520		*-olol*	beta-adrenoreceptor antagonists; *-alol*: aromatic ring -CH-CH_2-NH-R related to -olols
E530	Catecholamines false transmitters		
E540	Adrenergic neurone blocking agents	*-serpine*	derivatives of *Rauwolfia* alkaloids

F000	**AGENTS ACTING ON SMOOTH MUSCLES**		
F100	**Spasmolytics, general**	*-verine*	spasmolytics with a papaverine-like action
F200	**Vasodilators**	*-afil*	inhibitors of PDE5 with vasodilator action
F200		*-ciguat*	guanylate cyclase activators and stimulators
F200		*-dil*	vasodilators
F200		*-entan*	endothelin receptor antagonists
F210	Coronary vasodilators, also calcium channel blockers	*-dipine*	calcium channel blockers, nifedipine derivatives
F210		*-fradil*	calcium channel blockers acting as vasodilators
F210		*-pamil*	calcium channel blockers, verapamil derivatives
F210		*-tiazem*	calcium channel blockers, diltiazem derivatives
F220	Peripheral vasodilators	*-nicate*	antihypercholesterolaemic and/or vasodilating nicotinic acid esters
F300	**Smooth muscle stimulants**		
F310	Vasoconstrictor agents		
F400	**Agents acting on the uterus**	*erg*	ergot alkaloid derivatives

G000	**HISTAMINE AND ANTIHISTAMINICS**		
G100	**Histamine and histamine-like drugs**		
G200	**Antihistaminics**	*-astine*	antihistaminics
G210	Histamine H_1-receptor antagonists	*-tadine*	histamine-H_1 receptor antagonists, tricyclic compounds
G220	Histamine H_2-receptor antagonists	*-tidine*	histamine-H_2-receptor antagonists, cimetidine derivatives
G230	Histamine H_3-receptor antagonists		
G300	**Histamine metabolism agents**		

H000	**CARDIOVASCULAR AGENTS**	*-bradine*	bradycardic agents
H000		*-denoson*	adenosine A receptor agonists
H000		*-vaptan*	vasopressin receptor antagonists
H100	**Cardiac glycosides and drugs with similar action**	*-dan*	cardiac stimulants, pimobendan derivatives
H100		*-rinone*	cardiac stimulants, amrinone derivatives
H200	**Antiarrhythmics**	*-afenone*	antiarrhythmics, propafenone derivatives
H200		*-aj-*	antiarrhythmics, ajmaline derivatives
H200		*-cain-*	Class I antiarrhythmics, procainamide and lidocaine derivatives (antifibrillants with local anaesthetic activity)
H200		*-ilide*	Class III antiarrhythmics, sematilide derivatives
H200		*-isomide*	class I antiarrhythmics, disopyramide derivatives
H200		*-kalant*	potassium channel blockers
H300	**Antihypertensives**	*-azosin*	antihypertensive substances, prazosin derivatives
H300		*-dralazine*	antihypertensives, hydrazinephthalazine derivatives
H300		*guan-*	antihypertensives, guanidine derivatives
H300		*-kalim*	potassium channel activators, antihypertensive
H300		*-kiren*	renin inhibitors
H300		*-(o)nidine*	antihypertensives, clonidine derivatives
H300		*-pril(at)*	angiotensin-converting enzyme inhibitors

H300		*-sartan*	angiotensin II receptor antagonists, antihypertensive (non-peptidic)
H400	**Antihyperlipidaemic drugs**	*-fibrate*	clofibrate derivatives, peroxisome proliferator activated receptor-α (PPAR-α) agonists
H400		*-cetrapib*	Cholesteryl ester transfer protein (CETP) inhibitors
H400		*-nicate*	antihypercholesterolaemic and/or vasodilating nicotinic acid esters
H400		*-tapide*	microsomal triglyceride transfer protein (MTP) inhibitors
H400		*-vastatin*	see *-stat*; antihyperlipidaemic substances, HMG CoA reductase inhibitors
H500	**Antivaricose drugs**		
H510	Sclerosing drugs		
H600	**Capillary-active drugs, haemostyptics**		
H700	**Calcium channel blockers**		
H800	**Agents influencing the renin-angiotensin system**		
H810	Angiotensin converting enzyme inhibitors		
H820	Angiotensin receptor antagonists		

I000	**BLOOD AND AGENTS ACTING ON THE HAEMOPOIETIC SYSTEM (EXCL. CYTOSTATICS)**		
I100	**Antianaemic agents**		
I110	Iron preparations		
I120	Haematinics, other (Vit. B-12, folic acid, etc.)		
I130	Miscellaneous antianaemic agents		
I200	**Agents influencing blood coagulation**	*-cog*	*(-)eptacog:* blood coagulation VII, *(-) octocog:* blood factor VIII, *(-)nonacog:* blood factor IX
I200		*-cogin*	blood coagulation cascade inhibitors
I200		*-fiban*	fibrinogen receptor antagonists (glycoprotein IIb/IIIa receptor antagonists)
I200		*-gatran*	thrombin inhibitor, antithrombotic agents
I200		*-parin*	heparin derivatives including low molecular mass heparins
I210	Anticoagulants	*-arol*	anticoagulants, dicoumarol derivatives

I210		*-grel-* or *-grel*	platelet aggregation inhibitors
I210		*-irudin*	hirudin derivatives
I210		*-pafant*	platelet-activating factor antagonists
I210		*-troban*	thromboxane A_2-receptor antagonists; antithrombotic agents
I220	Prothrombin inhibitors		
I230	Prothrombin synthesis inhibitors		
I240	Anticoagulant inhibitors		
I250	Agents affecting fibrinolysis		
I260	Coagulation promoting agents		
I261	Blood clotting factors		
I300	**Blood proteins and their fractions**	*-poetin*	erythropoietin type blood factors
I310	Blood substitutes (macromolecular)		
I400	**Platelet-function regulators**		
I500	**Colony stimulating factors**	*-stim*	colony stimulating factors: *-distim*: combination of two different types of CSF; *-gramostim*: granulocyte macrophage colony stimulating factor (GM-CSF) type substances; *-grastim*: granulocyte colony stimulatory factor (G-CSF) type substances; *-mostim:* macrophage stimulating factors (M-CSF) type substances; *-plestim:* interleukin-3 analogues and derivatives
I500	Granulocyte stimulating factors	*-grastim*	see *-stim*
I500	Macrophage stimulating factor	*-mostim*	macrophage stimulating factors (M-CSF) type substances; see *-stim*

J000	**AGENTS INFLUENCING THE GASTROINTESTINAL TRACT**	*-emcinal*	erythromycin derivatives lacking antibiotic activity, motilin agonists
J000		*-glumide*	cholecystokinine antagonists, antiulcer, anxiolytic agents
J000		*-prazan*	Proton pump inhibitors, not dependen ton acid activation
J000		*-prazole*	antiulcer, benzimidazole derivatives
J000		*-serod*	serotonin receptor antagonists and partial agonists
J100	**Drugs acting on gastrointestinal system**	*-azepide*	cholecystokinin receptor antagonists
J100		*-pride*	sulpiride derivatives

J120	Choleretics (and hepatoprotective agents)	*-cic*	hepatoprotective substances with a carboxylic acid group
J130	Digestive enzymes		
J200	**Emetics**		
J300	**Hepato-protective agents**		
J400	**Gastro-intestinal anti-infectives (see S000)**		
J500	**Antidiarrhoeals**		

K000	**AGENTS INFLUENCING THE RESPIRATORY TRACT AND ANTIALLERGICS**	*-ast*	antiallergics or anti-inflammatory, not acting as antihistaminics; *-lukast*: leukotriene receptor antagonist; *-milast*: phosphodiesterase IV (PDE IV) inhibitors; *-trodast*: thromboxane A_2 receptor antagonists, antiasthmatics, *-zolast*: leukotriene biosynthesis inhibitors
K000		*-cromil*	antiallergics, cromoglicic acid derivatives
K000		*-exine*	mucolytic, bromhexine derivatives
K000		*-fentrine*	inhibitors of phosphodiesterases
K000		*-lukast*	leukotriene receptor antagonists, see *-ast*
K000		*-steine*	mucolytics, other than bromhexine derivatives
K000		*-trodast*	thromboxane A_2 receptor antagonists, antiasthmatics; see *-ast*
K000		*-xanox*	antiallergic respiratory tract drugs, xanoxic acid derivatives
K100	**Antitussives**		
K110	Antitussives - central		
K120	Antitussives - peripheral		
K200	**Expectorants**		

L000	**CYTOTOXICS, TARGETED THERAPIES AND HORMONES IN CANCER THERAPY**	*-anib*	angiogenesis inhibitors
L000		*-antrone*	antineoplastics; anthraquinone derivatives
L000		*-(ar)abine*	arabinofuranosyl derivatives
L000		*-bulin*	antineoplastics; mitotic inhibitors, tubulin binders
L000		*-degib*	SMO receptor antagonists
L000		*-dotin*	Synthetic derivatives of dolastatin series
L000		*-mestane*	aromatase inhibitors
L000		*mito-*	antineoplastics, nucleotoxic agents
L000		*-platin*	antineoplastic agents, platinum derivatives
L000		*-quidar*	drugs used in multidrug resistance; quinoline derivatives
L000		*-racil*	uracil type antineoplastics
L000		*-rafenib*	Raf (rapidly accelerated fibrosarcoma) kinase inhibitors
L000		*-ribine*	ribofuranil-derivatives of the "pyrazofurin" type
L000		*-rozole*	aromatase inhibitors, imidazole-triazole derivatives
L000		*-sertib*	serine/threonine kinase inhibitors
L000		*-tansine*	maytansinoid derivatives, antineoplastics
L000		*-taxel*	antineoplastics; taxane derivatives
L000		*-tecan*	antineoplastics, topoisomerase I inhibitors
L000		*-tinib*	tyrosine kinase inhibitors
L000		*-trexed*	antineoplastics; thymidiylate synthetase inhibitors
L100	**Immunosuppressants**		
L200	**Alkylating agents**	*-mustine*	antineoplastic, alkylating agents, (beta-chloroethyl)amine derivatives
L200		*-sulfan*	antineoplastic, alkylating agents, methanesulfonates
L200		*-tepa*	antineoplastics, thiotepa derivatives
L300	**Radioisotopes (except diagnostics)**		
L310	Radioisotopes - systemic		
L320	Radioisotopes - locally applied		

L400	**Antineoplastics - antimetabolites**	*-abine*	see *-arabine, -citabine*
L400		*-citabine*	nucleosides antiviral or antineoplastic agents, cytarabine or azacitidine derivatives
L400		*-trexate*	folic acid analogues
L400		*-uridine*	uridine derivatives used as antiviral agents and as antineoplastics; also *-udine*
L410	Ornithine decarboxylase inhibitors		
L500	**Antineoplastics - natural products (incl. antibiotics)**	*-rubicin*	antineoplastics, daunorubicin derivatives
L500		*vin-* or *-vin-*	vinca alkaloids
L600	**Antineoplastics - sex hormone analogues and inhibitors**		
L610	Aromatase inhibitors		
L620	Luteinizing hormone-releasing hormone agonists		

M000	**METABOLISM AND NUTRITION (EXCL. WATER AND MINERAL METABOLISM)**	*-stat* (or *-stat-*)	enzyme inhibitors; *-lipastat*: pancreatic lipase inhibitors; *-restat* or *-restat-*: aldose-reducing inhibitors; *-vastatin*: antihyperlipidaemic substances, HMG CoA reductase inhibitors
M100	**Anorectics**	*-orex*	anorectics
M200	**Dietetics and antiadipositas drugs**		
M210	Bulk forming drugs		
M300	**Agents influencing lipid and fat metabolism**	*-imibe*	antihyperlipidaemics, acyl CoA:cholesterol acyltransferase (ACAT) inhibitors
M300		*-listat*	see *-stat*
M310	Antiatherosclerosis agents		
M320	Lipotropic agents		
M321		*-begron*	β_3-adrenoreceptor agonists
M330	Lipogenesis inducing agents		
M400	**Agents influencing protein metabolism**		
M410	Anabolic steroids	*bol*	anabolic steroids
M420	Catabolic agents		
M430	Amino acids		

M500	**Agents influencing carbohydrate metabolism**	*-restat* (or *-restat-*)	see *-stat*; aldose-reductase inhibitors
M510	Insulins		
M520	Oral antidiabetics - islet mediated	*-formin*	antihyperglycaemics, phenformin derivatives
M520		*gli-, -gli-*	previously *gly-*; antihyperglycaemics
M520		*-gliptin*	dipeptidyl aminopeptidase-IV inhibitors
M520		*-glitazar*	dual peroxisome proliferator activated receptors-α and γ (PPAR-α,γ) agonists
M520		*-glitazone*	peroxisome proliferator activating receptor-γ (PPAR) agonists, thiazolidinedione derivatives
M530	Oral antidiabetics - extra pancreatic	*gli*	antihyperglycaemics
M540	Gluconeogenesis influencing agents		
M600	**Agents influencing uric acid metabolism**		
M610	Uricosurics		
M620	Uric acid synthesis inhibitors		
M630	Agents influencing oxalic acid metabolism		
M700	**Thyroid and antithyroids**		
M710	Thyroid and thyroid hormones		
M720	Thyroid stimulators		
M730	Antithyroids	*-thiouracil*	uracil derivatives used as thyroid antagonists
M740	Radioactive iodine agents (for therapy)		
M800	**Enzymes**		
M810	Enzyme inhibitors		
M820	Enzyme stimulators		

N000	**AGENTS INFLUENCING WATER AND MINERAL METABOLISM**		
N100	**Diuretics**		
N110	Carbonic anhydrase inhibitors	*-semide*	diuretics, furosemide derivatives
N120	Saluretics	*-anide*	N.1.2.0 *-etanide*: diuretics, piretanide derivatives; S.3.0.0 *-oxanide*: antiparasitic, salicylanilides and analogues
N120		*-etanide*	diuretics, piretanide derivatives; see *-anide*

N120		*-pamide*	diuretics, sulfamoylbenzoic acid derivatives (could be sulfamoylbenzamide)
N121	Thiazide derivatives	*-tizide*	diuretics, chlorothiazide derivatives
N122	Ethacrynic acid derivatives	*-crinat*	diuretics, etacrynic acid derivatives
N123	Chlortalidone derivatives		
N129	Saluretics, other		
N130	Mercurial diuretics	*mer-* (or *-mer-*)	mercury-containing drugs, antimicrobial or diuretic [*mer-* and *-mer-* can be used for any type of substances and are no longer restricted to use in INNs for mercury-containing drugs; *-mer*: polymers]
N170	Purines and other diuretics		
N180	Aldosterone inhibitors	*-renone*	aldosterone antagonists, spironolactone derivates
N200	**Acidifiers**		
N400	**Saline cathartics**		
N500	**Alkalizers**		
N510	Parenteral alkalizer solutions		
N520	Oral antacids	*-aldrate*	antacids, aluminium salts
N520		*-alox*	see *-ox*
N600	**Fluid and electrolyte replacement therapy**		
N610	Electrolyte and carbohydrate solutions		
N700	**Mineral salts**		
N710	Ion exchange resins		
N800	**Vitamin D group and calcium metabolism drugs**	*calci*	Vitamin D analogues/derivatives
N800		*-dronic acid*	calcium metabolism regulator, pharmaceutical aid

P000	**VITAMINS**		
P100	**Vitamin A**	*-arotene*	arotinoid derivatives
P100		*retin*	retinol derivatives
P200	**Vitamin B1**		
P300	**Vitamin B2**		
P400	**Vitamin B6**		
P500	**Vitamin C**		

P600	**Vitamin E**		
P700	**Nicotinic acid derivatives**	*nic-*.	nicotinic acid or nicotinoyl alcohol derivatives
P800	**Vitamins, other**		

Q000	**HORMONES OR HORMONE RELEASE-STIMULATING PEPTIDES**	*-morelin*	see *-relin*; pituitary hormone release-stimulating peptides
Q000		*prost*	prostaglandins; *-prostil*: prostaglandins, anti-ulcer
Q000		*-relin*	pituitary hormone-release stimulating peptides: *-morelin*: growth hormone release-stimulating peptides; *-tirelin*: thyrotropin releasing hormone analogues
Q000		*som-*	growth hormone derivatives
Q000		*-tirelin*	see *-relin*; thyrotropin releasing hormone analogues
Q100	**Hypophysis hormones**		
Q110	Hypophysis anterior lobe		
Q111	Hypophysis anterior lobe hormones	*-actide*	synthetic polypeptides with a corticotropin-like action
Q112	Hypophysis anterior lobe inhibitors		
Q120	Hypophysis posterior lobe (incl. other oxytocics)	*-pressin*	vasoconstrictors, vasopressin derivatives
Q120		*-tocin*	oxytocin derivatives
Q200	**Sex hormones and analogues**	*-pris-*	steroidal compounds acting on progesterone receptors (excluding –*gest*-compounds)
Q210	Estrogens, also interceptive contraceptive agents e.g. epostane	*estr*	estrogens
Q210		*-ifene*	antiestrogens or estrogen receptor modulators, *clomifene* and *tamoxifen* derivatives
Q220	Progestogens	*gest*	steroids, progestogens
Q230	Androgens	*andr* or *–stan-* or *–ster-*	steroids, androgens
Q230		*-ster-*	androgens/anabolic steroids: *-testosterone, -sterone, -ster-, -gesterone, -sterone, sterol, ster, -(a) steride*
Q231	Androgens	*-terone*	antiandrogens
Q240	Gonadotrophins and gonadotrophin secretion stimulating drugs		

Q241	Antigonadotrophins		
Q300	**Adrenocortical hormones and analogues**	*cort*	corticosteroids, except prednisolone derivatives
Q300		*-olone*	steroids other than prednisolone derivatives
Q300		*-onide*	steroids for topical use, acetal derivatives
Q310	Mineralosteroids		
Q320	Mineralosteroid antagonists		
Q330	Glucosteroids	*pred*	prednisone and prednisolone derivatives; *-methasone* or *-metasone*, *-betasol*, *-olone*
Q340	Glucosteroids antagonists		

S000	**ANTI-INFECTIVES AND DRUGS ACTING ON IMMUNITY**		
S100	**Ectoparasiticides**		
S200	**Antiseptics and disinfectants**		
S210	Antiseptics (excl. heavy metal antiseptics)	*-nifur-*	5-nitrofuran derivatives
S220	Heavy metal antiseptics	*-mer-*	mercury-containing drugs, antimicrobial or diuretic [*mer-* and *-mer-* can be used for any type of substances and are no longer restricted to use in INNs for mercury-containing drugs]
S230	Detergent antiseptics		
S300	**Chemotherapeutics of parasitic diseases**	*-ectin*	antiparasitics, ivermectin derivatives
S300		*-oxanide*	antiparasitics, salicylanilides and analogues; see *-anide*
S310	Anthelminthics (excl. antinematode agents)	*-antel*	anthelminthics (undefined group)
S310		*-bendazole*	anthelminthics, tiabendazole derivatives
S310		*-fos (-vos)*	insecticides, anthelmintics, pesticides etc., phosphorous derivatives
S310		*-fos-* or *fos-*	various pharmacological categories belonging to *-fos* (other than above)
S320	Antinematode agents		
S330	Antiprotozoal agents (incl. all arsphenamines)	*arte-*	antimalarial agents, artemisinin related compounds
S330		*-nidazole*	antiprotozoals and radiosensitizers, metronidazole derivatives

S400	**Chemotherapeutics of fungal diseases**	*-conazole*	systemic antifungal agents, miconazole derivatives
S410	Antifungal agents		
S420	Fungicides		
S430	Antifungal antibiotics		
S500	**Antibiotics, antibacterial and antiviral agents**	*-planin*	glycopeptide antibacterials (*Actinoplanes* strains)
S510	Sulfonamides	*sulfa-*	anti-infectives, sulfonamides
S520	Antimycobacterials	*-dapsone*	antimycobacterials, diaminodiphenylsulfone derivatives
S520		*-pirox*	see *-ox*
S530	Antiviral	*-arabine*	arabinofuranosyl derivatives
S530		*-motine*	antivirals, quinoline derivatives
S530		*-ribine*	ribofuranil-derivatives of the *pyrazofurin* type
S530		*-uridine*	uridine derivatives used as antiviral agents and as antineoplastics; *-udine*
S530		*vir*	antivirals (undefined group): *-amivir, -cavir, -ciclovir, -fovir, -gosivir, -navir, -virsen, …*
S550	Antibacterial/other	*-citabine*	nucleosides antiviral or antineoplastic agents, cytarabine or azacitidine derivatives
S550		*-oxacin*	antibacterials, nalidixic acid derivatives
S550		*-prim*	antibacterials, dihydrofolate reductase (DHFR) inhibitors, trimethoprim derivatives
S600	**Antibiotics (except antineoplastic antibiotics)**	*-cidin*	naturally occurring antibiotics (undefined group)
S600		*-fungin*	antifungal antibiotics
S600		*-gillin*	antibiotics produced by *Aspergillus* strains
S600		*-monam*	monobactam antibiotics
S600		*-mycin*	antibiotics, produced by *Streptomyces* strains (see also *-kacin*)
S600		*-parcin*	for glycopeptide antibiotics
S600		*-penem*	analogues of penicillanic acid antibiotics modified in the five-membered ring
S600		*-pristin*	antibacterials, streptogramins, protein-synthesis inhibitors, pristinamycin derivatives

S610	Antibiotics acting on the bacterial cell wall	*-carbef*	antibiotics, carbacephem derivatives
S610		*cef-*	antibiotics, cefalosporanic acid derivatives
S610		*-cillin*	antibiotics, 6-aminopenicillanic acid derivatives
S610		*-oxef*	see *cef-*; antibiotics, oxacefalosporanic acid derivatives
S620	Antibiotics affecting cell membrane and with detergent effect	*-tricin*	antibiotics, polyene derivatives
S630	Antibiotics affecting protein synthesis	*-cycline*	antibiotics, protein-synthesis inhibitors, tetracycline derivatives
S630		*-kacin*	antibiotics, kanamycin and bekanamycin derivatives (obtained from *Streptomyces kanamyceticus*); S.6.5.0: *-micin*: aminoglycosides, antibiotics obtained from *various Micromonospora*
S630		*-zolid*	Oxazolidinone antibacterials
S640	Antibiotics affecting nucleic acid metabolism	*rifa-*	antibiotics, rifamycin derivatives
S650	Antibiotics-action unclassified (including β-lactamase inhibitors)	*-bactam*	β-lactamase inhibitors
S650		*-micin*	see *-kacin*; aminoglycosides, antibiotics obtained from various *Micromonospora*
S700	**Immunomodulators and immunostimulants (incl. gamma globulins)**	*-cept*	receptor molecules or membranes ligands, native, modified or synthetic
S700		*imex*	immunostimulants
S700		*-imod*	immunomodulators, both stimulant/ suppressive and stimulant
S700		*-imus*	immunosuppressants (other than antineoplastics)
S700		*-kin*	interleukin type substances: *-nakin, -leukin, -trakin, -exakin, -octakin,* *-decakin, -elvekin, -dodekin, tredekin, -octadekin*
S700		*-kinra*	interleukin-receptors antagonists: *- nakinra, -trakinra*
S700		*-mab*	monoclonal antibodies (see also Annex)
S710	Interferons and immunomodulators		

T000	**LOCALLY ACTING AGENTS (INCL. DERMATOLOGIC AND INTERNALLY USED DRUGS)**		
T100	**Locally acting externally-applied agents**		
T110	Vasodilators (external) - rubefaciens		
T200	**Locally acting internally-applied agents**		
T210	Adsorbents, astringents		
T220	Lubricant cathartics		
T230	Irritant cathartics		
T240	Gastro-intestinal anti-infectives, non-resorbed		
T250	Saponins		
T260	Detergents		
T300	**Intravaginal contraceptives**		

U000	**MISCELLANEOUS DRUGS**		*-ermin*: growth factors; *-dermin*: epidermal growth factors; *-fermin*: fibrino-blast growth factors; *-nermin*: tumour necrosis factor; *-sermin*: insulin-like growth factors
U000		*gado-*	diagnostic agents, gadolinium derivatives
U100	**Diagnostic aids**	*-fenin*	diagnostic aids; (phenyl-carbamoyl) methyl iminodiacetic acid derivatives
U110	Radiocontrast media	*io-*	iodine-containing contrast media
U110		*-io-* or *iod-*	iodine-containing compounds other than contrast media
U120	Diagnostic aids, other		
U130	Diagnostic radioisotopes		
U200	**Chelating agents, detoxicants, etc.**	*-xetan*	Chelating agents
U210	Alcohol deterrents		
U300	**Anti-inflammatory agents**	*-lubant*	phospholipase A_2 inhibitors
U310	Non-antipyretic antirheumatics		
U320	Anti-inflammatory agents, other		
U400	**Pharmaceutical adjuncts**	*cell-* or *cel-*	cellulose derivatives; (*cell-ate* and *-cellose*)
U400		*-dronic acid*	calcium metabolism regulator, pharmaceutical aid

V000	**UNCLASSIFIED PHARMACOLOGICAL MECHANISMS**		
V100	**Intrauterine contraceptive device**		
V200	**Medicinal plants**		
V300	**Homoeopathic preparations**		

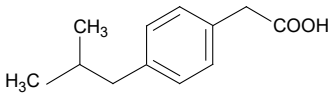
W000	**ENZYMES AND VARIOUS**	*-ase*	enzymes; *-dismase, -teplase, -uplase*
W000		*-pladib*	phospholipase A_2 inhibitors
W000		*-stat*	enzyme inhibitors

Y000	**VETERINARY DRUGS**	*-nidazole*	antiprotozoals and radiosensitizers, metronidazole derivatives

Z000	**GENE and cell THERAPY SUBSTANCES**	*-cel*	cell therapy substances
		-gene	gene therapy substances, please refer to Annex 4

Part IV

Alphabetical list of stems together with corresponding INN

-abine	**see -arabine, -citabine**
	USAN
-ac (x)	**anti-inflammatory agents, ibufenac derivatives**
A.4.2.0	(USAN: anti-inflammatory agents (acetic acid derivatives))
	
(a)	-clofenac: aceclofenac (52), alclofenac (23), diclofenac (28), diclofenac etalhyaluronate (111), fenclofenac (30) -dolac: dexpemedolac (71), etodolac (45), pemedolac (58) -fenac: amfenac (38), bromfenac (55), furofenac (40), ibufenac (14), lexofenac (38), nepafenac (78) -zolac: bufezolac (39), isofezolac (39), lonazolac (34), mofezolac (64), pirazolac (43), rovazolac (117),trifezolac (34) others: anirolac (52), bendazac (22), cinfenoac (41), clidanac (39), clofurac (42), clopirac (30), eltenac (53), felbinac (54), fenclorac (33), fentiazac (32), isoxepac (37), ketorolac (51), oxepinac (36), oxindanac (54), (quinclorac, ISO name for a herbicide), sulindac (33), tianafac (31), tifurac (57), tiopinac (40), zomepirac (37)
(b)	bufexamac (20) (anti-inflammatory; acetohydroxamic acid group instead of acetic acid group)
(c)	amtolmetin guacil (65), clamidoxic acid (17), fenclozic acid (22), metiazinic acid (20), prodolic acid (29), tolmetin (23)

-acetam	**see -racetam**

USAN

-actide	**synthetic polypeptides with a corticotropin-like action**
Q.1.1.1	(USAN: synthetic corticotropins)
(a)	alsactide (45), codactide (24), giractide (29), norleusactide (18), seractide (31), tetracosactide (18), tosactide (24), tricosactide (44), tridecactide (97)

BAN, USAN

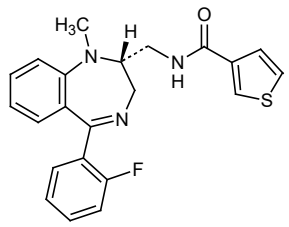
-adol (x) or -adol-	**analgesics**
A.4.1.0 A.4.2/3.0	(USAN: analgesics (mixed opiate receptor agonists/antagonists))
(a)	A.4.1.0: acetylmethadol (5), alimadol (39), alphacetylmethadol (5), alphamethadol (5), axomadol (87), betacetylmethadol (5), betamethadol (5), indantadol (94), levacetylmethadol (27), noracymethadol (12), tapentadol (87)

A.4.2/3.0: apadoline (74), asimadoline (74), befiradol (99), bromadoline (49), cebranopadol (107), ciprefadol (41), ciramadol (39), cloracetadol (16), desmetramadol (117), dibusadol (24), dimenoxadol (7), diproxadol (34), eluxadoline (109), enadoline (68), faxeladol (97), filenadol (47), flumexadol (36), furadoline (48), gaboxadol (48), insalmadol (92), levonantradol (43), lexanopadol (109), lorcinadol (57), moxadolen (45), (deleted in List 48: moxifadol (47)), myfadol (17), nafoxadol (50), nantradol (42), nerbacadol (56), oxapadol (40), picenadol (47), pinadoline (50), pipradimadol (42), pipramadol (42), pravadoline (60), vadoline (60), profadol (20), radolmidine (82), ruzadolane (71), spiradoline (53), tazadolene (52), tolpadol (48), tramadol (22), veradoline (47)

(b)	alfadolone (27), hexapradol (12) (CNS stimulant), nadolol (34), quinestradol (15) (estrogenic)
(c)	A.4.1.0: dimepheptanol (5)

-adom **analgesics, tifluadom derivatives**

A.4.3.0

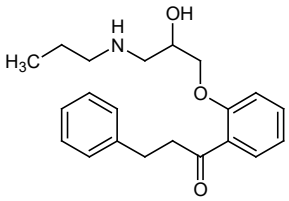


(a) lufuradom (50), tifluadom (48)

USAN

-afenone **antiarrhythmics, propafenone derivatives**

H.2.0.0



(a) alprafenone (62), berlafenone (63), diprafenone (48), etafenone (19), propafenone (29)

USAN

-afil **inhibitors of phosphodiesterase PDE5 with vasodilator action**

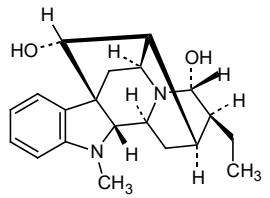
F.2.0.0 (USAN: PDE5 inhibitors)

(a) avanafil (92), beminafil (90), dasantafil (91), gisadenafil (101), lodenafil carbonate (94), mirodenafil (95), sildenafil (75), tadalafil (85), udenafil (93), vardenafil (82)

USAN

-aj- **antiarrhythmics, ajmaline derivatives**

H.2.0.0



(a) detajmium bitartrate (34), lorajmine (34), prajmalium bitartrate (23)

-al (d)	**aldehydes**
	USAN
-aldrate	**antacids, aluminium salts**
N.5.2.0	
(a)	carbaldrate (53), potassium glucaldrate (14), magaldrate (49), simaldrate (15), sodium glucaspaldrate (17)
	algeldrate (15), almadrate sulfate (15), almagodrate (52)
(c)	alexitol sodium (45), almagate (41), almasilate (43), dosmalfate (110), glucalox (13), hydrotalcite (23), lactalfate (53), sucralox (13)
	USAN
-alol	**see -olol**
-alox	**see -ox**
-amivir	**see -vir**
	USAN
-ampanel	**antagonists of the ionotropic non-NMDA (**N**-methyl-d-aspartate) glutamate receptors (Namely the AMPA (amino-hydroxymethyl-isoxazole-propionic acid) and/or KA (kainite antagonist) receptors)**
B.0.0.0	(USAN: ionotropic non-NMDA glutamate receptors (AMPA and/or KA receptors) antagonists)
(a)	becampanel (90), dasolampanel (105), fanapanel (80), irampanel (82), perampanel (97), selurampanel (104), talampanel (80), tezampanel (95), zonampanel (85)
	USAN
andr (d)	**steroids, androgens**
Q.2.3.0	(USAN: -andr- androgens)
(a)	i. andr: androstanolone (4), methandriol (1), nandrolone (22), norethandrolone (6), ovandrotone albumin (52), silandrone (18)
	ii. -stan- (d): androstanolone (4), drostanolone (13), epitiostanol (31), mestanolone (10), stanozolol (18), epostane (51) (contraceptive)

iii. -ster- (d): calusterone (23), cloxotestosterone (12), fluoxymesterone (6), mesterolone (15), methyltestosterone (4), oxymesterone (12), penmesterol (14), prasterone (23), testosterone (4), testosterone ketolaurate (16), tiomesterone (14)

(b) i. andr: oxandrolone (12), propetandrol (13)

ii. ster: aldosterone (6), bolasterone (13), dihydrotachysterol (1), dimethisterone (8), ethisterone (4), norethisterone (6), norvinisterone (6), stercuronium iodide (21) (neuromuscular blocking agent)

(c) metandienone (12), oxymetholone (11), trestolone (25) (antineoplastic androgen)

USAN

-anib **angiogenesis inhibitors**

L.0.0.0

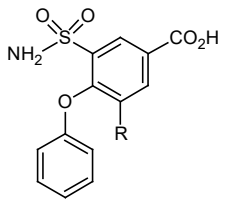
(a) acrizanib (116), alofanib (113), beloranib (100), bevasiranib (108), brivanib alaninate (97), cediranib (95), crenolanib (105), foslinanib (119), motesanib (97), nintedanib (105), linifanib (102), lucitanib (107), pazopanib (94), pegaptanib (88), pegdinetanib (103), necuparanib (112), opaganib (117), pegpleranib (112), rivoceranib (117), semaxanib (85), tivozanib (102), toceranib (100),trebananib (106), vandetanib (91), vatalanib (84), vorolanib (115)

USAN

-anide

-etanide diuretics, piretanide derivatives

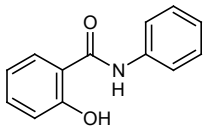
N.1.2.0 (USAN: diuretics (piretanide type))



(a) bumetanide (24), piretanide (33)

(c) besunide (30)

-oxanide antiparasitics, salicylanilides and analogues
S.3.0.0 (USAN: antiparasitics (salicylanilide derivatives))



(a) bromoxanide (31), clioxanide (19), rafoxanide (24)

thioanalogues: brotianide (24)

related: diloxanide (8), nitazoxanide (45)

(b) closantel (36), flurantel (25), niclosamide (13), resorantel (23), salantel (29)

(c) oxyclozanide (16)

other *–anides*: aurothioglycanide (1) (antiarthritic; gout-remedy), ceforanide (39) (antibiotic), oglufanide (86) (immunomodulator), polihexanide (24) (antibacterial), tiprostanide (48) (antihypertonic)

BAN, USAN

-anserin **serotonin receptor antagonists (mostly 5-HT_2)**

C.7.0.0 (USAN: serotonin 5-HT_2 receptor antagonists)

(a) adatanserin (70), altanserin (50), blonanserin (76), butanserin (51), eplivanserin (80), fananserin (69), flibanserin (75), iferanserin (89), ketanserin (46), lidanserin (62), nelotanserin (101), opiranserin (117), pelanserin (57), pimavanserin (97), pruvanserin (90), seganserin (56), trelanserin (97), tropanserin (55), volinanserin (95)

(b) serotonin receptor antagonists, psychoactive: cinanserin (17), glemanserin (68), mianserin (20), ritanserin (51)

USAN

-antel **anthelminthics (undefined group)**

S.3.1.0

(a) amidantel (40), antelmycin (15), atelocantel (116), carbantel (35), closantel (36), derquantel (99), epsiprantel (57), febantel (38), flurantel (25), monepantel (98), morantel (22), oxantel (3l), pexantel (22), praziquantel (34), pyrantel (l7), resorantel (23), salantel (29), zilantel (33)

USAN

-antrone **antineoplastics; anthraquinone derivatives**

L.0.0.0/ (USAN: -antrone as above, and -(x)antrone with following definition: antineoplastics, L.5.0.0 mitoxantrone derivatives aza-anthracenedione class of antitumor agents)

(a) ametantrone (45), banoxantrone (90), butantrone (49), ledoxantrone (76), losoxantrone (68), mitoxantrone (44), nortopixantrone (87), piroxantrone (59), pixantrone (89), sepantronium bromide (105), teloxantrone (68), topixantrone (87)

-apine **see –pine**

USAN

-apt- **aptamers, classical and mirror ones**

(a) avacincaptad pegol (113), egaptivon pegol (111), emapticap pegol (108), lexaptepid pegol (108), olaptesed pegol (109), pegaptanib (88)

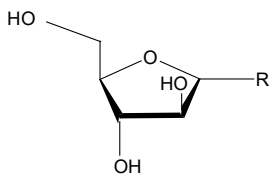
(b) -*vaptan* stem: conivaptan (82), lixivaptan (83), mozavaptan (87), nelivaptan (98), relcovaptan (82), ribuvaptan (110), satavaptan (93), tolvaptan (83). *others*: aptazapine(50), aptiganel (72), aptocaine (21), captamine (18), captodiame (06), captopril (39), danegaptide (101), daptomycin (58), icrocaptide (89), mercaptamine (01), mercaptomerin (01), mercaptopurine (06), naptumomab estafenatox (96), rotigaptide (94), sodium borocaptate (^{10}B) (62), sodium stibocaptate (17), taplitumomab paptox (84)

(c) pegnivacogin (106)

USAN

-(ar)abine **arabinofuranosyl derivatives**

L.4.0.0/
S.5.3.0 (USAN: -arabine: antineoplastic (arabinofuranosyl derivatives))



(a) clofarabine (90), cytarabine (14), fazarabine (56), fludarabine (48), nelarabine (80), vidarabine (23)
<u>See also the stem -citabine:</u> ancitabine (36), apricitabine (95), capecitabine

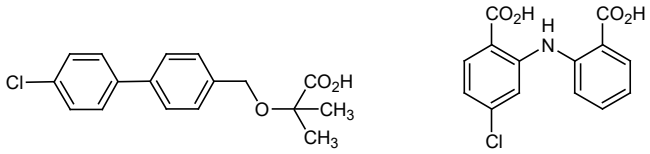
(73), decitabine (61), dexelvucitabine (95), elvucitabine (89), emtricitabine (80), enocitabine (46), fiacitabine (59), flurocitabine (38), fosgemcitabine palabenamide (119), galocitabine (65), gemcitabine (62), guadecitabine (113), ibacitabine (57), lumicitabine (115), mericitabine (108), sapacitabine (94), tezacitabine (84), torcitabine (87), troxacitabine (81), valopicitabine (93), valtorcitabine (90), zalcitabine (66)

(c) S.5.3.0: ribavirin (31), taribavirin (95)

USAN

-arit **antiarthritic substances, acting like clobuzarit and lobenzarit (mechanism different from anti-inflammatory type substances, e.g. -fenamates or -profens)**

A.4.2.0 (USAN: antirheumatic (lobenzarit type))



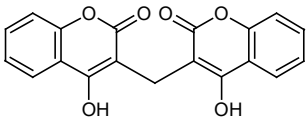
(a) actarit (62), bindarit (64), clobuzarit (44), lobenzarit (46), romazarit (60)

(c) tarenflurbil (97)

USAN

-arol (d) **anticoagulants, dicoumarol derivatives**

I.2.1.0 (USAN: anticoagulants (dicoumarol type))



(a) acenocoumarol (6), clocoumarol (31), coumetarol (13), dicoumarol (23), tioclomarol (31), xylocoumarol (15)

(b) cloridarol (29) (coron. vasodil.), fluindarol (16) (anticoag. of indonedione-type)

(c) diarbarone (15), ethyl biscoumacetate (4), phenprocoumon (11), tecarfarin (101), warfarin (23)

USAN

-arone

(USAN: antiarrhythmics)

amiodarone (16) (antiarrhythmic), benzarone (13), benzbromarone (13) (uricosuric), benziodarone (11), brinazarone (64) (calcium channel blocker), bucromarone (48) (antiarrhythmic), budiodarone (101), celivarone (94), diarbarone (15), dronedarone (75) (antianginal, antiarrhythmic), etabenzarone (17), fantofarone (65) (calcium channel blocker), furidarone (19), inicarone (27), mecinarone (30), pyridarone (16), rilozarone (58)

