

Supporting Information

Quantitative structure-activity relationships for structurally diverse chemotypes having anti-*Trypanosoma cruzi* activity

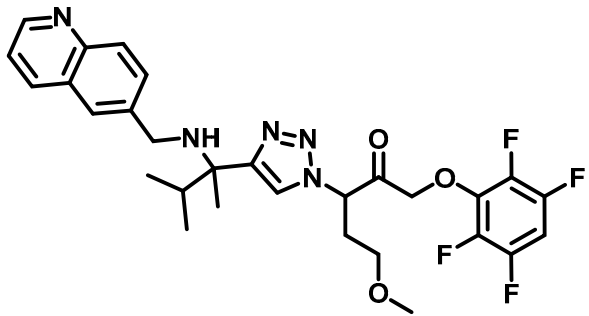
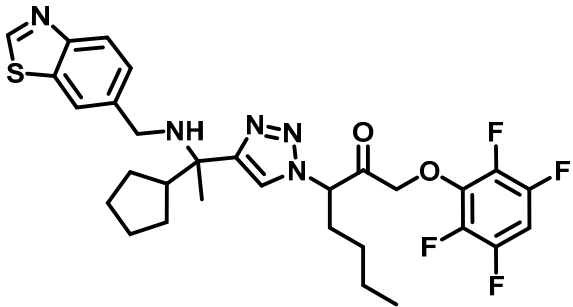
Anacleto S. de Souza ¹, Leonardo L. G. Ferreira ¹, Aldo S. de Oliveira^{1,2}, and Adriano D. Andricopulo ^{1,*}

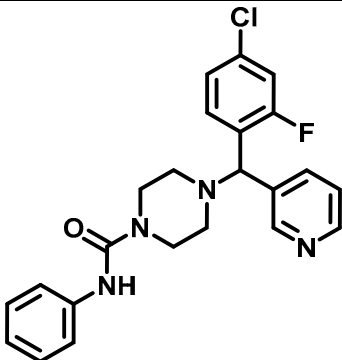
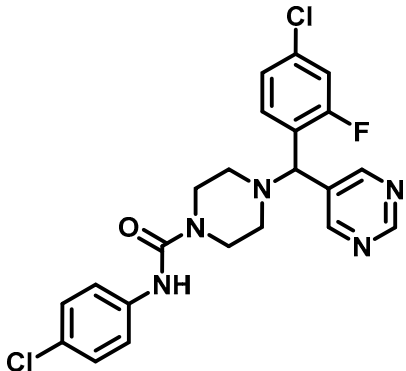
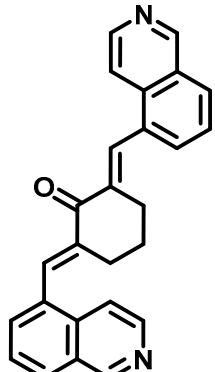
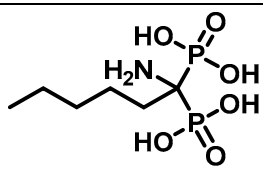
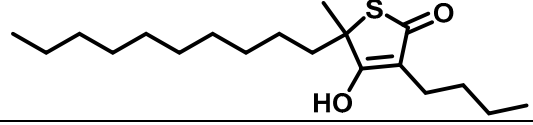
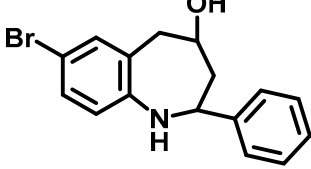
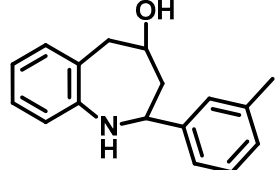
¹ Laboratory of Computational and Medicinal Chemistry, Center for Research and Innovation in Biodiversity and Drug Discovery, Physics Institute of Sao Carlos, University of Sao Paulo, Sao Carlos-SP, Brazil

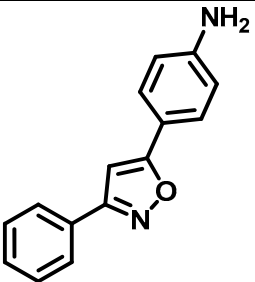
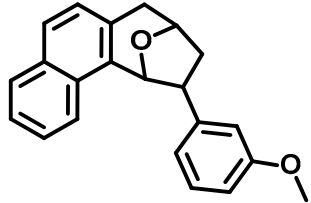
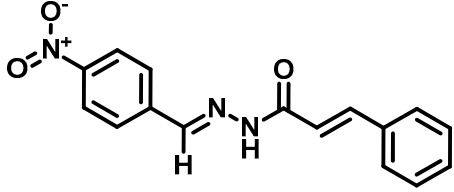
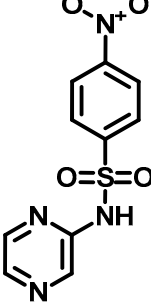
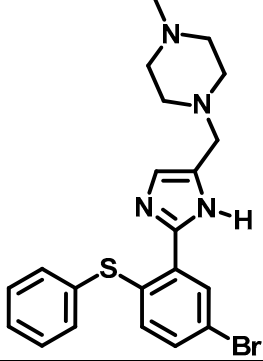
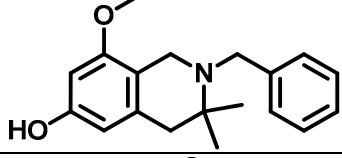
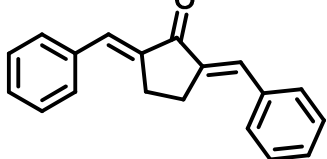
² Department of Exact Sciences and Education, Blumenau Center, Federal University of Santa Catarina, Blumenau, Brazil

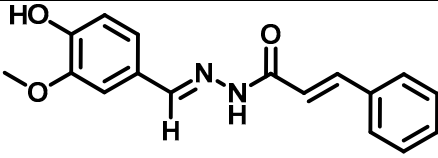
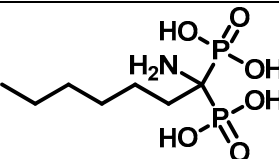
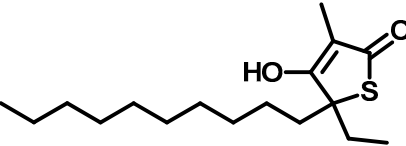
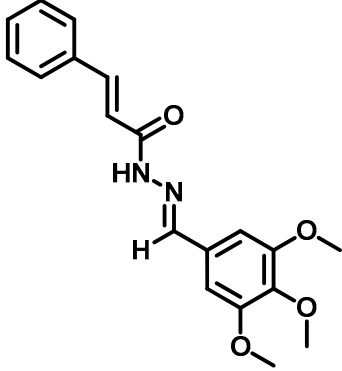
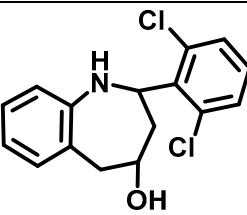
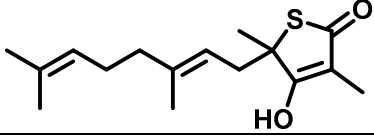
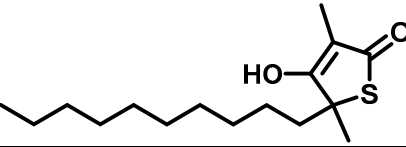
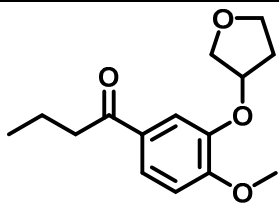
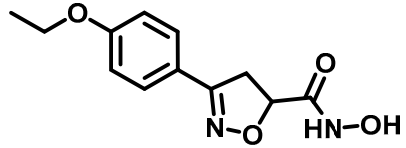
* Correspondence: aandrico@ifsc.usp.br; Tel.: + 55 16 3373-9874

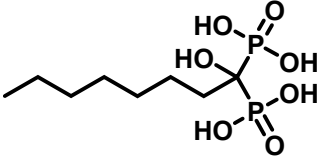
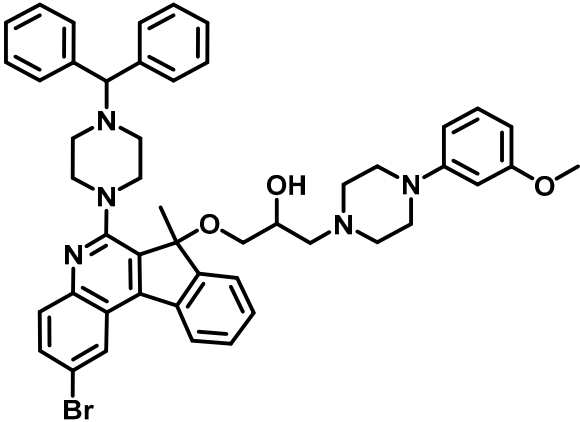
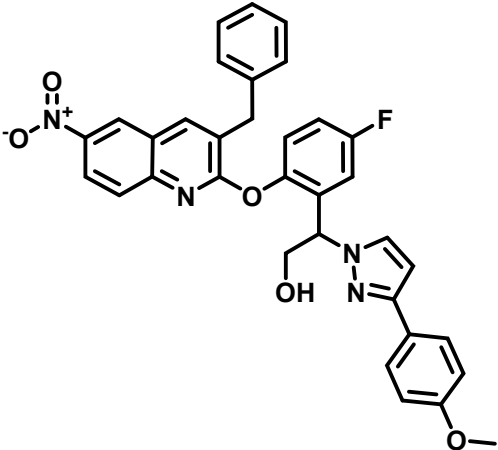
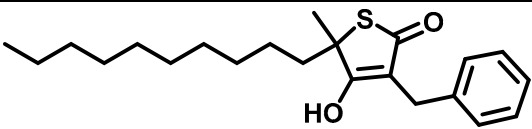
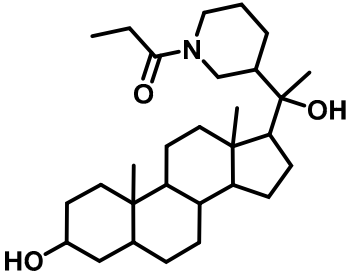
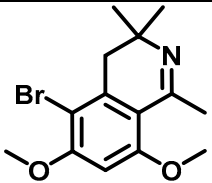
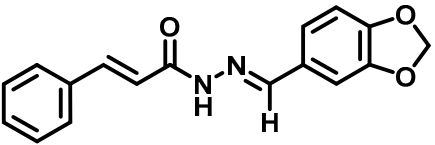
Table S1. Dataset used to build the artificial neural networks and the kernel-based partial least squares models.

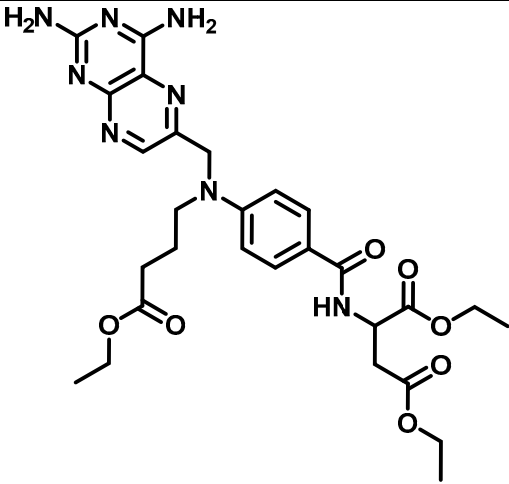
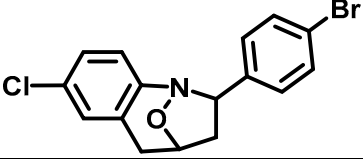
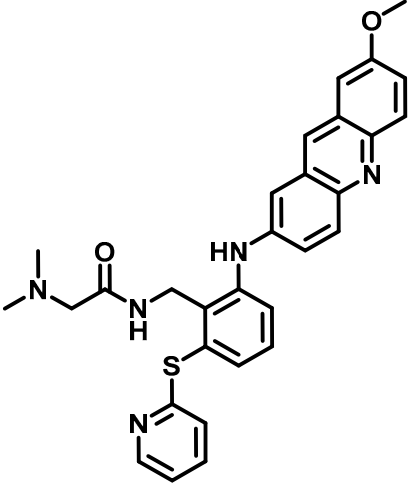
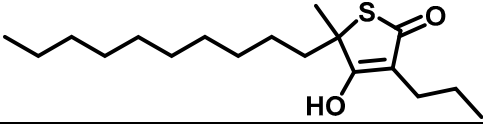
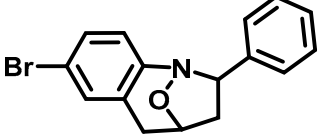
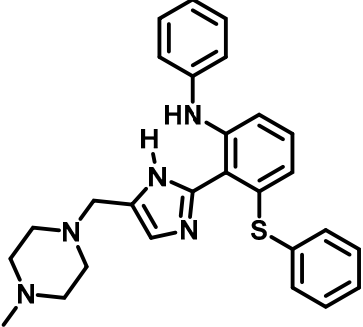
Molecule	Structure	pIC ₅₀	Reference
3		8.70	1
4		8.52	1

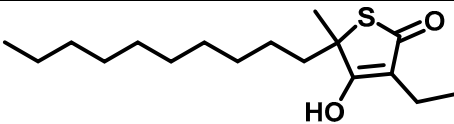
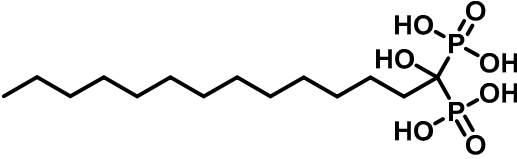
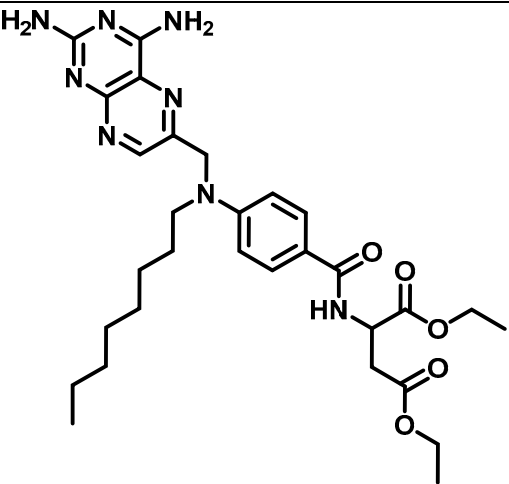
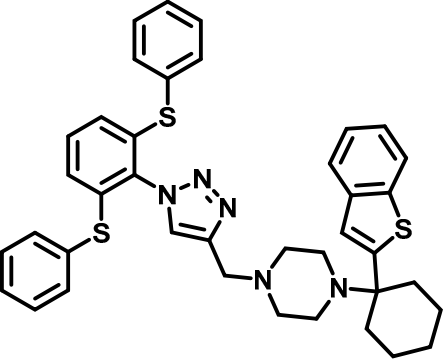
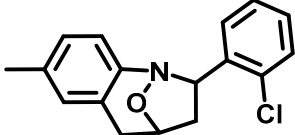
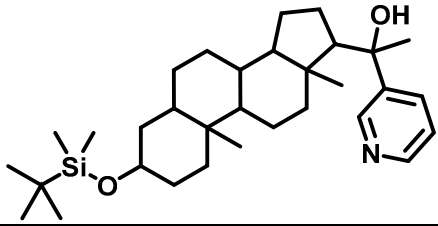
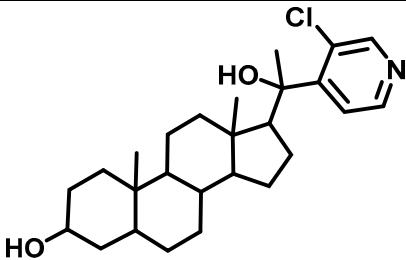
5		8.22	2
6		8.00	2
7		4.16	3
8		4.11	4
9		4.11	5
10		4.01	6
46		4.01	6

