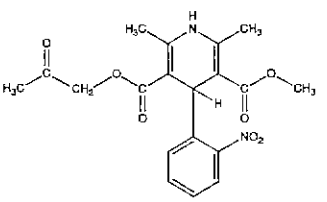
International Nonproprietary Names for Pharmaceutical Substances (INN)

Notice is hereby given that, in accordance with article 3 of the Procedure for the Selection of Recommended International Nonproprietary Names for Pharmaceutical Substances, the following names are under consideration by the World Health Organization as Proposed International Nonproprietary Names. The inclusion of a name in the lists of Proposed International Nonproprietary Names does not imply any recommendation of the use of the substance in medicine or pharmacy.

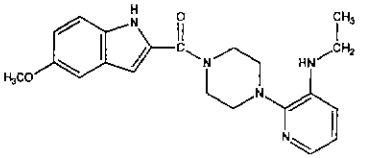
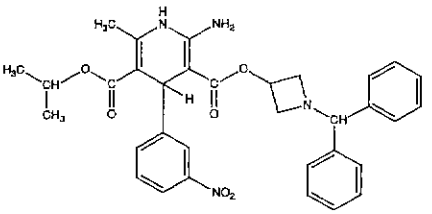
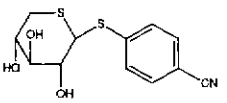
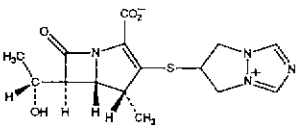
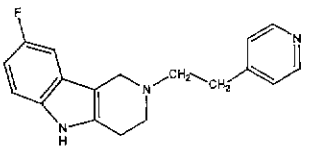
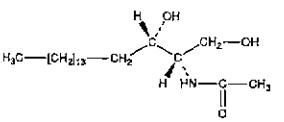
Comments on, or formal objections to, the proposed names may be forwarded by any person to the INN Programme of the World Health Organization within four months of the date of their publication in *WHO Drug Information*, i.e., for **List 69 Proposed INN not later than 31 January 1994.**

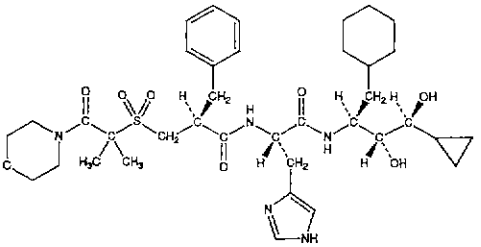
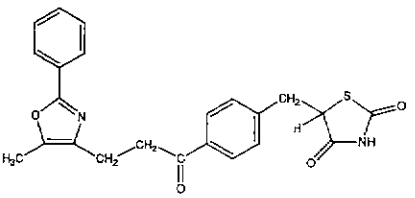
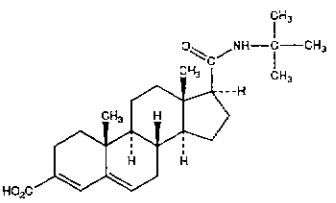
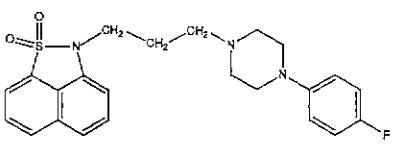
Proposed International Nonproprietary Names: List 69

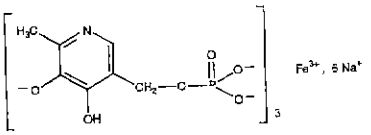
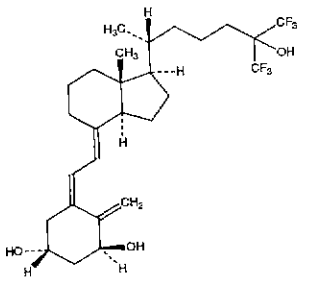
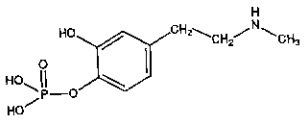
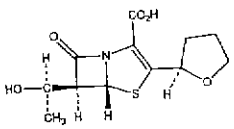
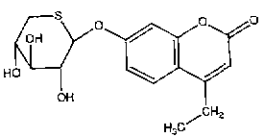
Lists of proposed (1–65) and recommended (1–31) international nonproprietary names can be found in Cumulative List No. 8, 1992.

