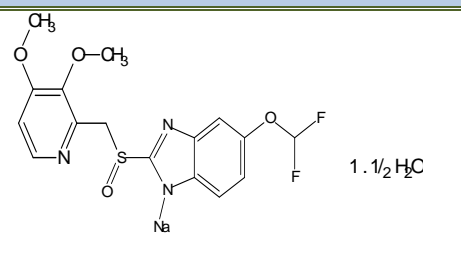
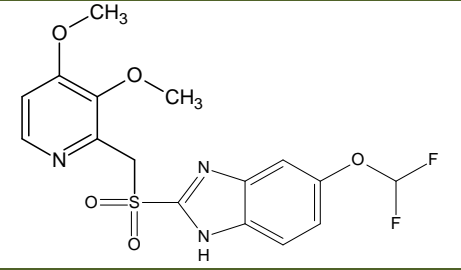
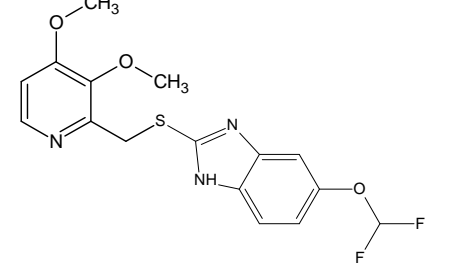
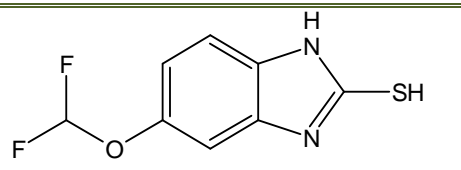
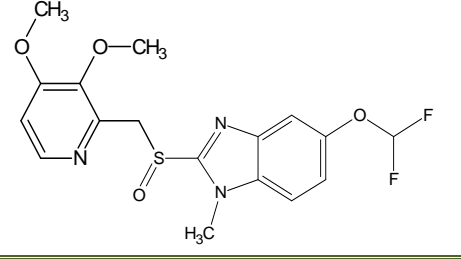
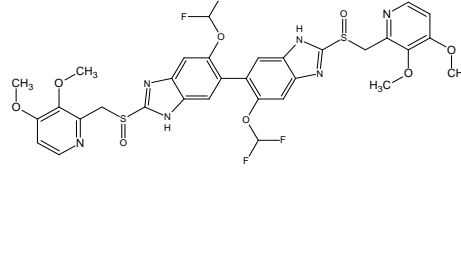
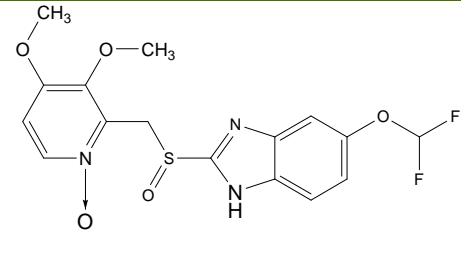
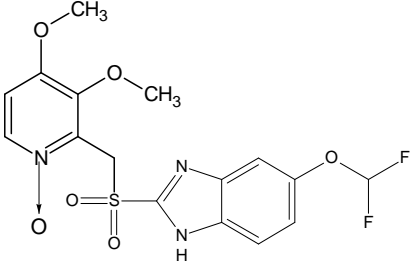
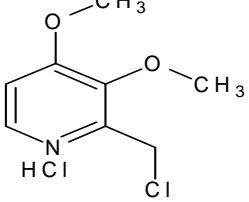
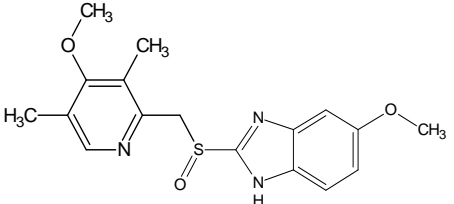
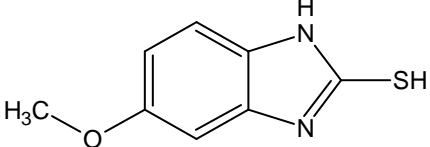
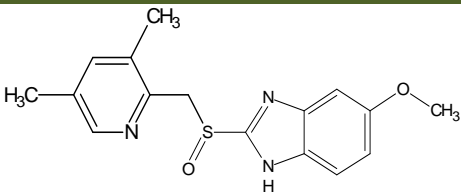
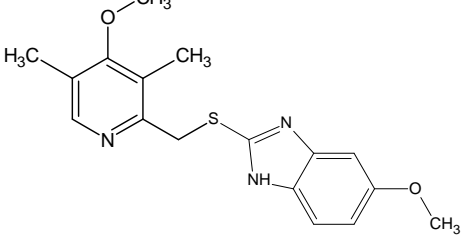
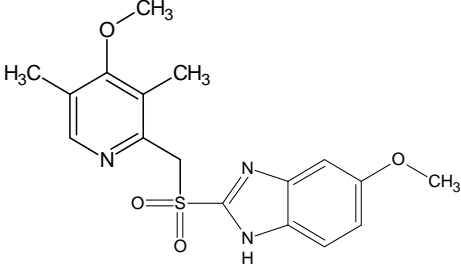
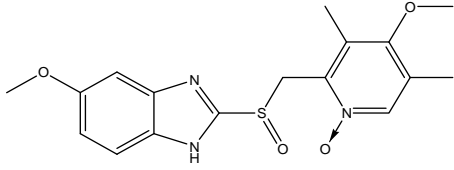


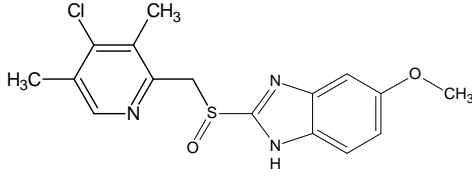
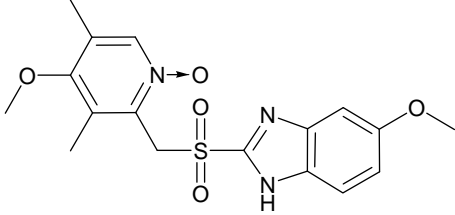
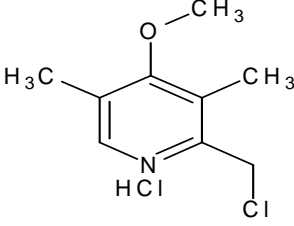
PANTOPRAZOLE SODIUM SESQUI HYDRATE IMPURITIES & METABOLITES

SI.No	COMPOUND NAME	DETAILS	STRUCTURE
01	Pantoprazole Sodium Sesquihydrate	CAS. No : 154644-14-1 Mol. formula- $C_{16}H_{14}F_2N_3NaO_4S \cdot 1.1/2 H_2O$ Mol. weight -432.4	 1. 1/2 H ₂ C
02	5-(difluoromethoxy)-2-[[3,4-dimethoxy pyridin-2-yl)methyl]sulfonyl]-1H-benzimidazole (Pantoprazole sulfone)	CAS. No :127780-16-9 Mol. formula- $C_{16}H_{15}F_2N_3O_5S$ Mol. weight -399.36 EP/USP code - Imp-A	
03	5-(di fluoromethoxy)-2- [[3,4-dimethoxy pyridin-2-yl) methyl] thio]-1H-benzimidazole (Pantoprazole sulphide)	CAS. No : 102625-64-9 Mol. formula- $C_{16}H_{15}F_2N_3O_3S$ Mol. weight -367.37 EP/USP code -Imp-B	
04	5-(difluoromethoxy)-1H-benzimidazole-2-thiol (Pantoprazole-Benzimidazole)	CAS. No : 97963-62-7 Mol. formula- $C_8H_6F_2N_2OS$ Mol. weight -216.20 EP/USP code -Imp-C	
05	5-(difluoromethoxy)-2-[[3,4-dimethoxy pyridin-2-yl)methyl]sulfinyl]-1-methyl-1H-benzimidazole (Pantoprazole- D&F enantiomer)	CAS. No : Mol. formula- $C_{17}H_{17}F_2N_3O_4S$ Mol. weight -397.39 EP/USP code - Imp-D&F	
06	2-((3,4-dimethoxypyridin-2-yl)methylsulfinyl)-6-(2-((3,4-dimethoxypyridin-2-yl)methylsulfinyl)-5-isopropoxy-1H-benzo[d]imidazol-6-yl)-5-isopropoxy-1H-benzo[d]imidazole (Pantoprazole- E - Dimer)	CAS. No : Mol. Formula- $C_{32}H_{28}F_4N_6O_8S_2$ Mol. Weight - 764.7237328 EP/USP code – Imp-E	
07	5-(difluoromethoxy)-2-[[3,4-dimethoxypyridin-2-yl)methyl]sulfinyl]-1H-benzimidazole-N-oxide (Pantoprazole -N-oxide)	CAS. No : unknown Mol. formula- $C_{16}H_{15}F_2N_3O_5S$ Mol. weight -399.36 EP/USP code -	