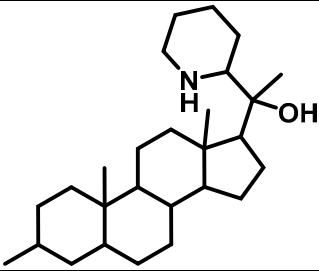
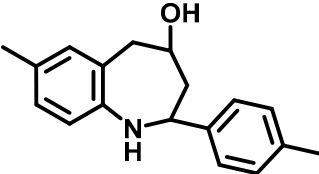
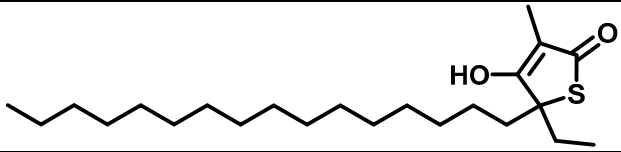
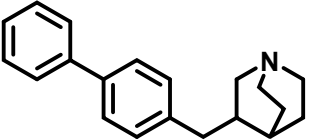
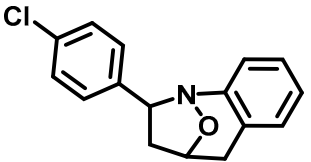
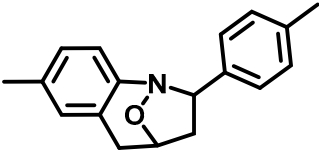
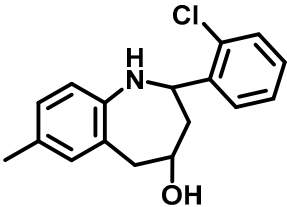
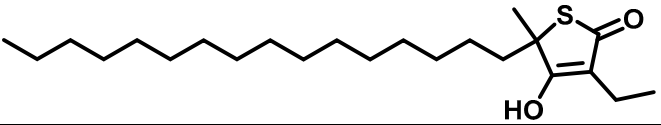
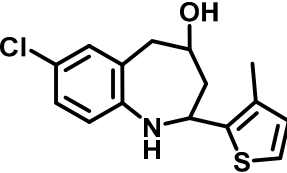
47		4.04	7
48		4.05	8
49*		4.09	9
50		4.12	10
51		4.12	11
52		4.12	12
53*		4.14	3

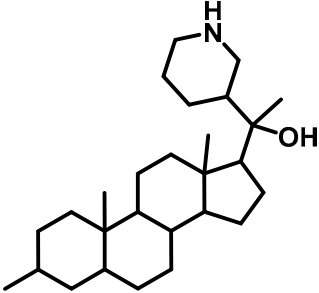
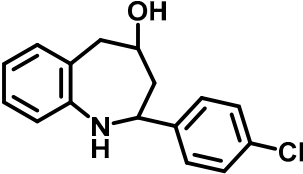
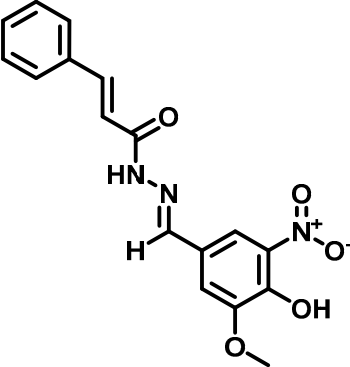
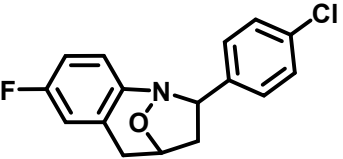
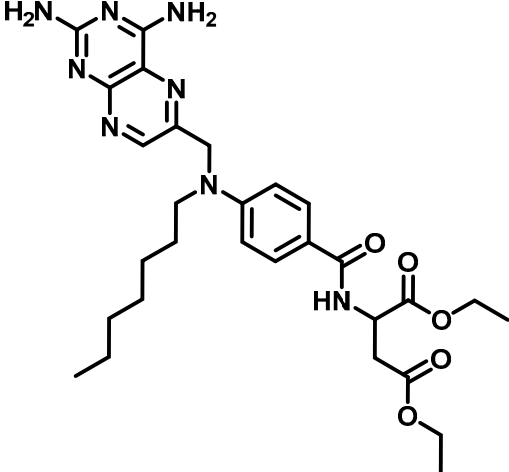
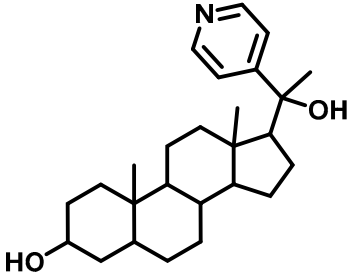
54	 <chem>COc1ccc(cc1C=NNC(=O)/C=C/c2ccccc2)O</chem>	4.14	9
55	 <chem>CCCCCN(C(=O)OP(=O)(O)OP(=O)(O)O)C(=O)OP(=O)(O)O</chem>	4.14	4
56*	 <chem>CCCCCCCCCCCC1(C)SC(=O)C=C1O</chem>	4.14	5
57	 <chem>COc1cc(OC)c(OC)c(C=NNC(=O)/C=C/c2ccccc2)c1</chem>	4.15	9
58	 <chem>Clc1ccc(Cl)c(c1)C2(O)CCc3ccccc3N2</chem>	4.16	6
59	 <chem>CC(C)=CC/C=C/C(C)C1(C)SC(=O)C=C1O</chem>	4.17	5
60	 <chem>CCCCCCCCCCCC1(C)SC(=O)C=C1O</chem>	4.17	5
61*	 <chem>CCOC1=CC=C(C=C1C(=O)CCC)OC2COCC2</chem>	4.17	13
62	 <chem>CCOC1=CC=C(C=C1C2=CC3C(C2)ON3C(=O)NO)C(=O)NO</chem>	4.18	14

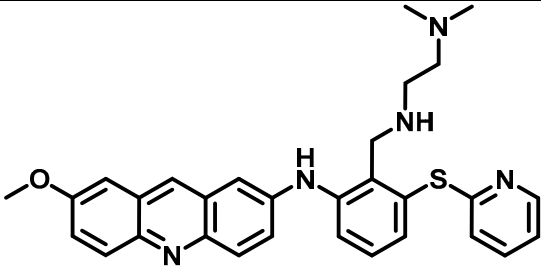
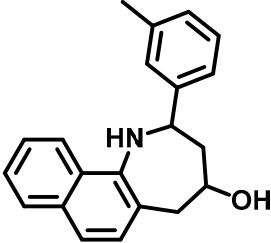
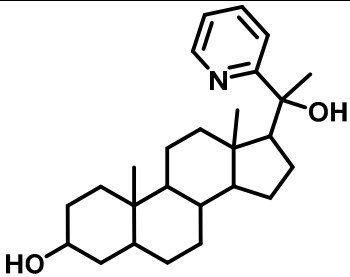
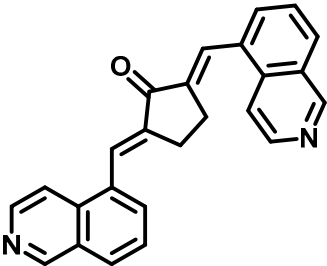
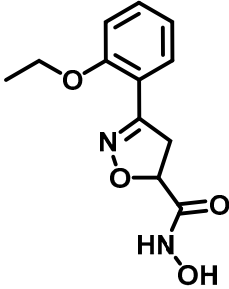
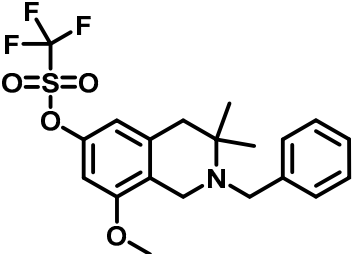
63*		4.18	15
64		4.19	16
65		4.19	16
66		4.19	5
67		4.19	17
68		4.20	12
69		4.21	9

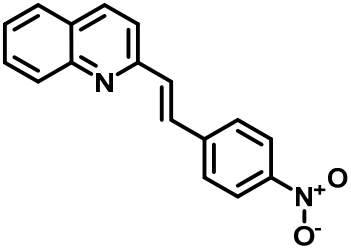
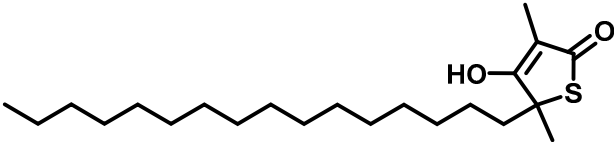
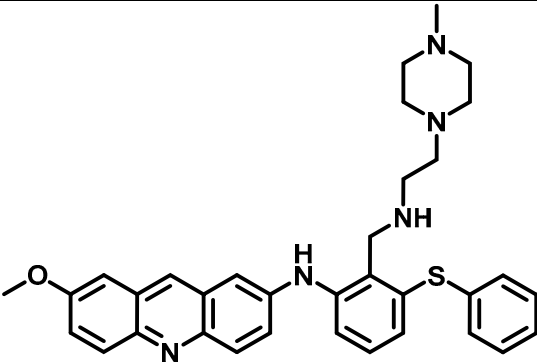
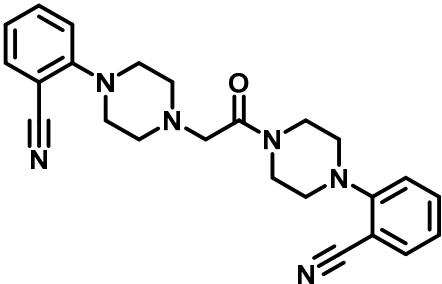
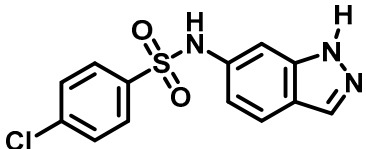
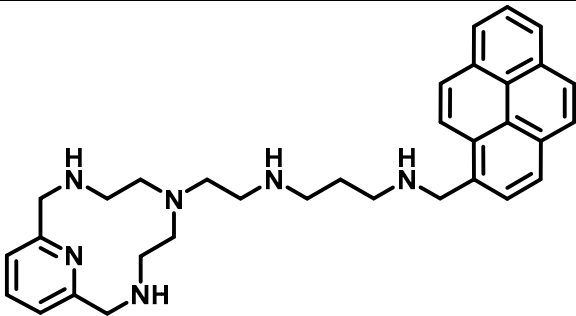
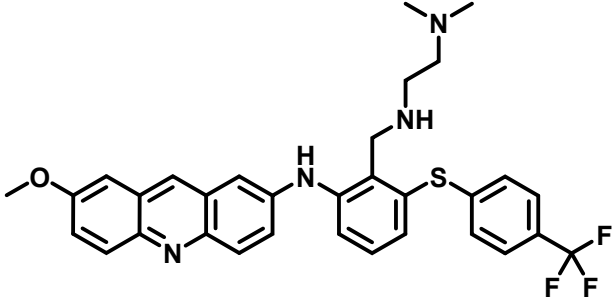
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71		4.22	6
72		4.24	19
73		4.25	5
74		4.25	6
75*		4.27	11

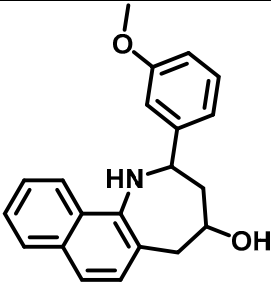
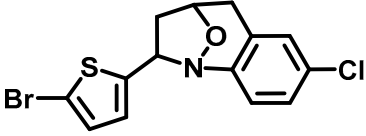
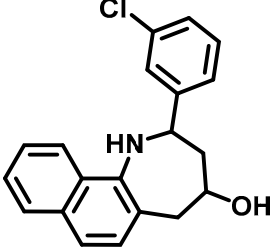
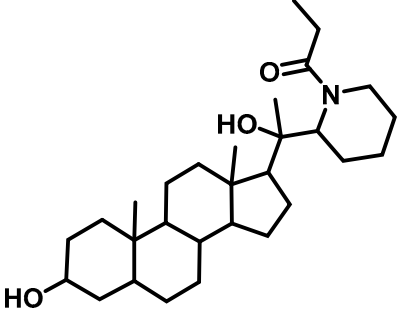
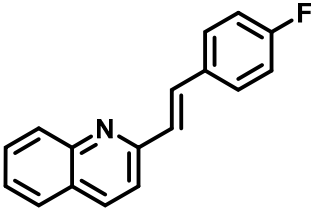
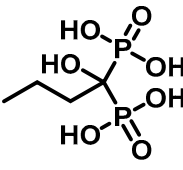
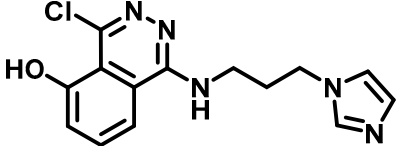
76		4.27	5
77*		4.27	15
78		4.27	18
79		4.28	11
80		4.28	6
81		4.29	17
82		4.30	17

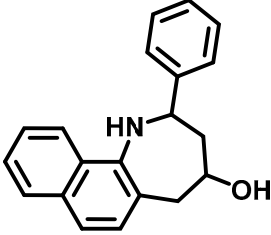
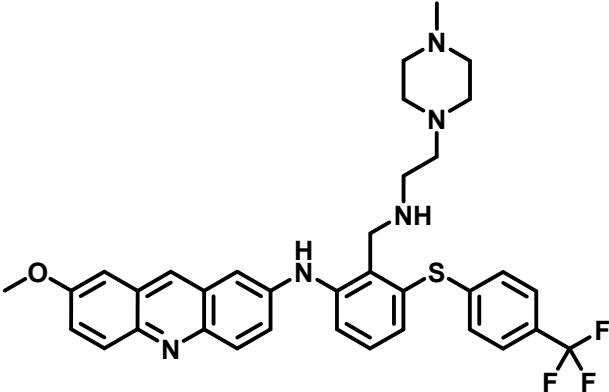
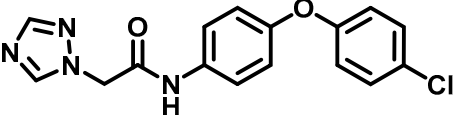
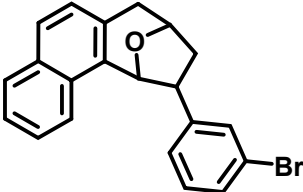
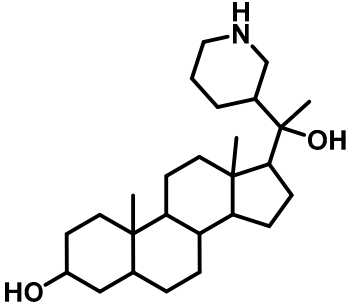
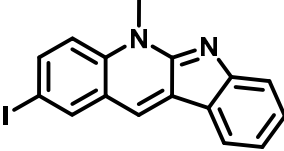
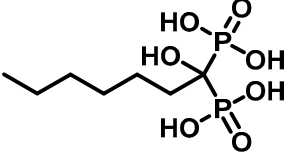
83		4.30	17
84*		4.30	6
85		4.31	5
86		4.33	20
87*		4.34	6
88		4.34	6
89		4.34	6
90*		4.37	5
91		4.38	21

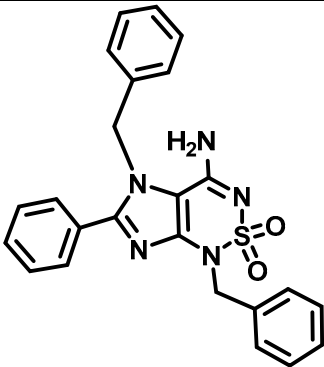
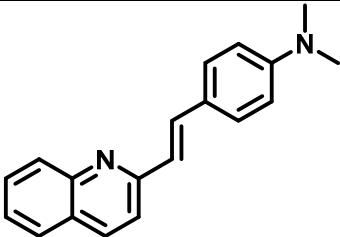
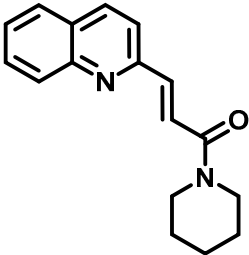
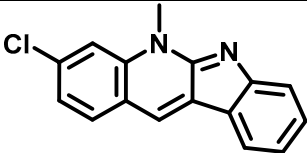
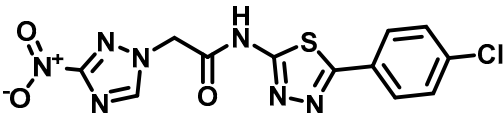
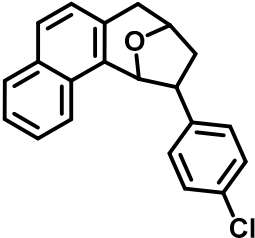
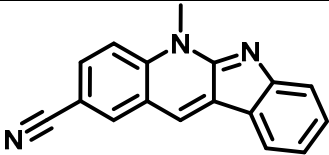
92		4.38	17
93		4.38	6
94		4.40	9
95		4.40	6
96*		4.41	18
97		4.46	17

