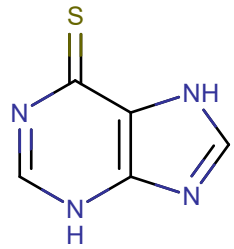
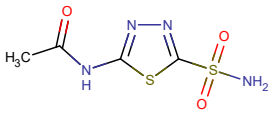
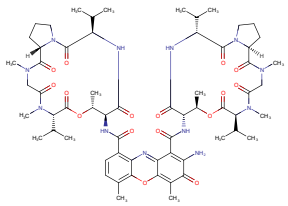
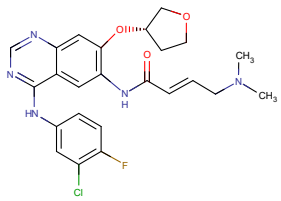
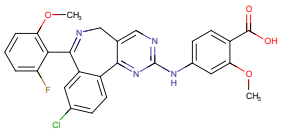
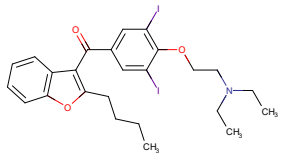
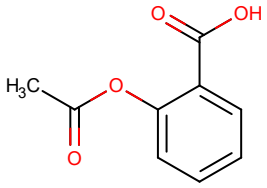
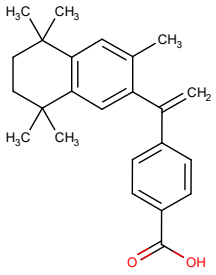
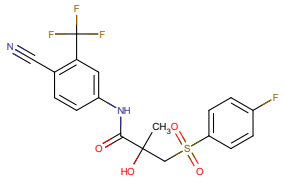
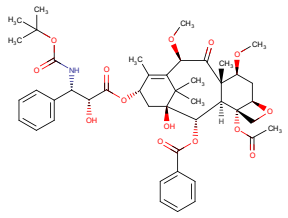
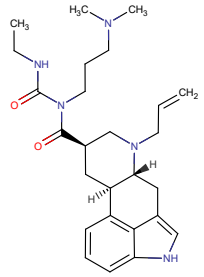
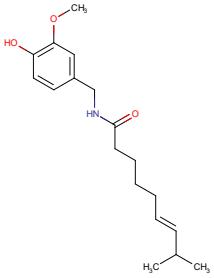
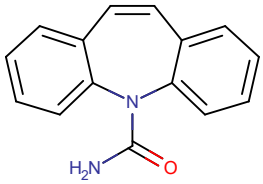
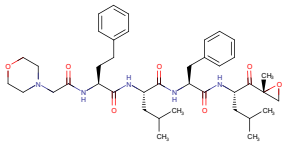
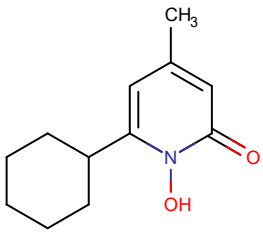
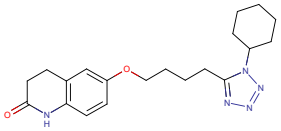
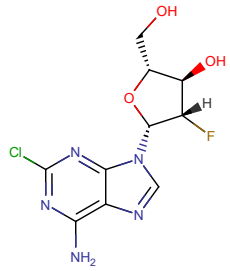
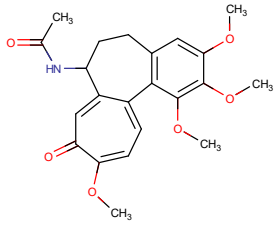
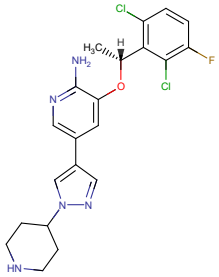
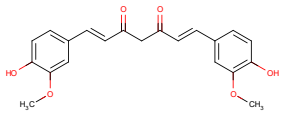
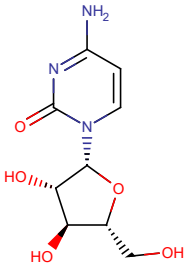
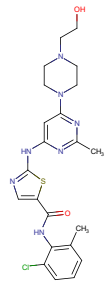
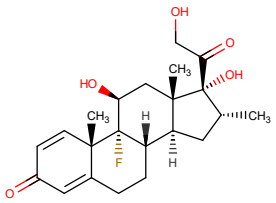
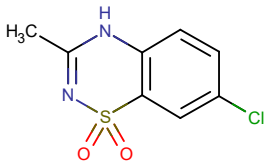
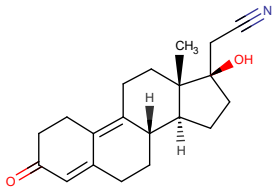
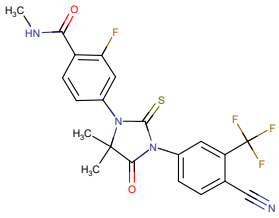
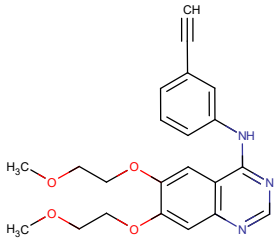
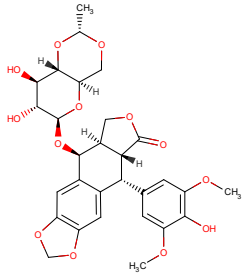
Supplementary Table S1. 225 autophagy modulators**.**

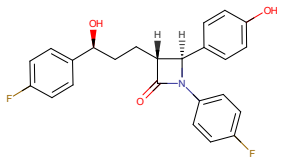
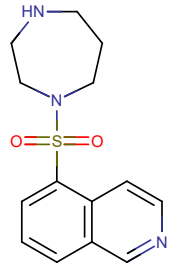
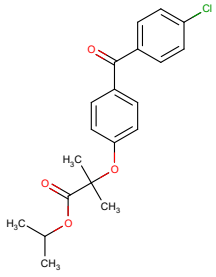
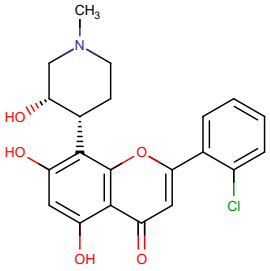
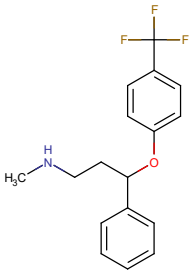
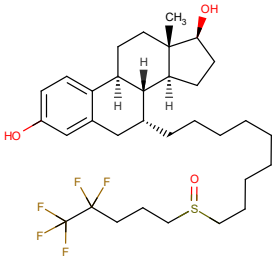
Activators					
No.	**Drug**	**DrugBank ID**	**No. of Known Targets**	**2D Structure**	**Reference**
1	6-Mercaptopurine	DB01033	4		[1]
2	Acetazolamide	DB00819	8		[2]
3	Actinomycin D	DB00970	2		[3]
4	Afatinib	DB08916	3		[4]
5	Alisertib	DB05220	1		[5]

