

International Nonproprietary Names for Pharmaceutical Substances

In accordance with paragraph 7 of the Procedure for the Selection of Recommended International Nonproprietary Names for Pharmaceutical Substances,¹ notice is hereby given that the following are selected as recommended international nonproprietary names.

The inclusion of a name in the lists of recommended international nonproprietary names does not imply any recommendation for the use of the substance in medicine or pharmacy.

Recommended International Nonproprietary Names (Rec. INN): List 30²

<i>Recommended International Nonproprietary Name (Latin, English)</i>	<i>Chemical Name or Description and Molecular Formulae</i>
ablukastum ablukast	(±)-6-acetyl-7-[[5-(4-acetyl-3-hydroxy-2-propylphenoxy)pentyl]oxy]- 2-chromancarboxylic acid C ₂₈ H ₃₄ O ₈
acamprosatum acamprostate	3-acetamido-1-propanesulfonic acid C ₈ H ₁₁ NO ₄ S
acidum alendronicum alendronic acid	(4-amino-1-hydroxybutylidene)diphosphonic acid C ₄ H ₁₃ NO ₇ P ₂
acidum neridronicum neridronic acid	(6-amino-1-hydroxyhexylidene)diphosphonic acid C ₆ H ₁₇ NO ₇ P ₂
acidum risedronicum risedronic acid	[1-hydroxy-2-(3-pyridyl)ethylidene]diphosphonic acid C ₇ H ₁₁ NO ₇ P ₂
actaritam actarit	(<i>p</i> -acetamidophenyl)acetic acid C ₁₀ H ₁₁ NO ₃
aloracetamum aloracetam	<i>N</i> -[2-(3-formyl-2,5-dimethylpyrrol-1-yl)ethyl]acetamide C ₁₁ H ₁₆ N ₂ O ₂

¹ *Off. Rec. Wild Hlth Org.*, 1955, **60**, 3 (Resolution EB15.R7); 1969, **1973**, 10 (Resolution EB43.R9).

² Other lists of recommended international nonproprietary names can be found in *Cumulative List No. 7, 1988*.

Proposed International
Nonproprietary Name (Latin, English)

Chemical Name or Description, Molecular and Graphic Formulae

alprafenonum alprafenone	(±)-3-[3-[2-hydroxy-3-(<i>tert</i> -pentylamino)propoxy]-4-methoxyphenyl]-4'-methylpropiophenone C ₂₅ H ₃₅ NO ₄
altoqualinum altoqualine	(3 <i>S</i>)-7-amino-4,5,6-triethoxy-3-[(1 <i>R</i>)-1,2,3,4-tetrahydro-6,7,8-trimethoxy-2-methyl-1-isoquinolyl]phthalide C ₂₇ H ₃₆ N ₂ O ₈
amocarzinum amocarzine	4-methyl-4'-(<i>p</i> -nitroanilino)thio-1-piperazinecarboxanilide C ₁₈ H ₂₁ N ₅ O ₂ S
artemetherum artemether	(3 <i>R</i> ,5 <i>aS</i> ,6 <i>R</i> ,8 <i>aS</i> ,9 <i>R</i> ,10 <i>S</i> ,12 <i>R</i> ,12 <i>aR</i>)-decahydro-10-methoxy-3,6,9-trimethyl-3,12-epoxy-12 <i>H</i> -pyrano[4,3- <i>j</i>]-1,2-benzodioxepin C ₁₈ H ₂₈ O ₅
artesunatum artesunate	(3 <i>R</i> ,5 <i>aS</i> ,6 <i>R</i> ,8 <i>aS</i> ,9 <i>R</i> ,10 <i>S</i> ,12 <i>R</i> ,12 <i>aR</i>)-decahydro-3,6,9-trimethyl-3,12-epoxy-12 <i>H</i> -pyrano[4,3- <i>j</i>]-1,2-benzodioxepin-10-ol, hydrogen succinate C ₁₉ H ₂₈ O ₈
ataprostum ataprost	(+)-(2 <i>E</i> ,3 <i>aS</i> ,4 <i>R</i> ,5 <i>R</i> ,6 <i>aS</i>)-4-[(1 <i>E</i> ,3 <i>S</i>)-3-cyclopentyl-3-hydroxypropenyl]-3,3 <i>a</i> ,4,5,6,6 <i>a</i> -hexahydro-5-hydroxy-4 ^{2(1<i>H</i>),5,6} -pentalenevaleric acid C ₂₁ H ₃₂ O ₄
atrimustinum atrimustine	estradiol 3-benzoate 17-glycolate, 4-[<i>p</i> -[bis(2-chloroethyl)amino]phenyl]butyrate C ₄₁ H ₄₇ Cl ₂ NO ₈
avobenzonum avobenzone	1-(<i>p</i> - <i>tert</i> -butylphenyl)-3-(<i>p</i> -methoxyphenyl)-1,3-propanedione C ₂₀ H ₂₂ O ₃
bakeprofenum bakeprofen	(±)-2-(<i>m</i> -benzoylphenoxy)propionic acid C ₁₈ H ₁₄ O ₄
batanopridum batanopride	(±)-4-amino-5-chloro- <i>N</i> -[2-(diethylamino)ethyl]-2-[(1-methylacetyl)oxy]-benzamide C ₁₇ H ₂₄ ClN ₃ O ₃
batoprazinum batoprazine	8-(1-piperazinyl)coumarin C ₁₃ H ₁₄ N ₂ O ₂
belfosdilum belfosdil	tetrabutyl [2-(2-phenoxyethyl)trimethylene]diphosphonate C ₂₇ H ₅₀ O ₇ P ₂
bemoradanum bemoradan	(±)-7-(1,4,5,6-tetrahydro-4-methyl-6-oxo-3-pyridazinyl)-2 <i>H</i> -1,4-benzoxazin-3(4 <i>H</i>)-one C ₁₃ H ₁₃ N ₃ O ₃
brifentanilum brifentanil	(±)- <i>cis</i> - <i>N</i> -[1-[2-(4-ethyl-5-oxo-2-tetrazolin-1-yl)ethyl]-3-methyl-4-piperidyl]-2-fluoro-2-methoxyacetanilide C ₂₀ H ₂₈ FN ₄ O ₃