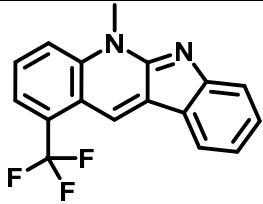
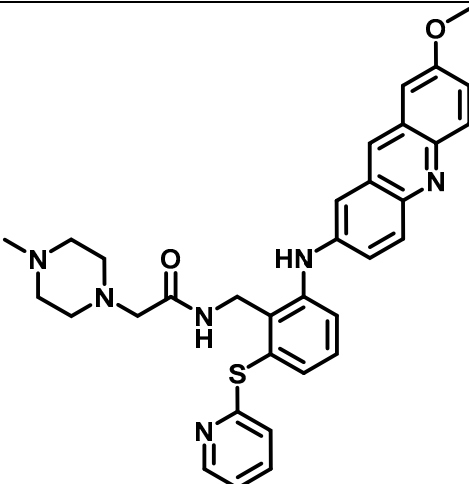
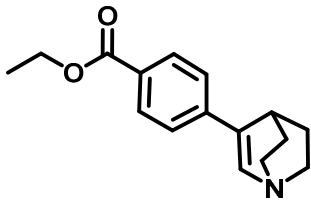
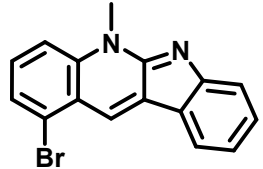
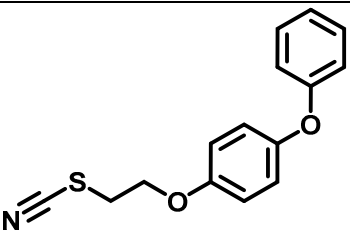
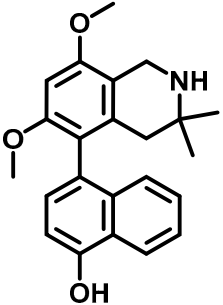
98*		4.47	19
99		4.48	8
100		4.48	17
101		4.50	3
102		4.52	14
103		4.55	12

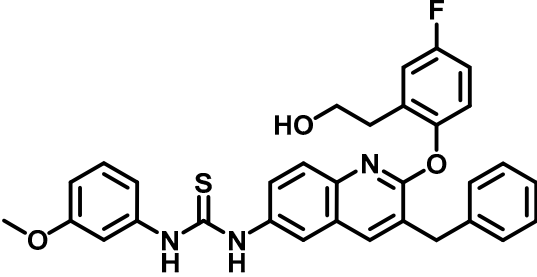
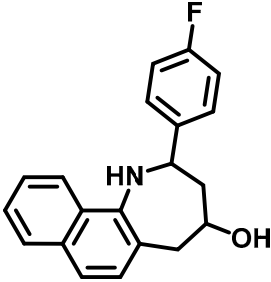
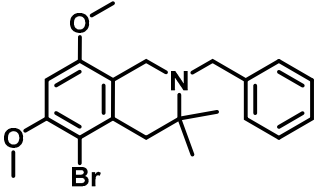
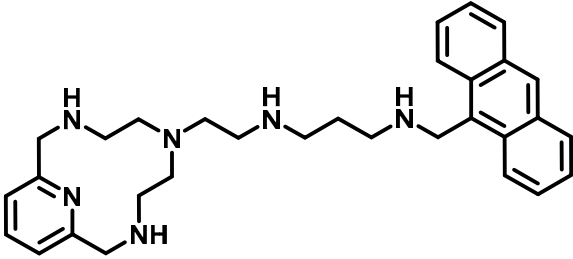
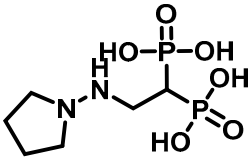
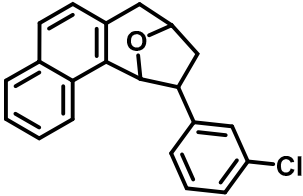
104*		4.55	22
105		4.55	5
106		4.56	19
107		4.59	23
108		4.59	10
109*		4.60	24
110		4.61	19

111		4.61	8
112*		4.62	21
113		4.63	8
114		4.64	17
115		4.66	22
116*		4.67	15
117		4.68	25

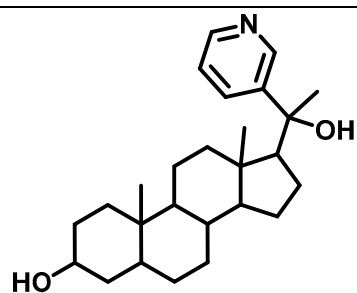
118		4.71	8
119		4.72	19
120		4.74	26
121		4.74	8
122*		4.74	17
123		4.74	27
124		4.74	15

125		4.77	28
126		4.77	22
127*		4.77	22
128		4.77	27
129		4.78	29
130		4.79	8
131*		4.79	27

132		4.79	27
133		4.80	19
134		4.80	20
135*		4.80	27
136		4.80	15
137		4.82	12

138*		4.83	16
139		4.83	8
140		4.83	12
141		4.85	24
142		4.85	30
143		4.88	8

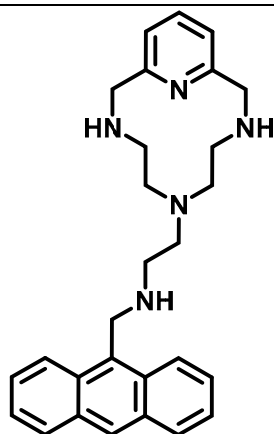
144*



4.88

17

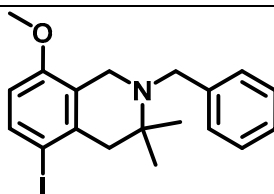
145



4.89

24

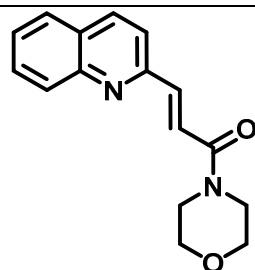
146



4.89

12

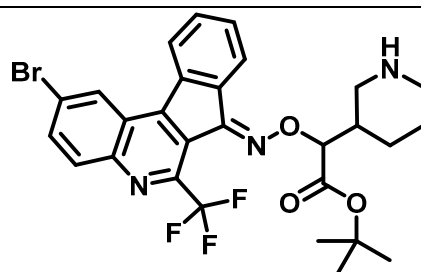
147



4.89

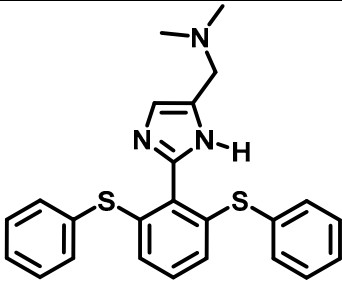
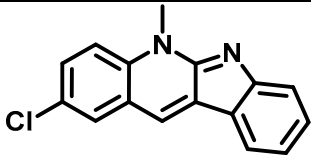
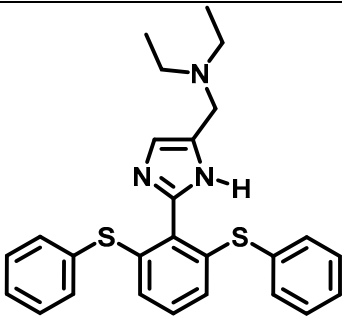
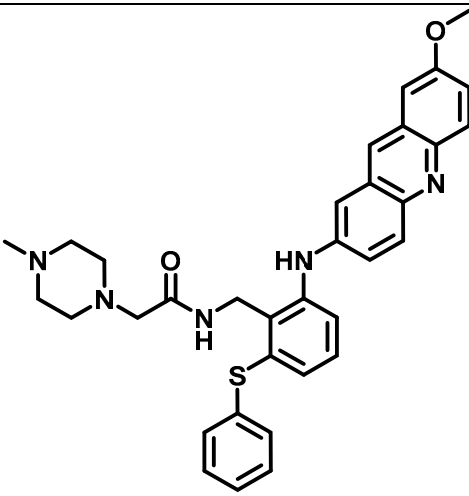
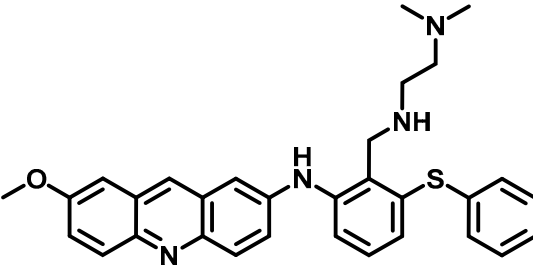
22

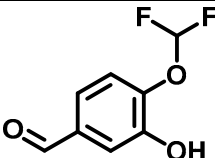
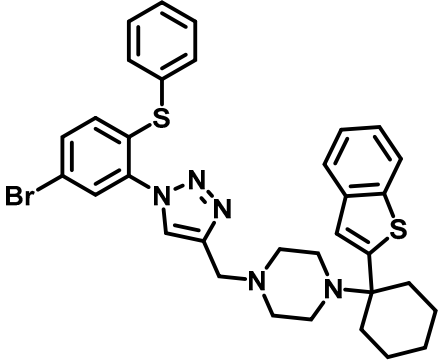
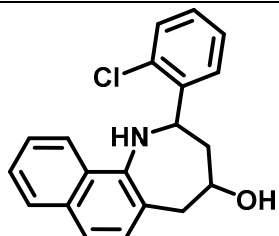
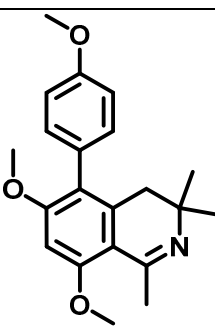
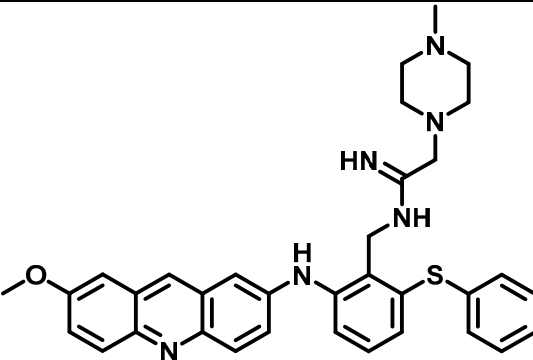
148



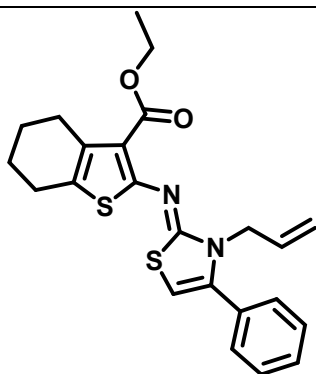
4.91

16

149		4.91	11
150*		4.92	27
151*		4.94	11
152		4.95	19
153		4.95	19

154		4.96	13
155*		4.97	11
156		4.97	8
157		4.97	12
158		4.99	19

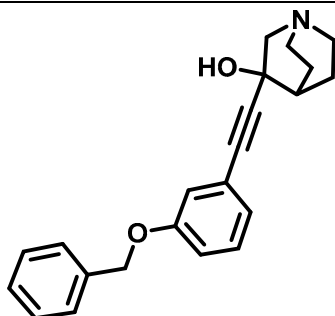
166*



5.01

31

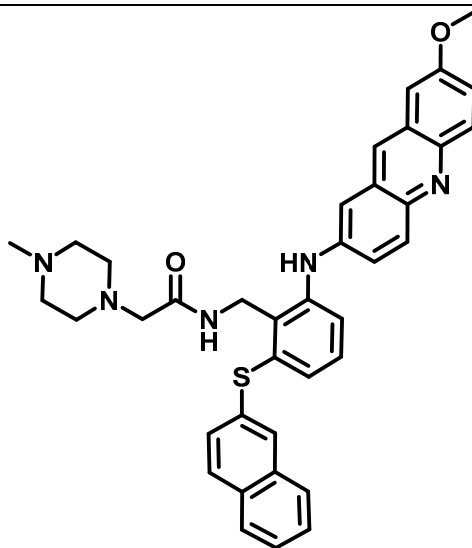
167



5.02

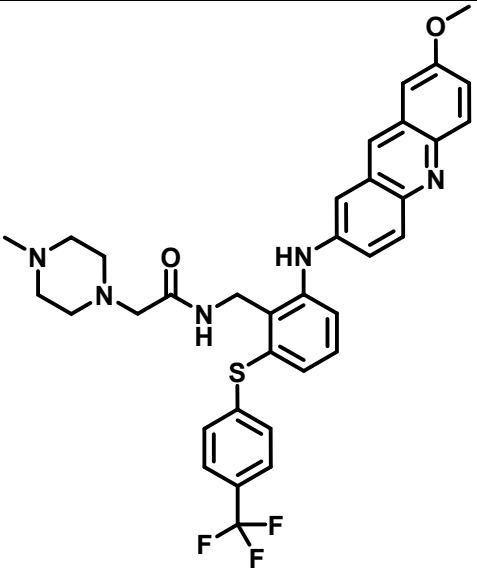
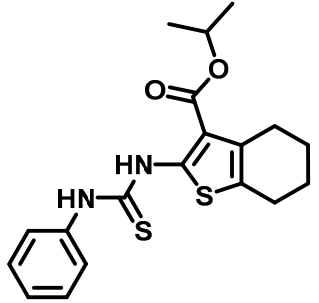
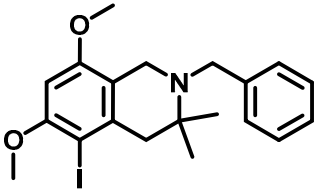
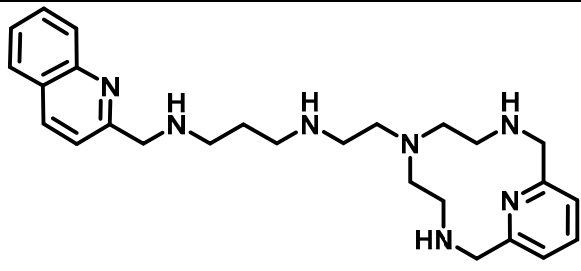
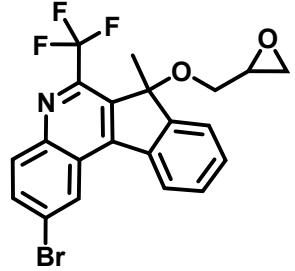
20

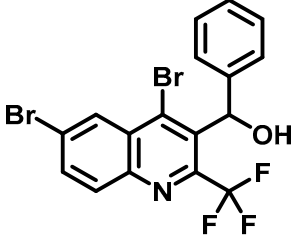
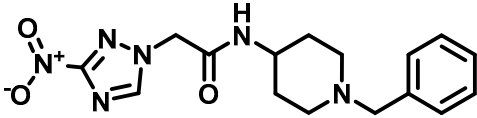
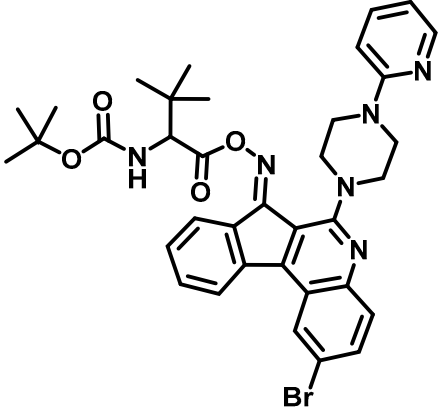
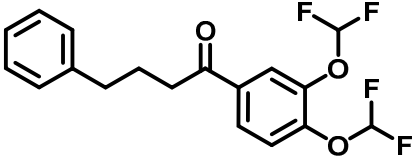
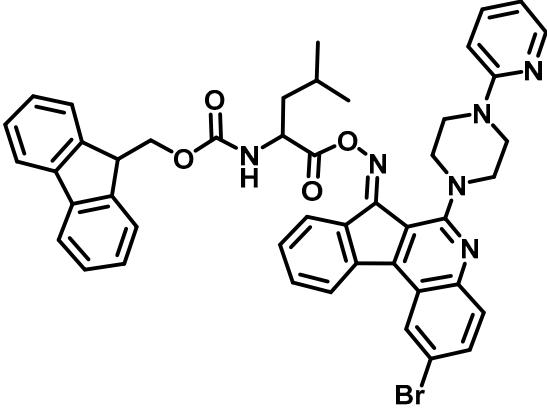
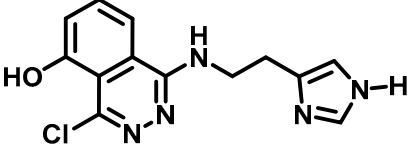
168



