



# Impurities in Drug Substances



- Pharmaceutical Impurities
- Drug Working Standards

## Impurities in Pharmaceuticals

Impurities in pharmaceuticals are the unwanted chemicals that remain with the active pharmaceutical ingredients (API's) or develop during formulation or upon aging of both API and formulated API's to medicines.

The presence of these unwanted chemicals even in small amounts may influence the efficacy and safety of the pharmaceutical products. Impurity profiling i.e. the identity as well as the quantity of impurity in the pharmaceuticals is now getting critical attention from regulatory authorities.

The different pharmacopoeias such as British Pharmacopoeia (BP) and the United States Pharmacopoeia (USP) are slowly incorporating limits to allowable levels of impurities present in the API's.

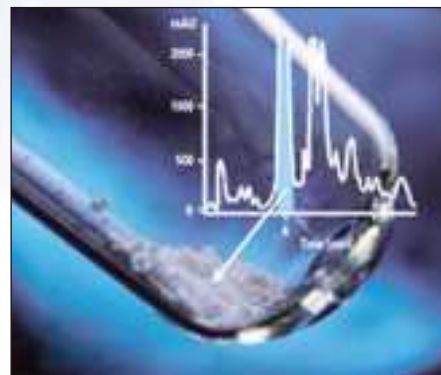
Also the International Conference of Harmonization (ICH) has published guidelines on impurities in new drug substances.

Impurity profiling is very important during the synthesis of drug substances and manufacture of dosage forms, as it can provide crucial data regarding the toxicity, safety, various limits of detection, and limits of quantitation, of several organic and inorganic impurities, usually accompany with bulk drugs and finished products.

Amkette Industries has seen significant demand for the impurity reference standards to both regulatory authorities and pharmaceutical companies.

Amkette Industries provides certificate of analysis for individual batch of reference standards / impurities.

These chemical reference standards are available in classical ready for use and in vials containing lyophilized solids giving the user the additional flexibility to choose a variety of solvents and strengths.



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**Amkette Industries**  
Pvt. Ltd.

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### CERTIFICATE

Reference Substance  
**N-Monodesmethyl Trimebutine**  
IUPAC Name: 3,4,5-Trimethoxy-benzoic Acid 2-(Methylamino)-2-phenylbutyl Ester

Molecular Formula: C <sub>21</sub> H <sub>27</sub> N <sub>2</sub> O <sub>4</sub> HCl	Batch Number: 090503
Molecular Weight: 409.95	Appearance: White colored solid
CAS Number: 84333-50-5 (Free base)	Purity by HPLC: 99.53% (Area)
Long term storage: 2 to 8 °C, Dark	

Shipment Date: 25-05-2009  
This certificate is valid for one year from the date of shipment provided the substance is stored under suitable conditions.

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**Amkette Industries**  
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### 1. Identity

a. Identity of the reference substance was established by 1HNMIR the structure is confirmed with the signals of the spectrum and their interpretation.  
Conditions: 500MHz, DMSO-d<sub>6</sub>

b. Molecular weight of the compound was confirmed by direct injection mass on Agilent 6320 ion trap instrument. Molecular ion peak matched the molecular weight of the base 374(M<sup>+</sup>).

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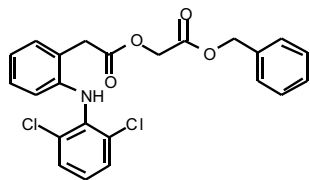
**Amkette Industries**  
Pvt. Ltd.

### 2. Purity

The Purity of the reference substance was established by high performance liquid chromatography (HPLC) using conditions mentioned below.

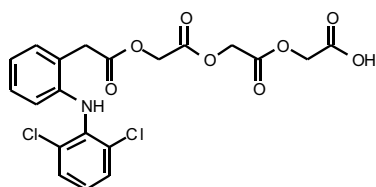
**Results: 99.53%**  
Note: The purity of the analyte was determined by area normalization method.

**Aceclofenac** EP Impurity F (CAS No. 100499-89-6)



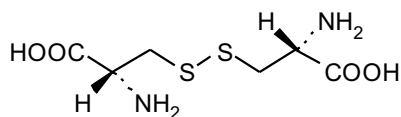
**IUPAC Name:**  
Benzyl [[[(2,6-dichlorophenyl)amino]phenyl]acetyl]oxy]acetate

**Acceclofenac** EP Impurity H



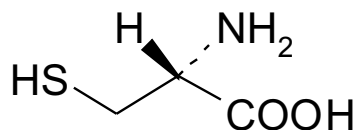
**IUPAC Name:**  
[[[[[2-[(2,6-dichlorophenyl)amino]phenyl]acetyl]oxy]acetyl]oxy]acetic acid (diacetic acceclofenac),

**Acetylcysteine** EP Impurity A (CAS No. 56-89-3)



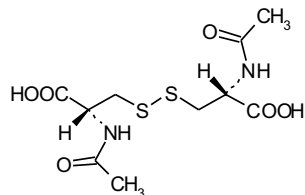
**IUPAC Name:**  
3,3'-Dithiobis(2-aminopropionic acid); L-cystine

**Acetylcysteine** EP Impurity B (CAS No. 52-90-4)



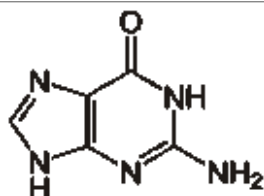
**IUPAC Name:**  
(R)-2-Amino-3-mercaptopropionic acid; L-cysteine

**Acetylcysteine** EP Impurity C (CAS No. 5545-17-5)



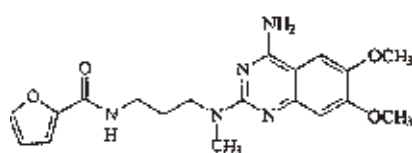
**IUPAC Name:**  
N,N-diacetyl-L-cysteine

**Aciclovir** EP Guanine (Imp B) (CAS No. 73-40-5)



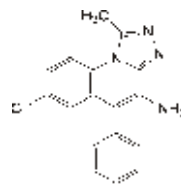
**IUPAC Name:**  
2-amino-1,7-dihydro-6H-purin-6-one

**Alfuzosin** EP Impurity A (CAS No. 98902-29-5)



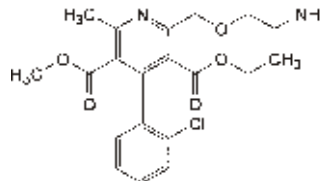
**IUPAC Name:**  
N-[3-[(4-amino-6,7-dimethoxyquinazolin-2-yl)(methyl)amino]propyl]furan-2-carboxamide]

**Alprazolam** EP Impurity G



**IUPAC Name:**  
7-Chloro-1-methyl-5-phenyl[1,2,4]triazolo[4,3-a]quinolin-4-amine

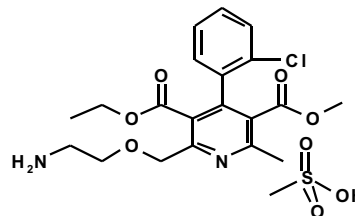
**Amlodipine** BP Amlodipine I Impurity D



**IUPAC Name:**  
3-ethyl 5-methyl-2-[(2-aminoethoxy methyl]-4-(2-chlorophenyl)-6-methylpyridine-3,5-dicarboxylate

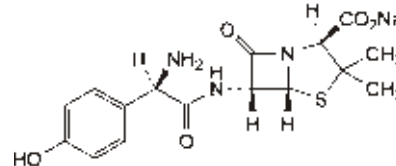
(CAS No. 113994-41-5)  
(Free base)

**Amlodipine** BP Impurity D



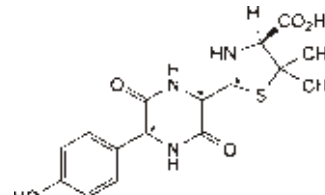
**IUPAC Name:**  
3-ethyl 5-methyl-2-[(2-aminoethoxy methyl]-4-(2-chlorophenyl)-6-methyl pyridine-3,5-dicarboxylate methane sulphonic acid salt (Pyridine Analog Mesylate salt)

**Amoxicillin** BP Impurity D



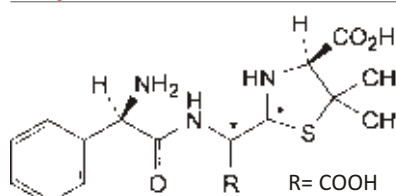
**IUPAC Name:**  
Sodium salt of amoxicilloic acid

**Amoxicillin** BP Impurity C



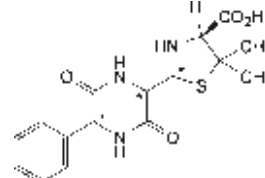
**IUPAC Name:**  
Diketo piperazine amoxicillin

**Ampicillin** BP Impurity D



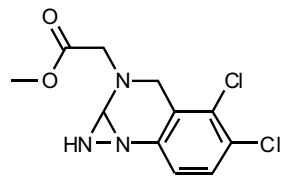
**IUPAC Name:**  
Penicilloic acids of ampicillin

**Ampicillin** BP Impurity C



**IUPAC Name:**  
Diketopiperazine of ampicillin

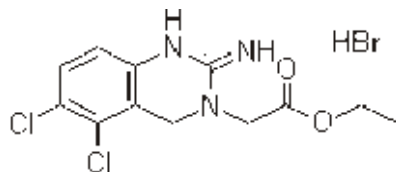
## Anagrelide HCl



**IUPAC Name:**  
Methyl-5,6-dichloro  
3,4-dihydro 2[1H]imino  
quinazolin-3-acetate

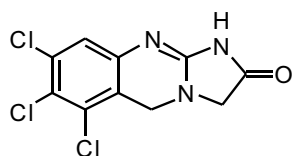
## Anagrelide HCl

(CAS No. 70381-75-8)



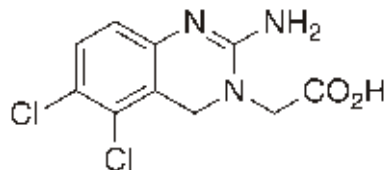
**IUPAC Name:**  
Ethyl-5,6-dichloro  
3,4-dihydro 2[1H]imino  
quinazolin-3-acetate  
hydrobromide

## Anagrelide HCl



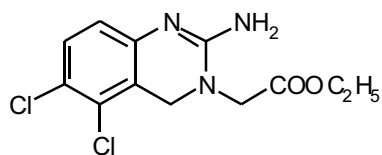
**IUPAC Name:**  
6,7,8-trichloro  
1,5-dihydro imidazo  
(2,1-b) quinazolin-  
2(3H)-one

## Anagrelide HCl



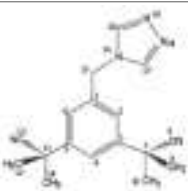
**IUPAC Name:**  
5,6-dichloro  
3,4-dihydro-amino  
quinazolin-3-acetic  
acid

## Anagrelide HCl



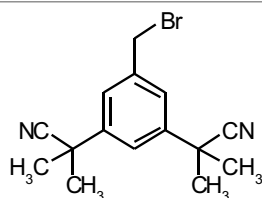
**IUPAC Name:**  
Ethyl 5,6-dichloro  
3,4 dihydro 2 [1 H]  
imino quinazoline  
3 acetate

## Anastrozole



**IUPAC Name:**  
a,a,a',a'-Tetramethyl-  
5(1H-1,3,4-triazol-1-yl-  
methyl)-1,3-benzene-  
diacetonitrile

## Anastrozole

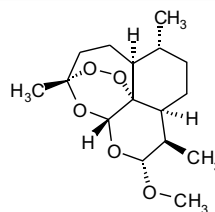


**IUPAC Name:**  
3,5-bis(cyano-1-methyl  
ethyl benzyl bromide)

## Artemether

USP Related  
Compound B

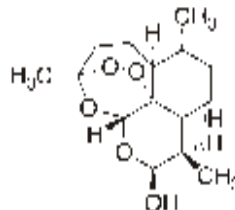
(CAS No. 71939-51-0)



**IUPAC Name:**  
(3R,5aS,6R,8aS,9R,10R,  
12R,12aR)-Decahydro-  
10-methoxy-3,6,9-  
trimethyl-3,12-epoxy-  
12H-pyrano[4,3-j]-  
1,2-benzodioxepin.

## Artesunate

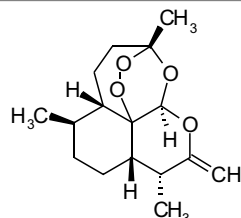
(CAS No. 71939-50-9)



**IUPAC Name:**  
Dihydroartemisinin

## Artemisinin

Impurity B (Artemistene)

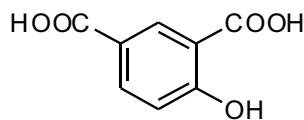


**IUPAC Name:**  
(3R,5aS,6R,8aS,12S,  
12aR)-Octahydro-3,6-  
dimethyl-9-methylene-  
3,12-epoxy-12H-  
pyrano[4,3-j]-1,2-  
benzodioxepin-10(3H)-  
one

## Asprin

EP Impurity B

(CAS No. 636-46-2)

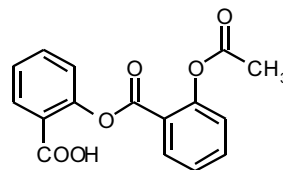


**IUPAC Name:**  
4-hydroxybenzene-1,3-  
dicarboxylic acid  
(4-hydroxyisophthalic  
acid)

## Asprin

EP Impurity D

(CAS No. 530-75-6)

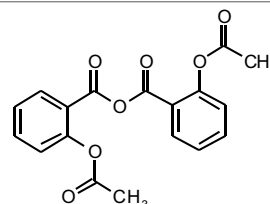


**IUPAC Name:**  
2-[[2-(acetyloxy)  
benzoyl]oxy]benzoic  
acid (acetylsalicylic  
acid)

## Asprin

EP Impurity F

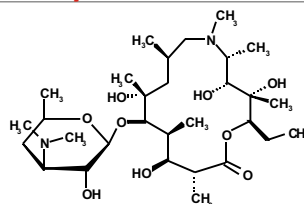
(CAS No. 1466-82-6)



**IUPAC Name:**  
2-(Acetyloxy)benzoic  
anhydride  
(Acetylsalicylic  
anhydride)

## Azithromycin

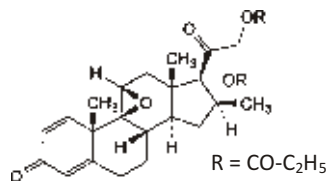
BP Impurity J



**IUPAC Name:**  
13-O-  
decladinosylazithro-  
mycin

## Beclomethasone Dipropionate

BP Impurity J

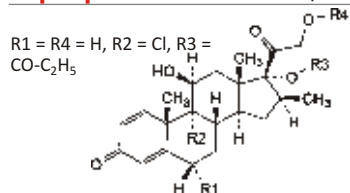


**IUPAC Name:**  
9,11 $\square$ -epoxy-16 $\square$ -methyl-3,20-dioxo-9 $\square$ -pregna-1,4-diene-17,21-diyl dipropanoate

R = CO-C<sub>2</sub>H<sub>5</sub>

## Beclomethasone Dipropionate

BP Impurity H

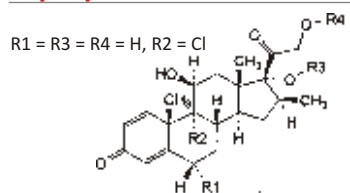


**IUPAC Name:**  
9-chloro-11 $\square$ ,21-dihydroxy-16 $\square$ -methyl-3,20-dioxopregna-1,4-dien-17-yl propanoate (beclomethasone 17-propionate)

## Beclomethasone Dipropionate

BP Impurity G

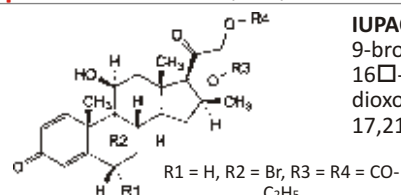
(CAS No. 56-89-3)



**IUPAC Name:**  
9-chloro-11 $\square$ ,17,21-trihydroxy-16 $\square$ -methylpregna-1,4-diene-3,20-dione (beclomethasone)

## Beclomethasone Dipropionate

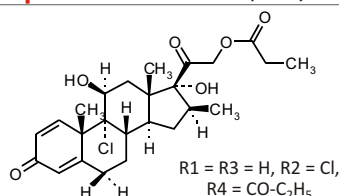
BP Impurity D



**IUPAC Name:**  
9-bromo-11 $\square$ -hydroxy-16 $\square$ -methyl-3,20-dioxopregna-1,4-diene-17,21-diyl dipropanoate

## Beclomethasone Dipropionate

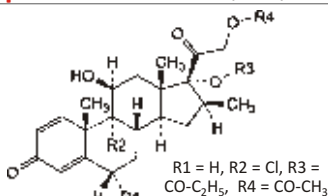
BP Impurity A



**IUPAC Name:**  
9-chloro-11 $\square$ ,17-dihydroxy-16 $\square$ -methyl-3,20-dioxopregna-1,4-dien-21-yl propanoate (beclomethasone 21-propionate)