Proposed International
Nonproprietary Name (Latin, English)

Chemical Name or Description, Molecular and Graphic Formulae

butenafinum butenafine	<i>N</i> -(<i>p</i> - <i>tert</i> -butylbenzyl)- <i>N</i> -methyl-1-naphthalenemethylamine C ₂₃ H ₂₇ N
calcipotriolum calcipotriol	(5 <i>Z</i> ,7 <i>E</i> ,22 <i>E</i> ,24 <i>S</i>)-24-cyclopropyl-9,10-secochola-5,7,10(19),22-tetraene-1 <i>α</i> ,3 <i>β</i> ,24-triol C ₂₇ H ₄₀ O ₃
camonagrelum camonagrel	(±)-5-(2-imidazol-1-ylethoxy)-1-indancarboxylic acid C ₁₆ H ₁₆ N ₂ O ₃
candoxatrilatum candoxatrilat	(<i>αS</i>)-1-[(<i>cis</i> -4-carboxycyclohexyl)carbamoyl]- <i>α</i> -[(2-methoxyethoxy)methyl]-cyclopentanepropionic acid C ₂₀ H ₃₃ NO ₇
candoxatrilum candoxatril	(<i>αS</i>)-1-[(<i>cis</i> -4-carboxycyclohexyl)carbamoyl]- <i>α</i> -[(2-methoxyethoxy)methyl]cyclopentanepropionic acid, <i>α</i> -5-indanyl ester C ₂₈ H ₄₁ NO ₇
carmoxirolum carmoxirole	3-[4-(3,6-dihydro-4-phenyl-1(2 <i>H</i>)-pyridyl)butyl]indole-5-carboxylic acid C ₂₄ H ₂₆ N ₂ O ₂
cefdinirum cefdinir	(-)-(6 <i>R</i> ,7 <i>R</i>)-7-[2-(2-amino-4-thiazolyl)glyoxylamido]-8-oxo-3-vinyl-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7 ² -(<i>Z</i>)-oxime C ₁₄ H ₁₃ N ₅ O ₅ S ₂
cericlaminum cericlamine	(±)-3-(3,4-dichlorophenyl)-2-(dimethylamino)-2-methyl-1-propanol C ₁₂ H ₁₇ Cl ₂ NO
ciclesonidum ciclesonide	11 <i>β</i> ,16 <i>α</i> ,17,21-tetrahydropregna-1,4-diene-3,20-dione, cyclic 16,17-acetal with cyclohexanecarboxaldehyde, 21-isobutyrate C ₃₂ H ₄₄ O ₇
cilutazolinum cilutazoline	2-[[[6-cyclopropyl- <i>m</i> -tolyl)oxy]methyl]-2-imidazoline C ₁₄ H ₁₈ N ₂ O
clentiazemum clentiazem	(+)- <i>cis</i> -8-chloro-5-[2-(dimethylamino)ethyl]-2,3-dihydro-3-hydroxy-2-(<i>p</i> -methoxyphenyl)-1,5-benzothiazepin-4(5 <i>H</i>)-one acetate (ester) C ₂₂ H ₂₅ ClN ₂ O ₄ S
cronidipinum cronidipine	[8-(<i>p</i> -chlorophenyl)-1,4-dioxo-8-azaspiro[4,5]dec-2-yl]methyl methyl 1,4-dihydro-2,6-dimethyl-4-(<i>m</i> -nitrophenyl)-3,5-pyridinedicarboxylate C ₃₀ H ₃₂ ClN ₃ O ₆
daniquidonum daniquidone	8-aminoisindolo[1,2- <i>b</i>]quinazolin-12(10 <i>H</i>)-one C ₁₅ H ₁₁ N ₃ O
danofloxacinum danofloxacin	1-cyclopropyl-6-fluoro-1,4-dihydro-7-[(1 <i>S</i> ,4 <i>S</i>)-5-methyl-2,5-diaza-bicyclo[2.2.1]hept-2-yl]-4-oxo-3-quinolinecarboxylic acid C ₁₈ H ₂₀ FN ₃ O ₃

