Supplementary material

Development of potential therapeutic for the pain treatment by inducing sigma 1 receptor antagonism – In silico approach

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Validation of Developed QSAR Models

The main goal of any QSPR modeling is to developing of a robust model capable of predicting the properties of new molecules in objective, reliable and precise manner. Most common methodology used in QSAR modeling with SMILES based optimal descriptors for the assessment of robustness and the reliability of developed QSAR model is the application of three methods: a) internal validation or cross-validation using the training set compounds, b) external validation using the test set compounds and c) data randomization or Y-scrambling.

The most common internal method of validating the model is least squares fitting. This method of validation is similar to linear regression and is the R^2 (squared correlation coefficient) for the comparison between the predicted and experimental activities.

Leave-one-out (LOO) cross validation technique is used to developed models as an internal validation. LOO is based on principle that one molecule is randomly omitted from data set in each cycle and than the rest of molecules is used to model development. The process is repeated until all the compounds are eliminated once. Cross-validated coefficient Q2 demonstrates the predictive ability of the model, where higher value of Q2 means better model prediction. The cross-validated Q^2 is defined as:

$$Q^2 = 1 - \Sigma(Y_{obs} - Y_{pred})^2/\Sigma(Y_{obs} - \bar{Y}_{train})^2 \quad (1)$$

In Eq. 1, Y_{obs} is observed property of the training set compounds, Y_{pred} is LOO-predicted property of the training set compounds and $\bar{Y}_{train}$ is mean observed property of the training set compounds. The predictive ability of model is considered as acceptable when Q^2 is higher than 0.5.

Same principles and statistical methodology can be applied for external validation. The predictive ability of a model is determined by calculating Q^2_{ext} which is defined as:

$$Q^2_{ext} = 1 - \Sigma(Y_{obs(test)} - Y_{pred(test)})^2/\Sigma(Y_{obs(test)} - \bar{Y}_{train})^2 \quad (2)$$

In Eq. 2, $Y_{obs(test)}$ is the observed property of the test set compounds, $Y_{pred(test)}$ is the predicted property of the test set compounds and $\bar{Y}_{train}$ is mean observed property of the training set compounds. The value Q^2_{ext} for an acceptable model should be greater than 0.5.

True predictive potential of developed QSAR models can be defined with novel statistical metric (R^2_m). For calculating R^2_m metric an open access web application "R2m calculator" is available at http://203.200.173.43:8080/rmsquare/.

Y-randomization test is used for testing the robustness of the developed QSAR model. For a appropriate QSPR model, the average correlation coefficient (R_r) of randomized models should be less than the correlation coefficient (R) of non-randomized model. A parameter $^{C}R^2_p$ penalizes the model R^2 for a small difference between squared mean correlation coefficient (R^2_r) of randomized models and squared correlation coefficient (R^2) of the non-randomized model. The parameter $^{C}R^2_p$ is defined as:

$$^{C}R_p^2 = R\sqrt{(R^2 - R_r^2)} \quad (3)$$

For an acceptable QSPR model, the value of $^{C}R^2_p$ should be greater than 0.5.

The quality of prediction for one substance from a set can be estimated as the following:

$\Delta k = k_{observed} - k_{calculated}$

Having data on all Δk for the test set, one can calculate sum of negative and positive values of Δk similar to mean absolute error (MAE):

$$^{-}MAE_{test} = \frac{1}{^{-}N} \times \sum_{k=1}^{^{-}N} |\Delta_k| \, , \Delta_k < 0, \; ^{-}N \; is \; the \; number \; of \; \Delta_k < 0 \quad (4)$$

$$^{+}MAE_{test} = \frac{1}{^{+}N} \times \sum_{k=1}^{^{-}N} |\Delta_k| \, , \Delta_k > 0, \; ^{+}N \; is \; the \; number \; of \; \Delta_k > 0 \quad (5)$$

The index of ideality of correlation (IIC) for test set is calculated with the following formula:

$$IIC = r_{test} \times \frac{min(^{-}MAE_{test}, ^{+}MAE_{test})}{max(^{-}MAE_{test}, ^{+}MAE_{test})} \quad (6)$$

Table S1. The SMILES notation of the studied molecules, calculated values for the DCW, experimental data (Ac) – expr, the values of Ac calculated with the application of CORAL software – calc, the difference between expr and calc – diff for the built QSPR model