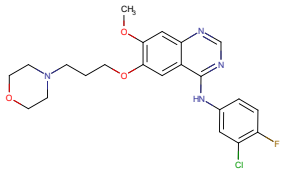
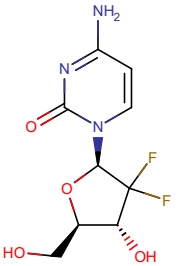
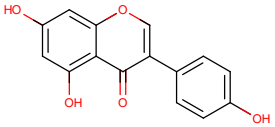
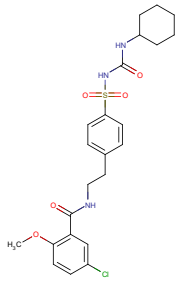
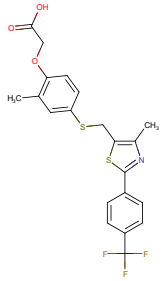
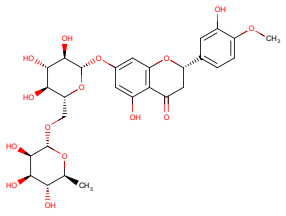
6	Amiodarone	DB01118	7		[6]
7	Aspirin	DB00945	18		[7]
8	AT9283	DB05169	2	No Structure Available	[8]
9	Bexarotene	DB00307	3		[9]
10	Bicalutamide	DB01128	1		[10]
11	Cabazitaxel	DB06772	2		[11]

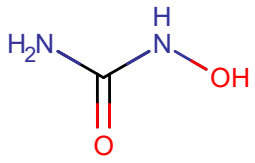
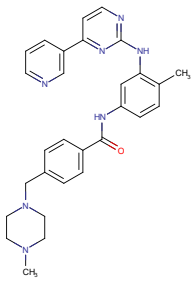
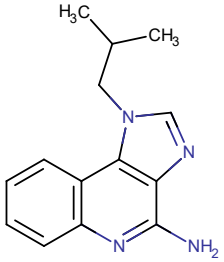
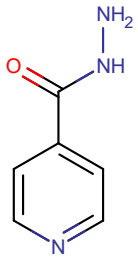
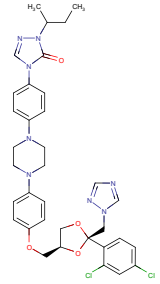
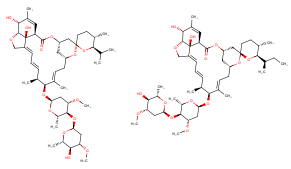
12	Cabergoline	DB00248	20		[12]
13	Capsaicin	DB06774	2		[13]
14	Carbamazepine	DB00564	4		[14]
15	Carfilzomib	DB08889	6		[15]
16	Ciclopirox	DB01188	1		[16]
17	Cilostazol	DB01166	1		[17]

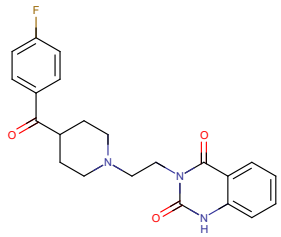
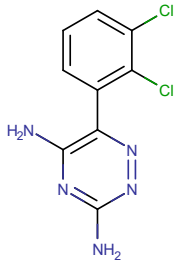
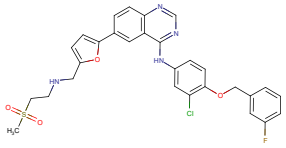
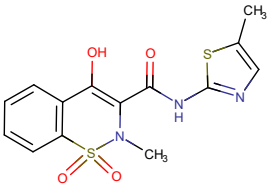
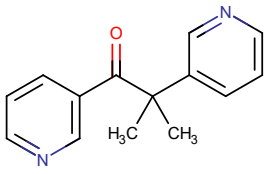
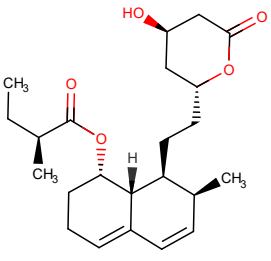
18	Clofarabine	DB00631	2		[18]
19	Colchicine	DB01394	2		[19]
20	Crizotinib	DB08865	2		[20]
21	Curcumin	DB11672	5		[21]
22	Cytarabine	DB00987	1		[22]
23	Dasatinib	DB01254	23		[23]

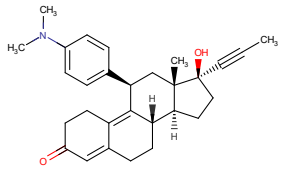
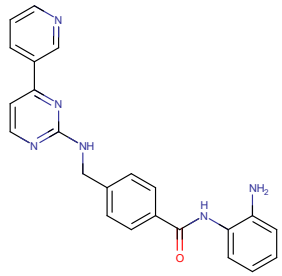
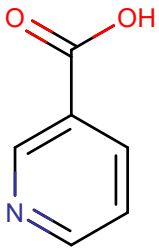
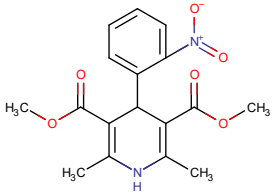
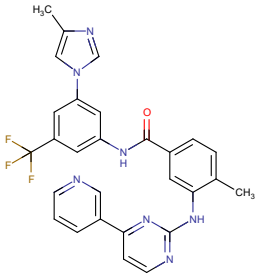
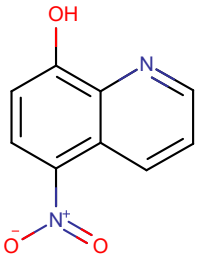
24	Dexamethasone	DB01234	5		[24]
25	Diazoxide	DB01119	6		[25]
26	Dienogest	DB09123	2		[26]
27	Enzalutamide	DB08899	1		[27]
28	Erlotinib	DB00530	2		[28]
29	Etoposide	DB00773	2		[29]