*Proposed International
Nonproprietary Name (Latin, English)*

Chemical Name or Description, Molecular and Graphic Formulae

decitabinum decitabine	4-amino-1-(2-deoxy-β-D-erythro-pentofuranosyl)-s-triazin-2(1H)-one C ₈ H ₁₂ N ₄ O ₄
desfluranum desflurane	(±)-difluoromethyl 1,2,2,2-tetrafluoroethyl ether C ₃ H ₂ F ₆ O
deslorelinum deslorelin	5-oxo-L-prolyl-L-histidyl-L-tryptophyl-L-seryl-L-tyrosyl-D-tryptophyl-L-leucyl-L-arginyl-N-ethyl-L-prolinamide C ₆₄ H ₈₃ N ₁₇ O ₁₂
devazepidum devazepide	(S)-N-(2,3-dihydro-1-methyl-2-oxo-5-phenyl-1H-1,4-benzodiazepin-3-yl)indole 2-carboxamide C ₂₅ H ₂₀ N ₄ O ₂
dexibuprofenum dexibuprofen	(S)-(+)-p-isobutylhydratropic acid C ₁₃ H ₁₈ O ₂
dexrazoxanum dexrazoxane	(+)-(S)-4,4'-propylenedi-2,6-piperazinedione C ₁₁ H ₁₈ N ₄ O ₄
divaplonum divaplon	6-ethyl-7-methoxy-5-methylimidazo[1,2-a]pyrimidin-2-yl phenyl ketone C ₁₇ H ₁₇ N ₃ O ₂
docebenonum docebenone	2-(12-hydroxy-5,10-dodecadiynyl)-3,5,6-trimethyl-p-benzoquinone C ₂₁ H ₂₈ O ₃
doconexentum doconexent	(all-Z)-4,7,10,13,16,19-docosahexaenoic acid C ₂₂ H ₃₂ O ₂
dosmalfatum dosmalfate	[μ ₆ -[[diosmin octasulfato](8-)]tetracontahydroxyhexadecaaluminum C ₂₈ H ₆₄ Al ₁₆ O ₇₈ S ₈
drofeninum drofenine	2-(diethylamino)ethyl α-phenylcyclohexaneacetate C ₂₀ H ₃₁ NO ₂
duteplasum duteplase	245-L-methionineplasminogen activator (human tissue-type 2-chain form protein moiety) C ₂₇₃₆ H ₄₁₇₄ N ₈₁₄ O ₈₂₄ S ₄₈
ecogramostimum ecogramostim	N-L-methionylcolony-stimulating factor 2 (human U937 cell protein moiety reduced)
ecomustinum ecomustine	methyl 3-[3-(2-chloroethyl)-3-nitrosoureido]-2,3-dideoxy-α-D-arabino-hexopyranoside C ₁₀ H ₁₆ ClN ₃ O ₆

Proposed International
Nonproprietary Name (Latin, English)