08	5-(difluoromethoxy)-2-[[3,4-dimethoxy pyridin-2-yl)methyl]sulfonyl]-1H-benzimidazole-N-oxide (Pantoprazole sulfone-N-oxide)	CAS. No : 953787-51-4 Mol. formula- C ₁₆ H ₁₅ F ₂ N ₃ O ₆ S Mol. weight -415.36 EP/USP code –	
09	2-(chloromethyl)-3,4-dimethoxypyridine hydrochloride	CAS. No : 72830-09-2 Mol. formula- C ₈ H ₁₁ Cl ₂ NO ₂ Mol. weight -224.08 EP/USP code –	

OMEPRAZOLE IMPURITIES & METABOLITES

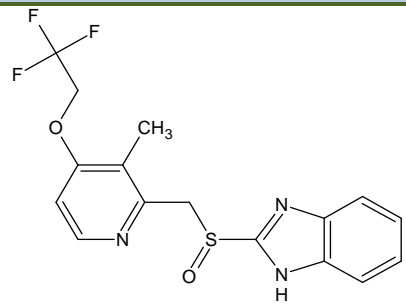
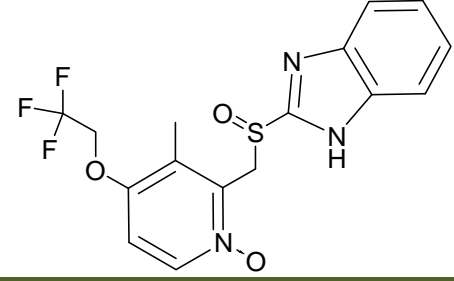
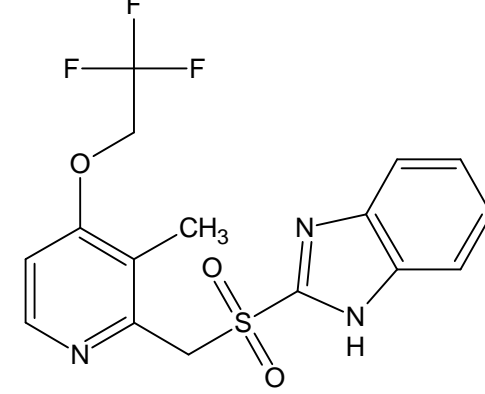
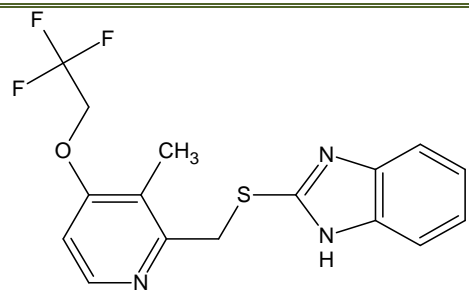
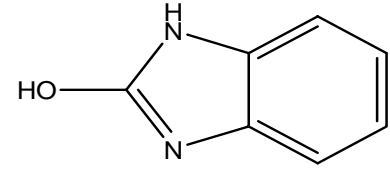
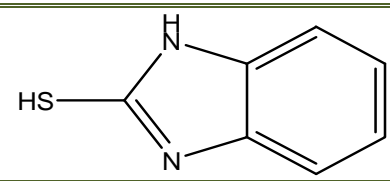
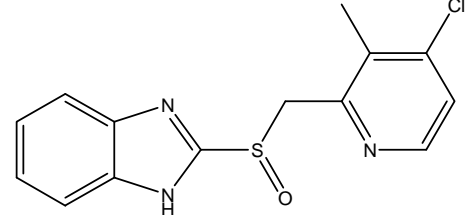
Sl.No	COMPOUND NAME	DETAILS	STRUCTURE
10	5-methoxy-2-[[4-methoxy-3,5-dimethylpyridin-2-yl)methyl]sulfinyl]-1H-benzimidazole (Omeprazole)	CAS. No : 73590-58-6 Mol. formula- C ₁₇ H ₁₉ N ₃ O ₃ S Mol. weight -345.41	
11	5-methoxy-1H-benzimidazole-2-thiol	CAS. No : 37052-78-1 Mol. formula- C ₈ H ₈ N ₂ OS Mol. weight -180.22 EP/USP code –Imp-A	
12	2-[[3,5-dimethylpyridin-2-yl)methyl]sulfinyl]-5-methoxy-1H-benzimidazole	CAS. No : 110374-16-8 Mol. formula- C ₁₆ H ₁₇ N ₃ O ₂ S Mol. weight -315.39 EP/USP code –Imp-B	
13	5-methoxy-2-[[4-methoxy-3,5-dimethylpyridin-2-yl)methyl]thio}-1H-benzimidazole (Omeprazole Sulfide)	CAS. No : 73590-85-9 Mol. formula- C ₁₇ H ₁₉ N ₃ O ₂ S Mol. weight -329.41 EP/USP code –Imp-C	
14	5-methoxy-2-[[4-methoxy-3,5-dimethylpyridin-2-yl)methyl]sulfonyl]-1H-benzimidazole (Omeprazole Sulfone)	CAS. No : 88546-55-8 Mol. formula- C ₁₇ H ₁₉ N ₃ O ₄ S Mol. weight - 361.41 EP/USP code –Imp-D	
15	5-methoxy-2-[[4-methoxy-3,5-dimethyl-1-oxidopyridin-2-yl)methyl]sulfinyl]-1H-benzimidazole (Omeprazole N-oxide)	CAS. No : 176219-04-8 Mol. Formula - C ₁₇ H ₁₉ N ₃ O ₄ S Mol. weight -361.41546 EP/USP code – imp-E	

16	2-[[4-chloro-3,5-dimethylpyridin-2-yl)methyl]sulfinyl]-5-methoxy-1 <i>H</i> -benzimidazole	CAS. No : Mol. formula- C ₁₆ H ₁₆ ClN ₃ O ₂ S Mol. weight -349.83 EP/USP code -H	
17	2-((4-methoxy-3,5-dimethylpyridin-2-yl)methylsulfonyl)-5-methoxy-1 <i>H</i> -benzo[d]imidazole N-oxide (Omeprazole sulfone N-oxide)	CAS. No : 158812-85-2 Mol. Formula -C ₁₇ H ₁₉ N ₃ O ₅ S Mol. Weight -377.41486 EP/USP code -Imp I	
18	2-(chloromethyl)-4-methoxy-3,5-dimethylpyridine hydrochloride	CAS. No : 86604-75-3 Mol. formula- C ₉ H ₁₃ Cl ₂ NO Mol. weight -222.11 EP/USP code -	

ESOMEPRAZOLE IMPURITIES & METABOLITES

COMPOUND NAME	DETAILS	STRUCTURE
19	5-Methoxy-2-[(S)-[(4-methoxy-3,5-dimethyl-2-pyridyl)methyl]sulfinyl]benzimidazole, magnesium salt (2:1), trihydrate (Esomeprazole magnesium trihydrate)	CAS No. 217087-09-7 Mol.formula- C ₃₄ H ₃₆ MgN ₆ O ₆ S ₂ .3H ₂ O Mol. weight -767.17 EP/USP code
20	5-methoxy-1 <i>H</i> -benzimidazole-2-thiol	CAS. No : 37052-78-1 Mol. formula- C ₈ H ₈ N ₂ O ₂ S Mol. weight -180.22 EP/USP code -Imp-A
21	2-(chloromethyl)-4-methoxy-3,5-dimethylpyridine hydrochloride	CAS. No : 86604-75-3 Mol. formula- C ₉ H ₁₃ Cl ₂ NO Mol. weight -222.11 EP/USP code -
22	5-methoxy-2-[[4-methoxy-3,5-dimethylpyridin-2-yl)methyl]sulfonyl]-1 <i>H</i> -benzimidazole(Omeprazole Sulfone)	CAS. No : 88546-55-8 Mol. formula- C ₁₇ H ₁₉ N ₃ O ₄ S Mol. weight - 361.41 EP/USP code -Imp-D
23	5-methoxy-2-[[4-methoxy-3,5-dimethyl-1-oxidopyridin-2-yl)methyl]sulfinyl]-1 <i>H</i> -benzimidazole (Omeprazole N-oxide)	CAS. No : 176219-04-8 Mol. Formula - C ₁₇ H ₁₉ N ₃ O ₄ S Mol. weight -361.41546 EP/USP code - imp-E
24		