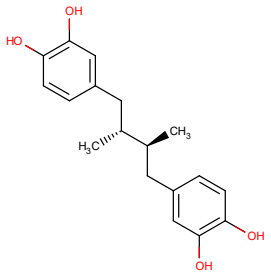
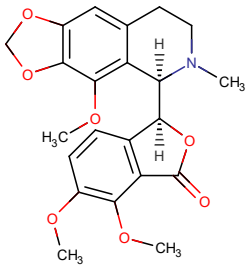
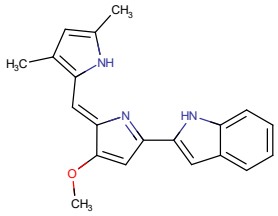
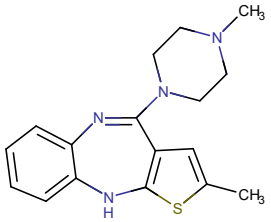
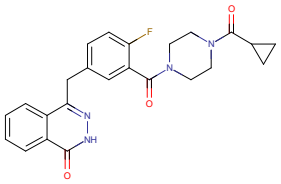
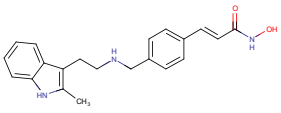
30	Ezetimibe	DB00973	3		[30]
31	Fasudil	DB08162	4		[31]
32	Fenofibrate	DB01039	5		[32]
33	Flavopiridol	DB03496	12		[33]
34	Fluoxetine	DB00472	7		[34]
35	Fulvestrant	DB00947	1		[35]

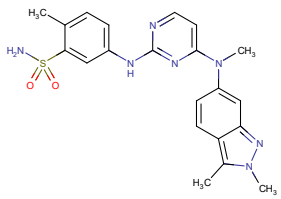
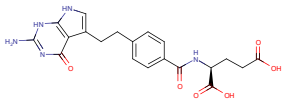
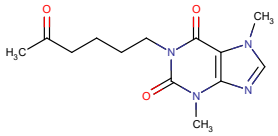
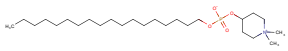
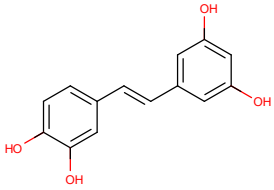
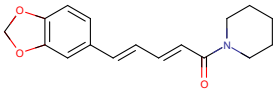
36	Gefitinib	DB00317	1		[36]
37	Gemcitabine	DB00441	3		[37]
38	Genistein	DB01645	13		[38]
39	Glibenclamide	DB01016	9		[39]
40	GW 501516	DB05416	2		[40]
41	Hesperidin	DB04703	1		[41]

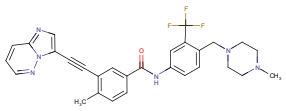
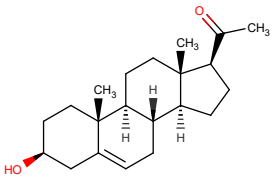
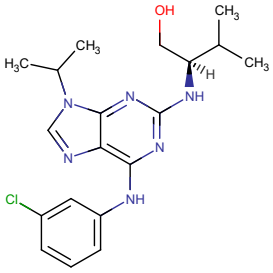
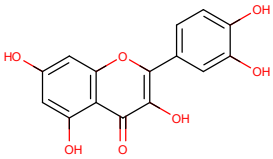
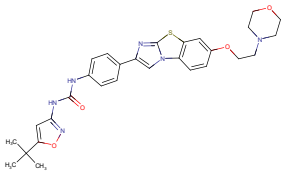
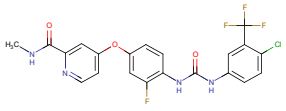
42	Hydroxyurea	DB01005	1		[42]
43	Imatinib	DB00619	9		[43]
44	Imiquimod	DB00724	2		[44]
45	Isoniazid	DB00951	4		[45]
46	Itraconazole	DB01167	1		[46]
47	Ivermectin	DB00602	2		[47]

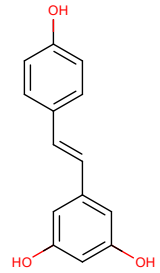
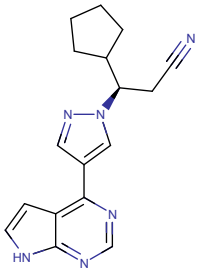
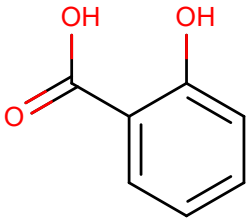
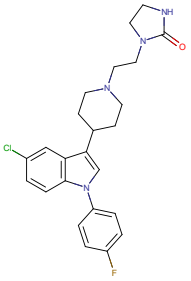
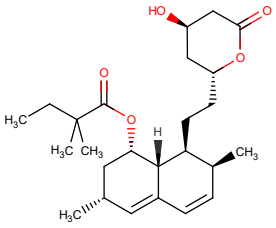
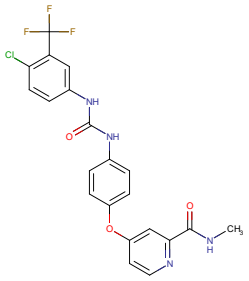
48	Ketanserin	DB12465	1		[48]
49	Lamotrigine	DB00555	35		[49]
50	Lapatinib	DB01259	2		[50]
51	Meloxicam	DB00814	2		[51]
52	Metyrapone	DB01011	1		[52]
53	Mevastatin	DB06693	1		[53]

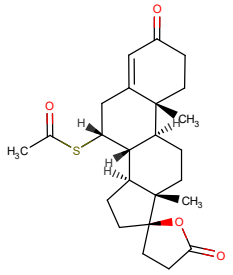
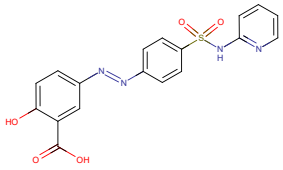
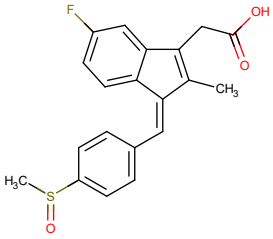
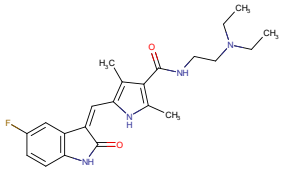
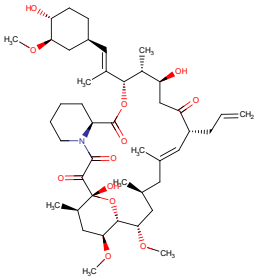
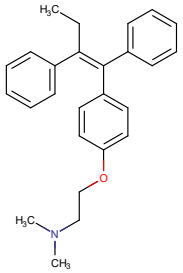
54	Mifepristone	DB00834	4		[54]
55	Mocetinostat	DB11830	3		[55]
56	Niacin	DB00627	4		[56]
57	Nifedipine	DB01115	9		[57]
58	Nilotinib	DB04868	2		[58]
59	Nitroxoline	DB01422	1		[59]