Chemical Name or Description, Molecular and Graphic Formulae

edatrexatum edatrexate	<i>N</i> -[<i>p</i> -[1-[(2,4-diamino-6-pteridiny)methyl]propyl]benzoyl]- <i>L</i> -glutamic acid C ₂₂ H ₂₃ N ₇ O ₅
eflumastum eflumast	3'-acetyl-5'-fluoro-2'-hydroxy-1 <i>H</i> -tetrazole-5-carboxanilide C ₁₀ H ₈ FN ₅ O ₃
elgodipinum elgodipine	2-[(<i>p</i> -fluorobenzyl)methylamino]ethyl isopropyl (±)-1,4-dihydro-2,6-dimethyl-4-[2,3-(methylenedioxy)phenyl]-3,5-pyridinedicarboxylate C ₂₈ H ₃₃ FN ₂ O ₆
elsamitrucinum elsamitrucin	10-[[2- <i>O</i> -(2-amino-2,6-dideoxy-3- <i>O</i> -methyl- α - <i>D</i> -galactopyranosyl)-6-deoxy-3- <i>C</i> -methyl- β - <i>D</i> -galactopyranosyl]oxy]-6-hydroxy-1-methylbenzo[<i>h</i>][1]-benzopyrano[5,4,3- <i>cd</i>][1]benzopyran-5,12-dione C ₃₃ H ₃₂ NO ₁₃
enalkirenum enalkiren	(<i>αS</i>)- α -[(<i>αS</i>)- α -(3-amino-3-methylbutyramido)- <i>p</i> -methoxyhydrocinnamamido]- <i>N</i> -[(1 <i>S</i> ,2 <i>R</i> ,3 <i>S</i>)-1-(cyclohexylmethyl)-2,3-dihydroxy-5-methylhexyl]imidazole-4-propionamide C ₃₅ H ₅₂ N ₆ O ₆
epervudinum epervudine	2'-deoxy-5-isopropyluridine C ₁₂ H ₁₈ N ₂ O ₅
eptastigminum eptastigmine	<i>N</i> -demethyl- <i>N</i> -heptylphysostigmine or (3 <i>aS</i> ,8 <i>aR</i>)-1,2,3,3 <i>a</i> ,8,8 <i>a</i> -hexahydro-1,3 <i>a</i> ,8-trimethylpyrrolo[2,3- <i>b</i>]indol-5-yl heptylcarbamate C ₂₁ H ₃₃ N ₃ O ₂
famciclovirum famciclovir	2-[2-(2-amino-9 <i>H</i> -purin-9-yl)ethyl]-1,3-propanediol diacetate (ester) C ₁₄ H ₁₉ N ₅ O ₄
fasiplonum fasiplon	6-ethyl-7-methoxy-5-methyl-2-(5-methyl-1,2,4-oxadiazol-3-yl)imidazo[1,2- <i>a</i>]pyrimidine C ₁₃ H ₁₅ N ₅ O ₂
fedotozinum fedotozine	(+)-(<i>R</i>)- α -ethyl- <i>N,N</i> -dimethyl- α -[[3,4,5-trimethoxybenzyl]oxy]methyl]benzylamine C ₂₂ H ₃₁ NO ₄
fibrinum fibrin	an insoluble plasma protein obtained by the action of thrombin on fibrinogen The source of the product should be indicated, e.g. fibrin (bovine).
finasteridum finasteride	<i>N-tert</i> -butyl-3-oxo-4-aza-5 α -androst-1-ene-17 β -carboxamide C ₂₃ H ₃₆ N ₂ O ₂

fludeoxyglucosum (¹⁸ F) fludeoxyglucose (¹⁸ F)	2-deoxy-2-fluoro- ¹⁸ F- α -D-glucopyranose C ₆ H ₁₁ ¹⁸ FO ₂
flutomidatum flutomidate	ethyl (\pm)-1-(<i>p</i> -fluoro- α -methylbenzyl)imidazole-5-carboxylate C ₁₄ H ₁₃ FN ₂ O ₂
flutrimazolium flutrimazole	1-[<i>o</i> -fluoro- α -(<i>p</i> -fluorophenyl)- α -phenylbenzyl]imidazole C ₂₂ H ₁₈ F ₂ N ₂
fluvastatinum fluvastatin	(\pm)-(3 <i>R</i> *,5 <i>S</i> *,6 <i>E</i>)-7-[3-(<i>p</i> -fluorophenyl)-1-isopropylindol-2-yl]-3,5-dihydroxy-6-heptenoic acid C ₂₆ H ₂₆ FNO ₄
fosinoprilatum fosinoprilat	(4 <i>S</i>)-4-cyclohexyl-1-[[hydroxy(4-phenylbutyl)phosphinyl]acetyl]-L-proline C ₂₃ H ₃₄ NO ₃ P
fosphenytoinum fosphenytoin	3-(hydroxymethyl)-5,5-diphenylhydantoin, dihydrogen phosphate (ester) C ₁₈ H ₁₃ N ₂ O ₆ P
fosquidonum fosquidone	benzyl 5,8,13,14-tetrahydro-14-methyl-8,13-dioxobenz[5,6]isoindolo-[2,1- <i>b</i>]isoquinolin-9-yl hydrogen phosphate C ₂₈ H ₂₂ NO ₄ P
galamustinum galamustine	6-[bis(2-chloroethyl)amino]-6-deoxy- α -galactopyranose C ₁₀ H ₁₉ Cl ₂ NO ₅
gedocarnilium gedocarnil	isopropyl 5-(<i>p</i> -chlorophenoxy)-4-(methoxymethyl)-9 <i>H</i> -pyrido[3,4- <i>b</i>]indole-3-carboxylate C ₂₃ H ₂₁ ClN ₂ O ₄
gemcitabinum gemcitabine	2'-deoxy-2', 2'-difluorocytidine C ₉ H ₁₁ F ₂ N ₃ O ₄
gevotrolinum gevotroline	8-fluoro-2,3,4,5-tetrahydro-2-[3-(3-pyridyl)propyl]-1 <i>H</i> -pyrido[4,3- <i>b</i>]indole C ₁₉ H ₂₀ FN ₃
girisopamum girisopam	1-(<i>m</i> -chlorophenyl)-7,8-dimethoxy-4-methyl-5 <i>H</i> -2,3-benzodiazepine C ₁₈ H ₁₇ ClN ₂ O ₂
glipalamidum glipalamide	(\pm)-5-methyl- <i>N</i> -(<i>p</i> -tolylsulfonyl)-2-pyrazoline-1-carboxamide C ₁₂ H ₁₅ N ₃ O ₃ S