## Beclomethasone Dipropionate

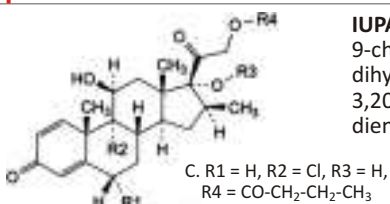
BP Impurity B



**IUPAC Name:**  
21-(acetyloxy)-9-chloro-11 $\square$ -hydroxy-16 $\square$ -methyl-3,20-dioxopregna-1,4-dien-17-yl propanoate (beclomethasone 21-acetate 17-propionate)

## Beclomethasone Dipropionate

Beclomethasone 21-butyrate

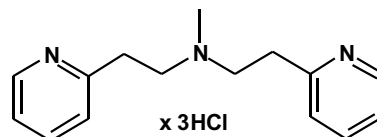


**IUPAC Name:**  
9-chloro-11b,17-dihydroxy-16b-methyl-3,20-dioxopregna-1,4-dien-21-yl butanoate

## Betahistine

EP Impurity C

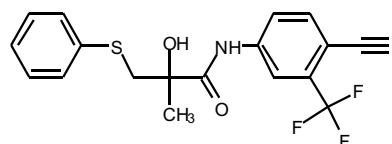
(CAS No. 5452-87-9)



**IUPAC Name:**  
N-Methyl-2-(pyridin-2-yl)-N-[2-(pyridin-2-yl)ethyl]ethanamine trihydrochloride

## Bicalutamide

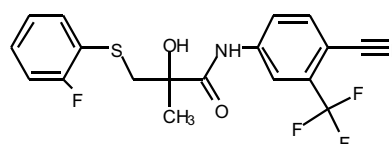
EP Impurity A



**IUPAC Name:**  
(2R,S)-N-[4-cyano-3-(trifluoromethyl)phenyl]-2-hydroxy-2-methyl-3-(phenylsulfonyl)propanamide

## Bicalutamide

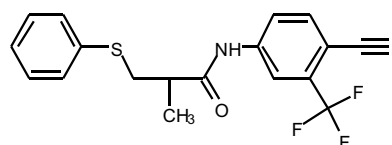
EP Impurity B



**IUPAC Name:**  
(2R,S)-N-[4-cyano-3-(trifluoromethyl)phenyl]-3-[(2-fluorophenyl)sulfonyl]-2-hydroxy-2-methylpropanamide

## Bicalutamide

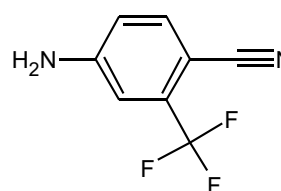
EP Impurity C



**IUPAC Name:**  
(2R,S)-N-[4-cyano-3-(trifluoromethyl)phenyl]-3-[(4-fluorophenyl)sulfonyl]-2-hydroxy-2-methylpropanamide

## Bicalutamide

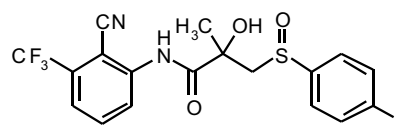
EP Impurity D



**IUPAC Name:**  
4-amino-2-(trifluoromethyl)benzonitrile

## Bicalutamide

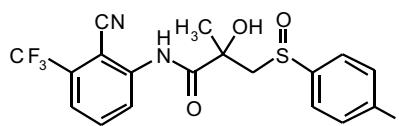
EP Impurity E



**IUPAC Name:**  
(2R)-N-[4-cyano-3-(trifluoromethyl)phenyl]-3-[(R)-(4-fluorophenyl)sulfinyl]-2-hydroxy-2-methylpropanamide

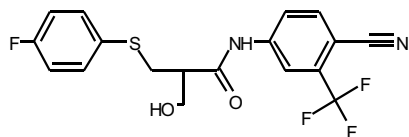
## Bicalutamide

EP Impurity F



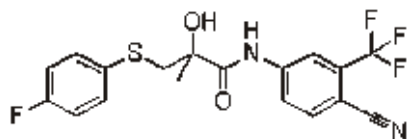
**IUPAC Name:**  
(2S)-N-[4-cyano-3-(trifluoromethyl)phenyl]-3-[(R)-(4-fluorophenyl)sulfinyl]-2-hydroxy-2-methylpropanamide

## Bicalutamide EP Impurity H



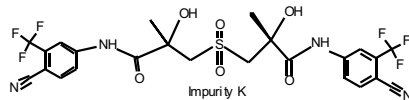
**IUPAC Name:**  
(2RS)-N-[4-cyano-3-(trifluoromethyl)phenyl]-2-[(4-fluorophenyl)sulfonyl]-3-hydroxy-2-methylpropanamide

## Bicalutamide EP Impurity J (CAS No. 90356-78-8)



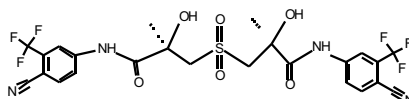
**IUPAC Name:**  
(±)N-[4-cyano-3-(trifluoromethyl)phenyl]-3-[(4-fluorophenyl)thio]-2-hydroxy-2-methylpropanamide

## Bicalutamide EP Impurity K



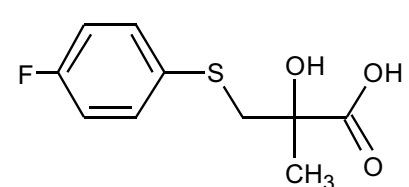
**IUPAC Name:**  
meso-(2R,2'S)-3,3'-sulfonylbis[N-[4-cyano-3-(trifluoromethyl)phenyl]-2-hydroxy-2-methylpropanamide]

## Bicalutamide EP Impurity L



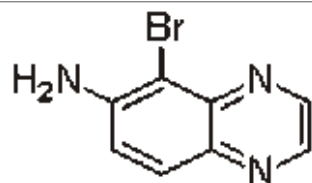
**IUPAC Name:**  
(2R,2'S,2'R,S)-3,3'-sulfonylbis[N-[4-cyano-3-(trifluoromethyl)phenyl]-2-hydroxy-2-methylpropanamide]

## Bicalutamide EP Impurity M



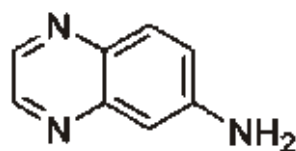
**IUPAC Name:**  
(2RS)-3-[(4-fluorophenyl)sulfonyl]-2-hydroxy-2-methylpropanoic acid

## Brimonidine Tartarate (CAS No. 50358-63-9)



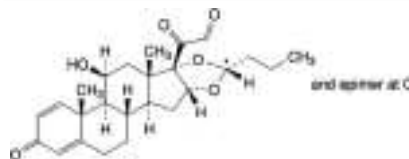
**IUPAC Name:**  
5-Bromo, 6- amino quinaxaline

## Brimonidine Tartarate (CAS No. 6298-37-9)



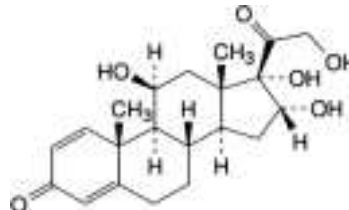
**IUPAC Name:**  
6- amino quinaxaline

## Budesonide BP Impurity D



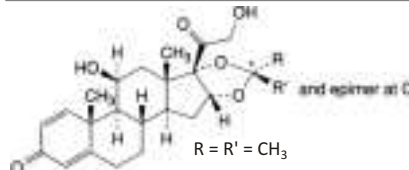
**IUPAC Name:**  
16β,17-[(1RS)-butylidenebis(oxy)]-11β-hydroxy-3,20-dioxopregna-1,4-dien-21-al

## Budesonide BP Impurity A



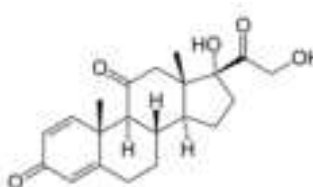
**IUPAC Name:**  
11β,16β,17,21-tetrahydroxypregna-1,4-diene-3,20-dione

## Budesonide BP Impurity F



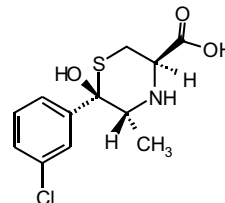
**IUPAC Name:**  
6β,17-[1-methylethylidenebis(oxy)]-11β,21-dihydroxypregna-1,4-diene-3,20-dione

## Budesonide Prednisolone (CAS No. 53-03-2)

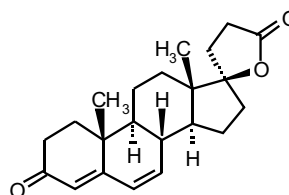


**IUPAC Name:**  
11b,17,21-tetrahydroxypregna-1,4-diene-3,20-dione

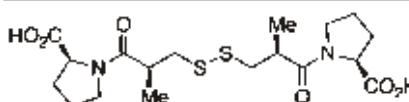
## Bupropion USP



## Canrenone (CAS No. 976-71-6)

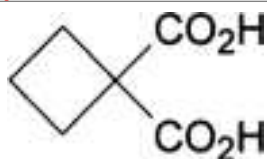


## Captopril BP Impurity A (CAS No. 64806-05-9)



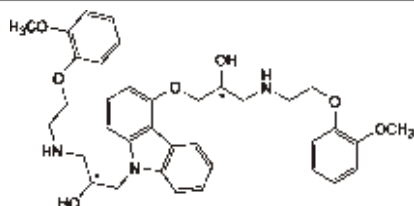
**IUPAC Name:**  
2S,2'S)-1,1'-[disulphanediyl]bis[(2S)-2-methyl-1-oxopropane-3,1-diyl]-bis[pyrrolidine-2-carboxylic] acid (captopril-disulphide)

**Carboplatin** BP Impurity B



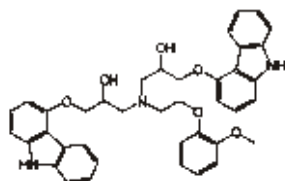
**IUPAC Name:**  
cyclobutane-1,1-dicarboxylic acid

**Carvedilol** BP Impurity A (CAS No. 1076199-79-5)



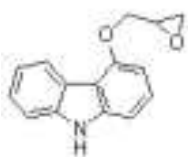
**IUPAC Name:**  
1-[[9-[2-hydroxy-3-[[2-(2-methoxyphenoxy)ethyl]amino]propyl]-9H-carbazol-4-yl]oxy]-3-[[2-(2-methoxyphenoxy)ethyl]amino]propan-2-ol

**Carvedilol** BP Impurity B (CAS No. 918903-20-5)



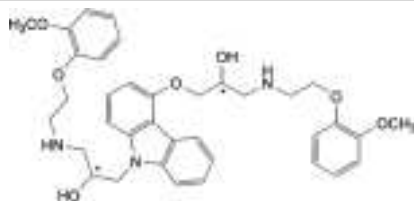
**IUPAC Name:**  
1,1-[[2-(2-methoxyphenoxy)ethyl]nitri]bis[3-(9H-carbazol-4-yloxy)propan-2-ol]

**Carvedilol** USP Related Comp D (CAS No. 51997-51-4)



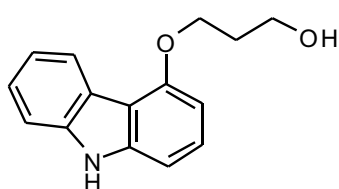
**IUPAC Name:**  
Epoxy Carbazole

**Carvedilol** BP/USP Impurity A / Related Comp A



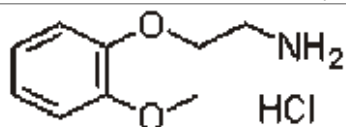
**IUPAC Name:**  
1-[[9-[2-hydroxy-3-[[2-(2-methoxyphenoxy)ethyl]amino]propyl]-9H-carbazol-4-yl]oxy]-3-[[2-(2-methoxyphenoxy)ethyl]amino]propan-2-ol

**Carvedilol**



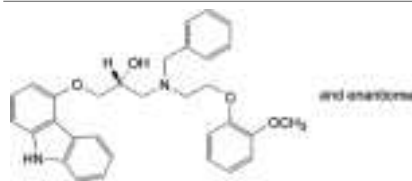
**IUPAC Name:**  
1-propanol Carbazole

**Carvedilol** USP Related Comp E (CAS No. 64464-07-9)



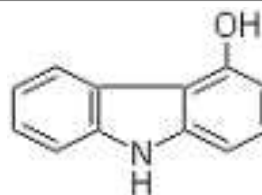
**IUPAC Name:**  
2-(2-Methoxyphenoxy)ethylamine hydrochloride

**Carvedilol** USP Related Comp C



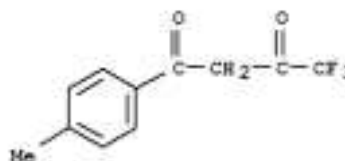
**IUPAC Name:**  
(2RS)-1-[benzyl[2-(2-methoxyphenoxy)ethyl]amino]-3-(9H-carbazol-4-yloxy)propan-2-ol

**Carvedilol** (CSA No. 52602-39-8)



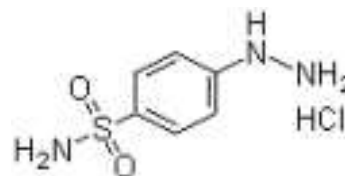
**IUPAC Name:**  
4-hydroxy Carbazole

**Celecoxib** (CSA No. 720-94-5)



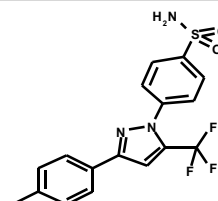
**IUPAC Name:**  
1,3-Butanedione, 4,4,4-trifluoro-1-(4-methylphenyl)-

**Celecoxib** (CSA No. 27918-19-0)



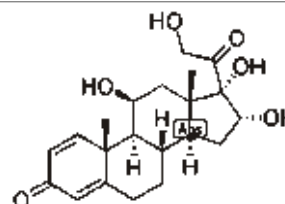
**IUPAC Name:**  
4-Sulfonamide-phenylhydrazine hydrochloride

**Celecoxib** Isomeric Impurity



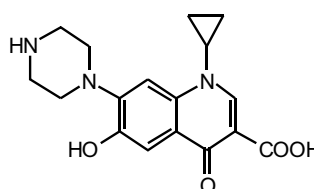
**IUPAC Name:**  
4-[4-(4-methylphenyl)-3-(trifluoromethyl)-1H-pyrazol-1-yl]-benzenesulfonamide

**Ciclesonide** (CSA No. 237-731-1)



**IUPAC Name:**  
16-α hydroxyl prednisolone

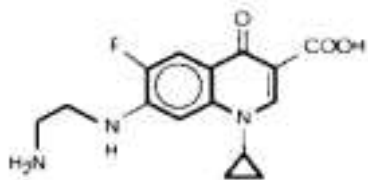
**Ciprofloxacin** EP Impurity F



**IUPAC Name:**  
1-cyclopropyl-6-hydroxy-4-oxo-7-(piperazin-1-yl)-1,4-dihydroquinoline-3-carboxylic acid

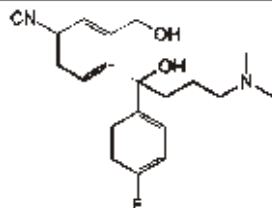
# Amkette Industries

**Ciprofloxacin** Impurity C (CAS No. 528851-31-2)



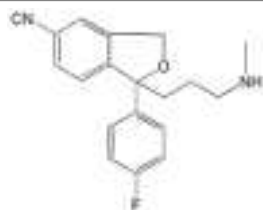
**IUPAC Name:**  
7-(2-Aminoethyl  
amino) -1-Cyclopropyl-  
6-Fluoro-1,4-dihydro-  
4-oxo-quinoline-3-  
carboxylic acid  
(Ethylenediamine  
Analog compound)

**Citalopram**



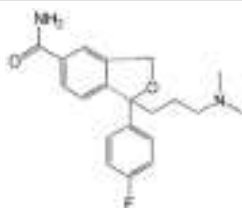
**IUPAC Name:**  
Citalopram Dihydroxy  
Impurity

**Citalopram** USP Impurity D



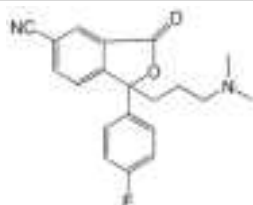
**IUPAC Name:**  
1-(3-  
Methylaminopropyl)-  
1-(4-fluorophenyl)-3-  
oxo-1,3-  
dihydroisobenzofuran-  
5-carbonitrile

**Citalopram** USP Related Compound A



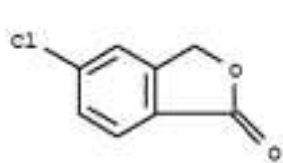
**IUPAC Name:**  
1-(3-  
Dimethylaminopropyl)-  
1-(4-fluorophenyl)-  
1,3-  
dihydroisobenzofuran-  
5-carboxamide

**Citalopram** USP Related Compound C



**IUPAC Name:**  
[3-(3-M,  
N-  
dimethylamino)-1-  
(4-fluorophenyl)-6-  
cyano-1(3 H)-  
isobenzofuranone]

**Citalopram** (CAS No. 54109-03-4)

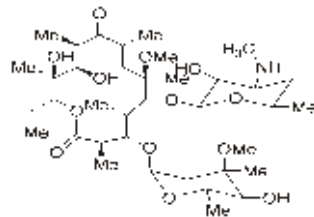


**IUPAC Name:**  
5-chloro phthalide

**Clarithromycin** USP Related Compound Q (CAS No. 118074-07-0)

**IUPAC Name:**  
Clarithromycin N-oxide

**Clarithromycin** EP/USP Rel Comp D (CAS No. 101116-68-6)

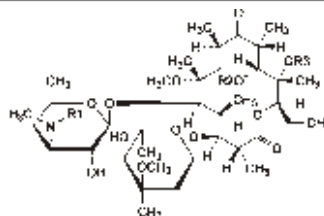


**IUPAC Name:**  
N-Desmethyl  
clarithromycin

**Clarithromycin** USP Rel Comp R (CAS No. 992-62-1)

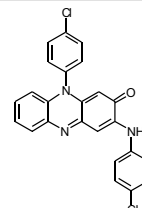
**IUPAC Name:**  
N-Desmethyl  
Erythromycin A

**Clarithromycin** EP Impurity H



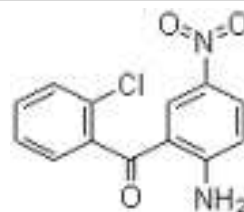
**IUPAC Name:**  
3,3'-N-demethyl-3-O-  
methylerythromycin A

**Clofazamine**



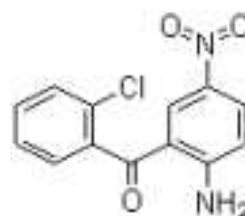
**IUPAC Name:**  
N,5-Bis(4-  
chlorophenyl)-3-oxo-  
3,5-dihydrophenazine-  
2-amine.