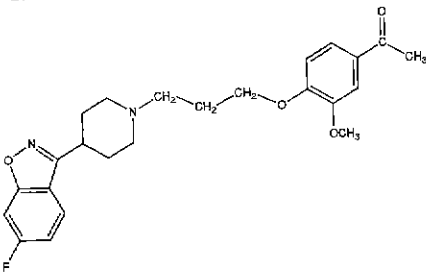
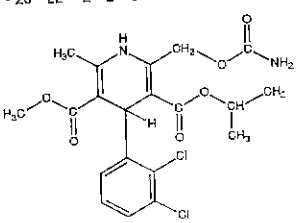
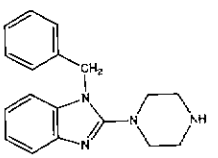
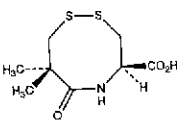
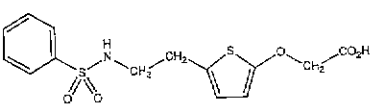
Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description; Molecular and Graphic formulae Chemical Abstracts Service (CAS) registry number Action and Use**
alvirceptum sudotoxum alvircept sudotox	N^2-L-methionyl-1-178-antigen CD 4 (human clone pT4B protein moiety reduced) (178→248′)-protein with 248-L-histidine-249-L-methionine-250-L-alanine-251-L-glutamic acid-248-613-exotoxin A (*Pseudomonas aeruginosa* reduced) $C_{2600}H_{4130}N_{748}O_{812}S_{10}$ 137487-62-8 *antiviral*
aranidipinum aranidipine	(±)-acetonyl methyl 1,4-dihydro-2,6-dimethyl-4-(*o*-nitrophenyl)-3,5-pyridinedicarboxylate $C_{19}H_{20}N_2O_7$ 86780-90-7 *calcium channel blocker* 

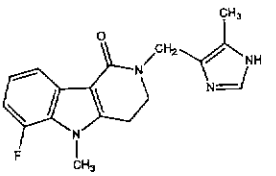
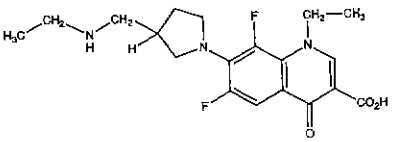
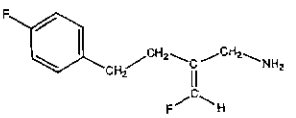
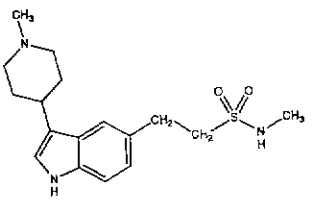
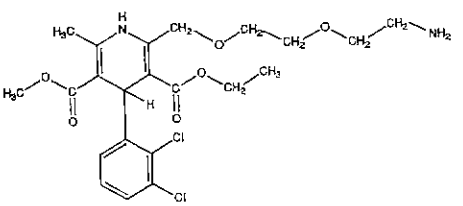
**Action and Use: The statements in italics indicating the action and use are based largely on information supplied by the manufacturer. The information is meant to provide an indication of the potential use of new substances at the time they are accorded Proposed International Nonproprietary Names. WHO is not in a position either to uphold these statements or to comment on the efficacy of the action claimed. Because of their provisional nature, these descriptors will be neither revised nor included in the Cumulative Lists of INNs.*