USAN

-arotene **arotinoid derivatives**

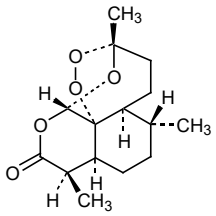
P.1.0.0 (USAN: -arot-: arotinoids, and -arotene: arotinoid derivatives)

(a) adarotene (100), amsilarotene (98), betacarotene (38), bexarotene (80), etarotene (64), linarotene (65), mofarotene (70), palovarotene (99), sumarotene (64), tamibarotene (73), tazarotene (72), temarotene (54), trifarotene (107)

USAN

arte- **antimalarial agents, artemisinin related compounds**

S.3.3.0



(a) artefenomel (109), arteflene (70), artemether (61), artemisinin (56), artemisone (95), artemotil (80), artenimol (81), arterolane (97), artesunate (61)

USAN

-ase **enzymes**

W.0.0.0 For more details, please refer to the "*INN for biological and biotechnological substances, a review*", available on the WHO INN Programme website: http://www.who.int/medicines/services/inn/en/

-diplase **two plasminogen activators combined with another enzyme**

(a) amediplase (79)

-**dismase**	**superoxide dismutase activity**
(a)	ledismase (70), sudismase (58)
(c)	orgotein (31), pegorgotein (72)
-**lipase**	**lipases**
(a)	bucelipase alfa (95), burlulipase (107), rizolipase (22), sebelipase alfa (107)
-**teplase**	**tissue-type plasminogen activators**
(a)	alteplase (73), desmoteplase (80), duteplase (62), lanoteplase (76), monteplase (72), nateplase (73), pamiteplase (78), reteplase (69), silteplase (65), tenecteplase (79)
(c)	anistreplase (59)
-**uplase**	**urokinase (urinary)-type plasminogen activators**
(a)	nasaruplase (76), nasaruplase beta (86), saruplase (76)
(c)	urokinase (48), urokinase alfa (77)

The following suffixes have also been used:

-dornase	deoxyribonucleases	alidornase alfa (115), dornase alfa (70), streptodornase (6)
-glucerase	glucosylceramidase	alglucerase (68), imiglucerase (72), taliglucerase alfa (101), velaglucerase alfa (98)
-glucosidase	α-glucosidase	alglucosidase alfa (117), avalglucosidase alfa (117), reveglucosidase alfa (111)
-icase	uricases	pegadricase (105), pegloticase (98), rasburicase (82)
-liase	lyases (decarboxylases)	condoliase (106), pegvaliase (111), reloxaliase (117)
-sulfase	sulfatases	elosulfase alfa (108), galsulfase (92), idursulfase (90), idursulfase beta (106)

(c)	ancrod (23), batroxobin (29), bromelains (18), chymopapain (26), chymotrypsin (10), fibrinolysin (human) (10), ocriplasmin (101), sutilains (18), thrombin (60), thrombin alfa (97), troplasminogen alfa (99)

Co-enzymes: cobamamide (15), cocarboxylase (1), mecobalamin (26), ubidecarenone (48)

Others:

agalsidase alfa (84)	α-galactosidase
agalsidase beta (84)	α-galactosidase
alfimeprase (85)	fibrolase
apadamtase alfa (118)	ADAMTS13 endopeptidase
asfotase alfa (104)	alkaline phosphatase
bovhyaluronidase azoximer (112)	hyaluronoglucosaminidase
brinase (22)	fibrolase
calaspargase pegol (105)	L-asparaginase
cerliponase alfa (111)	tripeptidyl-peptidase 1
crisantaspase (111)	L-asparaginase
elapegademase (116)	adenosine deaminase
epafipase (85)	acetylalkylglycerol acetylhydrolase
eufauserase (84)	serine endopeptidase
exebacase (117)	lysozyme (muramidase)
glucarpidase (92)	glutamate carboxypeptidase
hyalosidase (50)	hyaluronoglucosaminidase
hyaluronidase (1)	hyaluronoglucosaminidase
imlifidase (117)	streptopain (streptococcal cysteine proteinase, Streptococcus peptidase A)
kallidinogenase (22)	tissue kallikrein
laronidase (86)	L-iduronidase
lesinidase alfa (116)	α-*N*-acetylglucosaminidase
ocrase (28)	fibrolase
olipudase alfa (111)	sphingomyelin phosphodiesterase
pegademase (63)	adenosine deaminase
pegargiminase (111)	arginine deiminase
pegaspargase (64)	L-asparaginase
pegcrisantaspase (111)	L-asparaginase
pegunigalsidase alfa (115)	α-galactosidase
pegvorhyaluronidase alfa (115)	hyaluronoglucosaminidase
pegzilarginase (117)	arginine amidinase
penicillinase (111)	β-lactamase
praconase (118)	pentosyltransferase
promelase (47)	oryzin
ranpirnase (81)	pancreatic ribonuclease

ribaxamase (116)	β-lactamase
sacrosidase (112)	β-fructofuranosidase (β-fructosidase, invertase, saccharase)
senrebotase (107)	serine endopeptidase
serrapeptase (31)	oryzin
sfericase (40)	serine endopeptidase
streptokinase (6)	co-enzyme
tilactase (50)	β-galactosidase
tonabacase (115)	lysozyme (muramidase)
tralesinidase alfa (117)	α-*N*-acetylglucosaminidase
velmanase alfa (113)	α-mannosidase
vestronidase alfa (115)	β-glucuronidase
vonapanitase (111)	pancreatic elastase
vorhyaluronidase alfa (111)	hyaluronoglucosaminidase

BAN; USAN

-ast (x) **anti-allergic or anti-inflammatory, not acting as anti-histaminics**

K.0.0.0 (BAN: antiasthmatics, antiallergics when not acting primarily as antihistamines)
(USAN: antiasthmatics / antiallergics: not acting primarily as antihistamines; leukotriene biosynthesis inhibitors)

(a) acitazanolast (72), acreozast (77), andolast (67), asobamast (63), ataquimast (82), bamaquimast, (76), batebulast (66), bunaprolast (60), carotegrast (102), dametralast (54), dazoquinast (54), doqualast (48), eflumast (61), enofelast (67), enoxamast (52), fenprinast (48), filaminast (75), firategrast (96), ibudilast (58), idenast (58), loxanast (46), melquinast (62), oxalinast (49), pemirolast (61), picumast (47), pirodomast (64), quinotolast (64), raxofelast (68), repirinast (55), revenast (51), scopinast (76), suplatast tosilate (64), tazanolast (59), tiacrilast (52), tibenelast (58), tioxamast (53), tiprinast (50), tranilast (46), valategrast (93), zaprinast (46), zaurategrast (101)

-lukast **leukotriene receptor antagonists** USAN

(a) ablukast (61), cinalukast (70), gemilukast (110), iralukast (70), masilukast (94), montelukast (73), pobilukast (70), pranlukast (67), ritolukast (64), sulukast (63), tipelukast (95), tomelukast (59), verlukast (65), zafirlukast (71)

-milast **phosphodiesterase IV (PDE IV) inhibitors** USAN

(a) apremilast (97), catramilast (95), cilomilast (82), difamilast (118), elbimilast (107), indimilast (112), lavamilast (112), lirimilast (86), lotamilast (118), oglemilast (94), piclamilast (73), revamilast (102), roflumilast (77), tetomilast (91), tofimilast (85)

-tegrast	**integrin antagonists**	
(a)	carotegrast (102), firategrast (96), lifitegrast (107), valategrast (93), zaurategrast (101)	
-trodast	**thromboxane A_2 receptor antagonists, antiasthmatics** (USAN: thromboxane A_2 receptor antagonists)	USAN
(a)	imitrodast (70), seratrodast (70)	
-zolast	**leukotriene biosynthesis inhibitors** (USAN: benzoxazole derivatives)	USAN
(a)	binizolast (60), eclazolast (55), ontazolast (72), quazolast (55), tetrazolast (67)	
(c)	bufrolin (34), oxarbazole (38), pirolate (44)	

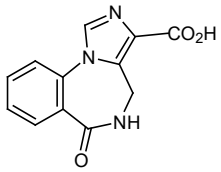
		BAN, USAN
-astine (x)	**antihistaminics**	
G.2.0.0	(BAN: antihistamines, not otherwise classifiable) (USAN: antihistaminics (histamine-H_1 receptor antagonists))	
(a)	acrivastine (51), alinastine (74), azelastine (36), bamirastine (91), barmastine (59),. bepiastine (19), bepotastine (78), bilastine (82), cabastinen (50), carebastine (52), clemastine (22), dorastine (23), ebastine (52), emedastine (59), epinastine (55), flezelastine (67), levocabastine (50), linetastine (74), mapinastine (72), mizolastine (64), moxastine (15), noberastine (59), octastine (37), perastine (15), piclopastine (22), rocastine (57), setastine (39), talastine (18), temelastine (54), zepastine (26)	
(b)	cloperastine (18) (antitussive), vinblastine (12) (vinca-alkaloid)	
(c)	astemizole (45), carbinoxamine (4)	

-asvir	**see -vir**

-azam	**see - azepam**

-azenil **benzodiazepine receptor antagonists/agonists (benzodiazepine derivatives)**

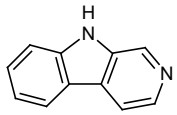
C.1.0.0 (USAN: benzodiazepine receptor antagonists/agonists)



(a) bretazenil (60), flumazenil (55), iomazenil ^{123}I (66), sarmazenil (59)

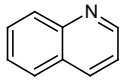
(b) nabazenil (49)

-carnil **benzodiazepine receptor antagonists/agonists (carboline derivatives)**



(a) abecarnil (60), gedocarnil (61)

-quinil **benzodiazepine receptor agonists, also partial or inverse (quinoline derivatives)**
(USAN: benzodiazepine receptor agonists, also partial or inverse (quinoline derivatives)

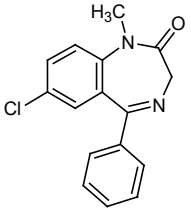


(a) lirequinil (72), radequinil (93) (replaces resequin (90)) , terbequinil (63)

BAN; USAN

-azepam (x) **diazepam derivatives**

C.1.0.0 (BAN: substances of the diazepam group)
(USAN: antianxiety agents (diazepam type))



(a) bromazepam (22), camazepam (30), carburazepam (39), cinolazepam (46), clonazepam (22), cyprazepam (16), delorazepam (40), diazepam (12), doxefazepam (43), elfazepam (36), fletazepam (31), fludiazepam (36), flunitrazepam (24), flurazepam (20), flutemazepam (58), flutoprazepam (45), fosazepam (27), halazepam (29), iclazepam (37), lorazepam (23), lormetazepam (38), meclonazepam (44), medazepam (20), menitrazepam (22), metaclazepam (46), motrazepam (31), nimetazepam (26), nitrazepam (16), nordazepam (39), nortetrazepam (20), oxazepam (13), pinazepam (32), pivoxazepam (34), prazepam (14), proflazepam (31), quazepam (36), reclazepam (53), sulazepam (14), temazepam (22), tetrazepam (17), tolufazepam (51), tuclazepam (40), uldazepam (30)

not true benzodiazepines: bentazepam (33), clotiazepam (30), lopirazepam (36), premazepam (45), ripazepam (33), zolazepam (28)

related: adinazolam (45), alprazolam (30), arfendazam (39), clazolam (29), climazolam (51), clobazam (25), clobenzepam (25), cloxazolam (29), ecopipam (80), estazolam (3l), flutazolam (32), haloxazolam (38), ketazolam (26), levotofisopam (92), lofendazam (36), loprazolam (44), mexazolam (40), midazolam (40), nefopam (25), oxazolam (25), razobazam (52), remimazolam (102), tofisopam (26), trepipam (38), triazolam (30), triflubazam (28), zapizolam (43), zomebazam (49)

(c) brotizolam (40), chlordiazepoxide (11), ciclotizolam (40), demoxepam (23), dipotassium clorazepate (17), ethyl carfluzepate (43), ethyl dirazepate (44), ethyl loflazepate (43), etizolam (40), potassium nitrazepate (17)

not related: anxiolytic: fenobam (36), muscle relax.: xilobam (36)

USAN

-azepide **cholecystokinin receptor antagonists, benzodiazepine derivatives**

J.1.0.0 (USAN: cholecystokinin receptor antagonists)

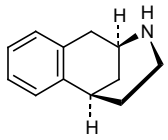
(a) ceclazepide (116), devazepide (62), nastorazepide (113), netazepide (106), pranazepide (75), tarazepide (68)

(c) lorglumide (56)

USAN

-azocine **narcotic antagonists/agonists related to 6,7-benzomorphan**

A.4.1.0 (USAN: narcotic antagonists/agonists, 6,7-benzomorphan derivatives)



(a) anazocine (30), bremazocine (43), butinazocine (53), carbazocine (16), cogazocine (36), cyclazocine (14), eptazocine (45), gemazocine (29), ibazocine (36), ketazocine (34), metazocine (9), moxazocine (38), pentazocine (14), phenazocine (9), quadazocine (54), tonazocine (46), volazocine (19)
related compounds: dezocine (35)

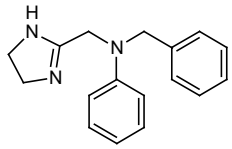
(b) streptozocin (33)

-azolam **see -azepam**

USAN

-azoline **antihistaminics or local vasoconstrictors, antazoline derivatives**

E.4.0.0 (USAN: antihistamines/local vasoconstrictors (antazoline type))



(a) antazoline (1), cilutazoline (61), cirazoline (38), clonazoline (18), coumazoline (26), domazoline (30), fenoxazoline (12), indanazoline (42), lerimazoline (110), metrafazoline (33), naphazoline (1), nemazoline (63), oxymetazoline (13), phenamazoline (6), prednazoline (22), talazoline (01), tefazoline (24), tinazoline (39), tramazoline (15), xylometazoline (8)

(b) cefazolin (25) (antibiotic)

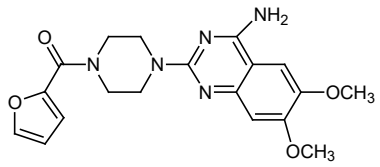
(c) tetryzoline (6), metizoline (22)

-azone **see -buzone**

USAN

-azosin **antihypertensive substances, prazosin derivatives**

H.3.0.0 (USAN: antihypertensives (prazosin type))



(a) bunazosin (50), doxazosin (47), neldazosin (60), prazosin (22), quinazosin (17), terazosin (44), tiodazosin (41), trimazosin (31)

related: alfuzosin (49), tamsulosin (65), tipentosin (55)

-bacept **see -cept**

BAN; USAN

-bactam **β-lactamase inhibitors**

S.6.5.0

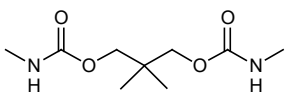
(a) brobactam (53), durlobactam (119), nacubactam (115), relebactam (112), sulbactam (44), taniborbactam (119), tazobactam (60), vaborbactam (113), zidebactam (113)

(c) clavulanic acid (44)

BAN, USAN

-bamate **tranquillizers, propanediol and pentanediol derivatives**

C.1.0.0 (USAN: tranquilizers/antiepileptics (propanediol and pentanediol groups))



(a) carisbamate (96), cenobamate (113), cyclarbamate (13), felbamate (54), meprobamate (6), nisobamate (21), pentabamate (13), tybamate (14)

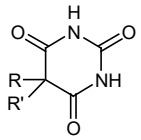
(b) difebarbamate (16), febarbamate (12), lorbamate (24), phenprobamate (10)

(c) mebutamate (12), metaglycodol (12) (not a carbamate)

BAN, USAN

barb (d) **hypnotics, barbituric acid derivatives**

A.2.l.0 (BAN: -barb, -barb-: for barbiturates)
(USAN: -barb; or -barb-: barbituric acid derivatives)



(a) allobarbital (1), amobarbital (1), aprobarbital (1), barbexaclone (16), barbital (4), barbital sodium (4), benzobarbital (25), brallobarbital (41), carbubarb (14), cyclobarbital (1), difebarbamate (16), etherobarb (32), febarbamate (12), heptabarb (14), hexobarbital (1), methylphenobarbital (1), nealbarbital (11), pentobarbital (1), phenobarbital (4), phenobarbital sodium (4), probarbital sodium (1), proxibarbal (33), secbutabarbital (12), secobarbital (4), tetrabarbital (4), thialbarbital (4), thiotetrabarbital (4), vinbarbital (1)

(c) butalbital (4), buthalital sodium (8), metharbital (1), methitural (6), methohexital (8), phetharbital (10), talbutal (17), thiopental sodium (4), vinylbital (12)

(c) prazitone (19) (barbituric acid derivative used as antidepressive), bucolome (17) (barbituric acid derivative used as anti-inflammatory uricosuric)

USAN

-begron **β_3-adrenoreceptor agonists**

M.3.2.1

(a) amibegron (94), fasobegron (98), lubabegron (109), mantabegron (88), mirabegron (98), rafabegron (88), ritobegron (91), solabegron (90), talibegron (86), vibegron (108)

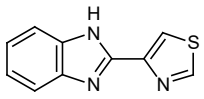
-benakin **see -kin**

-bendan **see -dan**

USAN

-bendazole **anthelminthics, tiabendazole derivatives**

S.3.l.0 (USAN: anthelmintics (tiabendazole type))



(a) albendazole (35), albendazole oxide (56), bisbendazole (29), cambendazole (24), ciclobendazole (31), dribendazole (49), etibendazole (49), fenbendazole (29), flubendazole (34), lobendazole (28), luxabendazole (52), mebendazole (24), oxibendazole (30), parbendazole (19), subendazole (31), tiabendazole (13), triclabendazole (45)

(b) bendazol (l2) (vasodilator, also benzimidazole derivative)
L.0.0.0: nocodazole (36), procodazole (36) (also benzimidazole derivative)

(c) oxfendazole (35), tioxidazole (39)

related: furodazole (37) (S.3.l.0)

-bercept **see -cept**

-bermin **see -ermin**

USAN

-bersat **anticonvulsants, benzoylamino-benzpyran derivatives**

A.3.1.0 (USAN: anticonvulsants; antimigraine (benzoylamino-benzpyran derivatives))

(a) carabersat (85), tidembersat (84), tonabersat (85)

-betasol **see pred**

BAN, USAN

bol (x) **anabolic steroids**

M.4.1.0 (BAN: steroids, anabolic)
(USAN: bol- or -bol- : anabolic steroids)

(a) bolandiol (16), bolasterone (13), bolazine (21), boldenone (20), bolenol (19), bolmantalate (16), clostebol (22), enestebol (22), furazabol (16), mebolazine (21), mibolerone (27), norboletone (15), norclostebol (22)

	-bolone: formebolone (31), mesabolone (29), metribolone (17), oxabolone cipionate (14), quinbolone (14), roxibolone (40), stenbolone (17), tibolone (22), trenbolone (24)
(c)	ethylestrenol (13), hydroxystenozole (10), metandienone (12), metenolone (12), oxandrolone (12), propetandrol (13), tiomesterone (14)

-bradine	**bradycardic agents**
H.0.0.0	
(a)	cilobradine (63), ivabradine (75), zatebradine (62)

-brate	**see –fibrate**

-brutinib	**see -tinib**

USAN

-bufen	**non-steroidal anti-inflammatory agents,** arylbutanoic acid **derivatives**
A.4.2.0	(USAN: non-steroidal anti-inflammatory agents, fenbufen derivatives)
(a)	butibufen (32), fenbufen (30), furobufen (30), indobufen (39), metbufen (43)

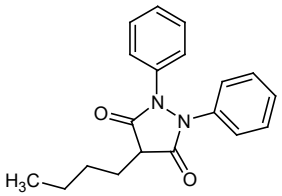
USAN

-bulin	**antineoplastics; mitotic inhibitors, tubulin binders**
L.0.0.0	
(a)	batabulin (90), cevipabulin (96), crolibulin (104), denibulin (95), entasobulin (110), eribulin (97), fosbretabulin (100), indibulin (91), lexibulin (105), lisavanbulin (115), mivobulin (77), ombrabulin (99), plinabulin (102), plocabulin (118), rosabulin (95), taltobulin (91), tirbanibulin (119), valecobulin (119), verubulin (103)
(b)	thyroglobulin (26)

-butazone	**see -buzone**

-buzone **anti-inflammatory analgesics, phenylbutazone derivatives**

A.4.2.0



(a) feclobuzone (27), kebuzone (19), pipebuzone (25), suxibuzone (24), tribuzone (33)

-butazone (USAN: anti-inflammatory analgesics (phenylbutazone type)) USAN

mofebutazone (15), oxyphenbutazone (8), phenylbutazone (1)

-azone aminophenazone (13), bisfenazone (33), famprofazone (21), morazone (12), nifenazone (15), nimazone (20), niprofazone (29), phenazone (4), propyphenazone (1), sulfinpyrazone (8)

-zone clofezone (17), proxifezone (24)

related: azapropazone (18), benhepazone (15), bumadizone (24), cinnopentazone (17), isamfazone (37), metamfazone (12), osmadizone (26), ruvazone (26)

(c) benzpiperylone (12), butopyrammonium iodide (8), dibupyrone (17), metamizole sodium (53), metazamide (16), piperylone (11)

BAN, USAN

-caine (x) **local anaesthetics**

E.0.0.0

(a) ambucaine (6), amoxecaine (1), aptocaine (21), articaine (47) (previously carticaine (27)), benzocaine (42), betoxycaine (13), bucricaine (49), bumecaine (25), bupivacaine (17), butacaine (4), butanilicaine (16), chloroprocaine (6), cinchocaine (1), clibucaine (14), clodacaine (13), clormecaine (17), cyclomethycaine (6), dexivacaine (20), diamocaine (22), edronocaine (84), elucaine (29), etidocaine (29), fexicaine (25), fomocaine (18), hexylcaine (4), hydroxyprocaine (1), hydroxytetracaine (1), ipravacaine (85), ketocaine (15), leucinocaine (17), levobupivacaine (74), lidocaine (1), lotucaine (27), mepivacaine (11), meprylcaine (4), myrtecaine (15), octacaine (14), oxetacaine (13), oxybuprocaine (8), parethoxycaine (l), paridocaine (8), phenacaine (4), pinolcaine (32), piperocaine (l), piridocaine (l), pramocaine (4), pribecaine (32), prilocaine (14), procaine (10), propanocaine (6), propipocaine (16), propoxycaine (4) proxymetacaine (6),

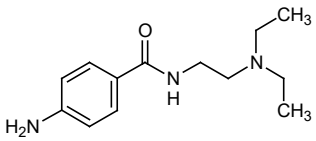
pyrrocaine (13), quatacaine (18), quinisocaine (4), risocaine (26), rodocaine (27), ropivacaine (50), tetracaine (4), tolycaine (16), trapencaine (56), trimecaine (11), vadocaine (57)

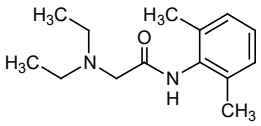
(c) amolanone (6), benzyl alcohol (l), cryofluorane (6), diperodon (l), dyclonine (6), midamaline (6)

BAN

-cain- (x) **Class I antiarrhythmics, procainamide and lidocaine derivatives**

H.2.0.0 (BAN: antifibrillants with local anaesthetic activity)



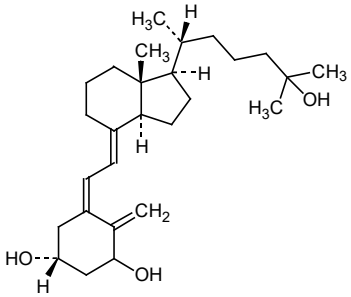


(a) acecainide (39), asocainol (47), barucainide (52), bucainide (35), carcainium chloride (36), carocainide (46), droxicainide (47), encainide (40), epicainide (40), erocainide (50), flecainide (37), guafecainol (38), indecainide (48) (originally ricainide (47)), itrocainide (54), ketocainol (32), lorcainide (38), milacainide (77), modecainide (63), murocainide (46), nicainoprol (46), nofecainide (44), pilsicainide (62), pincainide (49), procainamide (1), quinacainol (50), recainam (54), solpecainol (55), stirocainide (47), suricainide (55), tocainide (36), transcainide (51), (verocainine (42) - replaced by tiapamil in List 43), zocainone (4l)

USAN

calci **Vitamin D analogues/derivatives**

N.8.0.0 (USAN: calci- or -calci-: Vitamin D analogues)



(a) alfacalcidol (40), atocalcitol (88), becocalcidiol (92), calcifediol (26), calcipotriol (61), calcitriol (39), colecalciferol (13), doxercalciferol (82), ecalcidene (85), eldecalcitol (97), elocalcitol (95), ergocalciferol (13), falecalcitriol (74), inecalcitol (87), lexacalcitol (71), lunacalcipol (102),

maxacalcitol (75), paricalcitol (78), pefcalcitol (107), secalciferol (62), seocalcitol (78), tacalcitol (65)

(b) calcitonin (31) (polypeptide)

(c) dihydrotachysterol (1)

USAN

-capone **catechol-*O*-methyltransferase (COMT) inhibitors**

entacapone (65), nebicapone (96), neluxicapone (119), nitecapone (62), opicapone (103), tolcapone (66)

USAN

-carbef **antibiotics, carbacephem derivatives**

S.6.1.0

(a) loracarbef (60)

-carnil **see -azenil**

-castat **see -stat**

USAN

-catib **cathepsin inhibitors**

M.0.0.0

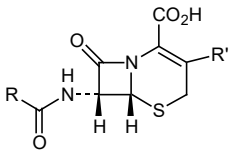
(a) balicatib (92), dutacatib (94), odanacatib (98), petesicatib (117), relacatib (95)

-cavir **see vir**

BAN, USAN

cef- (x) **antibiotics, cefalosporanic acid derivatives**

S.6.1.0 (USAN: cephalosporins)

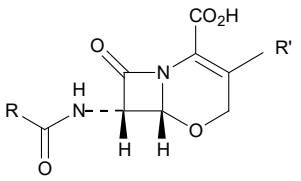


(a) cefacetrile (25), cefaclor (36), cefadroxil (33), cefalexin (18), cefaloglycin (16), cefalonium (16), cefaloram (16), cefaloridine (15), cefalotin (14),

cefamandole (30), cefaparole (33), cefapirin (23), cefatrizine (34), cefazaflur (36), cefazedone (36), cefazolin (25), cefbuperazone (48), cefcanel (60), cefcanel daloxate (59), cefcapene (68), cefclidin (64), cefdaloxime (64), cefdinir (61), cefditoren (66), cefedrolor (53), cefempidone (58), cefepime (57), cefetamet (49), cefetecol (63), cefetrizole (44), cefiderocol (114), cefilavancin (111), cefivitril (52), cefixime (53), cefluprenam (71), cefmatilen (81), cefmenoxime (44), cefmepidium chloride (57), cefmetazole (39), cefminox (53), cefodizime (44), cefonicid (42), cefoperazone (42), ceforanide (39), cefoselis (71), cefotaxime (42), cefotetan (48), cefotiam (40),cefovecin (87), cefoxazole (34), cefoxitin (29), cefozopran (66), cefpimizole (50), cefpiramide (47), cefpirome (50), cefpodoxime (58), cefprozil (62), cefquinome (59), cefradine (26), cefrotil (34), cefroxadine (42), cefsulodin (38), cefsumide (38), ceftaroline fosamil (97), ceftazidime (44), cefteram (55), ceftezole (34), ceftibuten (60), ceftiofur (53), ceftiolene (49), ceftioxide (43), ceftizoxime (59), ceftizoxime alapivoxil (77), ceftobiprole (92), ceftobiprole medocaril (92), ceftolozane (105), ceftriaxone (44), cefuracetime (45), cefuroxime (34), cefuzonam (55)

-oxef **antibiotics, oxacefalosporanic acid derivatives**

S.6.1.0 (USAN: antibiotic, oxacefalosporanic acid derivatives)



(a) flomoxef (55), latamoxef (46)

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cell- or cel- **cellulose derivatives [cel- in Spanish]**

U.4.0.0

(a) celucloral (40)

(c) celiprolol (35)

cell-ate **cellulose ester derivatives for substances containing acidic residues**

U.4.0.0 **[cel-ato in Spanish]**

(a) cellaburate (23), cellacefate (18)

-cellose **cellulose ether derivatives**

U.4.0.0 **[-celosa in Spanish]**

(a) -

(c) carmellose (45), croscarmellose (48), ethylcellulose (80), hyetellose (80), hymetellose (80), hyprolose (80), hypromellose (18), methylcellulose (4)

-cel **substances for cell therapies**

For more details, please refer to the "*INN for biological and biotechnological substances, a review",* available on the WHO INN Programme website: http://www.who.int/medicines/services/inn/en/

adimlecleucel (117), audencel (115), avoplacel (119), axicabtagene ciloleucel (117), baltaleucel (116), cenplacel (115), darvadstrocel (117), dilanubicel (119), eltrapuldencel (115), emiplacel (118), evagenretcel (116), idecabtagene vicleucel (119), ilixadencel (116), lenzumestrocel (119), lifileucel (118), nalotimagene carmaleucel (118), palucorcel (115), prademagene zamikeracel (119), rivogenlecleucel (117), spanlecortemlocel (115), tabelecleucel (117), tisagenlecleucel (117), tonogenconcel (115), vadacabtagene leraleucel (117), vandefitemcel (115)

USAN

-cept **Receptor molecules or membrane ligands, native, modified or synthetic**

S.7.0.0

(a) *-ba-* B-cell activating factor receptors
briobacept (98)

-ber- vascular endothelial growth factor (VEGF) receptors
aflibercept (96), conbercept (105)

-co- complement receptors
mirococept (91)

-far- subgroup of interferon receptors
bifarcept (86)

-lefa- lymphocyte function-associated antigen 3 receptors
alefacept (84)

	-na- interleukin-1 receptors
	rilonacept (95)
	-ner- Tumour Necrosis Factor (TNF) receptors
	asunercept (114), baminercept (99), etanercept (81), lenercept (72), onercept (82), opinercept (118), pegsunercept (87), tulinercept (116)
	-ta- cytotoxic T lymphocyte-associated antigen 4 (CTLA-4) receptors
	abatacept (91), belatacept (93)
	-ter- transforming growth factor receptors
	dalantercept (105), luspatercept (110), ramatercept (108), sotatercept (104), talditercept alfa (119)
	-vir- antiviral receptors
	alvircept sudotox (69)
	other: atacicept (95), ipafricept (109), olamkicept (116), valziflocept (117)

	USAN
-cetrapib	**cholesteryl ester transfer protein (CETP) inhibitors**
	anacetrapib (98), dalcetrapib (96), evacetrapib (105), obicetrapib (115), rocacetrapib (119), torcetrapib (87)

	USAN
-cic	**hepatoprotective substances with a carboxylic acid group**
J.1.2.0	(USAN: hepatoprotectives (timonacic group))
(a)	limazocic (69), tidiacic (33), timonacic (33), (tiofacic (45) replaced by stepronin (46))
(b)	bisorcic (34) (psychostimulant)
(c)	stepronin (46)

	USAN
-ciclib	**cyclin dependant kinase inhibitors**
L.0.0.0	abemaciclib (112), atuveciclib (117), briciclib (111), dinaciclib (102), milciclib (105), palbociclib (109), ribociclib (111), riviciclib (109), roniciclib (111), seliciclib (92), trilaciclib (117), voruciclib (109)

-ciclovir	**see -vir**

USAN

-cidin	**naturally occurring antibiotics (undefined group) (14th Report, l964)**
S.6.0.0	(USAN: natural antibiotics (undefined group))
(a)	brilacidin (108), candicidin (17), gramicidin (1), gramicidin S (26), methocidin (6)
(b)	guancidine (18) (hypotensive)

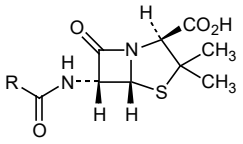
USAN

-ciguat	**guanylate cyclase activators and stimulators**
F.2.0.0	(USAN: guanaline cyclase activators)
(a)	ataciguat (88), cinaciguat (97), etriciguat (88), lificiguat (95), nelociguat (105), olinciguat (117), praliciguat (116), riociguat (98), vericiguat (109)

-cillide	**see -cillin**

BAN, USAN

-cillin (x)	**antibiotics, 6-aminopenicillanic acid derivatives**
S.6.1.0	(USAN: penicillins)



(a) adicillin (14), almecillin (14), amantocillin (17), amoxicillin (27), ampicillin (13), apalcillin (39), aspoxicillin (50), azidocillin (19), azlocillin (36), bacampicillin (32), benethamine penicillin (1), benzathine benzylpenicillin (18), benzylpenicillin (53), carbenicillin (20), carfecillin (30), carindacillin (29), ciclacillin (22), clemizole penicillin (8), clometocillin (12), cloxacillin (13), dicloxacillin (16), epicillin (25), fenbenicillin (13), fibracillin (30), flucloxacillin (17), fomidacillin (55), fumoxicillin (47), furbucillin (31), fuzlocillin (47), hetacillin (16), isopropicillin (12), lenampicillin (50), levopropicillin (12), metampicillin (20), meticillin (12), mezlocillin (34), nafcillin (13), oxacillin (l5), oxetacillin (33), penamecillin (16), pheneticillin (11), phenoxymethyl penicillin (6), phenyracillin (8), piperacillin (38), pirbenicillin (35), piridicillin (43), piroxicillin (49), pivampicillin (23), prazocillin (27), propicillin (13), quinacillin (14), rotamicillin (35),

sarmoxicillin (41), sarpicillin (36), sulbenicillin (26), sultamicillin (48), suncillin (25), talampicillin (31), tameticillin (35), temocillin (46), ticarcillin (29), tifencillin (12), tobicillin (78)

(b) xantocillin (12)

(c) penimepicycline (l6), penimocycline (22)

-cillide

S.6.1.0 libecillide (32)

-cillinam

S.6.1.0 bacmecillinam (38), mecillinam (32), pivmecillinam (32)

-cillinam **see -cillin**

-cilpine **see -pine**

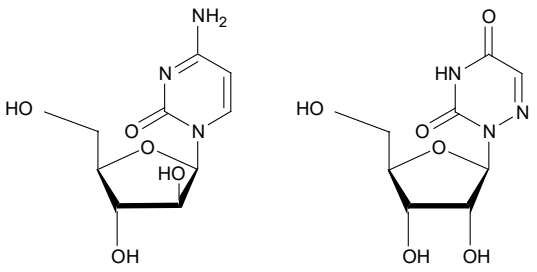
-cisteine **see -steine**

USAN

-citabine **nucleosides antiviral or antineoplastic agents, cytarabine or azacitidine derivatives**

(USAN: nucleoside antiviral or antineoplastic agents, cytarabine or azarabine derivatives)

L.4.0.0/S.5.5.0



(a) ancitabine (36), apricitabine (95), capecitabine (73), decitabine (61), dexelvucitabine (95), elvucitabine (89), emtricitabine (80), enocitabine (46), fiacitabine (59), flurocitabine (38), fosgemcitabine palabenamide (119), galocitabine (65), gemcitabine (62), gemcitabine elaidate (106), guadecitabine (113), ibacitabine (57), lumicitabine (115), mericitabine (108), sapacitabine (94), tezacitabine (84), torcitabine (87), troxacitabine (81), valopicitabine (93), valtorcitabine (90), zalcitabine (66)

(c) cytarabine (14), azacitidine (40)

-citinib **see -tinib**

USAN

-clidine/-clidinium **muscarinic receptors agonists/antagonists**

E.1.0.0 aceclidine (13), benzoclidine (25), eticyclidine (44), gacyclidine (76), phencyclidine (11), procyclidine (01), rolicyclidine (44), talsaclidine (72), tenocyclidine (44), vedaclidine (76)
aclidinium bromide (100), clidinium bromide (06), droclidinium bromide (33) umeclidinium bromide (106)

USAN

-clone **hypnotic tranquillizers**

A.2.2.0 (USAN: hypnotics / tranquillizers (zopiclone type))

(a) barbexaclone (16), eszopiclone (87), pagoclone (74), pazinaclone (70), suproclone (46), suriclone (43), suproclone (46), zopiclone (39)

(b) gestaclone (23), pimeclone (20)

-cocept **see -cept**

-cog **blood coagulation factors**

I.2.0.0

(-)eptacog blood coagulation VII: eptacog alfa (activated) (77), eptacog alfa pegol (activated)(101), eptacog beta (112), marzeptacog alfa (113), oreptacog alfa (activated) (109), vatreptacog alfa (activated) (98)

(-)octocog blood factor VIII: beroctocog alfa (112), damoctocog alfa pegol (109), efmoroctocog alfa (111), lonoctocog alfa (111), moroctocog alfa (72), octocog alfa (73), rurioctocog alfa pegol (111), simoctocog alfa (104), turoctocog alfa (108), turoctocog alfa pegol (118)

(-)nonacog blood factor IX: albutrepenonacog alfa (109), dalcinonacog alfa (118), eftrenonacog alfa (109), nonacog alfa (77), nonacog beta pegol (103), nonacog gamma (108), trenonacog alfa (107)

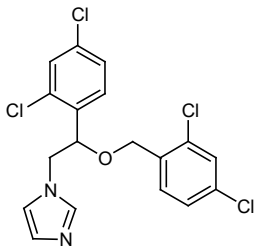
(-)tridecacog blood factor XIII: catridecacog (99)

Other: vonicog alfa (102)

-cogin	blood coagulation cascade inhibitors
I.2.0.0	drotrecogin alfa (activated) (86), pegnivacogin (106), taneptacogin alfa (90), tifacogin (78)

BAN; USAN

-conazole (x)	systemic antifungal agents, miconazole derivatives
S.4.0.0	(BAN: systemic antifungals of the miconazole group) (USAN: systemic antifungals (miconazole type))

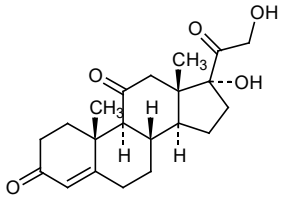


(a)	albaconazole (87), aliconazole (43), alteconazole (53), arasertaconazole (93), azaconazole (45), becliconazole (65), brolaconazole (58), butoconazole (40), cisconazole (59), croconazole (55), (cyproconazole (ISO)), dapaconazole (111), democonazole (42), (diniconazole (ISO $C_{17}H_{17}Cl_2N_3O$)), doconazole (37), eberconazole (64), econazole (27), efinaconazole (104), embeconazole (92), enilconazole (44), (etaconazole (ISO)), fenticonazole (44), fluconazole (54), fosfluconazole (83), fosravuconazole (110), (furconazole (ISO/TC 81 N 872 $C_{15}H_{14}Cl_2F_3N_3O_2$)), (hexaconazole (ISO $C_{14}H_{17}Cl_2N_3O$)), isavuconazole (96), isoconazole (30), itraconazole (50), ketoconazole (43), lanoconazole (66), levoketonazole (114), luliconazole (86), miconazole (22), neticonazole (63), omoconazole (45), orconazole (40), oteseconazole (115), oxiconazole (42), parconazole (39), (penconazole, (ISO)), posaconazole (82) (propiconazole (ISO)), pramiconazole (95), quilseconazole (116), ravuconazole (83), saperconazole (59), sertaconazole (56), sulconazole (38), (tebuconazole (ISO $C_{16}H_{22}ClN_3O$)), terconazole (45) (originally triaconazole), tioconazole (40), (uniconazole (ISO $C_{15}H_{18}ClN_3O$)), valconazole (40), voriconazole (73), zinoconazole (50), zoficonazole (43)
(c)	bifonazole (44), isavuconazonium chloride (96)

BAN, USAN

cort (x) **corticosteroids, except prednisolone derivatives**

Q.3.0.0 (USAN: -cort-: cortisone derivatives)