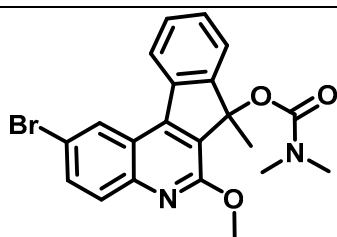
5.03

19

169		5.03	19
170*		5.06	31
171		5.07	12
172		5.08	24
173		5.08	16

174*		5.09	16
175		5.10	26
176		5.10	16
177		5.11	13
178*		5.12	16
179		5.13	25

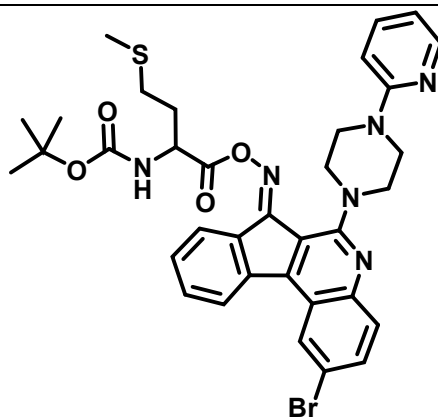
180



5.13

16

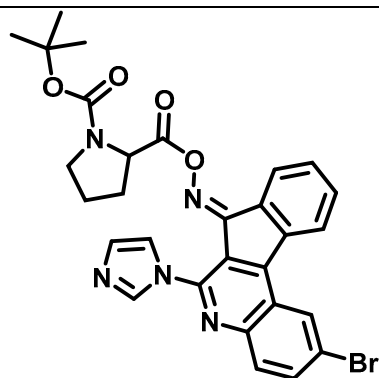
181



5.13

16

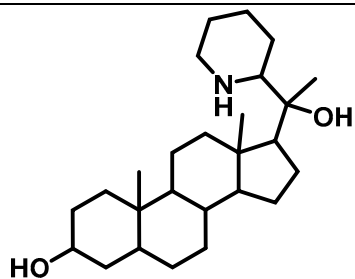
182



5.13

16

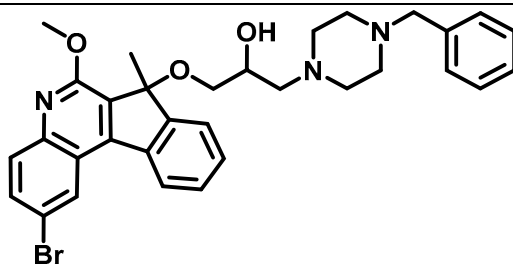
183



5.13

17

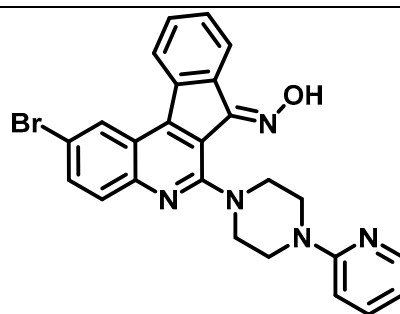
184*



5.14

16

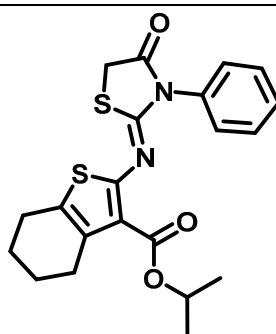
185



5.15

16

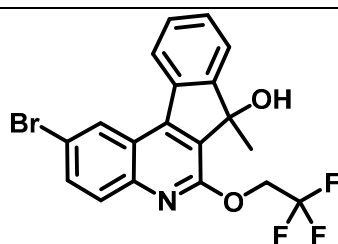
186



5.16

31

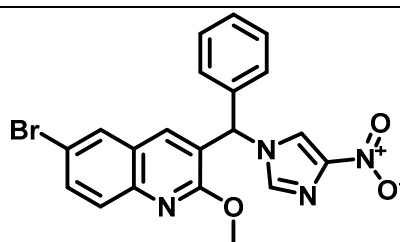
187*



5.16

16

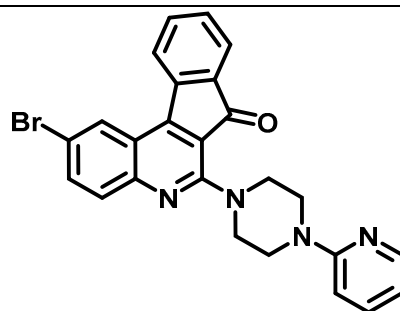
188



5.16

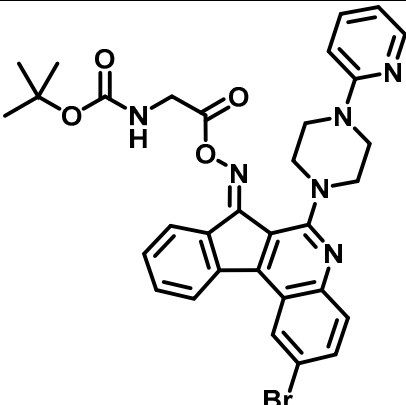
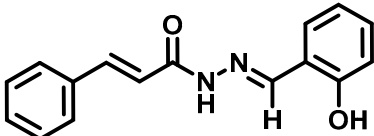
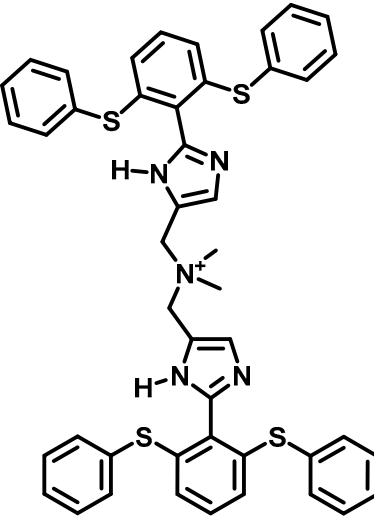
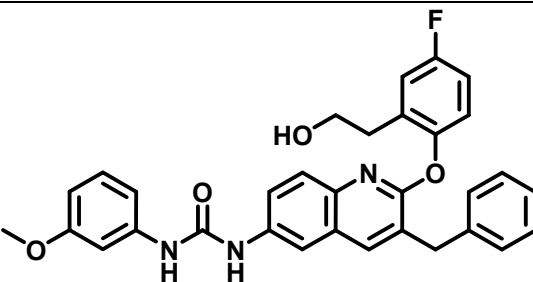
16

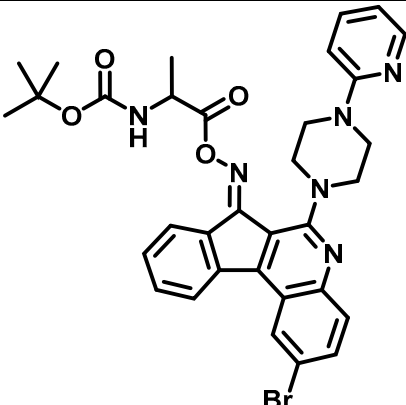
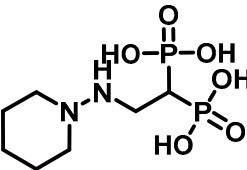
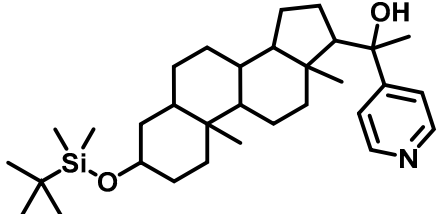
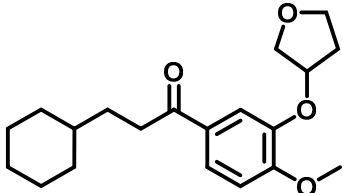
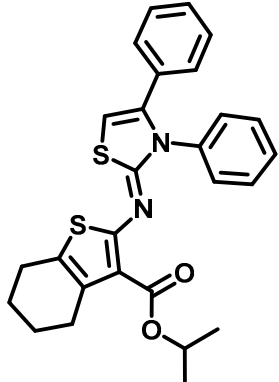
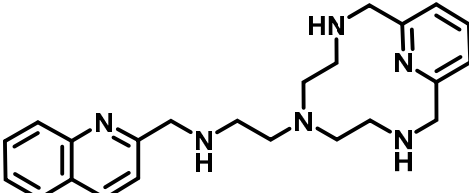
189

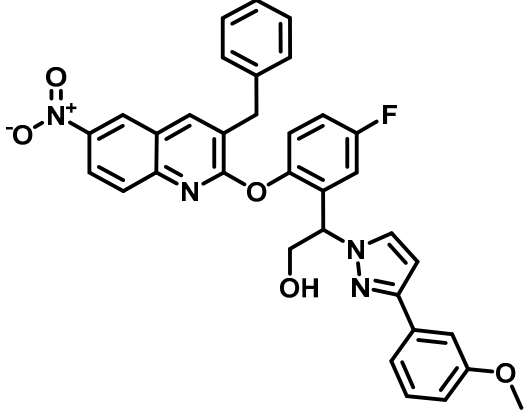
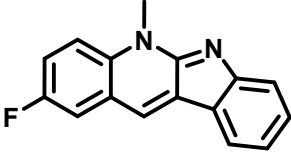
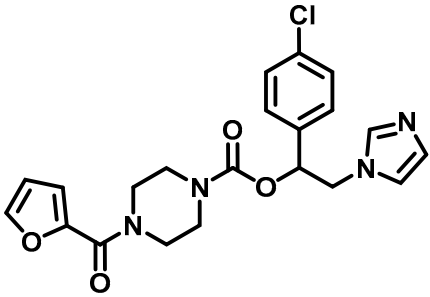
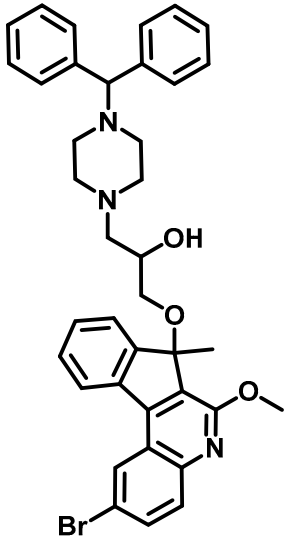
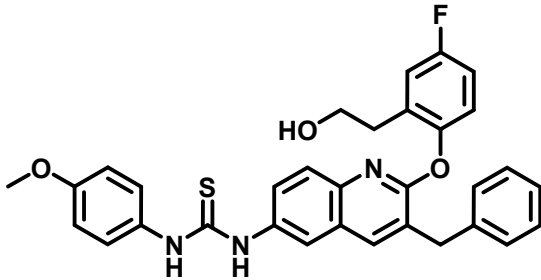


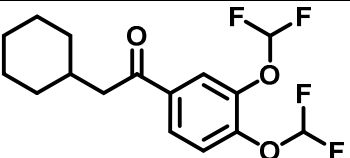
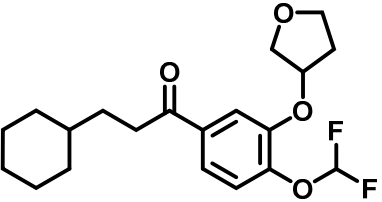
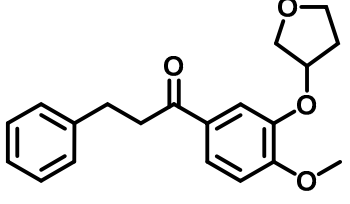
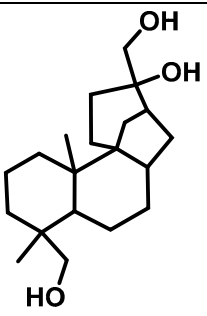
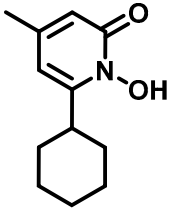
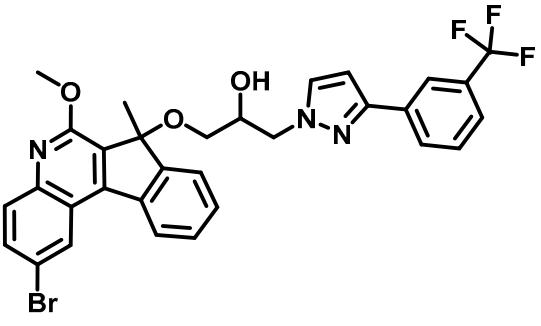
5.16

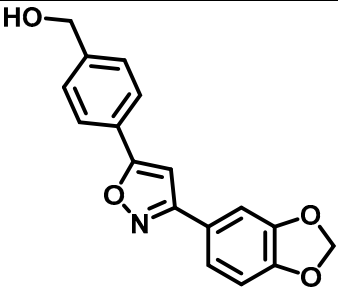
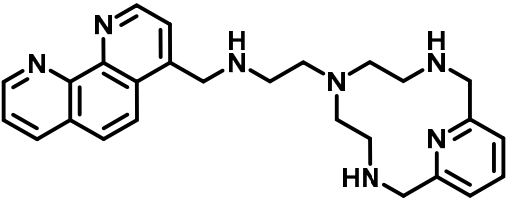
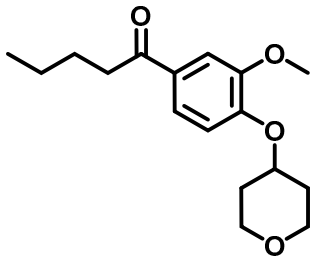
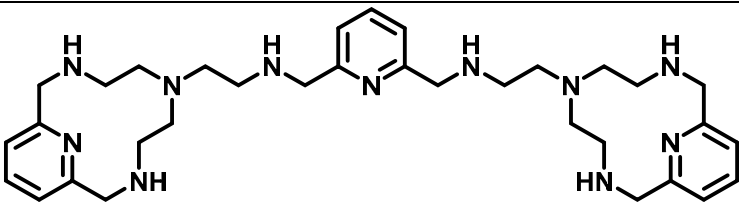
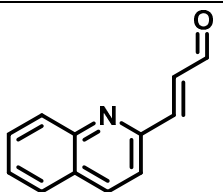
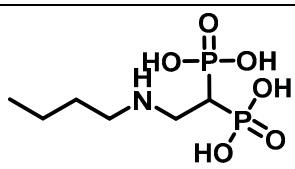
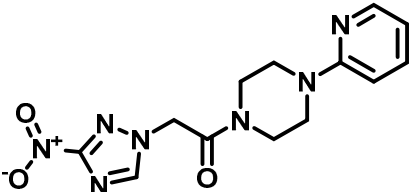
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190*		5.17	16
191		5.18	9
192		5.20	11
193		5.21	16

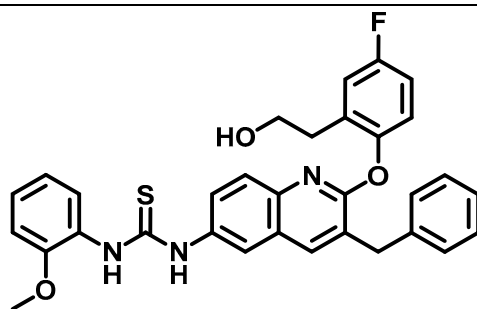
194		5.21	16
195*		5.21	30
196		5.21	17
197		5.21	13
198		5.22	31
199		5.22	24

200		5.22	16
201*		5.22	27
202		5.23	32
203		5.23	16
204		5.24	16

205		5.24	13
206		5.24	13
207*		5.25	13
208		5.26	33
209		5.27	7
210*		5.27	16

211		5.28	7
212		5.28	24
213*		5.28	13
214		5.29	24
215		5.30	22
216		5.32	30
217		5.33	23

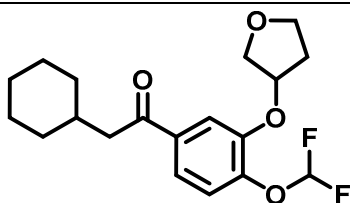
218*



5.36

15

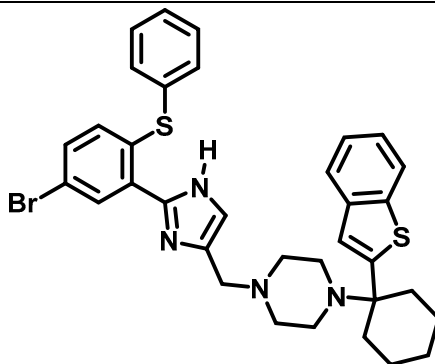
219



5.36

13

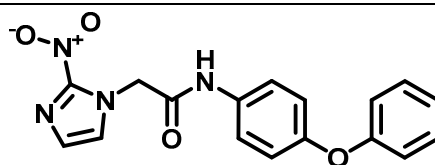
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5.37