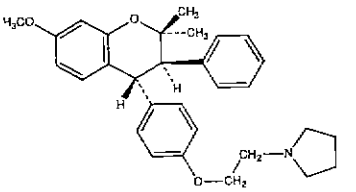
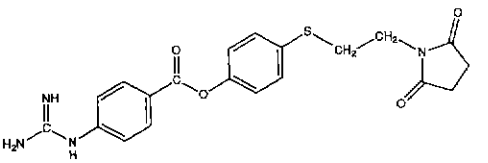
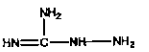
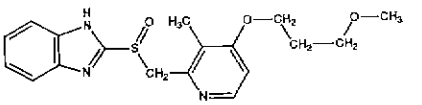
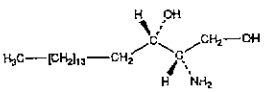
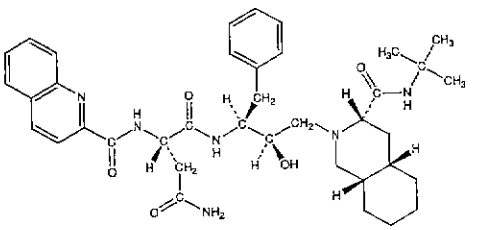
Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description; Molecular and Graphic formulae Chemical Abstracts Service (CAS) registry number Action and Use**
atevirdinum atevirdine	1-[3-(ethylamino)-2-pyridyl]-4-[(5-methoxyindol-2-yl)carbonyl]piperazine $C_{21}H_{25}N_5O_2$ 136816-75-6 *antiviral* 
azelnidipinum azelnidipine	3-[1-(diphenylmethyl)-3-azetidinyl] 5-isopropyl (±)-2-amino-1,4-dihydro-6-methyl-4-(*m*-nitrophenyl)-3,5-pyridinedicarboxylate $C_{33}H_{34}N_4O_6$ 123524-52-7 *calcium channel blocker* 
beciparcilum beciparcil	*p*-[(5-thio-β-D-xylopyranosyl)thio]benzonitrile $C_{12}H_{13}NO_3S_2$ 130782-54-6 *antithrombotic* 
biapenemum biapenem	6-[[(4*R*,5*S*,6*S*)-2-carboxy-6-[(1*R*)-1-hydroxyethyl]-4-methyl-7-oxo-1-aza=bicyclo[3.2.0]hept-2-en-3-yl]thio]-6,7-dihydro-5*H*-pyrazolo[1,2-*a*]-*s*-triazol-4-ium hydroxide, inner salt $C_{15}H_{18}N_4O_4S$ 120410-24-4 *antibacterial* 
carvotrolinum carvotroline	8-fluoro-2,3,4.5-tetrahydro-2-[2-(4-pyridyl)ethyl]-1*H*-pyrido[4,3-*b*] indole $C_{18}H_{18}FN_3$ 107266-08-0 *antipsychotic* 
cedefingolum cedefingol	*N*-[(1*S*,2*S*)-2-hydroxy-1-(hydroxymethyl)heptadecyl]acetamide $C_{20}H_{41}NO_3$ 35301-24-7 *antipsoriatic* 

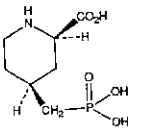
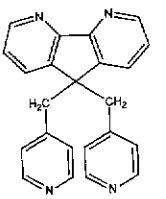
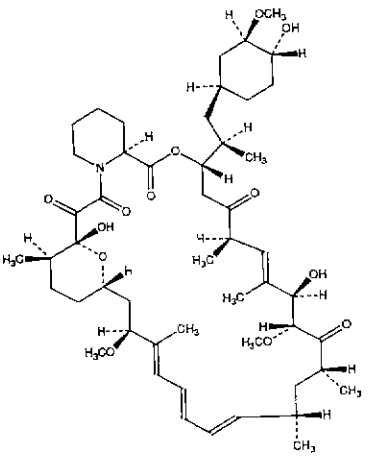
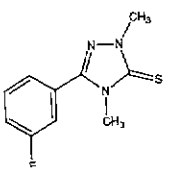
Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description; Molecular and Graphic formulae Chemical Abstracts Service (CAS) registry number Action and Use**
ciprokirenum ciprokiren	(α*S*)-*N*-[(1*S*,2*R*,3*S*)-1-(cyclohexylmethyl)-3-cyclopropyl-2,3-dihydroxypropyl]-α-[(α*S*)-α-[[[1-methyl-1-(morpholinocarbonyl)ethyl]sulfonyl]methyl]hydrocinnam=amido]imidazole-4-propionamide $C_{37}H_{55}N_5O_8S$ 143631-62-3 *renin inhibitor*
	
irglitazonum darglitazone	(±)-5-[*p*-[3-(5-methyl-2-phenyl-4-oxazolyl)propionyl]benzyl]-2,4-thiazolidinedione $C_{23}H_{20}N_2O_4S$ 141200-24-0 *hypoglycaemic*
	
edobacomabum edobacomab	immunoglobulin M (mouse monoclonal XMMEN-0E5 anti-endotoxin), disulfide with mouse monoclonal XMMEN-0E5 light chain, pentameric dimer 141410-98-2 *immunomodulator*
epristeridum epristeride	17β-(*tert*-butylcarbamoyl)androsta-3,5-diene-3-carboxylic acid $C_{25}H_{37}NO_3$ 119169-78-7 *testosterone reductase inhibitor*
	
fananserinum fananserin	2-[3-[4-(*p*-fluorophenyl)-1-piperazinyl]propyl]-2*H*-naphth[1,8-*cd*]isothiazole 1,1-dioxide $C_{23}H_{24}FN_3O_2S$ 127625-29-0 *serotonin receptor antagonist*
	