(a) amebucort (54), anecortave (80), benzodrocortisone (116), butixocort (63), cicortonide (28), corticotropin (68), corticotropin-zinc hydroxide (68), cortisone (1), cortisuzol (30), cortivazol (23), cortodoxone (15), deflazacort (39) (previously azacort (38)), desoxycortone (4), fluazacort (30), fludrocortisone (6), fludroxycortide (12), fluocortin (31), formocortal (18), hydrocortamate (6), hydrocortisone (1), hydrocortisone aceponate (54), locicortolone dicibate (60), naflocort (50), nicocortonide (40), nivacortol (24), resocortol (74), tixocortol (38)

(b) prednisolone derivatives: clocortolone (16), difluocortolone (18), fluocortolone (15), halocortolone (31)

(c) aldosterone (6), algestone (22) (also progest. when used as algestone acetophenide), medrysone (16)

USAN

-coxib (x) **selective cyclo-oxygenase inhibitors**

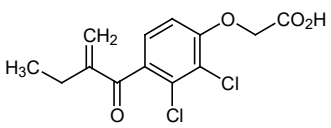
A.4.2.0 (USAN: cyclooxygenase-2 inhibitors)

(a) apricoxib (99), celecoxib (80), cimicoxib (89), deracoxib (80), etoricoxib (84), firocoxib (89), lumiracoxib (87), mavacoxib (94), parecoxib (80), polmacoxib (111), robenacoxib (91), rofecoxib (80), tilmacoxib (84), valdecoxib (80)

USAN

-crinat **diuretics, etacrynic acid derivatives**

N.1.2.2 (USAN: diuretics (ethacrynic acid derivatives))

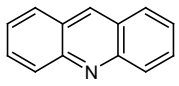


(a) brocrinat (51), sulicrinat (52)

(c) etacrynic acid (14), furacrinic acid (29), indacrinone (51), tienilic acid (25)

USAN

-crine (d) **acridine derivatives**



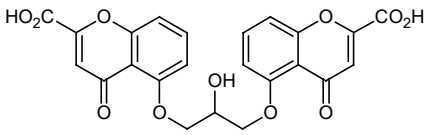
(a) antineoplastics: amsacrine (44), nitracrine (35)
anthelminthics; antimalarials: floxacrine (34), mepacrine (4)
antidepressants: dimetacrine (19), monometacrine (19)
antiparkinsonian: botiacrine (38)
acetylcholinesterase inhibitors: ipidacrine (73), suronacrine (61), tacrine (8), velnacrine (61)

(c) acridorex (2I), acriflavinium chloride (I), acrisorcin (I3), aminoacridine (I), ethacridine (I), proflavine (I)

USAN

-cromil **antiallergics, cromoglicic acid derivatives**

K.0.0.0 (USAN: antiallergics (cromoglicic acid derivatives))



(a) ambicromil (48) (replacement of probicromil (46)), isocromil (39), minocromil (50), nedocromil (50), proxicromil (39), terbucromil (38), texacromil (58)

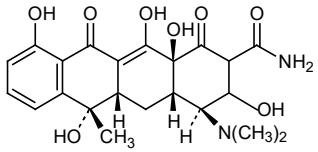
(c) cromitrile (46), cromoglicate lisetil (72), cromoglicic acid (I8)

-curium **see -ium**

BAN; USAN

-cycline (d) **antibiotics, protein-synthesis inhibitors, tetracycline derivatives**

S.6.3.0 (BAN: antibiotics of the tetracycline group)
(USAN: antibiotics (tetracycline derivatives))



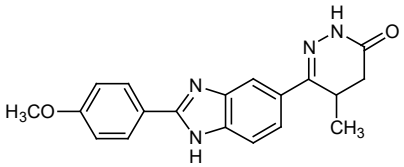
(a) amicycline (14), apicycline (17), cetocycline (39), chlortetracycline (4), clomocycline (16), colimecycline (33), demeclocycline (25), demecycline (14), doxycycline (16), eravacycline (108), etamocycline (18), guamecycline (22), lymecycline (14), meclocycline (14), meglucycline (22), metacycline (12), minocycline (14), nitrocycline (14), omadacycline (102), oxytetracycline (1), pecocycline (15), penimepicycline (16), penimocycline (22), pipacycline (12), rolitetracycline (11), sarecycline (109), sancycline (15), tetracycline (4), tigecycline (86)

related: carubicin (40), daunorubicin (20), detorubicin (41), doxorubicin (25), zorubicin (39)

USAN

-dan **cardiac stimulants, pimobendan derivatives**

H.1.0.0 (USAN: positive inotropic agents (pimobendan type))



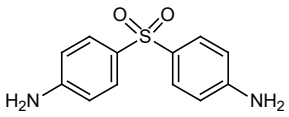
(a) adibendan (57), bemorodan (61), imazodan (55), indolidan (57), levosimendan (68), meribendan (62), pimobendan (46), prinoxodan (64), senazodan (85), siguazodan (60), simendan (66)

(b) nitrodan (15), tyromedan (15)

USAN

-dapsone **antimycobacterials, diaminodiphenylsulfone derivatives**

S.5.2.0 (USAN: antimycobacterial (diaminodiphenylsulfone derivatives))



(a) acedapsone (22), amidapsone (28), dapsone (23)

-decakin **see -kin**

USAN

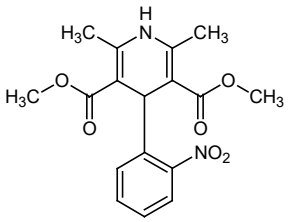
-degib **SMO receptor antagonists**

glasdegib (111), patidegib (111), sonidegib (107), taladegib (110), vismodegib (103)

	USAN
-denoson	**adenosine A receptor agonists**
H.0.0.0	apadenoson (94), binodenoson (90), capadenoson (95), evodenoson (108), namodenoson (117), neladenoson bialanate (113), piclidenoson (113), regadenoson (91), selodenoson (91), sonedenoson (101), tecadenoson (87), trabodenoson (107)
-dermin	**see –ermin**
	USAN
-dil	**vasodilators**
F.2.0.0 F.2.1/2.0 F.2.0.0	(USAN: -dil; dil-; or -dil-: vasodilators (undefined group))
(a)	alprostadil (39), aviptadil (78), belfosdil (61), benfurodil hemisuccinate (16), biclodil (52), buflomedil (33), burodiline (26), carprazidil (45), cetiedil (27), cinepaxadil (50), dopropidil (59), eliprodil (66), fasudil (64), fenoxedil (27), flosatidil (64), fostedil (51), fronepidil (59), ifenprodil (27), levosemotiadil (72), manozodil (47), mefenidil (48), minoxidil (25), naftopidil (52), naminidil (87), nesapidil (52),perfomedil (60), pinacidil (46), piribedil (23), pitenodil (37), podilfen (22), ripasudil (109), stevaladil (34), suloctidil (30), tipropidil (44), traxoprodil (86), urapidil (27), verosudil (112), viquidil (25)
(b)	radiprodil (98)
(c)	dilmefone (33)
F.2.1.0	
(a)	coronary vasodilators: bepridil (30), bumepidil (44), ecipramidil (40), fendiline (24), fenetradil (30), floredil (28), hexadiline (13), ipramidil (51), mepramidil (27), metrifudil (23), nicorandil (44), pirozadil (33), pretiadil (27), razinodil (38), semotiadil (64), sinitrodil (74), terodiline (16), tixadil (l8), trapidil (29)
(c)	dilazep (22), diltiazem (30)
-dilol	carvedilol (50), dioxadilol (53), dramedilol (57), flavodilol (48), mindodilol (52), nipradilol (50) (previously nipradolol), oberadilol (77), parodilol (57), prizidilol (44), tribendilol (54)
(b)	diloxanide (8) (amebicide), methdilazine (10) (antihistaminic), phenobutiodil (6) (contrast medium), prodilidine (12) (analgesic)

-fradil	**calcium channel blockers acting as vasodilators**	USAN
(a)	mibefradil (72)	
-pendyl	cloxypendyl (15), isothipendyl (6), oxypendyl (13), prothipendyl (6)	
-dyl	bisacodyl (13) (laxative), bunamiodyl (10), iofendylate (12), trihexyphenidyl (l) (antiparkinsonian)	

-dilol	**see -dil**

		BAN; USAN
-dipine (x)	**calcium channel blockers, nifedipine derivatives**	
F.2.1.0	(BAN: calcium ion channel antagonists) (USAN: phenylpyridine vasodilators (nifedipine type)) 	
(a)	amlodipine (53), clevidipine (75), darodipine (51) (replaces dazodipine (49)), dexniguldipine (67), elgodipine (61), elnadipine (59), felodipine (44), flordipine (48), isradipine (55), lacidipine (57), lemildipine (69), levamlodipine (98), levniguldipine (67), mesudipine (40), nicardipine (42), nifedipine (27), niguldipine (60), niludipine (38), nilvadipine (52), nimodipine (40), nisoldipine (42), nitrendipine (42), olradipine (69), oxodipine (52), riodipine (51), sagandipine (64), teludipine (64) (previously taludipine (61)) -nidipine: aranidipine (69), azelnidipine (69), barnidipine (64), benidipine (58), cilnidipine (66), cronidipine (61), efonidipine (66), furnidipine (67), iganidipine (70), lercanidipine (69) (previously masnidipine), manidipine (59), palonidipine (64), pranidipine (66), sornidipine (58), vatanidipine (77)	
(b)	budipine (36) (central stimulant, antidepressant and antiparkinsonian), prodipine (29) (central stimulant antiparkinsonian)	

-dismase	**enzymes with superoxide dismutase activity, see -ase**
-distim	**see -stim**
-dodekin	**see -kin**

USAN

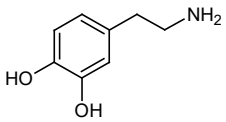
- domide **antineoplastics, thalidomide derivatives**
L.0.0.0

(a) avadomide (117), endomide (40), iberdomide (117), lenalidomide (101),mitindomide (70), pomalidomide (97), thalidomide (08)

USAN

-dopa **dopamine receptor agonists, dopamine derivatives, used as antiparkinsonism/ prolactin inhibitors**

E.1.1.0 (USAN: dopamine receptor agonists)



(a) carbidopa (37), ciladopa (52), dopamantine (31), droxidopa (57), etilevodopa (80), fluorodopa (^{18}F) (64), levodopa (21), melevodopa (83), methyldopa (12)

-opamine **dopaminergic agents dopamine derivatives used as cardiac stimulant/ antihypertensives/diuretics**

(USAN: -pamine: dopaminergics (butopamine type))

(a) butopamine (43), cliropamine (59), denopamine (50), dopamine (18), fosopamine (69), ibopamine (43), octopamine (32), oxidopamine (37) (glaucoma), ractopamine (54) (1 of 4 isomers of butopamine)

(b) tiopropamine (36) (gastric and duodenal ulcers), tolpropamine (13) (antihistaminic)

(c) dobutamine (29), docarpamine (59), dopexamine (50), fenoldopam (53), levdobutamine (65), methyldopa (12) (alpha-2 adrenoreceptor agonist, cardiotonic), zelandopam (84)

USAN

-dotin **synthetic derivatives of dolastatin series**

amadotin: lupartumab amadotin (115)
cemadotin (75)
ixadotin: aprutumab ixadotin (115)
mafodotin: belantamab mafodotin (118), denintuzumab mafodotin (111),

depatuxizumab mafodotin (115), vorsetuzumab mafodotin (107)
pelidotin: cofetuzumab pelidotin (117)
soblidotin (84)
tasidotin (93)
vedotin: azintuxizumab vedotin (116), brentuximab vedotin (103), enapotamab vedotin (118), enfortumab vedotin (109), glembatumumab vedotin (113), iladatuzumab vedotin (117), indusatumab vedotin (112), ladiratuzumab vedotin (117), lifastuzumab vedotin (110), losatuxizumab vedotin (116), pinatuzumab vedotin (108), polatuzumab vedotin (108), samrotamab vedotin (118), sirtratumab vedotin (117), sofituzumab vedotin (110), tisotumab vedotin (113), telisotuzumab vedotin (115), vandortuzumab vedotin (113)

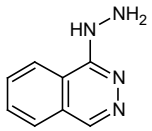
-dotril **see -tril/trilat**

-dox **see -ox/-alox**

USAN

-dralazine **antihypertensives, hydrazinephthalazine derivatives**

H.3.0.0 (USAN: antihypertensives (hydrazine-phthalazines))



(a) budralazine (33), cadralazine (41), dihydralazine (4), endralazine (39), hydralazine (1), mopidralazine (52), oxdralazine (38), picodralazine (18), pildralazine (48), todralazine (26)

-drine **sympathomimetics**

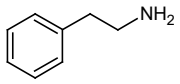
E.4.0.0

(a) alifedrine (49), bedoradrine (95), butidrine (16), cafedrine (14), cinnamedrine (19), corbadrine (1), dioxethedrin (6), dioxifedrine (41), etafedrine (14), meluadrine (78), methoxyphedrine (6), midodrine (27), norbudrine (17), oxyfedrine (16), pholedrine (1), pseudoephedrine (11), racephedrine (66), ritodrine (22), theophylline ephedrine (14), tinofedrine (32), trecadrine (53)
not phenethylamine derivatives: levopropylhexedrine (37), octodrine (19), propylhexedrine (6)

(b) bufenadrine (13) (antiemetic) related chemically, chlormerodrin (4) (diuretic), chlormerodrin (^{197}Hg) (24), dieldrin (10) (insecticide), orphenadrine (8) (spasmolytic)

-frine **sympathomimetic, phenethyl derivatives**

E.4.0.0



(a) amidefrine mesilate (15), berefrine (68), ciclafrine (33), dimetofrine (27), dipivefrine (39), epinephrine (16), etilefrine (18), etilefrine pivalate (50), gepefrine (38), norepinephrine (45), norfenefrine (16), oxilofrine (62), phenylephrine (1), pivenfrine (42), racepinefrine (41)

USAN

-dronic acid **calcium metabolism regulator, pharmaceutical aid**

N.8.0.0

U.4.0.0 (USAN: -dronate: calcium metabolism regulators)

(a) alendronic acid (61), butedronic acid (59), clodronic acid (37), etidronic acid (22), ibandronic acid (71), incadronic acid (70), lidadronic acid (84), medronic acid (39), minodronic acid (78), neridronic acid (61), olpadronic acid (71), oxidronic acid (42), pamidronic acid (59), piridronic acid (58), risedronic acid (62), tiludronic acid (60), zoledronic acid (71)

-dutant **see -tant**

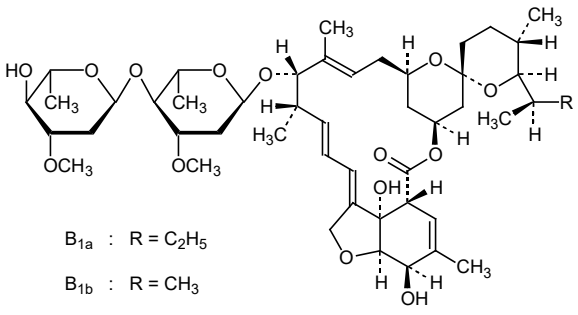
-dyl **see -dil**

USAN

-ectin **antiparasitics, ivermectin derivatives**

(USAN: antiparasitics (ivermectin derivatives))

S.3.0.0



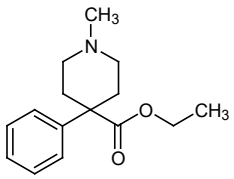
(a) abamectin (53), dimadectin (73), doramectin (63), eprinomectin (73), fuladectin (71), ivermectin (44), latidectin (88), moxidectin (61), nemadectin (60), selamectin (81)

-elestat	**see -stat**
-elvekin	**see -kin**
	USAN
-emcinal	**erythromycin derivatives lacking antibiotic activity, motilin agonists**
J.0.0.0	(USAN: erythromycin derivatives lacking antibiotic activity)
(a)	alemcinal (84), idremcinal (81), mitemcinal (86)
-enicokin	**see -kin**
	USAN
-entan (x)	**endothelin receptor antagonists**
F.2.0.0	
(a)	ambrisentan (85), atrasentan (83), aprocitentan (116), avosentan (93), bosentan (70), clazosentan (90), darusentan (82), edonentan (86), enrasentan (80), fandosentan (87), feloprentan (85), macitentan (107), nebentan (90), sitaxentan (83), sparsentan (113), tezosentan (81), zibotentan (94)
(-)eptacog	**see -cog**
	USAN
erg	**ergot alkaloid derivatives**
F.4.0.0 C.7.0.0	(USAN: -erg-: ergot alkaloid derivatives)
(a)	acetergamine (18), amesergide (67), brazergoline (37), bromerguride (51), cabergoline (54), cianergoline (47), delergotrile (42), dihydroergotamine (16), disulergine (45), dosergoside (54), ergometrine (4), ergotamine (4), etisulergine (47), fludihydroergotamine (115), lergotrile (32), lysergide (8), mergocriptine (54), mesulergine (47), metergoline (18), metergotamine (29), methylergometrine (l), methysergide (11), nicergoline (26), pergolide (41), propisergide (35), proterguride (50), romergoline (66), sergolexole (60), terguride (50), tiomergine (42), voxergolide (61)
(b)	ergocalciferol (l3)

USAN

-eridine **analgesics, pethidine derivatives**

A.4.1.0 (USAN: analgesics (meperidine type))



(a) anileridine (5), carperidine (11), etoxeridine (6), morpheridine (6), oxpheneridine (5), pheneridine (5), phenoperidine (11), properidine (5), sameridine (68), trimeperidine (6)

(b) diaveridine (l8) (coccidiostat.), eseridine (53), nexeridine (34) (somewhat related)

(c) benzethidine (9), butoxylate (14), diphenoxylate (10), fetoxilate (21), furethidine (9), hydroxypethidine (5), pethidine (4), piminodine (9)

USAN

-ermin **growth factors**

U.0.0.0

-bermin **vascular endothelial growth factors**
(a) telbermin (85)

-dermin **epidermal growth factors**
(a) murodermin (63), nepidermin (97)

-fermin **fibroblast growth factors**
(a) ersofermin (66), palifermin (86), repifermin (82), sprifermin (105), trafermin (74), velafermin (94)

-filermin **leukemia-inhibiting factor**
(a) emfilermin (82)

-nermin **tumour necrosis factor**
(a) ardenermin (88), dulanermin (99), eftozanermin alfa (119), plusonermin (73), sonermin (68), tasonermin (76), tengonermin (118)

-plermin **platelet-derived growth factor**
(a) becaplermin (74)

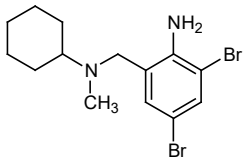
-sermin	**insulin-like growth factors**
(a)	mecasermin (66), mecasermin rinfabate (91)
-termin	**transforming growth factor**
(a)	cetermin (74), liatermin (81)
-otermin	**bone morphogenic proteins**
(a)	avotermin (77), dibotermin alfa (89), eptotermin alfa (89), nebotermin (109), radotermin (92)
Others:	cenegermin (115), cimaglermin alfa (110), dapiclermin (93)

BAN; USAN

estr	**estrogens**
Q.2.1.0	(USAN: estr-; or -estr-: estrogens)
(a)	almestrone (24), benzestrol (1), broparestrol (8), cloxestradiol (12), dienestrol (1), diethylstilbestrol (4), epiestriol (12), epimestrol (22), (eptamestrol/etamestrol (49) deleted), estradiol (4), estradiol benzoate (4), estradiol undecylate (16), estradiol valerate (35), estramustine (24), estrapronicate (34), estrazinol (16), estriol succinate (14), estrofurate (25), estrone (4), ethinylestradiol (1), fenestrel (18), fosfestrol (15), furostilbestrol (1), hexestrol (1), mestranol (12), methallenestril (6), methestrol (1), moxestrol (24), nilestriol (32), orestrate (17), polyestradiol phosphate (36), promestriene (31), quinestradol (15), quinestrol (14)
(b)	alfatradiol (84) (topical), allylestrenol (10) (progest.), ethylestrenol (13) (anabol.), lynestrenol (13) (progest.) estrogens receptor antagonists: brilanestrant (115), elacestrant (115), fulvestrant (78),
-gestr-:	edogestrone (22), levonorgestrel (30), megestrol (13), melengestrol (13), norelgestromin (84), norgestrel (17), norgestrienone (18), pentagestrone (14), quingestrone (13)
(c)	estetrol (116), chlorotrianisene (6), clomifene (12), enclomifene (33), zuclomifene (33) (antiestrogens)
-etanide	**see -anide**
-ethidine	**see -eridine**
-exakin	**see -kin**

-exine **mucolytic, bromhexine derivatives**

K.0.0.0



(a) adamexine (36), bromhexine (20), brovanexine (31), cistinexine (54), dembrexine (56), neltenexine (62), oxabrexine (40)

(b) enefexine (54) (antidepressant), gamfexine (17) (antidepressant)

(c) ambroxol (32) (dembrexol (50): replaced by dembrexine (56))

-farcept **see -cept**

USAN

-fenacin **muscarinic receptor antagonists**

afacifenacin (101), darifenacin (70), imidafenacin (90), revefenacin (114), solifenacin (85), tarafenacin (100), tofenacin (15), zamifenacin (68)

-fenamate **see -fenamic acid**

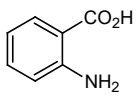
USAN

-fenamic acid **anti-inflammatory, anthranilic acid derivatives**

-fenamate **"fenamic acid" derivatives**

(USAN: -fenamic acid: anti-inflammatory (anthranilic acid derivatives);
-fenamate: "fenamic acid" ester or salt derivatives)

A.4.2.0



(a) clofenamic acid (13), enfenamic acid (45), flufenamic acid (13), meclofenamic acid (17), mefenamic acid (13), tolfenamic acid (24)

colfenamate (29), etofenamate (29), prefenamate (36), terofenamate (32), ufenamate (50)

(b) clantifen (24), oxyfenamate (13)

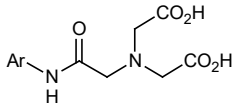
phonetically close: clofenamide (13), diclofenamide (13) (N.1.1.0)

(c) flutiazin (22)

USAN

-fenin **diagnostic aids; (phenylcarbamoyl)methyl iminodiacetic acid derivatives**

U.1.0.0



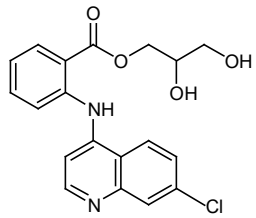
(a) arclofenin (52), butilfenin (41), disofenin (43), etifenin (43), galtifenin (59), lidofenin (39), mebrofenin (47)

USAN

-fenine phenine **analgesics, glafenine derivatives (subgroup of fenamic acid group)**

(USAN: -fenine: analgesics (fenamic acid subgroup))

A.4.3.0



(a) antrafenine (35), floctafenine (24), florifenine (50), glafenine (15), nicafenine (40)

(b) spasmolytic diphenylacetates: adiphenine (1), drofenine (26)
other: buphenine (8) (vasodilator), cinfenine (27) (antidepressant)

USAN

-fensine **norepinephrine, serotonin, dopamine reuptake inhibitors**

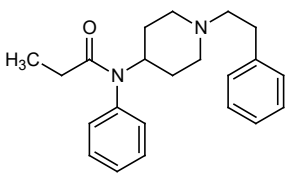
brasofensine (76), diclofensine (44), liafensine (109), nomifensine (24), perafensine (44), tesofensine (89)

USAN

-fentanil **opioid receptor agonists, analgesics, fentanyl derivatives**

(USAN: -fentanil: narcotic analgesics (fentanyl derivatives))

A.4.1.0



(a) alfentanil (43), brifentanil (62), carfentanil (39), fentanyl (14), lofentanil (43), mirfentanil (64), ocfentanil (61), remifentanil (67), sufentanil (36), trefentanil (67)

USAN

-fentrine	**inhibitors of phosphodiesterases**
K.0.0.0	
(a)	benafentrine (44), ensifentrine (119), pumafentrine (86), tolafentrine (70)

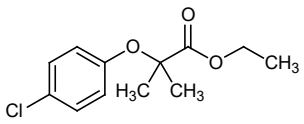
-fermin	**see -ermin**

USAN

-fiban	**fibrinogen receptor antagonists (glycoprotein IIb/IIIa receptor antagonists)**
I.2.0.0	carafiban (78), elarofiban (83), fradafiban (72), gantofiban (80), lamifiban (72), lefradafiban (75), lotrafiban (78), orbofiban (75), roxifiban (77), sibrafiban (77), tirofiban (73), xemilofiban (74)

BAN, USAN

-fibrate	**clofibrate derivatives, peroxisome proliferator activated receptor-α (PPAR-α) agonists**
H.4.0.0	(BAN: substances of the clofibrate group) (USAN: antihyperlipidaemics (clofibrate type))



(a)	bezafibrate (35), biclofibrate (28), binifibrate (44), choline fenofibrate (97), ciprofibrate (36), clinofibrate (39), dulofibrate (43), etofibrate (31), fenirofibrate (49), fenofibrate (35), lifibrate (30), nicofibrate (31), pemafibrate (113), picafibrate (35), ponfibrate (37), ronifibrate (55), salafibrate (41), serfibrate (34), simfibrate (22), sitofibrate (32), tiafibrate (33), timofibrate (40), tocofibrate (33), urefibrate (37), xantifibrate (31) clofibric acid (20), clofibrate (13), aluminium clofibrate (31), calcium clofibrate (34), cinnarizine clofibrate (38), etofylline clofibrate (38), magnesium clofibrate (3I) clofibride (28), plafibride (39) related: arhalofenate (101), beclobrate (35), eniclobrate (39), gemfibrozil (34), halofenate (20), lifibrol (62), metibride (53), terbufibrol (35), tibric acid (33), (fibrafylline (43) deleted)
(b)	bromebric acid (25) (prophylaxis of migraine), fibracillin (30) (antibiotic)
(c)	nafenopin (24), treloxinate (25)

-filermin	**see -ermin**

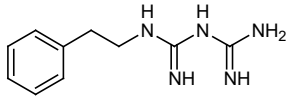
USAN

-flapon	**5-lipoxygenase-activating protein (FLAP) inhibitors**
K.0.0.0 J.0.0.0	fiboflapon (105), quiflapon (72), veliflapon (95)

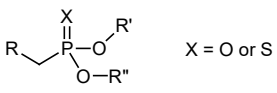
USAN

-flurane	**halogenated compounds used as general inhalation anaesthetics**
A.1.1.0	(USAN: general inhalation anesthetics (halogenated alkane derivatives))
(a)	aliflurane (36), cryofluorane (6), desflurane (62), enflurane (25), isoflurane (28), methoxyflurane (11), norflurane (20), roflurane (12), sevoflurane (25), teflurane (12)
(b)	apaflurane (73)
(c)	fluroxene (12), halothane (6)

USAN

-formin (d)	**antihyperglycaemics, phenformin derivatives**
M.5.2.0	(USAN: hypoglycemics (phenformin type))
	
(a)	benfosformin (29), buformin (17), etoformin (34), metformin (21), metformin glycinate (103), phenformin (10), tiformin (22)

USAN

-fos (-vos)	**insecticides, anthelminthics, pesticides etc., phosphorous derivatives**
	(USAN: -fo(s)-: phosphoro-derivatives)
S.3.1.0 (Y.0.0.0)	
1.	organophosphorous derivatives:
	 X = O or S
(a)	vet. insecticides:
	quintiofos (25)

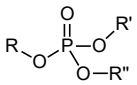
(b) toldimfos (23) (vet. phosphorous source)

(c) vet. insecticides and anthelminthics:

metrifonate (16)

anthelmintic: butonate (30)

2. phosphates:



(a) vet. insecticides: clofenvinfos (23)

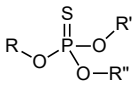
vet. anthelminthics: bromofenofos (43), dichlorvos (28), naftalofos (16)

anthelminthics: vincofos (28)

(b) triclofos (l3) (hypnotic, sedative)

(c) vet. anthelminthics: fospirate (21), haloxon (16)

3. phosphorothioates:

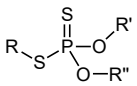


vet. insecticides:

(a) bromofos (25), coumafos (16), fenclofos (23), temefos (31)

(c) dimpylate (16), phoxim (20) (vet. insecticide and anthelmintic), pyrimitate (16)

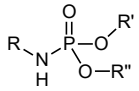
4. phosphorodithioates:



(a) benoxafos (22) (vet. pesticide)

(c) carbofenotion (23) (vet. insecticide), dioxation (l6) (vet. insecticide), (malathion (46) (deleted!))

5. phosphoramidates



crufomate (16), uredofos (37)

anthelminthic:
imcarbofos (44)

-fos- or fos- **various pharmacological categories belonging to fos (other than those above):**

-fos-
alafosfalin (41), amifostine (44), belfosdil (61), benfosformin (29), butafosfan (38), cifostodine (50), creatinolfosfate (20), dexfosfoserine (68), ferpifosate sodium (69), furifosmin (70), mono*phospho*thiamine (8), rabacfosadine (111), sodium picofosfate (37), sofosbuvir (108), sparfosic acid (46), technetium (^{99m}Tc), tetrofosmin (66), trifosmin (74)

-fosfamide: alkylating agents of the cyclophosphamide group (USAN: isophosphoramide mustard derivatives)
canfosfamide (92), cyclophosphamide (10), defosfamide (12), evofosfamide (111), glufosfamide (77), ifosfamide (23), mafosfamide (51), palifosfamide (99), perfosfamide (66), sufosfamide (36), trofosfamide (23)

-fosine cytostatic
edelfosine (59), ilmofosine (56), miltefosine (61), perifosine (78)

fos-
fosalvudine tidoxil (95), fosamprenavir (83), fosaprepitant (94), fosarilate (53), fosazepam (27), fosbretabulin (100), foscarnet sodium (42), foscolic acid (12), fosdagrocorat (111), fosdevirine (103), fosenazide (48), fosfestrol (15), fosfluconazole (83), fosfluridine tidoxil (93), fosfocreatinine (50), fosfomycin (25), fosfonet sodium (35), fosfosal (37), fosfructose (81), fosinopril (69), fosinoprilat (62), fosmanogepix (119), fosmenic acid (49), fosmetpentotenane (116), fosmidomycin (46), fosopamine (69), fosphenytoin (62), fospirate (21), fospropofol (100), fosquidone (64), fosravuconazone (110), fostamatinib (100), fostedil (51), fostriecin (55), fosveset (83)

-fovir **see vir**

USAN

-fradil **see -dil**

-frine **see -drine**

USAN

-fungin **antifungal antibiotics**

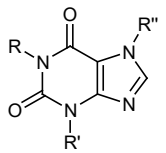
S.6.0.0
S.4.3.0 (USAN: antifungal antibiotics (undefined group))

(a) abafungin (74), anidulafungin (81), basifungin (72), caspofungin (80), cilofungin (60), fusafungine (15), kalafungin (20), micafungin (84), nifungin (24), oxifungin (40), rezafungin acetate (117), sinefungin (39), triafungin (40)

USAN

-fylline N-**methylated xanthine derivatives**

B.1.0.0 (USAN: theophylline derivatives)



(a) acefylline clofibrol (44), acefylline piperazine (14), albifylline (66), aminophylline (4), apaxifylline (71), arofylline (75), bamifylline (15), cipamfylline (71), denbufylline (55), derenofylline (102), dimabefylline (19), diniprofylline (18), diprophylline (1), doxofylline (47), enprofylline (44), etamiphylline (6), etofylline (14), etofylline clofibrate (38), fibrafylline (43) (deleted), flufylline (48), fluprofylline (50), furafylline (48), guaifylline (16), isbufylline (62), istradefylline (89), laprafylline (60), lisofylline (72), lomifylline (37), mercurophylline (1), metescufylline (15), mexafylline (48), midaxifylline (79), naxifylline (86), nestifylline (64), pentifylline (29), pentoxifylline (29), perbufylline (58), pimefylline (2l), propentofylline (46), proxyphylline (10), pyridofylline (14), rolofylline (98), spirofylline (58), stacofylline (73), tazifylline (52), theophylline ephedrine (14), tonapofylline (102), torbafylline (56), triclofylline (19), verofylline (43), visnafylline (24), choline theophyllinate (8), fenetylline (16)

(c) cafedrine (14), dimenhydrinate (1), dimethazan (8), meralluride (1), mercumatilin sodium (4), piprinhydrinate (8), promethazine teoclate (10), protheobromine (14), theodrenaline (14), xantifibrate (31), xantinol nicotinate (16)

radicals and groups: teprosilate (29)

		USAN
gab (x)	**gabamimetic agents**	
E.0.0.0		
(a)	atagabalin (102), fengabine (53), gabapentin (46), gabapentin enacarbil (94), gaboxadol (48) (used as analgesic), imagabalin (101), lesogaberan (100), mirogabalin (109), pivagabine (66), pregabalin (78), progabide (43) (used as antiepileptic), retigabine (76), tiagabine (63), tolgabide (53), vigabatrin (52) (anticonvulsants)	
(b)	gabexate (35) (proteolytic)	

		USAN
gado- (x)	**diagnostic agents, gadolinium derivatives**	
U.0.0.0	(USAN: gadolinium derivatives (principally for diagnostic use))	
(a)	gadobenic acid (64), gadobutrol (66), gadocoletic acid (85), gadodenterate (91), gadodiamide (63), gadofosveset (86), gadomelitol (85), gadopenamide (60), gadopentetic acid (50), gadopiclenol (118), gadoterdol (70), gadoteric acid (59), gadoversetamide (71), gadoxetic acid (71)	

		USAN
-gatran (x)	**thrombin inhibitors, antithrombotic agents**	
I.2.0.0	(USAN: thrombin inhibitors (argatroban type))	
(a)	atecegatran (103), atecegatran metoxil (105), dabigatran (83), dabigatran etexilate (87), efegatran (71), flovagatran (97), inogatran (72), melagatran (74), napsagatran (72), sofigatran (95), ximelagatran (84)	
(c)	argatroban (57)	

		USAN
-gepant	**calcitonin gene-related peptide receptor antagonists**	
C.3.1.0		
(a)	atogepant (116), olcegepant (86), rimegepant (109), telcagepant (100), ubrogepant (109)	

USAN

-gene **substances for gene therapies** (see also Annex 4 for the General policies)

A two-word name approach has been selected:

Word 1 *-gene* *gene component*

-cima-	cytosine deaminase
-ermin-	growth factor
-kin-	interleukin
-lim-	immunomodulator
-lip-	human lipoprotein lipase
-mul-	multiple gene
-stim-	colony stimulating factor
-tima-	thymidine kinase
-tusu-	tumour suppression

Word 2 *-vec* *vector component is a virus*

-repvec *replicating viral vector*

-adeno-	adenovirus
-cana-	canarypox virus
-foli-	fowlpox virus
-herpa-	herpes virus
-lenti-	lentivirus
-morbilli-	paramoxyviridae morbillivirus
-parvo-	adeno-associated virus (parvoviridae dependovirus)
-retro-	other retrovirus
-vaci-	vaccinia virus

-bac *in case vector is a bacteria*

-lis-	*Listeria monocytogenes*

-plasmid *in case the vector is a plasmid*

In case of non-plasmid naked DNA, there is no need for a second word in the name.
In case of antisense nucleotides, please refer to the already existing stem *-rsen*.