**Clonazepam** BP Impurity A



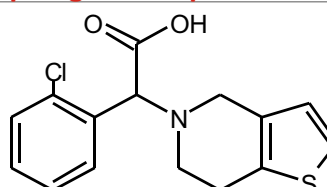
**IUPAC Name:**  
2-Amino-2'-Chloro-5-  
Nitrobenzophenone

**Clonazepam** USP Related compound B



**IUPAC Name:**  
2-Amino-2'-Chloro-5-  
Nitrobenzophenone

**Clopidogrel bisulphate**

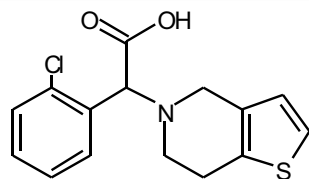


**IUPAC Name:**  
Racemate impurity of  
Clopidogrel

## Clopidogrel bisulphate

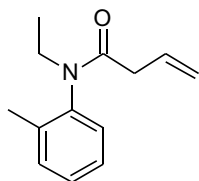
USP Real Comp A

(CAS No. 144750-42-5)



**IUPAC Name:**  
Acid Impurity

## Crotamtion

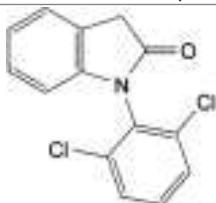


**IUPAC Name:**  
Isomeric Impurity

## Diclofenac Sodium

EP Impurity A

(CAS No. 15362-40-0)



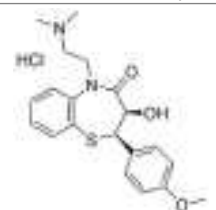
**IUPAC Name:**  
1-(2,6-dichlorophenyl)-  
1,3-dihydro-2H-indol-  
2-one

## Diltiazem

### Hydrochloride

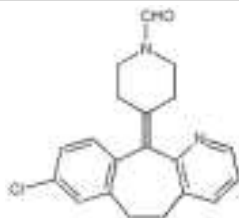
EP Impurity F

(CAS No. 75472-91-2)



**IUPAC Name:**  
(2S,3S)-5-[2-(  
Dimethylamino)ethyl]-  
3-hydroxy-2-(4-meth-  
oxyphenyl)-2,3-dihydro-  
1,5-benzothiazepin-  
4(5H)-one (Desacetyl  
Diltiazem Hydrochloride)

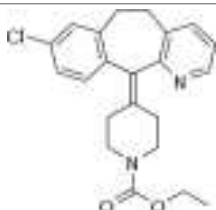
## Desloratidine



**IUPAC Name:**  
N-formyl Desloratidine

## Desloratidine

(CAS No. 79794-75-5)

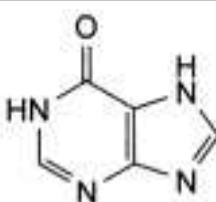


**IUPAC Name:**  
Loratidine

## Didanosine

EP Impurity A

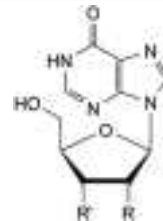
(CAS No. 64464-07-9)



**IUPAC Name:**  
1,7-dihydro-6H-purin-  
6-one (hypoxanthine)

## Didanosine

BP Impurity B

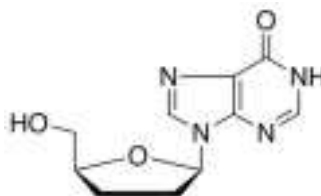


**IUPAC Name:**  
9-β-D-ribofuranosyl-  
1,9-dihydro-6H-purin-  
6-one (inosine)

## Didanosine

BP Impurity G

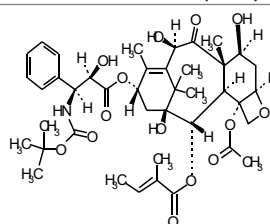
(CSA No. 69655-05-6)



**IUPAC Name:**  
2',3'-dideoxy-2',3'-  
dideohydro inosine  
sodium

## Docetaxel

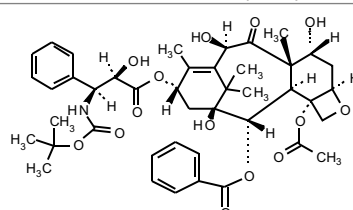
BP Impurity A



**IUPAC Name:**  
(2b,5b,7b,10b,13a)-4-  
Acetoxy-13(((2R,3S)-3-  
[(tert-butoxycarbonyl)  
amino]-2-hydroxy-3-  
phenylpropanoyl)oxy)-  
1,7,10-trihydroxy-9-  
oxo-5,20-epoxytax-11-  
en-2-yl-(2E)-2-  
methylbut-2-enoate.

## Docetaxel

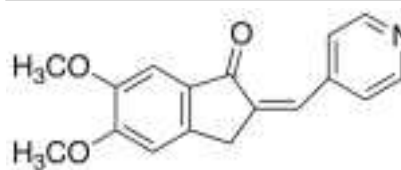
BP Impurity C



**IUPAC Name:**  
(2b,5b,7a,10b,13a)-4-  
Acetoxy-13(((2R,3S)-3-  
[(tert-butoxycarbonyl)  
amino]-2-hydroxy-3-  
phenylpropanoyl)oxy)-  
1,7,10-trihydroxy-9-  
oxo-5,20-epoxytax-11-  
en-2-yl benzoate

## Donepezil HCl

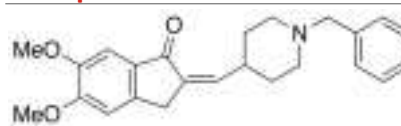
(CSA No. 4803-74-1)



**IUPAC Name:**  
4-[(5,6-Dimethoxy-1-  
indanon-2-yl)  
methylene]pyridine

## Donepezil HCl

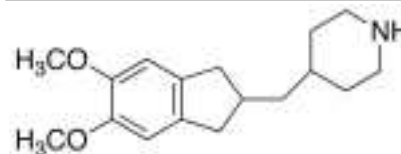
(CSA No. 120014-07-5)



**IUPAC Name:**  
1-Benzyl-4-[(5,6-  
dimethoxy-1-indanon-  
2-yl)methylene]pyridine  
bromide

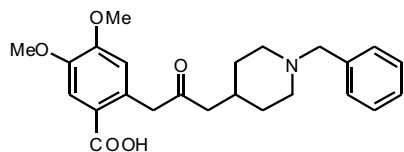
## Donepezil HCl

(CSA No. 844694-83-3)



**IUPAC Name:**  
2-(4-Piperidinylmethyl)-  
5,6-dimethoxy-1-  
indanon

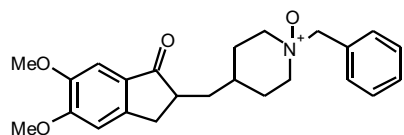
## Donepezil HCl



**IUPAC Name:**  
-(3-(1-Benzylpiperidin-4-yl)-2-oxopropyl)-4,5-dimethoxybenzoic acid

## Donepezil HCl

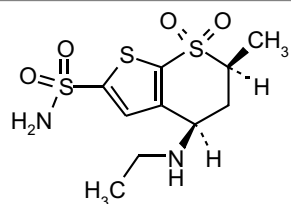
(CAS No. 120013-84-5)



**IUPAC Name:**  
2-[(1-Benzylpiperidin-4-yl)methyl]-5,6-dimethoxyindan-1-one N-oxide

## Dorzolamide

BP Impurity B

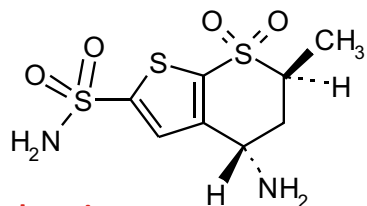


. HCl

**IUPAC Name:**  
(4R,6S)-4-(ethylamino)-6-methyl-5,6-dihydro-4H-thieno[2,3-b]thiopyran-2-sulphonamide 7,7-dioxide Hydrochloride

## Dorzolamide

BP Impurity D

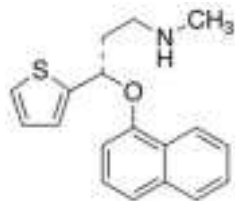


**IUPAC Name:**  
(4S,6S)-4-amino-6-methyl-5,6-dihydro-4H-thieno[2,3-b]thiopyran-2-sulphonamide 7,7-dioxide.

## Duloxetine

### Hydrochloride

DLX Racemic mixture



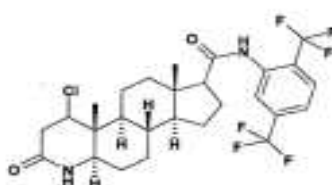
. HCl

**IUPAC Name:**  
(±)-N-Methyl-3-(1-naphthalenyloxy)-3-(2-thienyl)propanaminosalate

## Dutasteride

Chloro Impurity

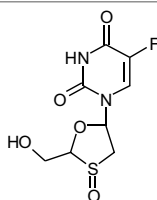
(CAS No. 164656-23-9)



**IUPAC Name:**  
(5α,17β)-N-{2,5-bis(trifluoromethyl)phenyl}-1-chloro-3-oxo-4-azaandrost-17-carboxamide

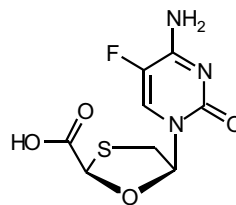
## Emtricitabine

Sulphoxide



**IUPAC Name:**  
4-Amino-5-fluoro-[2-hydroxymethyl-3-oxo-1,3-oxathiolane-5yl]pyrimidine-2(1H)-one

## Emtricitabine

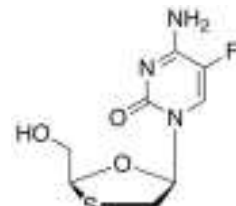


**IUPAC Name:**  
Emtricitabine Carboxylic acid impurity

## Emtricitabine

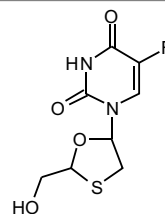
(+) impurity of Emtricitabine

(CAS No. 137530-41-7)



**IUPAC Name:**  
N-Desmethyl Erythromycin A

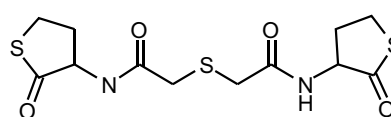
## Emtricitabine



**IUPAC Name:**  
Emtricitabine hydroxy impurity

## Erdosteine

EP21506

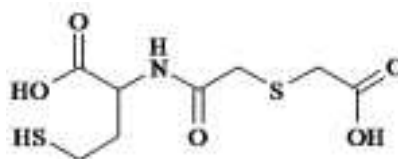


**IUPAC Name:**  
Bis N-(2-Oxo-3-tetrahydrothienyl)thiodiglycolamide

## Erdosteine

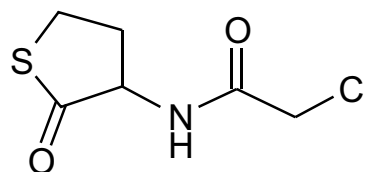
### Metabolite

Metabolite 1 (CSA No. 121213-21-6)



**IUPAC Name:**  
N-[[[(carboxymethyl)thio]acetyl]-Homocysteine, N-(thiodiglycolyl)homocysteine

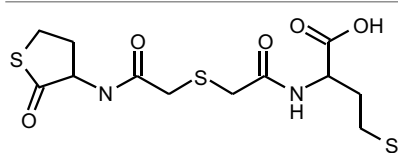
## Erdosteine



**IUPAC Name:**  
N-Chloroacetyl homocysteine thiolactone

## Erdosteine

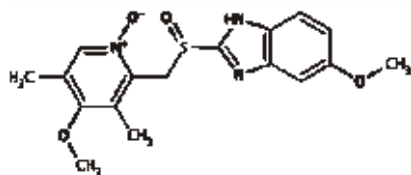
RV 201



**IUPAC Name:**  
S-[2-[N-3-(2-oxotetrahydrothienyl)acetamido]-N-(carboxymethyl)thiocetyl]homocysteine

## Esomeprazole magnesium

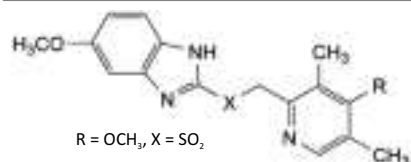
N-oxide impurity (CAS No. 176219-04-8)



**IUPAC Name:**  
Acid Impurity

## Esomeprazole magnesium

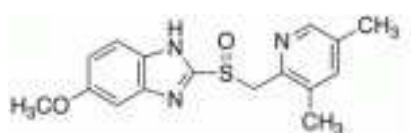
Sulphone impurity



**IUPAC Name:**  
5-Methoxy-2-[[[4-methoxy-3,5-dimethylpyridine-2-yl)methyl]sulphonyl]-1H-benzimidazole

## Esomeprazole magnesium

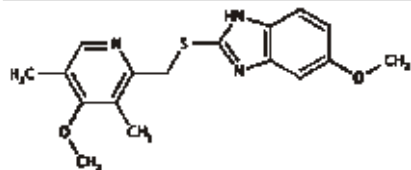
Desmethoxy impurity



**IUPAC Name:**  
5-Methoxy-2-[[[3,5-dimethylpyridine-2-yl)methyl]sulphonyl]-1H-benzimidazole

## Esomeprazole magnesium

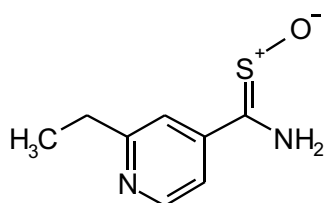
Sulphide impurity (CAS No. 73590-85-9)



**IUPAC Name:**  
5-Methoxy-2-(4-methoxy-3,5-dimethylpyridin-2-ylmethylthio)1H-benzimidazole

## Ethionamide

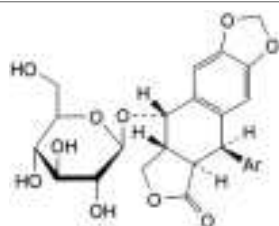
Ethionamide Sulfoxide



**IUPAC Name:**  
2-Ethyl-4-pyridinecarbothioamide sulfoxide

## Etoposide

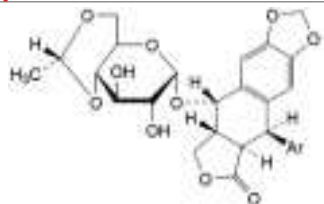
BP Impurity D



**IUPAC Name:**  
5R,5aR,8aR,9S)-9-(b-D-glucopyranosyloxy)-5-(4-hydroxy-3,5-dimethoxyphenyl)-5,8,8a,9-tetrahydroisobenzofuro[5,6-f][1,3]benzodioxol-6(5aH)-one (lignan P)