icosapentum icosapent	(<i>all-Z</i>)-5,8,11,14,17-eicosapentaenoic acid or (<i>all-Z</i>)-5,8,11,14,17-icosapentaenoic acid $C_{20}H_{30}O_2$
ioversolum ioversol	<i>N,N'</i> -bis(2,3-dihydroxypropyl)-5-[<i>N</i> -(2-hydroxyethyl)glycolamido]-2,4,6-triiodo-isophthalamide $C_{18}H_{24}I_3N_3O_9$
ipazilidum ipazilide	<i>N</i> -[3-(diethylamino)propyl]-4,5-diphenylpyrazole-1-acetamide $C_{24}H_{30}N_4O$
isaglidolum isaglidole	4-fluoro-2-(2-imidazolin-2-ylamino)isoindoline $C_{11}H_{13}FN_4$
isbutyllinum isbutylline	7-isobutyltheophylline $C_{11}H_{16}N_4O_2$
isosorbidum isosorbide	1,4:3,6-dianhydro- α -glucitol $C_8H_{10}O_4$
itrocinnidum itrocinnide	6 α ,9-difluoro-11 β ,16 α ,17-trihydroxy-3-oxoandrost-1,4-diene-17 β -carboxylic acid, ester with ethyl (<i>S</i>)-1-hydroxyethyl carbonate, cyclic (<i>R</i>)-16,17-acetal with butyraldehyde $C_{28}H_{38}F_2O_9$
laidlomycinum laidlomycin	($\alpha S, \beta R, \gamma S, 2S, 5R, 7S, 8R, 9S$)- β ,9-dihydroxy- $\alpha, \gamma, 2, 8$ -tetramethyl-2-[(2 <i>R, 5S</i>)-tetrahydro-5-methyl-5-[(2 <i>R, 3S, 5R</i>)-tetrahydro-3-methyl-5-[(2 <i>S, 3S, 5R, 6R</i>)-tetrahydro-6-hydroxy-6-(hydroxymethyl)-3,5-dimethyl-2 <i>H</i> -pyran-2-yl]-2-furyl]-2-furyl]-1,6-dioxaspiro[4.5]decane-7-butyric acid, β -propionate $C_{37}H_{62}O_{12}$
lavoltidinum lavoltidine	1-methyl-5-[[3-[(α -piperidino- <i>m</i> -tolyl)oxy]propyl]amino]-1 <i>H</i> -1,2,4-triazole-3-methanol $C_{18}H_{28}N_5O_2$
trazurilum trazuril	(\pm)-[2,6-dichloro-4-(4,5-dihydro-3,5-dioxo- <i>as</i> -triazin-2(3 <i>H</i>)-yl)phenyl](<i>p</i> -fluorophenyl)acetonitrile $C_{17}H_8Cl_2FN_4O_2$
levemopamilum levemopamil	(-)-(<i>S</i>)-2-isopropyl-5-(methylphenethylamino)-2-phenylvaleronitrile $C_{23}H_{30}N_2$
levetiracetamum levetiracetam	(<i>S</i>)- α -ethyl-2-oxo-1-pyrrolidineacetamide $C_8H_{14}N_2O_2$
levobetaxololum levobetaxolol	(-)-(<i>S</i>)-1-[<i>p</i> -[2-(cyclopropylmethoxy)ethyl]phenoxy]-3-(isopropylamino)-2-propanol $C_{18}H_{29}NO_3$

Proposed International
Nonproprietary Name (Latin, English)