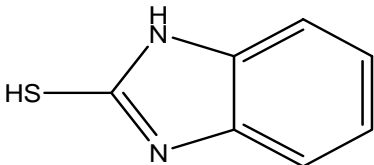
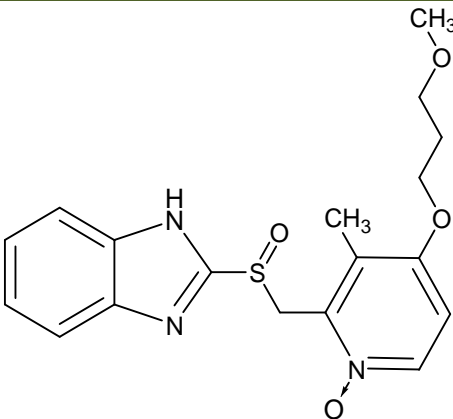
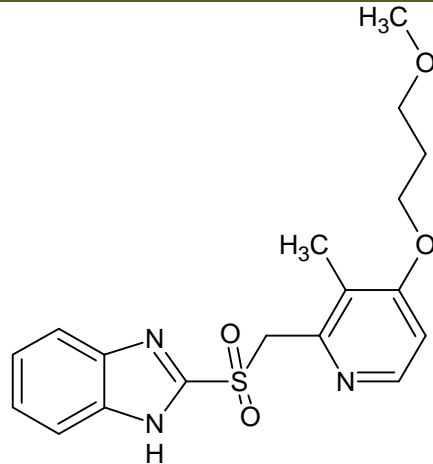
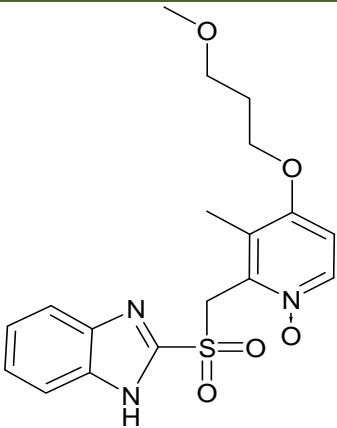
LANSOPRAZOLE IMPURITIES & METABOLITES

Sl.No	COMPOUND NAME	DETAILS	STRUCTURE
25	l2-([3-methyl-4-(2,2,2-trifluoroethoxy)pyridin-2-yl)methyl]sulfinyl]-1H-benzimidazole (lansoprazole)	CAS. No : 103577-45-3 Mol. formula- C ₁₆ H ₁₄ F ₃ N ₃ O ₂ S Mol Wt-369.3614696	
26	2-[(RS)-[[3-Methyl-1-oxido-4-(2,2,2-trifluoroethoxy)pyridin-2-yl)methyl]-sulphonyl]-1H-benzimidazole N-Oxide (Lansoprazole N-Oxide)	CAS. No : Mol. formula- C ₁₆ H ₁₄ F ₃ N ₃ O ₃ S Mol Wt-385.36 EP/USP code –Imp-A	
27	2-[[[3-Methyl-4-(2,2,2-trifluoroethoxy)pyridin-2-yl)methyl]sulphonyl]-1H-benzimidazole (Lansoprazole Sulphone)	CAS. No : 1311926-99-3 Mol. formula- C ₁₆ H ₁₄ F ₃ N ₃ O ₃ S Mol. weight -385.36 EP/USP code - Imp-B	
28	Lansoprazole Imp. C (EP): 2-[[[3-Methyl-4-(2, 2, 2-trifluoro-ethoxy) pyridin-2-yl] methyl] sulphonyl]-1H-benzimidazole (Lansoprazole Sulfide)	CAS. No : 103577-40-8 Mol. formula- C ₁₆ H ₁₄ F ₃ N ₃ OS Mol. weight 353.36 EP/USP code - Imp-C	
29	1H-Benzimidazol-2-ol	CAS. No : 615-16-7 Mol. formula- C ₇ H ₆ N ₂ O Mol. weight 134.14 EP/USP code - Imp-D	
30	1H-Benzimidazole-2-thiol	CAS. No : 2360-22-7 Mol. formula- C ₇ H ₆ N ₂ S Mol. weight 150.2 EP/USP code - Imp-E	
31	2-[(RS)-[(4-Chloro-3-methylpyridin-2-yl)methyl]sulphonyl]-1H-benzimidazole	CAS. No : 103577-45-3 Mol. formula- C ₁₄ H ₁₂ ClN ₃ OS Mol. weight -305.78 EP/USP code - Imp-F	

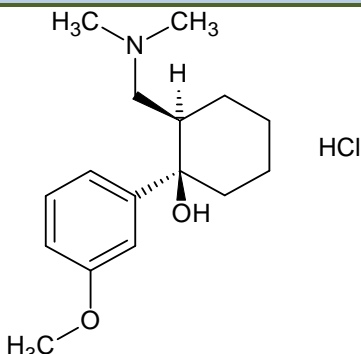
32	2-([3-methyl-1-oxido-4-(2,2,2-trifluoroethoxy)pyridin-2-yl]methyl)sulfonyl)-1H-benzimidazole (Lansoprazole Sulphone N-Oxide)	CAS. No : Mol. Formula = C ₁₆ H ₁₄ F ₃ N ₃ O ₄ S Mol. Weight = 401.360 EP/USP code -	
33	2-(chloromethyl)-3-methyl-4-(2,2,2-trifluoroethoxy)pyridine hydrochloride	CAS. No : 127337-60-4 Mol. formula- C ₉ H ₁₀ Cl ₂ F ₃ NO Mol. weight -276.08 EP/USP code -	
34	4-Ethoxyacetophenone	CAS. No : 1676-63-7 Mol. formula- C ₁₀ H ₁₂ O ₂ Mol. weight -164.20108 EP/USP code -	

RABEPRAZOLE IMPURITIES & METABOLITES

Sl.No	COMPOUND NAME	DETAILS	STRUCTURE
35	Sodium 2-[[4-(3-methoxypropoxy)-3-methyl-pyridin-2-yl]methylsulfinyl]benzimidazole (Rabeprazole Sodium)	CAS. No : 117976-90-6 Mol. formula- C ₁₈ H ₂₀ N ₃ NaO ₃ S Mol. weight -381.42 EP/USP code -	
36	2-Chloromethyl-3-methyl-4-(3-methoxy-propoxy)pyridine Hydrochloride	CAS. No : 153259-31-5 Mol. formula- C ₁₁ H ₁₇ Cl ₂ NO ₂ Mol. weight -266.16 EP/USP code -	
37	2-[[[4-(3-Methoxypropoxy)-3-methyl-2-pyridinyl]methyl]thio]-1H-benzimidazole (Rabeprazole sulfide)	CAS. No : 117977-21-6 Mol. formula-C ₁₈ H ₂₁ N ₃ O ₂ S Mol. Weight = 343.44 EP/USP code -	
38	1H-Benzimidazol-2-ol	CAS. No : 615-16-7 Mol. formula- C ₇ H ₆ N ₂ O Mol. weight 134.14 EP/USP code - Imp-D	

39	1H-Benzimidazole-2-thiol	CAS. No : 2360-22-7 Mol. formula- C ₇ H ₆ N ₂ S Mol. weight 150.2 EP/USP code - Imp-E	
40	2-[[[1-Oxide-4-(3-methoxypropoxy)-3-methyl-2-pyridinyl] methyl]sulfinyl]-1H-benzimidazole (Rabeprazole N-Oxide)	CAS. No : 924663-38-7 Mol. Formula -C ₁₈ H ₂₁ N ₃ O ₄ S Mol. Weight -375.44204 EP/USP code -	
41	2-([4-(3-methoxypropoxy)-3-methylpyridin-2-yl]methyl)sulfonyl)-1H-benzimidazole (Rabeprazole Sulphone)	CAS. No : 117976-47-3 Mol. Formula = C ₁₈ H ₂₁ N ₃ O ₄ S Mol. Weight = 375.44204 EP/USP code -	
42	2-((4-(3-methoxypropoxy)-3-methylpyridin-2-yl)methylsulfonyl)-1H-benzo[d]imidazole N-oxide (Rabeprazole Sulphone N-Oxide)	CAS. No : 924663-37-6 Mol. Formula = C ₁₈ H ₂₁ N ₃ O ₅ S Mol. Weight = 391.44144 EP/USP code -	