## Etoposide

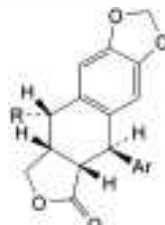
BP Impurity C



**IUPAC Name:**  
(5R,5aR,8aR,9S)-9-[[4,6-O-[(R)-ethylidene]-a-D-glucopyranosyl]oxy]-5-(4-hydroxy-3,5-dimethoxyphenyl)-5,8,8a,9-tetrahydroisobenzofuro[5,6-f][1,3]benzodioxol-6(5aH)-one (a-etoposide)

## Etoposide

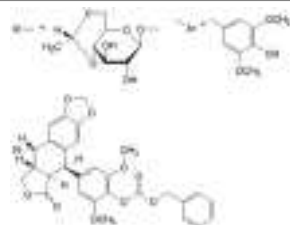
BP Impurity B



**IUPAC Name:**  
(5R,5aR,8aR,9S)-9-[[4,6-O-[(R)-ethylidene]-b-D-glucopyranosyl]oxy]-5-(4-hydroxy-3,5-dimethoxyphenyl)-5,8,8a,9-tetrahydroisobenzofuro[5,6-f][1,3]benzodioxol-6(5aH)-one (picroethylidene-lignan P; cis-etoposide)

## Etoposide

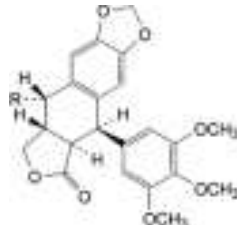
BP Impurity A



(CSA No. 69655-05-6)  
**IUPAC Name:**  
(5R,5aR,8aR,9S)-5-[4-[[[(benzyloxy)carbonyl]oxy]-3,5-dimethoxyphenyl]-9-[[4,6-O-[(R)-ethylidene]-b-D-glucopyranosyl]oxy]-5,8,8a,9-tetrahydroisobenzofuro[5,6-f][1,3]benzodioxol-6(5aH)-one (4-carbobenzoyloxyethylidene-lignan P)

## Etoposide

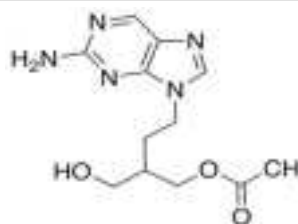
BP Impurity I



**IUPAC Name:**  
(5R,5aR,8aR,9S)-9-[[[4,6-O-[(R)-ethylidene]-b-D-glucopyranosyl]oxy]-5-(3,4,5-trimethoxyphenyl)-5,8,8a,9-tetrahydroisobenzofuro[5,6-f][1,3]benzodioxol-6(5aH)-one (4-O-methyl-ethylidene-lignan P)

## Famciclovir

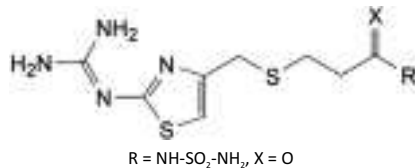
USP Rela Comp B



**IUPAC Name:**  
Des acetyl famciclovir

## Famotidine

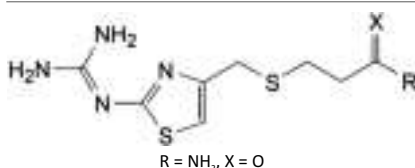
BP Impurity C



**IUPAC Name:**  
3-[[[2-[(diaminomethylene)amino]thiazol-4-yl)methyl]sulphonyl]-N-sulphamoylpropanamide

## Famotidine

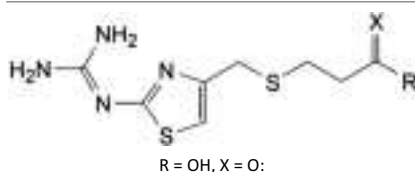
BP Impurity D



**IUPAC Name:**  
3-[[[2-[(diaminomethylene)amino]thiazol-4-yl)methyl]sulphonyl]propanamide

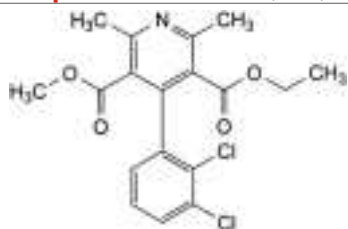
## Famotidine

BP Impurity F



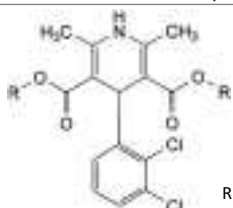
**IUPAC Name:**  
c) 3-[[[2-[(diaminomethylene)amino]thiazol-4-yl)methyl]sulphonyl]propanoic acid,

## Felodipine BP Impurity A



**IUPAC Name:**  
Ethyl methyl 4-(2,3-dichlorophenyl)-2,6-dimethylpyridine-3,5-dicarboxylate

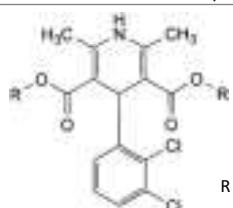
## Felodipine BP Impurity B (CAS No. 120013-84-5)



**IUPAC Name:**  
Dimethyl 4-(2,3-dichlorophenyl)-2,6-dimethyl-1,4-dihydropyridine-3,5-dicarboxylate

R = CH<sub>3</sub>

## Felodipine BP Impurity C



**IUPAC Name:**  
Diethyl 4-(2,3-dichlorophenyl)-2,6-dimethyl-1,4-dihydropyridine-3,5-dicarboxylate

R = C<sub>2</sub>H<sub>5</sub>

Related compound A

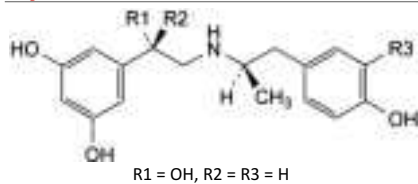
## Felodipine USP Impurity A (CAS No. 96382-71-7)



**IUPAC Name:**  
(4S,6S)-4-amino-6-methyl-5,6-dihydro-4H-thieno[2,3-b]thiopyran-2-sulphonamide 7,7-dioxide.

## Fenoterol

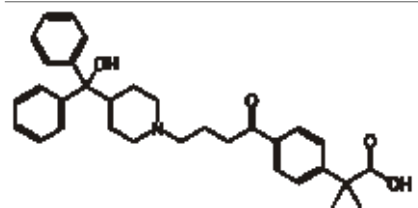
## Hydrobromide BP Impurity A



R1 = OH, R2 = R3 = H

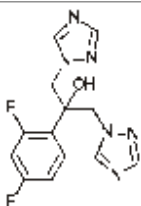
**IUPAC Name:**  
(1RS)-1-(3,5-dihydroxyphenyl)-2-(((1SR)-2-(4-hydroxyphenyl)-1-methylethyl)amino)ethanol,

## Fexofenadine Impurity A



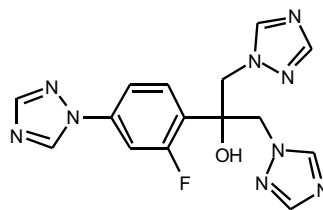
**IUPAC Name:**  
(2-4-[4-(Hydroxydiphenylmethyl)piperidin-1-yl]butanoyl)phenyl)-2-methyl propanoic Acid

## Fluconazole (CSA No. 86386-73-4)



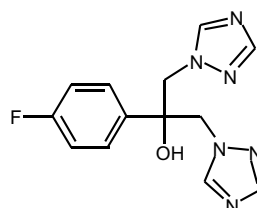
**IUPAC Name:**  
Fluconazole Form-I

## Fluconazole USP Rel Comp A (CAS No. 871550-15-1)



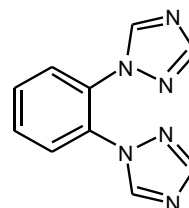
**IUPAC Name:**  
(2-[2-fluoro-4-(1H-1,2,4-triazol-1-yl)phenyl]-1,3-bis(1H-1,2,4-triazol-1-yl)propan-2-ol)

## Fluconazole USP Rel Comp B (CAS No. 81886-51-3)



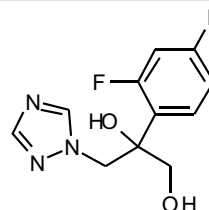
**IUPAC Name:**  
(2-(4-fluorophenyl)-1,3-bis(1H-1,2,4-triazol-1-yl)propan-2-ol)

## Fluconazole USP Rel Comp C (CAS No. 514222-44-7)



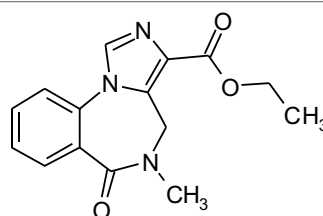
**IUPAC Name:**  
(1,1'-(1,3-phenylene)di(1H-1,2,4-triazole))

## Fluconazole BP Impurity F



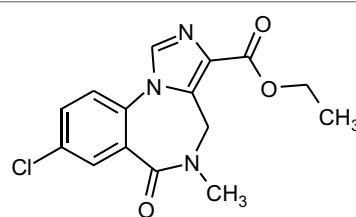
**IUPAC Name:**  
(2RS)-2-(2,4-difluorophenyl)-3-(1H-1,2,4-triazol-1-yl)propane-1,2-diol

## Flumazenil EP Impurity E



**IUPAC Name:**  
Ethyl 5-methyl-6-oxo-5,6-dihydro-4H-imidazo[1,5-a][1,4]benzodiazepine-3-carboxylate

## Flumazenil EP Impurity F



**IUPAC Name:**  
Ethyl 8-chloro-5-methyl-6-oxo-5,6-dihydro-4H-imidazo[1,5-a][1,4]benzodiazepine-3-carboxylate,

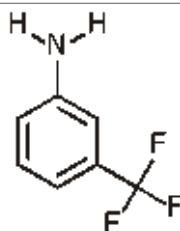
## Flutamide BP Impurity A



**IUPAC Name:**  
4-Nitro-3-trifluoromethylaniline

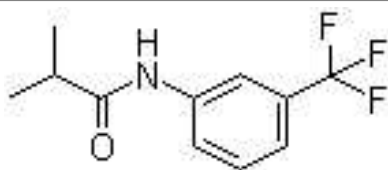
R = H, R' = NO<sub>2</sub>

**Flutamide** BP Impurity D (CAS No. 98-16-8)



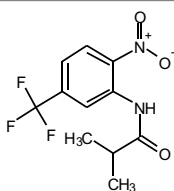
**IUPAC Name:**  
3-trifluoromethylaniline

**Flutamide** (CAS No. 1939-27-1)



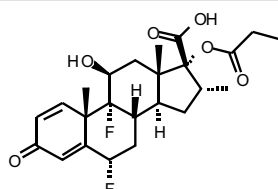
**IUPAC Name:**  
3-trifluoromethylisobutyranilide

**Flutamide** BP Impurity F



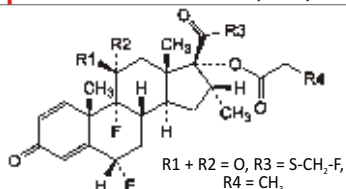
**IUPAC Name:**  
ortho flutamide

**Fluticasone propionate** BP Impurity A (CAS No. 65429-42-7)



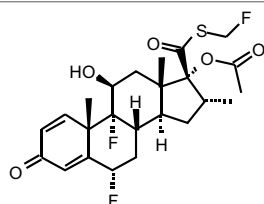
**IUPAC Name:**  
6,9-difluoro-11-hydroxy-16-methyl-3-oxo-17-(propanoyloxy)androsta-1,4-diene-17-carboxylic acid,

**Fluticasone propionate** BP Impurity F



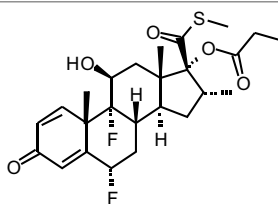
**IUPAC Name:**  
6,9-difluoro-17-[[[(fluoromethyl)sulphonyl]carbonyl]-16-methyl-3,11-dioxoandrosta-1,4-dien-17-yl]propanoate,

**Fluticasone propionate** BP Impurity H



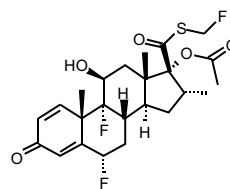
**IUPAC Name:**  
17,17-(disulphanediyl-dicarbonyl)bis(6,9-difluoro-11-hydroxy-16-methyl-3-oxoandrosta-1,4-dien-17-yl) dipropionate,

**Fluticasone propionate**



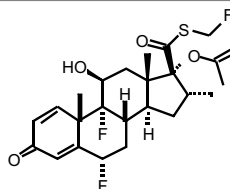
**IUPAC Name:**  
6,9-difluoro-17-[[[methylsulphonyl]carbonyl]-11-hydroxy-16-methyl-3-oxoandrosta-1,4-dien-17-yl]propanoate (S-methyl Fluticasone propionate)

**Fluticasone propionate** BP Impurity C



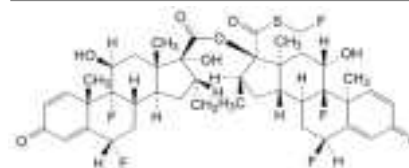
**IUPAC Name:**  
6,9-Difluoro-17-[[[(iodomethyl)sulphonyl]carbonyl]-11-hydroxy-16-methyl-3-oxoandrosta-1,4-dien-17-yl]acetate

**Fluticasone propionate**



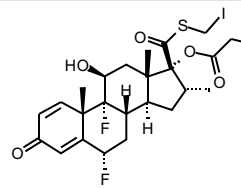
**IUPAC Name:**  
6,9-Difluoro-17-[[[(iodomethyl)sulphonyl]carbonyl]-11-hydroxy-16-methyl-3-oxoandrosta-1,4-dien-17-yl]acetate (Fluticasone acetate)

**Fluticasone propionate**



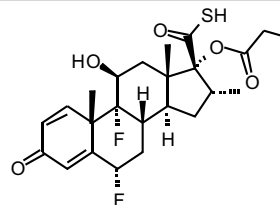
**IUPAC Name:**  
Dimmer impurity of Fluticasone Propionate

**Fluticasone propionate**



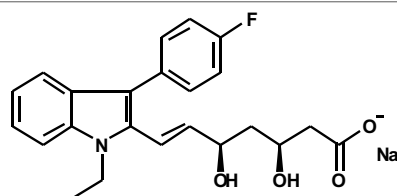
**IUPAC Name:**  
6,9-Difluoro-17-[[[(iodomethyl)sulphonyl]carbonyl]-11-hydroxy-16-methyl-3-oxoandrosta-1,4-dien-17-yl]propanoate (iodo fluticasone)

**Fluticasone propionate**



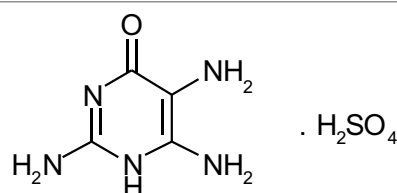
**IUPAC Name:**  
6,9-difluoro-11-hydroxy-16-methyl-3-oxo-17-(propanoyloxy)androsta-1,4-diene-17-carbothioic acid (thio propionate)

**Fluvastatin** (CSA No. 93936-64-2)



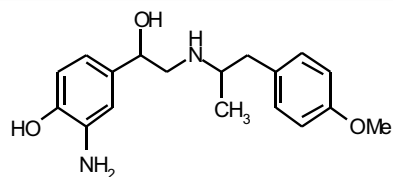
**IUPAC Name:**  
(N-Ethyl analogue) (3R,5S,6E)-7-[3-(4-fluorophenyl)-1-(ethyl)-1H-indol-2-yl]-3,5-dihydroxyhept-6-enoic acid

**Folic acid** BP Impurity B (CSA No. 35011-47-3)



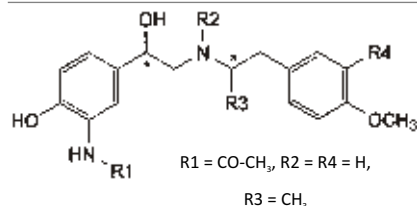
**IUPAC Name:**  
2,5,6-Triaminopyrimidin-4(1H)-one sulfate salt

## Formoterol BP Impurity A



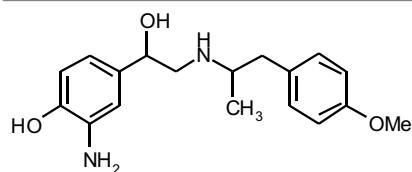
**IUPAC Name:**  
1-(3-amino-4-hydroxyphenyl)-2-[[2-(4-methoxyphenyl)-1-methyl ethyl]amino] ethanol

## Formoterol BP Impurity C



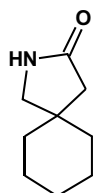
**IUPAC Name:**  
N-[2-hydroxy-5[1-hydroxy-2-[[2-(4-methoxyphenyl)-1-methyl ethyl] amino] ethyl]phenyl]acetone