Viral vectors:

aglatimagene besadenovec (113), alferminogene tadenovec (95), alipogene tiparvovec (99), betibeglogene darolentivec (116), contusugene ladenovec (97), delolimogene mupadenorepvec (118), eladocagene exuparvovec (119), elivaldogene tavalentivec (115), eretidigene velentivec (115), fidanacogene elaparvovec (118), golnerminogene pradenovec (101), lanacogene vosiparvovec (117), lenadogene nolparvovec (114), mesmulogene ancovacivec (114), nadofaragene firadenovec (117),

ofranergene obadenovec (115), olenasufligene relduparvovec (119), onasemnogene abeparvovec (117), pexastimogene devacirepvec (108), rebisufligene etisparvovec (118), riferminogene pecaplasmid (100), rilimogene galvacirepvec (107), rilimogene glafolivec (113), sitimagene ceradenovec (97), taberminogene vadenovec (100), talimogene laherparepvec (104), timrepigene emparvovec (117), tipapkinogene sovacivec (102), valoctocogene roxaparvovec (116), vocimagene amiretrorepvec (107), voretigene neparvovec (115)

Bacterial vectors:
axalimogene filolisbac (112), miralimogene ensolisbac (117), opolimogene capmilisbac (117), pemlimogene merolisbac (117)

Plasmids:
amolimogene bepiplasmid (98), beperminogene perplasmid (95), bizalimogene ralaplasmid (118), donaperminogene seltoplasmid (116), mavilimogene ralaplasmid (118), tavokinogene telseplasmid (118), tirvalimogene teraplasmid (117), velimogene aliplasmid (97)

BAN, USAN

gest (x)	**steroids, progestogens**
Q.2.2.0	(USAN: -gest-: progestins)
(a)	altrenogest (46), anagestone (16), cingestol (20), clogestone (21), clomegestone (20), demegestone (24), desogestrel (38), dexnorgestrel (30), dienogest (49), dydrogesterone (12), edogestrone (22), etonogestrel (65), flugestone (16), gestaclone (23), gestadienol (22), gestodene (37), gestonorone caproate (16), gestrinone (39), haloprogesterone (11), hydroxyprogesterone (8), hydroxyprogesterone caproate (8), levonorgestrel (33) (previously dexnorgestrel), medrogestone (15), medroxyprogesterone (10), megestrol (l3), melengestrol (13), metogest (33), nomegestrol (49), norelgestromin (83), norgesterone (14), norgestimate (35), norgestomet (32), norgestrel (17), norgestrienone (18), oxogestone (19), pentagestrone (14), progesterone (4), proligestone (28), promegestone (38), quingestanol (15), quingestrone (13), segesterone (89), tigestol (20), tosagestin (86), trengestone (22), trimegestone (66)
(b)	algestone (22) (glucorticoid)
(c)	allylestrenol (10), chlormadinone (12), cismadinone (12), delmadinone (23), dimethisterone (8), ethisterone (4), ethynerone (17), etynodiol (13), hydromadinone (12), lynestrenol (13), metynodiol (27), norethisterone (6), noretynodrel (13), norvinisterone (10)
	clometerone (15) (antiestrogen), dimepregnen (24) (antiestrogen)

-gestr-	**see estr**

USAN

-giline	**MAO-inhibitors type B**
C.3.1.0	
(a)	adarigiline (117),clorgiline (23), mofegiline (69), parg**y**line (13), rasagiline (70), selegiline (39), sembragiline (111)

USAN

-gillin	**antibiotics produced by *Aspergillus* strains**
S.6.0.0	
(a)	fumagillin (1), mitogillin (17)
(c)	mitosper (24), nifungin (24)

BAN, USAN

gli (x) (previously gly-)	**antihyperglycaemics**
M.5.2./3.0	(BAN: sulphonamide hypoglycaemics) (USAN: gli-: antihyperglycaemics)
(a)	**1. sulfonamide derivatives:** gliamilide (33), glibenclamide (18), glibornuride (22), glibutimine (31), glicaramide (28), glicetanile (37), gliclazide (25), (deleted: glidanile (23)), glicondamide (44), glidazamide (24), gliflumide (33), glimepiride (53), glipalamide (62), glipizide (27), gliquidone (28), glisamuride (45), glisentide (58) (previously glipentide (27)), glisindamide (43), glisolamide (43), glisoxepide (24), glybuthiazol (8), glybuzole (15), glyclopyramide (17), glycyclamide (12), glyhexamide (15), glymidine sodium (15), glyoctamide (14), glyparamide (USAN only), glypinamide (13), glyprothiazol (8), glysobuzole (12) **2. other than sulfonamide derivatives:** adomeglivant (115), camiglibose (67), dorzagliatin (116), deriglidole (66), emiglitate (55), fasiglifam (107), firuglipel (116), imeglimin (98), ingliforib (85), isaglidole (61), limiglidole (100), linogliride (48), managlinat dialanetil (96), meglitinide (34), midaglizole (57), miglitol (55), mitiglinide (78), naglivan (65), nateglinide (77), piragliatin (97), pirogliride (40), repaglinide (65), teglicar (91), tibeglisene (64), voglibose (65) **3. peptide:** seglitide (57)
(b)	cromoglicate lisetil (72), cromoglicic acid (18), ioglicic acid (33), ioxaglic acid (37), sulglicotide (29) (treatment of peptic ulcers), tropigline (08)

(c) acetohexamide (12), butadiazamide (10), carbutamide (36), chlorpropamide (8), heptolamide (12), metahexamide (10), palmoxiric acid (48), thiohexamide (12), tolazamide (12), tolbutamide (6), tolpentamide (12), tolpyrramide (13)

gly- *prior to revision of the General Principles*

(a) glybuthiazol (08), glybuzole (15), glyclopyramide (17), glycyclamide (13), glyhexamide (15), glymidine sodium (15), glyoctamide (14), glypinamide (13), glyprothiazol (08), glysobuzole (12)

(c) glycerol (4), glycobiarsol (I), glycopyrronium bromide (12)

-gliflozin **sodium glucose co-transporter inhibitors, phlorizin derivatives** USAN

(USAN: phlorozin derivatives, phenolic glycosides)

atigliflozin (100), bexagliflozin (113), canagliflozin (102), dapagliflozin (97), empagliflozin (104), ertugliflozin (107), ipragliflozin (103), licogliflozin (118), luseogliflozin (104), mizagliflozin (114), remogliflozin etabonate (98), sergliflozin etabonate (98), sotagliflozin (110), tofogliflozin (103), velagliflozin (115)

-gliptin **dipeptidyl aminopeptidase–IV inhibitors** USAN

M.5.2.0

(a) alogliptin (96), anagliptin (103), bisegliptin (103), carmegliptin (98), denagliptin (94), dutogliptin (100), evogliptin (107), garvagliptin (117), gemigliptin (103), gosogliptin (101), linagliptin (99), melogliptin (99), omarigliptin (107), saxagliptin (92), sitagliptin (94), teneligliptin (99), trelagliptin (106), vildagliptin (90)

-glitazar **dual peroxisome proliferator activated receptors-α and γ (PPAR- α,γ) agonists** USAN

M.5.2.0 (USAN: PPAR agonists (not thiazolidene derivatives))

(a) aleglitazar (95), cevoglitazar (94), farglitazar (84), imiglitazar (91), indeglitazar (100), muroglitazar (90), naveglitazar (92), oxeglitazar (88), peliglitazar (92), pemaglitazar (92), ragaglitazar (85), reglitazar (87), saroglitazar (108), sipoglitazar (93), sodelglitazar (95), tesaglitazar (85)

-glitazone **peroxisome proliferator activating receptor-γ (PPAR-γ) agonists, thiazolidinedione derivatives** USAN

M.5.2.0 (USAN: PPST agonists (thiazolidene derivatives))

(a) ciglitazone (50), balaglitazone (84), darglitazone (69), edaglitazone (91), englitazone (64), leriglitazone (119), lobeglitazone (95), netoglitazone (85), pioglitazone (60), rivoglitazone (87), rosiglitazone (78), troglitazone (69)

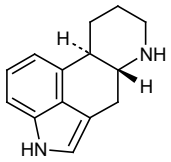
(c) efatutazone (102)

-gliflozin	**see gli**
-gliptin	**see gli**
-glitazar	**see gli**
-glitazone	**see gli**

USAN

-glumide	**cholecystokinine antagonists, antiulcer, anxiolytic agents**
J.0.0.0/C.1.0.0	amiglumide (85), dexloxiglumide (65), itriglumide (82), lorglumide (56), loxiglomide (57), proglumide (16), spiroglumide (70), tomoglumide (56)

USAN

-glurant	**metabotropic glutamate receptor antagonists / negative allosteric modulators**
	basimglurant (109), decoglurant (109), dipraglurant (102), mavoglurant (104), raseglurant (102), remeglurant (109)
-glutide	**see tide**
-golide	**dopamine receptor agonists, ergoline derivatives**
E.1.1.0	
(a)	adrogolide (82), naxagolide (60), pergolide (41), quinagolide (62), voxergolide (61)
(c)	rotigotine (83)
-gosivir	**see vir**
-gramostim	**see -stim**
-grastim	**see -stim**

USAN

-grel-
-grel **platelet aggregation inhibitors**

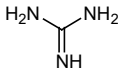
I.2.1.0 (USAN: -grel- or -grel: platelet aggregation inhibitors, primarily platelet P2Y12 receptor antagonists)

(a) anagrelide (42), camonagrel (61), cangrelor (97), clopidogrel (57), dazmegrel (51), elinogrel (101), furegrelate (53), isbogrel (59), itazigrel (56), midazogrel (53), nafagrel (64), nicogrelate (48), oxagrelate (47), ozagrel (55), pamicogrel (70), parogrelil (94), pirmagrel (53), prasugrel (91), rafigrelide (106), regrelor (97), ridogrel (59), rolafagrel (65), samixogrel (72), sarpogrelate (63), satigrel (67), selatogrel (119), sunagrel (52), temanogrel (103), terbogrel (75), ticagrelor (95), trifenagrel (53)

USAN

guan- **antihypertensives, guanidine derivatives**

H.3.0.0



(a) guanabenz (26), guanacline (I6), guanadrel (20), guanazodine (27), guancidine (18), guanclofine (36), guanethidine (11), guanfacine (35), guanisoquine (15), guanoclor (15), guanoctine (16), guanoxan (15), guanoxabenz (31), guanoxyfen (16), guabenxan (32)

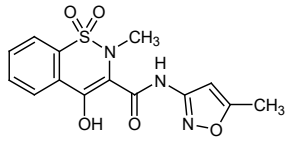
(c) guabenxan (32)

-ibine **see -ribine**

USAN

-icam **anti-inflammatory, isoxicam derivatives**

A.4.2.0 (USAN: anti-inflammatory agents (isoxicam type))



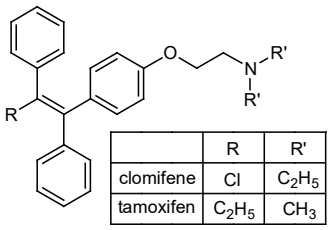
(a) ampiroxicam (56), droxicam (52), enolicam (45), isoxicam (30), lornoxicam (59), meloxicam (52), piroxicam (32), sudoxicam (27), tenoxicam (44), tesicam (25)

USAN

-ifene **antiestrogens or estrogen receptor modulators, clomifene and tamoxifen derivatives**

(USAN: -ifen(e): antiestrogens of the clomifene and tamoxifen groups)

(Q.2.1.0
L.6.0.0)



	R	R'
clomifene	Cl	C_2H_5
tamoxifen	C_2H_5	CH_3

(a) acolbifene (86), clomifenoxide (54), tesmilifene (81)
-oxifene: afimoxifene (95), arzoxifene (80), bazedoxifene (86), droloxifene (53), idoxifene (68), lasofoxifene (81), levormeloxifene (73), miproxifene (74), ormeloxifene (69), pipendoxifene (84), raloxifene (54), tamoxifen (28), trioxifene (41), zindoxifene (54)
-mifene: clomifene (12), enclomifene (33), fispemifene (89), nitromifene (33), ospemifene (85), panomifene (58), sivifene (99), toremifene (53), zuclomifene (33)

(b) dextropropoxyphene (7), levopropoxyphene (7), suloxifen (30) (bronchodilator)

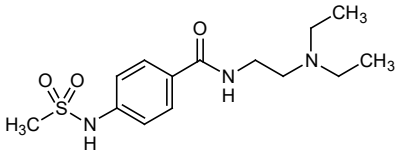
(c) nafoxidine (16)

-igetide **see -tide**

USAN

-ilide **class III antiarrhythmics, sematilide derivatives**

H.2.0.0 (USAN: class III antiarrhythmic agents)



(a) ambasilide (59), artilide (67), azimilide (72), dofetilide (65), ersentilide (72), ibutilide (63), ipazilide (62), risotilide (62), sematilide (58), trecetilide (79)

(b) bromacrylide (13), ftaxilide (32), gliamilide (33)

USAN

imex (d) **immunostimulants**

S.7.0.0

(a) azimexon (40), forfenimex (55), imexon (37), roquinimex (53), ubenimex (56), veledimex (110)

USAN

-imibe **antihyperlipidaemics, acyl CoA: cholesterol acyltransferase (ACAT) inhibitors,**

M.3.0.0

(a) avasimibe (80), canosimibe (100), eflucimibe (84), eldacimibe (76), ezetimibe (83), lecimibide (70), nevanimibe (119), octimibate (52), pactimibe (89)

USAN

-imod **immunomodulators, both stimulant/suppressive and stimulant**

S.7.0.0 (USAN: immunomodulators)

(a) amiselimod (112), apilimod (95), atiprimod (75), bevifimod (119), blisibimod (107), cenerimod (118), ceralifimod (109), cridanimod (83), cupabimod (115), defoslimod (79),efizonerimod alfa (117), eftilagimod alfa (116), efgartigimod alfa (116), epetirimod (97), esonarimod (79), etrasimod (116), fingolimod (91), forigerimod (104), golotimod (97), glaspimod (74), iguratimod (86), imiquimod (66), indoximod (111), ivarimod (60), laquinimod (85), litenimod (96), mocravimod (116), mosedipimod (118), navoximod (115), orilotimod (111), ozanimod (112), paquinimod (94), pidotimod (63), pixatimod (117), ponesimod (103), rabeximod (97), reltecimod (115), resiquimod (82), siponimod (106), sotirimod (94), susalimod (73), tasquinimod (93), tiprotimod (57)

-**mapimod** **mitogen-activated protein (MAP) kinase inhibitors** USAN

(a) acumapimod (111), balamapimod (96), bentamapimod (98), dilmapimod (102), doramapimod (88), losmapimod (101), neflamapimod (116), pamapimod (96), talmapimod (99), semapimod (89)

USAN

-tolimod **toll-like receptors (TLR) agonists**

(a) agatolimod (98), cobitolimod (113), entolimod (108), lefitolimod (113), motolimod (112), rintatolimod (102), telratolimod (118), tilsotolimod (117), vesatolimod (113)

USAN

-imus **immunosuppressants (other than antineoplastics)**

S.7.0.0 (USAN: immunosuppressives)

(a) abetimus (81), anisperimus (82), gusperimus (68), laflunimus (70), manitimus (93), napirimus (60), tresperimus (75), vidofludimus (103)

-rolimus **immunosuppressants, rapamycin derivatives** USAN

(a) everolimus (82), olcorolimus (105), pimecrolimus (81), ridaforolimus (108), sirolimus (69), tacrolimus (66), temsirolimus (94), umirolimus (103), zotarolimus (94)

-ine (d) **alkaloids and organic bases**

(a) approximatively 17.5% INN ending in *-ine* in Lists 1-119 of proposed INNs

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-inostat **see stat**

BAN, USAN

io- (x) **iodine-containing contrast media**

U.1.1.0

(a) iobenzamic acid (14), iobitridol (68), iobutoic acid (20), iocarmic acid (22), iocetamic acid (18), iodamide (15), iodecimol (51), iodetryl (1), iodixanol (53), iodophthalein sodium (1), iodoxamic acid (26), iofendylate (12), ioforminol (103), iofratol (67), ioglicic acid (33), ioglucol (41), ioglucomide (41), ioglunide (40), ioglycamic acid (15), iohexol (43), iolidonic acid (26), iolixanic acid (26), iomeglamic acid (26), iomeprol (54), iomorinic acid (37), iopamidol (40), iopanoic acid (1), iopentol (52), iophenoic acid (4), ioprocemic acid (39), iopromide (44), iopronic acid (28), iopydol (14), iopydone (14), iosarcol (54), iosefamic acid (14), ioseric acid (33), iosimenol (88), iosimide (50), iosulamide (39), iosumetic acid (33), iotalamic acid (13), iotasul (43), iotetric acid (37), iotranic acid (28), iotriside (60), iotrizoic acid (22), iotrolan (51), iotroxic acid (32), ioversol (56), ioxabrolic acid (53), ioxaglic acid (37), ioxilan (59), ioxitalamic acid (22), ioxotrizoic acid (33), iozomic acid (24)

(c) adipiodone (4), bunamiodyl (10), dimethiodal sodium (1), diodone (1), ethyl cartrizoate (12), methiodal sodium (1), metrizamide (26), pheniodol sodium (1), phenobutiodil (6), propyl docetrizoate (10), propyliodone (1), sodium acetrizoate (4), sodium amidotrizoate (4), sodium diprotrizoate (6), sodium metrizoate (13), sodium tyropanoate (12)

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io(d)-/-io-	**radiopharmaceuticals, iodine-contained**
(a)	ethiodized oil (^{131}I) (24), iobenguane (^{131}I) (57), iocanlidic acid (^{123}I) (77), iodinated (^{125}I) human serum albumin (24), iodinated (^{131}I) human serum albumin (24), iodine (^{131}I) apamistamab (119), iodine (^{131}I) derlotuximab biotin (113), iodine (^{124}I) girentuximab (101), iodocetylic acid (^{123}I) (47), iodocholesterol (^{131}I) (39), iodofiltic acid (^{123}I) (95), iofolastat (^{123}I) (105), iofetamine (^{123}I) (51), ioflubenzamide (^{131}I) (103), ioflupane (^{123}I) (75), iolopride (^{123}I) (73), iomazenil (^{123}I) (66), iometin (^{125}I) (24), iometin (^{131}I) (24), iometopane (^{123}I) (76), sodium iodide (^{125}I) (24), sodium iodide (^{131}I) (24), sodium iodohippurate (^{131}I) (24), sodium iotalamate (^{125}I) (24), sodium iotalamate (^{131}I) (24)
(c)	fibrinogen (^{125}I), macrosalb (^{131}I) (33), rose bengal (^{131}I) sodium (24), tolpovidone (^{131}I) (24)

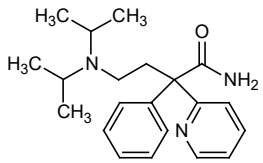
USAN

-irudin	**hirudin derivatives**
I.2.1.0	(USAN: anticoagulants (hirudin type))
	bivalirudin (72), desirudin (70), lepirudin (73), pegmusirudin (77)

USAN

-isant	**histamine H_3 receptor antagonists**
	bavisant (103), cipralisant (85), enerisant (113), irdabisant (105), pitolisant (100)

USAN

-isomide	**class I antiarrhythmics, disopyramide derivatives**
	(USAN: -isomide: antiarrhythmics (disopyramide derivatives))
H.2.0.0	
(a)	actisomide (60), bidisomide (63), pentisomide (59)
(c)	disopyramide (12)

BAN, USAN

-ium	**quaternary ammonium compounds**
	(USAN: -ium or -onium: quaternary ammonium derivatives)
E.3.0.0	**neuromuscular blocking agents with a flexible structure**
(a)	azamethonium bromide (1), decamethonium bromide (1), dicolinium iodide (25), dimecolinium iodide (14), fubrogonium iodide (18), hexamethonium bromide (1), mebezonium iodide (16), oxapropanium iodide (1), oxydipentonium chloride (1), pentamethonium bromide (1), pentolonium tartrate (4), prodeconium bromide (6), stilonium iodide (32), sofpironium bromide (115), suxamethonium chloride (1), suxethonium chloride (1), tetrylammonium bromide (1), tiametonium iodide (15), trepirium iodide (25)
(c)	gallamine triethiodide (1)
E.3.0.0	**neuromuscular blocking agents with rigid structure**
	(USAN: -curium, also -curonium; neuromuscular blocking agents; quaternary also ammonium compounds)
(a)	-curonium: alcuronium chloride (17), candocuronium iodide (70), dacuronium bromide (21), pancuronium bromide (19), pipecuronium bromide (69), rapacuronium bromide (78), rocuronium bromide (66), stercuronium iodide (21), vecuronium bromide (46)
	-curium (d) (curare-like substances): atracurium besilate (42) , cisatracurium besilate (73), doxacurium chloride (58), gantacurium chloride (91), mivacurium chloride (58), truxicurium iodide (22), truxipicurium iodide (22)
	-others: dimethyltubocurarinium chloride (1), fazadinium bromide (32), hexafluronium bromide (12), laudexium metilsulfate (4), pentacynium chloride (6), phenactropinium chloride (8), piprocurarium iodide (11), thiazinamium metilsulfate (37), trimethidinium methosulfate (8)
(c)	tubocurarine chloride (1)
E.1.0.0	**cholinergic agents**
(a)	aclatonium napadisilate (44), ambenonium chloride (6), benzpyrinium bromide (1), carpronium chloride (23), demecarium bromide (10), furtrethonium iodide (1)
(c)	acetylcholine chloride (4), charbacol (4), choline alfoscerate (29), choline

chloride (4), choline gluconate (110), choline salicylate (15) (analgesic), choline theophyllinate (8) (smooth muscle relaxant), methacholine chloride (110), nitricholine perchlorate (110) (antihypertensive), distigmine bromide (16), ecothiopate iodide (6), neostigmine bromide (4), obidoxime chloride (16), pralidoxime iodide (10), pyridostigmine bromide (6)

E.2.0.0 **anticholinergic agents**

(a) aclidinium bromide (100), benzilonium bromide (13), benzopyrronium bromide (12), beperidium (57), bevonium metilsulfate (19), butropium bromide (30), ciclonium bromide (19), ciclotropium bromide (50), cimetropium bromide (51), clidinium bromide (6), cyclopyrronium bromide (12), dimetipirium bromide (37), diponium bromide (15), dotefonium bromide (24), droclidinium bromide (33), emepronium bromide (18), etipirium iodide (22), fenclexonium metilsulfate (20), fenpiverinium bromide (26), fentonium bromide (29), flutropium bromide (50), glycopyrronium bromide (12), heteronium bromide (14), hexasonium iodide (15), hexocyclium metilsulfate (6), hexopyrronium bromide (13), ipratropium bromide (31), methanthelinium bromide (1), methylbenactyzium bromide (34), metocinium iodide (26), nolinium bromide (37), otilonium bromide (38), oxapium iodide (26), oxitefonium bromide (18), oxitropium bromide (36), oxyphenonium bromide (1), oxypyrronium bromide (13), oxysonium iodide (15), pentapiperium metilsulfate (26), prifinium bromide (20), ritropirronium bromide (33), sintropium bromide (47), sultroponium (18), tematropium metilsulfate (64), tiemonium iodide (13), timepidium bromide (29), tiotropium bromide (67), tiquizium bromide (47), trantelinium bromide (24), trospium chloride (25), umeclidinium bromide (106), xenytropium bromide (15)

(c) atropine methonitrate (4), buzepide metiodide (14), chlorisondamine chloride (6), diphemanil metilsulfate (4), homatropine methylbromide (1), isopropramide iodide (8), mepenzolate bromide (10), octatropine methylbromide (10), parapenzolate bromide (14), pipenzolate bromide (6), poldine metilsulfate (11), propantheline bromide (1), propyromazine bromide (12), tridihexethyl iodide (6), tropenziline bromide (11), thihexinol methylbromide (1), tricyclamol chloride (4)

S.2.3.0 **surfactants used as antibacterials and antiseptics**

(a) acriflavinium chloride (1), amantanium bromide (39), benzalkonium chloride (1), benzethonium chloride (1), benzododecinium chloride (1), benzoxonium chloride (36), cefalonium (16), cefmepidium chloride (57), cetalkonium chloride (15), cethexonium chloride (36), cetrimonium bromide (1), cetylpyridinium chloride (1), chlorphenoctium amsonate (8), deditonium bromide (15), denatonium benzoate (15), dequalinium

chloride (8), disiquonium chloride (55), dodeclonium bromide (16), dofamium chloride (21), fludazonium chloride (33), furazolium chloride (15), halopenium chloride (10), hedaquinium chloride (8), lapirium chloride (27), lauralkonium chloride (62), laurcetium bromide (70), laurolinium acetate (12), mecetronium etilsulfate (51), metalkonium chloride (60), methylbenzethonium chloride (1), methylrosanilinium chloride (1), methylthioninium chloride (1), miripirium chloride (63), miristalkonium chloride (41), octafonium chloride (16), opratonium iodide (76), penoctonium bromide (20), pirralkonium bromide (19), polidronium chloride (67), polixetonium chloride (70), prolonium iodide (14), sanguinarium chloride (68), sepazonium chloride (34), tetradonium bromide (18), tibezonium iodide (32), tiodonium chloride (36), toliodium chloride (36), toloconium metilsulfate (17), tonzonium bromide (14), triclobisonium chloride (10)

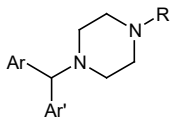
(c) domiphen bromide (23)

other agents

alagebrium chloride (91), albitiazolium bromide (101), amezinium metilsulfate (36), amprolium chloride (16), azaspirium chloride (25), bephenium hydroxynaphthoate (11), bibenzonium bromide (12), bidimazium iodide (27), bretylium tosilate (10), butopyrammonium iodide (8), carcainium chloride (36), clofilium phosphate (42), datelliptium chloride (57), detajmium bitartrate (34), dibrospidium chloride (51), ditercalinium chloride (49), edrophonium chloride (4), elliptinium acetate (43), emilium tosilate (37), enisamium iodide (101), famiraprinium chloride (58), feniodium chloride (23), gallium (^{67}Ga) citrate (33), homidium bromide (36), isavuconazonium chloride (96) isometamidium chloride (18), mefenidramium metilsulfate (52), meldonium (86), mequitamium iodide (61), nolpitantium besilate (75), pinaverium bromide (32), pirdonium bromide (28), prajmalium bitartrate (23), pranolium chloride (32), pretamazium iodide (29), propagermanium (65), prospidium chloride (22), pyritidium bromide (16), pyrvinium chloride (6), quindonium bromide (14), quinuclium bromide (40), repagermanium (63), rimazolium metilsulfate (26), roxolinium metilsulfate (33), samarium (^{153}Sm) lexidronam (74), sepantronium bromide (105), sevitropium mesilate (56), spirogermanium (43), stilbazium iodide (13), thenium closilate (12), tipetropium bromide (42), tolonium chloride (4), trazium esilate (54), trethinium tosilate (14), troxonium tosilate (13), troxypyrrolium tosilate (13)

(c) alazanine triclofenate (13) (anthelminthic), colfosceril palmitate (64) (pulmonary surfactant), dithiazanine iodide (8) (anthelminthic), hexadimethrine bromide (8) (heparin antagonist)

-izine (-yzine) **diphenylmethyl piperazine derivatives**



(a) antihistaminics: G.2.0.0: buclizine (4), cetirizine (51), chlorcyclizine (1), clocinizine (15), cyclizine (1), efletirizine (71), elbanizine (60), flotrenizine (48), levocetirizine (78), lomerizine (68), pibaxizine (62), trenizine (48)

homochlorcyclizine (10) (serotonin antagonist)

tranquillizers: etodroxizine (18), hydroxyzine (6)

various: benderizine (40) (antiarrhythmic), decloxizine (19) (respiratory insufficiency), ropizine (36) (anticonvulsant)

-rizine **antihistaminics/cerebral (or peripheral) vasodilators**

(a) belarizine (36), buterizine (42), cinnarizine (11), dotarizine (50), flunarizine (22), lifarizine (66), tagorizine (72), tamolarizine (66), trelnarizine (62)

chemically related: pipoxizine (32) (respiratory insufficiency)

(b) phenothiazine derivatives: chloracyzine (12) (vasodilator), fluacizine (25) (sedative), moracizine (25) (antiarrhythmic), tiracizine (62) (antiarrhythmic)

benzilate esters: benactyzine (6) (tranquillizer), benaprizine (26) (anti-parkinsonian)

phenylpiperazine: dimetholizine (10) (antiallergic), dropropizine (18)/ levodropropizine (64) (antitussive)
antibiotic "cef": cefatrizine (34)

pyrazine derivatives: ampyzine (15) (central nervous stimulant), triampyzine (15) (anticholinergic)

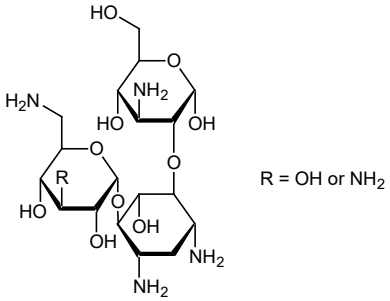
indoloquinolines (anticholinergic): metoquizine (17), toquizine (17)

(c) medibazine (16)

USAN

-kacin **antibiotics, kanamycin and bekanamycin derivatives (obtained from** Streptomyces kanamyceticus**)**

S.6.3.0 (USAN: antibiotics obtained from *Streptomyces kanamyceticus* (related to kanamycin))



(a) amikacin (30), arbekacin (56), butikacin (4l), dibekacin (31), propikacin (43)

(c) bekanamycin (24), kanamycin (10)

other aminoglycoside antibiotics:

Strept. griseus: dihydrostreptomycin (1) (semisynthetic), streptomycin (1), streptoniazid (13) (semisynthetic)

Strept. tenebrarius: apramycin (31), nebramycin (19) (mixture of several antibiotics, including apramycin and tobramycin), tobramycin (28)

Bacillus circularis: butirosin (25)

USAN

-kalant **potassium channel blockers**

(USAN: potassium channel antagonists)

H.2.0.0

(a) adekalant (83), almokalant (64), clamikalant (81), inakalant (95), nifekalant (75), pinokalant (82), terikalant (66), vernakalant (96)

BAN, USAN

-kalim **potassium channel activators, antihypertensive**

(USAN: potassium channel agonists)

H.3.0.0

(a) aprikalim (64), bimakalim (64), cromakalim (58), emakalim (66), levcromakalim (66), mazokalim (75), rilmakalim (65), sarakalim (81)

USAN

-kef- **enkephalin agonists**

(USAN: enkephalin agonists (various indications))

casokefamide (65), difelikefalin (113), frakefamide (81), metenkefalin (97), metkefamide (44)

USAN

-kin **interleukin type substances**

S.7.0.0
(a)

IL-1 :	*-nakin*	interleukin-1 analogues and derivatives
	-onakin:	interleukin-1 α analogues and derivatives: pifonakin (77)
	-benakin:	interleukin-1 β analogues and derivatives: mobenakin (72)
IL-2 :	*-leukin*	interleukin-2 analogues and derivatives: adargileukin alfa (89), aldesleukin (63), bempegaldesleukin (119), celmoleukin (65), cergutuzumab amunaleukin (113), denileukin diftitox (78), efavaleukin alfa (118), pegaldesleukin (74), teceleukin (54), tucotuzumab celmoleukin (95)
IL-4 :	*-trakin*	interleukin-4 analogues and derivatives: binetrakin (82)
IL-6 :	*-exakin*	interleukin-6 analogues and derivatives: atexakin alfa (72)
IL-7 :	*-eptakin*	interleukin-7 analogues and derivatives: efineptakin alfa (118)
IL-8 :	*-octakin*	interleukin-8 analogues and derivatives: canoctakin (110), emoctakin (74)
IL-10 :	*-decakin*	interleukin-10 analogues and derivatives: ilodecakin (81), pegilodecakin (117)
IL-11 :	*-elvekin*	interleukin-11 analogues and derivatives: oprelvekin (76)
IL-12 :	*-dodekin*	interleukin-12 analogues and derivatives: edodekin alfa (79)
IL-13:	*-tredekin*	interleukin-13 analogues and derivatives: cintredekin besudotox (92)
IL-18 :	*-octadekin*	interleukin-18 human analogues and derivatives: iboctadekin (92) tadekinig alfa (90) (fraction of IL-18 human)

Il-21	*-enicokin*	interleukin -21 human analogues and derivatives: denenicokin (99)
(c)	IL-3:	*-plestim*: interleukin-3 analogues and derivatives: muplestim (72), daniplestim (76)

USAN

-kinra **interleukin receptor antagonists**

S.7.0.0

IL-1	*-nakinra*	interleukin-1 receptor antagonists: anakinra (72), isunakinra (113)
IL-4	*-trakinra*	interleukin-4 receptor antagonists: pitrakinra (84)

USAN

-kiren **renin inhibitors**

H.3.0.0

(a) aliskiren (84), ciprokiren (69), ditekiren (84), enalkiren (84), imarikiren (116), remikiren (66), terlakiren (66), zankiren (84)

USAN

-laner **antagonists of GABA (gamma-aminobutyric acid) regulated chloride channels, antiparasitic agents**

S.1.0.0 (USAN: antiparasitics (isoxazoline compounds))

(a) afoxolaner (108), fluralaner (107), lotilaner (112), sarolaner (111), tigolaner (117)

-lefacept **see -cept**

-leukin **see -kin**

USAN

-lisib **phosphatidylinositol 3-kinase inhibitors, antineoplastics**

L.0.0.0 (USAN: phosphatidylinositol 3-kinase inhibitors)

acalisib (109), apitolisib (108), alpelisib (110), bimiralisib (116), buparlisib (106), copanlisib (108), dactolisib (107), dezapelisib (116), idelalisib (107), duvelisib (110), gedatolisib (111), leniolisib (116), nemiralisib (116), omipalisib (111), panulisib (109), parsaclisib (117), pictilisib (107), pilaralisib (108), recilisib (108), seletalisib (112), serabelisib (115), tenalisib (114), umbralisib (118)

-listat	**see -stat**

USAN

-lubant	**leukotriene B_4 receptor antagonists**
	(USAN: leukotriene receptor antagonists (treatment of inflammatory skin disorders))
U.3.0.0	
(a)	amelubant (85), moxilubant (78), ticolubant (76)

-lukast	**leukotriene receptor antagonists, see -ast**

USAN

-lutamide	**non-steroid antiandrogens**
Q.2.3.1	
(a)	apalutamide (113), bicalutamide (70), darolutamide (115), enzalutamide (107), flutamide (33), nilutamide (56), topilutamide (91)
(b)	aceglutamide (15)

-lutril	**see -tril**

BAN, USAN

-mab **monoclonal antibodies** (see also Annex 3)

Since May 2017, a new scheme was adopted for the nomenclature of monoclonal antibodies (mAb). The previous scheme included a substem, indicating the species on which the immunoglobulin sequence is based. Due to the new scheme, the stem indicating the origin is omitted. Each INN for a mAb will include the stem –mab, with a prefix indicating its target.

-ami- for **serum amyloid protein (SAP)/amyloidosis** (previously as *-am(i)-*) (pre-substem):

New naming scheme:	birtamimab (119)
humanized: *-zumab*	dezamizumab (115)

-ba- for **bacterial** (previously as *-b(a)-, -ba(c)-*):

mouse: *-omab*	edobacomab (80)
chimeric: *-ximab*	pagibaximab (93)
humanized: *-zumab*	rivabazumab (114), rivabazumab pegol (113), tefibazumab (92)
human: *-umab*	nebacumab (66), panobacumab (100), raxibacumab (92)

-ci- for **cardiovascular** (previously as *-c(i)-*, *-ci(r)-*):

New naming scheme:	abelacimab (119), dilpacimab (119), faricimab (118), frovocimab (119), marstacimab (119), olinvacimab (119), osocimab (119)
mouse: *-omab*	biciromab (66), imciromab (66)
chimeric: *-ximab*	abciximab (80), volociximab (93)
chimeric-humanized/human: *-xizumab*	navicixizumab (114)
humanized: *-zumab*	alacizumab pegol (98), bevacizumab (86), bevacizumab beta (114), bococizumab (110), brolucizumab (112), caplacizumab (106), concizumab (108), demcizumab (107), emicizumab (113), etaracizumab (99), idarucizumab (115), lodelcizumab (108), ralpancizumab (110), tadocizumab (94), vanucizumab (113)
human: *-umab*	alirocumab (107), ascrinvacumab (113), enoticumab (107), evinacumab (112), evolocumab (108), icrucumab (104), inclacumab (106), nesvacumab (108), orticumab (107), ramucirumab (110), rinucumab (113), varisacumab (116), vesencumab (104)

-fung- for **fungal** (previously as *-f(u)-*):

human: *-umab*	efungumab (95)

-gros- for **skeletal muscle mass related growth factors and receptors** (pre-substem, previously as *-gr(o)-*):

humanized: *-zumab*	domagrozumab (114), landogrozumab (113)
human: *-umab*	bimagrumab (111), trevogrumab (113)

-ki- for **interleukin** (previously as *-k(i)-*, *-ki(n)-*):

New naming scheme:	abrezekimab (118), netakimab (118), romilkimab (118)
humanized: *-zumab*	anrukinzumab (98), bimekizumab (110), clazakizumab (107), enokizumab (104), gevokizumab (104), ixekizumab (105), lebrikizumab (101), lutikizumab (115), mirikizumab (117), olokizumab (103), perakizumab (108), risankizumab (113), tildrakizumab (108), vunakizumab (115)
human: *-umab*	afasevikumab (113), brazikumab(115), briakinumab (101), canakinumab (97), dectrekumab (112), fezakinumab (101), fletikumab (110), guselkumab (109), secukinumab (102), sirukumab (105), tralokinumab (102), ustekinumab (99)

-li- for **immunomodulating** (previously as *-l(i)-*,*-li(m)-*):

New naming scheme:
bersanlimab (118), budigalimab (119), cemiplimab (119), cetrelimab (118), crovalimab (119), dostarlimab (119) ,etigilimab (118), imaprelimab (118), iscalimab (118), leronlimab (118), mitazalimab (119), obexelimab (119), ontamalimab (119), onvatilimab (118), orilanolimab (119), otilimab (119), prolgolimab (119), ravagalimab (118), relatlimab (119), sintilimab (119), spesolimab (119), sutimlimab (118), tavolimab (118), temelimab (119), toripalimab (119), vopratelimab (118), zampilimab (119)

mouse: *-omab*	afelimomab (80), begelomab (111), dorlimomab aritox (66), elsilimomab (89), enlimomab (80), enlimomab pegol (77), faralimomab (81), gavilimomab (84), inolimomab (80), maslimomab (66), nerelimomab (81), odulimomab (81), telimomab aritox (66), vepalimomab (80), zolimomab aritox (80)
chimeric: *-ximab*	andecaliximab (115), basiliximab (81), clenoliximab (77), galiximab (89), infliximab (77), keliximab (81), lumiliximab (90), priliximab (80), teneliximab (87), vapaliximab (87)
chimeric-humanized/human: *-xizumab*	otelixizumab (99), rozanolixizumab (115)
humanized: *-zumab*	apolizumab (87), aselizumab (88), atezolizumab (112), benralizumab (102), cabiralizumab(114), camrelizumab (115), cedelizumab (81), certolizumab pegol (97), crizanlizumab (115), daclizumab (78), daclizumab beta (114), dapirolizumab pegol (110), eculizumab (87), efalizumab (85), erlizumab (84), etrolizumab (104), fontolizumab (87), ibalizumab (97), inebilizumab (113), itolizumab (103), lampalizumab (107), letolizumab (116), ligelizumab (107), lulizumab pegol (111), mepolizumab (81), mogamulizumab (104), monalizumab (113), natalizumab (79), nemolizumab (112), ocrelizumab (95), olendalizumab (116), omalizumab (84), ozoralizumab (105), pascolizumab (87), pateclizumab (105), pembrolizumab (110), pexelizumab (86), pidilizumab (108), plozalizumab (113), quilizumab (106), ravulizumab (117), reslizumab (85), rontalizumab (101), rovelizumab (81), ruplizumab (83), samalizumab (105), satralizumab (116), siplizumab (87), spartalizumab (117), talizumab (89), teplizumab (97), tibulizumab (117), tislelizumab (117),

tocilizumab (90), toralizumab (87), tregalizumab (104), vatelizumab (105), vedolizumab (100), visilizumab (84), vobarilizumab (114), vonlerolizumab (116)

human: *-umab* — abrilumab (111), adalimumab (85), adalimumab beta (118), anifrolumab (109), atorolimumab (80), avelumab (113), belimumab (89), bertilimumab (88), bleselumab (113), brodalumab (105), camidanlumab (117), camidanlumab tesirine (117), carlumab (104), dupilumab (108), durvalumab (112), eldelumab (109), emapalumab (116), foralumab (103), fresolimumab (101), gimsilumab (117), golimumab (91), ianalumab (117), imalumab (111), ipilimumab (94), lanadelumab (114), lenzilumab (111), lerdelimumab (86), lirilumab (107), mavrilimumab (102), metelimumab (88), morolimumab (79), namilumab (104), nivolumab (111), oleclumab (116), oxelumab (105), pamrevlumab (113), placulumab (107), prezalumab (114), remtolumab (115), sarilumab (106), selicrelumab (116), sifalimumab (104), stamulumab (95), tabalumab (105), tesidolumab (112), tezepelumab (113), timolumab (114), tiragolumab (117), tremelimumab (97), ulocuplumab (110), urelumab (104), utomilumab (115), varlilumab (111), zanolimumab (92), ziralimumab (84)

-ne- for **neural** (previously as *-n(e)-*, *-ne(r)-*):

New naming scheme: gosuranemab (119)

humanized: *-zumab* — bapineuzumab (93), crenezumab (105), eptinezumab (115), fremanezumab (115), galcanezumab(114), ozanezumab (108), ponezumab (104), prasinezumab (117), refanezumab (114), solanezumab (107), tanezumab (99)

human: *-umab* — aducanumab (110), atinumab (104), elezanumab (115), erenumab (115), fasinumab (107), fulranumab (104), gantenerumab (108), opicinumab (113)

-os- for **bone** (previously as *-s(o)-*):

humanized: *-zumab* — blosozumab (105), romosozumab (106)

human: *-umab* — burosumab (115), denosumab (94), setrusumab (117)

-ta- for tumour (previous as *-t(u)-, -tu(m)- ; -co(l)- ; -go(t)- ; -go(v)- ; -ma(r)- ; -me(l)- ; pr(o)-*):

New naming scheme:
belantamab (118), belantamab mafodotin (118), cibisatamab (118), enapotamab (118), enapotamab vedotin (118), gancotamab (119), iodine (^{131}I) apamistamab (119), murlentamab (119), omburtamab (119), rolinsatamab (119), rolinsatamab talirine (119), samrotamab (118), samrotamab vedotin (118), tafasitamab (119), tepoditamab (118)

mouse: *-omab*
abagovomab (95), altumomab (80), anatumomab mafenatox (86), arcitumomab (74), bectumomab (81), blinatumomab (100), capromab (80), detumomab (80), edrecolomab (74), epitumomab (97), epitumomab cituxetan (89), ibritumomab tiuxetan (86), igovomab (86), lilotomab (112), lutetium (^{177}Lu) lilotomab satetraxetan (112), minretumomab (80), mitumomab (82), moxetumomab pasudotox (102), nacolomab tafenatox (80), naptumomab estafenatox (96), oregovomab (86), racotumomab (100), satumomab (81), solitomab (106), taplitumomab paptox (84), technetium (^{99m}Tc) nofetumomab merpentan (81), technetium (^{99m}Tc) pintumomab (86), tenatumomab (99), tositumomab (80)

chimeric: *-ximab*
amatuximab (104), bavituximab (95), brentuximab vedotin (103), carotuximab (114), cetuximab (82), coltuximab ravtansine (109), dinutuximab (109), dinutuximab beta (113), ecromeximab (87), ensituximab (103), futuximab (107), girentuximab (101), indatuximab ravtansine (105), iodine (^{131}I) derlotuximab biotin (113), iodine (^{124}I) girentuximab (101), isatuximab (112), laprituximab (114), laprituximab emtansine (114), margetuximab (109), mirvetuximab (114), mirvetuximab soravtansine (113), modotuximab (110), naratuximab (114), naratuximab emtansine (114), rituximab (77), siltuximab (100), tabituximab (119), tabituximab barzuxetan (119), tomuzotuximab (118), ublituximab (104), vadastuximab (114), vadastuximab talirine (113)

chimeric-humanized/human: *-xizumab*
azintuxizumab (116), azintuxizumab vedotin (116), depatuxizumab (115), depatuxizumab mafodotin (115), duvortuxizumab (116), losatuxizumab (116), losatuxizumab vedotin (116), ontuxizumab (109), pasotuxizumab (111),

humanized: *-zumab*
abituzumab (109), alemtuzumab (83), bemarituzumab (117), bivatuzumab (86), brontictuzumab (111), cantuzumab mertansine (105), cantuzumab ravtansine (105), cergutuzumab amunaleukin (113), citatuzumab bogatox (99), clivatuzumab tetraxetan (113), codrituzumab (109), cofetuzumab (117), cofetuzumab pelidotin (117), cusatuzumab (118), dacetuzumab (98), dalotuzumab (107), denintuzumab mafodotin (111), duligotuzumab (110), elotuzumab (100), emactuzumab (111), emibetuzumab (111), enavatuzumab (104), enoblituzumab (116), epratuzumab