Chemical Name or Description, Molecular and Graphic Formulae

lidanserinum lidanserin	(±)-4-[3-[3-[4-(<i>p</i> -fluorobenzoyl)piperidino]propoxy]-4-methoxyphenyl]-2-pyrrolidinone C ₂₆ H ₃₁ FN ₂ O ₄
losigamonum losigamone	(5 <i>R</i> ′)-5-[(<i>α</i> <i>S</i> ′)- <i>o</i> -chloro- <i>α</i> -hydroxybenzyl]-4-methoxy-2(5 <i>H</i>)-furanone C ₁₂ H ₁₁ ClO ₄
losmiprofenum losmiprofen	(±)-2-[[3-(<i>p</i> -chlorobenzoyl)- <i>o</i> -tolyl]oxy]propionic acid C ₁₇ H ₁₅ ClO ₄
melquinastum melquinast	ethyl 6-ethyl-5,6-dihydro-9-methyl-5-oxo- <i>s</i> -triazolo[1,5- <i>c</i>]quinazoline-2-carboxylate C ₁₅ H ₁₈ N ₄ O ₃
mequitamii iodidum mequitamium iodide	(±)-1-methyl-3-(phenothiazin-10-ylmethyl)quinuclidinium iodide C ₂₁ H ₂₅ IN ₂ S
meribendanum meribendan	4,5-dihydro-5-methyl-6-(2-pyrazol-3-yl-5-benzimidazolyl)-3(2 <i>H</i>)-pyridazinone C ₁₈ H ₁₄ N ₆ O
miltefosinum miltefosine	choline hydroxide, hexadecyl hydrogen phosphate, inner salt C ₂₁ H ₄₈ NO ₄ P
mirtazapinum mirtazapine	1,2,3,4,10,14b-hexahydro-2-methylpyrazino[2,1- <i>a</i>]pyrido[2,3- <i>c</i>][2]benzazepine C ₁₇ H ₁₉ N ₃
moguisteinum moguisteine	ethyl (±)-2-[(<i>o</i> -methoxyphenoxy)methyl]-β-oxo-3-thiazolidinepropionate C ₁₈ H ₂₁ NO ₅ S
moxidectinum moxidectin	(6 <i>R</i> ,25 <i>S</i>)-5- <i>O</i> -demethyl-28-deoxy-25-[(<i>E</i>)-1,3-dimethyl-1-butenyl]-6,28-epoxy-23-oxomilbemycin B 23-(<i>O</i> -methyloxime) C ₃₇ H ₅₃ NO ₈
nardeterolum nardeterol	(±)- <i>α</i> -[[[3-(1-benzimidazolyl)-1,1-dimethylpropyl]amino]methyl]-2-fluoro-4-hydroxybenzyl alcohol C ₂₀ H ₂₄ FN ₃ O ₂
natrii borocaptas (¹⁰ B) sodium borocaptate (¹⁰ B)	disodium undecahydromercaptododecaborate(2-)- ¹⁰ B ₁₂ ¹⁰ B ₁₂ H ₁₂ Na ₂ S
neбиволolum neбиволol	<i>α,α</i> ′-(iminodimethylene)bis[6-fluoro-2-chromanmethanol] C ₂₂ H ₂₅ F ₂ NO ₄
neltenexinum neltenexine	4′,6′-dibromo- <i>α</i> -[(<i>trans</i> -4-hydroxycyclohexyl)amino]-2-thiophene-carboxy- <i>o</i> -toluidide C ₁₈ H ₂₀ Br ₂ N ₂ O ₂ S

Proposed International
Nonproprietary Name (Latin, English)

Chemical Name or Description, Molecular and Graphic Formulae

nepinalonum nepinalone	(±)-3,4-dihydro-1-methyl-1-(2-piperidinoethyl)-2(1 <i>H</i>)-naphthalenone C ₁₈ H ₂₅ NO
nitecaponum nitecapone	3-(3,4-dihydroxy-5-nitrobenzylidene)-2,4-pentanedione C ₁₂ H ₁₁ NO ₄
ocfentanilum ocfentanil	2'-fluoro-2-methoxy- <i>N</i> -(1-phenethyl-4-piperidyl)acetanilide C ₂₂ H ₂₇ FN ₂ O ₂
oxilofrinum oxilofrine	<i>erythro-p</i> -hydroxy- α -[1-(methylamino)ethyl]benzyl alcohol C ₁₀ H ₁₅ NO ₂
pancopridum pancopride	(±)-4-amino-5-chloro- α -cyclopropyl- <i>N</i> -3-quinuclidinyl- <i>o</i> -anisamide C ₁₈ H ₂₄ ClN ₃ O ₂
pantoprazolum pantoprazole	5-(difluoromethoxy)-2-[[3,4-dimethoxy-2-pyridyl)methyl]sulfinyl]- benzimidazole C ₁₈ H ₁₆ F ₂ N ₂ O ₄ S
pepirolastum pepirolast	9-methyl-3-(1 <i>H</i> -tetrazol-5-yl)-4 <i>H</i> -pyrido[1,2- <i>a</i>]pyrimidin-4-one C ₁₀ H ₈ N ₆ O
penciclovirum penciclovir	9-[4-hydroxy-3-(hydroxymethyl)butyl]guanine C ₁₀ H ₁₃ N ₅ O ₃
pentifyllinum pentifylline	1-hexyltheobromine C ₁₃ H ₂₀ N ₄ O ₂
pibaxizinum pibaxizine	[2-[2-[4-(diphenylmethylene)piperidino]ethoxy]ethoxy]acetic acid C ₂₆ H ₂₉ NO ₄
pidolacetamolium pidolacetamol	5-oxo-L-proline, ester with 4'-hydroxyacetanilide C ₁₃ H ₁₄ N ₂ O ₄
pilsicainidum pilsicainide	tetrahydro-1 <i>H</i> -pyrrolizine-7 <i>a</i> (5 <i>H</i>)-aceto-2',6'-xylidide C ₁₇ H ₂₄ N ₂ O
quinagolidum quinagolide	(±)- <i>N,N</i> -diethyl- <i>N</i> -[(3 <i>R</i> *,4 <i>aR</i> *,10 <i>aS</i> *)-1,2,3,4,4 <i>a</i> ,5,10,10 <i>a</i> -octahydro-6-hydroxy- 1-propylbenzo[<i>g</i>]quinolin-3-yl]sulfamide C ₂₀ H ₃₃ N ₃ O ₃ S
rebamipidum rebamipide	(±)- α -(<i>p</i> -chlorobenzamido)-1,2-dihydro-2-oxo-4-quinolinepropionic acid C ₁₈ H ₁₅ ClN ₂ O ₄