## Formoterol BP Impurity A



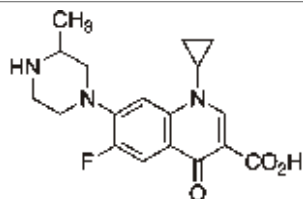
**IUPAC Name:**  
1-(3-amino-4-hydroxyphenyl)-2-[[2-(4-methoxyphenyl)-1-methylethyl]amino] ethanol

## Gabapentine USP Related compound A (CSA No. 64744-50-9)



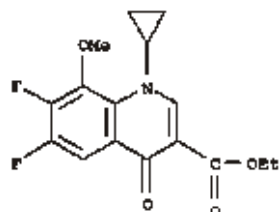
**IUPAC Name:**  
3-Azaspiro[4,5]decan-3-one

## Gatifloxacin sesquihydrate (CSA No. 616205-76-6)



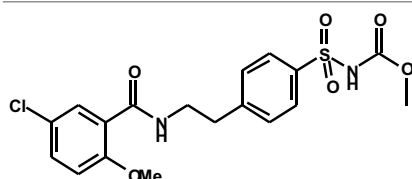
**IUPAC Name:**  
O-Desmethyl Gatifloxacin

## Gatifloxacin sesquihydrate (CSA No. 112811-71-9)



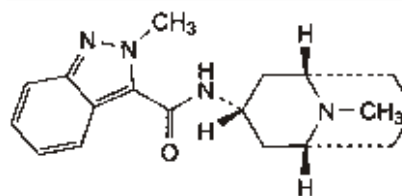
**IUPAC Name:**  
Gatifloxacin ester

## Glibenclamide Impurity B



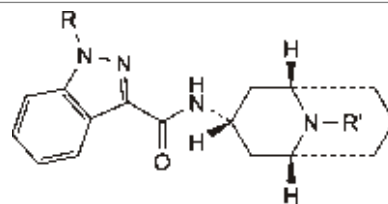
**IUPAC Name:**  
methyl [[4-[2-[(5-chloro-2-methoxybenzoyl) amino]ethyl]phenyl]sulphonyl]carbamate

## Granisetron Hydrochloride BP Impurity A



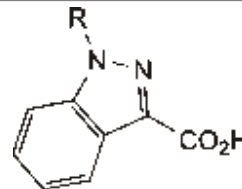
**IUPAC Name:**  
2-methyl-N-[(1R,3r,5S)-9-methyl-9-azabicyclo[3.3.1]non-3-yl]-2H-indazole-3-carboxamide

## Granisetron Hydrochloride BP Impurity B



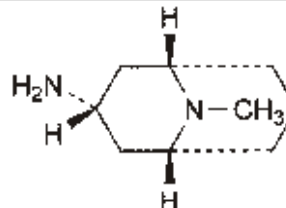
**IUPAC Name:**  
N-[(1R,3r,5S)-9-methyl-9-azabicyclo[3.3.1]non-3-yl]-1H-indazole-3-carboxamide

## Granisetron Hydrochloride BP Impurity D



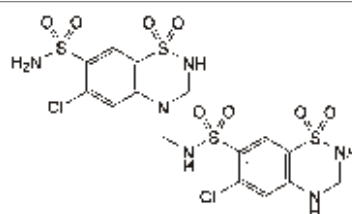
**IUPAC Name:**  
1-methyl-1H-indazole-3-carboxylic acid

## Granisetron Hydrochloride BP Impurity F



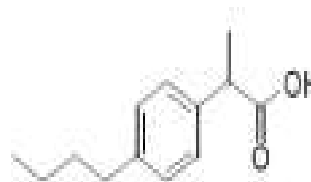
**IUPAC Name:**  
(1R,3r,5S)-9-methyl-9-azabicyclo[3.3.1]nonan-3-amine

## Hydrochlorothiazide USP Related Compound C



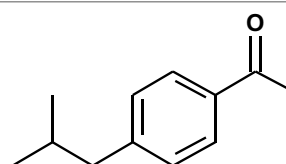
**IUPAC Name:**  
6-chloro-N-[(6-chloro-7-sulphamoyl-2,3-dihydro-4H-1,2,4-benzothiazin-4-yl 1,1-dioxide)methyl]-3,4-dihydro-2H-1,2,4-benzothiazine-7-sulphonamide 1,1-dioxide

## Ibuprofen BP Impurity B (CSA No. 3585-49-7)



**IUPAC Name:**  
(2RS)-2-(4-Butylphenyl) propionic Acid

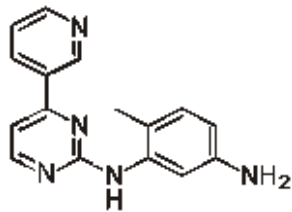
## Ibuprofen USP Related Compound C (CSA No. 38861-78-8)



**IUPAC Name:**  
4-isobutylacetophenone

## Imatinib mesylate

(CAS No. 152460-10-1)



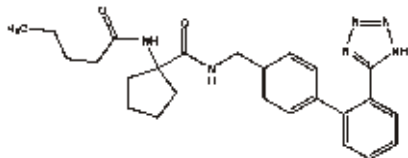
**IUPAC Name:**  
N-(2-Methyl-5-amino-phenyl)-4-(3-Pyridyl)-2-Pyrimidine Amine

## Irbesartan

USP

Related Compound A

(CAS No. 748812-53-5)

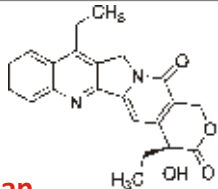


**IUPAC Name:**  
(1-pentanoylamino-cyclopentanecarboxylic acid [2'-(1H-tetrazol-5-yl)-biphenyl-4-ylmethyl]-amide)

## Irinotecan Hydrochloride Trihydrate

Non Pharmacopeia

(CAS No. 78287-27-1)

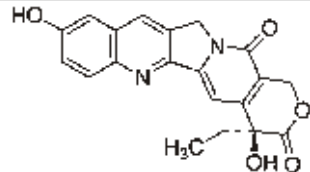


**IUPAC Name:**  
7-ethyl camptothecin

## Irinotecan Hydrochloride Trihydrate

Non Pharmacopeia

(CAS No. 65429-42-7)

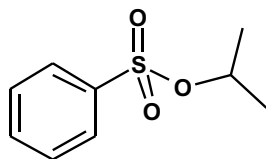


**IUPAC Name:**  
10-hydroxy-7-ethyl camptothecin

## Isopropyl Benzenesulfonate

Non Pharmacopeia

(CAS No. 6214-18-2)

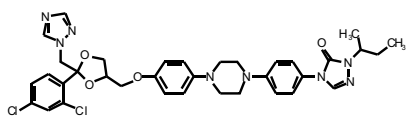


**IUPAC Name:**  
Benzenesulfonic Acid 1-Methylethyl Este

## Itraconazole

BP

Impurity B

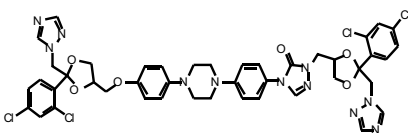


**IUPAC Name:**  
4-[4-[4-[4-[[cis-2-(2,4-dichlorophenyl)-2-(4H-1,2,4-triazol-4-ylmethyl)-1,3-dioxolan-4-yl]methoxy]phenyl]piperazin-1-yl]phenyl]-2-[(1RS)-1-methylpropyl]-2,4-dihydro-3H-1,2,4-triazol-3-one

## Itraconazole

BP

Impurity G

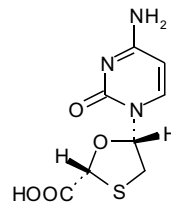


**IUPAC Name:**  
4-[4-[4-[4-[[cis-2-(2,4-dichlorophenyl)-2-(1H-1,2,4-triazol-1-ylmethyl)-1,3-dioxolan-4-yl]methoxy]phenyl]piperazin-1-yl]phenyl]-2-[[cis-2-(2,4-dichlorophenyl)-2-(1H-1,2,4-triazol-1-ylmethyl)-1,3-dioxolan-4-yl]methyl]-2,4-dihydro-3H-1,2,4-triazol-3-one.

## Lamivudine

BP

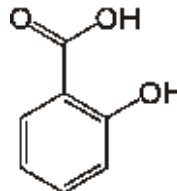
Impurity A (Carboxylic Acid)



**IUPAC Name:**  
(2RS,5SR)-5-(4-amino-2-oxypyrimidin-1(2H)-yl)-1,3-oxathiolane-2-carboxylic acid

## Lamivudine

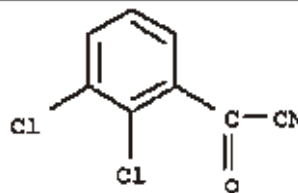
(CAS No. 69-72-7)



**IUPAC Name:**  
Salicylic acid

## Lamotrigine

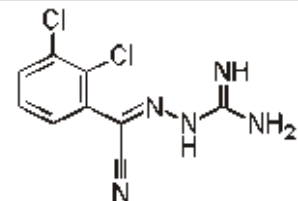
(CAS No. 77668-42-9)



**IUPAC Name:**  
2,3-dichlorobenzoylcyanide

## Lamotrigine

(CAS No. 84689-20-3)

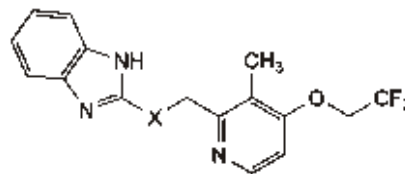


**IUPAC Name:**  
2-(2,3-Dichlorophenyl)-2-guanidinyliminoacetone nitrile

## Lansoprazole

EP

Impurity B



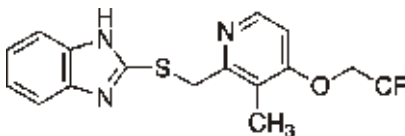
**IUPAC Name:**  
2-[[[3-methyl-4-(2,2,2-trifluoroethoxy)-2-pyridyl]-methyl]sulphonyl]-benzimidazole

## Lansoprazole

Non Pharma  
Pharma  
copeia

Lansoprazole  
Sulphide

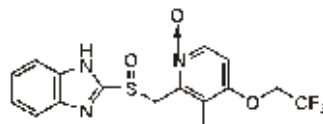
(CSA No. 103577-40-8)



**IUPAC Name:**  
2-[[[3-methyl-4-(2,2,2-trifluoro ethoxy)-2-pyridinyl]-methyl]thio]-1H-benzimidazole

## Lansoprazole

Lansoprazole N-oxide

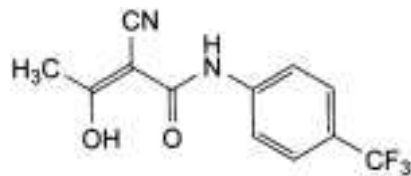


**IUPAC Name:**  
2-[[[3-methyl-4-(2,2,2-trifluoroethoxy)-2-pyridinyl]methyl]sulphonyl]-1H-benzimidazole-1-oxide

$C_{16}H_{14}F_3N_3O_3S$   
Mol. Wt.: 385.36

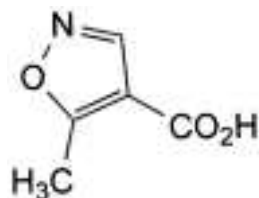
# Amkette Industries

**Leflunomide** BP Impurity B



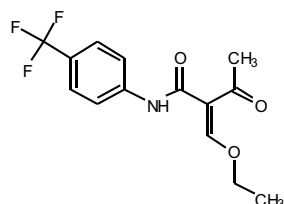
**IUPAC Name:**  
N-(4-(trifluoro methyl  
phenyl)-2-cyano-3-  
hydroxy crotonamide

**Leflunomide** BP Impurity D



**IUPAC Name:**  
5-Methylisoxazole-4-  
carboxylic acid

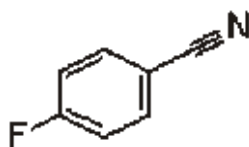
**Leflunomide**



**IUPAC Name:**  
3-Methyl-N-[4-  
trifluoromethyl)  
phenyl]-4-isoxazole  
carboxamide

**Letrozole**

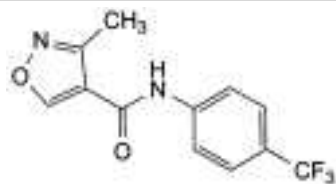
(CSA No. 1194-02-1)



**IUPAC Name:**  
4-fluorobenzonitrile

**levofloxacin  
Hemihydrate**

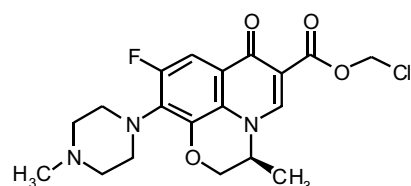
BP Impurity E



**IUPAC Name:**  
(-)-(S)-9-fluoro-2,3-  
dihydro-3-methyl-10-  
(1-piperazinyl)-7-oxi-  
7H-pyrido[1,2,3-de]-  
1,4-benzoxazine-6-  
carboxylic acid

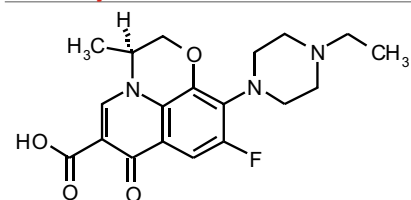
**levofloxacin  
Hemihydrate**

(CSA No. 112811-71-9)



**IUPAC Name:**  
(-)-(S)-Chloromethyl-9-  
fluoro-3-methyl-10-(4-  
methyl-1-piperazinyl)-  
7-oxo-2,3-dihydro-7H-  
[1,4]-oxazino[2,3,4-ij]-  
quinoline-6-carboxylate  
(Chloromethyl ester  
impurity)

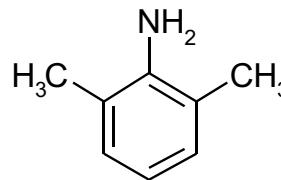
**levofloxacin  
Hemihydrate**



**IUPAC Name:**  
N-Ethyl Levofloxacin  
impurity

**Lidocaine**

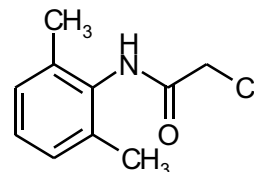
BP Impurity A (CSA No. 87-62-7)



**IUPAC Name:**  
2,6-dimethylaniline

**Lidocaine**

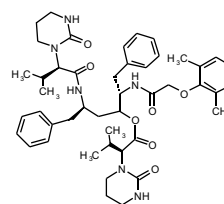
BP Impurity H (CSA No. 1131-01-7)



**IUPAC Name:**  
2-chloro-N-(2,6-  
dimethylphenyl)  
acetamide

**Lopinavir**

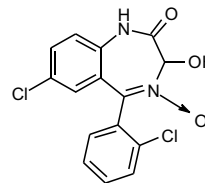
INH Impurity B



**IUPAC Name:**  
3-Methyl-2-((2-oxo-  
tetrahydropyrimidin-1-  
yl)-butyric acid 1-[1-(2-  
(2,6-dimethyl-phenoxy)  
-acetyl-amino)-2-  
phenylethyl]-3-[3-methyl-  
2-(2-oxo-tetrahydropyrimidin-  
1-yl)-butyrylamino]-4-  
phenylbutyl ester

**Lorazepam**

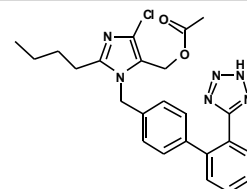
Non pharmacopea



**IUPAC Name:**  
(3RS)-7-Chloro-5-(2-  
chlorophenyl)-3-  
hydroxy-1,3-dihydro-  
2H-1,4-benzodiazepin-  
2-one 4-oxide.  
Lorazepam N- Oxide

**Losartan  
potassium**

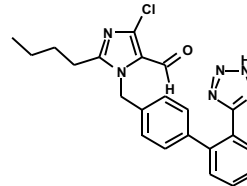
BP Impurity J (CSA No. 1006062-27-6)



**IUPAC Name:**  
2-Butyl-4-chloro-1-[[[2'-  
(2H-tetrazol-5-yl)[1,1'-  
biphenyl]-4-yl]methyl]-  
1H-imidazole-5-  
methanol-5-Acetate  
(Acetyl Losartan)

**Losartan  
potassium**

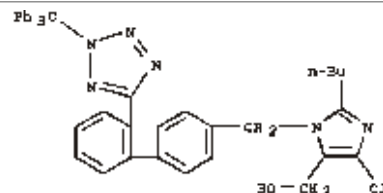
BP Impurity K (CSA No. 114798-36-6)



**IUPAC Name:**  
2-Butyl-4-chloro-1-[[[2'-  
(2H-tetrazol-5-yl)[1,1'-  
biphenyl]-4-yl]methyl]-  
1H-imidazole-5-  
carboxaldehyde  
(Losartan Aldehyde)