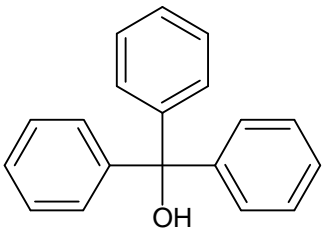
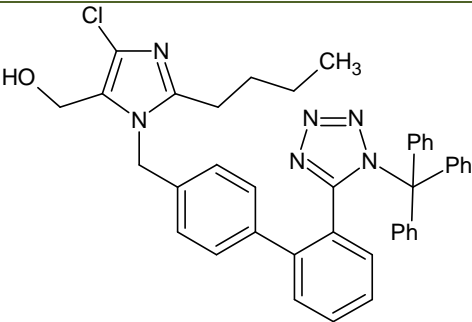
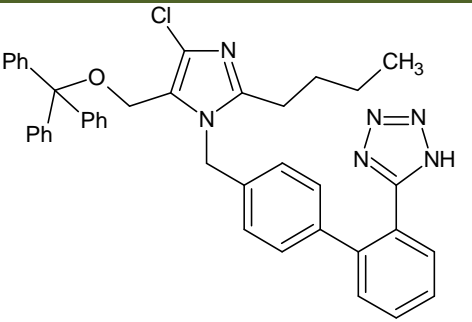
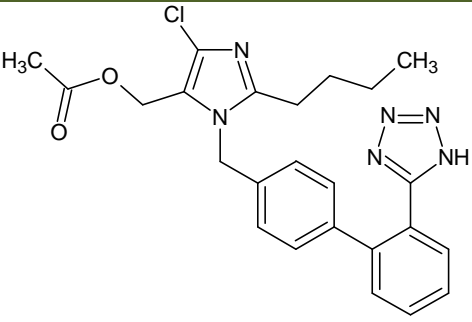
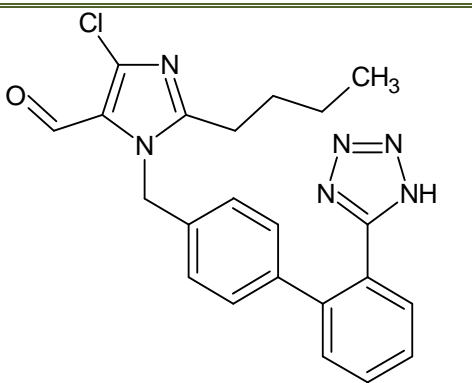
TRAMADOL IMPURITIES & METABOLITES

Sl.No	COMPOUND NAME	DETAILS	STRUCTURE
43	((1RS,2RS)-2-[(Dimethylamino)methyl]-1-(3-methoxyphenyl)cyclohexanol hydrochloride Tramadol Hydrochloride	CAS. No : 36282-47-0 Molecular Formula- C ₁₆ H ₂₆ ClNO ₂ Formula Weight -299.8 EP/USP code -	

44	(1RS,2SR)-2-[(Dimethylamino)methyl]-1-(3-methoxyphenyl)cyclohexanol Hydrochloride	CAS. No : Mol. Formula - C ₁₆ H ₂₆ ClNO ₂ Mol Weight - 299.83614 EP/USP code – imp A	
45	[2-(3-Methoxyphenyl)cyclohex-1-enyl]-N,N-dimethylmethanamine Hydrochloride	CAS. No : Molecular Formula -C ₁₆ H ₂₄ ClNO Mol Weight -281.820 EP/USP code –imp B	
46	(1RS)-[2-(3-methoxyphenyl)cyclohex-2-enyl]-N,N-dimethylmethanamine Hydrochloride,	CAS. No : Molecular Formula -C ₁₆ H ₂₃ NO Mol Weight -245.35992 EP/USP code –imp C	
47	(1RS,2RS)-2-[(Dimethylamino)methyl]-1-(3-hydroxyphenyl)cyclohexanol Hydrochloride	CAS. No : Mol. Formula- C ₁₅ H ₂₄ ClNO ₂ mol Weight -285.809 EP/USP code –imp D	
48	(2RS)-2-[(Dimethylamino)methyl]-cyclohexanone Hydrochloride	CAS. No : 42036-65-7 Mol. Formula- C ₉ H ₁₈ ClNO mol Weight -191.69832 EP/USP code –imp E	
49	3-Bromoanisole	CAS. No : 2398-37-0 Mol. Formula-C ₇ H ₇ BrO mol Weight-187.03388 EP/USP code -	
50	3-Bromo phenol	CAS. No : 591-20-8 Mol. formula- C ₆ H ₅ BrO Mol. weight -173.3 EP/USP code –	

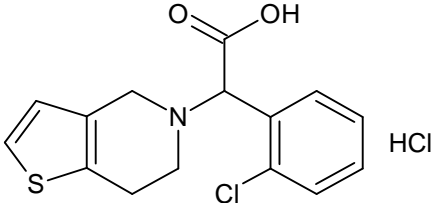
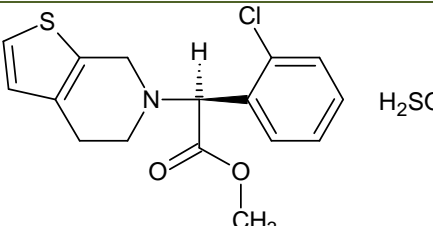
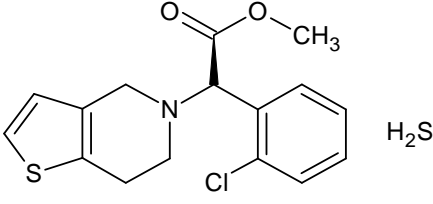
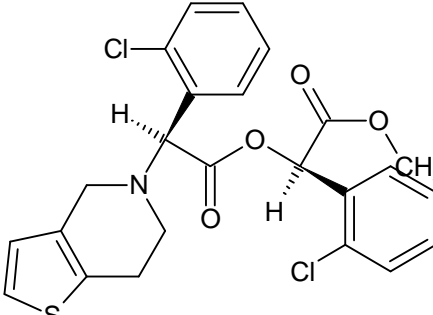
LOSARTAN IMPURITIES & METABOLITES

SI.No	COMPOUND NAME	DETAILS	STRUCTURE
51	2-Butyl-4-chloro-1H-imidazole-5-methanol	CAS. No : 79047-41-9 Mol. formula- C ₈ H ₁₃ N ₂ O Mol. weight -188.65 EP/USP code Impurity A	
52	[2'-(1H-tetrazol-5-yl)biphenyl-4-yl]methanol	CAS. No : unknown Mol. formula- C ₁₄ H ₁₂ N ₄ O Mol. weight -252.27 EP/USP code Impurity B	
53	2-Butyl-5-chloro-1-[p-(o-1H-tetrazol-5-ylphenyl)benzyl]imidazole-4-methanol (Losartan Isomer)	CAS. No : unknown Mol. formula- C ₂₂ H ₂₃ ClN ₆ O Mol. weight -422.91 EP/USP code Impurity C	
54	Name: Losartan EP Impurity D Synonym: 2-Butyl-4-chloro-1H-imidazole-5-carbaldehyde	CAS. No : 83857-96-9 Mol. formula- - C ₈ H ₁₁ ClN ₂ O Mol. weight -186.64 EP/USP code Impurity D	
55	5-(4'-methylbiphenyl-2-yl)-1H-tetrazole	CAS. No : unknown Mol. formula- C ₁₄ H ₁₂ N ₄ Mol. weight -236.27 EP/USP code Impurity E	
56	Losartan Isopropyl Ether	CAS. No : unknown Mol. formula- C ₂₅ H ₂₉ ClN ₆ O Mol. weight -464.99 EP/USP code Impurity F	

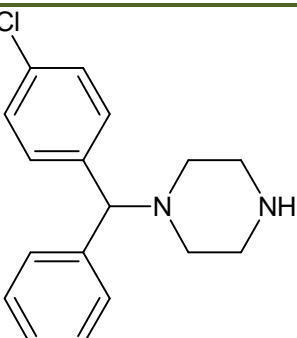
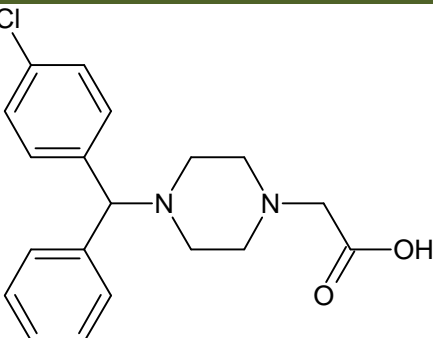
57	Triphenylmethanol	CAS. No : 76-84-6 Mol. formula- C ₁₉ H ₁₆ O Mol. weight -260.33 EP/USP code Impurity G	
58	N-Trityl Losartan ; N-Triphenylmethyl Losartan	CAS. No : 124751-00-4 Mol. formula- C ₄₁ H ₃₇ ClN ₆ O Mol. weight -665.23 EP/USP code Impurity H	
59	O-Trityl Losartan ; O-Triphenylmethyl Losartan	CAS. No : 1006062-28-7 Mol. formula- C ₄₁ H ₃₇ ClN ₆ O Mol. weight -665.23 EP/USP code Impurity I	
60	O-Acetyl Losartan	CAS. No : 1006062-27-6 Mol. formula- C ₂₄ H ₂₅ ClN ₆ O ₂ Mol. weight 464.95- EP/USP code Impurity J	
61	Losartan Aldehyde	CAS. No :114798-36-6 Mol. formula- C ₂₂ H ₂₁ ClN ₆ O Mol. weight -420.89 EP/USP code Impurity K	