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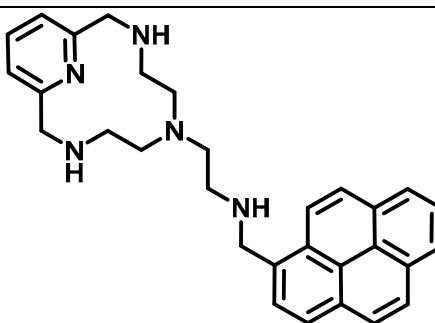
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5.38

26

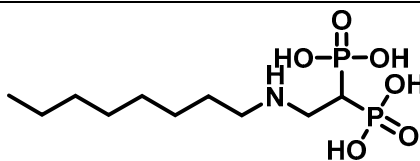
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5.38

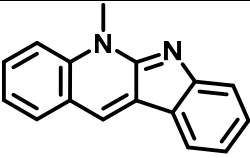
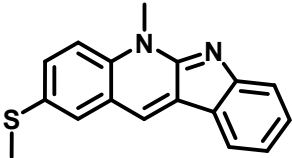
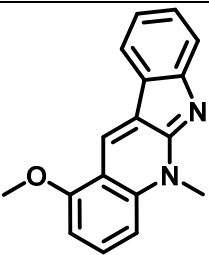
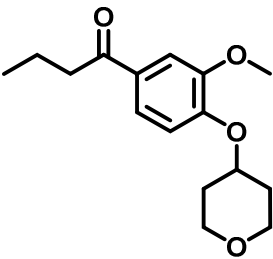
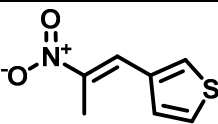
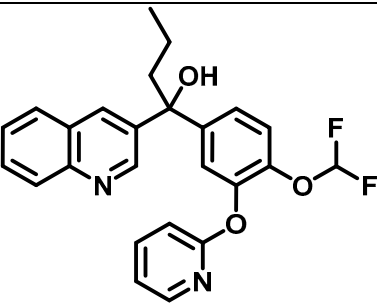
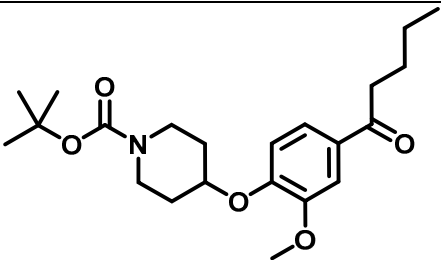
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223

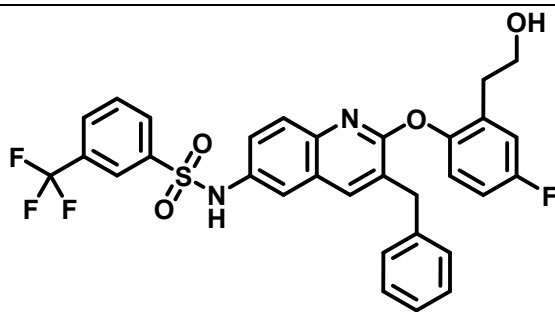


5.39

30

224*		5.40	27
225		5.40	27
226*		5.40	27
227		5.40	13
228		5.41	34
229		5.42	13
230		5.42	13

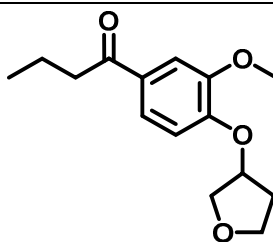
231



5.43

16

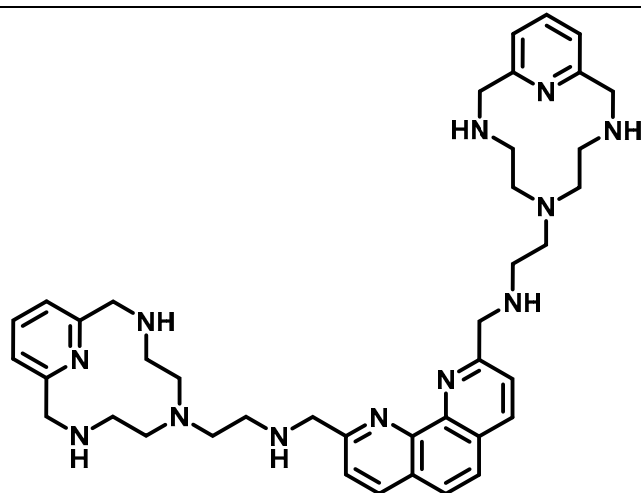
232*



5.43

13

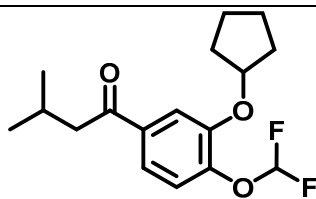
233



5.44

24

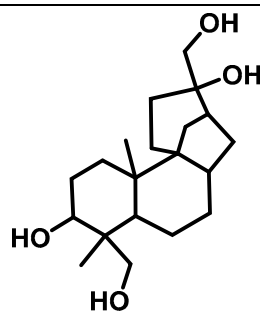
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5.44

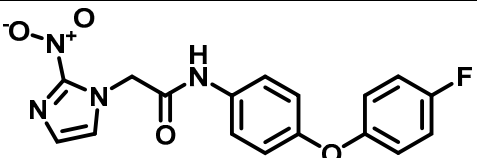
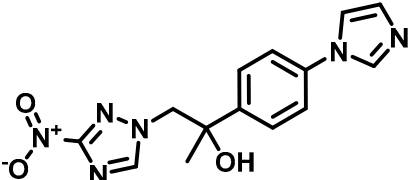
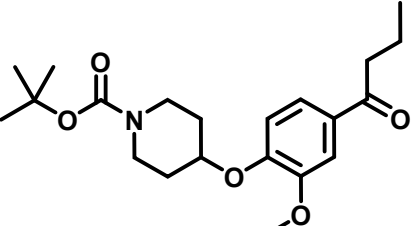
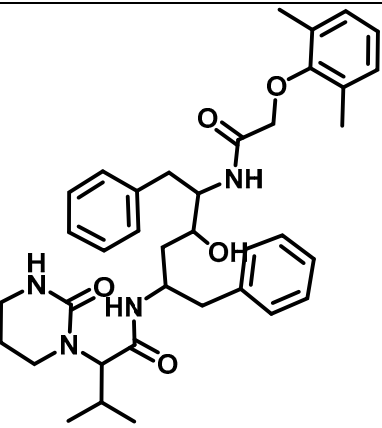
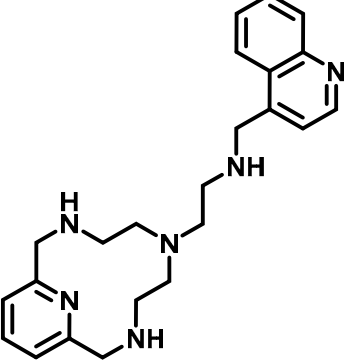
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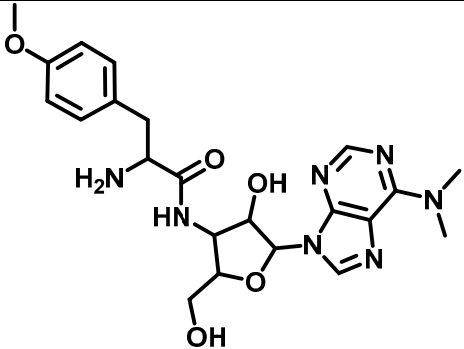
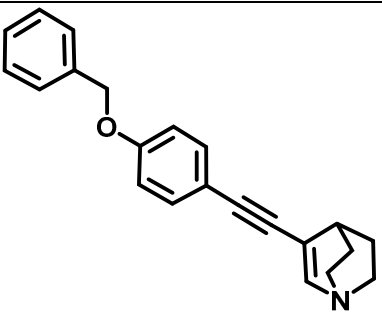
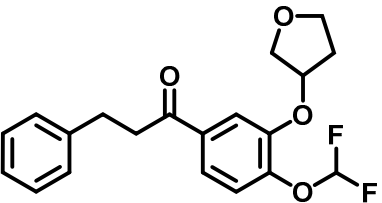
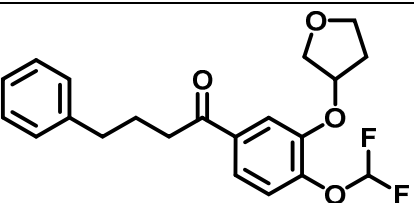
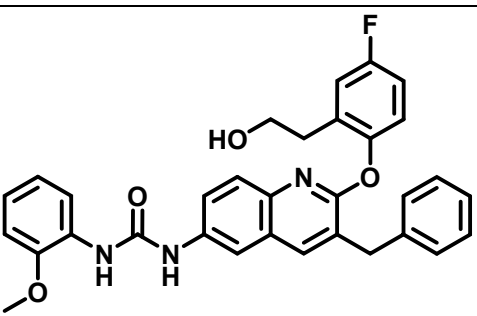
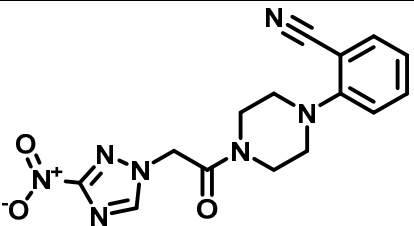
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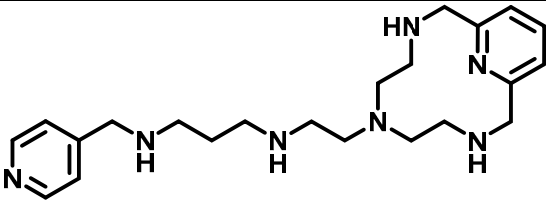
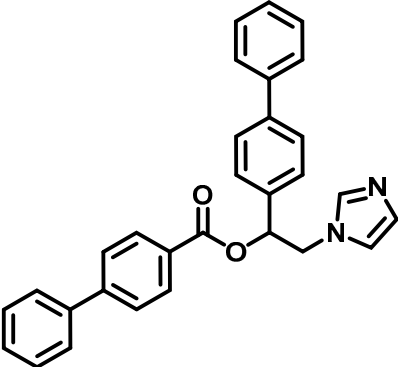
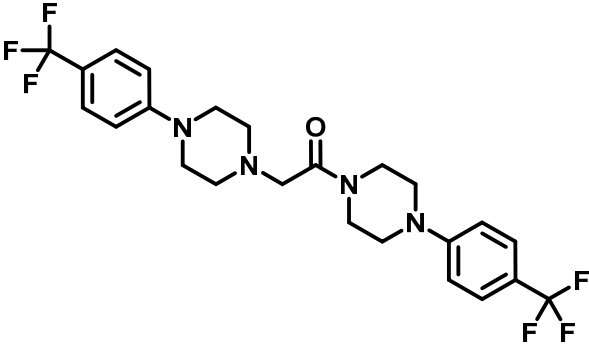
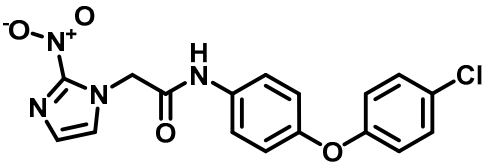
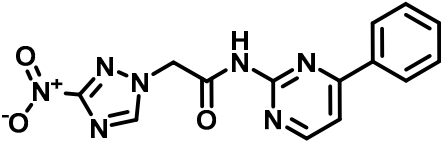
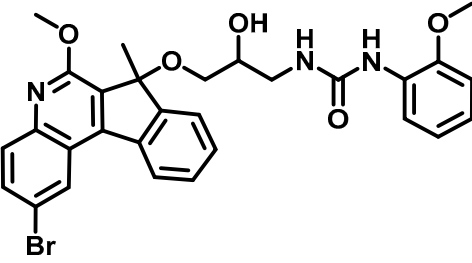


5.46

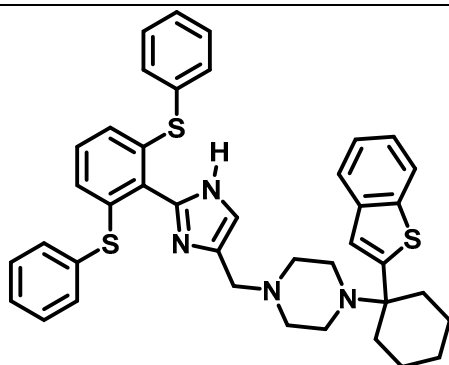
33

236*		5.48	26
237		5.48	29
238		5.48	13
239		5.49	35
240		5.49	24

241*		5.50	36
242		5.51	20
243		5.51	13
244		5.51	13
245*		5.54	16
246		5.55	23

247*		5.55	24
248		5.57	32
249		5.57	23
250		5.59	26
251*		5.60	26
252		5.60	16

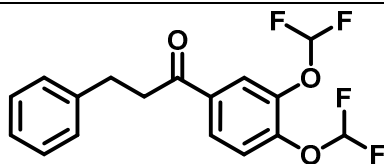
258*



5.63

11

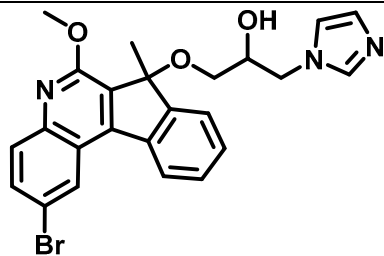
259



5.64

13

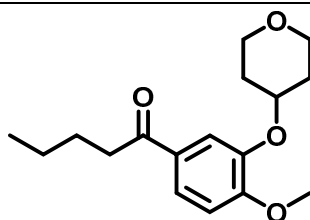
260



5.67

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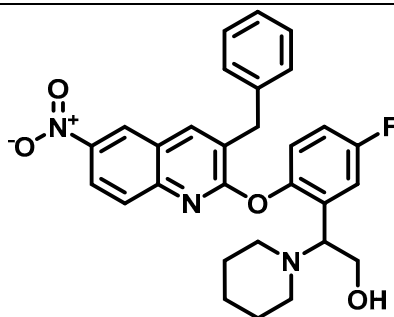
261



5.68

13

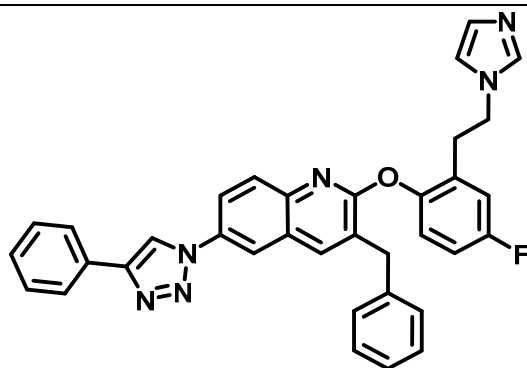
262



5.70

16

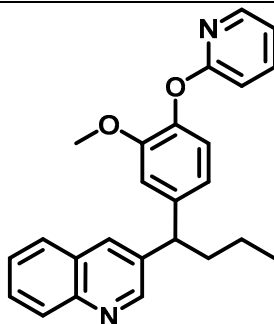
263*



5.71

16

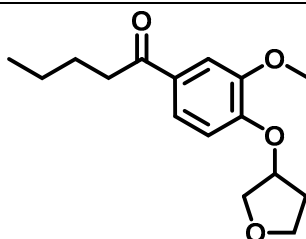
264



5.72

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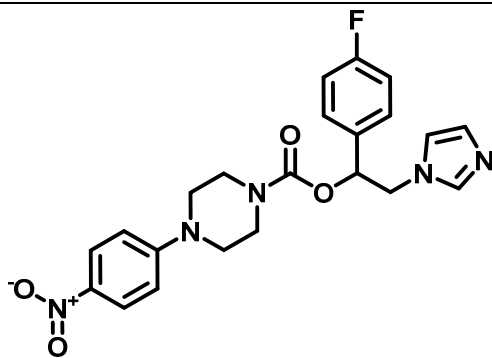
265