**Losartan  
potassium**

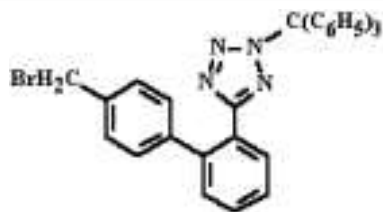
(CSA No. 133909-99-6)



**IUPAC Name:**  
LSR-I compound

## Losartan potassium

(CAS No. 133051-88-4)

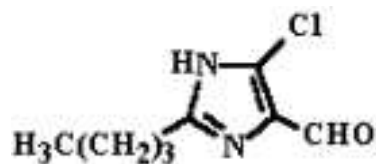


**IUPAC Name:**  
4-BROMOMETHYL-[2'-(2-TRITYL-2H-TETRAZOL-5-YL)]BIPHENYL

TTBB

## Losartan potassium

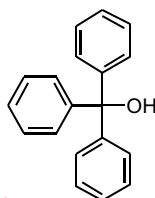
(CAS No. 83857-96-9)



**IUPAC Name:**  
2-BUTYL-5-CHLORO-1H-IMIDAZOLE-4-CARBALDEHYDE

BCFI

## Losartan potassium

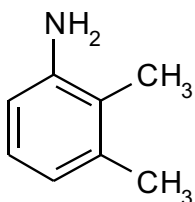


**IUPAC Name:**  
Triphenyl methanol

## Mefenamic Acid

EP Impurity A

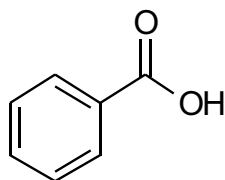
(CAS No. 87-59-2)



**IUPAC Name:**  
2,3-Dimethylaniline

## Mefenamic Acid

(CAS No. 65-85-0)

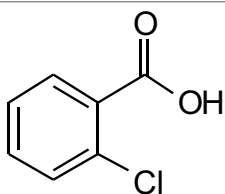


**IUPAC Name:**  
Benzoic Acid

## Mefenamic Acid

EP Impurity C

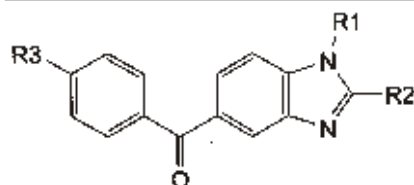
(CAS No. 118-91-2)



**IUPAC Name:**  
2-Chlorobenzoic Acid

## Mebendazole

BP Impurity A

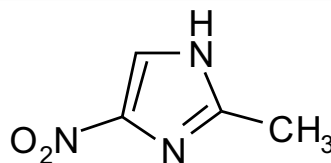


**IUPAC Name:**  
2-Amino-1H-benzoimidazole-5-yl phenyl- methanone

## Metronidazole

EP Impurity A

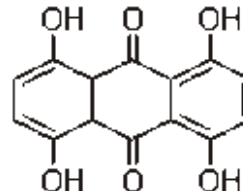
(CAS No. 696-23-1)



**IUPAC Name:**  
2-Methyl-4-nitroimidazole

## Mitoxantrone Hydrochloride

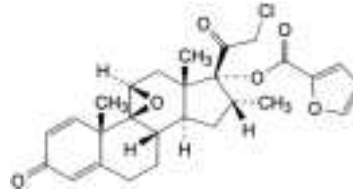
(CAS No. 28932-22-1)



**IUPAC Name:**  
Leuco 1,4,5,8-tetrahydroxy anthraquinone

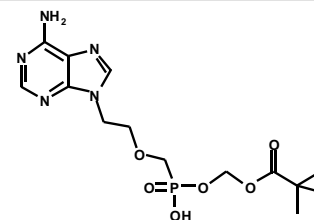
## Mometasone furoate

BP Impurity D



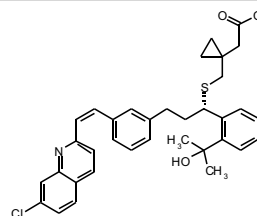
**IUPAC Name:**  
21-chloro-9,11-epoxy-16-methyl-3,20-dioxo-9-pregna-1,4-dien-17-yl furan-2-carboxylate

## Monopivoxil Adifovir



**IUPAC Name:**  
[[2-(6-amino-9H-purin-9-yl)ethoxy)methyl] phosphonic acid monopivoxil ester

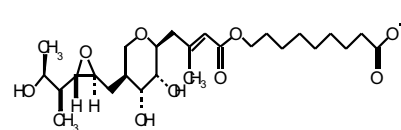
## Montelukast



**IUPAC Name:**  
1-[1-[[[(1R)-1-[3-[(1Z)-2-(7-Chloro-2-Quinolinyl)Ethenyl]phenyl]-3-[2-(1-hydroxy-1-methylethyl)phenyl]propyl]thio]methyl]cyclopropaneacetic acid

## Mupirocin

(CSA No. 73346-79-9)

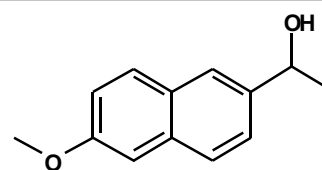


**IUPAC Name:**  
Nonanoic acid, 9-[[3-methyl-1-oxo-4-[tetrahydro-3,4-dihydroxy-5-[[3-(2-hydroxy-1-methylpropyl) oxiranyl]methyl]-2H-pyran-2-yl]-2-butenyl]oxy]-, [2S-[2alpha(E), 3beta, 4beta, 5alpha[2R\*, 3R\*(1R\*, 2R\*)]]], lithium salt

## Naproxen

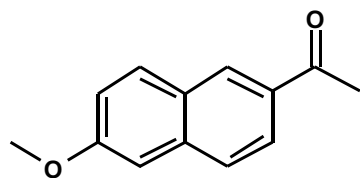
BP Impurity K

(CSA No. 77301-42-9)



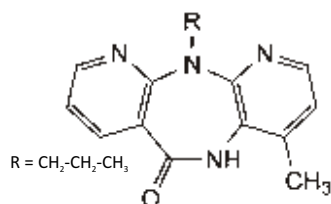
**IUPAC Name:**  
2-Acetyl-6-methoxy-naphthalene

**Naproxen** BP Impurity L (CAS No. 3900-45-6)



**IUPAC Name:**  
2-Acetyl-6-methoxy-naphthalene

**Nevirapine** BP Impurity C



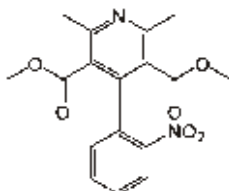
**IUPAC Name:**  
4-methyl-11-propyl-5,11-dihydro-6H-dipyrido[3,2-b:2',3'-e][1,4]diazepin-6-one.

**Nevirapine** BP Impurity A



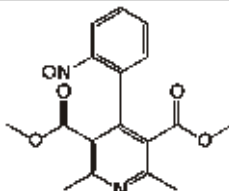
**IUPAC Name:**  
11-ethyl-4-methyl-5,11-dihydro-6H-dipyrido[3,2-b:2',3'-e][1,4]diazepin-6-one,

**Nifedipine** BP Impurity A (CSA No. 1194-02-1)



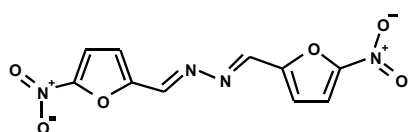
**IUPAC Name:**  
dimethyl 2,6-dimethyl-4-(2-nitrophenyl)pyridine-3,5-dicarboxylate (nitrophenylpyridine analogue),

**Nifedipine** BP/USP Impurity B



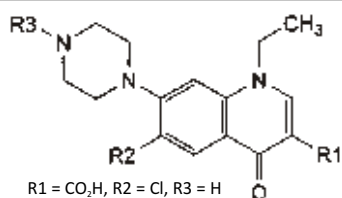
**IUPAC Name:**  
dimethyl 2,6-dimethyl-4-(2-nitrosophenyl)pyridine-3,5-dicarboxylate (nitrosophenylpyridine analogue),

**Nitrofurazone** USP Related Compound A (CSA No. 112537-96-9)



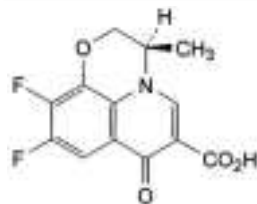
**IUPAC Name:**  
5-Nitro-2-furfuraldiazine

**Norfloxacin** EP Impurity F



**IUPAC Name:**  
Chloro analogue of Norfloxacin

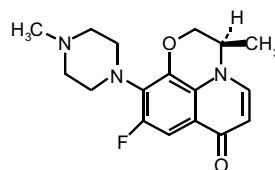
**Ofloxacin** BP Impurity A



and enantiomer

**IUPAC Name:**  
9,10-difluoro-3-methyl-7-oxo-2,3-dihydro-7H-pyrido[1,2,3-de]-1,4-benzoxazine-6-carboxylic acid

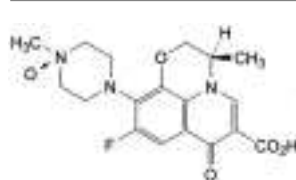
**Ofloxacin** BP Impurity B



and enantiomer

**IUPAC Name:**  
(RS)-9-fluoro-3-methyl-10-(4-methylpiperazin-1-yl)-2,3-dihydro-7H-pyrido[1,2,3-de]-1,4-benzoxazin-7-one.

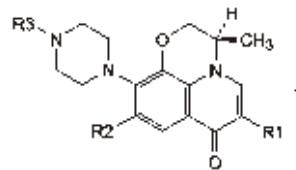
**Ofloxacin** BP Impurity F (CSA No. 104721-52-0)



and enantiomer

**IUPAC Name:**  
4-[(RS)-6-carboxy-9-fluoro-3-methyl-7-oxo-2,3-dihydro-7H-pyrido[1,2,3-de]-1,4-benzoxazine-10-yl]-1-methylpiperazine 1-oxide

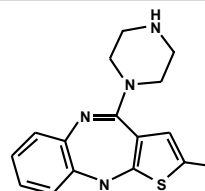
**Ofloxacin** BP Impurity E



and enantiomer

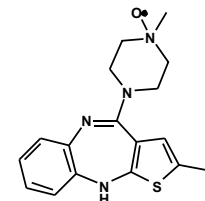
**IUPAC Name:**  
9-Fluoro-3-methyl-7-oxo-10-(piperazin-1-yl)-2,3-dihydro-7H-pyrido[1,2,3-de]-1,4-benzoxazine-6-carboxylic acid

**Olanzapine** (CSA No. 161696-76-0)



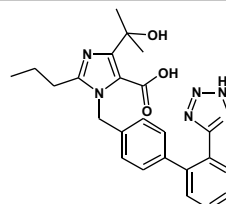
**IUPAC Name:**  
Des-N-Methyl Olanzapine

**Olanzapine N-Oxide** USP Related Comp C (CSA No. 174794-02-6)



**IUPAC Name:**  
2-Methyl-4-(4-methyl-4-oxido-1-piperazinyl)-10H-thieno[2,3-b][1,5]benzodiazepine

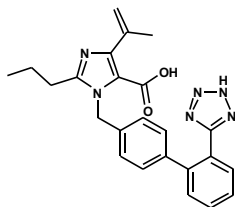
**Olmесartan** Imp. RNH6270 (CSA No. 144689-24-7)



**IUPAC Name:**  
LSR-I compound

## Olmesartan

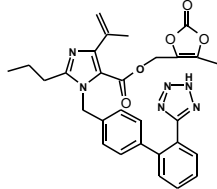
Imp.  
RNH6363



**IUPAC Name:**  
4-isopropenyl-2-propyl-1-[[2'-(1H-tetrazol-5-yl)biphenyl-4-yl]methyl]imidazole-5-carboxylic acid

## Olmesartan

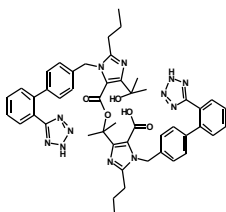
Imp.  
RNH6373



**IUPAC Name:**  
(5-Methyl-2-oxo-1,3-dioxolen-4-yl)methyl-4-isopropenyl-2-propyl-1-[[2'-(1H-tetrazol-5-yl)biphenyl-4-yl]methyl]imidazole-5-carboxylate

## Olmesartan

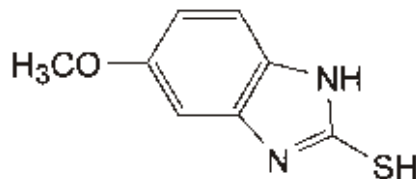
Imp.  
RNH6373



**IUPAC Name:**  
4-[1-[[[4-(1-hydroxy-1-methylethyl)-2-propyl-1-[[2'-(1H-tetrazol-5-yl)biphenyl-4-yl]methyl]imidazol-5-yl]carbonyl]oxy]-1-methylethyl]-2-propyl-1-[[2'-(1H-tetrazol-5-yl)biphenyl-4-yl]methyl]imidazole-5-carboxylic acid.

## Omeprazole

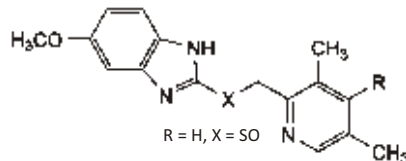
BP Impurity A



**IUPAC Name:**  
5-methoxy-1H-benzimidazole-2-thiol

## Omeprazole Magnesium

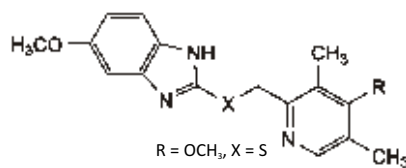
BP Impurity B (CAS No. 88546-55-8)



**IUPAC Name:**  
2-[(RS)-[(3,5-dimethylpyridin-2-yl)methyl]sulphonyl]-5-methoxy-1H-benzimidazole.

## Omeprazole Sodium

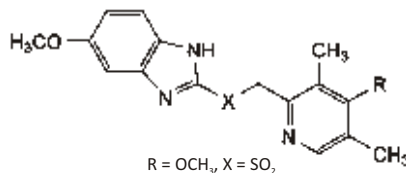
EP Impurity C



**IUPAC Name:**  
5-methoxy-2-[[[4-methoxy-3,5-dimethylpyridin-2-yl)methyl]thio]1H-benzimidazole. (ufiprazole)

## Omeprazole Sodium

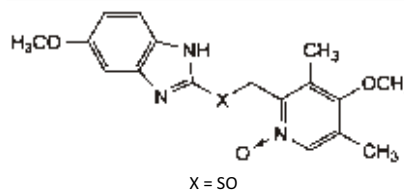
BP Impurity D



**IUPAC Name:**  
5-methoxy-2-[[[4-methoxy-3,5-dimethylpyridin-2-yl)methyl]sulphonyl]-1H-benzimidazole (omeprazole sulphone)

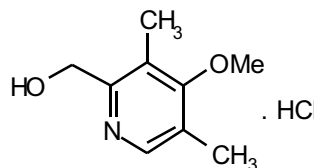
## Omeprazole Sodium

BP Impurity E



**IUPAC Name:**  
4-methoxy-2-[[[(RS)-(5-methoxy-1H-benzimidazol-2-yl)sulphonyl]methyl]-3,5-dimethylpyridine 1-oxide]

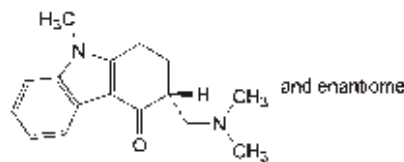
## Omeprazole Sodium



**IUPAC Name:**  
2-hydroxymethyl 3,5-dimethyl-4-methoxy pyridine hydrochloride

## Ondansetron

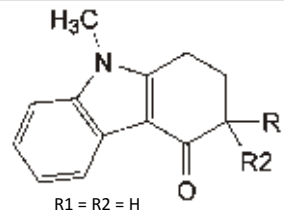
BP Impurity A



**IUPAC Name:**  
a) (3RS)-3-[(dimethylamino)methyl]-9-methyl-1,2,3,9-tetrahydro-4H-carbazol-4-one,

## Ondansetron

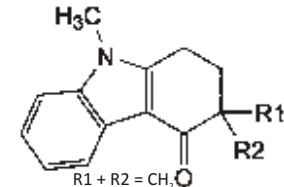
BP Impurity C



**IUPAC Name:**  
9-methyl-1,2,3,9-tetrahydro-4H-carbazol-4-one,

## Ondansetron

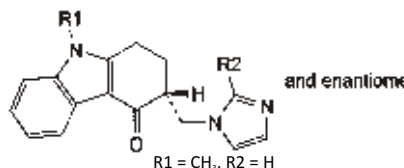
BP Impurity D



**IUPAC Name:**  
9-methyl-3-methylene-1,2,3,9-tetrahydro-4H-carbazol-4-one

## Ondansetron HCl

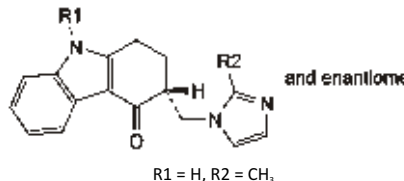
BP Impurity G



**IUPAC Name:**  
3RS)-3-[(1H-imidazol-1-yl)methyl]-9-methyl-1,2,3,9-tetrahydro-4H-carbazol-4-one (C-demethylondansetron),

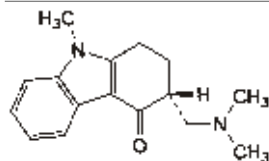
## Ondansetron HCl

BP Impurity H



**IUPAC Name:**  
(3RS)-3-[(2-methyl-1H-imidazol-1-yl)methyl]-1,2,3,9-tetrahydro-4H-carbazol-4-one (N-demethylondansetron).