rifametanum rifametane	(2 <i>S</i> ,12 <i>Z</i> ,14 <i>E</i> ,16 <i>S</i> ,17 <i>S</i> ,18 <i>R</i> ,19 <i>R</i> ,20 <i>R</i> ,21 <i>S</i> ,22 <i>S</i> ,23 <i>S</i> ,24 <i>E</i>)-1,2-dihydro-5,6,9,17,19,21-hexahydroxy-23-methoxy-2,4,12,16,18,20,22-heptamethyl-1,11-dioxo-2,7-(epoxypentadeca[1,11,13]trienimino)naphtho[2,1- <i>b</i>]furan-8-carboxaldehyde, 8-azine with <i>N,N</i> -diethylacetamide, 21-acetate C ₄₄ H ₆₀ N ₄ O ₁₂
risotilidum risotilide	4'-[isopropyl[2-(isopropylamino)ethyl]sulfamoyl]methanesulfonanilide C ₁₅ H ₂₇ N ₃ O ₄ S ₂
rociclovirum rociclovir	2-amino-9-[[2-isopropoxy-1-(isopropoxymethyl)ethoxy]methyl]purine C ₁₃ H ₂₃ N ₅ O ₃
romurtidum romurtide	2-acetamido-3- <i>O</i> -[<i>(R)</i> -1-[[<i>(S)</i> -1-[[<i>(R)</i> -1-carbamoyl-3-[[<i>(S)</i> -1-carboxy-5-stearamidopentyl]carbamoyl]propyl]carbamoyl]ethyl]carbamoyl]ethyl]-2-deoxy- β -glucopyranose C ₄₃ H ₇₄ N ₆ O ₁₃
ropinirolum ropinirole	4-[2-(dipropylamino)ethyl]-2-indolinone C ₁₈ H ₂₄ N ₂ O
sampirtinum sampirtine	2,6-diamino-3-(<i>p</i> -fluorobenzyl)pyridine C ₁₂ H ₁₂ FN ₃
sarafloxacinum sarafloxacin	6-fluoro-1-(<i>p</i> -fluorophenyl)-1,4-dihydro-4-oxo-7-(1-piperazinyl)-3-quinoline-carboxylic acid C ₂₀ H ₁₇ F ₂ N ₃ O ₃
saviprazolum saviprazole	2-[[[4-(2,2,3,3,4,4,4-heptafluorobutoxy)-2-pyridyl]methyl]sulfanyl]-1 <i>H</i> -thieno[3,4- <i>d</i>]imidazole C ₁₃ H ₁₀ F ₇ N ₃ O ₂ S ₂
secalCIFerolum secalCIFerol	(5 <i>Z</i> ,7 <i>E</i> ,24 <i>R</i>)-9,10-secocholesta-5,7,10(19)-triene-3 β ,24,25-triol C ₂₇ H ₄₄ O ₃
sertindolum sertindole	1-[2-[4-[5-chloro-1-(<i>p</i> -fluorophenyl)indol-3-yl]piperidino]ethyl]-2-imidazolidinone C ₂₄ H ₂₈ ClFN ₄ O
sezolamidum sezolamide	(+)-(S)-5,6-dihydro-4-(isobutylamino)-4 <i>H</i> -thieno[2,3- <i>b</i>]thiopyran-2-sulfonamide 7,7-dioxide C ₁₁ H ₁₈ N ₂ O ₄ S ₃
sobuzoxanum sobuzoxane	4,4'-ethylenebis[1-(hydroxymethyl)-2,6-piperazinedione] bis(isobutyl carbonate) (ester) C ₂₂ H ₃₄ N ₄ O ₁₀
somalaporum somalapor	<i>N</i> -L-alanyl growth hormone (pig clone pPGH-1 reduced) C ₉₇₇ H ₁₅₂₇ N ₂₄₅ O ₂₂₇ S ₇