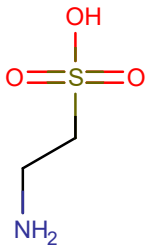
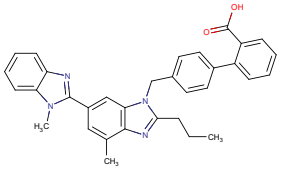
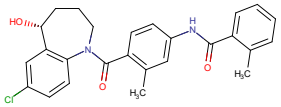
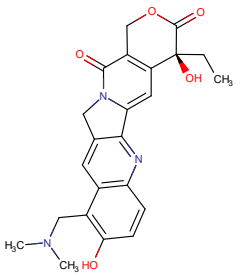
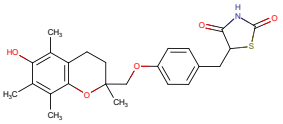
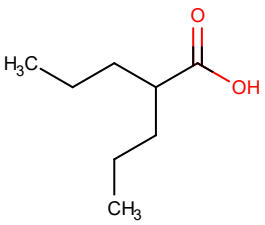
60	Nordihydroguaiaretic acid （Masoprocol）	DB00179	2		[60]
61	Noscapine	DB06174	1		[61]
62	Obatoclax	DB12191	1		[62]
63	Olanzapine	DB00334	48		[63]
64	Olaparib	DB09074	3		[64]
65	Panobinostat	DB06603	11		[65]

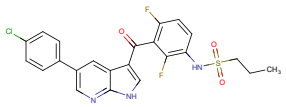
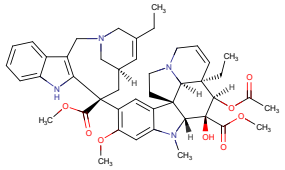
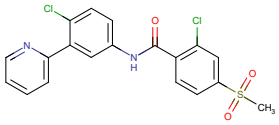
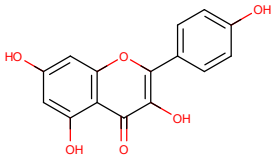
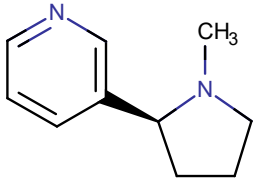
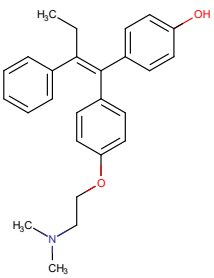
66	Pazopanib	DB06589	10		[66]
67	Pemetrexed	DB00642	4		[67]
68	Pentoxifylline	DB00806	6		[68]
69	Perifosine	DB06641	3		[69]
70	Piceatannol	DB08399	3		[70]
71	Piperine	DB12582	1		[71]

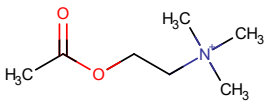
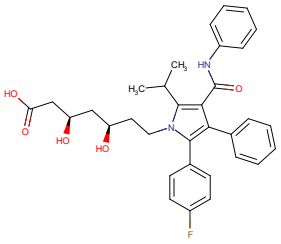
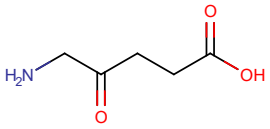
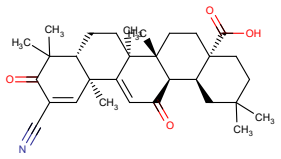
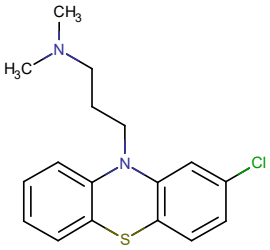
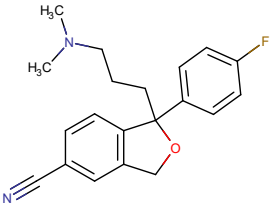
72	Ponatinib	DB08901	15		[72]
73	Pregnenolone	DB02789	2		[73]
74	Purvalanol A	DB04751	3		[74]
75	Quercetin	DB04216	27		[75]
76	Quizartinib	DB12874	1		[76]
77	Regorafenib	DB08896	18		[77]

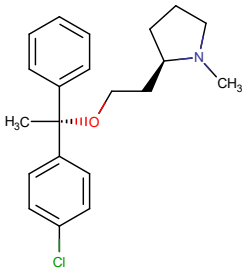
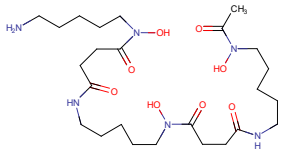
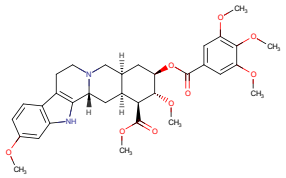
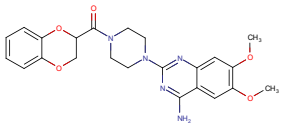
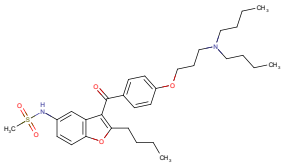
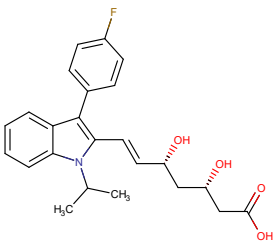
78	Resveratrol	DB02709	25		[78]
79	Ruxolitinib	DB08877	2		[79], [80]
80	Salicylic acid	DB00936	3		[81]
81	Sertindole	DB06144	8		[82]
82	Simvastatin	DB00641	3		[83]
83	Sorafenib	DB00398	10		[84]

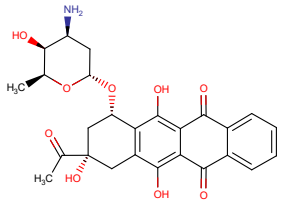
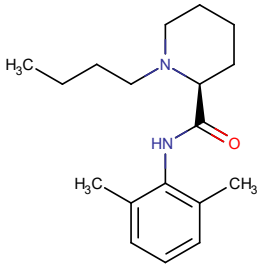
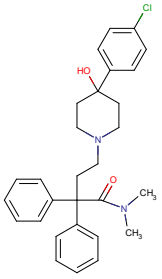
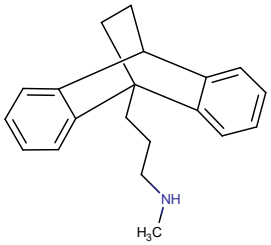
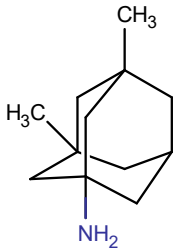
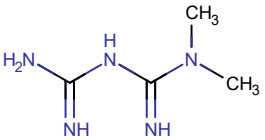
84	Spironolactone	DB00421	27		[85]
85	Sulfasalazine	DB00795	10		[86]
86	Sulindac	DB00605	7		[87]
87	Sunitinib	DB01268	8		[88]
88	Tacrolimus	DB00864	1		[89]
89	Tamoxifen	DB00675	16		[90]