5.74

13

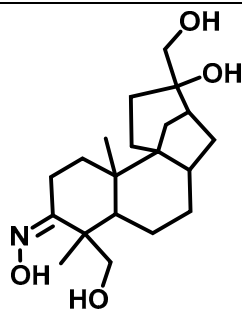
266*



5.77

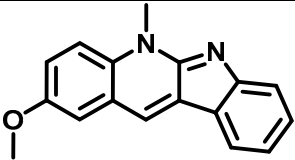
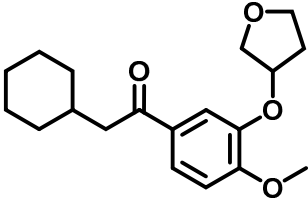
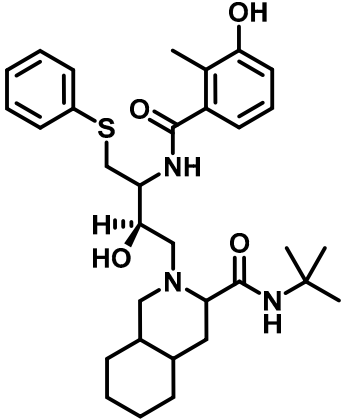
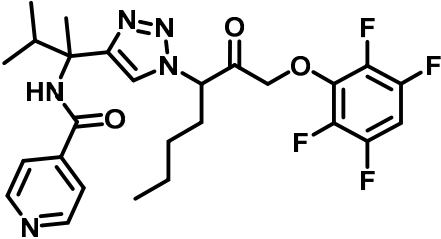
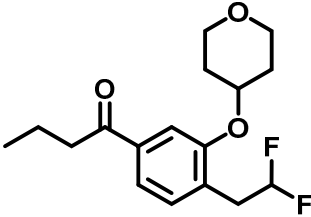
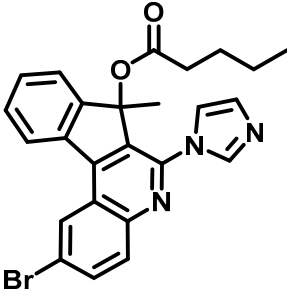
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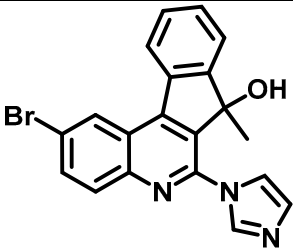
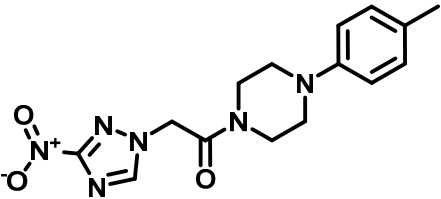
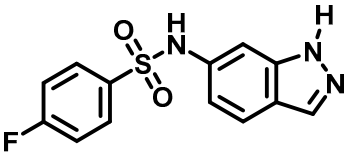
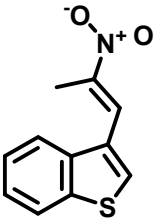
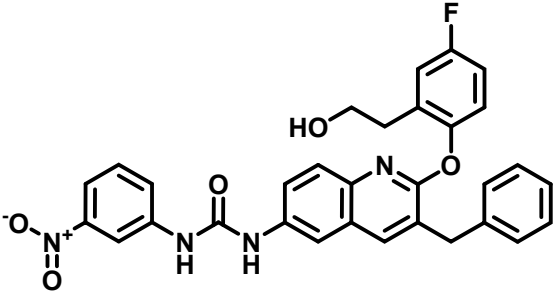
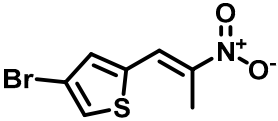
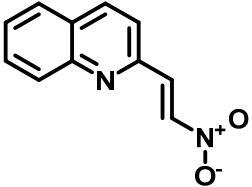
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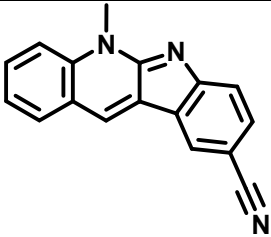
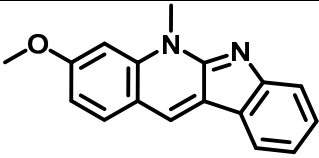
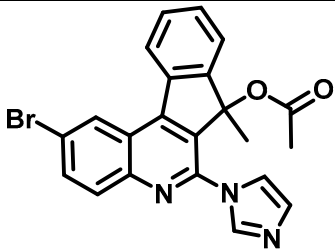
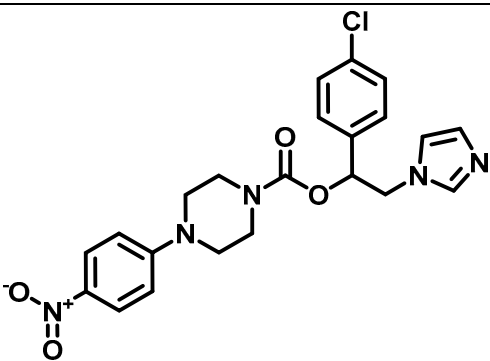
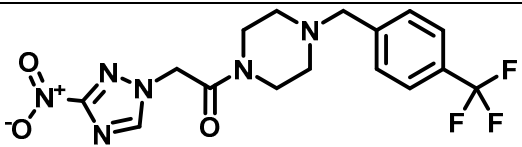
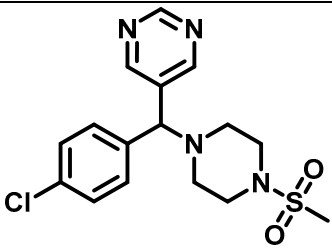
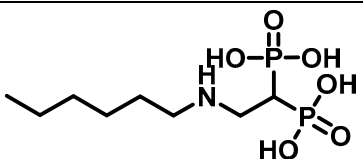


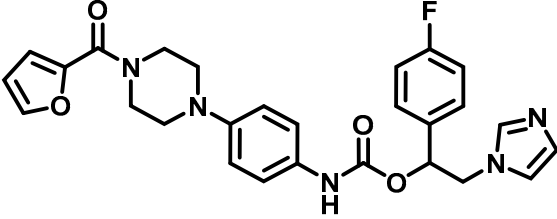
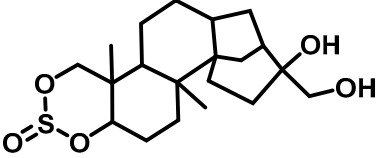
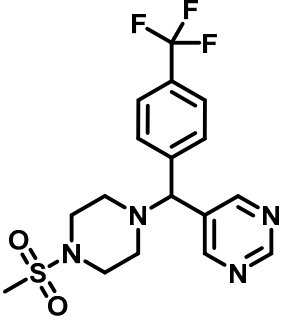
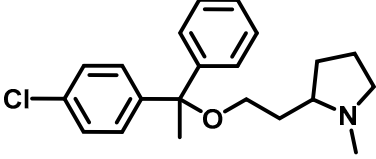
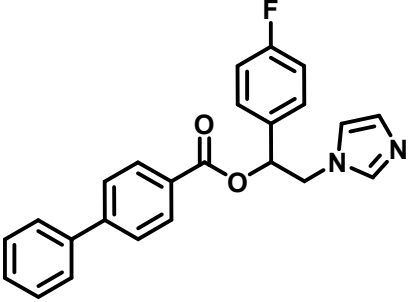
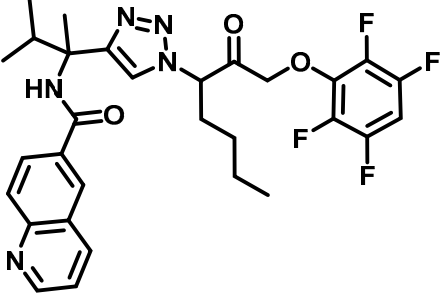
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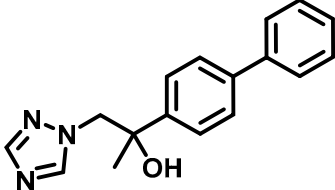
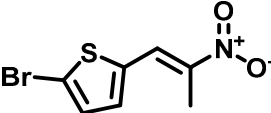
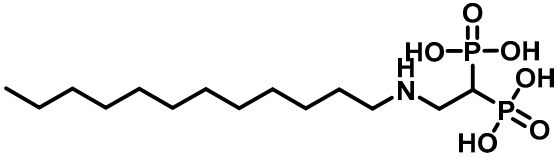
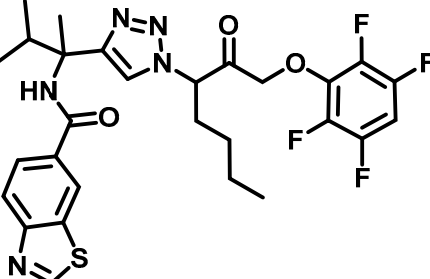
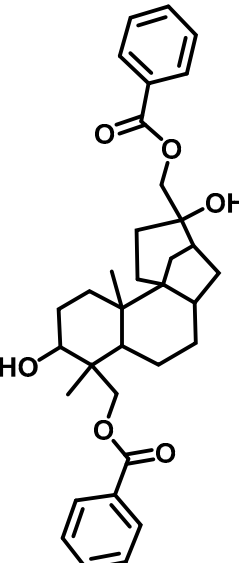
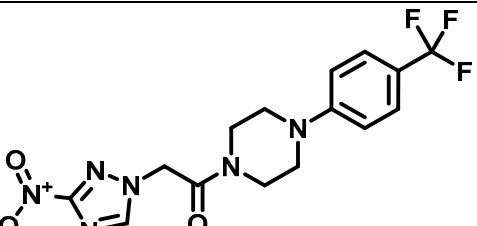
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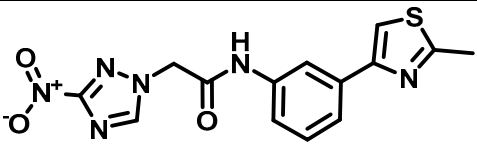
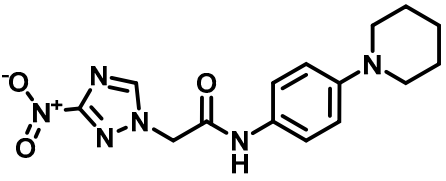
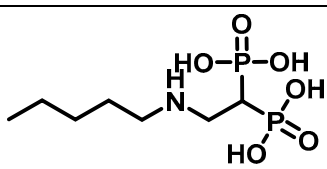
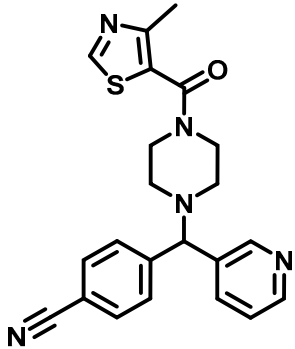
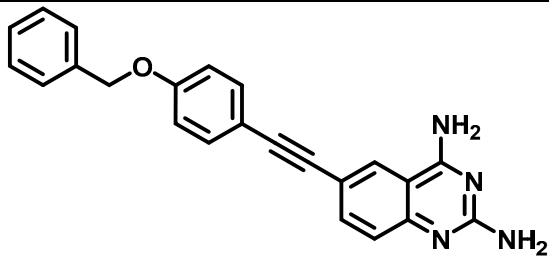
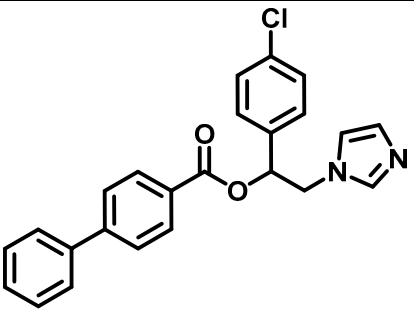
268		5.77	27
269*		5.77	13
270		5.80	35
271		5.80	1
272		5.80	13
273*		5.84	16

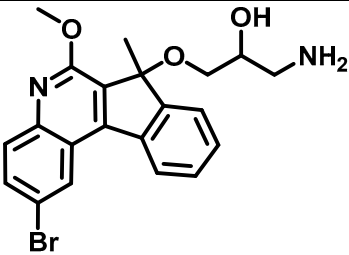
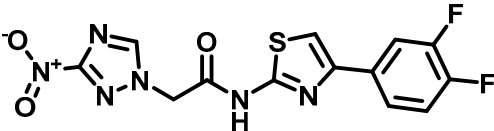
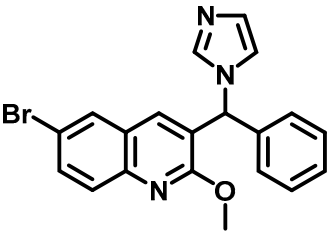
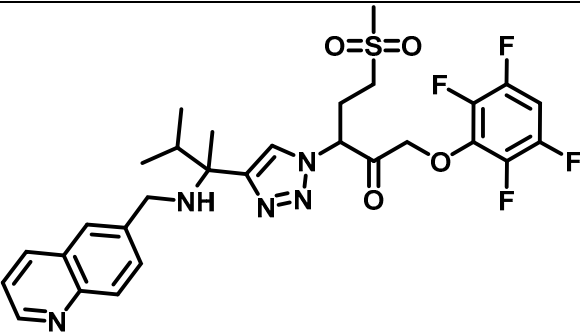
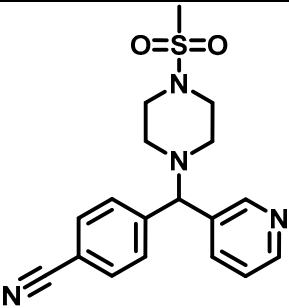
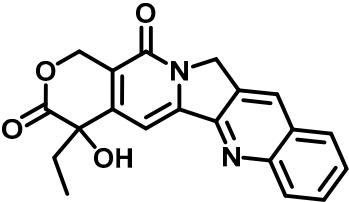
274		5.86	16
275		5.88	23
276		5.89	10
277		5.89	34
278		6.00	16
279		6.00	34
280		6.00	22

281*		6.00	27
282		6.00	27
283*		6.03	16
284		6.06	32
285**		6.06	23
286		6.06	2
287		6.08	30

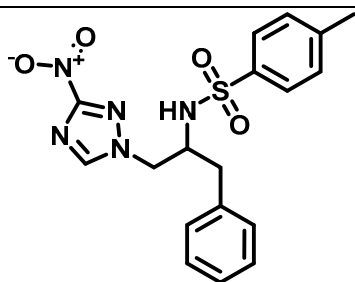
288*		6.10	32
289		6.11	33
290		6.11	2
291		6.12	36
292*		6.15	32
293		6.15	1