SMILES notation		pKi(ex.)	Split 1				Split 2				Split 3			
			DCW	pKi(cal.)	Diff	Set	DCW	pKi(cal.)	Diff	Set	DCW	pKi(cal.)	Diff	Set
1	c1ccc(cc1)OCc1cc(no1)OCCN1CCOCC1	6.4	28.30099	6.617	-0.217	Tr	15.20649	6.8536	-0.4536	Ts	25.09287	6.8661	-0.4661	Ts
2	c1ccc(cc1)OCc1cc(no1)OCCCN	5.6	25.20739	6.4906	-0.8906	Tr	12.46205	6.6725	-1.0725	Ts	14.73482	6.2666	-0.6666	Tr
3	c1ccc(cc1)OCc1cc(no1)OCC1CCNCC1	6.45	41.40452	7.1524	-0.7024	Tr	23.65808	7.4113	-0.9613	Tr	24.26085	6.818	-0.368	Tr
4	COc1ccc(cc1)OCc1cc(no1)OCC1CCCN1	6.68	40.63071	7.1207	-0.4407	Tr	18.45855	7.0682	-0.3882	Tr	32.97175	7.3222	-0.6422	Tr
5	c1ccc(cc1)NC(=O)c1cc(no1)OCC1CCCN1	6.88	51.6576	7.5712	-0.6912	Tr	22.27883	7.3203	-0.4403	Ts	37.59203	7.5897	-0.7097	Ts
6	CN1CCC(CC1)COc1cc(COc2ccccc2)on1	7.02	51.21291	7.5531	-0.5331	Ts	24.79094	7.486	-0.466	Ts	37.3155	7.5737	-0.5537	Tr
7	CNCCOc1cc(COc2ccccc2)on1	7.09	46.20988	7.3487	-0.2587	Tr	22.59616	7.3412	-0.2512	Ts	33.10443	7.3299	-0.2399	Tr
8	c1ccc(cc1)SCc1cc(no1)OCC1CCCN1	7.18	47.39019	7.3969	-0.2169	Tr	20.59761	7.2093	-0.0293	Tr	35.37029	7.4611	-0.2811	Tr
9	c1ccc(cc1)OCc1cc(no1)OCCN	7.19	30.87132	6.722	0.468	Ts	16.46785	6.9368	0.2532	Tr	23.74394	6.7881	0.4019	Tr
10	c1ccc2cc(ccc2c1)OCc1cc(no1)OCC1CCCN1	7.44	48.57206	7.4452	-0.0052	Tr	21.25132	7.2525	0.1875	Tr	42.62665	7.8811	-0.4411	Tr
11	c1ccc(cc1)OCc1cc(no1)OCC1CCN1	7.48	50.83757	7.5377	-0.0577	Tr	25.00702	7.5003	-0.0203	Tr	36.11146	7.504	-0.024	Tr
12	COc1cccc(c1)OCc1cc(no1)OCC1CCCN1	7.5	36.93915	6.9699	0.5301	Tr	24.81826	7.4878	0.0122	Ts	34.87734	7.4325	0.0675	Tr
13	C1CC(COc2cc(COc3ccc(cc3)Br)on2)NC1	7.74	59.74648	7.9017	-0.1617	Ts	30.00967	7.8304	-0.0904	Tr	48.73615	8.2348	-0.4948	Tr
14	CCN(C)CCOc1cc(COc2ccccc2)on1	7.74	59.49517	7.8914	-0.1514	Tr	33.28184	8.0463	-0.3063	Ts	44.84955	8.0098	-0.2698	Tr
15	C1CC(COc2cc(COc3ccc(cc3)Cl)on2)NC1	7.88	62.81394	8.027	-0.147	Ts	30.97606	7.8942	-0.0142	Tr	44.52271	7.9909	-0.1109	Tr
16	c1cc(cc(c1)OCc1cc(no1)OCC1CCCN1)C(F)(F)F	8.18	68.99327	8.2795	-0.0995	Ts	37.89858	8.3509	-0.1709	Tr	56.67289	8.6942	-0.5142	Tr
17	c1ccc(c(c1)F)OCc1cc(no1)OCC1CCCN1	8.22	74.85717	8.519	-0.299	Tr	35.62062	8.2006	0.0194	Ts	49.35642	8.2707	-0.0507	Tr
18	C1CC(COc2cc(COc3ccc(cc3)F)on2)NC1	8.36	68.21297	8.2476	0.1124	Ts	36.83296	8.2806	0.0794	Tr	50.04134	8.3103	0.0497	Ts
19	c1ccc(cc1)OCc1cc(no1)OCC1CCCN1	8.39	54.98291	7.7071	0.6829	Tr	24.26632	7.4514	0.9386	Tr	35.19168	7.4507	0.9393	Tr
20	Cc1cccc(c1)OCc1cc(no1)OCC1CCCN1	8.4	66.00698	8.1575	0.2425	Tr	35.23679	8.1753	0.2247	Ts	40.61781	7.7648	0.6352	Tr
21	C1CC(COc2cc(COc3ccc(cc3)C(F)(F)F)on2)NC1	8.43	61.71435	7.9821	0.4479	Tr	31.82223	7.95	0.48	Tr	43.39094	7.9254	0.5046	Tr
22	CCNCCOc1cc(COc2ccccc2)on1	8.43	60.99189	7.9526	0.4774	Tr	25.76774	7.5505	0.8795	Ts	42.8365	7.8933	0.5367	Tr
23	CN1CCCC1COc1cc(COc2ccccc2)on1	8.46	68.00911	8.2393	0.2207	Ts	41.54333	8.5914	-0.1314	Tr	53.63355	8.5183	-0.0583	Ts
24	c1cc(cc(c1)OCc1cc(no1)OCC1CCCN1)Br	8.5	66.01662	8.1579	0.3421	Ts	41.80493	8.6087	-0.1087	Tr	55.95357	8.6526	-0.1526	Tr
25	c1ccc(c(c1)Cl)OCc1cc(no1)OCC1CCCN1	8.57	72.27338	8.4135	0.1565	Tr	37.85423	8.348	0.222	Tr	48.62614	8.2284	0.3416	Tr
26	c1cc(cc(c1)OCc1cc(no1)OCC1CCCN1)Cl	8.59	75.20458	8.5332	0.0568	Tr	36.54064	8.2613	0.3287	Tr	50.81115	8.3549	0.2351	Ts
27	CN(CCOc1cc(COc2ccccc2)on1)C1CCC1	8.75	74.16922	8.4909	0.2591	Ts	44.6096	8.7938	-0.0438	Tr	54.12283	8.5466	0.2034	Tr
28	CN(CCOc1cc(COc2cccc(c2)Cl)on1)CC1CC1	8.95	93.95541	9.2993	-0.3493	Tr	50.41726	9.177	-0.227	Tr	63.55885	9.0928	-0.1428	Tr
29	CN(CCOc1cc(COc2cccc(c2)F)on1)CC1CC1	9.05	91.10628	9.1829	-0.1329	Tr	49.84796	9.1394	-0.0894	Tr	70.12138	9.4727	-0.4227	Tr