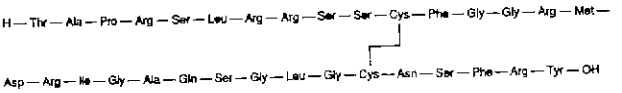
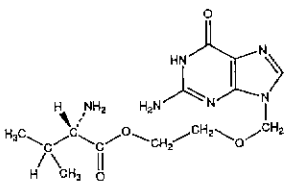
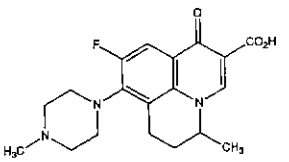
Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description; Molecular and Graphic formulae Chemical Abstracts Service (CAS) registry number Action and Use**
ferpifosatum natricum ferpifosate sodium	hexasodium tris[(4,5-dihydroxy-6-methyl-3-pyridinemethanol 3-phosphato)(3-)-O^3,O^3,O^5]ferrate(6-) $C_{21}H_{21}FeNa_6N_3O_{18}P_3$ 138708-32-4 *magnetic resonance contrast medium* 
flocalcitriolum flocalcitriol	(+)-(5*Z*,7*E*)-26,26,26,27,27,27-hexafluoro-9,10-secocholesta-5,7,10(19)-triene-1α,3β,25-triol $C_{27}H_{38}F_6O_3$ 83805-11-2 *vitamine D_3 analogue* 
fosopaminum fosopamine	4-[2-(methylamino)ethyl]pyrocatechol 1-(dihydrogen phosphate) $C_9H_{14}NO_5P$ 103878-96-2 *dopamine receptor agonist* 
fropenemum fropenem	(+)-(5*R*,6*S*)-6-[(1*R*)-1-hydroxyethyl]-7-oxo-3-[(2*R*)-tetrahydro-2-furyl]-4-thia-1-azabicyclo[3.2.0]hept-2-ene-2-carboxylic acid $C_{12}H_{15}NO_5S$ 106560-14-9 *antibiotic* 
iliparcilum iliparcil	4-ethyl-7-[(5-thio-β-D-xylopyranosyl)oxy]coumarin $C_{16}H_{18}O_6S$ 137214-72-3 *antithrombotic* 

Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description; Molecular and Graphic formulae Chemical Abstracts Service (CAS) registry number Action and Use**
iloperidonum iloperidone	4′-[3-[4-(6-fluoro-1,2-benzisoxazol-3-yl)piperidino]propoxy]-3′-methoxyaceto=phenone $C_{24}H_{27}FN_2O_4$ 133454-47-4 *antipsychotic* 
...nildipinum ...emildipine	3-isopropyl 5-methyl (±)-4-(2,3-dichlorophenyl)-1,4-dihydro-2-(hydroxymethyl)-6-methyl-3,5-pyridinedicarboxylate, carbamate (ester) $C_{20}H_{22}Cl_2N_2O_6$ 125729-29-5 *calcium channel blocker* 
lerisetronum lerisetron	1-benzyl-2-(1-piperazinyl)benzimidazole $C_{18}H_{20}N_4$ 143257-98-1 *antiemetic* 
limazocicum limazocic	(–)-(*R*)-hexahydro-7,7-dimethyl-6-oxo-1,2,5-dithiazocine-4-carboxylic acid $C_8H_{13}NO_3S_2$ 128620-82-6 *hepatoprotective* 
linotrobanum linotroban	[[5-(2-benzenesulfonamidoethyl)-2-thienyl]oxy]acetic acid $C_{14}H_{15}NO_5S_2$ 120824-08-0 *antithrombotic* 

Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description; Molecular and Graphic formulae Chemical Abstracts Service (CAS) registry number Action and Use**
lurosetronum lurosetron	6-fluoro-2,3,4,5-tetrahydro-5-methyl-2-[(5-methylimidazol-4-yl)methyl]-1*H*-pyrido[4,3-*b*]indol-1-one $C_{17}H_{17}FN_4O$ 128486-54-4 *antiemetic* 
merafloxacinum merafloxacin	(±)-1-ethyl-7-[3-[(ethylamino)methyl]-1-pyrrolidinyl]-6,8-difluoro-1,4-dihydro-4-oxo-3-quinolinecarboxylic acid $C_{19}H_{23}F_2N_3O_3$ 110013-21-3 *antibacterial (veterinary)* 
mofegilinum mofegiline	(*E*)-2-(fluoromethylene)-4-(*p*-fluorophenyl)butylamine $C_{11}H_{13}F_2N$ 119386-96-8 *antiparkinsonian* 
naratriptanum naratriptan	*N*-methyl-3-(1-methyl-4-piperidyl)indole-5-ethanesulfonamide $C_{17}H_{25}N_3O_2S$ 121679-13-8 *antimigraine* 
olradipinum olradipine	3-ethyl 5-methyl (±)-2-[[2-(2-aminoethoxy)ethoxy]methyl]-4-(2,3-dichlorophenyl)-1,4-dihydro-6-methyl-3,5-pyridinedicarboxylate $C_{22}H_{28}Cl_2N_2O_6$ 115972-78-6 *calcium channel inhibitor* 

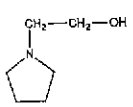
Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description; Molecular and Graphic formulae Chemical Abstracts Service (CAS) registry number Action and Use**
ormeloxifenum ormeloxifene	(±)-1-[2-[*p*-(*trans*-7-methoxy-2,2-dimethyl-3-phenyl-4-chromanyl)phenoxy]ethyl]= pyrrolidine $C_{30}H_{35}NO_3$ 78994-24-8 *oral contraceptive*  and enantiomer
patamostatum patamostat	*p*-[(2-succinimidoethyl)thio]phenyl *p*-guanidinobenzoate $C_{20}H_{20}N_4O_4S$ 114568-26-2 *protease inhibitor* 
pimagedinum pimagedine	aminoguanidine CH_6N_4 79-17-4 *aldose reductase inhibitor* 
rabeprazolum rabeprazole	2-[[[4-(3-methoxypropoxy)-3-methyl-2-pyridyl]methyl]sulfinyl]benzimidazole $C_{18}H_{21}N_3O_3S$ 117976-89-3 *antiulcer* 
reteplasum reteplase	173-L-serine-174-L-tyrosine-175-L-glutamine-173-527-plasminogen activator (human tissue-type) $C_{1736}H_{2653}N_{499}O_{522}S_{22}$ 133652-38-8 *thrombolytic*
ifingolum ifingol	(2*S*,3*S*)-2-amino-1,3-octadecanediol $C_{18}H_{39}NO_2$ 15639-50-6 *antipsoriatic* 
saquinavirum saquinavir	(*S*)-*N*-[(α*S*)-α-[(1*R*)-2-[(3*S*,4a*S*,8a*S*)-3-(*tert*-butylcarbamoyl)octahydro-2(1*H*)-isoquinolyl]-1-hydroxyethyl]phenethyl]-2-quinaldamido succinamide $C_{38}H_{50}N_6O_5$ 127779-20-8 *antiviral* 

Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description; Molecular and Graphic formulae Chemical Abstracts Service (CAS) registry number Action and Use**
selfotelum selfotel	*cis*-4-(phosphonomethyl)pipecolic acid $C_7H_{14}NO_5P$ 110347-85-8 *N-methyl-D-aspartate antagonist* 
sibopirdinum sibopirdine	5,5-bis(4-pyridylmethyl)-5*H*-cyclopenta[2,1-*b*:3,4-*b*']dipyridine $C_{23}H_{18}N_4$ 122955-18-4 *nootropic agent* 
sirolimusum sirolimus	(3*S*,6*R*,7*E*,9*R*,10*R*,12*R*,14*S*,15*E*,17*E*,19*E*,21*S*,23*S*,26*R*,27*R*,34a*S*)-9,10,12,13,14,21,22,23,24,25,26,27,32,33,34,34a-hexadecahydro-9,27-dihydroxy-3-[(1*R*)-2-[(1*S*,3*R*,4*R*)-4-hydroxy-3-methoxycyclohexyl]-1-methylethyl]-10,21-dimethoxy-6,8,12,14,20,26-hexamethyl-23,27-epoxy-3*H*-pyrido[2,1-*c*][1,4]oxaazacyclohen=triacontine-1,5,11,28,29(4*H*,6*H*,31*H*)-pentone $C_{51}H_{79}NO_{13}$ 53123-88-9 *immunosuppressant* 
somatosalmum somatosalm	somatotropin (Oncorhyncus mykiss clone ptGH-II isoform II reduced) $C_{952}H_{1524}N_{266}O_{290}S_8$ 123212-08-8 *growth hormone*
suritozolum suritozole	3-(*m*-fluorophenyl)-1,4-dimethyl-Δ^2-1,2,4-triazoline-5-thione $C_{10}H_{10}FN_3S$ 110623-33-1 *antidepressant* 

Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description; Molecular and Graphic formulae Chemical Abstracts Service (CAS) registry number Action and Use**
ularitidum ularitide	L-threonyl-L-alanyl-L-prolyl-L-arginyl-L-seryl-L-leucyl-L-arginyl-L-arginyl-L-seryl-L-seryl-L-cysteinyl-L-phenylalanylglycylglycyl-L-arginyl-L-methionyl-L-aspartyl-L-arginyl-L-isoleucylglycyl-L-alanyl-L-glutaminyl-L-serylglycyl-L-leucylglycyl-L-cysteinyl-L-asparaginyl-L-seryl-L-phenylalanyl-L-arginyl-L-tyrosine cyclic (11→27)-disulfide $C_{145}H_{234}N_{52}O_{44}S_3$ 118812-69-4 *diuretic* 
valaciclovirum valaciclovir	L-valine, ester with 9-[(2-hydroxyethoxy)methyl]guanine $C_{13}H_{20}N_6O_4$ 124832-26-4 *antiviral* 
vebufloxacinum vebufloxacin	(±)-9-fluoro-6,7-dihydro-5-methyl-8-(4-methyl-1-piperazinyl)-1-oxo-1*H*,5*H*-benzo[*ij*]quinolizine-2-carboxylic acid $C_{19}H_{22}FN_3O_3$ 79644-90-9 *antibacterial* 
zolimomabum aritoxum zolimomab aritox	immunoglobulin G 1 (mouse monoclonal H65-RTA anti-human antigen CD 5 heavy chain), disulfide with mouse monoclonal H65-RTA light chain, dimer, disulfide with ricin (castor-oil plant A-chain protein moiety) 141483-72-9 *immunomodulator*

Names for Radicals and Groups

Some substances for which a proposed international nonproprietary name has been established may be used in the form of salts or esters. The radicals or groups involved may be of complex composition and it is then inconvenient to refer to them in systematic chemical nomenclature. Consequently, shorter nonproprietary names for some radicals and groups have been devised or selected, and they are suggested for use with the proposed international nonproprietary names

epolaminum epolamine	1-pyrrolidineethanol $C_6H_{13}NO$ 2955-88-6 

AMENDMENTS TO PREVIOUS LISTS

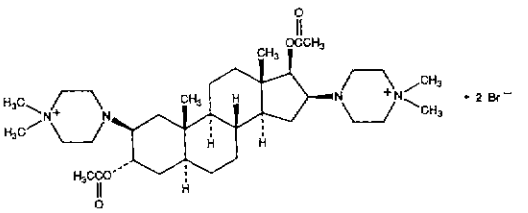
Supplement to WHO Chronicle Vol. 33, No. 3, 1979

Proposed International Nonproprietary Names (Prop. INN): List 41

p. 11 pipecuronii bromidum
pipecuronium bromide

replace the chemical name, the graphic formula and the CAS registry number by the following:

4,4′-(3α,17β-dihydroxy-5α-androstan-2β,16β-ylene)bis[1,1-dimethylpiperazinium] dibromide, diacetate (ester)
$C_{35}H_{62}Br_2N_4O_4$ 52212-02-9

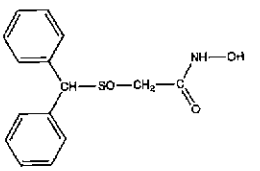


Supplement to WHO Chronicle Vol. 35, No. 5, 1981

Proposed International Nonproprietary Names (Prop. INN): List 46

p. 2 adrafinilum
adrafinil

replace the graphic formula by the following:



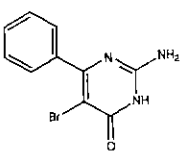
Supplement to WHO Chronicle Vol. 40, No. 1, 1986

Proposed International Nonproprietary Names (Prop. INN): List 55

p. 4 bropirimmum
bropirimine

replace the chemical name and the graphic formula by the following:

2-amino-5-bromo-6-phenyl-4(3*H*)-pyrimidinone



Supplement to WHO Chronicle Vol. 40, No. 5, 1986

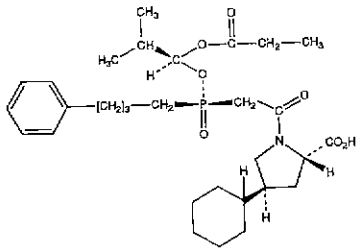
Proposed International Nonproprietary Names (Prop. INN): List 56

p. 8 fosinopnlum
fosinopril

replace the chemical name, the graphic formula and the CAS registry number by the following:

(4*S*)-4-cyclohexyl-1-[[(*R*)-[(*S*)-1-hydroxy-2-methylpropoxy](4-phenylbutyl)= phosphinyl]acetyl]-L-proline propionate (ester)

98048-97-6



WHO Drug Information, Vol. 6, No. 2, 1992

Proposed International Nonproprietary Names (Prop. INN): List 67

	delete	*insert*
p 6	masnidipinum masnidipine	lercanidipinum lercanidipine

WHO Drug Information, Vol. 6, No. 4, 1992

Proposed International Nonproprietary Names (Prop. INN): List 68

p. 3 bizelesinum
bizelesin

replace the molecular formula by the following:

$C_{43}H_{36}Cl_2N_8O_6$

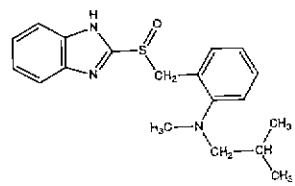
p. 6 glemanserinum
glemanserin

replace the CAS registry number by the following:

132553-86-7

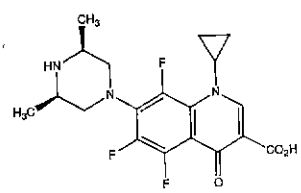
p. 8 leminoprazolum
leminoprazole

replace the graphic formula by the following:



p. 9 orbifloxacinum
orbifloxacin

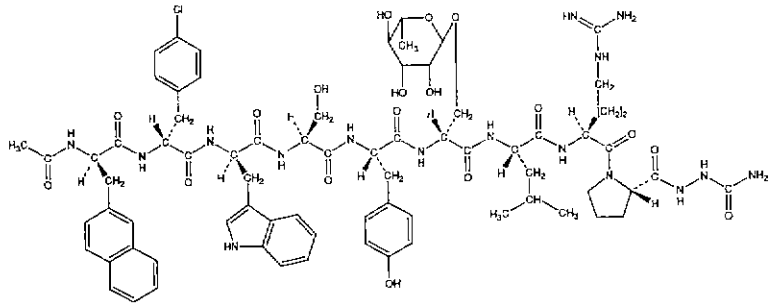
replace the graphic formula by the following:



p. 10 ramorelixum
ramorelix

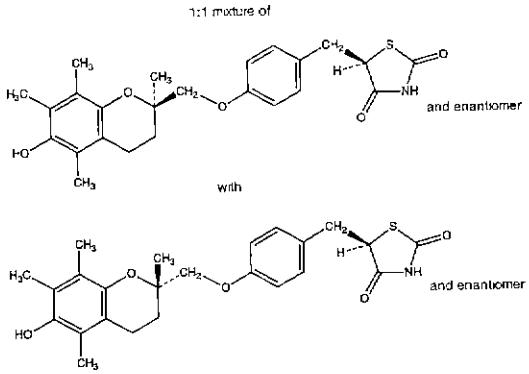
replace the CAS registry number and the graphic formula by the following:

127932-90-5



p. 14 troglitazonum
troglitazone

replace the graphic formula by the following:



Annex 1

PROCEDURE FOR THE SELECTION OF RECOMMENDED INTERNATIONAL NONPROPRIETARY NAMES FOR PHARMACEUTICAL SUBSTANCES*

The following procedure shall be followed by the World Health Organization in the selection of recommended international nonproprietary names for pharmaceutical substances, in accordance with the World Health Assembly resolution WHA3.11:

1. Proposals for recommended international nonproprietary names shall be submitted to the World Health Organization on the form provided therefor.

2. Such proposals shall be submitted by the Director-General of the World Health Organization to the members of the Expert Advisory Panel on the International Pharmacopoeia and Pharmaceutical Preparations designated for this purpose, for consideration in accordance with the "General principles for guidance in devising International Nonproprietary Names", appended to this procedure. 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.

3. Subsequent to the examination provided for in article 2, the Director-General of the World Health Organization shall give notice that a proposed international nonproprietary name is being considered.