294		6.15	29
295		6.15	34
296*		6.17	38
297		6.19	1
298		6.22	33
299		6.22	23

300		6.26	29
301*		6.26	29
302		6.27	30
303		6.29	2
304		6.30	39
305		6.32	32

306		6.33	16
307*		6.34	29
308		6.34	16
309*		6.42	1
310		6.44	2
311		6.47	36

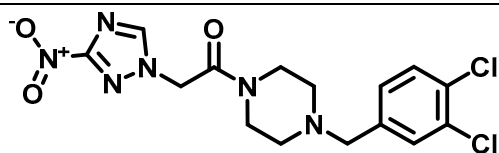
312



6.47

29

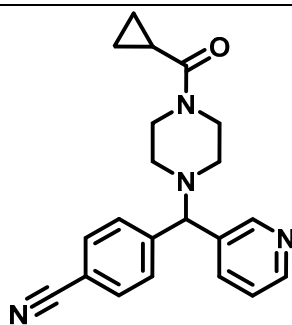
313*



6.53

23

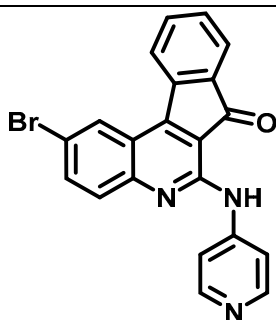
314



6.55

2

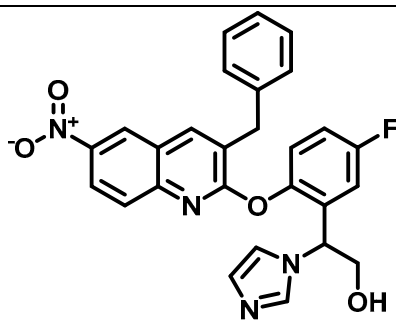
315



6.60

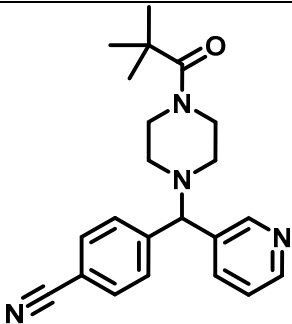
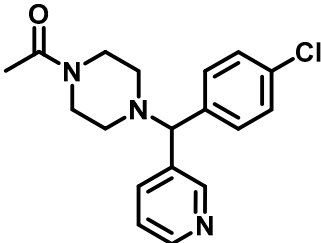
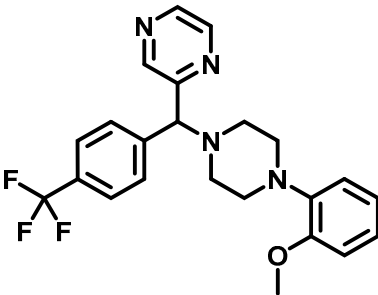
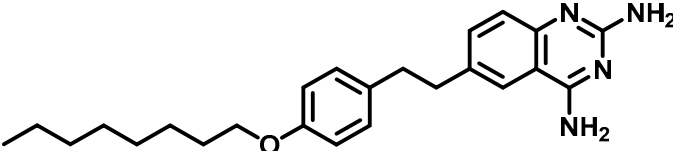
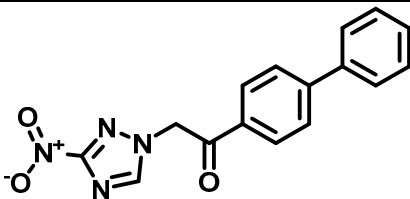
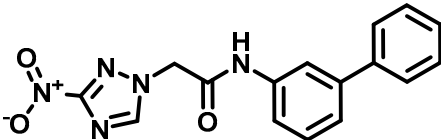
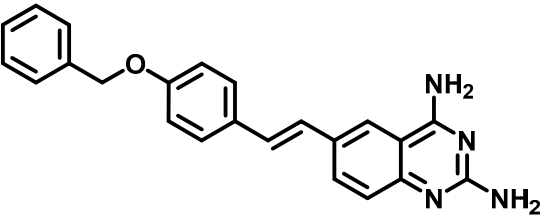
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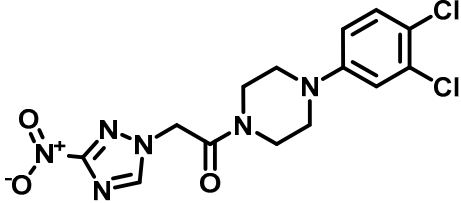
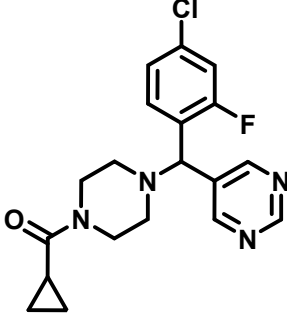
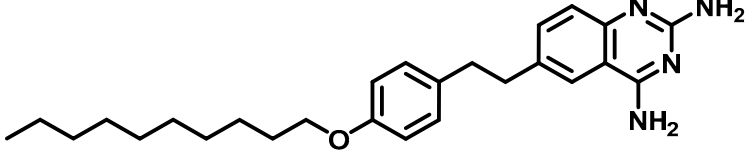
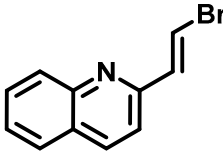
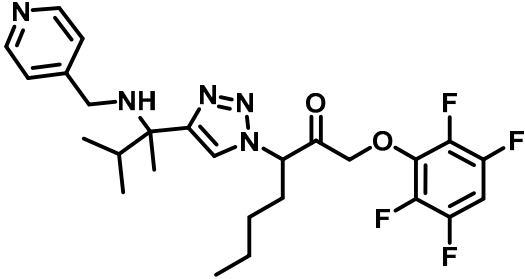
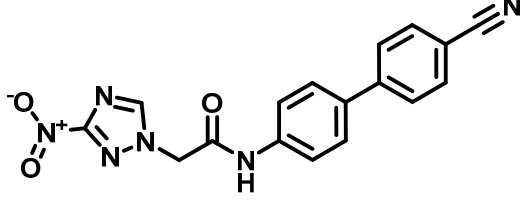
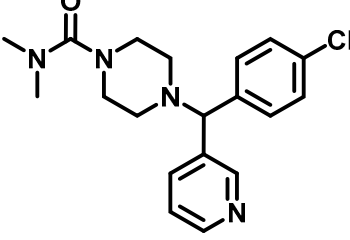
316

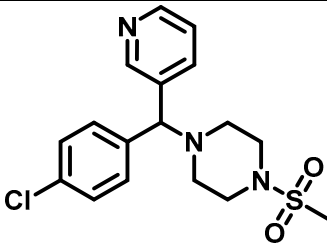
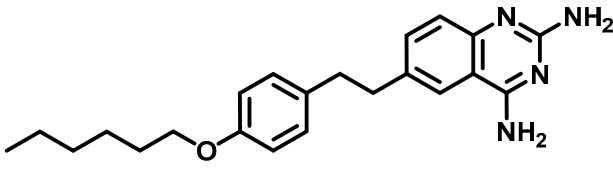
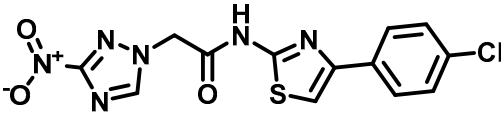
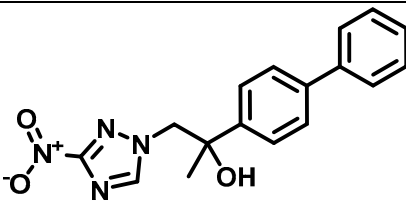
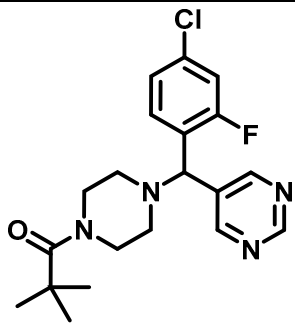
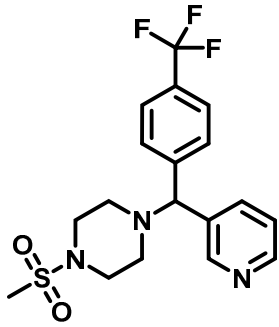


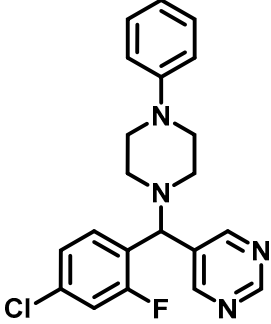
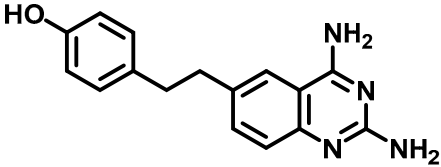
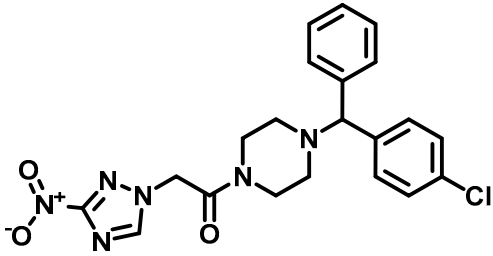
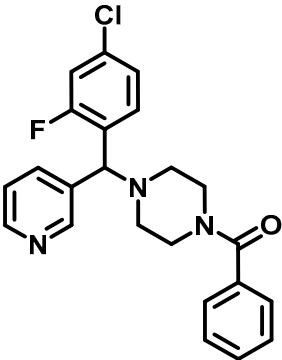
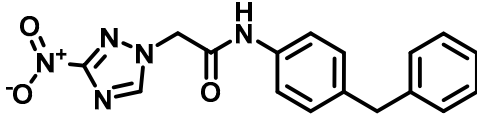
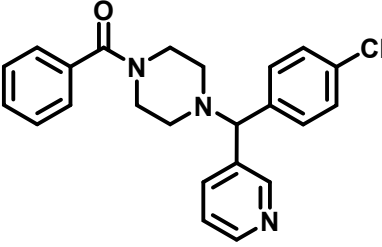
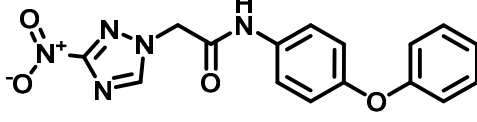
6.60

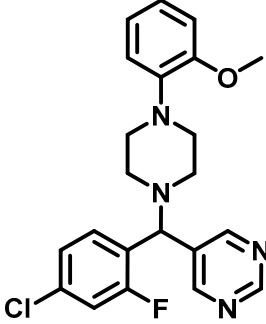
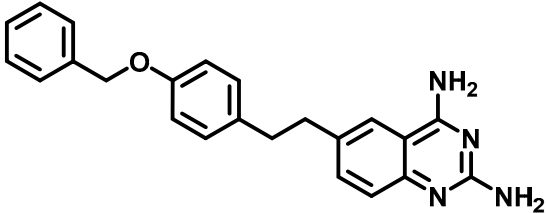
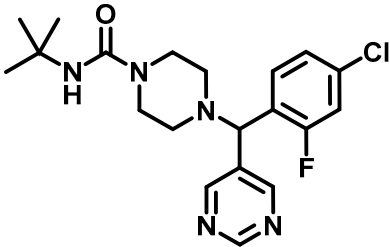
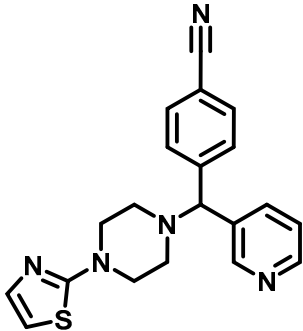
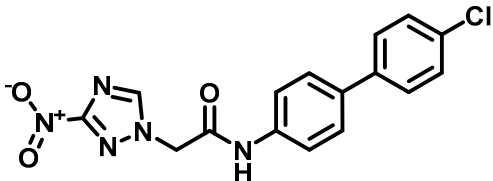
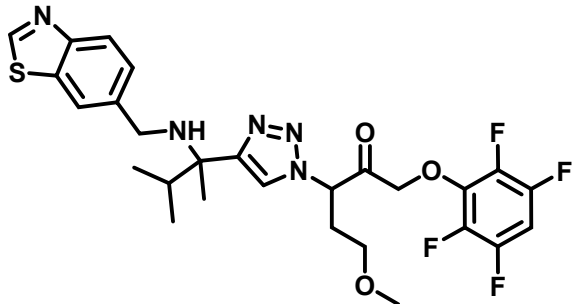
16

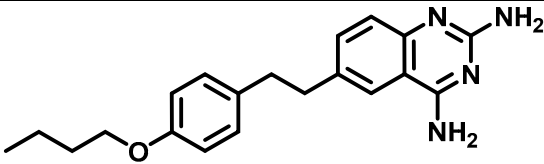
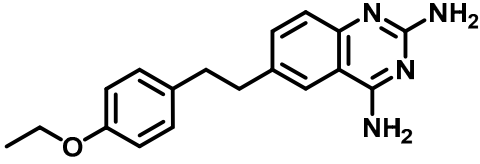
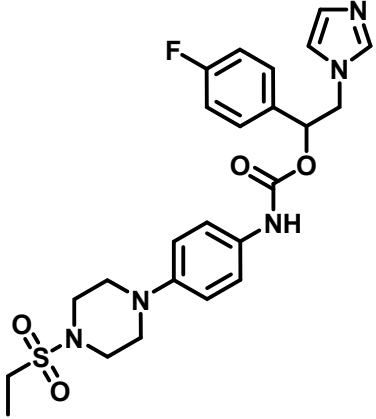
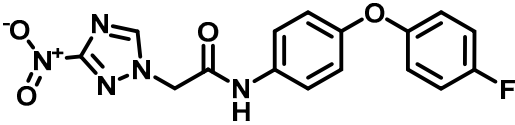
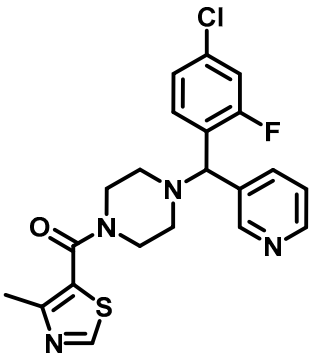
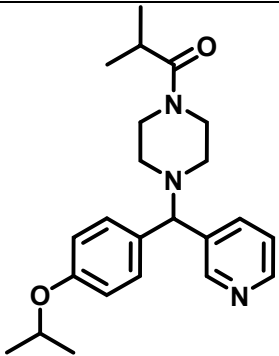
317*		6.60	2
318		6.62	2
319		6.62	2
320		6.66	39
321*		6.73	29
322		6.74	26
323		6.74	39

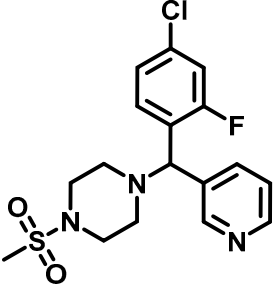
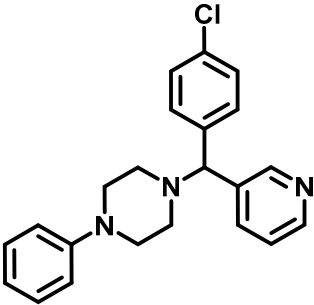
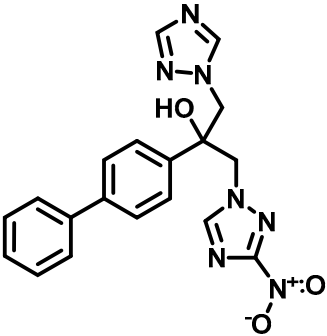
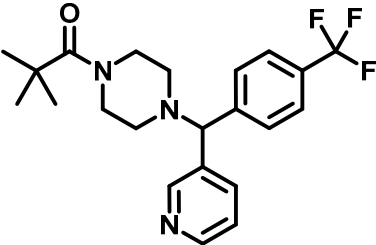
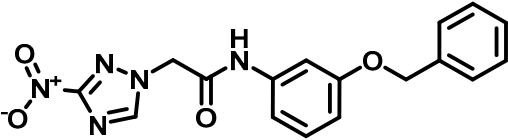
324		6.77	23
325		6.77	2
326*		6.82	39
327		6.82	22
328		6.84	1
329		6.86	29
330		6.92	2

331*		6.96	2
332		6.96	39
333		6.99	29
334		6.99	29
335		7.09	2
336		7.11	2

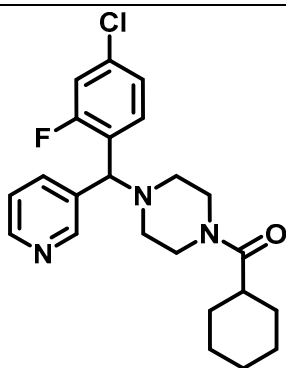
337*		7.11	2
338		7.11	39
339		7.14	23
340		7.15	2
341*		7.17	26
342		7.17	2
343**		7.19	26

344**	 <chem>COc1ccc(cc1)N2CCN(C2C3=CC=C(C=C3)c4cc(F)cc(Cl)c4)c5ccncc5</chem>	7.19	2
345**	 <chem>Nc1nc(N)c2ccc(cc2c1)CCc3ccc(OCCc4ccccc4)cc3</chem>	7.23	39
346*	 <chem>CC(C)(C)NC(=O)N1CCN(C1C2=CC=C(C=C2)c3cc(F)cc(Cl)c3)c4ccncc4</chem>	7.27	2
347	 <chem>N#Cc1ccc(cc1)C2C3=CC=CC=C3N2Cc4c[nH]s4</chem>	7.30	2
348*	 <chem>O=[N+]([O-])c1nn[nH]1CC(=O)Nc2ccc(cc2)-c3ccc(Cl)cc3</chem>	7.35	29
349**	 <chem>COCC(=O)C1=NN=C(C1C(C)(C)C)NCc2ccc3c(c2)sc[nH]3</chem>	7.36	1

350**		7.38	39
351		7.39	39
352**		7.40	32
353*		7.44	26
354**		7.44	2
355		7.46	2