CLOPIDOGREL IMPURITIES & METABOLITES

Sl.No	COMPOUND NAME	DETAILS	STRUCTURE
62			

63	[(+)-(S)-(o-chlorophenyl)-6,7-dihydrothieno[3,2-c]pyridine-5(4H)-acetic acid hydrochloride (" Clopidogrel Acid Hydrochloride ")	CAS. No : 144750-42-5 Mol. formula- C ₁₅ H ₁₅ ClNO ₂ S Mol. weight -344.26 EP/USP code Compound A	
64	methyl (2S)-(2-chlorophenyl)(4,7-dihydrothieno[2,3-c]pyridin-6(5H)-yl)acetate hydrogen sulfate	CAS. No : 144750-52-7 Mol. formula- C ₁₆ H ₁₇ Cl ₂ NO ₂ S Mol. weight -358.28 EP/USP code -Imp- B	
65	methyl (2R)-(2-chlorophenyl)(6,7-dihydrothieno[3,2-c]pyridin-5(4H)-yl)acetate hydrogen sulfate ("Clopidogrel R-Isomer")	CAS. No : 120202-71-3 Mol. formula- C ₁₆ H ₁₆ ClNO ₂ S Mol. weight -321.82 EP/USP code-Imp- C	
66	methyl(2R)-(2-chlorophenyl)[(2s)-(2-chlorophenyl)[6,7-dihydrothieno[3,2,-c]pyridin-5(4H)-yl]acetyloxy]acetate	CAS. No : Molecular Formul- C ₂₄ H ₂₁ Cl ₂ NO ₄ S Formula Weight -490.39884 EP/USP code	

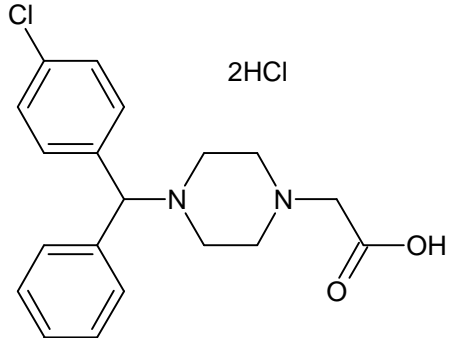
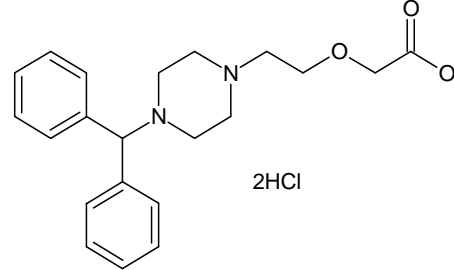
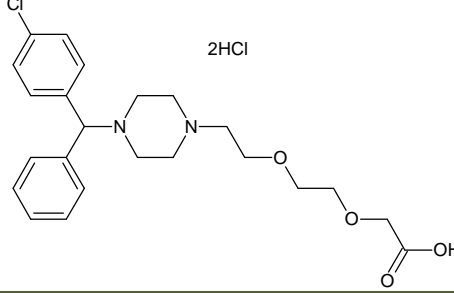
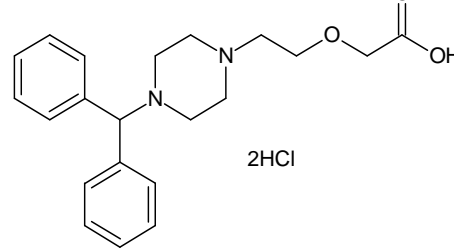
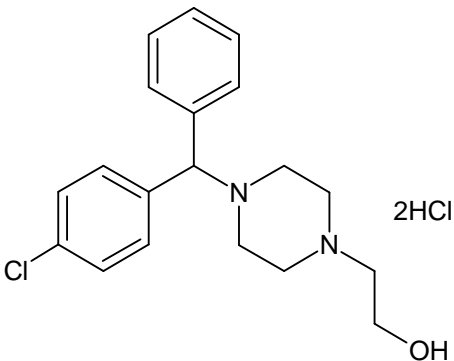
CETIRIZINE DI HYDROCHLORIDE IMPURITIES & METABOLITES

SI.No	COMPOUND NAME	DETAILS	STRUCTURE
67	(RS)1-[(4-chlorophenyl)(phenyl)methyl] piperazine	CAS. No : 303-26-4 Mol. Formula - C ₁₇ H ₁₉ ClN ₂ Mol. Weight -286.79 EP/USP code-Imp-A	
68	(RS)- {4-[(4-chlorophenyl)(phenyl)methyl]piperazin-1-yl}acetic acid	CAS. No : Mol. Formula- C ₁₉ H ₂₁ ClN ₂ O ₂ Formula Weight -344.83524 EP/USP code- imp B	

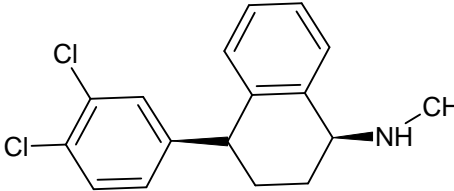
69	(RS)-2-[2-[4-[(2-Chlorophenyl)phenylmethyl]piperazin-1-yl]ethoxy]acetic Acid Dihydrochloride	CAS. No : Molecular Formula - $C_{21}H_{25}ClN_2O_3$ Formula Weight -388.8878 EP/USP code imp C	
70	(RS)-2-[2-[2-[4-[(4-Chlorophenyl)phenylmethyl]piperazin-1-yl]ethoxy]ethoxy]-acetic Acid Dihydrochloride(Ethoxycetirizine Dihydrochloride)	CAS. No : Molecular Formula - $C_{23}H_{29}ClN_2O_4$ Formula Weight -432.94036 EP/USP code imp E	
71	Cetirizine Dihydrochloride Imp. F (EP)as Dihydrochloride: [2-[4-[Diphenylmethyl]-piperazin-1-yl]ethoxy]acetic Acid Dihydrochloride	CAS. No : Mol Formula - $C_{21}H_{26}N_2O_3$ Mol Weight-354.442 EP/USP code imp	
72	2-[4-[(RS)-(4-Chlorophenyl)phenylmethyl]-piperazin-1-yl]ethanol Dihydrochloride	CAS. No : Mol. Formula- $C_{19}H_{25}Cl_3N_2O$ Mol. Weight-403.7736 EP/USP code- imp-G	

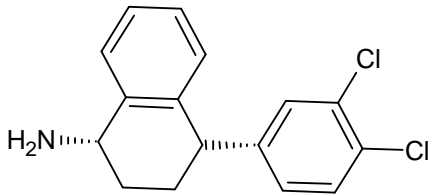
LEVO CETIRIZINE DI HYDROCHLORIDE IMPURITIES & METABOLITES

Sl.No	COMPOUND NAME	DETAILS	STRUCTURE
73	2-(2-[4-[(R)-(4-chlorophenyl)(phenyl)methyl]piperazin-1-yl]ethoxy)acetic acid	CAS. No : 130018-77-8 Mol. Formula- $C_{21}H_{25}ClN_2O_3$ Mol. Weight-388.8878 EP/USP code	
74	1-[(4-chlorophenyl)(phenyl)methyl]piperazine dihydrochloride	CAS. No : 303-26-4 Mol. Formula - $C_{17}H_{21}Cl_3N_2$ Mol. Weight -359.72104 EP/USP code-Imp-A	