(82), farletuzumab (100), ficlatuzumab (105), flotetuzumab (118), gatipotuzumab (118), gemtuzumab (83), gemtuzumab ozogamicin (115), ifabotuzumab (115), iladatuzumab (117), iladatuzumab vedotin (117), imgatuzumab (107), inotuzumab ozogamicin (92), labetuzumab (85), labetuzumab govitecan (113), lacnotuzumab (116), ladiratuzumab (117), ladiratuzumab vedotin (117), lifastuzumab vedotin (110), lintuzumab (86), lorvotuzumab mertansine (103), lumretuzumab (111), matuzumab (88), milatuzumab (98), mosunetuzumab (117), nimotuzumab (94), obinutuzumab (109), ocaratuzumab (107), onartuzumab (104), oportuzumab monatox (100), otlertuzumab (110), parsatuzumab (107), pertuzumab (89), pinatuzumab vedotin (108), polatuzumab vedotin (110), rosmantuzumab (115), rovalpituzumab (113), rovalpituzumab tesirine (113), sacituzumab (115), sacituzumab govitecan (113), sibrotuzumab (86), simtuzumab (107), sofituzumab vedotin (110), sontuzumab (94), talacotuzumab (117), telisotuzumab (115), telisotuzumab vedotin (115), tigatuzumab (98), timigutuzumab (118), trastuzumab (78), trastuzumab beta (118), trastuzumab deruxtecan (116), trastuzumab duocarmazine (115), trastuzumab emtansine (103), tucotuzumab celmoleukin (95), vandortuzumab vedotin (112), veltuzumab (98), vorsetuzumab (107), vorsetuzumab mafodotin (107), xentuzumab (114), yttrium (^{90}Y) clivatuzumab tetraxetan (102), yttrium ^{90}Y tacatuzumab tetraxetan (93), zenocutuzumab (118)

human: *-umab*
adecatumumab (90), anetumab ravtansine (109), aprutumab (115), aprutumab ixadotin (115), cixutumumab (100), conatumumab (99), daratumumab (101), drozitumab (103), dusigitumab (108), elgemtumab (112), enfortumab vedotin (109), figitumumab (100), flanvotumab (106), ganitumab (103), glembatumumab (102), glembatumumab vedotin (113), indusatumab (112), indusatumab vedotin (112), intetumumab (101), iratumumab (94), istiratumab (117), lexatumumab (95), loncastuximab (117), loncastuximab tesirine (117), lucatumumab (98), lupartumab (115), lupartumab amadotin (115), mapatumumab (93), narnatumab (105), necitumumab (100), ofatumumab (93), olaratumab (103), panitumumab (96), patritumab (106), pritumumab (89), radretumab (104), rilotumumab (101), robatumumab (100), seribantumab (108), sirtratumab (117), sirtratumab vedotin (117), tarextumab (109), teprotumumab (108), tisotumab (113),tisotumab vedotin (113), tovetumab (109), vantictumab (109), votumumab (80), zalutumumab (93), zolbetuximab (117)

-toxa- for **toxin** (previously as *-tox(a)-*):

chimeric: *-ximab*	obiltoxaximab (113), pritoxaximab (108), setoxaximab (108)
humanized: *-zumab*	urtoxazumab (90)
human: *-umab*	actoxumab (111), atidortoxumab (117), berlimatoxumab (117), bezlotoxumab (107), suvratoxumab (116), tosatoxumab (109)

-vetmab for **veterinary use**:

blontuvetmab (114), frunevetmab (116), gilvetmab (116), lokivetmab (112), ranevetmab (115), tamtuvetmab (114)

-vi- for **viral** (previously as *-v(i)-, -vi(r)-*):

New naming scheme:	lenvervimab (118), nirsevimab (119)
chimeric: *-ximab*	cosfroviximab (116), larcaviximab (116), porgaviximab (116)
humanized: *-zumab*	felvizumab (77), motavizumab (95), palivizumab (79), suvizumab (102)
human: *-umab*	diridavumab (111), exbivirumab (91), firivumab (111), foravirumab (100), gedivumab (117), lesofavumab (117), libivirumab (91), navivumab (113), rafivirumab (100), regavirumab (80), sevirumab (66), suptavumab (115), tuvirumab (66)

Others:

-le(s)- for **inflammatory lesions** (infix no longer formally acknowledged under the current scheme):

mouse **(**under the previous naming scheme ***-omab*****):**
besilesomab (92), lemalesomab (86), sulesomab (86), technetium (^{99m}Tc) fanolesomab (86)

humanized (under the previous naming scheme ***-zumab*****):**
ranibizumab (90) (treatment of patients with the exudative (wet or neovascular) form of age-related macular degeneration (AMD))

rat-murine hybrid (under the previous naming scheme ***-axomab*****):**
catumaxomab (93), ertumaxomab (93)

human (under the previous naming scheme ***-umab*****):**
crotedumab (114) (treatment of diabetes)
roledumab (103), (treatment of RhD(+) incompatible transfusions)

(c) muromonab-CD3 (59)

USAN

-mantadine
-mantine
-mantone **adamantane derivatives**

(USAN: -mantadine or -mantine: antivirals/antiparkinsonians (adamantane derivatives))

(a) antiviral: S.5.3.0: amantadine (15), rimantadine (17), somantadine (51), tromantadine (28)

antiparkinsonian: E.2.0.0: carmantadine (31), dopamantine (31), memantine (35)

immunostimulant: S.7.0.0: idramantone (71)

(b) anthelminthic: S.3.l.0: dimantine (14)

(c) adafenoxate (48) (nootropic agent), adamexine (36) (mucolytic), adapalene (64) (antiacne agent), adaprolol (63) (ß-adrenoreceptor antagonist), adatanserin (70) (serotonin receptor antagonist), amantanium bromide (39) (disinfectant), amantocillin (17) (antibiotic), arterolane (97) (antimalarial), bolmantalate (16) (anabolic), meclinertant (88) (neurotensin antagonist), mantabegron (88) (β_3-adrenoreceptor agonist), saxagliptin (92) (antidiabetic), vildagliptin (90) (antidiabetic)

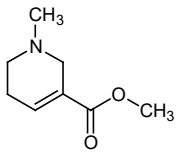
-mapimod **see -imod**

-mastat **see -stat**

USAN

-meline **cholinergic agents (muscarine receptor agonists/partial antagonists used in the treatment of Alzheimer's disease)**

E.1.0.0 (USAN: cholinergic agonists (arecoline derivatives used in the treatment of Alzheimer's disease))



alvameline (79), cevimeline (76), itameline (77), milameline (74), revosimeline (119), sabcomeline (76), tazomeline (77), xanomeline (70)

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mer- or -mer- (d) [1]**mercury-containing drugs, antimicrobial or diuretic**

(a) S.2.2.0 antimicrobial: meralein sodium (13), merbromin (1), mercurobutol (1), otimerate sodium (51), phenylmercuric borate (4), sodium timerfonate (13), thiomersal (1)

[1]*mer-* and *-mer-* can be used for any type of substances and are no longer restricted to use in INNs for mercury-containing drugs
N.1.3.0 diuretic: chlormerodrin (4), chlormerodrin (^{197}Hg) (24), meralluride

	(1), mercaptomerin (1), mercuderamide (1), mercumatilin sodium (4), mercurophylline (1), merisoprol (^{197}Hg) (24) (diagnostic), mersalyl (4)
(b)	difemerine (17) (spasmolytic), dimercaprol (1) (antidote, -SH group), lomerizine (68), (cerebral vasodilator), mercaptopurine (6) (cytostatic, -SH group), nifurmerone (16), pemerid (25), suxemerid (25) (antitussive)
(c)	hydrargaphen (10)

USAN

-mer	**polymers**
(a)	amilomer (33), azoximer bromide (97), berdazimer sodium (117), bixalomer (103), cadexomer (60), carbetimer (50), carbomer (21), crilanomer (53), davamotecan pegadexamer (117), demplatin pegralumer (117), dextranomer (33), eldexomer (60), exatecan alideximer (89), firtecan peglumer (108), hemoglobin glutamer (80), hemoglobin raffimer (89), leuciglumer (68), maletamer (14), ompinamer (108), patiromer calcium (106), poloxamer (34), porfimer sodium (64), sevelamer (77), surfomer (44), talinexomer (114), tolevamer (88), zinostatin stimalamer (74)
(b)	astodrimer (110), succimer (42)

USAN

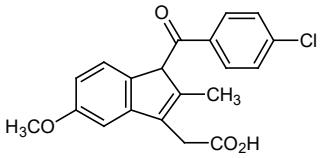
-mesine	**sigma receptor ligands**
	cutamesine (100), igmesine (68), panamesine (73), siramesine (81)

USAN

-mestane	**aromatase inhibitors**
L.0.0.0 /Q.2.1.0	(USAN: antineoplastics, aromatase inhibitors)
	atamestane (54), exemestane (65), formestane (66), minamestane (64), plomestane (66)

BAN; USAN

-metacin (x)	**anti-inflammatory, indometacin derivatives**
A.4.2.0	(BAN: anti-inflammatory substances of the indomethacin group) (USAN: -metacin: anti-inflammatory substances (indomethacin type))



(a) acemetacin (32), cinmetacin (24), clometacin (27), delmetacin (48) (originally demetacin (42)), duometacin (27), glucametacin (32), indometacin (13), niometacin (33), oxametacin (37), pimetacin (47), proglumetacin (35), sermetacin (36), talmetacin (46), zidometacin (39)

other anti-inflammatory, indole derivatives: etoprindole (22), indopine (12), indoxole (17), nictindole (28)

-met(h)asone see pred

-metinib see -tinib

USAN

-micin **aminoglycosides, antibiotics obtained from various** Micromonospora

(S.6.5.0) (USAN: antibiotics (*Micromonospora* strains))

astromicin (44), betamicin (38), etisomicin (47), evernimicin (82), fidaxomicin (109), gemtuzumab ozogamicin (115), gentamicin (22), isepamicin (54), maduramicin (52), megalomicin (37), micronomicin (45), mirosamicin (58), netilmicin (36), ozogamicin (83), pentisomicin (41), plazomicin (106), repromicin (37), rosaramicin (41) (prev. rosamicin), semduramicin (60), sisomicin (25)

-mifene see -ifene

-milast see -ast

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mito- (d) **antineoplastics, nucleotoxic agents**
L.0.0.0

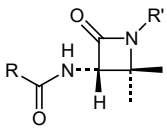
(a) mitobronitol (20), mitocarcin (25), mitoclomine (18), mitoflaxone (60), mitogillin (17), mitoguazone (20), mitolactol (26), mitomalcin (19), mitomycin (26), mitonafide (40), mitopodozide (17), mitoquidone (54), mitosper (24), mitotane (21), mitotenamine (17), mitoxantrone (44), mitozolomide (51)

(c) mitindomide (48)

USAN

-monam **monobactam antibiotics**

S.6.0.0



(a) carumonam (51), gloximonam (54), oximonam (54), pirazmonam (58), tigemonam (57)

(c) aztreonam (48)

-morelin **see -relin**

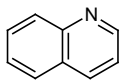
-mostat **see -stat**

USAN

-mostim **see -stim**

USAN

-motine **antivirals, quinoline derivatives**
S.5.3.0 (USAN: antivirals (quinoline derivatives))



(a) famotine (23), memotine (22)

USAN

-moxin (d) **monoamine oxidase inhibitors, hydrazine derivatives**
C.3.l.0

(a) benmoxin (20), cimemoxin (17), domoxin (14), octamoxin (15)

(c) carbenzide (11), etryptamine (12), fenoxypropazine (12), iproclozide (13), iproniazid (1), isocarboxazid (11), mebanazine (15), nialamide (10), pargyline (13), phenelzine (10), pheniprazine (11), tranylcypromine (11)

USAN

-mulin **antibacterials, pleuromulin derivatives**
S.6.0.0

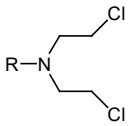
(a) azamulin (54), lefamulin (110), pleuromulin (35), retapamulin (91), tiamulin (35), valnemulin (74)

(b) nonathymulin (56), thymostimulin (45)

USAN

-mustine **antineoplastic, alkylating agents, (b-chloroethyl)amine derivatives**

L.2.0.0 (USAN: antineoplastic agents (chlorethylamine derivatives))



(a) alestramustine (68), ambamustine (60), atrimustine (61), bendamustine (48), bofumustine (44), carmustine (24), ditiomustine (49), ecomustine (61), elmustine (49), estramustine (24), fotemustine (57), galamustine (61), laromustine (98), lomustine (27), mannomustine (8), neptamustine (48) (originally pentamustine (45)), nimustine (37), prednimustine (31), ranimustine (55), semustine (27), spiromustine (47), tallimustine (68), tauromustine (50), tinostamustine (116), uramustine (13)

(c) canfosfamide (92), chlorambucil (6), chlormethine (1), chlornaphazine (1), cyclophosphamide (10), defosfamide (12), glufosfamide (77), ifosfamide (23), mafosfamide (51), melphalan (8), melphalan flufenamide (105), metamelfalan (41), mitoclomine (18), mitotenamine (17), palifosfamide (99), perfosfamide (66), sarcolysin (17), sufosfamide (36), trichlormethine (11), trofosfamide (23)

BAN, USAN

-mycin (x) **antibiotics, produced by** Streptomyces **strains (see also -kacin)**

S.6.0.0 (USAN: antibiotics, *Streptomyces* strains)

(a) alvespimycin (96), amfomycin (12), antelmycin (15), apramycin (31), avilamycin (46), azalomycin (26), azithromycin (58), bambermycin (21), bekanamycin (24), berythromycin (26), bicozamycin (38), biniramycin (23), bluensomycin (14), capreomycin (12), carbomycin (1), cethromycin (87), clarithromycin (59), clindamycin (21), coumamycin (15), daptomycin (58), dihydrostreptomycin (1), diproleandomycin (33), dirithromycin (53), efrotomycin (53), endomycin (6), enramycin (23), enviomycin (31), erythromycin (4), estomycin (14 - deleted in List 28), flurithromycin (51), fosfomycin (25), fosmidomycin (46), gamithromycin (95), ganefromycin (68), hachimycin (23), heliomycin (25), hydroxymycin (8 - deleted in List 28), josamycin (23), kanamycin (10), kitasamycin (13), laidlomycin (61), lexithromycin (65), lincomycin (13), lividomycin (32), maridomycin (32), midecamycin (30), mikamycin (17), mirincamycin (31), mocimycin (28), modithromycin (101), nafithromycin (114), natamycin (15), nebramycin (19), neomycin (1), neutramycin (15), oleandomycin (6), paldimycin (55), paromomycin (10), paulomycin (47), pirlimycin (47), primycin (38), pristinamycin (12), ranimycin (20), relomycin (15), retaspimycin (99), ribostamycin (27), rifamycin (13), rokitamycin (53), roxithromycin (54),

salinomycin (37), sedecamycin (55), solithromycin (104), spectinomycin (13), spiramycin (6), stallimycin (30), steffimycin (20), streptomycin (1), surotomycin (107), tanespimycin (96), telithromycin (80), terdecamycin (65), troleandomycin (24), trospectomycin (53), tulathromycin (87) (vet.), vancomycin (6), viomycin (4), virginiamycin (I8)

antibiotics, antineoplastics:
ambomycin (13), antramycin (17), azotomycin (13), bleomycin (23), cactinomycin (15), dactinomycin (18), duazomycin (13), lucimycin (13), mitomycin (26), nogalamycin (16), olivomycin (18), peliomycin (15), peplomycin (44), plicamycin (50) (previously mithramycin (16)), porfiromycin (15), puromycin (15), rufocromomycin (12), sparsomycin (13), talisomycin (41)

antibiotics, antineoplastics, antibacterial:
cirolemycin (21)

antibiotic, antifungal:
hamycin (17), lidimycin (20), rutamycin (14)

(b) tobramycin (28)

(c) antibiotic, antibacterial:
aspartocin (11), azidamfenicol (14), cetofenicol (14), chloramphenicol (1), cloramfenicol pantotenate complex (14), cycloserine (6), novobiocin (6), ostreogrycin (6), rifamide (15), rifampicin (17), streptoniazid (13), streptovarycin (6), thiamphenicol (10), tylosin (16)

antibiotic, antifungal:
amphotericin B (10), candicidin (17), filipin (20), kalafungin (20), nystatin (6), viridofulvin (16)

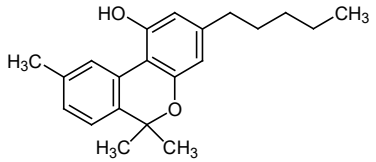
antibiotic, antineoplastic:
daunorubicin (20), mitomalcin (19), streptonigrin (14) (deleted in List 33)

see also -rubicin

USAN

nab **cannabinoid receptors agonists**

(USAN: -nab; or -nab-: cannabinol derivatives)



(a) cannabidiol (118), cannabinol (23), dronabinol (51), lenabasum (118), menabitan (49), nabazenil (49), nabilone (49), nabitan (42), naboctate (45), nonabine (47), olorinab (119), pirnabin (41), tedalinab (103), tinabinol (49)

(b) fenabutene (26), guanabenz (26), muromonab-CD3 (59), nabumetone (44), prinaberel (95)

USAN

-nabant **cannabinoid receptors antagonists**

E.0.0.0

(a) drinabant (99), giminabant (107), ibipinabant (99), otenabant (99), rimonabant (83), rosonabant (97), surinabant (93), taranabant (97)

-nacept **see -cept**

-nakin **see -kin**

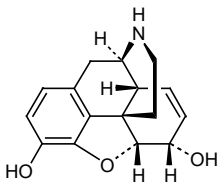
-nakinra **see -kinra**

USAN

nal- **opioid receptor antagonists/agonists related to normorphine**

A.4.1.0
B.2.0.0

(USAN: narcotic agonists or antagonists (normorphine type))



a) dinalbuphine sebacate (116), methylnaltrexone bromide (111), nalbuphine (21), naldemedine (105), nalfurafine (87), nalmefene (49) (originally nalmetrene (47)), nalmexone (19), nalorphine (1), naloxegol (105), naloxone (13), naltalimide (107), naltrexone (29)

(b) nalidixic acid (13), naluzotan (101)

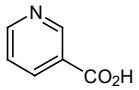
-naritide	**see -tide**
-navir	**see vir**

USAN

-nepag	**prostaglandins receptors agonists, non-prostanoids**
(a)	aganepag (104), evatanepag (101), omidenepag (114), ralinepag (112), simenepag (103), taprenepag (103)
(c)	selexipag (102)
-nermin	**see -ermin**
-nercept	**see -cept**
-nertant	**see -tant**
-netant	**see -tant**
-nicate	**see nico-**

USAN

-nicline	**nicotinic acetylcholine receptor partial agonists / agonists**
E.1.1.2	
(a)	altinicline (82), bradanicline (111), dianicline (93), encenicline (111), facinicline (105), ispronicline (93), nelonicline (112), pozanicline (100), rivanicline (93), sofinicline (100), tebanicline (86), varenicline (89)

nico- or nic- or ni-	**nicotinic acid or nicotinoyl alcohol derivatives** 
P.7.0.0	**nico**-: nicoboxil (43), nicoclonate (29), nicocodine (12), nicocortonide (40), nicodicodine (15), nicofibrate (31), nicofuranose (14), nicofurate (28), nicomol (23), nicomorphine (7), nicopholine (1), nicorandil (44), nicothiazone (10), nicotinamide (4), nicotinic acid (4), nicotredole (72), nicoxamat (44), nikethamide (4)

inositol nicotinate (16), xantinol nicotinate (16)
nic-: nicafenine (40), nicainoprol (46), nicametate (15), nicardipine (42), nicanartine (72), nicergoline (26), niceritrol (23), niceverine (15), nictindole (28), nizofenone (44)

ni-: nialamide (10), niaprazine (24), nifenazone (15), niometacin (33), niprofazone (29), nixylic acid (17)

-nicate: **antihypercholesterolaemic and/or vasodilating nicotinic acid esters**
H.4.0.0
F.2.2.0

(a) ciclonicate (33), derpanicate (58), estrapronicate (34), glunicate (51), hepronicate (22), micinicate (44), pantenicate (56), sorbinicate (33)

(b) nitrile derivative: nimazone (21)
others: nifungin (24), nimidane (34), nisbuterol (38)

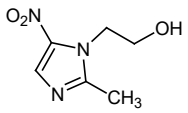
(c) **NO_2 - derivatives**: acenocoumarol (6) (anticoag.), azathioprine (12) and tiamiprine (15) (antimetabolites), bronopol (14) (antiseptic), chloramphenicol (1) (antibiotic), clonazepam (22) (sed.), flurantel (25) (anthelmintic), flutamide (33) (nonsteroid anti-androgen)

BAN, USAN

-nidazole (x) **antiprotozoals and radiosensitizers, metronidazole derivatives**

S.3.3.0
Y.0.0.0

(USAN: antiprotozoal substances (metronidazole type))



(a) abunidazole (52), azanidazole (38), bamnidazole (37), benznidazole (31), carnidazole (32), doranidazole (90), etanidazole (57), fexinidazole (37), flortanidazole (^{18}F) (108), flunidazole (21), ipronidazole (21), metronidazole (11), misonidazole (38), moxnidazole (33), ornidazole (28), panidazole (24), pimonidazole (57), pirinidazole (32), propenidazole (45), ronidazole (18), satranidazole (48), secnidazole (30), sulnidazole (33), ternidazole (34), tinidazole (21), tivanidazole (48)

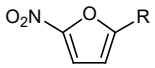
(c) dimetridazole (17), nimorazole (22), stirimazole (25)

-nidine **see -onidine**

USAN

nifur- (d) **5-nitrofuran derivatives**

S.2.1.0



(a) nifuradene (16), nifuraldezone (17), nifuralide (34), nifuratel (17), nifuratrone (24), nifurdazil (16), nifurethazone (10), nifurfoline (20), nifurimide (18), nifurizone (22), nifurmazole (22), nifurmerone (16), nifuroquine (36), nifuroxazide (14), nifuroxime (11), nifurpipone (20), nifurpirinol (22), nifurprazine (16), nifurquinazol (18), nifursemizone (16), nifursol (20), nifurthiazole (14), nifurtimox (21), nifurtoinol (36), nifurvidine (17), nifurzide (37)

(c) furalazine (13), furaltadone (17), furazolidone (13), furazolium chloride (15), furmethoxadone (8), levofuraltadone (17), nidroxyzone (6), nihydrazone (10), nitrofural (1), nitrofurantoin (11), thiofuradene (11)

-nil **see -azenil, also for -carnil, -quinil**

nitro- or nitr- or nit- or ni- or -ni- **NO_2 - derivatives**

nifur- all INN of this series (see under nifur-)

nitro-: nitroclofene (41), nitrocycline (14), nitrodan (15), nitrofural (1), nitrofurantoin (11), nitromifene (33), nitroscanate (33), nitrosulfathiazole (1), nitroxinil (19), nitroxoline (15)

nitr-: nitracrine (35), nitrafudam (40), nitramisole (33), nitraquazone (53), nitrazepam (16), nitrefazole (46), nitricholine perchlorate (6)

nit- and -nit-: nitarsone (17), ranitidine (41)

ni-: nibroxane (35), niclofolan (20), niclosamide (13), nidroxyzone (6), nifenalol (22), nihydrazone (10), nimesulide (44), nimorazole (22), niridazole (17)

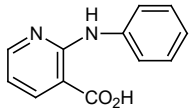
ni-dipine: nicardipine (42), nifedipine (27), niludipine (38), nisoldipine (42), nitrendipine (42), vatamidipine (77)

-nidazole: for INNs of this series see under –nidazole

USAN

-nixin **anti-inflammatory, anilinonicotinic acid derivatives**

A.4.2.0



(a) butanixin (32), clonixin (22), diclonixin (31), flunixin (31), isonixin (34), metanixin (31)

(c) clonixeril (22), niflumic acid (17), nixylic acid (17)

(-)nonacog **see -cog**

-octakin **see -kin**

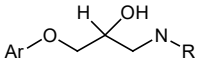
(-)octocog **see -cog**

-ol (d) **for alcohols and phenols**

BAN; USAN

-olol (x) **β-adrenoreceptor antagonists**

E.5.2.0 (BAN: beta-adrenoreceptor antagonists)
(USAN: beta-blockers (propranolol type))



aromat. ring -O-CH_2-CHOH-CH_2-NH-R

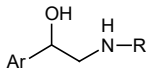
(a) acebutolol (28), adaprolol (63), adimolol (50), afurolol (40), alprenolol (19), ancarolol (47), arnolol (56), arotinolol (48), atenolol (33), befunolol (39), betaxolol (40), bevantolol (36), bisoprolol (48), bometolol (42), bopindolol (42), bornaprolol (46), bucindolol (43), bucumolol (35), bufetolol (30), bunitrolol (28), bunolol (22), bupranolol (27), butocrolol (38), butofilolol (40), carazolol (36), carpindolol (42), carteolol (35), celiprolol (35), cetamolol (47), cicloprolol (48), cinamolol (44), cloranolol (41), crinolol (41) (replaced by pacrinolol (44)), dexnebivolol (98), dexpropranolol (21), diacetolol (41), draquinolol (54), ecastolol (56), epanolol (52), ericolol (50), esatenolol (76), esmolol (50), exaprolol (32), falintolol (53), flestolol (53), flusoxolol (50), idropranolol (31), imidolol (49) (replaced by adimolol (50)), indenolol (37), indopanolol (48), iprocrolol (39), isoxaprolol (45), landiolol (75), levobetaxolol (61), levobunolol (42), levomoprolol (58), levonebivolol (98), mepindolol (36), metipranolol (38), metoprolol (30), moprolol (36), nadolol (34), nadoxolol (28), nafetolol (39), nebivolol (56), nipradilol (50)

(previously nipradolol (49)), oxprenolol (20), pacrinolol (44), pafenolol (46), pamatolol (36), pargolol (36), penbutolol (25), penirolol (36), pindolol (23), pirepolol (48), practolol (23), primidolol (42), procinolol (25), propranolol (15), ridazolol (51), ronactolol (57), soquinolol (43), spirendolol (46), talinolol (28), tazolol (31), teoprolol (43), tertatolol (48), tienoxolol (56), tilisolol (57), timolol (29), tiprenolol (23), tolamolol (29), toliprolol (28), trigevolol (56), xibenolol (48), xipranolol (22), zoleprodolol (102)

(b) Q.2.3.0: stanozolol (18) (anabolic steroid)

-alol **aromatic ring -CH-CH_2-NH-R related to - olols**
OH

E.5.2.0 (USAN: combined alpha and beta blockers)



(a) amosulalol (50), bendacalol (59), brefonalol (56), bufuralol (31), dexsotalol (74), dilevalol (50), labetalol (35), medroxalol (43), nifenalol (22), pronetalol (14), sotalol (18), sulfinalol (41)

(c) butidrine (16)

USAN

-olone **see pred**

-onakin **see -kin**

-one (d) **ketones**

(a) 635 (approx. 7.5 %) INNs ending in *-one* in Lists 1-105 of proposed INNs

BAN, USAN

-onide **steroids for topical use, acetal derivatives**

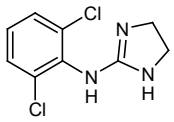
Q.3.0.0

(a) acrocinonide (27), amcinonide (33), budesonide (37), ciclesonide (62), cicortonide (28), ciprocinonide (38), desonide (24), dexbudesonide (80), drocinonide (29), fluclorolone acetonide (22), fluocinolone acetonide (11), flumoxonide (38), fluocinonide (25), halcinonide (29), itrocinonide (62), nicocortonide (40), procinonide (38), rofleponide (72), tralonide (27), triamcinolone benetonide (36), triamcinolone furetonide (36), triamcinolone hexacetonide (15), triclonide (30)

(c) amcinafal (25), amcinafide (25)

-onidine **antihypertensives, clonidine derivatives**

H.3.0.0



(a) apraclonidine (59) (control of intraocular pressure), benclonidine (42), brimonidine (66), clonidine (40), flutonidine (31), moxonidine (48), piclonidine (44), tolonidine (28)
related: alinidine (40) (analgesic)

-nidine
H.3.0.0

(a) related antihypertensives: betanidine (13), indanidine (50), rilmenidine (57), tiamenidine (28)

(b) muscle relaxant: tizanidine (43)
topical anti-infective: octenidine (43), pirtenidine (57)
antibacterial: sulfaguanidine (4)
vetirinary coccidiostatic: robenidine (25)

(c) dexlofexidine (48), levlofexidine (48), lofexidine (33)

-onium **see -ium**

-opamine **see -dopa**

BAN; USAN

-orex **anorexics**

M.1.0.0 (BAN: anorexic agents, phenethylamine derivatives)
(USAN: anorexiants)

(a) acridorex (21), amfepentorex (16), aminorex (14), benfluorex (25), clobenzorex (18), cloforex (16), clominorex (14), difemetorex (41), etolorex (20), fenisorex (29), fenproporex (17), flucetorex (30), fludorex (19), fluminorex (14), formetorex (14), furfenorex (16), indanorex (30), mefenorex (19), morforex (26), oxifentorex (20), pentorex (16), picilorex (40), tiflorex (34)

(a) bupropion (84) (replaces amfebutamone (31)), amfecloral (12), amfepramone (13), amfetamine (55), amfetaminil (40), benzfetamine (55), brolamfetamine (55), chlorphentermine (11), clortermine (22), dexamfetamine (55), dexfenfluramine (54), dimetamfetamine (38), etilamfetamine (40), fenbutrazate (12), fenfluramine (14), hexapradol

(12), levamfetamine (12), levmetamfetamine (83), levofenfluramine (57), lisdexamfetamine (94), mephentermine (6), ortetamine (13), phendimetrazine (11), phenmetrazine (6), phentermine (11)

USAN

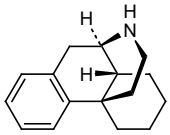
-orexant **orexin receptor antagonists**

almorexant (98), filorexant (108), lemborexant (111), nemorexant (118), seltorexant (115), suvorexant (105)

USAN

orphan **opioid receptor antagonists/agonists, morphinan derivates**

A.4.l.0
B.2.0.0 (USAN: -orphan: narcotic antagonists/agonists (morphinan derivatives))



(a) A.4.1.0: butorphanol (31), deudextromethorphan (114), dextromethorphan (1), dextrorphan (1), dimemorfan (30), ketorfanol (49), levomethorphan (1), levophenacylmorphan (9), levorphanol (4), methylsamidorphan chloride (109), norlevorphanol (9), oxilorphan (31), phenomorphan (5), proxorphan (43), racemethorphan (1), racemorphan (1), samidorphan (107), xorphanol (48)

B.2.0.0: levallorphan (2)

-orph- **-orphine**: acetorphine (17), alletorphine (25), buprenorphine (29), cyprenorphine (17), desomorphine (5), diprenorphine (21), etorphine (17), homprenorphine (25), methyldesorphine (5), methyldihydromorphine (5), morphine glucuronide (92), nalorphine (1), nicomorphine (7), normorphine (7)

-orphinol: hydromorphinol (11)

-orphone: asalhydromorphone (119), conorfone (46), hydromorphone (1), oxymorphone (5), pentamorphone (60), semorphone (67)

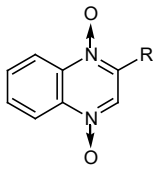
(b) emorfazone (44), morforex (26), morpheridine (6), orphenadrine (8)

-otermin **see -ermin**

-ox
-alox **antacids, aluminium derivatives (see also -aldrate)**

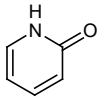
(a) glucalox (13), sucralox (13)

(b) *-dox* antibacterials, quinazoline dioxide derivatives:
(USAN: -adox: antibacterials (quinoline dioxide derivatives))



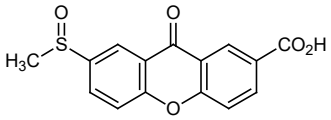
carbadox (19), ciadox (44), cinoquidox (40), drazidox (24), mequidox (19), olaquindox (31), temodox (27)

-pirox antimycotics, pyridone derivatives: USAN



ciclopirox (26), metipirox (26), rilopirox (56)

-xanox antiallergics, tixanox group:
(USAN: antiallergic respiratory tract drugs (xanoxic acid derivatives))



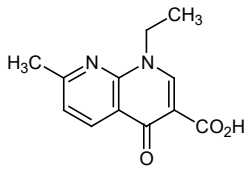
amlexanox (55), mepixanox (49), sudexanox (44), tixanox (37), traxanox (44)

others: acipimox (33) (antihyperlipidaemic), bifeprunox (87) (antipsychotic), cefminox (53) (antibiotic), deferasirox (86) (chelating agent), etofenprox (57) (insecticide), nifurtimox (21) (antiprotozoal), pardoprunox (96) (antiparkinsonian), sulbenox (37) (animal growth regulator), xanoxic acid (33) (bronchodilator)

BAN, USAN

-oxacin (x) **antibacterials, nalidixic acid derivatives**

S.5.5.0 (BAN: antibacterial agents of the cinoxacin group)
(USAN: antibacterial (quinolone derivatives))



(a) alalevonadifloxacin (114), cinoxacin (32), droxacin (36), fleroxacin (56), enoxacin (49), garenoxacin (87), irloxacin (53), miloxacin (40), nemonoxacin (96), ozenoxacin (96), rosoxacin (36), tioxacin (34)
-floxacin: alatrofloxacin (75), amifloxacin (51), acorafloxacin (111), balofloxacin (71), besifloxacin (98), binfloxacin (60), cadrofloxacin (81), cetefloxacin (68), ciprofloxacin (50), clinafloxacin (67), danofloxacin (61), delafloxacin (100), difloxacin (55), ecenofloxacin (78), enrofloxacin (56), esafloxacin (60), fandofloxacin (78), finafloxacin (85), gatifloxacin (74), gemifloxacin (81), grepafloxacin (68), ibafloxacin (60), lascufloxacin (113), levofloxacin (64), levonadifloxacin (95), lomefloxacin (58), marbofloxacin (65), merafloxacin (69), moxifloxacin (78), nadifloxacin (64), norfloxacin (46), ofloxacin (49), olamufloxacin (79), orbifloxacin (68), pazufloxacin (71), pefloxacin (45), pradofloxacin (84), premafloxacin (72), prulifloxacin (72), rufloxacin (57), sarafloxacin (62), sitafloxacin (75), sparfloxacin (63), temafloxacin (58), tosufloxacin (60), trovafloxacin (73), ulifloxacin (89), vebufloxacin (69), zabofloxacin (93)

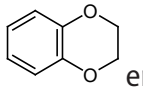
(b) itarnafloxin (103)

(c) flumequine (34), nalidixic acid (13), oxolinic acid (15), pipemidic acid (32), piromidic acid (27), metioxate (34)

USAN

-oxan(e) **benzodioxane derivatives**

E.5.1.0 (USAN: -oxan: α-adrenoreceptor antagonists; benzodioxane derivatives)



enzymes

(a) **α-adrenoreceptor antagonists:** azaloxan (52) (antidepressant), fluparoxan (58) (antidepressant), idazoxan (49) (a_2), imiloxan (52) (a_2) (antidepressant), piperoxan (1) (sympatholytic), proroxan (39)
antihypertensives: flesinoxan (55), guabenxan (32), guanoxan (15)
tranquillizers: butamoxane (12), ethomoxane (12), pentamoxane (12)
muscle relaxant: ambenoxan (21)

oxa, axa, ox: acoxatrine (14) (cardiovascular analeptic), axamozide (53) (neuroleptic), cinepaxadil (50) (coronary vasodilator), dioxadilol (53) (slight ß-adrenoreceptor antagonist), domoxin (14), doxazosin (47), enoxamast (52) (antiallergic), spiroxatrine (14) (analgesic)
related: dexefaroxan (76) (b-adrenoreceptor antagonist), efaroxan (59) (α_2)

(b) amoproxan (22), nibroxane (35), razoxane (40), dexrazoxane (62), sobuzoxane (62), tolboxane (12)

(c) aplindore (92), bendacalol (59), binospirone (65), capeserod (94), eltoprazine (57), lecozotan (93), lurtotecan (50), osemozotan (87), quincarbate (31), silibinin (38), sulamserod (82)

USAN

-oxanide **see -anide**

USAN

-oxef **see cef-**

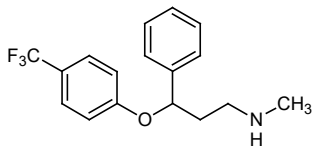
-oxepin **see -pine**

USAN

-oxetine **serotonin and/or norepinephrine reuptake inhibitors, fluoxetine derivatives**

(USAN: antidepressants (fluoxetine type))

C.3.0.0



(a) atomoxetine (86), ampreloxetine (119), ansoxetine (58), dapoxetine (65), duloxetine (68), edivoxetine (104), esreboxetine (99), femoxetine (36), fluoxetine (34), ifoxetine (54), litoxetine (64), nisoxetine (34), omiloxetine (76), paroxetine (38), reboxetine (54), seproxetine (66), tedatioxetine (107), vortioxetine (107)

-oxicam **see -icam**

-oxifene **see -ifene**

-oxopine **see -pine**

BAN; USAN

-pafant **platelet-activating factor antagonists**

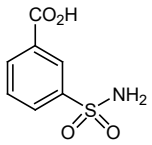
I.2.1.0

(a) apafant (60), bepafant (60), dacopafant (63), foropafant (75), israpafant (76), lexipafant (70), minopafant (80), modipafant (65), nupafant (70), rocepafant (71), setipafant (72), tulopafant (64)

USAN

-pamide **diuretics, sulfamoylbenzoic acid derivatives (could be sulfamoylbenzamide)**

N.1.2.0 (USAN: diuretics (sulfamoylbenzoic acid derivatives))



(a) alipamide (18), besulpamide (52), clopamide (13), indapamide (29), tripamide (44), xipamide (22), zidapamide (50) (previously isodapamide (47))

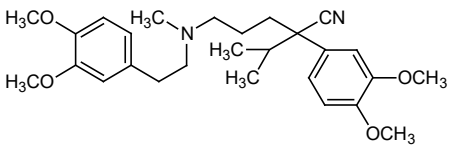
(b) chlorpropamide (8) (hypoglycemic), isopropamide iodide (8) (anticholinergic)

(c) bumetanide (24), chlortalidone (12), clorexolone (15), furosemide (14), sulclamide (15), tiamizide (16)

USAN

-pamil **calcium channel blockers, verapamil derivatives**

F.2.1.0 (USAN: coronary vasodilators (verapamil type))



(a) anipamil (49), dagapamil (52), devapamil (53), dexverapamil (65), emopamil (52), etripamil (113), falipamil (48), gallopamil (38), levemopamil (62), nexopamil (67), ronipamil (51), tiapamil (43), verapamil (16)

related: bertosamil (64), bisaramil (60)

USAN

-parcin **glycopeptide antibiotics**

S.6.0.0

(a) avoparcin (29), orientiparcin (72)