30	CN(CCOc1cc(COc2ccccc2)on1)CC1CC1	9.1	80.55426	8.7518	0.3482	Tr	41.94827	8.6182	0.4818	Tr	56.94525	8.71	0.39	Tr
31	CN(CCOc1cc(COc2cccc(c2)Cl)on1)C1CCCCC1	9.3	99.12853	9.5106	-0.2106	Tr	56.12982	9.554	-0.254	Tr	66.77376	9.2789	0.0211	Ts
32	CN(CCOc1cc(COc2ccccc2)on1)C1CCCC1	9.3	76.62137	8.5911	0.7089	Ts	44.20149	8.7668	0.5332	Tr	51.75464	8.4095	0.8905	Tr
33	CN(CCOc1cc(COc2cccc(c2)F)on1)C1CCCCC1	9.3	96.2794	9.3942	-0.0942	Ts	55.56053	9.5164	-0.2164	Tr	73.3363	9.6588	-0.3588	Tr
34	CN(CCOc1cc(COc2ccccc2)on1)C1CCCCC1	9.52	85.72738	8.9631	0.5569	Tr	47.66083	8.9951	0.5249	Tr	60.16016	8.8961	0.6239	Tr
35	C1CCN(CC1)CCCOc1ccc(=O)n(c2ccc(c(c2)Cl)Cl)n1	6.02	51.44737	7.5627	-1.5427	Tr	30.24382	7.8458	-1.8258	Tr	37.26157	7.5705	-1.5505	Tr
36	c1ccc(cc1)n1c(=O)ccc(n1)OCCCN1CCC(=O)CC1	6.24	14.53859	6.0548	0.1852	Tr	3.28672	6.067	0.173	Tr	16.42831	6.3646	-0.1246	Ts
37	CC1CC(C)CN(CCCCOc2ccc(=O)n(c3ccccc3)n2)C1	6.66	47.31405	7.3938	-0.7338	Ts	18.25787	7.0549	-0.3949	Tr	30.27656	7.1662	-0.5062	Tr
38	CC1CCN(CCCCOc2ccc(=O)n(c3ccccc3)n2)CC1	6.85	52.87183	7.6208	-0.7708	Tr	24.61288	7.4743	-0.6243	Tr	32.98149	7.3228	-0.4728	Tr
39	c1ccc(cc1)n1c(=O)ccc(n1)OCCCCN1CCCCC1	6.9	47.13448	7.3865	-0.4865	Tr	20.36152	7.1937	-0.2937	Tr	37.05132	7.5584	-0.6584	Tr
40	CN(C)CCCOc1ccc(=O)n(c2ccccc2)n1	6.97	32.10665	6.7725	0.1975	Tr	16.53403	6.9412	0.0288	Ts	23.52342	6.7753	0.1947	Tr
41	CC(C)N(CCCOc1ccc(=O)n(c2ccccc2)n1)C(C)C	7.01	37.19138	6.9802	0.0298	Ts	20.6251	7.2111	-0.2011	Ts	34.87113	7.4322	-0.4222	Tr
42	CCN(CC)CCCOc1ccc(=O)n(c2ccccc2)n1	7.02	41.42634	7.1533	-0.1333	Tr	20.21429	7.184	-0.164	Tr	28.21628	7.0469	-0.0269	Tr
43	CC1CCN(CCCOc2ccc(=O)n(c3ccc4ccccc4c3)n2)CC1	7.08	44.62207	7.2838	-0.2038	Tr	26.29863	7.5855	-0.5055	Tr	32.70405	7.3067	-0.2267	Tr
44	C1CCN(CC1)CCCOc1ccc(=O)n(c2ccc3ccccc3c2)n1	7.13	29.5704	6.6689	0.4611	Tr	10.0529	6.5135	0.6165	Tr	17.44587	6.4235	0.7065	Tr
45	Cc1ccc(cc1)n1c(=O)ccc(n1)OCCCN1CCCCC1	7.16	48.03394	7.4232	-0.2632	Ts	24.21982	7.4483	-0.2883	Tr	34.35136	7.4021	-0.2421	Ts
46	c1ccc(cc1)n1c(=O)ccc(n1)OCCCN1CCOCC1	7.18	24.31799	6.4543	0.7257	Tr	11.69503	6.6219	0.5581	Tr	21.00784	6.6297	0.5503	Tr
47	Cc1ccc(cc1)n1c(=O)ccc(n1)OCCCN1CCC(C)CC1	7.21	49.05583	7.4649	-0.2549	Tr	22.9704	7.3659	-0.1559	Ts	26.14931	6.9273	0.2827	Tr