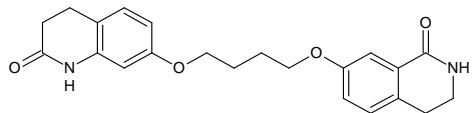
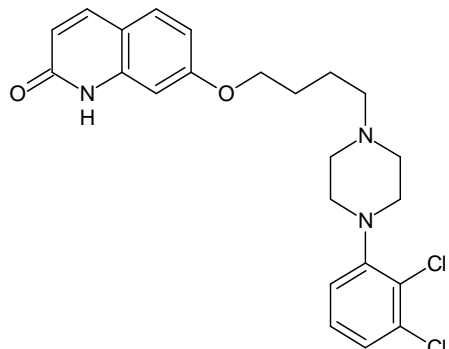
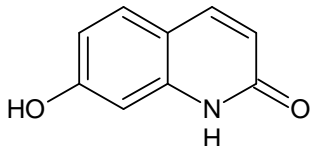
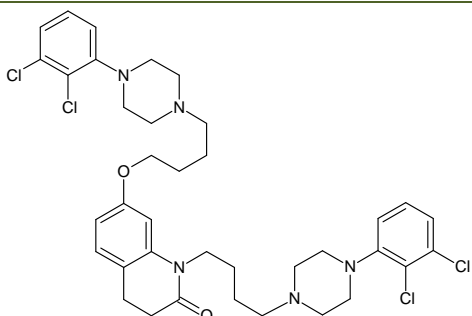
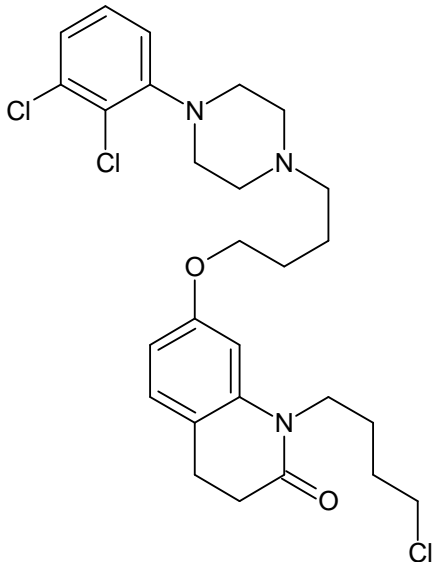
75	{4-[(4-chlorophenyl)(phenyl)methyl]piperazin-1-yl}acetic acid dihydrochloride	CAS. No : Mol. Formula- $C_{19}H_{23}Cl_3N_2O_2$ Formula Weight -417.75712 EP/USP code- imp B	
76	(RS)-2[2-[4-[(2-Chlorophenyl)phenylmethyl]piperazin-1-yl]ethoxy]acetic Acid Dihydrochloride	CAS. No : Molecular Formula - $C_{21}H_{28}Cl_2N_2O_3$ Formula Weight -427.36462 EP/USP code imp C	
77	(RS)-2-[2-[2-[4-[(4-Chlorophenyl)phenyl-methyl]piperazin-1-yl]ethoxy]ethoxy]-acetic Acid Dihydrochloride(Ethoxycetirizine Dihydrochloride)	CAS. No : Molecular Formula - $C_{23}H_{31}Cl_3N_2O_4$ Formula Weight -505.86224 EP/USP code imp E	
78	[2-[4-[Diphenylmethyl]-piperazin-1-yl]ethoxy]acetic Acid Dihydrochloride	CAS. No : Mol Formula - $C_{21}H_{28}Cl_2N_2O_3$ Formula Weight-427.36462 EP/USP code -IMP-F	
79	2-[4-[(R)-(4-Chlorophenyl)phenylmethyl]-piperazin-1-yl]ethanol Dihydrochloride	CAS. No : Mol. Formula- $C_{19}H_{25}Cl_3N_2O$ Mol. Weight-403.7736 EP/USP code- imp-G	

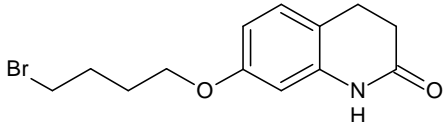
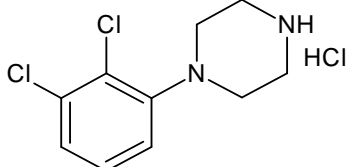
SERTRALINE HYDROCHLORIDE IMPURITIES & METABOLITES

SI.No	COMPOUND NAME	DETAILS	STRUCTURE
80	Sertraline hydrochloride	CAS. No : Mol. formula- $C_{17}H_{17}Cl_2N$ Mol. weight -306.22 EP/USP code	

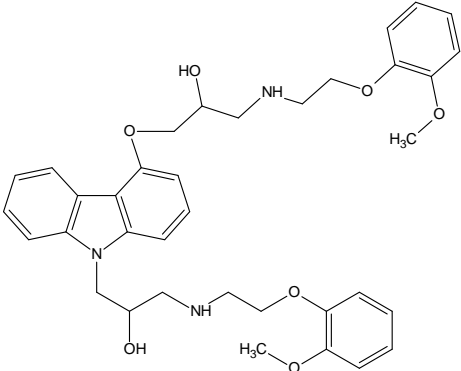
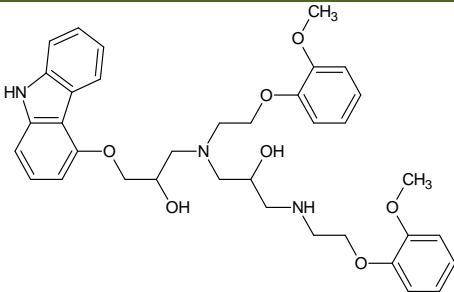
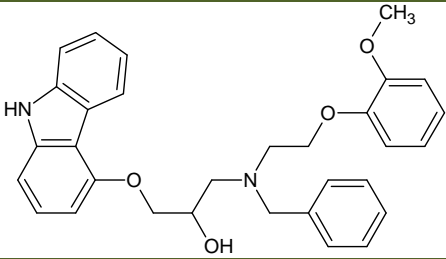
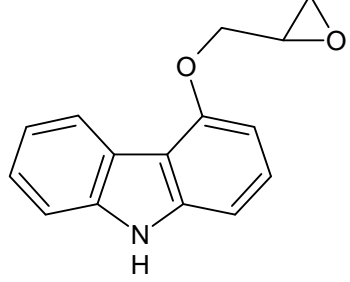
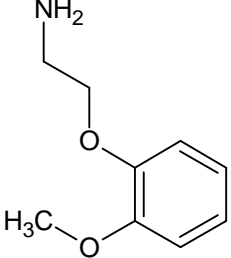
81	N-Des methyl Sertraline	CAS. No :87857-41-8 Mol. formula- C ₁₆ H ₁₅ Cl ₂ N Mol. weight -292.20 EP/USP code	
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ARIPIRAZOLE IMPURITIES & METABOLITES

Sl.No	COMPOUND NAME	DETAILS	STRUCTURE
82	7,7'-[1,4-butanediylbis(oxy)]bis[3,4-dihydro-2(1H)-Quinolinone	CAS. No : 882880-12-8 Mol. formula- C ₂₂ H ₂₄ N ₂ O ₄ Mol. weight -380.44 EP/USP code	
83	7-[4-[4-(2,3-dichlorophenyl)-1-piperazinyl]butoxy]-2(1H)-quinoline, ,	CAS. No : 129722-25-4 Mol. formula- C ₂₃ H ₂₅ Cl ₂ N ₃ O ₂ Mol. weight -446.37 EP/USP code	
84	7-hydroxy-2(1H)-Quinolinone	CAS. No : 70500-72-0 Mol. formula- C ₉ H ₇ NO ₂ Mol. weight -161.16 EP/USP code	
85	2(1H)-Quinolinone, 3,4-dihydro-1,6di-[4-[4-(3,4-dichlorophenyl)-1-piperazinyl]butyl]-	CAS. No : Mol. formula- C ₃₇ H ₄₅ Cl ₄ N ₅ O ₂ Mol. weight -733.60 EP/USP code	
86	7-[4-[4-(2,3-dichlorophenyl)-1-piperazinyl]butoxy]-1-(4-chlorobutyl)-3,4-dihydro-2(1H)-Quinolinone	CAS. No : Mol. formula- C ₂₇ H ₃₄ Cl ₃ N ₃ O ₂ Mol. weight -538.94 EP/USP code	

87	7-(4-bromobutoxy)-3,4-dihydroquinolin-2(1H)-one	CAS. No : 129722-34-5 Mol. formula - C ₁₃ H ₁₆ NO ₂ Br Mol. weight -298.179 EP/USP code	
88	1-(2,3-dichlorophenyl)piperazine hydrochloride	CAS. No : 41202-77-1 Mol. formula- C ₁₀ H ₁₃ Cl ₃ N ₂ Mol. weight -267.58262 EP/USP code	