A. Such notice shall be given by publication in the *Chronicle of the World Health Organization*[1] and by letter to Member States and to national pharmacopoeia commissions or other bodies designated by Member States.

(i) Notice may also be sent to specific 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 a 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 the World Health Organization is acting and refer to these rules of procedure.

C. In forwarding the notice, the Director-General of the World Health Organization 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 the World Health Organization.

4. Comments on the proposed name may be forwarded by any person to the World Health Organization within four months of the date of publication, under article 3, of the name in the *Chronicle of the World Health Organization*.[1]

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 the *Chronicle of the World Health Organization*.[1]

A. Such objection shall:

(i) identify the person objecting;

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* Text adopted by the Executive Board of WHO in resolution EB15 R7 (*Off. Rec. Wld Health Org.*, 1955, **60**, 3) and amended by the Board in resolution EB43 R9 (*Off. Rec. Wld Hlth Org.*, 1969, **173**, 10).

[1] The title of this publication was changed to *WHO Chronicle* in January 1959. From 1987 onwards lists of INNs are published in *WHO Drug Information*

(ii) state his interest in the name;

(iii) set forth the reasons for his objection to the name proposed.

6. Where there is a formal objection under article 5, the World Health Organization 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 the World Health Organization of a substitute name or names, a name shall not be selected by the World Health Organization as a recommended international nonproprietary name while there exists a formal objection thereto filed under article 5 which has not been withdrawn.

7. Where no objection has been filed under article 5, or all objections previously filed have been withdrawn, the Director-General of the World Health Organization shall give notice in accordance with subsection A of article 3 that the name has been selected by the World Health Organization as a recommended international nonproprietary name.

8. In forwarding a recommended international nonproprietary name to Member States under article 7, the Director-General of the World Health Organization 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, including prohibiting registration of the name as a trade-mark or trade-name.

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.

* 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.

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.[1] Where a stem is shown without any hyphens it may be used anywhere in the name.

Latin	*English*	
-acum	-ac	anti-inflammatory agents of the ibufenac group
-actidum	-actide	synthetic polypeptides with a corticotrophin-like action
-adolum	-adol)	analgesics
-adol-	-adol-)	
-astum	-ast	anti-asthmatic, anti-allergic substances not acting primarily as antihistaminics
-astinum	-astine	antihistaminics
-azepamum	-azepam	substances of the diazepam group
-bactamum	-bactam	β-lactamase inhibitors
bol	bol	steroids, anabolic
-buzonum	-buzone	anti-inflammatory analgesics of the phenylbutazone group
-cain-	-cain-	antifibrillant substances with local anaesthetic activity
-cainum	-caine	local anaesthetics
cef-	cef-	antibiotics, derivatives of cefalosporanic acid
-cillinum	-cillin	antibiotics, derivatives of 6-aminopenicillanic acid
-conazolum	-conazole	systematic antifungal agents of the miconazole group
cort	cort	corticosteroids, except those of the prednisolone group
-dipinum	-dipine	calcium antagonists of the nifedipine group
-fibratum	-fibrate	substances of the clofibrate group
gest	gest	steroids, progestogens
gli-	gli-	sulfonamide hypoglycemics
io-	io-	iodine-containing contrast media
-ium	-ium	quaternary ammonium compounds
-metacinum	-metacin	anti-inflammatory substances of the indometacin group
-mycinum	-mycin	antibiotics, produced by *Streptomyces* strains
-nidazolum	-nidazole	antiprotozoal substances of the metronidazole group
-ololum	-olol	β-adrenergic blocking agents
-oxacinum	-oxacin	antibacterial agents of the nalidix acid group
-pridum	-pride	sulpiride derivatives
-pril(at)um	pril(at)	angiotensin-converting enzyme inhibitors
-profenum	-profen	anti-inflammatory substances of the ibuprofen group
prost	prost	prostaglandins
-relinum	-relin	hypophyseal hormone release-stimulating peptides
-terolum	-terol	bronchodilators, phenethylamine derivates
-tidinum	-tidine	H_2-receptor antagonists
-trexatum	-trexate	folic acid antagonists
-verinum	-verine	spasmolytics with a papaverine-like action
vin-	vin-)	vinca type alkaloids
-vin-	-vin-)	

[1] A more extensive listing of stems is contained in the working document Pharm. S/Nom.15 which is regularly updated and can be requested from Pharmaceuticals, WHO, Geneva.