USAN

-parib **poly-ADP-ribose polymerase inhibitors**

amelparib (119), iniparib (103), niraparib (107), olaparib (94), pamiparib (117), rucaparib (105), talazoparib (110), veliparib (102)

USAN

-parin **heparin derivatives including low molecular mass heparins**

I.2.0.0 (USAN: heparin derivatives and low molecular weight (or depolymerized) heparins)

(a) adomiparin sodium (104), ardeparin sodium (68), bemiparin sodium (75), certoparin sodium (70), dalteparin sodium (64), deligoparin sodium (89), enoxaparin sodium (52), heparin sodium (54), livaraparin calcium (85), minolteparin sodium (73), nadroparin calcium (65), parnaparin sodium (65), reviparin sodium (65), semuloparin sodium (99), sevuparin sodium (107), tafoxiparin sodium (102), tinzaparin sodium (65)

-parinux **synthetic heparinoids**

(USAN: antithrombotic indirect selective synthetic factor Xa inhibitors)

(a) fondaparinux sodium (83) (replaces fondaparin sodium (79)), idrabiotaparinux sodium (97), idraparinux sodium (84)

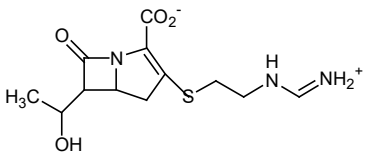
-patril/-patrilat **see -tril/-trilat**

-pendyl **see -dil**

USAN

-penem **analogues of penicillanic acid antibiotics modified in the five-membered ring**

S.6.0.0 (USAN: antibacterials, antibiotics (carbapenem derivatives))



(a) biapenem (69), doripenem (83), ertapenem (84), faropenem (69), imipenem (50), lenapenem (73), meropenem (60), panipenem (64), razupenem (101), ritipenem (67), sulopenem (68), tacapenem (87), tebipenem pivoxil (82), tomopenem (95)

USAN

perfl(u)- **perfluorinated compounds used as blood substitutes and/or diagnostic agents**

(USAN: blood substitutes and/or diagnostics (perfluorochemicals))

(a) perflenapent (78), perflexane (82), perflisobutane (92), perflisopent (78), perfluamine (45), perflubrodec (87), perflubron (66), perflubutane (91) perflunafene (45), perflutren (82)

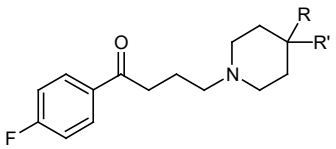
-peridol **see -perone**

-peridone **see -perone**

USAN

-perone **tranquillizers, neuroleptics, 4′-fluoro-4-piperidinobutyrophenone derivatives**

C.1.0.0
C.2.0.0 (USAN: antianxiety agents/neuroleptics ; 4′-fluoro-4-piperidinobutyrophenone derivatives)



(a) aceperone (14), amiperone (14), biriperone (51), carperone (24), cicarperone (28), cinuperone (53), cloroperone (38), declenperone (42), duoperone (54), fenaperone (28), fluspiperone (34), lenperone (27), lumateperone (114), melperone (34), metrenperone (56), milenperone (37), mindoperone (38), moperone (14), nonaperone (44), pipamperone (17), pirenperone (46), prideperone (54), primaperone (17), propyperone (16), roxoperone (17), setoperone (51), spiperone (17), timiperone (40)

closely related: azabuperone (34), azaperone (18), lodiperone (44), zoloperone (39)

		USAN
-peridol	**antipsychotics, haloperidol derivatives**	
	benperidol (14), bromperidol (33), [clofluperol (18)], droperidol (14), [fluanisone (13)], haloperidol (10), trifluperidol (16)	
		USAN
-peridone	**antipsychotics, risperidone derivatives**	
	abaperidone (80), belaperidone (78), cloperidone (17), iloperidone (69), lusaperidone (82), ocaperidone (64), paliperidone (83), risperidone (57), roluperidone (119), tioperidone (37)	
(c)	domperidone (36), etoperidone (36) (antiemetic)	
		USAN
-pidem	**hypnotics/sedatives, zolpidem derivatives**	
C.1.0.0	alpidem (53), necopidem (66), saripidem (67), zolpidem (53)	
		USAN
-pin(e)	**tricyclic compounds** (see also working document Pharm S/Nom 970)	
-dipine	see *-dipine*	
(a)	dosulepin (15)	
-zepine	antidepressant/neuroleptic: C.3.2.0: dibenzepin (14), elanzepine (35), enprazepine (30), erizepine (54), mezepine (22), nuvenzepine (59), prazepine (15), propizepine (19), tilozepine (40) tricyclic antiulcer: J.0.0.0: darenzepine (52), pirenzepine (30), siltenzepine (63), telenzepine (50), zolenzepine (48) tricyclic anticonvulsant: A.3.1.0: carbamazepine (15), eslicarbazepine (91), etazepine (51), licarbazepine (81), oxcarbazepine (41), rispenzepine (63) hyperthermia: amezepine (42)	
-apine	psychoactive: C.0.0.0: amoxapine (25), asenapine (87), batelapine (64), clotiapine (16), clozapine (22), esmirtazapine (93), flumezapine (47), fluperlapine (46), loxapine (22), metiapine (22), mirtazapine (61), olanzapine (67), pentiapine (56), perlapine (23), quetiapine (74), rilapine (52), serazapine (63), tenilapine (52), zicronapine (100)	

-cilpine	antiepileptic: A.3.1.0: dizocilpine (60)
-oxepin	beloxepin (75), cidoxepin (17), doxepin (15), maroxepin (54), metoxepin (33), pinoxepin (18), savoxepin (56), spiroxepin (32)
-oxopine	traboxopine (58)
-sopine	adosopine (63)
-tepine	citatepine (54), clorotepine (29), damotepine (27), metitepine (27), tropatepine (28)
(b)	atromepine (15), noscapine (7), prozapine (14)
(c)	clobenzepam (25), homopipramol (20), opipramol (15)

USAN

-piprant	**prostaglandin receptors antagonists, non-prostanoids** (USAN: prostaglandin receptors antagonists, non prostinoid structure)
K.0.0.0	asapiprant (109), fevipiprant (109), grapiprant (110), laropiprant (97), setipiprant (104), timapiprant (116), vidupiprant (104)
-piprazole	**see -prazole**
-pirone	**see -spirone**

USAN

-pirox	**see -ox/-alox**
-pitant	**see -tant**

USAN

-plact	**platelet factor 4 analogues and derivatives**
	iroplact (74)

USAN

-pladib	**phospholipase A_2 inhibitors**
W.0.0.0	darapladib (94), ecopladib (90), efipladib (92), giripladib (96), goxalapladib (94), rilapladib (94), varespladib (87)

USAN

-planin S.5.0.0	**glycopeptide antibacterials (*Actinoplanes* strains)** (USAN: antibacterials (*Actinoplanes* strains))
	actaplanin (34), mideplanin (66), ramoplanin (57), teicoplanin (48)

-plase	**see -teplase, -uplase under -ase**
-plasmid	**see -gene for gene therapy substances (See also Annex 4)**

USAN

-platin (x)	**antineoplastic agents, platinum derivatives**
L.0.0.0	(USAN: antineoplastics (platinum derivatives))
(a)	carboplatin (48), cisplatin (39), demplatin pegraglumer (117), dexormaplatin (64), enloplatin (64), eptaplatin (83), iproplatin (51), lobaplatin (65), miboplatin (66), miriplatin (85), nedaplatin (67), ormaplatin (63), oxaliplatin (56), picoplatin (87), satraplatin (80), sebriplatin (68), spiroplatin (48), triplatin tetranitrate (87), zeniplatin (63)
-plermin	**see -ermin**
-plestim	**see -stim and -kin**

USAN

-plon	**imidazopyrimidine or pyrazolopyrimidine derivatives, used as anxiolytics, sedatives, hypnotics**
A.2.2.0 C.1.0.0	(USAN: non-benzodiazepine anxiolytics, sedatives, hypnotics)
	adipiplon (98), divaplon (61), fasiplon (61), indiplon (86), lorediplon (105), ocinaplon (72), panadiplon (65), taniplon (61), zaleplon (72)

BAN, USAN

-poetin (x)	**erythropoietin type blood factors**
I.3.0.0	(USAN: erythropoietins)
(a)	darbepoetin alfa (85), epoetin alfa (62), epoetin beta (62), epoetin delta (85), epoetin gamma (67), epoetin epsilon (72), epoetin kappa (97), epoetin omega (73), epoetin theta (95), epoetin zeta (92)

USAN

-porfin	**benzoporphyrin derivatives**
(a)	exeporfinium chloride (105), fimaporfin (110), lemuteporfin (91), padeliporfin (96), padoporfin (93), redaporfin (114), rostaporfin (83), stannsoporfin (79), talaporfin (84), temoporfin (70), verteporfin (71)

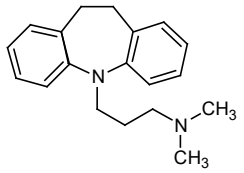
-poride **Na^+/H^+ antiport inhibitor**

amiloride (18), cariporide (74), eniporide (79), rimeporide (92), sabiporide (84), zoniporide (85)

BAN, USAN

-pramine **substances of the imipramine group**

C.3.2.0 (USAN: antidepressants (imipramine type))



(a) saturated dibenzazepine:
azipramine (36), carpipramine (16), cianopramine (47), ciclopramine (29), clocapramine (28), clomipramine (17), depramine (31), desipramine (13), imipramine (8), imipraminoxide (36), ketimipramine (17), lofepramine (24), lopramine (24) (replaced by lofepramine (34)), metapramine (34), mosapramine (64), quinupramine (32), tampramine (54), tienopramine (38), trimipramine (13)

(c) unsaturated dibenzazepine:
carbamazepine (15), homopipramol (20), opipramol (15)

USAN

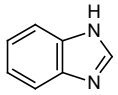
-prazan **proton pump inhibitors, not dependent on acid activation**

linaprazan (92), revaprazan (91), soraprazan (88), tegoprazan (113), vonoprazan (106)

USAN

-prazole **antiulcer, benzimidazole derivatives**

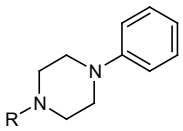
J.0.0.0 (USAN: antiulcer agents (benzimidazole derivatives))



(a) azeloprazole (116), cinprazole (34), dexlansoprazole (93), disuprazole (56), esaprazole (45), esomeprazole (79), fuprazole (39), ilaprazole (86), lansoprazole (60), leminoprazole (68), levolansoprazole (93), nepaprazole (74), nilprazole (37), omeprazole (46), pantoprazole (62), picoprazole (46), pumaprazole (76), rabeprazole (69), saviprazole (62), tenatoprazole (80), timoprazole (35), ufiprazole (58)

-piprazole **psychotropics, phenylpiperazine derivatives** *(future use is discouraged due to conflict with the stem –prazole)*

C.0.0.0

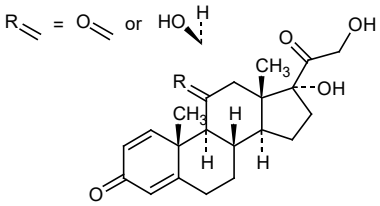


(a) aripiprazole (75), brexpiprazole (107), dapiprazole (45), elopiprazole (70), enpiprazole (24), lorpiprazole (60), mepiprazole (24), sonepiprazole (80), tolpiprazole (25)

USAN

pred **prednisone and prednisolone derivatives**

Q.3.3.0 (USAN: pred-; -pred- or -pred: prednisone and prednisolone derivatives)



(a) chloroprednisone (12), cloprednol (31), difluprednate (21), domoprednate (47), etiprednol dicloacetate (88), fluprednidene (19), fluprednisolone (13), halopredone (36), isoflupredone (36), isoprednidene (24), loteprednol (64), mazipredone (32), meprednisone (15), methylprednisolone (8), methylprednisolone aceponate (52), methylprednisolone suleptanate (56), oxisopred (29), prednazate (16), prednazoline (22), prednicarbate (44), prednimustine (31), prednisolamate (13), prednisolone (6), prednisolone steaglate (16), prednisone (6), prednylidene (13), tipredane (54)

(b) various non-steroidal compounds
citiolone (23) (hepatobil. troubles), clorexolone (15) (diuretic), fenozolone (14) (psychotonic), tioxolone (16) (keratolytic), vistatolon (25) (antiviral)

(c) **-betasol**: clobetasol (26), doxibetasol (26), ulobetasol (54)

(c) **-methasone or -metasone**: alclometasone (41), amelometasone (74), beclometasone (17), betamethasone (11), betamethasone acibutate (26), cormetasone (29), desoximetasone (20), dexamethasone (8), dexamethasone acefurate (57), dexamethasone cipecilate (94), flumetasone (13), halometasone (41), icometasone enbutate (70), mometasone (56), paramethasone (12)

(c) **-olone**: steroids not used as glucocorticosteroids
(USAN: steroids (*not* prednisolone derivatives))
bardoxolone (101), brexanolone (117), clocortolone (16), descinolone (17), diflucortolone (18), fluclorolone acetonide (22), fluocinolone acetonide (11), fluocortolone (15), fluorometholone (8), fluperolone (13), golexanolone (119), halocortolone (31), omaveloxolone (113), rimexolone (38), triamcinolone (8), triamcinolone benetonide (36), triamcinolone furetonide (36), triamcinolone hexacetonide (15), vamorolone (115)

(c) clobetasone (26), cloticasone (52), deprodone (20), dichlorisone (10), diflorasone (30), flunisolide (11), fluticasone (52), fluticasone furoate (96), meclorisone (40), timobesone (51)

-olone

A.1.2.0 general anesthetics, pregnanes: alfadolone (27), alfaxalone (27), eltanolone (65), ganaxolone (76), minaxolone (39), renanolone (8), sepranolone (107)

H.2.0.0 antiarrhythmic: amafolone (40), edifolone (56)

H.4.0.0 antihyperlipidaemic: colestolone (59)

J.0.0.0 glycyrrhetic acid derivatives: carbenoxolone (15), cicloxolone (33), cinoxolone (33), deloxolone (51), enoxolone (15), roxolonium metilsulfate (33)

L.6.0.0 cytostatics - sex hormones: drostanolone (13), trestolone (25)

Q.2.3.0 androgens: androstanolone (4), drostanolone (13), mestanolone (10), metenolone (12), nandrolone (22), norethandrolone (6), oxandrolone (12), oxymetholone (11)

Q.2.3.1 oxendolone (42), mesterolone (15), rosterolone (59)

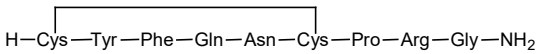
M.4.1.0 bolone (see bol, anabolic steroids): formebolone (31), mesabolone (29), metribolone (17), oxabolone cipionate (14), quinbolone (14), roxibolone (40), stenbolone (17), tibolone (22), trenbolone (24)

-prenaline **see –terol**

USAN

-pressin **vasoconstrictors, vasopressin derivatives**

Q.1.2.0



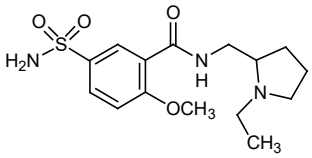
(a) argipressin (13), desmopressin (33), felypressin (13), lypressin (13), ornipressin (22), selepressin (105), terlipressin (46), vasopressin injection (16)

-previr **see vir**

BAN; USAN

-pride **sulpiride derivatives**

C.0.0.0
J.1.0.0



(a) C.0.0.0: alizapride (43), alpiropride (49), amisulpride (44), batanopride (61), broclepride (43), cisapride (49), dazopride (50), denipride (58), etacepride (52), eticlopride (52), flubepride (35), nemonapride (63) (previously emonapride (61)), peralopride (43), prosulpride (43), prucalopride (78), relenopride (111), sulmepride (43), sultopride (26), sulverapride (44), veralipride (43)

J.l.0.0: alepride (40), bromopride (27), cinitapride (41), cipropride (41), clebopride (32), dobupride (57), irolapride (55), isosulpride (36), itopride (66), lintopride (65), lirexapride (74), lorapride (44), mezacopride (56), minesapride (117), mosapride (66), naronapride (104), pancopride (62), raclopride (52), remoxipride (49), renzapride (60), revexepride (108), tiapride (28), ticalopride (83), tinisulpride (44), trazolopride (51), tropapride (48), zacopride (55)

K.0.0.0: cloxacepride (42)

U.1.1.0/C.0.0.0: iolopride (^{123}I) (73)

(b) glimepride (66)

(c) C.0.0.0: levosulpiride (63), sulpiride (18)

J.1.0.0: metoclopramide (17)

BAN, USAN

-pril (x) **angiotensin-converting enzyme inhibitors**

H.3.0.0 (BAN: inhibitors of angiotensin-converting enzyme)
(USAN: antihypertensive (ACE inhibitors))

(a) alacepril (50), benazepril (58), captopril (39), ceronapril (64), cilazapril (53), delapril (54), enalapril (46), fosinopril (56), idrapril (66), imidapril (60), indolapril (50), libenzapril (58), lisinopril (50), moexipril (60), moveltipril (58), orbutopril (57), pentopril (53), perindopril (53), pivopril (52), quinapril (54), ramipril (52), rentiapril (55), spirapril (56), temocapril (64), trandolapril (53), utibapril (63), zabicipril (58), zofenopril (51)

-prilat (x) USAN

(USAN: antihypertensives (ACE inhibitors) (diacid analogs of the -pril entity))

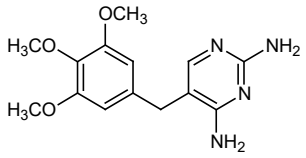
(a) benazeprilat (58), cilazaprilat (54), enalaprilat (50), fosinoprilat (62), imidaprilat (71), moexiprilat (67), perindoprilat (56), quinaprilat (60), ramiprilat (53), spiraprilat (60), temocaprilat (78), trandolaprilat (60), utibaprilat (65), zabiciprilat (64), zofenoprilat (63)

USAN

-prim **antibacterials, dihydrofolate reductase (DHFR) inhibitors, trimethoprim derivatives**

(USAN: antibacterials (trimethoprim type))

S.5.5.0



(a) aditoprim (49), baquiloprim (56), brodimoprim (44), epiroprim (44), iclaprim (88), metioprim (42), ormetoprim (21), talmetoprim (41), tetroxoprim (33), trimethoprim (11), vaneprim (48)

(c) diaveridine (18)

USAN

-**pris**- **steroidal compounds acting on progesterone receptors (excluding *-gest-* compounds)**

Q.2.0.0 (USAN: -prisnil: selective progesterone receptor modulators (SPRM); -pristone: progesterone receptor antagonists)

(a) aglepristone (70), asoprisnil (88), asoprisnil ecamate (89), lilopristone (54),

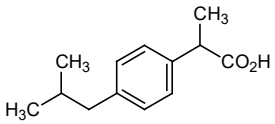
	lonaprisan (115), mifepristone (54), onapristone (58), telapristone (103), toripristone (61), ulipristal (107), vilaprisan (109)
(c)	epristeride (69), saprisartan (72), and the stem *-pristin* selected for antibacterials, streptogramins, protein-synthesis inhibitors, pristinamycin derivatives

USAN

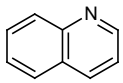
-pristin	**antibacterials, streptogramins, protein-synthesis inhibitors, pristinamycin derivatives**
S.6.0.0	(USAN: antibacterials, pristinamycin derivatives)
(a)	dalfopristin (67), efepristin (75), flopristin (98), quinupristin (65), linopristin (98), volpristin (80)

BAN; USAN

-profen (x)	**anti-inflammatory agents, ibuprofen derivatives**
A.4.2.0	(USAN: anti-inflammatory/analgesic agents (ibuprofen type))



(a)	alminoprofen (40), araprofen (65), atliprofen (74), bakeprofen (61), benoxaprofen (34), bermoprofen (57), bifeprofen (57), carprofen (35), cicloprofen (32), cliprofen (32), dexibuprofen (61), dexindoprofen (49), dexketoprofen (70), esflurbiprofen (56), fenoprofen (26), flunoxaprofen (44), fluprofen (18), flurbiprofen (28), frabuprofen (51), furaprofen (42), furcloprofen (44), hexaprofen (30), ibuprofen (16), indoprofen (32), isoprofen (40), ketoprofen (28), lobuprofen (53), lonaprofen (44), losmiprofen (61), loxoprofen (50), mabuprofen (64), mexoprofen (33), miroprofen (44), odalprofen (66), pelubiprofen (76), piketoprofen (40), pirprofen (32), pranoprofen (38), suprofen (31), tazeprofen (50), tetriprofen (29), tilnoprofen arbamel (74), tioxaprofen (39), vedaprofen (72), ximoprofen (37), zaltoprofen (64), zoliprofen (55)
(b)	aprofene (12) (antispasm. coron. vasodil.), diprofene (12) (antispasm. blood vessels)
(c)	brofezil (31), protizinic acid (27), tiaprofenic acid (30)

prost (x)	**prostaglandins**
Q.0.0.0	(USAN: -prost- or -prost: prostaglandins)
(a)	alfaprostol (45), alprostadil (39), ataprost (62), beraprost (106), bimatoprost (85), butaprost (55), carboprost (36), cicaprost (54), ciprostene (51), clinprost (68), cloprostenol (33), cobiprostone (98), delprostenate (42), dimoxaprost (52), dinoprost (26), dinoprostone (26), doxaprost (34), ecraprost (83), eganoprost (84), enisoprost (50), epoprostenol (44), eptaloprost (56), esuberaprost (111), etiproston (46), fenprostalene (42), flunoprost (53), fluprostenol (33), froxiprost (55), gemeprost (42), iloprost (48) (originally ciloprost (46)), lanproston (72), latanoprost (67), latanoprostene bunod (107), limaprost (56), lubiprostone (89), luprostiol (44), meteneprost (45), misoprostol (47), naxaprostene (58), nileprost (45), nobiprostolan (109), nocloprost (51), oxoprostol (44), penprostene (37), pimilprost (71), piriprost (51), posaraprost (97), prostalene (34), remiprostol (65), rivenprost (93), rosaprostol (48), sepetaprost (110), sulprostone (37), taprostene (58), tiaprost (41), tafluprost (89), tilsuprost (51), tiprostanide (48), travoprost (80), treprostinil (87), unoprostone (66), vapiprost (58), viprostol (53)
-prostil	**prostaglandins, anti-ulcer**
(a)	arbaprostil (35), deprostil (32), enprostil (50), mexiprostil (52), ornoprostil (56), rioprostil (49), spiriprostil (63), trimoprostil (49)
-quidar	**drugs used in multidrug resistance; quinoline derivatives**
L.0.0.0	(USAN: multidrug resistance inhibitors (quinoline derivatives))
	dofequidar (88), encequidar (119), laniquidar (85), tariquidar (86), zosuquidar (86)
-quine (d)	**quinoline derivatives**
	
(a)	antimalarial: amodiaquine (1), amopyroquine (8), bulaquine (82), chloroquine (4), ferroquine (95), hydroxychloroquine (8), mefloquine (33), moxipraquine (26), pamaquine (4), pentaquine (4), primaquine (1), quinocide (34), tafenoquine (80), tebuquine (49)

acequinoline (22), actinoquinol (15), aminoquinol (22), amquinate (21), amiquinsin (17), aminoquinuride (45), benzoxiquine (18), broquinaldol (17), buquineran (40), buquinolate (16), clamoxyquine (16), cletoquine (20), chlorquinaldol (1), cinoquidox (40), ciproquinate (22), clioquinol (16), cloquinate (11), cloxiquine (30), debrisoquine (15), decoquinate (20), diiodohydroxyquinoline (1), esproquine (3I), flumequine (34), guanisoquine (I5), hedaquinium chloride (8), intiquinatine (99), iquindamine (34), isotiquimide (49), leniquinsin (18), mebiquine (29), nequinate (22), nifuroquine (36), olaquindox (31), oxamniquine (28), peraquinsin (29), pirquinozol (43), proquinolate (17), quinaldine blue (17), quincarbate (31), quindecamine (15), quindoxin (26), quinetalate (16), quinfamide (40), quinisocaine (4), quinprenaline (17), quinuclium bromide (40), quipazine (17), sitamaquine (80), tilbroquinol (45), tiliquinol (45), tiquinamide (35), tiquizium bromide (47), toquizine (17), tretoquinol (21), viquidil (25)

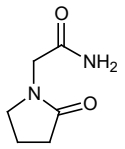
(c) broxaldine (12), cinchocaine (1), cinchophen (I), climiqualine (33), dehydroemetine (15), dequalinium chloride (8), dimethyltubocurarinium chloride (1), dimoxyline (1), drotaverine (17), ethaverine (4), euprocin (22), famotine (23), flucarbril (14), glafenine (15), laudexium metilsulfate (4), laurolinium acetate (12), memotine (22), metofoline (12), neocinchophen (I), niceverine (15), nitroxoline (15), noscapine (7), octaverine (18), oxolinic acid (15), oxycinchophen (6), pyrvinium chloride (6), trethinium tosilate (14), tritoqualine (14), tubocurarine chloride (1)

-quinil **see -azenil**

BAN; USAN

-racetam **amide type nootrope agents, piracetam derivatives**

B.1.0.0 (BAN: substances of the piracetam group)
(USAN: nootropes (piracetam type))

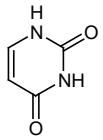


(a) aloracetam (62), aniracetam (44), brivaracetam (93), cebaracetam (66), coluracetam (86), dimiracetam (68), doliracetam (53), dupracetam (38), etiracetam (40), fasoracetam (79), fonturacetam (104), imuracetam (42), levetiracetam (62), molracetam (55), nebracetam (62), nefiracetam (64), nicoracetam (63), omberacetam (117), oxiracetam (43), piracetam (22), pramiracetam (46), rolziracetam (54), seletracetam (93)

related: tenilsetam (51)

USAN

-racil **uracil type antineoplastics**

L.0.0.0 

(a) eniluracil (77), fluorouracil (13), gimeracil (80), oteracil (80)

-thiouracil **uracil derivatives used as thyroid antagonists**

M.7.3.0 (USAN: -uracil: uracil derivatives used as thyroid antagonists and as antineoplastics)

(a) iodothiouracil (01), methylthiouracil (01), propylthiouracil (01)

USAN

-rafenib **Raf (rapidly accelerated fibrosarcoma) kinase inhibitors**

(a) agerafenib (115), belvarafenib (118), dabrafenib (105), encorafenib (109), lifirafenib (117), sorafenib (88), regorafenib (100), vemurafenib (103)

BAN; USAN

-relin (x) **pituitary hormone-release stimulating peptides**

Q.0.0.0 (BAN: hypophyseal hormone release-stimulating peptides)
(USAN: prehormones or hormone-release stimulating peptides)

(a) LHRH-release-stimulating peptides: avorelin (74), buserelin (36), deslorelin (61), gonadorelin (32), goserelin (55), histrelin (53), leuprorelin (47), lutrelin (51), nafarelin (50), peforelin (93), triptorelin (56), zoptarelin doxorubicin (107)

-morelin growth hormone release-stimulating peptides: USAN

(a) anamorelin (97), capromorelin (83), dumorelin (59), examorelin (72), ipamorelin (78), lenomorelin (106), macimorelin (100), pralmorelin (77), relamorelin (110), rismorelin (74), sermorelin (56), tabimorelin (80), tesamorelin (96), ulimorelin (103)

(c) somatorelin (57)

-tirelin thyrotropin releasing hormone analogues: USAN

(a) azetirelin (60), fertirelin (42), montirelin (58), orotirelin (58), posatirelin (60), protirelin (31), rovatirelin (111), taltirelin (75)

other: corticorelin (64) (diagnostic agent)

(c) thyrotropin alfa (113) (thyroid stimulating hormone (TSH) analogue)

USAN

-relix **gonadotropin-releasing-hormone (GnRH) inhibitors, peptides**

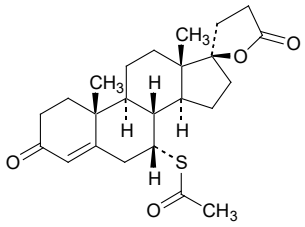
Q.0.0.0 (USAN: -relix: hormone-release inhibiting peptides)

(a) abarelix (78), cetrorelix (66), degarelix (86), detirelix (56), ganirelix (65), iturelix (79), ozarelix (94), prazarelix (81), ramorelix (69), teverelix (78)

USAN

-renone **aldosterone antagonists, spironolactone derivates**

N.1.8.0 (USAN: aldosterone antagonists (spironolactone type))



(a) apararenone(115), canrenoic acid (20) and potassium canrenoate (20), canrenone (20), dicirenone (50), drospirenone (63), esaxerenone (116), eplerenone (77), finerenone (108), mespirenone (51), spirorenone (45)

(b) bromchlorenone (12) (antifungal), menatetrenone (28) (antihemorrhagic), teprenone (50), ubidecarenone (48) (in congestive heart failure)

(c) oxprenoate potassium (53), prorenoate potassium (32), spironolactone (11), spiroxasone (14)

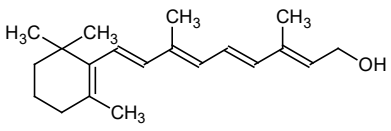
-reotide **see -tide**

-restat **see -stat**

USAN

retin **retinol derivatives**

P.1.0.0 (USAN: -retin- or -retin: retinol derivatives)



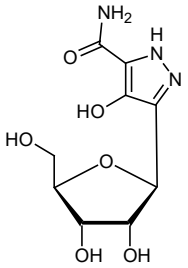
(a) acitretin (56) (previously etretin (51)), alitretinoin (80), doretinel (60), etretinate (41), fenretinide (51), isotretinoin (41), motretinide (38), pelretin (60), peretinoin (98), retinol (18), tretinoin (25), tretinoin tocoferil (66), zuretinol acetate (112)

(b) noretynodrel (13), secretin (1), trethinium tosilate (14)

USAN

-ribine **ribofuranyl-derivatives of the "pyrazofurin" type**

L.0.0.0/
S.5.3.0



(a) azaribine (19), cladribine (68), isatoribine (83), loxoribine (64), mizoribine (46), triciribine (46)

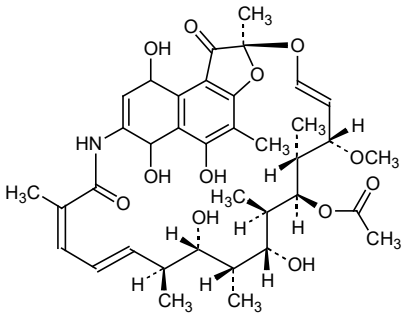
(c) pirazofurin (31), ribavirin (31), riboprine (20), tiazofurine (48)

related: benaxibine (50)

USAN

rifa- **antibiotics, rifamycin derivatives**

S.6.4.0

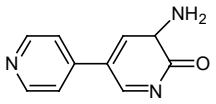


(a) rifabutin (52), rifalazil (78), rifametane (61), rifamexil (67), rifamide (15), rifampicin (17), rifamycin (13), rifapentine (43), rifaximin (49) (previously rifaxidine (48))

USAN

-rinone **cardiac stimulants, amrinone derivatives**

H.1.0.0 (USAN: cardiotonics (amrinone type))



(a) amrinone (38), bemarinone (57), medorinone (54), milrinone (50), nanterinone (60), olprinone (70), pelrinone (53), saterinone (56), toborinone (72), vesnarinone (57)

(b) gestrinone (39), indacrinone (51), taziprinone (48)

-ritide **see -tide**

USAN

-rixin **chemokine CXCR receptors antagonists**

S.7.0.0 (USAN: CXCR2 modulators)

dazirixin (107), elubrixin (107), ladarixin (105), navarixin (105), reparixin (91)

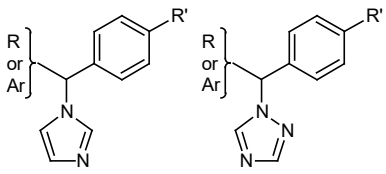
-rizine **see -izine**

-rolimus **see -imus**

USAN

-rozole **aromatase inhibitors, imidazole-triazole derivatives**

L.0.0.0



anastrozole (72), fadrozole (64), finrozole (81), leflutrozole (117), letrozole (70), liarozole (64), talarozole (99), vorozole (64)

(b) aminitrozole (4), sulfatrozole (24), tenonitrozole (47)

USAN

-rsen **antisense oligonucleotides**

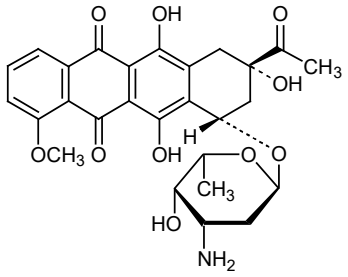
aganirsen (101), apatorsen (110), alicaforsen (118), anivamersen (105), aprinocarsen (89),atesidorsen (116), baliforsen (116), beclanorsen (01), casimersen (115), cenersen (97), cobomarsen (117), custirsen (99), danvatirsen (117), dematirsen (116), drisapersen (106), eluforsen (119), gataparsen (103), eteplirsen (103), golodirsen (115), inotersen (115), mipomersen (99), mongersen (111), nusinersen (112), oblimersen (87), prexigebersen (114), remlarsen (117), renapersen (117), rimigorsen (116), tofersen (119), trabedersen (97), varodarsen (116), viltolarsen (118), volanesorsen (113)

-virsen (antivirals): afovirsen (71), amlivirsen (119), fomivirsen (75), miravirsen (101), radavirsen (106), temavirsen (117), trecovirsen (77)

USAN

-rubicin **antineoplastics, daunorubicin derivatives**

L.5.0.0 (USAN: antineoplastic antibiotics (daunorubicin type))

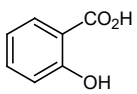


(a) aclarubicin (44), aldoxorubicin (108), amrubicin (65), berubicin (98), camsirubicin (119), carubicin (40), daunorubicin (20), detorubicin (41), doxorubicin (25), epirubicin (48) (originally pidorubicin (47)), esorubicin (47), galarubicin (80), idarubicin (47), ladirubicin (83), leurubicin (64), medorubicin (47), nemorubicin (71), pirarubicin (55), rodorubicin (54), sabarubicin (90), valrubicin (79), zorubicin (39), zoptarelin doxorubicin (107)

USAN

sal **salicylic acid derivatives**

(USAN: -sal-; -sal; or sal-: anti-inflammatory agents (salicylic acid derivatives))



(a)

sal- analgesic anti-inflammatory A.4.2.0
choline salicylate (15), imidazole salicylate (51), salacetamide (1), salcolex (23), saletamide (20), salfluverine (29), salicylamide (1), salnacedin (73), salprotoside (31), salsalate (28), salverine (15)

various
salafibrate (41) (antihyperlipidaemic), salantel (29) (anthelmintic), salcaprozic acid (88) (absorption promotor), salclobuzic acid (92) (pharmaceutical aid), salinazid (8) (antituberculosis agent), salirasib (97) (antineoplastic)

-sal analgesic anti-inflammatory A.4.2.0
detanosal (23), diflunisal (33), fendosal (35), flufenisal (22), fosfosal (37), guacetisal (40), guaimesal (50), parcetasal (65), pranosal (24), sulprosal (36), tenosal (63)

antithrombotic
flufosal (42)

various: antituberculosis
fenamisal (15), thiomersal (1) (disinfect.), triflusal (37) (antithrombotic)

-sal- analgesic anti-inflammatory A.4.2.0
acetaminosalol (1), asalhydromorphone (119), carbasalate calcium (27), carsalam (13), etersalate (50), etosalamide (14), isalmadol (92), parsalmide (32), talosalate (43)

various
amotosalen (85), calcium benzamidosalicylate (10), homosalate (28) (sunscreen agent), isalsteine (63) (mucolytic), lasalocid (30) (antibiotic (veterinary)), mersalyl (4) (mercurial diuretic), octisalate (83) (sunscreen), osalmid (15) (choleretic), susalimod (73) (immunomodulator), xenysalate (12) (antiseborrheic)

salazo- phenylazosalicylic acid derivatives antibacterial S.5.l.0
salazodine (22), salazosulfadimidine (11), salazosulfamide (1), salazosulfathiazole (1)

-salazine/-salazide
dersalazine (86), mesalazine (52), olsalazine (52), sulfasalazine (55), balsalazide (48), ipsalazide (48)

-salan brominated salicylamide derivatives disinfectant S.2.l.0
bensalan (18), dibromsalan (14), flusalan (16), fursalan (18), metabromsalan (16), tiosalan (18), tribromsalan (14)

(b) non-salicylic acid derivatives
fosalvudine tidoxil (95), macrosalb (^{99m}Tc) (33), rusalatide (96), trioxysalen (l6) (pigmenting agent)

bronchodilators
levosalbutamol (78), salbutamol (20), salmefamol (23)

(c) analgesic, anti-inflammatory A.4.2.0
aloxiprin (13), anilamate (13), benorilate (21), brosotamide (29), cresotamide (28), dibusadol (24), dipyrocetyl (6), ethenzamide (10), fenamifuril (16), gentisic acid (01), hydroxytoluic acid (17), sodium gentisate (1), sodium glucaspaldrate (17)

various
4-aminosalicylates of the *-caine* series D.1.0.0: ambucaine (6), hydroxyprocaine (1), hydroxytetracaine (1), propoxycaine (4)

antihypertensives H.3.0.0: labetalol (35)

antitussives K.1.0.0: alloclamide (l6), flualamide (20)

saluretics N.l.2.0: xipamide (22) (sulfamoyl derivative),

mercurial diuretics N.l.3.0: mercuderamide (1)

anthelmintics S.3.l.0: bromoxanide (31), clioxanide (19), niclosamide (13), rafoxanide (24)
closantel (36), flurantel (25), resorantel (23)

antifungals S.4.0.0: buclosamide (16), exalamide (37), pentalamide (13)

See also Pharm S/Nom 557

USAN

-sartan (x) **angiotensin II receptor antagonists, antihypertensive (non-peptidic)**

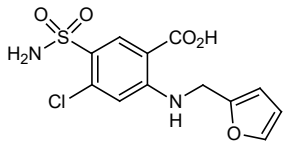
H.3.0.0 (USAN: -sartan: angiotensin II receptor antagonists)

abitesartan (73), azilsartan (95), azilsartan medoxomil (97), candesartan (71), elisartan (72), embusartan (78), eprosartan (71), fimasartan (94), forasartan (74), irbesartan (71), losartan (66), milfasartan (76), olmesartan (93), olmesartan medoxomil (86), pomisartan (73), pratosartan (85), ripisartan (73), saprisartan (72), tasosartan (72), telmisartan (70), valsartan (68), zolasartan (70)

USAN

-semide **diuretics, furosemide derivatives**

N.1.1.0



(a) azosemide (35), furosemide (14), galosemide (33), sulosemide (49), torasemide (35)

-sermin **see -ermin**

USAN

-serod **serotonin receptor antagonists and partial agonists**

J.0.0.0

(a) capeserod (94), piboserod (79), sulamserod (82), tegaserod (79)

USAN

-serpine (d) **derivatives of *Rauwolfia* alkaloids**

E.5.4.0

(a) bietaserpine (14), mefeserpine (15), reserpine (4)

(c) chloroserpidine (11), deserpidine (6), methoserpidine (11), metoserpate (20), rescimetol (44), rescinnamine (6), syrosingopine (10)

USAN

-sertib **serine/threonine kinase inhibitors**

L.0.0.0

adavosertib (117), afuresertib (108), alisertib (104), amcasertib (113), barasertib (102), berzosertib (117), capivasertib (117), cenisertib (104), ceralasertib (119), danusertib (99), delcasertib (105), empesertib (116), galunisertib (109), ilorasertib (108), ipatasertib (108), miransertib (116), nedisertib (118), pimasertib (105), prexasertib (114), rabusertib (107), rigosertib (106), sapanisertib (112), selonsertib (113),silmitasertib (103), tanzisertib (106), tomivosertib (118), tozasertib (100), uprosertib (111), vactosertib (117), vistusertib (113), volasertib (102)