CARVEDILOL IMPURITIES & METABOLITES

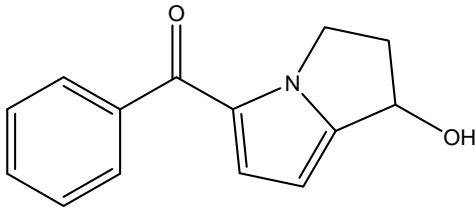
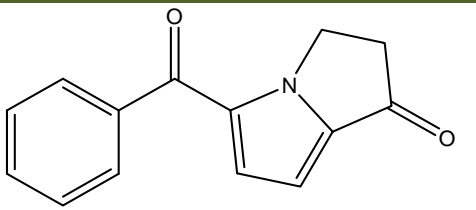
Sl.No	COMPOUND NAME	DETAILS	STRUCTURE
89	1-[[9-[2-hydroxy-3-[[2-(2-methoxyphenoxy)ethyl]amino]propyl]-9H-carbazol-4-yl]oxy]-3-[[2-(2-methoxyphenoxy)ethyl]amino]propan-2-ol ;	CAS. No : Mol. Formula- C ₃₆ H ₄₃ N ₃ O ₇ Mol. Weight -629.74252 EP/USP code- Impurity A	
90	Carvedilol Imp. B (EP): 1,1'-[[2-(2-Methoxyphenoxy)ethyl]-nitri]bis[3-(9H-carbazol-4-yloxy)propan-2-ol]	CAS. No : Mol. Formula -C ₃₆ H ₄₃ N ₃ O ₇ Mol. Weight -629.742 EP/USP code -Impurity B	
91	Carvedilol Imp. C (EP): (2RS)-1-[Benzy]l[2-(2-methoxyphenoxy)ethyl]amino]-3-(9H-carbazol-4-yloxy)propan-2-ol	CAS. No : Mol. formula- C ₃₁ H ₃₂ N ₂ O ₄ Mol. weight -496.59678 EP/USP code Impurity c	
92	4-(2,3-Epoxypropoxy)carbazole ; Carvedilol Epoxide Impurity	CAS. No : 51997-51-4 Mol. formula- C ₁₅ H ₁₃ NO ₂ Mol. weight -239.26922 EP/USP code Compound D	
93	2-(2-Methoxyphenoxy)ethylamine Hydrochloride ; Carvedilol Amine Impurity [CAS # 64464-07-9 for HCl Salt] [CAS # 1836-62-0 for Free Base]	CAS. No : 1836-62-0 Mol. formula- C ₉ H ₁₃ NO ₂ Mol. weight -167.20502 EP/USP code Compound E	

PIOGLITAZONE HYDROCHLORIDE IMPURITIES & METABOLITES

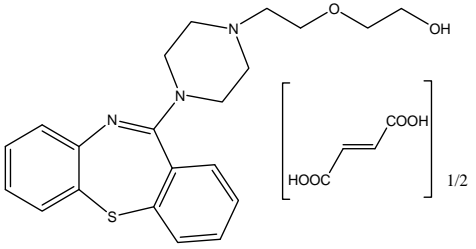
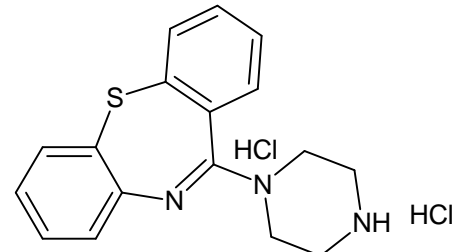
Sl.No	COMPOUND NAME	DETAILS	STRUCTURE
94	Pioglitazone HCl 5-[[4-[2-(5-Ethyl-2-pyridinyl)ethoxy]phenyl]methyl]-2,4-thiazolidinedione Hydrochloride	CAS. No : 112529-15-4 Mol. formula- C ₁₉ H ₂₁ ClN ₂ O ₃ S Mol. weight -392.89964 EP/USP code	
95	5-[[4-[2-(5-Ethyl-2-pyridinyl)ethoxy]phenyl]methyl]-5-hydroxy-2,4-thiazolidinedione ("Pioglitazone 5-Hydroxy Impurity")	CAS. No : 625853-74-9 Mol. formula- C ₁₉ H ₂₀ N ₂ O ₄ S Mol. weight -372.4381 EP/USP code Impurity A	
96	("Pioglitazone Benzylidene Impurity") [CAS # 144809-28-9; 627502-58-3] 5-{4-[2-(5-Ethyl-2-pyridinyl)ethoxy] benzylidene}-2,4-thiazolidinedione	CAS. No :144809-28-9; 627502-58-3 Mol. formula- C ₁₉ H ₁₈ N ₂ O ₃ S Mol. weight -354.42282 EP/USP code Impurity B	
97	5-(4-(2-(5-ethylpyridin-2-yl)ethoxy)benzyl)-3-(2-(5-ethylpyridin-2-yl)ethyl)thiazolidine-2,4-dione	CAS. No : 952188-00-0 Mol. formula- C ₂₈ H ₃₁ N ₃ O ₃ S Mol. weight -489.62904 EP/USP code Impurity C	
98	S-1-(ethoxycarbonyl)-2-(4-(2-(5-ethylpyridin-2-yl)ethoxy)phenyl)ethyl carbamothioate	CAS. No : 868754-41-0 Mol. formula- C ₂₁ H ₂₆ N ₂ O ₄ S Mol. weight -402.50714 EP/USP code Impurity D	
99	ethyl 3-{4-[2-(5-ethylpyridin-2-yl)ethoxy]phenyl}propanoate	CAS. No : 868754-42-1 Mol. formula- C ₂₀ H ₂₅ NO ₃ Mol. weight -327.4174 EP/USP code Impurity E	

KETOROAC IMPURITIES & METABOLITES

Sl.No	COMPOUND NAME	DETAILS	STRUCTURE
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100	1RS)-5-benzoyl-2,3-dihydro-1H-pyrrolizin-1-ol ("Ketorolac 1-Hydroxy Impurity")	CAS. No : 154476-25-2 Mol. formula- C ₁₄ H ₁₃ NO ₂ Mol. weight -227.1 EP/USP code Impurity	
101	(1RS)-5-benzoyl-2,3-dihydro-1H-pyrrolizin-1-one ("Ketorolac 1-Keto Impurity")	CAS. No : 11350-52-6 Mol. formula- C ₁₄ H ₁₁ NO ₂ Mol. weight -225.1 EP/USP code Impurity	

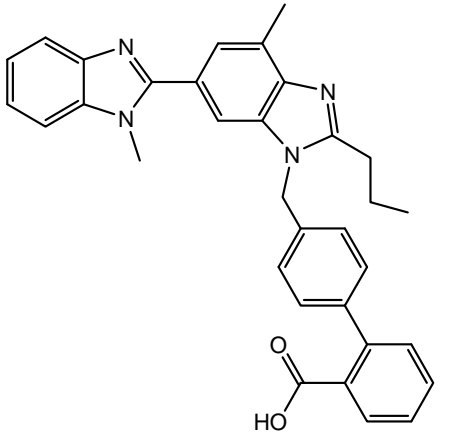
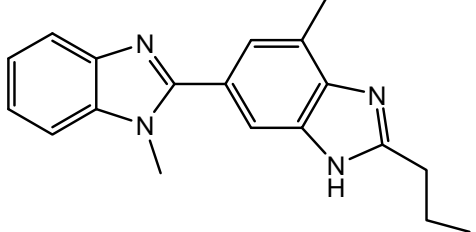
QUETIAPINE HEMIFUMARATE IMPURITIES & METABOLITES

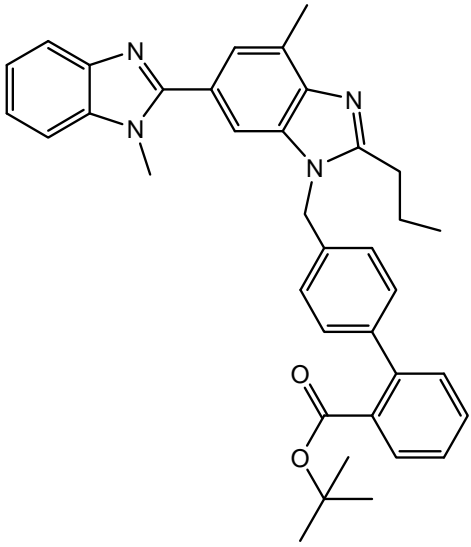
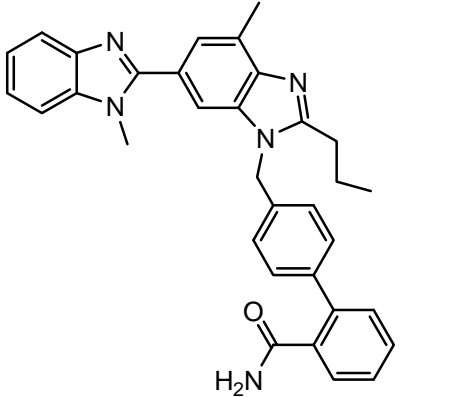
Sl.No	COMPOUND NAME	DETAILS	STRUCTURE
102	Quetiapine Hemifumarate	CAS. No : 111974-72-2 Mol. formula- Mol. weight -:441.52 EP/USP code Impurity	
103	11-piperazin-1-yl-dibenzo[b,f][1,4]thiazepine dihydrochloride	CAS No. Mol formula-C ₁₇ H ₁₇ N ₃ S.2 HCl Mol .weight-368.32 EP/USP CODE Impurity A	