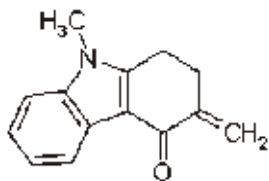
**Ondansetron HCl** USP Related Compound A (CAS No. 119812-29-2)



and enantiomer

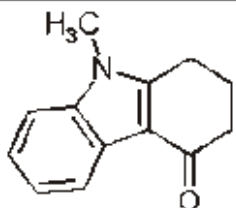
**IUPAC Name:**  
3[[dimethylamino]methyl]-1,2,3,9-tetrahydro-9-methyl-4H-carbazol-4-one hydrochloride

**Ondansetron HCl** BP Related Compound D (CAS No. 99614-64-9)



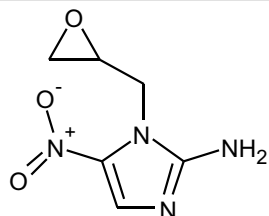
**IUPAC Name:**  
1,2,3,9-Tetrahydro-9-methyl-3-methylene-4H-carbazol-4-one

**Ondansetron HCl** BP Related Compound C (CAS No. 27387-31-1)



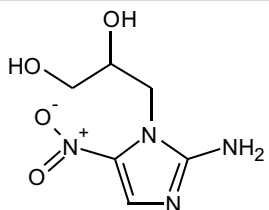
**IUPAC Name:**  
1,2,3,9-Tetrahydro-9-methyl-4H-carbazol-4-one

**Ornidazole**



**IUPAC Name:**  
Ornidazole epoxide

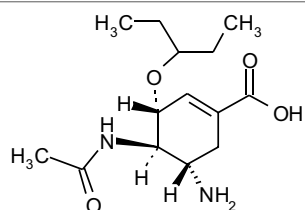
**Ornidazole**



**IUPAC Name:**  
Ornidazole diol

**Oseltamivir**

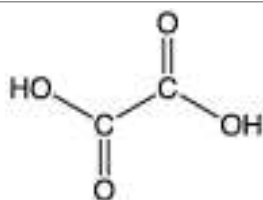
Carboxylic Acid Impurity



**IUPAC Name:**  
(3R,4R,5S)-4-Acetamido-5-amino-3-(1-ethylpropoxy)cyclohex-1-ene-1-carboxylic acid

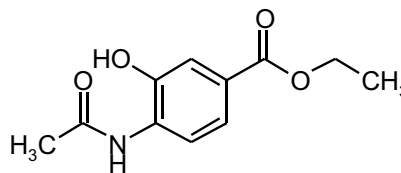
**Oxaliplatin**

BP Impurity A



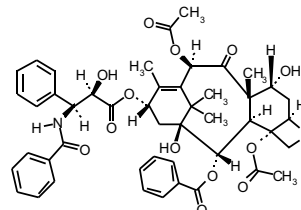
**IUPAC Name:**  
Ethanedioic acid (oxalic acid)

**Oseltamivir** BP Impurity D



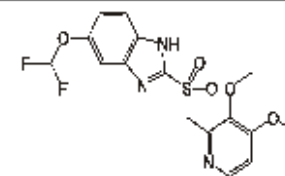
**IUPAC Name:**  
Ethyl 4-(acetylamino)-3-hydroxybenzoate

**Paclitaxel** Non Pharmacopia



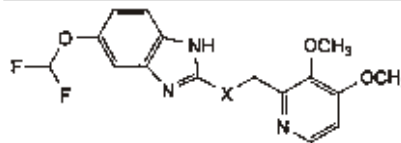
**IUPAC Name:**  
5 $\beta$ ,20-Epoxy-1,7 $\alpha$ -dihydroxy-9-oxotax-11-ene-2 $\beta$ ,4,10 $\beta$ ,13 $\beta$ -tetrayl 4,10-diacetate 2-benzoate 13-[(2R,3S)-3-(benzoylamino)-2-hydroxy-3-phenylpropanoate]. (7-Epi-Paclitaxel)

**Pantoprazole** EP Impurity A (Sulfone)



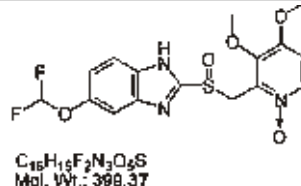
**IUPAC Name:**  
5-(Difluoromethoxy)-2-[[[3,4-dimethoxy-pyridin-2-yl)methyl]sulfonyl]-1H-benzimidazole

**Pantoprazole sodium** Non Pharmacopeia



**IUPAC Name:**  
5-(Difluoromethoxy)-2-[[[3,4-dimethoxy-2-pyridinyl]methyl]thio]-1H-benzimidazole

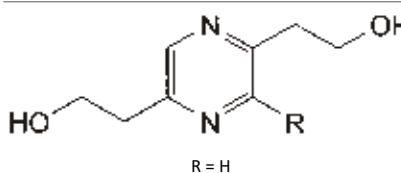
**Pantoprazole Sodium Sesquihydrate** BP/USP Impurity B/Rel Comp B



**IUPAC Name:**  
5-(Difluoro methoxy)-2-[[[3,4-dimethoxy-2-pyridin-1-oxidenyl]methyl]sulfonyl]-1H-benzimidazole

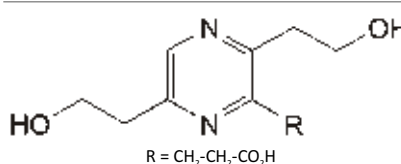
$C_{15}H_{15}F_2N_3O_5S$   
Mol. Wt.: 399.37

**Potassium Clavulanate** BP Impurity A



**IUPAC Name:**  
2,2'-(pyrazine-2,5-diyl) diethanol

**Potassium Clavulanate** BP Impurity B

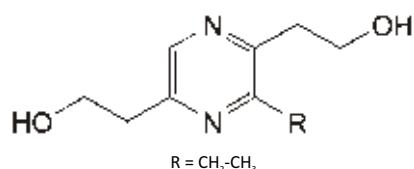


**IUPAC Name:**  
3-[3,6-bis(2-hydroxyethyl) pyrazine-2-yl]-propanoic acid

R = CH<sub>2</sub>-CH<sub>2</sub>-CO<sub>2</sub>H

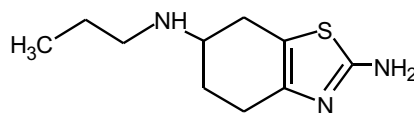
## Potassium Clavulanate

BP Impurity C



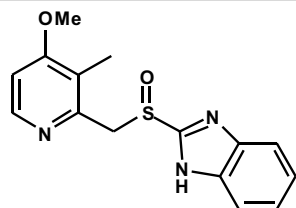
**IUPAC Name:**  
2,2'-[(3-Ethyl pyrazine-2,5-diyl) Diethanol]

## Pramipexole



**IUPAC Name:**  
Pramipexole racemate compound

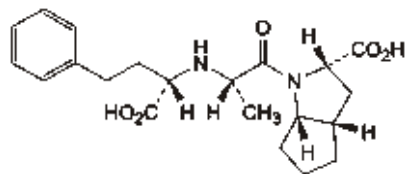
## Rabeprazole



**IUPAC Name:**  
2-[[[4-Methoxy-3-methyl-2-pyridinyl) methyl]sulfinyl]-1H-benzimidazole (Methoxy Rabeprazole)

## Ramipril

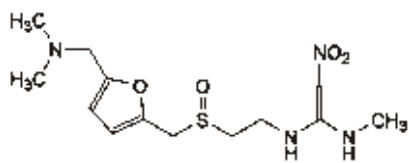
BP Impurity E



**IUPAC Name:**  
(2S,3aS,6aS)-1-[[[S]-2-[[[S]-1-carboxy-3-phenylpropyl]amino]propanoyl]octahydro-cyclopenta[b]pyrrole-2-carboxylic acid (ramipril diacid),

## Ranitidine

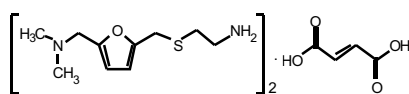
USP Related compound C



**IUPAC Name:**  
N-[2-[[[5-[(dimethylamino) methyl]-2-furanyl] methyl]sulphonyl]ethyl]-N-methyl-2-Nitro-1,1-Ethene diamine

## Ranitidine

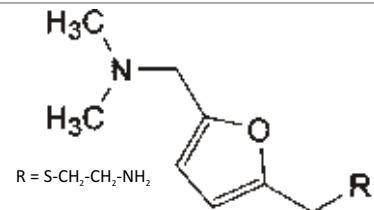
USP Related compound A



**IUPAC Name:**  
[5-[[[2-aminoethyl]thio]methyl]-N,N-dimethyl-2-furan methanamine, hemifumarate salt]

## Ranitidine

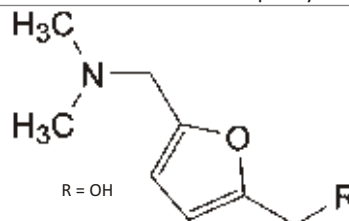
BP Impurity B



**IUPAC Name:**  
2-[[[5-[(dimethylamino) methyl]furan-2-yl] methyl]sulphonyl] ethanamine

## Ranitidine

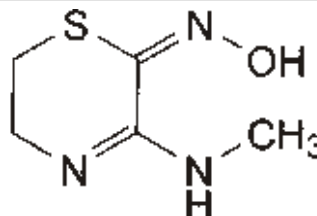
BP Impurity F



**IUPAC Name:**  
[5-[(dimethylamino) methyl]furan-2-yl] methanol

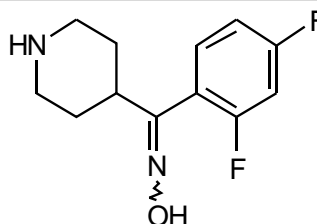
## Ranitidine

BP Impurity G



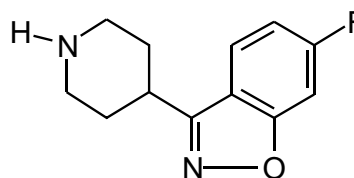
**IUPAC Name:**  
3-(methylamino)-5,6-dihydro-2H-1,4-thiazin-2-one-oxime,

## Risperidone



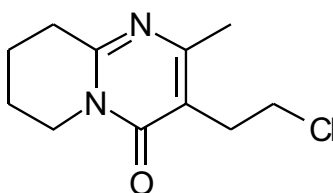
**IUPAC Name:**  
4-(2,4-Difluoro benzoyl hydroxylamino) piperidine

## Risperidone



**IUPAC Name:**  
6-Fluoro-3-(4-piperidinyl)-1,2-benzisoxazole monohydrochloride

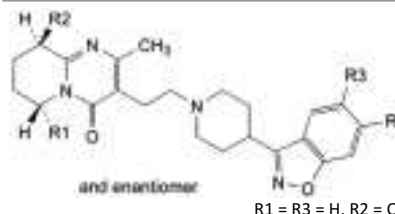
## Risperidone



**IUPAC Name:**  
3-(2-chloroethyl)-2-methyl-4H-pyrido(1,2-a)pyrimidin-4-one

## Risperidone

BP Impurity C



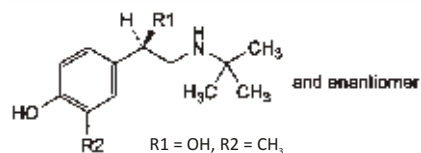
**IUPAC Name:**  
3-(2-(4-(6-fluoro-1,2-benzisoxazol-3-yl)-1-piperidinyl)ethyl)-2-methyl-4H-pyrido(1,2-a)pyrimidin-4-one

## Risperidone

**IUPAC Name:**  
Risperidone N-oxide

## Salbutamol sulfate

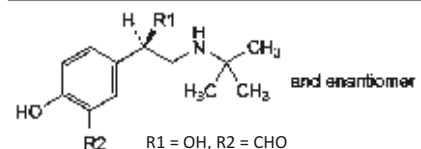
BP Impurity C



**IUPAC Name:**  
(1RS)-2-[(1,1-dimethylethyl)amino]-1-(4-hydroxy-3-methylphenyl)ethanol,

## Salbutamol sulfate

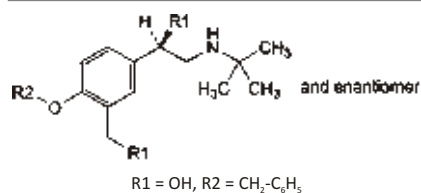
BP Impurity D



**IUPAC Name:**  
5-[(1RS)-2-[(1,1-dimethylethyl)amino]-1-hydroxyethyl]-2-hydroxybenzaldehyde,

## Salbutamol sulfate

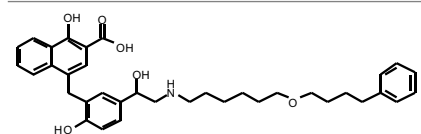
BP Impurity I



**IUPAC Name:**  
(1RS)-2-[(1,1-dimethylethyl)amino]-1-[3-(hydroxymethyl)-4-benzyloxyphenyl]ethanol.

## Salmeterol Xinafoate

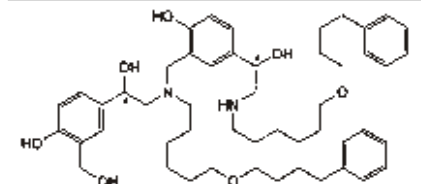
BP Impurity H



**IUPAC Name:**  
1-hydroxy-4-[[2-hydroxy-5-[1-hydroxy-2-[[6-(4-phenyl)butoxy]hexyl]amino]ethyl]phenyl]methyl]-2-naphthalenecarboxylic acid

## Salmeterol Xinafoate

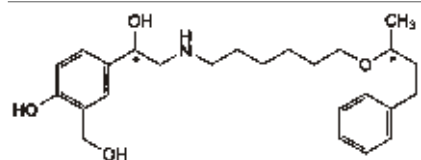
BP Impurity G



**IUPAC Name:**  
1-[4-hydroxy-3-[[[2-hydroxy-2-[4-hydroxy-3-(hydroxymethyl)phenyl]ethyl][6-(4-phenyl)butoxy]hexyl]amino]methyl]phenyl]-2-[[6-(4-phenyl)butoxy]hexyl]amino]ethanol.