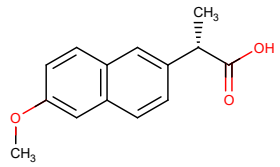
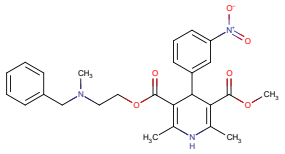
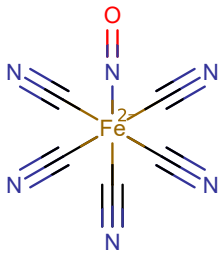
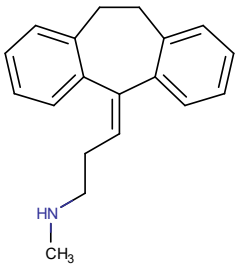
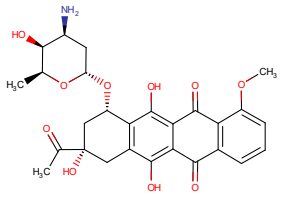
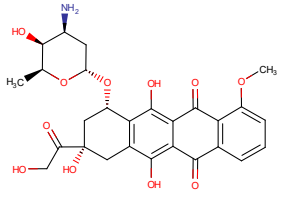
90	Taurine	DB01956	21		[91]
91	Telmisartan	DB00966	2		[92]
92	Tolvaptan	DB06212	2		[93]
93	Topotecan	DB01030	2		[94]
94	Troglitazone	DB00197	9		[95]
95	Valproic acid	DB00313	23		[96]

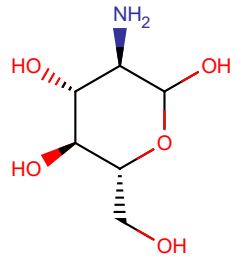
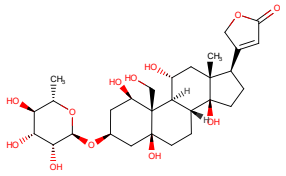
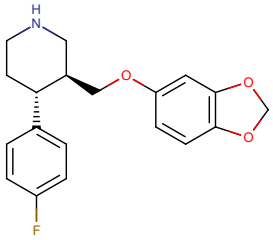
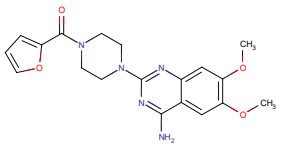
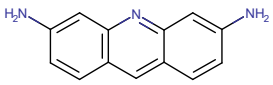
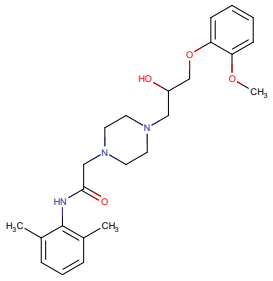
96	Vemurafenib	DB08881	1		[97]
97	Vinorelbine	DB00361	1		[98]
98	Vismodegib	DB08828	1		[99]
99	Kaempferol	DB01852	1		[100]
100	L-Nicotine (Nicotine)	DB00184	13		[101]
101	4-Hydroxytamoxifen	DB04468	7		[102]

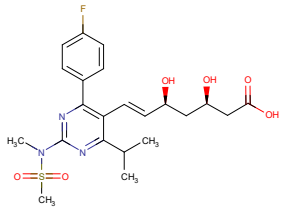
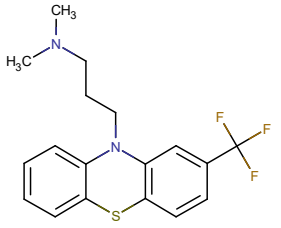
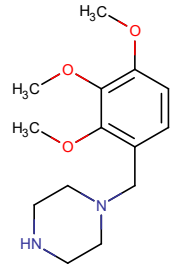
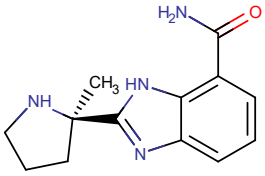
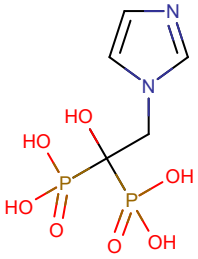
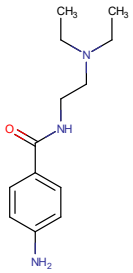
102	Acetylcholine	DB03128	6		[103]
103	Atorvastatin	DB01076	3		[104]
104	Aminolevulinic acid	DB00855	1		[105]
105	Bardoxolone	DB12651	1		[106]
106	Chlorpromazine	DB00477	26		[107]
107	Citalopram	DB00215	5		[108]

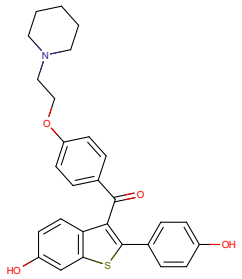
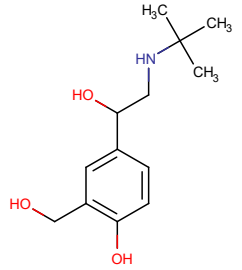
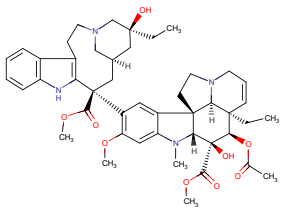
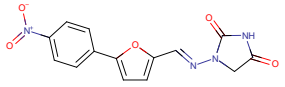
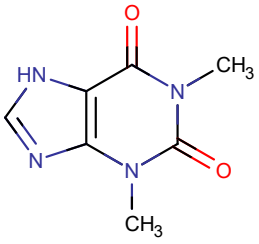
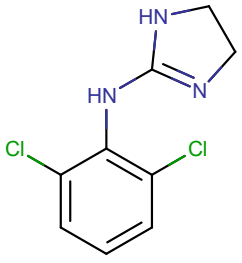
108	Clemastine	DB00283	1		[109]
109	Deferoxamine	DB00746	1		[110]
110	Reserpine	DB00206	3		[111]
111	Doxazosin	DB00590	6		[112]
112	Dronedarone	DB04855	18		[113]
113	Fluvastatin	DB01095	1		[114]