48	CC1CCN(CCCOc2ccc(=O)n(c3cc(ccc3Cl)Cl)n2)CC1	7.22	46.85431	7.375	-0.155	Tr	23.41818	7.3954	-0.1754	Ts	37.07382	7.5597	-0.3397	Tr
49	CC1CC(C)CN(CCCOc2ccc(=O)n(c3ccccc3)n2)C1	7.34	44.00345	7.2585	0.0815	Ts	18.35975	7.0617	0.2783	Tr	27.86397	7.0265	0.3135	Ts
50	C1CCN(CC1)CCCOc1ccc(=O)n(c2cc(ccc2Cl)Cl)n1	7.35	49.16866	7.4696	-0.1196	Tr	25.26399	7.5172	-0.1672	Tr	35.48713	7.4678	-0.1178	Tr
51	CCN1CCN(CCCOc2ccc(=O)n(c3ccccc3)n2)CC1	7.4	47.12042	7.3859	0.0141	Tr	24.45496	7.4639	-0.0639	Tr	32.07019	7.27	0.13	Tr
52	c1ccc(cc1)n1c(=O)ccc(n1)OCCCN1CCCC1	7.45	42.03904	7.1783	0.2717	Tr	20.19947	7.183	0.267	Tr	32.40485	7.2894	0.1606	Tr
53	CN1CCN(CCCOc2ccc(=O)n(c3ccccc3)n2)CC1	7.5	44.34544	7.2725	0.2275	Tr	21.33993	7.2583	0.2417	Tr	35.31776	7.458	0.042	Tr
54	C1CCN(CC1)CCCOc1ccc(=O)n(c2cc(cc(c2)Cl)Cl)n1	7.52	59.97102	7.9109	-0.3909	Ts	24.68737	7.4792	0.0408	Tr	37.35369	7.5759	-0.0559	Ts
55	CN1CCCN(CCC1)CCCOc1ccc(=O)n(c2ccccc2)n1	7.52	49.79297	7.4951	0.0249	Tr	27.82702	7.6864	-0.1664	Ts	41.65716	7.825	-0.305	Tr
56	C1CCN(CC1)CCCOc1ccc(=O)n(c2ccc(cc2)F)n1	7.7	61.64762	7.9794	-0.2794	Tr	34.31421	8.1144	-0.4144	Tr	41.95287	7.8421	-0.1421	Tr
57	C1CCN(CC1)CCCOc1ccc(=O)n(c2ccc(cc2)F)n1	7.77	61.64762	7.9794	-0.2094	Ts	34.31421	8.1144	-0.3444	Tr	41.95287	7.8421	-0.0721	Ts
58	CC1CCN(CCCOc2ccc(=O)n(c3ccc(c(c3)F)F)n2)CC1	7.82	67.97978	8.2381	-0.4181	Tr	32.24338	7.9778	-0.1578	Tr	48.37277	8.2137	-0.3937	Tr
59	CC1CCN(CCCOc2ccc(=O)n(c3ccc(c(c3)Cl)F)n2)CC1	8	60.6609	7.9391	0.0609	Tr	35.06751	8.1641	-0.1641	Tr	48.27559	8.2081	-0.2081	Tr
60	C1CCN(CC1)CCCOc1ccc(=O)n(c2ccc(c(c2)Cl)F)n1	8	62.58921	8.0178	-0.0178	Tr	35.22451	8.1745	-0.1745	Tr	45.7699	8.0631	-0.0631	Tr
61	C1CCN(CC1)CCCOc1ccc(=O)n(c2ccc(cc2)Cl)n1	8.01	57.3479	7.8037	0.2063	Tr	30.77484	7.8809	0.1291	Tr	35.85867	7.4893	0.5207	Tr
62	C1CCN(CC1)CCCOc1ccc(=O)n(c2ccc(c(c2)F)F)n1	8.1	65.11459	8.121	-0.021	Tr	26.51552	7.5998	0.5002	Tr	43.39814	7.9258	0.1742	Tr
63	CC1CCN(CCCOc2ccc(=O)n(c3ccc(c(c3)Cl)Cl)n2)CC1	8.3	49.51906	7.4839	0.8161	Ts	30.08682	7.8355	0.4645	Tr	39.76725	7.7156	0.5844	Tr
64	C1CCN(CC1)CCCOc1ccc(=O)n(c2ccc(c(c2)Cl)Cl)n1	8.85	51.44737	7.5627	1.2873	Tr	30.24382	7.8458	1.0042	Ts	37.26157	7.5705	1.2795	Tr