## Salmeterol Xinafoate

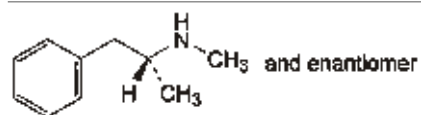
BP Impurity E



**IUPAC Name:**  
1-[4-hydroxy-3-(hydroxymethyl)phenyl]-2-[[6-(1-methyl-3-phenylpropoxy)hexyl]amino]ethanol

## Selegiline Hydrochloride

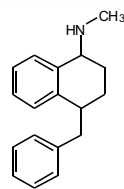
BP Impurity A



**IUPAC Name:**  
(2RS)-N-methyl-1-phenylpropan-2-amine [(RS)-metamphetamine]

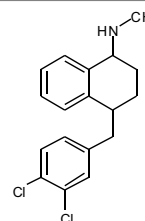
## Selegiline Hydrochloride

EP Impurity A



**IUPAC Name:**  
3,4 des-chloro Sertraline

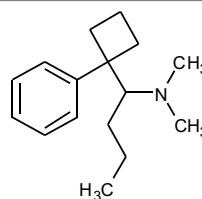
## Selegiline Hydrochloride



**IUPAC Name:**  
Racemic sertraline

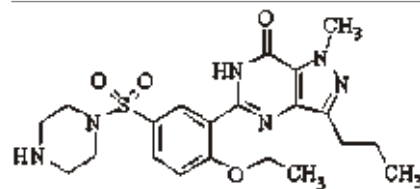
## Sibutramine

**IUPAC Name:**  
Des-chloro Sibutramine



## Sildenafil

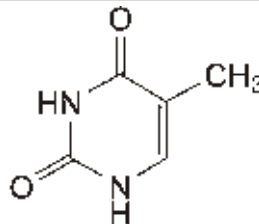
(CSA No. 139755-82-1)



**IUPAC Name:**  
Des methyl impurity of Sildenafil [3-[2-(dimethyl amino)ethyl]-1-(hydroxymethyl)-1H indol-5-yl] N-methyl methane sulphonamide

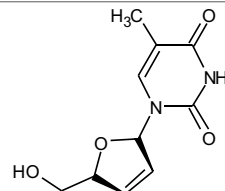
## Stavudine

BP Impurity A



**IUPAC Name:**  
5-methylpyrimidine-2,4(1H,3H)-dione (thymine)

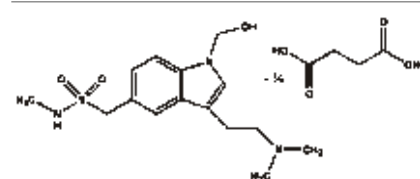
## Stavudine



**IUPAC Name:**  
2',3'-dideoxy,5'-O-Benzoyl,5-methyl uridine

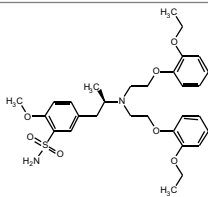
## Sumatritan succinate

USP Related compound C



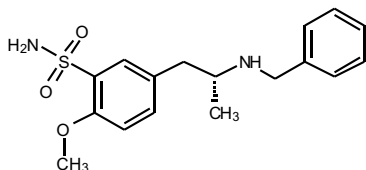
**IUPAC Name:**  
([3-[2-(dimethylamino)ethyl]-1-(hydroxymethyl)-1H-indol-5-yl]-N-methyl-methanesulfonamide succinate salt)

## Tamsulosin hydrochloride EP Impurity A



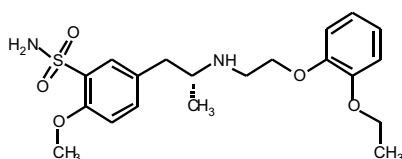
**IUPAC Name:**  
(R)-5-{2- N,N bis[[2-(2-ethoxy phenoxy) ethyl]-amino]propyl}-2-methoxy benzene sulphonamide

## Tamsulosin hydrochloride



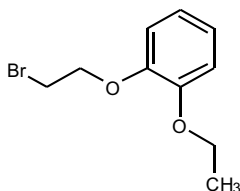
**IUPAC Name:**  
2-methoxy-5-[2-(1,methyl benzyl amino) propyl] benzene sulphonamide

## Tamsulosin hydrochloride



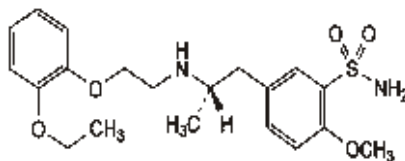
**IUPAC Name:**  
(S)-5-{2-[[2-(2-ethoxy phenoxy) ethyl]amino] propyl}2- methoxy benzenesulphonamide

## Tamsulosin hydrochloride



**IUPAC Name:**  
2-bromoethyl-2-ethoxyphenyl ether

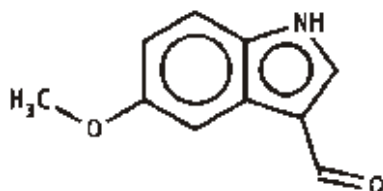
## Tamsulosin BP Impurity G



**IUPAC Name:**  
5-[(2S)-2-[[2-(2-ethoxyphenoxy)ethyl] amino]propyl]-2-methoxybenzenesulphonamide.

## Tegaserod Maleate

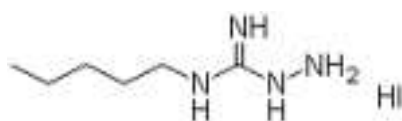
(CSA No. 10601-19-1)



**IUPAC Name:**  
5-Methoxy 1H Indole 3- carbaldehyde

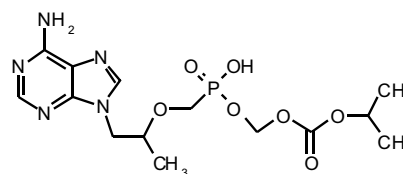
## Tegaserod Maleate

(CSA No. 169789-35-9)



**IUPAC Name:**  
N-amino n-pentyl Guanidine

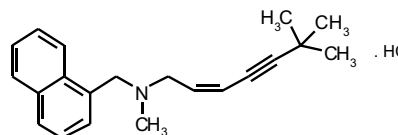
## Tenofovir WHO Impurity A



**IUPAC Name:**  
[2-(6-Amino-purin-9-yl)-1-methyl-ethoxy-methyl]-phosphonic-acid monoisopropoxy carbonyloxymethyl ester (Tenofovir monoester)

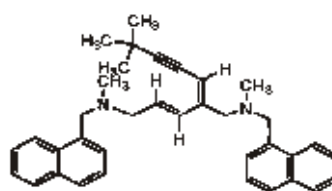
## Terbinafine hydrochloride

(CSA No. 176168-78-8)



**IUPAC Name:**  
Dimmer impurity of terbinafine

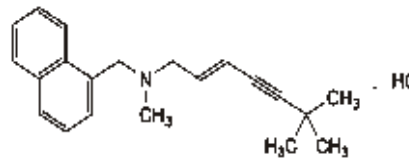
## Terbinafine hydrochloride USP



**IUPAC Name:**  
4-(2,4-Difluoro benzoyl hydroxylamino) piperidine

## Terbinafine HCl E Isomer

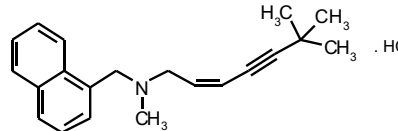
(CSA No. 78628-80-5)



**IUPAC Name:**  
(2E)-N,6,6-Trimethyl-N-(naphthalen-1-ylmethyl)hept-2-en-4-yn-1-amine hydrochloride

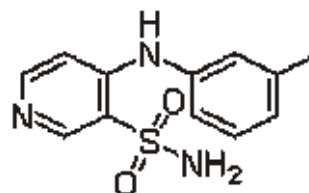
## Terbinafine HCl Z Isomer

(CSA No. 176168-78-8)



**IUPAC Name:**  
(2Z)-N,6,6-trimethyl-N-(naphthalen-1-ylmethyl)hept-2-en-4-yn-1-amine

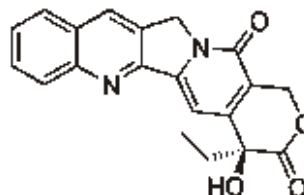
## Topiramate



**IUPAC Name:**  
2,3:4,5-bis-O-(1-methylethylidene)-beta-D-fructopyranose sulphamoyl azide

## Topotecan Hydrochloride

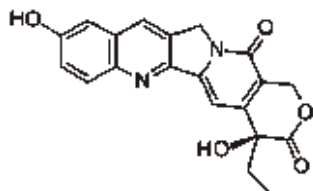
(CSA No. 7689-03-4)



**IUPAC Name:**  
Camptothecin

## Topotecan Hydrochloride

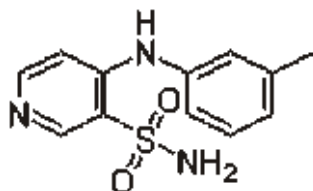
(CSA No. 19685-09-7)



**IUPAC Name:**  
10-Hydroxy camptothecin

## Torse mide

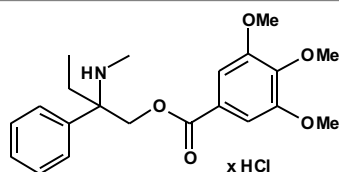
USP Related compound A (CSA No. 72811-73-5)



**IUPAC Name:**  
4[(3-methyl phenyl) amino]-3-pyridine sulphonamide

## Trimebutine

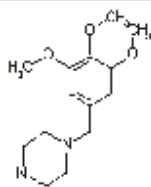
N-Monodesmethyl Trimebutine (CSA No. 84333-59-5)



**IUPAC Name:**  
3,4,5-Trimethoxybenzoic Acid 2-(Methylamino)-2-phenylbutyl Ester

## Trimetazidine dihydrochloride

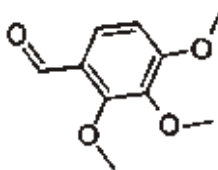
BP Impurity A (CSA No. 107049-57-0)



**IUPAC Name:**  
1-(3,4,5-trimethoxybenzyl) piperazine,

## Trimetazidine dihydrochloride

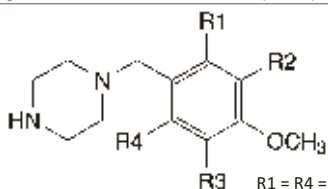
BP Impurity C (CSA No. 2103-57-3)



**IUPAC Name:**  
2,3,4 trimethoxy benzaldehyde

## Trimetazidine dihydrochloride

BP Impurity F (CSA No. 2103-57-3)

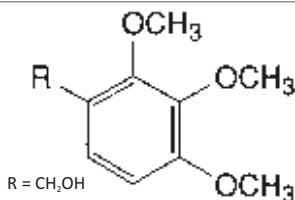


**IUPAC Name:**  
1-(2,4,6-trimethoxybenzyl) piperazine

R1 = R4 = OCH<sub>3</sub>, R2 = R3 = H:

## Trimetazidine dihydrochloride

BP Impurity D (CSA No. 71989-96-3)

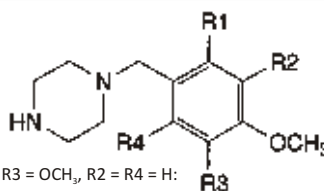


**IUPAC Name:**  
2,3,4 trimethoxy phenyl methanol

R = CH<sub>2</sub>OH

## Trimetazidine dihydrochloride

BP Impurity B

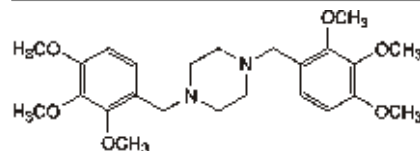


**IUPAC Name:**  
1-(2,4,5-trimethoxybenzyl) piperazine,

R1 = R3 = OCH<sub>3</sub>, R2 = R4 = H:

## Trimetazidine dihydrochloride

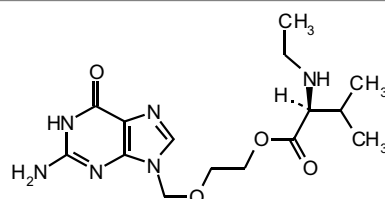
EP Impurity E



**IUPAC Name:**  
1-(2,4,5-trimethoxybenzyl) piperazine,

## Valacyclovir

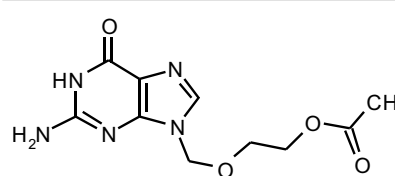
EP Impurity D



**IUPAC Name:**  
2-[(2-Amino-6-oxo-1,6-dihydro-9H-purin-9yl)methoxy]ethyl-N-ethyl-L-valinate

## Valacyclovir

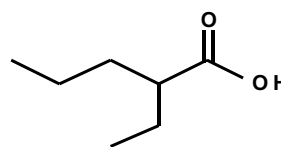
EP Impurity I



**IUPAC Name:**  
2-[(2-Amino-6-oxo-1,6-dihydro-9H-purin-9-yl) methoxy]ethyl acetate (Monoacetyl Acyclovir)

## Valproic Acid

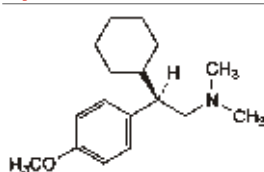
EP Impurity B (CSA No. 20225-24-5)



**IUPAC Name:**  
(2RS)-2-ethylpentanoic acid

## Venlafaxine hydrochloride

BP Impurity G

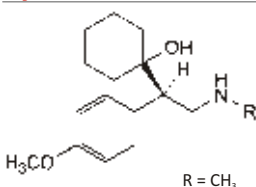


and enantiomer

**IUPAC Name:**  
(2RS)-2-cyclohexyl-2-(4-methoxyphenyl)-N,N-dimethylethanamine.

## Venlafaxine hydrochloride

BP Impurity D



and enantiomer

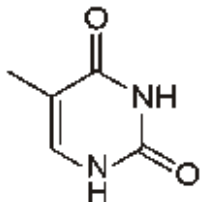
**IUPAC Name:**  
1-[(1RS)-1-(4-methoxyphenyl)-2-(methylamino)ethyl] cyclohexanol,

R = CH<sub>3</sub>

## Vincristine sulphate

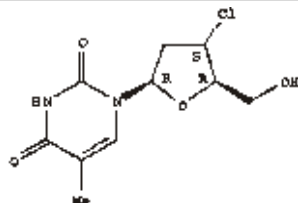
**IUPAC Name:**  
Desformyl vincristine

**Zidovudine** BP Impurity C (CSA No. 65-71-4)



**IUPAC Name:**  
5-methylpyrimidine-  
2,4(1H,3H)-dione  
(thymine)

**Zidovudine** BP Impurity B (CSA No. 25526-94-7)



**IUPAC Name:**  
(3'-chloro-3'-  
deoxythymidine)

## List of API's Impurities & Working Standards

<b>A</b>	<b>D</b>	<b>L</b>	<b>Q</b>
Acyclovir	Desloratadine	Lamivudine	Quetiapine fumarate
Acetyl-2-cysteine	Diazepam	Lamotrigine	
Adapalene	Didanosine	Lansoprazole	<b>R</b>
Alprazolam	Domperidone	Leflunomide	Rabeprazole sodium
Amlodipine Besilate	Donepezil HCL	Letrozole	Raloxifene HCL
Amlodipine Mesylate	Duloxetine Hydrochloride	Levofloxacin Hemihydrate	Ramipril
Amoxicillin		Losartan potassium	Ranitidine
Ampicillin			Rifampicin
Amplodipine Maleate			Risperidone
Anagrelide HCL	<b>E</b>	<b>M</b>	Rabeprazole
Anastrozole	Ebastin	Mebendazole	
Artemether	Emtricitabine	Melamine	
Artesunate	Esomeprazole magnesium dihydrate	Metformin	<b>S</b>
Atorvastatin	Esomeprazole magnesium trihydrate	Mometasone furoate	Salbutamol sulfate
Azithromycin	Estramustine		Salmeterol Xinofoate
	Etoposide	<b>N</b>	Selegiline Hydrochloride
<b>B</b>		Naproxen	Sertraline Hydrochloride
Beclomethasone Dipropionate	<b>F</b>	Nevirapine	Sibutramine
Betahistine	Famciclovir	Nifedipine	Sildenafil
Benzenesulphonic acid ester	Famotidine	Norfloxacin	Stavudine
Bicalutamide	Felodipine		Sumatriptan succinate
Brimonidine Tartarate	Fenoterol Hydro bromide	<b>O</b>	
Budesonide	Fluconazole	Ofloxacin	<b>T</b>
Bitahistine Dihydrochloride	Flutamide	Olanzapine	Tamsulosin Hydrochloride
	Fluticasone propionate	Omeprazole	Tegaserod Maleate
<b>C</b>	Fumorate	Omeprazole Magnesium	Terbinafine Hydrochloride
Capacetabine	<b>G</b>	Omeprazole Sodium	Tibolone
Captopril	Gabapentin	Ondansetron HCL	Topiramate
Carboplatin	Gasifloxacin sesquihydrate	Ornidazole	Topotecan Hydrochloride
Carvedilol	Granisetron Hydrochloride	Oxaliplatin	Torseamide
Celecoxib			Trimebutine
Cetirizine N-oxide	<b>I</b>	<b>P</b>	Trimetazidine dihydrochloride
Cilalopram	Imatinib mesylate	Pantoprazole sodium	
Ciclesonide	Irinotecan Hydrochloride Trihydrate	Pantoprazole sodium sesquihydrate	<b>V</b>
Ciprofloxacin		Paroxetine hydrochloride	Venlafaxine hydrochloride
Citalopram		Potassium Clavulanate	
Clarithromycin		Pramipexole	<b>Z</b>
Clonazepam		Paclitaxel	Zidovudine
Clopidogrel bisulphate			

- Above Impurities are available as per USP/BP/EP etc. While Ordering please specify IUPAC name of Impurity of above API.
- Custom Impurities available on request.
- Confidential Custom Synthesis Projects on Request.

# Other Services available

## Impurity characterization

- LC MS-MS
- GC MS-MS
- FTIR
- Chromatographic purity by HPLC
- Elemental Analysis
- XRD
- NMR

## Method Development:

- Extensive experience with method development and validation
- Impurity and degradant validation
- Dissolution method validation
- API / Finished product assay and related validations
- Cleaning/ Rinse validation
- Impurity ID by LC/MS-MS/GCMS
- Leachables and extractables



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Pvt. Ltd.

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Wagle Industrial Area,  
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Fax: 91-22 - 6668 1600  
Email: [info@anmalliance.com](mailto:info@anmalliance.com)  
URL: [www.anmalliance.com](http://www.anmalliance.com)

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