BAN, USAN

-setron **serotonin receptor antagonists (5-HT_3) not fitting into other established groups of serotonin receptor antagonists**

(BAN: serotonin receptor antagonists ($5HT_3$) used as antihypertensives)
(USAN: serotonin 5-HT_3 antagonists)

(a) alosetron (66), arazasetron (118), azasetron (68), bemesetron (64), cilansetron (68), dolasetron (65), fabesetron (74), galdansetron (72), granisetron (59), indisetron (76), itasetron (68), lerisetron (69), lurosetron (69), mirisetron (72), ondansetron (59), palonosetron (74), ramosetron (70), ricasetron (70), tropisetron (62), zatosetron (64)

USAN

-siban **oxytocin antagonists**

atosiban (60), barusiban (88), cligosiban (118), epelsiban (105), nolasiban (114), retosiban (98)

USAN

-siran **small interfering RNA**

asvasiran (111), bamosiran (106), bevasiranib (108), cemdisiran (114), cosdosiran (116), fitusiran (113), givosiran (114), inclisiran (115), lumasiran (117), patisiran (118), revusiran (111), sentisiran (114), teprasiran (116), tivanisiran (117), vutrisiran (119)

USAN

som- **growth hormone derivatives**

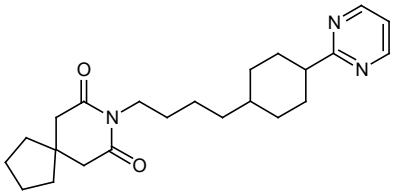
Q.0.0.0 (USAN: growth hormone derivatives)
(USAN: som- -bove: bovine somatotropin derivatives)
(USAN: som- -por: porcine sonatotropin derivatives)

(a) -bove: bovine type substances: somagrebove (63), somavubove (63), sometribove (74),
somidobove (58)
-por: porcine-type substances: somalapor (62), somenopor (62), somfasepor (66), sometripor (55)
-salm: salmon-type substances: somatosalm (69)
Others: albusomatropin (114), efpegsomatropin (115), eftansomatropin alfa (118), lonapegsomatropin (118), somapacitan (114), somatrogon (115), somatrem (54), somatropin (56), somatropin pegol (103), somavaratan (112)

(b) somatorelin (57), somantadine (51), somatostatin (46)

-sopine	**see -pine**

USAN

-spirone	**anxiolytics, buspirone derivatives**
C.1.0.0	
(a)	alnespirone (70), binospirone (65), buspirone (30), enilospirone (52), perospirone (71), revospirone (61), tandospirone (60), tiospirone (57), umespirone (60), zalospirone (64)
(c)	eptapirone (82), gepirone (54), ipsapirone (54)

BAN; USAN

-stat- or -stat	**enzyme inhibitors**
-castat	dopamine β-hydroxylase inhibitors
(a)	etamicastat (101), nepicastat (78), zamicastat (108)
-dustat	hypoxia inducible factor (HIF) prolyl hydroxylase inhibitors
(a)	daprodustat (113), desidustat (117), enarodustat (117), molidustat (108), roxadustat (108), vadadustat (114)
-elestat	elastase inhibitors
(a)	alvelestat (104), depelestat (97), freselestat (89), sivelestat (78), tiprelestat (103)
-gacestat	gamma-secretase inhibitors
(a)	avagacestat (104), begacestat (97), crenigacestat (117), nirogacestat (115), semagacestat (99)
-inostat	histone deacetylase inhibitors
(a)	abexinostat (105), alteminostat (119), belinostat (97), citarinostat (116), dacinostat (89), domatinostat (118), entinostat (99), fimepinostat (118), givinostat (101), mocetinostat (101), panobinostat (96), pracinostat (119), quisinostat (107), remetinostat (115), resminostat (102), tefinostat (105), tinostamustine (116), tucidinostat (115), vorinostat (94)
-listat	gastrointestinal lipase inhibitors
(a)	cetilistat (91), orlistat (66)

-mastat	matrix metalloproteinase inhibitors
(a)	batimastat (70), cipemastat (81), ilomastat (73), marimastat (75), otaplimastat (118), prinomastat (82), rebimastat (89), ricolinostat (109), solimastat (80), tanomastat (82)
-mostat	proteolytic enzyme inhibitors:
(a)	camostat (46), nafamostat (53), patamostat (69), sepimostat (68), upamostat (110)
(c)	aloxistatin (57), ulinastatin (56)
-restat or *-restat-*	aldose reductase inhibitors
M.5.0.0	
(a)	alrestatin (37), epalrestat (55), fidarestat (78), imirestat (59), lidorestat (87), minalrestat (76), ponalrestat (58), ranirestat (91), risarestat (82), tolrestat (51), zenarestat (64), zopolrestat (64)

various:	acebilustat (114)	leukotriene A4 hydrolase inhibitor
	afegostat (101)	β-glucocerebrosidase inhibitor
	alicapistat (115)	calpain cysteine protease inhibitor
	apratastat (93)	inhibition of TNF-α converting enzyme
	atabecestat (117)	beta secretase inhibitor
	avoralstat (112)	kallikrein inhibitor
	azalanstat (73)	lanosterol 14α-demethylase inhibitor
	benurestat (31)	urease inhibitor
	cavosonstat (116)	alcohol dehydrogenase inhibitor
	cilastatin (50)	renal dehydropeptidase inhibitor
	cindinustat (107)	nitric oxide synthase inhibitor
	cobicistat (103)	cytochrome P450 3A4 (CYP3A4) inhibitor
	conestat alfa (98)	human plasma protease C1 inhibitor
	dociparstat (114)	heparanase inhibitor
	duvoglustat (102)	glucosylceramide synthase inhibitor
	elenbecestat (117)	beta secretase inhibitor
	eliglustat (103)	glucosylceramide synthase inhibitor
	emixustat (108)	retinol isomerase inhibitor
	ezatiostat (98)	glutathione-S-transferase inhibitor
	febuxostat (85)	xanthine oxydase and xanthine dehydrogenase inhibitor
	firsocostat (118)	allosteric inhibitor of acetyl-CoA carboxylase (ACC)
	fulacimstat (117)	chymase inhibitor

iadademstat (119)	lysine-specific histone demethylase (LSD_1) inhibitor
imetelstat (101)	antineoplastic, telomerase inhibitor
iofolastat (^{123}I) (105)	radiopharmaceutical
irosustat (104)	antineoplastic
lanabecestat (116)	beta secretase inhibitor
lapaquistat (96)	squalene synthase inhibitor
linrodostat (119)	antineoplastic
lucerastat (106)	ceramide glucosyltransferase inhibitor
migalastat (95)	alpha-galactosidase A enzyme inhibitor
miglustat (85)	glucosyltransferase inhibitor
niraxostat (99)	xanthine oxydase inhibitor
olumacostat glasateril (114)	acetyl-CoA carboxylase inhibitor
osilodrostat (110)	aldosterone and cortisol synthesis inhibitor
pentostatin (38)	vidarabin activity potentiator; inhibitor of enzymatic deaminative metabolism
pepstatin (28)	pepsin inhibitor
pevonedistat (109)	antineoplastic
pinometostat (112)	antineoplastic
pradigastat (106)	acyl CoA:diacylglycerol acyltransferase inhibitor
rodatristat (119)	tryptophan hydroxylase inhibitor
roneparstat (112)	heparanase inhibitor
seclidemstat (118)	lysine-specific histone demethylase 1 (LSD_1) inhibitor
selisistat (106)	inhibitor of sirtuin enzymes
setafrastat (118)	rotamase inhibitor and vascular endothelial growth factor (VEGF) promotor
somatostatin (43)	growth hormone release inhibiting factor
soticlestat (119)	hydroxylase inhibitor
talabostat (92)	antineoplastic
technetium (^{99m}Tc) trofolastat chloride (109)	radiolabelled diagnostic agent
telaglenastat (119)	glutaminase inhibitor
telotristat (104)	tryptophan hydroxylase inhibitor
tendamistat (44)	amylase inhibitor
topiroxostat (102)	xanthine oxidase and xanthine dehydrogenase inhibitor
tosedostat (99)	antineoplastic, aminopeptidase inhibitor
umibecestat (119)	beta-secretase inhibitor
vafidemstat (119)	lysine-specific histone demethylase (LSD_1) inhibitor
valemetostat (118)	histone methyltransferase inhibitor, antineoplastic
venglustat (114)	ceramide glucosyltransferase inhibitor

	verdiperstat (114)	myeloperoxidase inhibitor
	verubecestat (112)	beta secretase inhibitor
	vistatolon (25)	antiviral antibiotic
	zinostatin (40)	antineoplastic
	zinostatin stimalamer (74)	
(b)	nystatin (6)	

-vastatin **antihyperlipidaemic substances, HMG CoA reductase inhibitors** USAN

H.4.0.0

(a) atorvastatin (71), bervastatin (72), cerivastatin (74), crilvastatin (63), dalvastatin (64), fluvastatin (62), glenvastatin (70), lovastatin (57), mevastatin (44), pitavastatin (86) (replaces itavastatin (80)), pravastatin (57), rosuvastatin (94), simvastatin (58), tenivastatin (85)

BAN

-steine **mucolytics, other than bromhexine derivatives**

K.0.0.0 (BAN: substances of the acetylcysteine group)

(a) acetylcysteine (13), bencisteine (30), carbocisteine (34), cartasteine (72), dacisteine (49), danosteine (53), erdosteine (56), fudosteine (77), guaisteine (57), isalsteine (63), letosteine (38), mecysteine (13), midesteine (63), moguisteine (61), nesosteine (52), omonasteine (40), prenisteine (42), salmisteine (58), taurosteine (63), telmesteine (63)

USAN

-ster- **androgens/anabolic steroids**

Q.2.3.1

(a) **-testosterone**: cloxotestosterone (12), methyltestosterone (4), testosterone (4), testosterone ketolaurate (16)

-sterone: bolasterone (13), fluoxymesterone (6), oxymesterone (12), prasterone (23), tiomesterone (14)

-ster-: mesterolone (15), penmesterol (14), rosterolone (59)

(b) progestational steroids

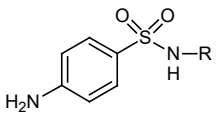
-gesterone: dydrogesterone (12), haloprogesterone (11), hydroxyprogesterone (8), medroxyprogesterone (10), norgesterone (14), progesterone (4), segesterone (89)

	-sterone: dimethisterone (8), ethisterone (4), norethisterone (6), norvinisterone (10)	
various:	**-sterone**: aldosterone (6) (corticosteroid), calusterone (23) (antineoplastic)	
	-sterol: azacosterol (16) (hypocholesterolemic), dihydrotachysterol (1) (antihypoparathyroid), iodocholesterol (^{131}I) (39)	
	ster: nisterime (38) (contraceptive agent), stercuronium iodide (21) (neuromuscular blocking agent)	
-steride	**testosterone reductase inhibitors**	USAN
	bexlosteride (81), dutasteride (78), epristeride (69), finasteride (62), izonsteride (81), lapisteride (85), turosteride (67)	
		USAN
-stigmine (d)	**acetylcholinesterase inhibitors**	
E.1.2.0	(USAN: cholinesterase inhibitors (physostigmine type))	
(a)	distigmine bromide (16), eptastigmine (62), ganstigmine (81), neostigmine bromide (4), pyridostigmine bromide (6), quilostigmine (76), rivastigmine (77), terestigmine (77)	
(c)	eseridine (53)	
		USAN
-stim	**colony stimulating factors**	
I.5.0.0 (a)	ancestim (79) (cell growth factor), garnocestim (85) (immunomodulator), pegacaristim (80) (megakaryocyte growth factor), romiplostim (97) (platelet stimulating factor)	
-distim	**combination of two different types of colony stimulating factors** (USAN: conjugates of two different types of colony-stimulating factors)	
(a)	leridistim (80), milodistim (74)	
-gramostim	**granulocyte macrophage colony stimulating factor (GM-CSF) types substances**	
(a)	ecogramostim (62), molgramostim (64), regramostim (64), sargramostim (66)	

-grastim	**granulocyte colony stimulating factor (G-CSF) type substances**
(a)	balugrastim (107), eflapegrastim (112), eflenograstim alfa (117), empegfilsgrastim (107), filgrastim (64), lenograstim (64), lipegfilgrastim (105), mecapegfilgrastim (113), nartograstim (66), pegbovigrastim (109), pegfilgrastim (85), pegnartograstim (80), pegteograstim (109)
-mostim	**macrophage stimulating factors (M-CSF) type substances**
(a)	cilmostim (71), lanimostim (91), mirimostim (65)
-plestim	**interleukin-3 analogues and derivatives** (USAN: interleukin-3 derivatives, pleiotropic colony-stimulating factors)
(a)	daniplestim (76), muplestim (72)

BAN, USAN

sulfa-	**anti-infectives, sulfonamides**
S.5.1.0	(BAN: sulpha-) (USAN: antimicrobials (sulfonamides derivatives))



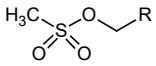
(a)	sulfabenz (17), sulfabenzamide (27), sulfacarbamide (12), sulfacecole (30), sulfacetamide (1), sulfachlorpyridazine (10), sulfachrysoidine (1), sulfacitine (23), sulfaclomide (17), sulfaclorazole (25), sulfaclozine (25), sulfadiasulfone sodium (1), sulfadiazine (4), sulfadiazine sodium (4), sulfadicramide (4), sulfadimethoxine (10), sulfadimidine (1), sulfadoxine (20), sulfaethidole (8), sulfafurazole (1), sulfaguanidine (4), sulfaguanole (23), sulfalene (12), sulfaloxic acid (15), sulfamazone (40), sulfamerazine (4), sulfamerazine sodium (4), sulfamethizole (1), sulfamethoxazole (14), sulfamethoxypyridazine (8), sulfametomidine (12), sulfametoxydiazine (17), sulfametrole (31), sulfamonomethoxine (11), sulfamoxole (12), sulfanilamide (4), sulfanitran (15), sulfaperin (14), sulfaphenazole (10), sulfaproxyline (4), sulfapyrazole (18), sulfapyridine (1), sulfaquinoxaline (46), sulfasalazine (55), sulfasomizole (10), sulfasuccinamide (41), sulfasymazine (12), sulfathiazole (4), sulfathiourea (l), sulfatolamide (10), sulfatroxazole (29), sulfatrozole (24)

(b) galsulfase (92), idursulfase (90), sulfarsphenamine (4)

(c) benzylsulfamide (1), glucosulfamide (1), maleylsulfathiazole (1), mesulfamide (41), nitrosulfathiazole (1), phthalylsulfamethizole (6), phthalylsulfathiazole (1), salazodine (22), salazosulfadimidine (11), salazosulfamide (1), salazosulfathiazole (1), stearylsulfamide (1), succinylsulfathiazole (4), sulfisomidine (1), vanyldisulfamide (1), mafenide (1) (sulfonamide, but not sulfanilamide)

USAN

-sulfan **antineoplastic, alkylating agents, methanesulfonates**

L.2.0.0 

(a) busulfan (6), improsulfan (35), mannosulfan (24), piposulfan (15), ritrosulfan (33), treosulfan (26)

-tacept **see -cept**

-tadekin **see -kin**

USAN

-tadine **histamine-H_1 receptor antagonists, tricyclic compounds**

G.2.1.0 (USAN: -(a)tadine: tricyclic histaminic-H_1 receptor antagonists, loratadine derivative)

(a) alcaftadine (94), azatadine (18), cyproheptadine (10), desloratadine (80), loratadine (54), napactadine (46), olopatadine (72), rupatadine (74), vapitadine (95)

(b) amantadine (15), carmantadine (31), rimantadine (17), somantadine (51), tromantadine (28) (see –mantadine)

USAN

-tansine **maytansinoid derivatives, antineoplastics**

emtansine (such as laprituximab emtansine (114), naratuximab emtansine (114) , trastuzumab emtansine (103))
maitansine (40)
mertansine (such as cantuzumab mertansine (105), lorvotuzumab mertansine (103))
ravtansine (such as anetumab ravtansine (109), cantuzumab ravtansine (105), coltuximab ravtansine (109), indatuximab ravtansine (105))
soravtansine (such as mirvetuximab soravtansine (113))

		USAN
-tant	**neurokinin (tachykinin) receptor antagonists**	
-pitant	neurokinin NK_1 (substance P) receptor antagonist	
(a)	aprepitant (84), befetupitant (91), burapitant (101), casopitant (94), dapitant (74), ezlopitant (82), figopitant (82), fosaprepitant (94), fosnetupitant (113), lanepitant (77), maropitant (90), netupitant (90), nolpitantium besilate (75), orvepitant (94), rolapitant (97), serlopitant (100), telmapitant (108), tradipitant (111), vestipitant (91), vofopitant (82)	
-dutant	neurokinin NK_2 receptor antagonist	
(a)	ibodutant (98), nepadutant (78), saredutant (75)	
-nertant	neurotensin receptor antagonist	
(a)	meclinertant (88) (replaces reminertant (85))	
-netant	neurokinin NK_3 receptor antagonist	
(a)	fezolinetant (115), osanetant (74), pavinetant (118), talnetant (81)	

		USAN
-tapide	**microsomal triglyceride transfer protein (MTP) inhibitors**	
H.4.0.0	dirlotapide (91), granotapide (104), implitapide (82), mitratapide (90), lomitapide (101), usistapide (104)	

		USAN
-taxel	**antineoplastics, taxane derivatives**	
L.0.0.0		
	cabazitaxel (98), docetaxel (71), larotaxel (94), milataxel (91), ortataxel (87), paclitaxel (68), paclitaxel ceribate (91), paclitaxel poliglumex (90), paclitaxel trevatide (112), simotaxel (94), tesetaxel (93)	

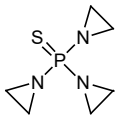
		USAN
-tecan	**antineoplastics, topoisomerase I inhibitors**	
L.0.0.0	(USAN: antineoplastics (camptothecine derivatives))	
	afeletecan (85), atiratecan (101), belotecan (91),ositecan (100), davamotecan pegadexamer (117), delimotecan (97), diflomotecan (84), elemotecan (92), etirinotecan pegol (107), exatecan (81), exatecan	

alideximer (89), firtecan peglumer (108), firtecan pegol (107), gimatecan (86), irinotecan (64), labetuzumab govitecan (113), lurtotecan (74), mureletecan (85), namitecan (100), pegamotecan (91), rubitecan (82), sacituzumab govitecan (113), tenifatecan (102), topotecan (65), trastuzumab deruxtecan (116)

USAN

-tepa **antineoplastics, thiotepa derivatives**

L.2.0.0



(a) azatepa (12), pumitepa (48), thiotepa (10)

-tepine **see -pine**

USAN

-teplase **tissue type plasminogen activators, see -ase**

USAN

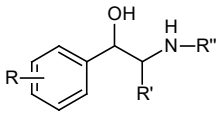
-termin **see -ermin**

BAN, USAN

-terol **bronchodilators, phenethylamine derivatives**

(previously -prenaline
or -terenol unofficial)

E.4.0.0



(a) abediterol (104), amiterol (26), arformoterol (90), batefenterol (110), bitolterol (34), broxaterol (51), carmoterol (91), cimaterol (54), colterol (36), difeterol (36), etanterol (53), fenoterol (26), formoterol (44), imoxiterol (52), indacaterol (91), milveterol (97), naminterol (53), nardeterol (62), olodaterol (106), picumeterol (64), procaterol (37), reproterol (30), rimiterol (26), salmeterol (55), sulfonterol (3l), vilanterol (103), zilpaterol (60), zinterol (38)

-buterol: bambuterol (49), carbuterol (29), clenbuterol (28), divabuterol (51), flerobuterol (59), ibuterol (31), mabuterol (46), nisbuterol (38), pirbuterol (30), tobuterol (45), tulobuterol (40)

cardiac stimulants: metaterol (43), prenalterol (38), xamoterol (48)

previously -prenaline or -terenol: clorprenaline (17), hexoprenaline (21), isoprenaline (1), levisoprenaline (10), metiprenaline (24), orciprenaline (14), quinprenaline (17)
deterenol (25), soterenol (20)

(b) azacosterol (16), dihydrotachysterol (1), penmesterol (14)

(c) dioxethedrine (6), isoetarine (13), methoxyphenamine (1), pseudoephedrine (11), salbutamol (20), salmefamol (23), terbutaline (22)

-terone **antiandrogens**

(Q.2.3.1)

(a) abiraterone (74), benorterone (15), cyproterone (16), delanterone (42), galeterone (105), inocoterone (54), osaterone (68), topterone (39), zanoterone (67)

(b) clometerone (15) (antiestrogen)

(c) cioteronel (62), orteronel (104), oxendolone (42), rosterolone (60),

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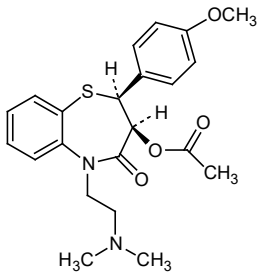
USAN

-tiazem **calcium channel blockers, diltiazem derivatives**

F.2.1.0



clentiazem (61), diltiazem (30), iprotiazem (56), nictiazem (54), siratiazem (68)

USAN

-tibant **bradykinin receptors antagonists**
(USAN : antiasthmatics (bradykinin antagonists))

anatibant (88), deltibant (75), fasitibant chloride (103), icatibant (67), safotibant (105)

USAN

-tide **peptides and glycopeptides (for special groups of peptides see -actide, -pressin, -relin, -tocin)**

-glutide **glucagon-like Peptide (GLP) analogues** USAN

albiglutide (97), apraglutide (118), beinaglutide (117), dulaglutide (103), elsiglutide (104), glepaglutide (116), liraglutide (87), semaglutide (101), taspoglutide (99), teduglutide (90)

-motide **immunological agents for active immunization**

abecomotide (109), adegramotide (115), alicdamotide (109), amilomotide (105), asudemotide (107), disomotide (94), elpamotide (103), graunimotide (113), latromotide (107), nelatimotide (115), ovemotide (94), pradimotide (107), sultimotide alfa (117), tanurmotide (109), tecemotide (108), tertomotide (98), tiplimotide (82), trempamotide (107), zastumotide (110)

-reotide **somatostatin receptor agonists/antagonists**

depreotide (80), edotreotide (84), ilatreotide (68), lanreotide (64), lutetium (^{177}Lu) oxodotreotide (116), octreotide (52), pasireotide (90), pentetreotide (66), satoreotide (115), satoreotide trizoxetan (114), vapreotide (62), veldoreotide (117)

-ritide **natriuretic peptides**

anaritide (57), carperitide (65), cenderitide (105), nesiritide (80), ularitide (69) vosoritide (112)

various:

analgesic: leconotide (86), ziconotide (78)

angiogenesis inhibitor: cilengitide (81)

anti-inflammatory: brimapitide (114), dusquetide (113), icrocaptide (89)

antianaemic: peginesatide (108)

antidepressant: nemifitide (87)

antidiabetic: albenatide (114), amlintide (76), bamadutide (119), cotadutide (119), dalazatide (111), davalintide (101), efpeglenatide (111), efinopegdutide (119), exenatide (89), livoletide (118), lixisenatide (99), pegapamodutide (116), pramlintide (74), seglitide (57), tirzepatide (119)

antineoplastic: fexapotide (114), ruxotemitide (119)

antiviral: bulevirtide (118), enfuvirtide (85), tifuvirtide (91)

autoimmune disorders: dalazatide (111), dirucotide (100)

calcium sensing receptor agonist: etelcalcetide (112)

cardiovascular indications: aclerastide (110), danegaptide (101),

elamipretide (113), ensereptide (107), eptifibatide (78), mibenratide (111), rotigaptide (94), rusalatide (96), teprotide (36)

chemokine CXCR4 receptor antagonist: balixafortide (112)

decoy receptor: nangibotide (117)

diagnostic: betiatide (58), bibapcitide (78), ceruletide (34), depreotide (80), flotegatide (^{18}F) (108), fluciclatide (^{18}F) (103), maraciclatide (103), mertiatide (60), pendetide (70), technetium (^{99m}Tc) apcitide (78), technetium (^{99m}Tc) etarfolatide (107), teriparatide (50), tozuleristide (115)

expectorant (in cystic fibrosis): lancovutide (99)

gastrointestinal indications: dolcanatide (114), lagatide (75), larazotide (99), linaclotide (96), ociltide (52), plecanatide (104), renacaclotide (115), sulglicotide (29), triletide (50)

growth stimulant-veterinary: nosiheptide (35)

hormone analogues: abaloparatide (109), semparatide (80), teriparatide (50) (see also diagnostic)

immunological agents - antineoplastic: almurtide (74), brimapitide (114), delmitide (92), edratide (89), goralatide (72), mifamurtide (95), murabutide (49), paclitaxel trevatide (109), pentigetide (60), pimelautide (53), prezatide copper acetate (67), rolipoltide (94), romurtide (61), tabilautide (60), temurtide (60), tigapotide (95)

kallicrein inhibitor: ecallantide (93)

melanocortin receptor agonists: afamelanotide (100), bremelanotide (95), modimelanotide (111), setmelanotide (112)

neurological indications: alirinetide (117), cibinetide (114), davunetide (100), doreptide (58), ebiratide (56), nerinetide (119), obinepitide (96), pareptide (38), trofinetide (112), vanutide cridificar (100)

peptides used as pulmonary surfactant: elopultide (119), lusupultide (80), redipultide (119), sinapultide (78)

sedative: emideltide (70)

sodium channel activator : solnatide (113)

transforming growth factor inhibitor: disitertide (99)

urokinase plasminogen activator receptor (uPAR) inhibitor: cenupatide (119)

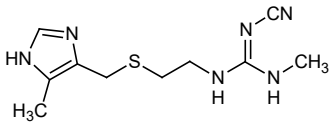
(b) defibrotide (44) (nucleotide), diamfenetide (28) (fasciolicide), diclometide (19) (behaviour modificator), fludroxycortide (12), glisentide (58)

(c) angiotensin II (65), angiotensinamide (12)

BAN, USAN

-tidine **histamine-H_2-receptor antagonists, cimetidine derivatives**

G.2.2.0 (BAN: H_2-receptor antagonists of the cimetidine group)
(USAN: H_2-receptor antagonists (cimetidine type))



(a) bisfentidine (57), cimetidine (33), dalcotidine (76), donetidine (56), ebrotidine (57), etintidine (44), famotidine (48), lafutidine (70), lamtidine (48), lavoltidine (61) (previously loxtidine (48)), lupitidine (53), mifentidine (50), niperotidine (54), nizatidine (48), osutidine (76), oxmetidine (44), pibutidine (78), quisultidine (47) (replaced by quisultazine (51)), ramixotidine (55), ranitidine (41), roxatidine (54), sufotidine (54), tiotidine (44), tuvatidine (54), venritidine (67), zaltidine (54)

(b) azacitidine (40) (antineoplastic), benzethidine (9), furethidine (9), guanethidine (11), hexetidine (6), hydroxypethidine (5), pethidine (4), propinetidine (12)

(c) metiamide (30)

-tiline **see -triptyline**

USAN

-tinib **tyrosine kinase inhibitors**

L.0.0.0

-brutinib **agammaglobulinaemia tyrosine kinase (Bruton tyrosine kinase) inhibitors**

acalabrutinib (113), evobrutinib (115), fenebrutinib (118), ibrutinib (107), spebrutinib (112), tirabrutinib (115), vecabrutinib (117), zanubrutinib (117)

-citinib **Janus kinase inhibitors**

baricitinib (107), delgocitinib (117), itacitinib (115), oclacitinib (105), peficitinib (112), solcitinib (112), tofacitinib (105), upadacitinib (115)

-metinib **MEK (MAPK[#] kinase) tyrosine kinase inhibitors**

[#] MAPK: mitogen activated protein kinase

binimetinib (109), cobimetinib (107), pexmetinib (110), ralimetinib (109), refametinib (106), selumetinib (100), trametinib (105)

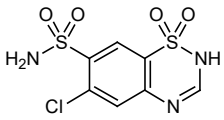
Others:
abivertinib (119), afatinib (104), alectinib (108), altiratinib (113), amuvatinib (103), avapritinib (117), axitinib (94), bafetinib (101), belizatinib (113), bemcentinib (117), bosutinib (94),), brigatinib (113), cabozantinib (105), canertinib (87), capmatinib (111), cerdulatinib (111), ceritinib (109), conteltinib (118), crizotinib (103), dacomitinib (103), dasatinib (94), decernotinib (110), defactinib (111), derazantinib (116), dovitinib (97), edicotinib (118), ensartinib (115), entospletinib (110), entrectinib (113), epertinib (115), erdafitinib (113), erlotinib (85), fedratinib (108), filgotinib (110), foretinib (102), fostamatinib (100), fruquintinib (116), futibatinib (119), gandotinib (108), gefitinib (85), gilteritinib (112), glesatinib (115), golvatinib (107), ilginatinib (119), imatinib (86), infigratinib (112), lapatinib (89), larotrectinib (115), lazertinib (117), lenvatinib (104), lestaurtinib (91), linsitinib (104), lorlatinib (114), masitinib (96), mavelertinib (118), merestinib (113), mivavotinib (119), momelotinib (107), mubritinib (90), naquotinib (115), nazartinib (114), neratinib (97), nilotinib (95), orantinib (103), osimertinib (113), pacritinib (104), pegcantratinib (113), pelitinib (93), pemigatinib (118), pexidartinib (112), ponatinib (104), poseltinib (116), poziotinib (108), quizartinib (104), radotinib (104), ravoxertinib (115), rebastinib (107), ripretinib (119), roblitinib (118), rociletinib (111), rogaratinib (115), ruxolitinib (103), sapitinib (106), saracatinib (99), savolitinib (111), sitravatinib (114), sunitinib (93), surufatinib (118), tandutinib (91), tarloxotinib bromide (114), telatinib (96), tepotinib (111), tesevatinib (113), tivantinib (103), tucatinib (113), ulixertinib (111), varlitinib (102)

-tirelin **see -relin**

USAN

-tizide **diuretics, chlorothiazide derivatives**

N.1.2.1 (USAN: thiazide: diuretics (thiazide derivatives))



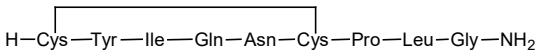
(a) altizide (13), bemetizide (27), butizide (13), carmetizide (30), epitizide (13), hydrobentizide (14), mebutizide (15), paraflutizide (16), penflutizide (29), sumetizide (20)

(c) bendroflumethiazide (11), benzthiazide (10), chlorothiazide (8), cyclopenthiazide (12), cyclothiazide (12), disulfamide (11), ethiazide (14), flumethiazide (10), hydrochlorothiazide (10), hydroflumethiazide (10), methyclothiazide (11), polythiazide (12), teclothiazide (12), trichlormethiazide (11)

USAN

-tocin **oxytocin derivatives**

Q.1.2.0

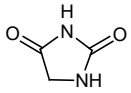


(a) argiprestocin (13), aspartocin (11), carbetocin (45), cargutocin (35), demoxytocin (22), merotocin (111), nacartocin (49), oxytocin (13)

USAN

-toin (d) **antiepileptics, hydantoin derivatives**

A.3.1.1



(a) albutoin (13), doxenitoin (3l), ethotoin (6), fosphenytoin (62), imepitoin (96), mephenytoin (1), metetoin (12), phenytoin (4)

ropitoin (40) (H.2.0.0.)

(b) clodantoin (13) (antifungal), nitrofurantoin (11) (antibacterial)

-tolimod **see -imod**

-trakin **see -kin**

-trakinra **see –kinra**

USAN

-traline **serotonin reuptake inhibitors**

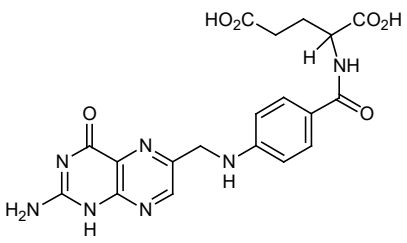
dasotraline (110), indatraline (54), lometraline (28), sertraline (48), tametraline (46)

-tredekin **see -kin**

USAN

-trexate **folic acid analogues**

L.4.0.0 (USAN: antimetabolites (folic acid analogues))



(a)	edatrexate (61), ketotrexate (50), methotrexate (10), pralatrexate (92), trimetrexate (46)
(c)	aminopterin sodium (04)

USAN

-trexed **antineoplastics; thymidylate synthetase inhibitors**

L.0.0.0

nolatrexed (78), pemetrexed (78), plevitrexed (89), raltitrexed (94)

USAN

-tricin **antibiotics, polyene derivatives**

S.6.2.0

(a)	mepartricin (34), partricin (27)
(b)	tyrothricin (1)
(c)	amphotericin B (10), candicidin (17), filipin (20), hachimycin (23), hamycin (17), levorin (15), mocimycin (28), natamycin (15), nystatin (6), pecilocin (16)

USAN

- trigine **sodium channel blockers, signal transduction modulators**

C.2.0.0

(a)	elpetrigine (101), lamotrigine (52), palatrigine (58), vixotrigine (116), raxatrigine (114), sipatrigine (74)

USAN

tril/trilat **endopeptidase inhibitors**

H.3.0.0

candoxatril (62), candoxatrilat (62), sacubitril (109), sacubitrilat (113)

-dotril	dexecadotril (73), ecadotril (68), fasidotril (74), racecadotril (73)
-lutril	daglutril (90)
-patril/-patrilat	gemopatrilat (84), ilepatril (95), omapatrilat (78), sampatrilat (74)

USAN

-triptan **serotonin (5-HT$_1$) receptor agonists, sumatriptan derivatives**

C.0.0.0

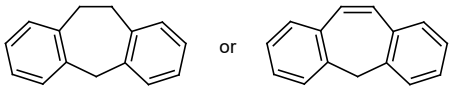
(a) almotriptan (76), avitriptan (76), donitriptan (82), eletriptan (74), frovatriptan (78), naratriptan (69), oxitriptan (39), rizatriptan (75), sumatriptan (59), zolmitriptan (74)

(c) alniditan (72)

USAN

-triptyline **antidepressants, dibenzo[**a,d**]cycloheptane or cyclopheptene derivatives**

C.3.2.0 (USAN: antidepressants (dibenzo[*a,d*]cycloheptane derivatives))



(a) amitriptyline (11), amitriptylinoxide (36), butriptyline (16), cotriptyline (26), intriptyline (26), nortriptyline (12), octriptyline (33), protriptyline (14)

(b) oxitriptyline (21) (anticonvulsant)

(c) demexiptiline (43), hepzidine (15), levoprotiline (56), noxiptiline (20), oxaprotiline (45), setiptiline (56)

see also Pharm S/Nom 970

USAN

-troban **thromboxane A$_2$-receptor antagonists; antithrombotic agents**

I.2.1.0 (USAN: antithrombotics (thromboxane A$_2$ receptor antagonists)

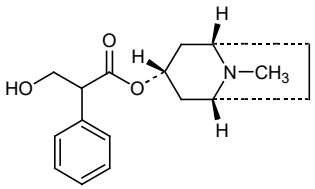
argatroban (57), daltroban (57), domitroban (73), ifetroban (71), linotroban (69), mipitroban (73), ramatroban (73), sulotroban (55), terutroban (93)

-trodast **see -ast**

USAN

trop **atropine derivatives**

E.2.0.0 (USAN: trop- ; or –trop-)



(a) parasympatholytic/anticholinergic: E.2.2.0:
tertiary amines: atropine oxyde (12), benzatropine (4), decitropine (18), etybenzatropine (12), eucatropine (1), tropatepine (28), tropicamide (11), tropigline (8), tropodifene (18)

closely related:
esbatropate (65)

quaternary ammonium salts:
atropine methonitrate (4), butropium bromide (30), ciclotropium bromide (50), cimetropium bromide (51), darotropium bromide (99), flutropium bromide (50), homatropine methylbromide (1), ilmetropium iodine (115), ipratropium bromide (28), octatropine methylbromide (10), oxitropium bromide (36), phenactropinium chloride (8), ritropirronium bromide (33), sevitropium mesilate (56), sintropium bromide (47), sultroponium (18), tematropium metilsulfate (64), tiotropium bromide (67), tipetropium bromide (42), tropenziline bromide (11), xenytropium bromide (15)

various:
clobenztropine (13) (antihistaminic), cyheptropine (15) (antiarrhythmic), deptropine (12) (antiasthmatic), revatropate (74) (bronchodilator), tropabazate (41) (tranquillizer), tropanserin (55) (serotonin receptor antagonist), tropantiol (97) (chelating agent), tropapride (48) (antipsychotic), tropirine (20) (respiratory disorders), tropisetron (62) (serotonin antagonist)

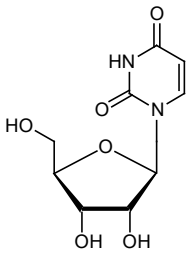
(b) dextropropoxyphene (7), eftansomatropin alfa(118), follitropin delta (112), follitropin epsilon (115), somatropin (56), somatropin pegol (103), varfollitropin alfa (101)

(c) parasympatholytic/anticholinergic, tertiary amines:
poskine (8), prampine (11), tigloidin (14)

various:
zepastine (26) (antihistaminic)

-uplase	**urokinase type plasminogen activator, see -ase**

USAN

-uridine	**uridine derivatives used as antiviral agents and as antineoplastics** (USAN: antivirals; antineoplastics (uridine derivatives))
S.5.3.0 L.4.0.0	
(a)	L.4.0.0: broxuridine (30), doxifluridine (44) related: carmofur (45), clanfenur (58), tegafur (41) S.5.3.0: fialuridine (68), floxuridine (16), fosfluridine tidoxil (93), idoxuridine (17), navuridine (84), ropidoxuridine (97), trifluridine (37), uridine triacetate (103)
-vudine	(USAN: -vudine: antineoplastics; antivirals (zidovudine type))
(a)	alovudine (68), brivudine (59), cedazuridine (118), censavudine (110), clevudine (78), epervudine (61), fosalvudine tidoxil (95), fosifloxuridine nafalbenamide (119), fozivudine tidoxil (73), lamivudine (66), netivudine (72), sorivudine (64), stavudine (65), telbivudine (88), valnivudine (115), zidovudine (56)
(c)	edoxudine (52)

USAN

-vaptan (x)	**vasopressin receptor antagonists**
H.0.0.0	
(a)	balovaptan (116), conivaptan (82), lixivaptan (83), mozavaptan (87), nelivaptan (98), relcovaptan (82), ribuvaptan (110), satavaptan (93), tolvaptan (83)
-vastatin	**see -stat**
-vec	**see -gene for gene therapy substances**

BAN, USAN

-verine	**spasmolytics with a papaverine-like action**
F.1.0.0	(USAN: spasmolytic agents (papaverine type))
(a)	alverine (16), amifloverine (28), bietamiverine (6), butaverine (13), camiverine (29), caroverine (28), clofeverine (31), demelverine (17), denaverine (25), dexsecoverine (53), dicycloverine (6), dihexyverine (4), dipiproverine (10), diproteverine (51), drotaverine (17), elziverine (57), ethaverine (4), febuverine (27), fenoverine (28), floverine (28), heptaverine (16), ibuverine (21), idaverine (55), mebeverine (14), milverine (52), mofloverine (28), moxaverine (36), nafiverine (16), niceverine (15), octaverine (18), pargeverine (38), pentoxyverine (6), pramiverine (21), prenoverine (41), propiverine (45), rociverine (33), salfluverine (29), salverine (15), secoverine (38), temiverine (76), zardaverine (59) Related: fenpiverinium bromide (26), pinaverium bromide (32)
(b)	cinnamaverine (10) (anticholinergic, tert. amine), diaveridine (18)
(c)	spasmolytics chemically related to some of the above INN ending in *-verine*
	butetamate (17), butinoline (14), camylofin (12), cinnamedrine (19), cyclandelate (8), difemerine (17), diisopromin (11), dimoxylin (1), fenpiprane (17), fenyramidol (12), metindizate (16), oxybutynin (13), papaveroline (29), pentapiperide (10), prozapine (14), triclazate (10), tropenziline bromide (11)

