Table S1. Top 100 screened hits extracted from Mcule's library

S. No.	Ligands	Binding energy (kcal/mol)	RO5 violations
1	MCULE-9386350598	-10.1	0
2	MCULE-9083675198	-9.9	0
3	MCULE-8937595731	-9.9	0
4	MCULE-2082061687	-9.8	0
5	MCULE-9841320064	-9.7	0
6	MCULE-9514587152	-9.7	0
7	MCULE-9081505108	-9.6	0
8	MCULE-8016227151	-9.5	0
9	MCULE-7438970158	-9.5	0
10	MCULE-7732897976	-9.5	0
11	MCULE-1217969814	-9.4	0
12	MCULE-6732922117	-9.4	0
13	MCULE-9503708560	-9.3	0
14	MCULE-7599568441	-9.2	0
15	MCULE-3773590316	-9.2	0
16	MCULE-4420319124	-9.1	0
17	MCULE-3261949500	-9.1	0
18	MCULE-7002197612	-9	0
19	MCULE-6455149784	-8.9	0
20	MCULE-3840783663	-8.9	0
21	MCULE-4544985274	-8.9	0
22	MCULE-1196681046	-8.9	0
23	MCULE-9433162170	-8.8	0
2	MCULE-8028742001	-8.8	0
25	MCULE-4924578810	-8.8	0
26	MCULE-4638340739	-8.8	0
27	MCULE-2116801361	-8.8	0
28	MCULE-5671860004	-8.7	0
29	MCULE-1800565896	-8.7	0
30	MCULE-6264951729	-8.7	0
31	MCULE-5984253496	-8.6	0
32	MCULE-8109420073	-8.6	0
33	MCULE-7057324381	-8.6	0
34	MCULE-8782640423	-8.6	0
35	MCULE-1558627453	-8.5	0
36	MCULE-7224872978	-8.5	0
37	MCULE-2454948452	-8.5	0
38	MCULE-9629714723	-8.5	0
39	MCULE-7225215567	-8.5	0
40	MCULE-7093625408	-8.4	0
41	MCULE-6232409085	-8.4	0
42	MCULE-8046841408	-8.4	0
43	MCULE-6524304771	-8.4	0
44	MCULE-9038810560	-8.3	0
45	MCULE-8379109255	-8.3	0
46	MCULE-2132659354	-8.3	0
47	MCULE-5039509090	-8.3	0
48	MCULE-4577280534	-8.3	0
49	MCULE-7256289530	-8.3	0
50	MCULE-4042431771	-8.3	0
51	MCULE-8752115040	-8.3	0
52	MCULE-5180351602	-8.2	0

53	MCULE-1328505063	-8.2	0
54	MCULE-7045636868	-8.2	0
55	MCULE-5613555964	-8.2	0
56	MCULE-7443327368	-8.2	0
57	MCULE-1355912164	-8.2	0
58	MCULE-2860715238	-8.2	0
59	MCULE-6864921967	-8.1	0
60	MCULE-1986483046	-8.1	0
61	MCULE-3712977841	-8.1	0
62	MCULE-8134998711	-8.1	0
63	MCULE-6081257779	-8.1	0
64	MCULE-7564250835	-8.1	0
65	MCULE-8371770867	-8.1	0
66	MCULE-6661875109	-8	0
67	MCULE-1273749701	-8	0
68	MCULE-4616972123	-8	0
69	MCULE-8682692956	-8	0
70	MCULE-1200107886	-8	0
71	MCULE-4297750503	-8	0
72	MCULE-4862665716	-8	0
73	MCULE-1028628572	-8	0
74	MCULE-8084678579	-8	0
75	MCULE-9435046411	-8	0
76	MCULE-3963628408	-8	0
77	MCULE-4366901925	-8	0
78	MCULE-3803731002	-7.9	0
79	MCULE-1633822804	-7.9	0
80	MCULE-2830496140	-7.9	0
81	MCULE-7354085546	-7.9	0
82	MCULE-7721983483	-7.9	0
83	MCULE-5302780192	-7.9	0
84	MCULE-1120416301	-7.9	0
85	MCULE-9019088305	-7.9	0
86	MCULE-5422302495	-7.8	0
87	MCULE-6096281367	-7.8	0
88	MCULE-8091079105	-7.8	0
89	MCULE-6565724311	-7.8	0
90	MCULE-2577974654	-7.8	0
91	MCULE-4063820706	-7.8	0
92	MCULE-8765619407	-7.8	0
93	MCULE-1726158340	-7.8	0
94	MCULE-9917566553	-7.8	0
95	MCULE-2621480900	-7.8	0
96	MCULE-2655859613	-7.8	0
97	MCULE-5279356278	-7.8	0
98	MCULE-7280319389	-7.8	0
99	MCULE-8398142176	-7.8	0
100	MCULE-8967790570	-7.8	0