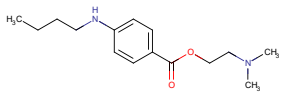
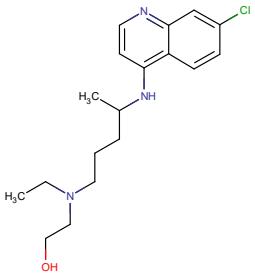
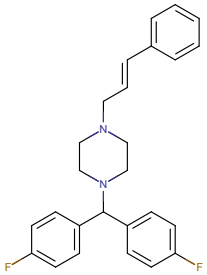
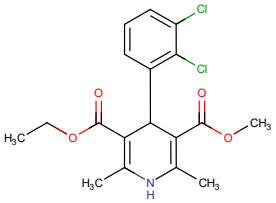
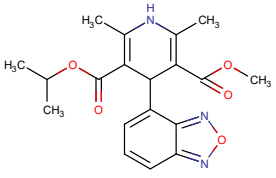
114	Idarubicin	DB01177	1		[115]
115	Levobupivacaine	DB01002	1		[116]
116	Loperamide	DB00836	7		[117]
117	Maprotiline	DB00934	17		[118]
118	Memantine	DB01043	7		[119]
119	Metformin	DB00331	1		[120]

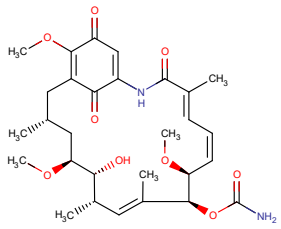
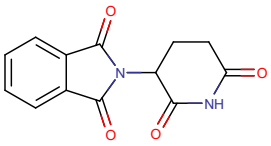
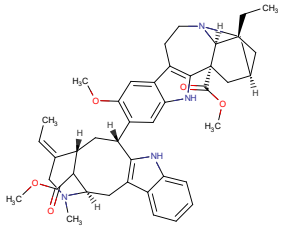
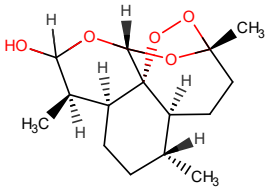
120	Naproxen	DB00788	2		[121]
121	Nicardipine	DB00622	15		[122]
122	Nitroprusside	DB00325	1		[123]
123	Nortriptyline	DB00540	24		[124]
124	Daunorubicin	DB00694	2		[125]
125	Doxorubicin	DB00997	2		[126]

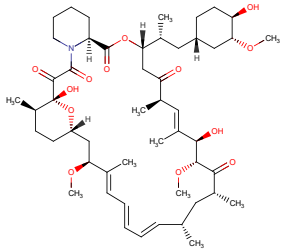
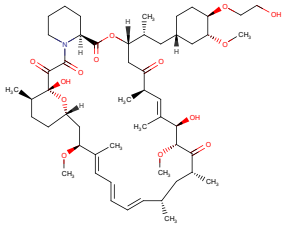
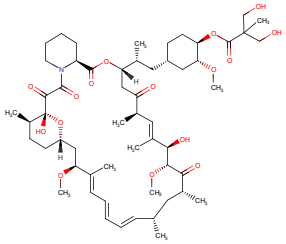
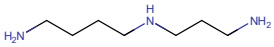
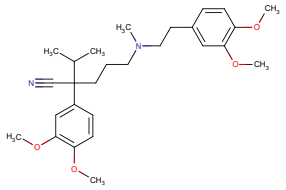
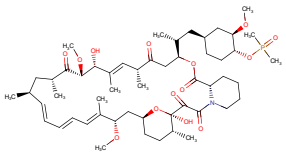
126	Glucosamine	DB01296	4		[127]
127	Ouabain	DB01092	3		[128]
128	Paroxetine	DB00715	8		[129]
129	Prazosin	DB00457	8		[130]
130	Proflavine	DB01123	1		[131]
131	Ranolazine	DB00243	2		[132]

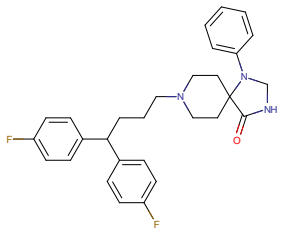
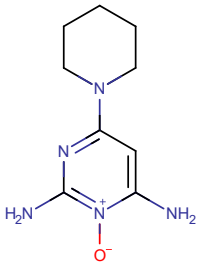
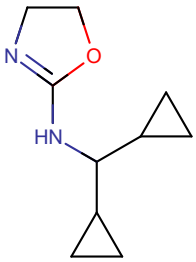
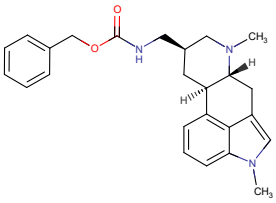
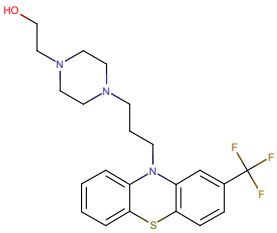
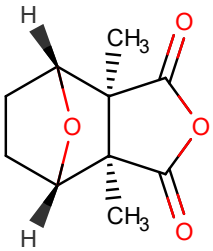
132	Rosuvastatin	DB01098	1		[133]
133	Trifluprom azine	DB00508	5		[134]
134	Trimetazidine	DB09069	1		[135]
135	Veliparib	DB07232	2		[136]
136	Zoledronic acid	DB00399	2		[137]
137	Procainamide	DB01035	3		[138]

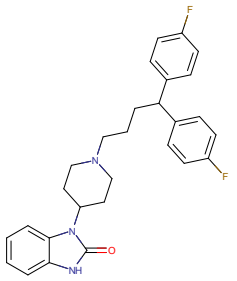
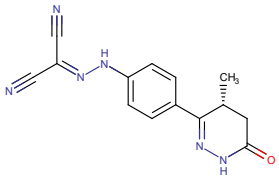
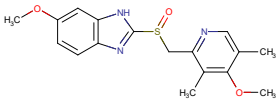
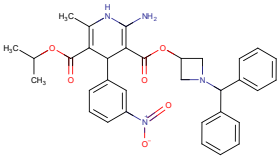
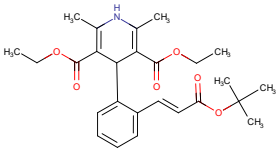
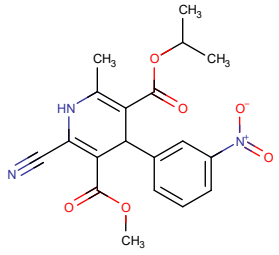
138	Raloxifene	DB00481	4		[139]
139	Salbutamol	DB01001	3		[140]
140	Vinblastine	DB00570	6		[141]
141	Dantrolene	DB01219	1		[142]
142	Theophylline	DB00277	14		[143], [144]
143	Clonidine	DB00575	6		[145]

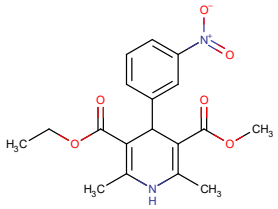
144	Tetracaine	DB09085	2		[146]
145	Hydroxychloroquine	DB01611	2		[147]
146	Flunarizine	DB04841	5		[148]
147	XL765 (Voxtalisib)	DB05241	5	No Structure Available	[149]
148	Felodipine	DB01023	13		[150]
149	Isradipine	DB00270	7		[151]