CELECOXIB IMPURITIES & METABOLITES

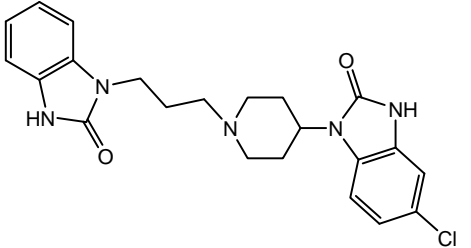
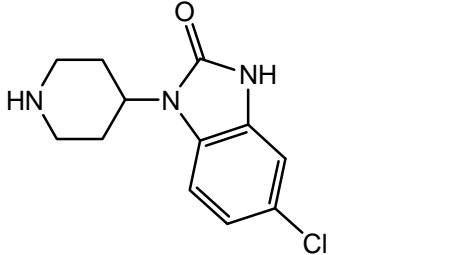
Sl.No	COMPOUND NAME	DETAILS	STRUCTURE

TELMISARTAN IMPURITIES & METABOLITES

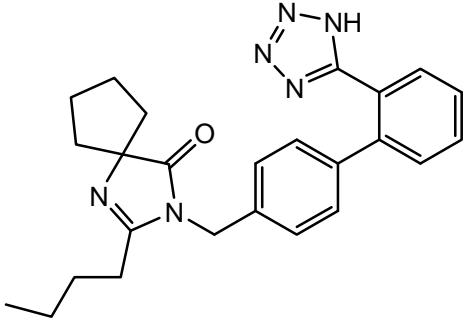
Sl.No	COMPOUND NAME	DETAILS	STRUCTURE
104	2-(4-[[4-methyl-6-(1-methyl-1H-1,3-benzodiazol-2-yl)-2-propyl-1H-1,3-benzodiazol-1-yl]methyl]phenyl)benzoic acid (Telmisartan)	CAS No:144701-48-4 Mol formula C ₃₃ H ₃₀ N ₄ O ₂ Mol .weight: 514.2 EP/USP CODE Impurity	
105	1-methyl-2-(4-methyl-2-propyl-1H-benzo[d]imidazol-6-yl)-1H-benzo[d]imidazole(Telmisartan Impurity A)	CAS No Mol formula C ₁₉ H ₂₀ N ₄ Mol .weight-304.2 EP/USP CODE Impurity A	

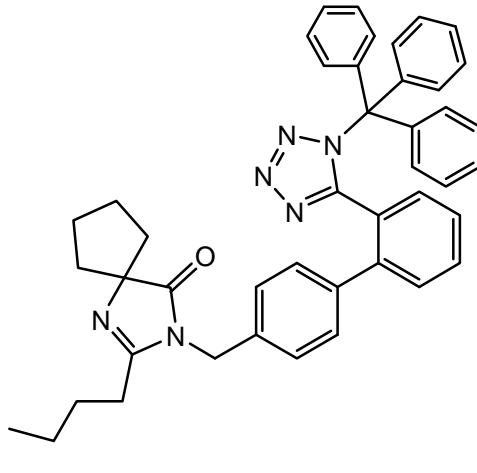
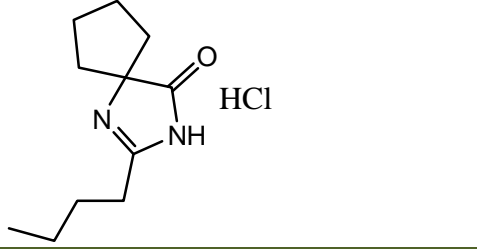
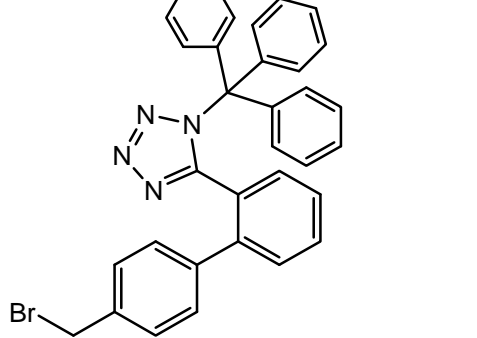
106	Telmisartan t-Butyl Ester	CAS No. Mol formula- C37H38N4O2 Mol .weight-570.3 EP/USP CODE Impurity C	
107	Telmisartan Amide	CAS No Mol formula- C33H31N5O Mol .weight:513.3 EP/USP CODE Impurity F	

DOMPERIDONE IMPURITIES & METABOLITES

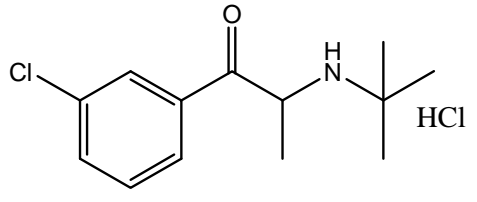
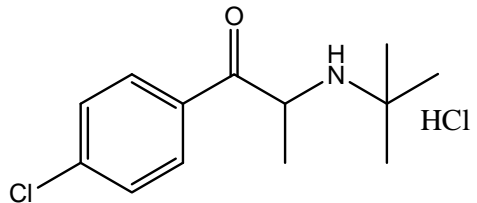
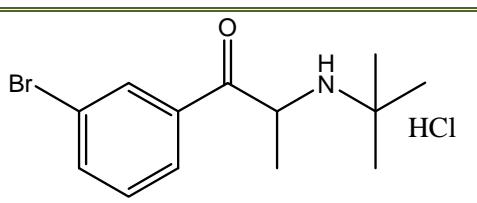
SI.No	COMPOUND NAME	DETAILS	STRUCTURE
108	5-chloro-1-(1-(3-(1,2-dihydro-2-oxobenzo[d]imidazol-3-yl)propyl)piperidin-4-yl)-1H-benzo[d]imidazol-2(3H)-one	CAS No Mol formula- C22H24ClN5O2 Mol .weight-425.2 EP/USP CODE Impurity	
109	5-chloro-1-(piperidin-4-yl)-1H-benzo[d]imidazol-2(3H)-one	CAS No Mol formula- C12H14ClN3O Mol .weight-251.1 EP/USP CODE Impurity A	

IRBESARTAN IMPURITIES & METABOLITES

SI.No	COMPOUND NAME	DETAILS	STRUCTURE
110	2-Butyl-3-[p-(o-1H-tetrazol-5-ylphenyl)benzyl]-1,3-diazaspiro[4.4]non-1-en-4-one	CAS No: 138402-11-6 Mol formula: C25H28N6O Mol .weight: 428.2 EP/USP CODE Impurity	

111	2-Butyl-3-[[4-[2-(2-trityl-tetrazol-5-yl)phenyl]phenyl]methyl]-1,3-diazaspiro[4.4]non-1-en-4-one Irbesartan N1-Trityl Impurity	CAS No: 138402-10-5 Mol formula: C ₄₄ H ₄₂ N ₆ O Mol .weight: 670.3 EP/USP CODE Impurity	
112	2-Butyl-4-spirocyclopentane-2-imidazolin-5-one hydrochloride Irbesartan Lactam Impurity	CAS No 151257-01-1 Mol formula: C ₁₁ H ₁₉ CIN ₂ O Mol .weight: 230.1 EP/USP CODE Impurity	
113	5-(4'-(Bromomethyl)(1,1'-biphenyl)-2-yl)-1-trityl-1H-tetrazole Irbesartan Bromo Impurity	CAS No 124750-51-2 Mol formula: C ₃₃ H ₂₅ BrN ₄ Mol .weight: 556.1 EP/USP CODE Impurity	

BUPROPION IMPURITIES & METABOLITES

SI.No	COMPOUND NAME	DETAILS	STRUCTURE
114	(±)-2-(tert-Butylamino)-3'-chloropropiophenone hydrochloride [Bupropion Hydrochloride	CAS No 31677-93-7 Mol formula: C ₁₃ H ₁₉ Cl ₂ NO Mol .weight: 275.1 EP/USP CODE Impurity	
115	[2-(tert-butylamino)-4'-chloropropiophenone hydrochloride	CAS No 1049718-72-0 Mol formula: C ₁₃ H ₁₉ Cl ₂ NO Mol .weight: 275.1 EP/USP CODE Impurity-A	
116	2-(tert-butylamino)-3'-bromopropiophenone hydrochloride	CAS No 1049718-43-5 Mol formula: C ₁₃ H ₁₉ BrClNO Mol .weight: 319 EP/USP CODE Impurity-B	
117	2-(tert-butylamino)propiofenone hydrochloride; Deschloro Bupropion	CAS No 63199-74-6 Mol formula: C ₁₃ H ₂₀ CIN Mol .weight: 241.1 EP/USP CODE Impurity D	