USAN

vin- and -vin- (x)	**vinca alkaloids**
	(USAN: vin-; or -vin-)
(a)	B.l.0.0 stimulation of cerebrovascular circulation apovincamine (48), brovincamine (42), vinburnine (45), vincamine (22), vincanol (37), vincantril (51), vinconate (47), vindeburnol (49), vinmegallate (59), vinpocetine (36), vinpoline (35), vintoperol (61) L.5.0.0 cytostatic vinblastine (12), vincristine (13), vindesine (35), vinepidine (50), vinflunine (75), vinformide (38), vinfosiltine (64), vinglycinate (16), vinleucinol (64), vinleurosine (13), vinorelbine (57), vinrosidine (13), vintafolide (107), vintriptol (51), vinzolidine (46)
(b)	barbiturates vinbarbital (I), vinylbital (12) others: vincofos (28) (phosphate, anthelmintic), vintiamol (16) (vitamin B derivative, antineuralgic)

BAN; USAN

vir	**antivirals (undefined group)**
S.5.3.0	(USAN: -vir; -vir; or vir-: antivirals)
(a)	alisporivir (100), alvircept sudotox (69), amdoxovir (85), amenamevir (100), amitivir (67), atevirdine (69), balapiravir (100), baloxavir marboxil (116), bevirimat (96), delavirdine (71), denotivir (70), efavirenz (78), enfuvirtide (85), enviradene (49), enviroxime (44), enzaplatovir (115), favipiravir (98), fostemsavir (115), galidesivir (114), inarigivir soproxil (116), letermovir (104), litomeglovir (84), loviride (70), maribavir (80), nevirapine (66), opaviraline (83), pimodivir (115), pirodavir (63), pocapavir (107), presatovir (111), pritelivir (106), remdesivir (116), riamilovir (117), ribavirin (31), rupintrivir (88), taribavirin (95), talviraline (75), tecovirimat (99), temsavir (112), teslexivir (116), tifuvirtide (91), tivirapine (74), tomeglovir (84), trovirdine (73), umifenovir (103), vapendavir (106), viroxime (49), zinviroxime (44)
-amivir	neuraminidase inhibitors: laninamivir (100), oseltamivir (80), peramivir (86), zanamivir (72)
-asvir	antivirals, hepatitis C Virus (HCV) NS5A inhibitors: coblopasvir (119), daclatasvir (115), elbasvir (111), ledipasvir (109), odalasvir (111), ombitasvir (112), pibrentasvir (119), ravidasvir (113), ruzasvir (114), samatasvir (110), velpatasvir (112)
-buvir	RNA polymerase (NS5B) inhibitors: adafosbuvir (117), beclabuvir (111), dasabuvir (109), deleobuvir (108), filibuvir (101), lomibuvir (107), nesbuvir (98), radalbuvir (112), setrobuvir (106), sofosbuvir (108), tegobuvir (103), uprifosbuvir (115)
-cavir	carbocyclic nucleosides: abacavir (76), entecavir (82), lobucavir (72)
-ciclovir	bicyclic heterocycle compounds: aciclovir (42), buciclovir (52), desciclovir (55), detiviciclovir (86), eprociclovir (112), famciclovir (61), filociclovir (111), ganciclovir (56), lagociclovir (101), lagociclovir valactate (101), omaciclovir (84), penciclovir (61), rociclovir (62), tiviciclovir (86), valaciclovir (69), valganciclovir (78), valomaciclovir (84)
-fovir	phosphonic acid derivatives: adefovir (72), alamifovir (89), besifovir (105), brincidofovir (110), cidofovir (72), pradefovir (93), rovafovir etalafenamide (119), tenofovir (82), tenofovir alafenamide (111), tenofovir exalidex (115)
-gosivir	glucoside inhibitors: celgosivir (77)

-navir	HIV protease inhibitors: amprenavir (79), atazanavir (88), brecanavir (94), darunavir (88), droxinavir (74), fosamprenavir (83), indinavir (74), lasinavir (76), lopinavir (80), mozenavir (84), nelfinavir (76), palinavir (74), ritonavir (74), saquinavir (69), telinavir (73), tipranavir (80)
-previr	Hepatitis Virus C (HVC) protease inhibitors: asunaprevir (105), boceprevir (97), ciluprevir (90), danoprevir (102), deldeprevir (110), faldaprevir (106), furaprevir (111), glecaprevir (114), grazoprevir (111), narlaprevir (102), paritaprevir (111), simaprevir (105), sovaprevir (106), telaprevir (94), vaniprevir (103), vedroprevir (112), voxilaprevir (113)
-tegravir	HIV integrase inhibitors: bictegravir (113), cabotegravir (111), dolutegravir (105), elvitegravir (97), raltegravir (97)
-virine	Non-Nucleoside Reverse Transcriptase Inhibitors (NNRTI): capravirine (83), dapivirine (86), doravirine (109), elsulfavirine (117), emivirine (82), etravirine (88), fosdevirine (103), lersivirine (101), rilpivirine (82)
-viroc	CCR5 (Chemokine CC motif receptor 5) receptor antagonists: ancriviroc (92), aplaviroc (94), cenicriviroc (103), maraviroc (94), vicriviroc (94)
-virsen	see *-rsen*
-vi(.)mab	see *mab*
(b)	virginiamycin (18), viridofulvin (16)
(c)	aranotin (21), arildone (38), avridine (50), didanosine (64), disoxaril (55), dimepranol (42), foscarnet sodium (42), fosfonet sodium (35), ketoxal (22), impacarzine (36), inosine (42), lodenosine (75), metisazone (14), moroxydine (22), pleconaril (77), tilorone (24), xenazoic acid (11)
-vircept	**see -cept**
-virine	**see -vir**
-viroc	**see -vir**
-virsen	**see -rsen**
-vi(.)mab	**see -mab**
-vos	**see -fos**
-vudine	**see -uridine**

USAN

-xaban **blood coagulation factor X_A inhibitors, antithrombotics**

(a) apixaban (93), betrixaban (98), darexaban (104), edoxaban (99), eribaxaban (98), fidexaban (91), letaxaban (104), otamixaban (86), razaxaban (90), rivaroxaban (90)

-xanox **see -ox/-alox**

USAN

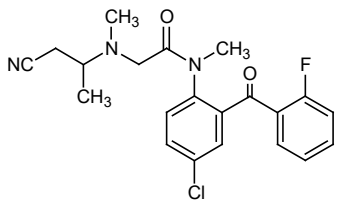
-xetan **chelating agents**

cabiotraxetan (103), clivatuzumab tetraxetan (113), epitumomab cituxetan (89), ibritumomab tiuxetan (86), lutetium (^{177}Lu) lilotomab satetraxetan (112), satoreotide tetraxetan (118), satoreotide trizoxetan (114), tetraxetan (92), yttrium (^{90}Y) clivatuzumab tetraxetan (102), yttrium (^{90}Y) tacatuzumab tetraxetan (93)

-yzine **see -izine**

-zafone **alozafone derivatives**

C.1.0.0



(a) alozafone (40), avizafone (64), ciprazafone (50), dinazafone (46), dulozafone (56), lorzafone (48), oxazafone (45), rilmazafone (55)

-zepine **see –pine**

-zolast **see -ast**

USAN

-zolid **oxazolidinone antibacterials**

cadazolid (104), contezolid (118), delpazolid (116), eperezolid (76), furazolidone (13), linezolid (76), posizolid (88), radezolid (99), sutezolid (106), tedizolid (104), vinzolidine (46)

		USAN
zomib	**proteasome inhibitors**	
L.0.0.0	(USAN: proteozome inhibitors)	
	bortezomib (88), carfilzomib (97), delanzomib (105), ixazomib (104), marizomib (102), oprozomib (107)	
-zone	**see -buzone**	
		USAN
-zotan	**serotonin 5-HT$_{1A}$ receptor agonists/antagonists acting primarly as neuroprotectors**	
C.0.0.0	ebalzotan (72), lecozotan (93), naluzotan (101), osemozotan (87), piclozotan (92), robalzotan (90), sarizotan (94)	

Annex 1

Procedure for the selection of recommended international nonproprietary names for pharmaceutical substances[1]

The following procedure shall be followed by the World Health Organization (hereinafter also referred to as "WHO") in the selection of recommended international nonproprietary names for pharmaceutical substances, in accordance with resolution WHA3.11 of the World Health Assembly, and in the substitution of such names.

Article 1

Proposals for recommended international nonproprietary names and proposals for substitution of such names shall be submitted to WHO on the form provided therefor. The consideration of such proposals shall be subject to the payment of an administrative fee designed only to cover the corresponding costs of the Secretariat of WHO ("the Secretariat"). The amount of this fee shall be determined by the Secretariat and may, from time to time, be adjusted.

Article 2

Such proposals shall be submitted by the Secretariat to the members of the Expert Advisory Panel on the International Pharmacopoeia and Pharmaceutical Preparations designated for this purpose, such designated members hereinafter referred to as "the INN Expert Group", for consideration in accordance with the "General principles for guidance in devising International Nonproprietary Names for Pharmaceutical Substances", annexed to this procedure.[2] The name used by the person discovering or first developing and marketing a pharmaceutical substance shall be accepted, unless there are compelling reasons to the contrary.

Article 3

Subsequent to the examination provided for in article 2, the Secretariat shall give notice that a proposed international nonproprietary name is being considered.

a. Such notice shall be given by publication in *WHO Drug Information*[3] and by letter to Member States and to national and regional pharmacopoeia commissions or other bodies designated by Member States.

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1 See Annex 1 in WHO Technical Report Series, No. 581, 1975. The original text was adopted by the Executive Board in resolution EB15.R7 and amended in resolution EB43.R9.

2 See Annex 2

3 Before 1987, lists of international nonproprietary names were published in the *Chronicle of the World Health Organization*.

(i) Notice shall also be sent to the person who submitted the proposal ("the original applicant") and other persons known to be concerned with a name under consideration.

b. Such notice shall:

(i) set forth the name under consideration;

(ii) identify the person who submitted the proposal for naming the substance, if so requested by such person;

(iii) identify the substance for which a name is being considered;

(iv) set forth the time within which comments and objections will be received and the person and place to whom they should be directed;

(v) state the authority under which WHO is acting and refer to these rules of procedure.

c. In forwarding the notice, the Secretariat shall request that Member States take such steps as are necessary to prevent the acquisition of proprietary rights in the proposed name during the period it is under consideration by WHO.

Article 4

Comments on the proposed name may be forwarded by any person to WHO within four months of the date of publication, under article 3, of the name in *WHO Drug Information*.

Article 5

A formal objection to a proposed name may be filed by any interested person within four months of the date of publication, under article 3, of the name in *WHO Drug Information*.

Such objection shall:

(i) identify the person objecting;

(ii) state his or her interest in the name;

(iii) set forth the reasons for his or her objection to the name proposed.

Article 6

Where there is a formal objection under article 5, WHO may either reconsider the proposed name or use its good offices to attempt to obtain withdrawal of the objection. Without prejudice to the consideration by WHO of a substitute name or names, a name shall not be selected by WHO as a recommended international nonproprietary name while there exists a formal objection thereto filed under article 5 which has not been withdrawn.

Article 7

Where no objection has been filed under article 5, or all objections previously filed have been withdrawn, the Secretariat shall give notice in accordance with subsection (a) of article 3 that the name has been selected by WHO as a recommended international nonproprietary name.

Article 8

In forwarding a recommended international nonproprietary name to Member States under article 7, the Secretariat shall:

a. request that it be recognized as the nonproprietary name for the substance; and
b. request that Member States take such steps as are necessary to prevent the acquisition of proprietary rights in the name and to prohibit registration of the name as a trademark or trade name.

Article 9

a. In the extraordinary circumstance that a previously recommended international nonproprietary name gives rise to errors in medication, prescription or distribution, or a demonstrable risk thereof, because of similarity with another name in pharmaceutical and/or prescription practices, and it appears that such errors or potential errors cannot readily be resolved through other interventions than a possible substitution of a previously recommended international nonproprietary name, or in the event that a previously recommended international nonproprietary name differs substantially from the nonproprietary name approved in a significant number of Member States, or in other such extraordinary circumstances that justify a substitution of a recommended international nonproprietary name, proposals to that effect may be filed by any interested person. Such proposals shall be submitted on the form provided therefore and shall:

(i) identify the person making the proposal;

(ii) state his or her interest in the proposed substitution; and

(iii) set forth the reasons for the proposal; and

(iv) describe, and provide documentary evidence regarding, the other interventions undertaken in an effort to resolve the situation, and the reasons why these other interventions were inadequate.

Such proposals may include a proposal for a new substitute international nonproprietary name, devised in accordance with the General principles, which takes into account the pharmaceutical substance for which the new substitute international nonproprietary name is being proposed.

The Secretariat shall forward a copy of the proposal, for consideration in accordance with the procedure described in subsection (b) below, to the INN Expert Group and the original applicant or its successor (if different from the person bringing the proposal for substitution and provided that the original applicant or its successor is known or can be found through diligent effort, including contacts with industry associations).

In addition, the Secretariat shall request comments on the proposal from:

(i) Member States and national and regional pharmacopoeia commissions or other bodies designated by Member States (by including a notice to that effect in the letter referred to in article 3(a), and

(ii) any other persons known to be concerned by the proposed substitution.

The request for comments shall:

(i) state the recommended international nonproprietary name that is being proposed for substitution (and the proposed substitute name, if provided);

(ii) identify the person who submitted the proposal for substitution (if so requested by such person);

(iii) identify the substance to which the proposed substitution relates and reasons put forward for substitution;

(iv) set forth the time within which comments will be received and the person and place to whom they should be directed; and

(v) state the authority under which WHO is acting and refer to these rules of procedure.

Comments on the proposed substitution may be forwarded by any person to WHO within four months of the date of the request for comments.

b. After the time period for comments referred to above has elapsed, the Secretariat shall forward any comments received to the INN Expert Group, the original applicant or its successor and the person bringing the proposal for substitution. If, after consideration of the proposal for substitution and the comments received, the INN Expert Group, the person bringing the proposal for substitution and the original applicant or its successor all agree that there is a need to substitute the previously recommended international nonproprietary name, the Secretariat shall submit the proposal for substitution to the INN Expert Group for further processing.

Notwithstanding the foregoing, the original applicant or its successor shall not be entitled to withhold agreement to a proposal for substitution in the event the original applicant or its successor has no demonstrable continuing interest in the recommended international nonproprietary name proposed for substitution.

In the event that a proposal for substitution shall be submitted to the INN Expert Group for further processing, the INN Expert Group will select a new international nonproprietary name in accordance with the General principles referred to in article 2 and the procedure set forth in articles 3 to 8 inclusive. The notices to be given by the Secretariat under article 3 and article 7, respectively, including to the original applicant or its successor (if not the same as the person proposing the substitution, and provided that the original applicant or its successor is known or can be found through diligent effort, including contacts with industry associations), shall in such event indicate that the new name is a substitute for a previously recommended international nonproprietary name and that Member States may wish to make transitional arrangements in order to accommodate existing products that use the previously recommended international nonproprietary name on their label in accordance with national legislation.

If, after consideration of the proposal for substitution and the comments received in accordance with the procedure described above, the INN Expert Group, the original applicant or its successor and the person bringing the proposal for

substitution do not agree that there are compelling reasons for substitution of a previously recommended international nonproprietary name, this name shall be retained (provided always that the original applicant or its successor shall not be entitled to withhold agreement to a proposal for substitution in the event that the original applicant or its successor has no demonstrable continuing interest in the recommended international nonproprietary name proposed to be substituted). In such an event, the Secretariat shall advise the person having proposed the substitution, as well as the original applicant or its successor (if not the same as the person proposing the substitution, and provided that the original applicant or its successor is known or can be found through diligent effort, including contacts with industry associations), Member States, national and regional pharmacopoeia commissions, other bodies designated by Member States, and any other persons known to be concerned by the proposed substitution that, despite a proposal for substitution, it has been decided to retain the previously recommended international nonproprietary name (with a description of the reason(s) why the proposal for substitution was not considered sufficiently compelling).

Annex 2

General principles for guidance in devising international nonproprietary names for pharmaceutical substances*

1. International Nonproprietary Names (INN) should be distinctive in sound and spelling. They should not be inconveniently long and should not be liable to confusion with names in common use.

2. The INN for a substance belonging to a group of pharmacologically related substances should, where appropriate, show this relationship. Names that are likely to convey to a patient an anatomical, physiological, pathological or therapeutic suggestion should be avoided.

   These primary principles are to be implemented by using the following secondary principles:

3. In devising the INN of the first substance in a new pharmacological group, consideration should be given to the possibility of devising suitable INN for related substances, belonging to the new group.

4. In devising INN for acids, one-word names are preferred; their salts should be named without modifying the acid name, e.g. "oxacillin" and "oxacillin sodium", "ibufenac" and "ibufenac sodium".

5. INN for substances which are used as salts should in general apply to the active base or the active acid. Names for different salts or esters of the same active substance should differ only in respect of the name of the inactive acid or the inactive base.

   For quaternary ammonium substances, the cation and anion should be named appropriately as separate components of a quaternary substance and not in the amine-salt style.

6. The use of an isolated letter or number should be avoided; hyphenated construction is also undesirable.

7. To facilitate the translation and pronunciation of INN, "f" should be used instead of "ph", "t" instead of "th", "e" instead of "ae" or "oe", and "i" instead of "y"; the use of the letters "h" and "k" should be avoided.

8. Provided that the names suggested are in accordance with these principles, names proposed by the person discovering or first developing and marketing a pharmaceutical preparation, or names already officially in use in any country, should receive preferential consideration.

9. Group relationship in INN (see Guiding Principle 2) should if possible be shown by using a common stem. The following list contains examples of stems for groups of substances, particularly for new groups. There are many other stems in active use.* Where a stem is shown without any hyphens it may be used anywhere in the name.

Latin	*English*	
-acum	*-ac*	anti-inflammatory agents, ibufenac derivatives
-adolum	*-adol)*	analgesics
-adol-	*-adol-)*	
-astum	*-ast*	antiasthmatic, antiallergic substances not acting primarily as antihistaminics
-astinum	*-astine*	antihistaminics
-azepamum	*-azepam*	diazepam derivatives
bol	*bol*	anabolic steroids
-cain-	*-cain-*	class I antiarrhythmics, procainamide and lidocaine derivatives
-cainum	*-caine*	local anaesthetics
cef-	*cef-*	antibiotics, cefalosporanic acid derivatives
-cillinum	*-cillin*	antibiotics, 6-aminopenicillanic acid derivatives
-conazolum	*-conazole*	systemic antifungal agents, miconazole derivatives
cort	*cort*	corticosteroids, except prednisolone derivatives
-coxibum	*-coxib*	selective cyclo-oxygenase inhibitors
-entanum	*-entan*	endothelin receptor antagonists
gab	*gab*	gabamimetic agents
gado-	*gado-*	diagnostic agents, gadolinium derivatives
-gatranum	*-gatran*	thrombin inhibitors, antithrombotic agents
gest	*gest*	steroids, progestogens
gli	*gli*	antihyperglycaemics
io-	*io-*	iodine-containing contrast media
-metacinum	*-metacin*	anti-inflammatory, indometacin derivatives
-mycinum	*-mycin*	antibiotics, produced by *Streptomyces* strains
-nidazolum	*-nidazole*	antiprotozoals and radiosensitizers, metronidazole derivatives
-ololum	*-olol*	β-adrenoreceptor antagonists
-oxacinum	*-oxacin*	antibacterials, nalidixic acid derivatives
-platinum	*-platin*	antineoplastic agents, platinum derivatives
-poetinum	*-poetin*	erythropoietin type blood factors
-pril(at)um	*-pril(at)*	angiotensin-converting enzyme inhibitors
-profenum	*-profen*	anti-inflammatory agents, ibuprofen derivatives
prost	*prost*	prostaglandins

-relinum	*-relin*	pituitary hormone release-stimulating peptides
-sartanum	*-sartan*	angiotensin II receptor antagonists, antihypertensive (non-peptidic)
-vaptanum	*-vaptan*	vasopressin receptor antagonists
vin-	*vin-)*	vinca alkaloids
-vin-	*-vin-)*	

* In its twentieth report (WHO Technical Report Series, No. 581, 1975), the WHO Expert Committee on Nonproprietary Names for Pharmaceutical Substances reviewed the general principles for devising, and the procedures for selecting, international nonproprietary names (INN) in the light of developments in pharmaceutical compounds in recent years. The most significant change has been the extension to the naming of synthetic chemical substances of the practice previously used for substances originating in or derived from natural products. This practice involves employing a characteristic "stem" indicative of a common property of the members of a group. The reasons for, and the implications of, the change are fully discussed.

Annex 3

Annex 3-a Current scheme for monoclonal antibodies

- INN for monoclonal antibodies (mAb) are composed by a random prefix, an infix, which indicates the target (molecule, cell and organ) class, and by the stem -mab as a suffix (Table 1).
- The stem *-mab* is to be used for all substances containing an immunoglobulin variable domain which binds to a defined target.

Table 1: Nomenclature scheme for monoclonal antibodies (mAb).

Prefix:	Infix: target class		Stem:
random	*-ami-*	serum amyloid protein (SAP)/amyloidosis *(pre-substem)*	*-mab*
	-ba-	bacterial	
	-ci-	cardiovascular	
	-fung-	fungal	
	-gros-	skeletal muscle mass related growth factors and receptors *(pre-substem)*	
	-ki-	interleukin	
	-li-	immunomodulating	
	-ne-	neural	
	-os-	bone	
	-ta-	tumour	
	-toxa-	toxin	
	-vet-	veterinary use	
	-vi-	viral	

Second word

If the monoclonal antibody is conjugated to another protein or to a chemical (e.g. chelator), identification of this conjugate is accomplished by use of a separate, second word or acceptable chemical designation. For instance, for mAbs conjugated to a toxin, the suffix *-tox* is used in the second word.

If the monoclonal antibody is radiolabelled, the radioisotope is listed first in the INN, e.g. *technetium (^{99m}Tc) nofetumomab merpentan (81)*.

For information on monoclonal antibodies fused to other proteins and for more details, please refer to the "*INN for biological and biotechnological substances, a review*", available on the WHO INN Programme website: http://www.who.int/medicines/services/inn/en/.

Annex 3-b Previous naming scheme for monoclonal antibodies (From proposed INN Lists 103 up to 117)

- INN for monoclonal antibodies (mAb) are composed of a prefix, a substem A, a substem B and a suffix.
- The common stem for mAbs is -mab, placed as a suffix.
- The stem *-mab* is to be used for all products containing an immunoglobulin variable domain which binds to a defined target.
- **Substem B** indicates the species on which the immunoglobulin sequence of the mAb is based (shown in Table 2).

Table 2: Substem B for the species.

-a-	rat
-axo-	rat-mouse (pre-substem)
-e-	hamster
-i-	primate
-o-	mouse
-u-	human
-vet-	veterinary use (pre-substem)
-xi-	chimeric
-xizu-	chimeric-humanized
-zu-	humanized

The distinction between chimeric and humanized antibodies is as follows:

Chimeric: A chimeric antibody is one for which both chain types are chimeric as a result of antibody engineering. A chimeric chain is a chain that contains a foreign variable domain (originating from one species other than human, or synthetic or engineered from any species including human) linked to a constant region of human origin. The variable domain of a chimeric chain has a V region amino acid sequence which, analysed as a whole, is closer to non-human species than to human.

Humanized: A humanized antibody is one for which both chain types are humanized as a result of antibody engineering. A humanized chain is typically a chain in which the complementarity determining regions (CDR) of the variable domains are foreign (originating from one species other than human, or synthetic) whereas the remainder of the chain is of human origin. Humanization assessment is based on the resulting amino acid sequence, and not on the methodology per se, which allows protocols other than grafting to be used. The variable domain of a humanized chain has a V region amino acid sequence which, analysed as a whole, is closer to human than to other species.

Note: The infix

-xizu- is used for an antibody having both chimeric and humanized chains.

-axo- is used for an antibody having both rat and mouse chains.

■ **Substem A** indicates the target (molecule, cell and organ) class (shown in Table 3).

Table 3: Substem A for target class.

-b(a)-	bacterial
-am(i)-	serum amyloid protein (SAP)/amyloidosis (pre-substem)
-c(i)-	cardiovascular
-f(u)-	fungal
-gr(o)-	skeletal muscle mass related growth factors and receptors (pre-substem)
-k(i)-	interleukin
-l(i)-	immunomodulating
-n(e)-	neural
-s(o)-	bone
-tox(a)-	toxin
-t(u)-	tumour
-v(i)-	viral

In principle, a single letter, e.g. *-b-* for bacterial is used as substem A. Whenever substem B starts with a consonant (e.g. *x* or *z),* to avoid problems in pronunciation, an additional vowel indicated in the table, e.g. *-ba-* is inserted.

Prefix

The prefix should be random, i.e. the only requirement is to contribute to a euphonious and distinctive name.

Second word

If the monoclonal antibody is conjugated to another protein or to a chemical (e.g. chelator), identification of this conjugate is accomplished by use of a separate, second word or acceptable chemical designation. For instance, for mAbs conjugated to a toxin, the suffix *-tox* is used in the second word.

If the monoclonal antibody is radiolabelled, the radioisotope is listed first in the INN, e.g. *technetium (^{99m}Tc) nofetumomab merpentan (81).*

Annex 3-c Previous naming scheme for monoclonal antibodies (up to proposed INN List 102)

- The common stem for monoclonal antibodies is *-mab*.
- Sub-stems for source of product:

a	rat
axo (pre-sub-stem)	rat-murine hybrid
e	hamster
i	primate
o	mouse
u	human
xi	chimeric
zu	humanized

The distinction between chimeric and humanized antibodies is as follows:

A chimeric antibody is one that contains contiguous foreign-derived amino acids comprising the entire variable region of both heavy and light chains linked to heavy and light constant regions of human origin.

A humanized antibody has segments of foreign-derived amino acids interspersed among variable region segments of human-derived amino acid residues and the humanized heavy-variable and light-variable regions are linked to heavy and light constant regions of human origin.

- Sub-stems for disease or target class:

-ba(c)-	bacterial
-ci(r)-	cardiovascular
-fung-	fungal
-ki(n)- (pre-sub-stem)	interleukin
-le(s)-	inflammatory lesions
-li(m)-	immunomodulator
-os-	bone
-vi(r)-	viral

- tumours:

-co(l)-	colon
-go(t)-	testis
-go(v)-	ovary
-ma(r)-	mammary
-me(l)-	melanoma
-pr(o)-	prostate
-tu(m)-	miscellaneous

Whenever there is a problem in pronunciation, the final letter of the sub-stems for diseases or targets may be deleted, e.g. *-vi(r)-*, *-ba(c)-*, *-li(m)-*, *-co(l)-*, etc.

Prefix:

Should be random e.g. the only requirement is to contribute to a euphonious and distinctive name.

Second word:

If the product is radiolabelled or conjugated to another chemical, such as toxin, identification of this conjugate is accomplished by use of a separate, second word or acceptable chemical designation.

If the monoclonal antibody is used as a carrier for a radioisotope, the latter will be listed first in the INN, e.g. *technetium (^{99m}Tc) pintumomab (86)*.

***-toxa-* infix**

For monoclonals conjugated to a toxin, the infix *-toxa-* can be inserted either into the first (main) name or included in the second word.

References

World Health Organization. International Nonproprietary Names (INN) Working Group Meeting on Nomenclature for Monoclonal Antibodies (mAb), Geneva, October 2008, Meeting report, INN Working Document 08.242 *

World Health Organization. International Nonproprietary Names (INN) for biological and biotechnological substances (a review), INN Working Document 05.179, update November 2009*

World Health Organization. The use of stems in the selection of International Nonproprietary Names (INN) for pharmaceutical substances, 2009, *WHO/PSM/QSM/2009.3**

** These documents are available on the INN Programme Website at: http://www.who.int/medicines/services/inn/en/index.html*

Annex 4

INN for gene therapy substances

In 2005, a two-word nomenclature scheme for substances for gene therapies was formally adopted by the members of the INN Expert Group designated to deal with the selection of nonproprietary names. The 2016 updated scheme for substances for gene therapies using vectors based on recombinant nucleic acid sequences (DNA vectors, e.g. plasmid DNA, naked or complexed), genetically modified micro-organisms (bacterial vectors) or viruses (replication defective, replication competent or replication conditional viral vectors) as shown in 4. This scheme does not apply to gene therapies based on administration of genetically modified cells, although a vector might be used *ex-vivo* or *in-vitro* for manufacturing of those cells prior to administration.

Table 4: Two-word scheme for substances for gene therapies (plasmid-, viral vector- and bacteria-based).

	Prefix	**Infix**	**Suffix**
word 1 (gene component)	random to contribute to euphonious and distinctive name	to identify the gene using, when available, existing infixes for biological products, e.g.: *-cima-* cytosine deaminase *-ermin-* growth factor *-kin-* interleukin *-lim-* immunomodulator *-lip-* human lipoprotein lipase *-mul-* multiple gene *-stim-* colony stimulating factor *-tima-* thymidine kinase *-tusu-* tumour suppression	-(a vowel)*gene* e.g. *-(o)gene*
word 2 (vector component)	random to contribute to euphonious and distinctive name	to identify the viral vector type, e.g.: *-adeno-* adenovirus *-cana-* canarypox virus *-foli-* fowlpox virus *-erpa-* herpes virus *-lenti-* lentivirus *-morbilli-* Paramyxoviridae morbillivirus *-parvo-* adeno-associated virus (Parvoviridae dependovirus) *-retro-* other retrovirus *-vaci-* vaccinia virus	*-vec* (non-replicating viral vector) *-repvec* (replicating viral vector)
		to identify the bacterial vector type, e.g.: *-lis-* *Listeria monocytogenes*	*-bac* (bacteria vector)
			-plasmid (plasmid vector)

In the case of substances for gene therapy based on non-plasmid DNA, there is no need for a second word in the name.

Annex 5

Reference to publications containing proposed INN Lists

List no.	and reference	List no.	and reference
1	*Chron. Wld Hlth Org.* **7**: 299 (1953)	53	*WHO Chronicle* **39**: No. 1, suppl. (1985)
2	*Chron. Wld Hlth Org.* **8**: 216 (1954)	54	*WHO Chronicle* **39**: No. 4, suppl. (1985)
3	*Chron. Wld Hlth Org.* **9**: 313 (1954)	55	*WHO Chronicle* **40**: No. 1, suppl. (1986)
4	*Chron. Wld Hlth Org.* **10**: 28 (1956)	56	*WHO Chronicle* **40**: No. 5, suppl. (1986)
5	*Chron. Wld Hlth Org.* **11**: 231 (1957)	57	*WHO Drug Information* **1**: No. 2 (1987)
6	*Chron. Wld Hlth Org.* **12**: 102 (1958)	58	*WHO Drug Information* **1**: No. 3 (1987)
7	*WHO Chronicle* **13**: 105 (1959)	59	*WHO Drug Information* **2**: No. 2 (1988)
8	*WHO Chronicle* **13**: 152 (1959)	60	*WHO Drug Information* **2**: No. 4 (1988)
9	*WHO Chronicle* **14**: 168 (1960)	61	*WHO Drug Information* **3**: No. 2 (1989)
10	*WHO Chronicle* **14**: 244 (1960)	62	*WHO Drug Information* **3**: No. 4 (1989)
11	*WHO Chronicle* **15**: 314 (1961)	63	*WHO Drug Information* **4**: No. 2 (1990)
12	*WHO Chronicle* **16**: 385 (1962)	64	*WHO Drug Information* **4**: No. 4 (1990)
13	*WHO Chronicle* **17**: 389 (1963)	65	*WHO Drug Information* **5**: No. 2 (1991)
14	*WHO Chronicle* **18**: 433 (1964)	66	*WHO Drug Information* **5**: No. 4 (1991)
15	*WHO Chronicle* **19**: 446 (1965)	67	*WHO Drug Information* **6**: No. 2 (1992)
16	*WHO Chronicle* **20**: 216 (1966)	68	*WHO Drug Information* **6**: No. 4 (1992)
17	*WHO Chronicle* **21**: 70 (1967)	69	*WHO Drug Information* **7**: No. 2 (1993)
18	*WHO Chronicle* **21**: 478 (1967)	70	*WHO Drug Information* **7**: No. 4 (1993)
19	*WHO Chronicle* **22**: 112 (1968)	71	*WHO Drug Information* **8**: No. 2 (1994)
20	*WHO Chronicle* **22**: 407 (1968)	72	*WHO Drug Information* **8**: No. 4 (1994)
21	*WHO Chronicle* **23**: 183 (1969)	73	*WHO Drug Information* **9**: No. 2 (1995)
22	*WHO Chronicle* **23**: 418 (1969)	74	*WHO Drug Information* **9**: No. 4 (1995)
23	*WHO Chronicle* **24**: 119 (1970)	75	*WHO Drug Information* **10**: No. 2 (1996)
24	*WHO Chronicle* **24**: 413 (1970)	76	*WHO Drug Information* **10**: No. 4 (1996)
25	*WHO Chronicle* **25**: 123 (1971)	77	*WHO Drug Information* **11**: No. 2 (1997)
26	*WHO Chronicle* **25**: 415 (1971)	78	*WHO Drug Information* **11**: No. 4 (1997)
27	*WHO Chronicle* **26**: 121 (1972)	79	*WHO Drug Information* **12**: No. 2 (1998)
28	*WHO Chronicle* **26**: 414 (1972)	80	*WHO Drug Information* **12**: No. 4 (1998)
29	*WHO Chronicle* **27**: 120 (1973)	81	*WHO Drug Information* **13**: No. 2 (1999)
30	*WHO Chronicle* **27**: 380 (1973)	82	*WHO Drug Information* **13**: No. 4 (2000)
31	*WHO Chronicle* **28**: 133 (1974)	83	*WHO Drug Information* **14**: No. 2 (2000)
32	*WHO Chronicle* **28**: No. 9, suppl. (1974)	84	*WHO Drug Information* **14**: No. 4 (2000)
33	*WHO Chronicle* **29**: No. 3, suppl. (1975)	85	*WHO Drug Information* **15**: No. 2 (2001)
34	*WHO Chronicle* **29**: No. 9, suppl. (1975)	86	*WHO Drug Information* **16**: No. 1 (2002)
35	*WHO Chronicle* **30**: No. 3, suppl. (1976)	87	*WHO Drug Information* **16**: No. 2 (2002)
36	*WHO Chronicle* **30**: No. 9, suppl. (1976)	88	*WHO Drug Information* **17**: No. 1 (2003)
37	*WHO Chronicle* **31**: No. 3, suppl. (1977)	89	*WHO Drug Information* **17**: No. 3 (2003)
38	*WHO Chronicle* **31**: No. 9, suppl. (1977)	90	*WHO Drug Information* **18**: No. 1 (2004)
39	*WHO Chronicle* **32**: No. 3, suppl. (1978)	91	*WHO Drug Information* **18**: No. 2 (2004)
40	*WHO Chronicle* **32**: No. 9, suppl. (1978)	92	*WHO Drug Information* **18**: No. 4 (2004)
41	*WHO Chronicle* **33**: No. 3, suppl. (1979)	93	*WHO Drug Information* **19**: No. 2 (2005)
42	*WHO Chronicle* **33**: No. 9, suppl. (1979)	94	*WHO Drug Information* **19**: No. 4 (2005)
43	*WHO Chronicle* **34**: No. 3, suppl. (1980)	95	*WHO Drug Information* **20**: No. 2 (2006)
44	*WHO Chronicle* **34**: No. 9, suppl. (1980)	96	*WHO Drug Information* **20**: No. 4 (2006)
45	*WHO Chronicle* **35**: No. 3, suppl. (1981)	97	*WHO Drug Information* **21**: No. 2 (2007)
46	*WHO Chronicle* **35**: No. 5, suppl. (1981)	98	*WHO Drug Information* **21**: No. 4 (2007)
47	*WHO Chronicle* **36**: No. 2, suppl. (1982)	99	*WHO Drug Information* **22**: No. 2 (2008)
48	*WHO Chronicle* **36**: No. 5, suppl. (1982)	100	*WHO Drug Information* **22**: No. 4 (2008)
49	*WHO Chronicle* **37**: No. 2, suppl. (1983)	101	*WHO Drug Information* **23**: No. 2 (2009)
50	*WHO Chronicle* **37**: No. 5, suppl. (1983)	102	*WHO Drug Information* **23**: No. 4 (2009)
51	*WHO Chronicle* **38**: No. 2, suppl. (1984)	103	*WHO Drug Information* **24**: No. 2 (2010)
52	*WHO Chronicle* **38**: No. 4, suppl. (1984)	104	*WHO Drug Information* **24**: No. 4 (2010)

List no. and reference		List no. and reference	
105	*WHO Drug Information* **25**: No. 2 (2011)	113	WHO Drug Information 29: No. 2 (2015)
106	*WHO Drug Information* **25**: No. 4 (2011)	114	WHO Drug Information 29: No. 4 (2015)
107	*WHO Drug Information* **26**: No. 2 (2012)	115	WHO Drug Information 30: No. 2 (2016)
108	*WHO Drug Information* **26**: No. 4 (2012)	116	WHO Drug Information 30: No. 4 (2016)
109	*WHO Drug Information* **27**: No. 2 (2013)	117	WHO Drug Information 31: No. 2 (2017)
110	WHO Drug Information 27: No. 4 (2013)	118	WHO Drug Information 31: No. 4 (2017)
111	WHO Drug Information 28: No. 2 (2014)	119	WHO Drug Information 32: No. 2 (2018)
112	WHO Drug Information 28: No. 4 (2014)		

Lists 1-117 of proposed INN are included in Cumulative List No. 17, WHO, Geneva, 2017 (available in CD-ROM only)

Annex 6

Why INN?

Since the number of drug substances being registered during the last decades is constantly increasing, there is a strong need to ensure the identification of each pharmaceutical compound by a unique, universally available and accepted name. The existence of an international nomenclature system for pharmaceutical products is crucial for the clear identification, safe prescription and dispensing of medicines to patients, and for communication and exchange of information among health professionals and scientists worldwide.

An **International Nonproprietary Name (INN)** identifies a pharmaceutical substance by a **unique name that is globally recognized and is public property**. A nonproprietary name is also known as a generic name. Generic names are intended to be used in pharmacopoeias, labeling, advertising, drug regulation and scientific literature.

WHO has a constitutional mandate to offer recommendations to its Member States on any matter that falls within its competence. This includes setting norms and standards for pharmaceutical products moving in international commerce.

The INN system as it exists today was initiated in 1950 by the *World Health Assembly resolution WHA3.11* and began operating in 1953, when the first list of International Nonproprietary Names for pharmaceutical substances was published.

So far, some 9824 names have been designated as INN, and this number is growing every year by some 200-240 new INN.

INN are selected in close collaboration with national nomenclature commissions (e.g. BAN *British Approved name*, JAN *Japanese Accepted Name*, USAN *United States Adopted Name* etc.). Today, the INN Committee assumes the leading role in assigning generic names to drug substances. Instances where a national generic name for a new pharmaceutical substance is different from the INN are rare exceptions.

As unique names, INN have to be distinctive in sound and spelling, and should not be liable to confusion with other names in common use (e.g. trade marks). To make INN universally available they are formally placed by WHO in the public domain, hence their designation as "nonproprietary". They can be used without any restriction whatsoever to identify pharmaceutical substances. The clear depiction of INN on labels assures that prescribers and users alike can easily identify the nature of the pharmacologically active substance in a brand product. The use of INN is already common in research and clinical documentation, while the importance of the Programme is growing further due to the expanding use of generic names for pharmaceutical products.

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World Health Organization

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RHT / TSN Technologies Standards and Norms - Department of Essential Medicines and Health Products (EMP) - Access to Medicines, Vaccines and Pharmaceuticals (MVP)