150	Geldanamycin	DB02424	3		[152]
151	Thalidomide	DB01041	7		[153]
152	Zinc	DB01593	124	Zn	[154]
153	Copper	DB09130	145	Cu	[155]
154	Voacamine	DB04877	1		[156]
155	Artenimol	DB11638	78		[157]

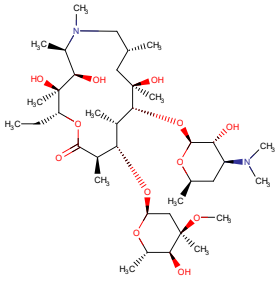
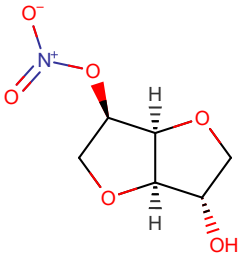
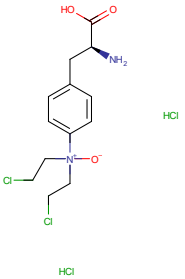
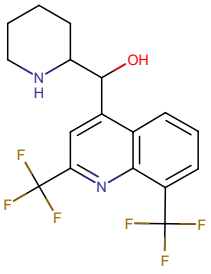
156	Rapamycin	DB00877	3		[158]
157	Everolimus	DB01590	1		[158]
158	Temsirolimus	DB06287	1		[159]
159	Spermidine	DB03566	3		[160]
160	Verapamil	DB00661	19		[160]
161	Ridaforolimus	DB06233	1		[161]

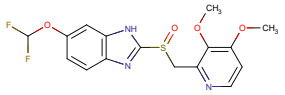
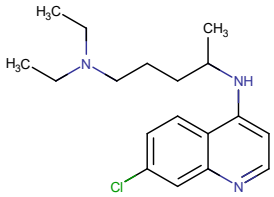
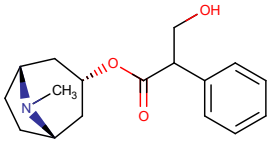
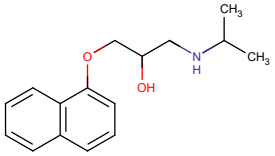
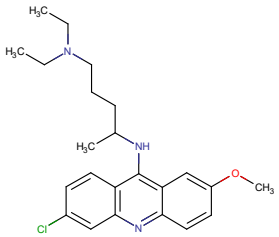
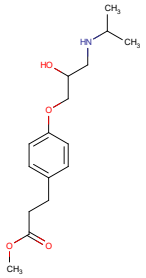
162	Fluspirilene	DB04842	3		[158]
163	Minoxidil	DB00350	3		[158]
164	Rilmenidine	DB11738	1		[158]
165	Metergoline	DB13520	1		[158]
166	Fluphenazine	DB00623	6		[162]
167	Cantharidin	DB12328	1		[163]

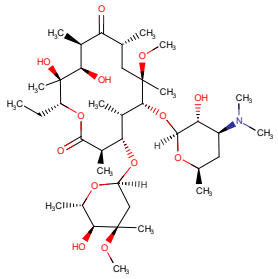
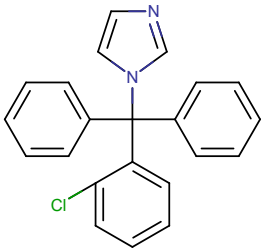
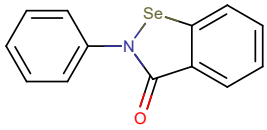
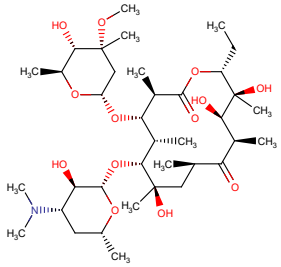
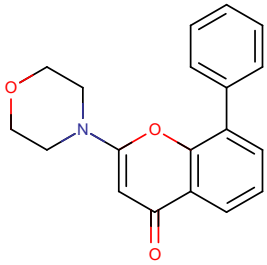
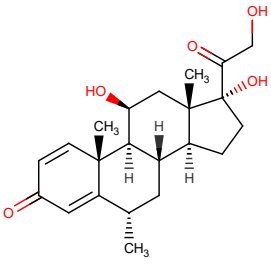
168	Pimozide	DB01100	4		[158]
169	Levosimendan	DB00922	4		[164]
170	Omeprazole	DB00338	2		[165]
171	Azelnidipine	DB09230	1		[166]
172	Lacidipine	DB09236	8		[166]
173	Nilvadipine	DB06712	6		[166]

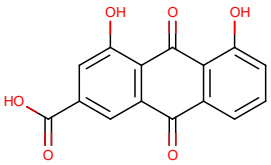
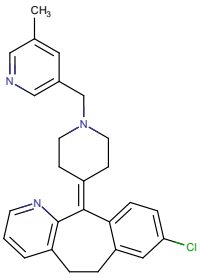
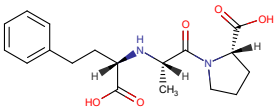
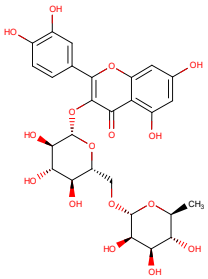
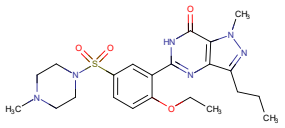
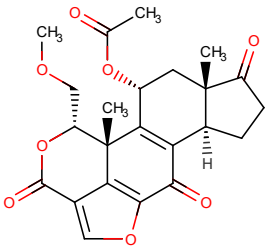
174	Nitrendipine	DB01054	8		[158]

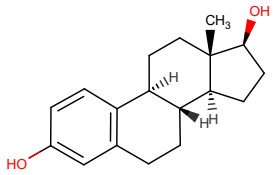
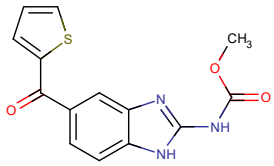
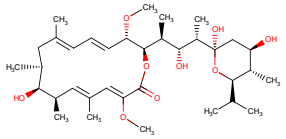
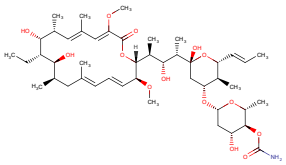
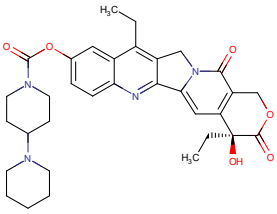
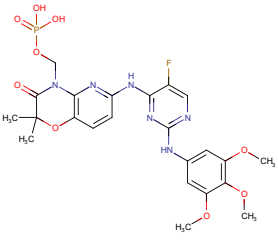
Inhibitors