356		7.46	2
357		7.47	2
358*		7.48	29
359		7.52	2
360**		7.55	26

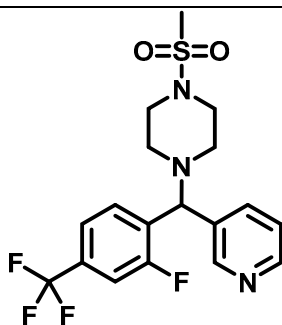
361**



7.55

2

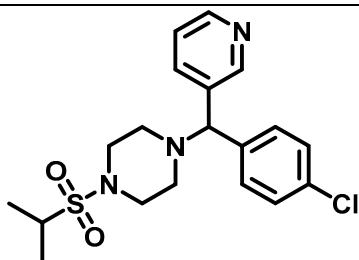
362*



7.55

2

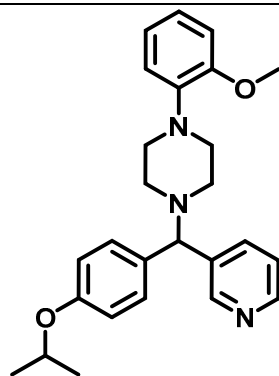
363



7.55

2

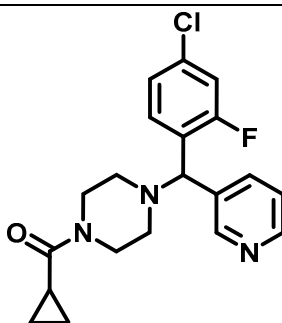
364



7.55

2

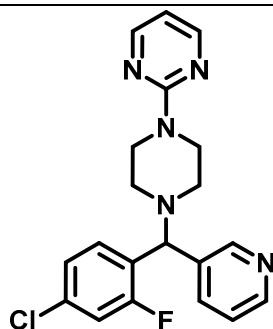
365



7.59

2

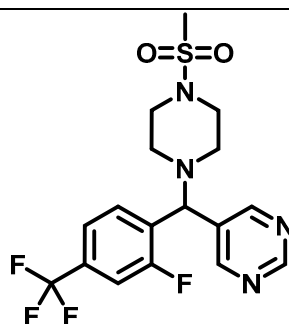
366*



7.59

2

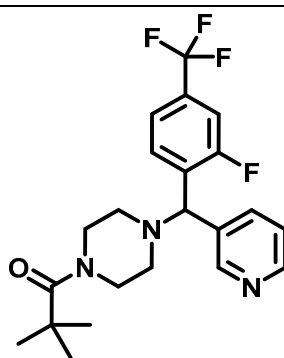
367



7.60

2

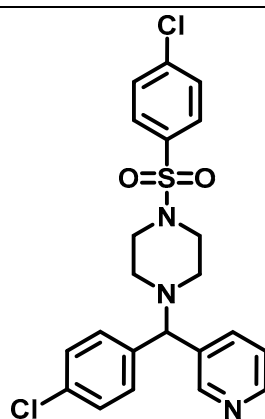
368



7.62

2

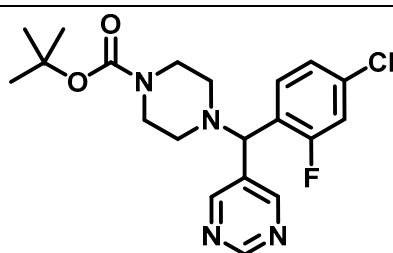
369



7.62

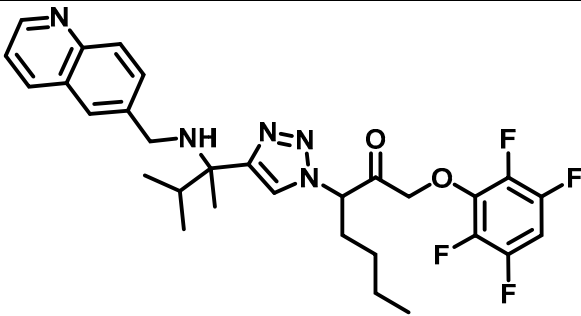
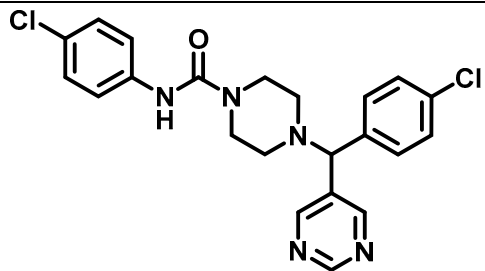
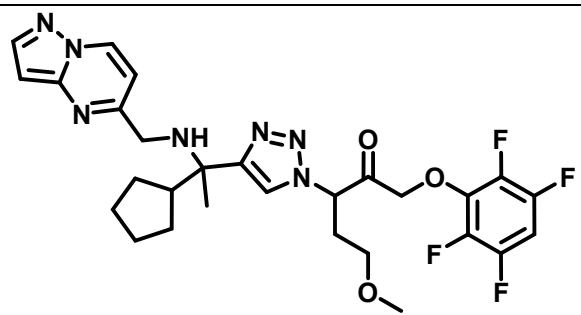
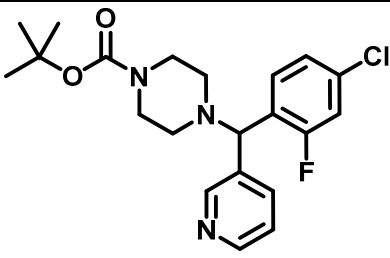
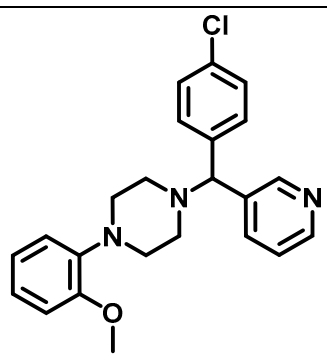
2

370**

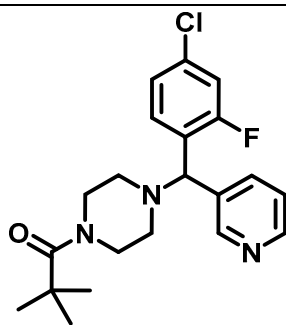


7.62

2

371*		7.66	1
372		7.66	2
373**		7.70	1
374		7.70	2
375		7.70	2

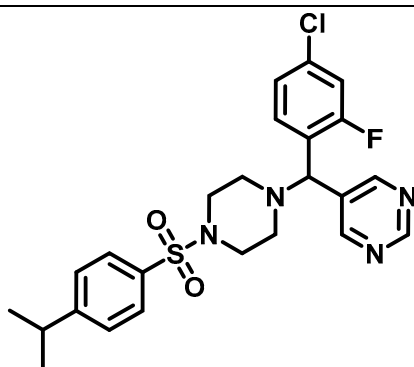
376*



7.72

2

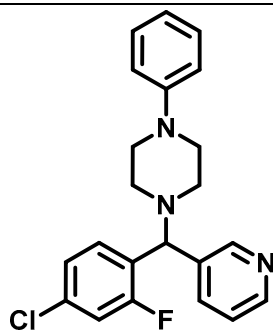
377**



7.74

2

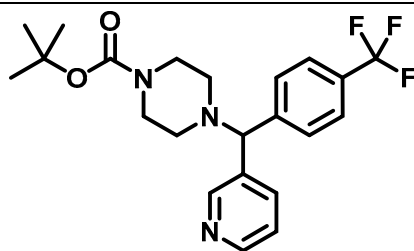
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7.74

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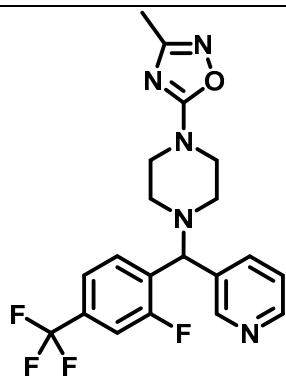
379**



7.77

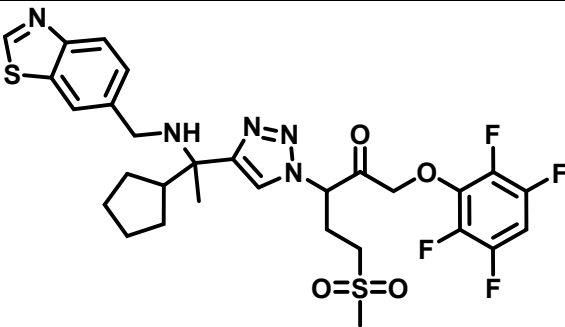
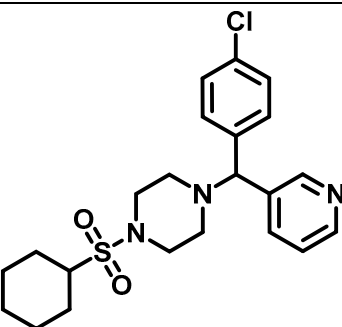
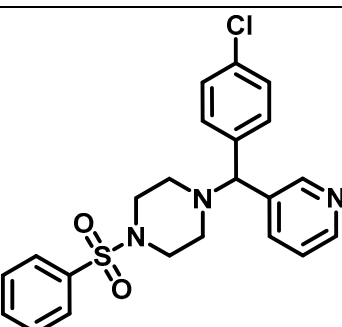
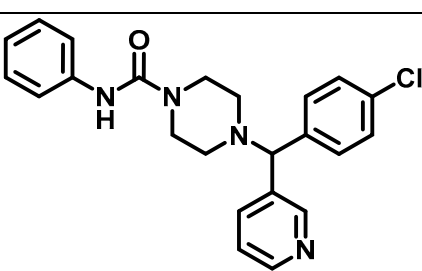
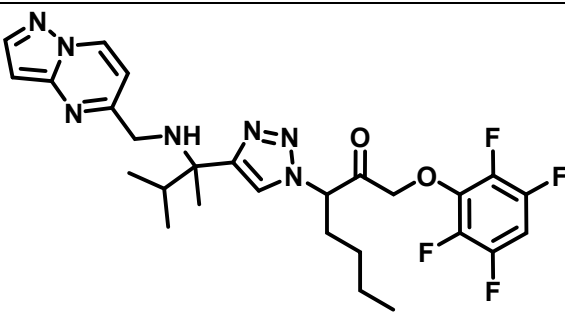
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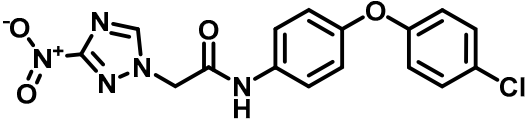
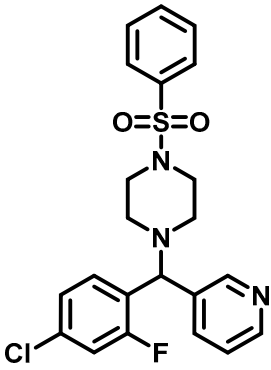
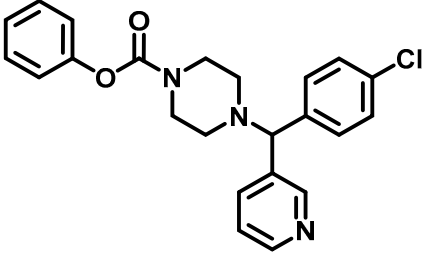
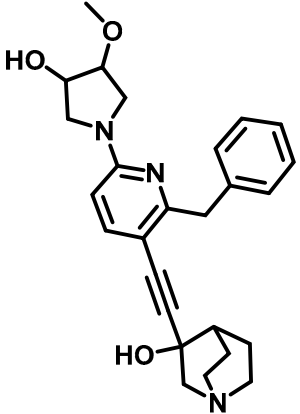
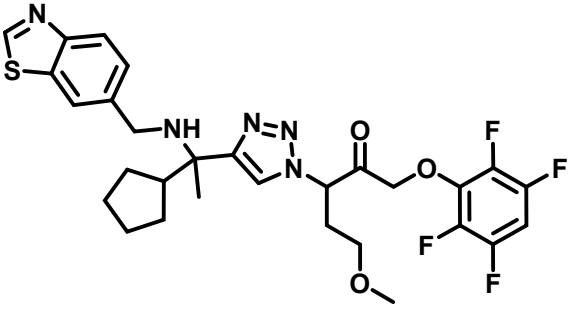
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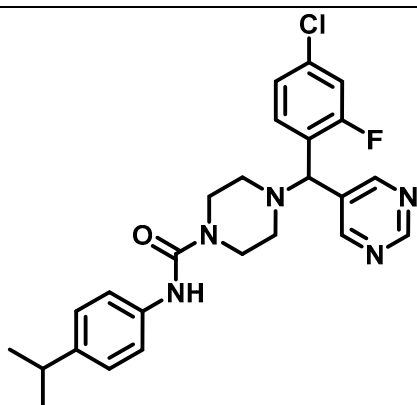
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385**	 <chem>CC(C)(C1CCCC1)NCC2=CN=CN2C(=O)CC(S(=O)(=O)C)COC3=C(F)C(F)=CC(F)=C3</chem>	8.00	1
386*	 <chem>Clc1ccc(cc1)C2=CC=CC=N2N3CCN(S(=O)(=O)C4CCCCC4)CC3</chem>	8.00	2
387	 <chem>Clc1ccc(cc1)C2=CC=CC=N2N3CCN(S(=O)(=O)c4ccccc4)CC3</chem>	8.05	2
388**	 <chem>Clc1ccc(cc1)C2=CC=CC=N2N3CCNC(=O)Nc4ccccc4</chem>	8.05	2
389*	 <chem>CC(C)(C)NCC1=NC2=CC=CC=N2N1C(=O)CCCCC(=O)COC3=C(F)C(F)=CC(F)=C3</chem>	8.10	1

390**		8.10	26
391**		8.10	2
392**		8.10	2
393**		8.10	20
394*		8.15	1

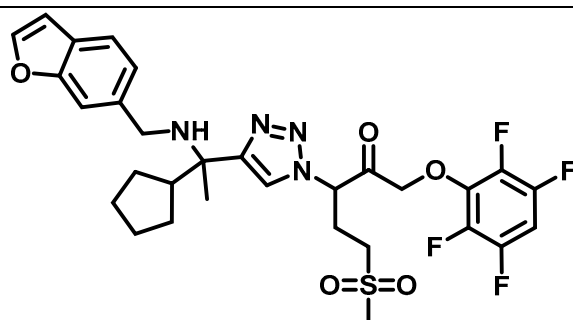
395**



8.15

2

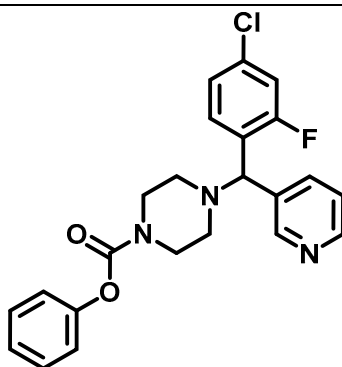
396**



8.30

1

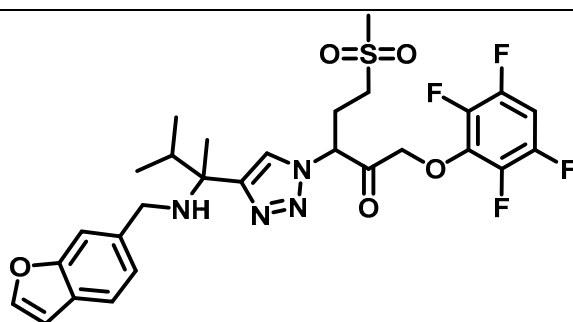
397*



8.30

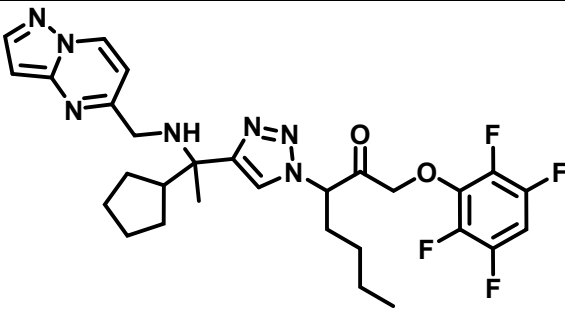
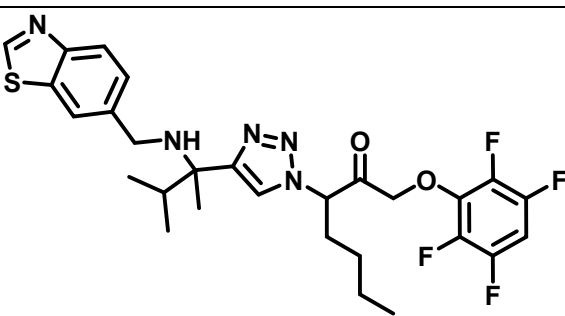
2

398*



8.52

1

399**		8.52	1
400*		8.70	1

* Test set compounds; **Compounds used in the construction of the fragment collection.

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