somenoporum somenopor	<i>N</i> -L-alanyl-32-de-L-glutamic acid-33-de-L-arginine-34-de-L-alanine-35-de-L-tyrosine-36-de-L-isoleucine-37-de-L-proline-38-de-L-glutamic acid growth hormone (pig clone pPGH-1 reduced) C ₈₃₈ H ₁₄₈₈ N ₂₈₈ O ₂₇₅ S ₇
suronacrinum suronacrine	(±)-9-(benzylamino)-1,2,3,4-tetrahydro-1-acridinol C ₂₀ H ₂₀ N ₂ O
taniplonum taniplon	6,7,8,9-tetrahydro-5-methoxy-2-(5-methyl-1,2,4-oxadiazol-3-yl)imidazo-[1,2- <i>a</i>]quinazoline C ₁₄ H ₁₅ N ₅ O ₂
technetium (^{99m} Tc) teboroximum technetium (^{99m} Tc) teboroxime	[bis[(1,2-cyclohexanedione dioximato)(1-)-O] [(1,2-cyclohexanedione dioximato)(2-)-O] methylborato(2-)- <i>N,N,N',N'',N''',N''''</i>]chloro[^{99m} Tc]technetium(III) C ₁₉ H ₂₈ BClN ₆ O ₆ ^{99m} Tc
tenidapum tenidap	(<i>Z</i>)-5-chloro-3-(<i>α</i> -hydroxy-2-thenylidene)-2-oxo-1-indolinecarboxamide C ₁₄ H ₈ ClN ₂ O ₃ S
terflavoxatum terflavoxate	1,1-dimethyl-2-piperidinoethyl 3-methyl-4-oxo-2-phenyl-4 <i>H</i> -1-benzopyran-8-carboxylate C ₂₈ H ₂₈ NO ₄
thymotrinanum thymotrinan	<i>N</i> -(<i>N</i> ² -L-arginyl-L-lysyl)-L-aspartic acid C ₁₈ H ₃₁ N ₇ O ₈
timirdinum timirdine	3-(2-amino-4-chlorophenyl)-2-iminothiazolidine C ₈ H ₁₀ ClN ₃ S
tiracizinum tiracizine	ethyl 5-(<i>N,N</i> -dimethylglycyl)-10,11-dihydro-5 <i>H</i> -dibenz[<i>b,f</i>]azepine-3-carbamate C ₂₁ H ₂₅ N ₃ O ₃
tripristonum tripristone	17β-hydroxy-11β-[<i>p</i> -(isopropylmethylamino)phenyl]-17-(1-propynyl)estra-4,9-dien-3-one C ₃₁ H ₃₉ NO ₂
trelnarizinum trelnarizine	(<i>E</i>)-1-[bis(<i>p</i> -fluorophenyl)methyl]-4-(3,4-dimethoxycinnamyl)piperazine C ₂₈ H ₃₀ F ₂ N ₂ O ₂
tropisetronum tropisetron	1 <i>αH</i> ,5 <i>αH</i> -tropan-3 <i>α</i> -yl indole-3-carboxylate C ₁₇ H ₂₀ N ₂ O ₂
troquidazolium troquidazole	<i>N</i> -(3-nitro-4-quinoly)-4-morpholinecarboxamide C ₁₄ H ₁₅ N ₅ O ₃

*Proposed International
Nonproprietary Name (Latin, English)*

Chemical Name or Description, Molecular and Graph

vapreotidum vapreotide	<i>o</i> -phenylalanyl-L-cysteinyl-L-tyrosyl-D-tryptophyl-L-lysyl-tryptophanamide cyclic (2→7)-disulfide $C_{97}H_{70}N_{12}O_8S_2$
velnacrinum velnacrine	(±)-9-amino-1,2,3,4-tetrahydro-1-acridinol $C_{13}H_{14}N_2O$
vintoperolum vintoperol	(-)-(1 <i>S</i> ,12 <i>bS</i>)-1-ethyl-1,2,3,4,6,7,12,12 <i>b</i> -octahydroindo-1-methanol $C_{18}H_{24}N_2O$
voxergolidum voxergolide	(±)-(6 <i>aR</i> ,9 <i>R</i> ,10 <i>aR</i>)-4,6 <i>a</i> ,7,8,9,10 <i>a</i> -hexahydro-7-methyl-6 <i>H</i> -indolo[3,4- <i>gh</i>][1,4]benzoxazine $C_{16}H_{20}N_2OS$
zatebradinum zatebradine	3-[3-[(3,4-dimethoxyphenethyl)methylamino]propyl]-1,4-dimethoxy-2 <i>H</i> -3-benzazepin-2-one $C_{28}H_{38}N_2O_5$

**AMENDMENTS
TO PREVIOUS LISTS**

WHO Chronicle, Vol. 13, No. 12, 1959

Recommended International Nonproprietary Names (Rec. INN): List 3

p. 468 lauralkonii chloridum *replace the chemical name by the following:*
lauralkonium chloride benzyl[2-(*p*-(lauroyl)phenoxy)ethyl]dimethylammonium chloride

Supplement to WHO Chronicle, Vol. 39, No. 5, 1985

Recommended International Nonproprietary Names (Rec. INN): List 25

p. 6 etomoxirum *replace the chemical name by the following:*
etomoxir ethyl (+)-2-[6-(*p*-chlorophenoxy)hexyl]glycidate

WHO Drug Information, Vol. 2, No. 3, 1988

Recommended International Nonproprietary Names (Rec. INN): List 28

p. 5 saruplasum *replace the chemical name and the molecular formula by the following:*
saruplase prourokinase (enzyme-activating) (human clone pUK4/pUK18)
 $C_{2031}H_{3123}N_{583}O_{601}S_{31}$

WHO Drug Information, Vol. 3, No. 3, 1989

Recommended International Nonproprietary Names (Rec. INN): List 29

p. 7 muroderminum *replace the molecular formula by the following:*
murodermin $C_{2257}H_{3751}N_{773}O_{813}S_7$