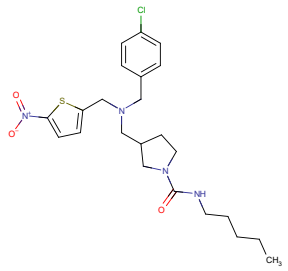
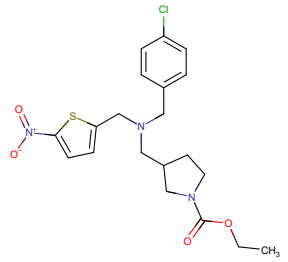
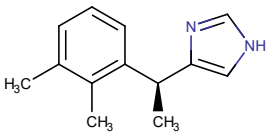
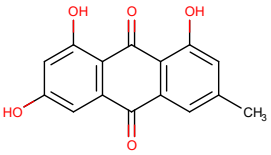
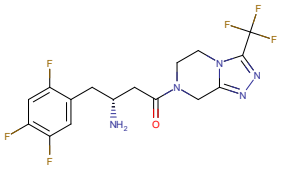
No.	Drug	DrugBank ID	No. of Known Targets	2D Structure	Reference
1	Azithromycin	DB00207	1		[167]
2	Heparin	DB01109	12	No Structure Available	[168]
3	Isosorbide mononitrate	DB01020	1		[169]
4	PX-478	DB06082	1		[170]
5	Mefloquine	DB00358	2		[171]

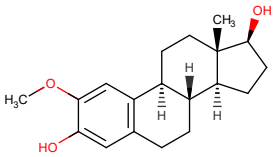
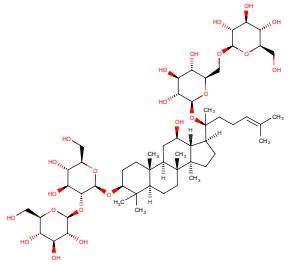
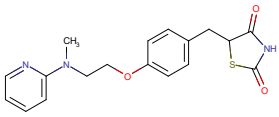
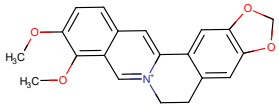
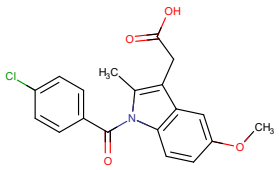
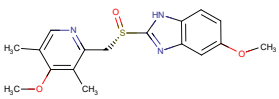
6	Pantoprazole	DB00213	1		[172]
7	Chloroquine	DB00608	3		[173]
8	Atropine	DB00572	8		[103]
9	Propranolol	DB00571	5		[174]
10	Quinacrine	DB01103	3		[175]
11	Esmolol	DB00187	1		[176]

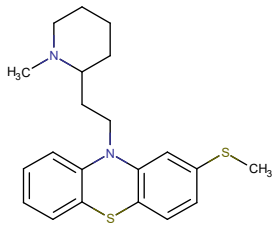
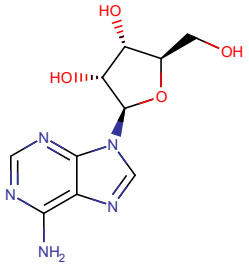
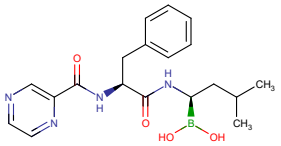
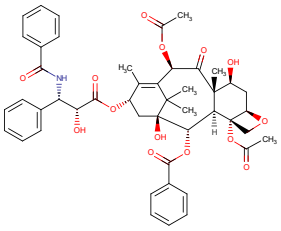
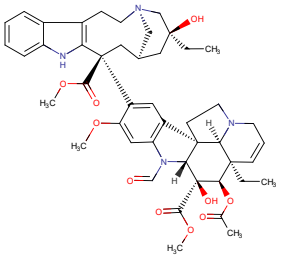
12	Clarithromycin	DB01211	3		[177]
13	Clotrimazole	DB00257	3		[178]
14	Ebselen	DB12610	1		[179]
15	Erythromycin	DB00199	3		[180]
16	LY294002	DB02656	24		[181]
17	Methylprednisolone	DB00959	1		[182]

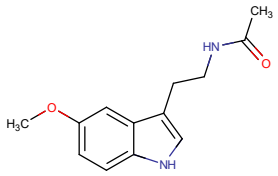
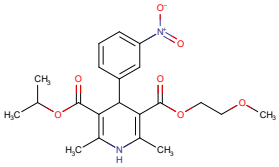
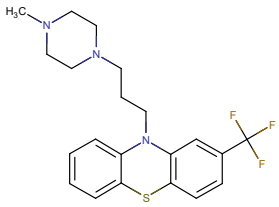
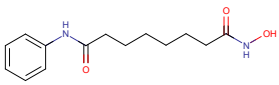
18	Rhein	DB13174	3		[183]
19	Rupatadine	DB11614	2		[184]
20	Enalaprilat	DB09477	2		[185]
21	Rutin	DB01698	2		[186,187]
22	Sildenafil	DB00203	3		[188]
23	Wortmannin	DB08059	4		[189]

24	Estradiol	DB00783	10		[190]
25	Nocodazole	DB08313	1		[160]
26	Bafilomycin A1	DB06733	1		[160]
27	Concanamycin A	DB14062	1		[158]
28	Indomethacin	DB00762	2		[191]
29	Fostamatinib	DB12010	303		[192]

30	SR-9011	DB14014	2		[193]
31	SR-9009	DB14013	2		[193]
Dual-modulators					
No.	**Drug**	**DrugBank ID**	**No. of Known Targets**	**2D Structure**	**Reference**
1	Dexmedetomidine	DB00633	1		[194,195]
2	Emodin	DB07715	2		[196,197]
3	Sitagliptin	DB01261	1		[198,199]

4	2-Methoxyestradiol	DB02342	5		[200,201]
5	Ginsenoside Rb	DB06749	1		[202,203]
6	Rosiglitazone	DB00412	7		[204,205]
7	Berberine	DB04115	1		[206]
8	Irinotecan	DB00328	9		[207,208]
9	Esomeprazole	DB00736	1		[209]

10	Thioridazine	DB00679	6		[210]
11	Adenosine	DB00640	4		[211]
12	Bortezomib	DB00188	2		[212,213]
13	Paclitaxel	DB01229	6		[214,215]
14	Vincristine	DB00541	2		[216,217]
15	Calcium	DB01373	20	Ca	[166,218]

16	Lithium	DB01356	4	Li^+	[219,220]
17	Melatonin	DB01065	10		[159]
18	Nimodipine	DB00393	10		[221,222]
19	Trifluoperazine	DB00831	6		[223,224]
20	Vorinostat	DB02546	5		[225,226]

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