Table S2. Lipophilicity & solubility analysis of top hits

S. No.	Ligand	Lipophilicity Log $P_{o/w}$			Solubility Log S		
		XLogP3	WLogP	MLogP	ESOL	Ali	SILICOS-IT
1.	MCULE-9083675198	4.85	4.5	2.8	-5.61	-6.73	-7.35
2.	MCULE-2082061687	2.21	2.49	1.63	-3.5	-4.22	-5.17
3.	MCULE-9514587152	3.25	3.33	1.87	-3.97	-4.66	-5.79
4.	MCULE-8016227151	4.39	4.87	3.16	-4.95	-5.59	-6.87
5.	MCULE-4420319124	4	5.76	3.35	-4.62	-4.23	-6.31
6.	MCULE-7002197612	3.55	3.48	2.65	-4.22	-4.51	-5.89
7.	MCULE-3840783663	2.24	2.92	2.49	-2.96	-2.73	-3.77
8.	MCULE-4544985274	3.81	4.7	4.18	-4.13	-4.54	-6.19
9.	MCULE-9433162170	3.52	2.56	1.72	-4.2	-4.4	-4.75
10.	MCULE-8028742001	3.2	2.73	2.99	-4.06	-4.11	-4.69
11.	MCULE-4638340739	2.76	2.29	2.29	-3.19	-3.23	-3.42
12.	MCULE-5671860004	3.89	3.41	4.05	-4.26	-4.13	-5.26
13.	MCULE-5984253496	4.69	8.88	5.34	-4.81	-4.61	-5.33
14.	MCULE-8109420073	3.7	2.67	3.77	-4.48	-4.23	-5.21
15.	MCULE-7057324381	1.25	3.33	2.24	-2.64	-2.75	-3.78
16.	MCULE-8782640423	4.89	9.38	3.18	-5.16	-5.42	-5.22
17.	MCULE-1558627453	2.45	2.56	1.03	-2.89	-3.29	-3.61
18.	MCULE-2454948452	2.77	1.66	2.62	-3.34	-3.14	-3.86
19.	MCULE-7093625408	-1.02	-0.32	-1.67	-1.04	-1.25	-1.46
20.	MCULE-6232409085	0.76	1.61	0.48	-2.31	-2.08	-3.94
21.	MCULE-8046841408	2.61	2.93	1.91	-3.62	-4.27	-4.59
22.	MCULE-9038810560	-0.19	0.79	-0.54	-1.43	-1.25	-3.07
23.	MCULE-2132659354	4.71	5.87	4.08	-5.32	-4.98	-6.26
24.	MCULE-7256289530	2.78	2.95	2.66	-3.7	-3.24	-4.42
25.	MCULE-4042431771	2.88	3.55	1.01	-3.66	-4.57	-5.58
26.	MCULE-8752115040	2.27	2.03	1.41	-3.18	-2.71	-4.5
27.	MCULE-5180351602	2.49	2.26	0.85	-3.17	-4.61	-5.2
28.	MCULE-1328505063	2.52	2.94	2.14	-3.8	-3.32	-5.14
29.	MCULE-7045636868	4.86	4.18	3.62	-5.12	-5.86	-5.72
30.	MCULE-5613555964	5.02	3.37	2.61	-5.42	-5.97	-6.11
31.	MCULE-7443327368	2.55	1.91	0.79	-3.1	-3.58	-3.92
32.	MCULE-1355912164	1.92	2.53	2.41	-2.9	-2.73	-4.66
33.	MCULE-2860715238	1.45	2.52	0.36	-2.84	-3.21	-4.82
34.	MCULE-6081257779	-0.7	-0.9	-1.17	-0.96	-0.68	-3.96
35.	MCULE-4616972123	3.85	3.36	1.61	-4.43	-5.56	-7.05
36.	MCULE-4297750503	1.68	2.15	0.36	-3.33	-3.78	-5.41
37.	MCULE-4862665716	2.15	2.89	1.33	-2.87	-2.7	-3.73
38.	MCULE-1028628572	3.95	4.46	1.66	-4.71	-6.18	-5.96
39.	MCULE-8084678579	2.6	3.34	2.82	-3.55	-3.52	-4.93
40.	MCULE-1633822804	2.04	2.98	0.39	-3.09	-3.33	-6.43
41.	MCULE-5302780192	3.9	4.57	3.16	-3.74	-3.87	-4.79
42.	MCULE-4063820706	2.07	1.44	0.35	-2.86	-3.53	-3.24
43.	MCULE-1726158340	4.39	4.45	2.77	-5.07	-5.41	-6
44.	MCULE-9917566553	1.79	2.72	1.26	-2.72	-2.57	-4.02
45.	MCULE-7280319389	0.86	1.14	1.62	-2.2	-2.13	-3.6
46.	**Tucatinib- inhibitor**	3.99	4.52	3.01	-5.45	-6.02	-9.12
47.	**Lapatinib- inhibitor**	5.12	7.34	3.44	-6.44	-7.27	-12.49
48.	**Neratinib- inhibitor**	4.87	5.59	1.64	-5.98	-6.97	-10.15