65	C(CCCOc1ccc2c(CCC(=O)N2Cc2ccccc2)c1)CCN1CCOCC1	6.07	38.56896	7.0365	-0.9665	Ts	10.76942	6.5608	-0.4908	Tr	7.30618	5.8365	0.2335	Ts
66	c1ccc(cc1)CN1c2ccc(cc2CCC1=O)OCCCN1CCOCC1	6.1	37.59016	6.9965	-0.8965	Tr	21.17392	7.2473	-1.1473	Tr	22.91563	6.7401	-0.6401	Tr
67	C(CCCOc1ccc2CCC(=O)N(Cc3ccccc3)c2c1)CCN1CCOCC1	6.17	35.67219	6.9182	-0.7482	Ts	13.31615	6.7288	-0.5588	Ts	26.39756	6.9417	-0.7717	Tr
68	CN(C)CCCOc1ccc2CCC(=O)N(Cc3ccccc3)c2c1	7.08	38.36466	7.0282	0.0518	Tr	20.07301	7.1747	-0.0947	Tr	29.62687	7.1286	-0.0486	Tr
68	c1ccc(cc1)CCN1c2ccc(cc2CCC1=O)OCCCN1CCOCC1	6.71	40.72022	7.1244	-0.4144	Tr	21.47733	7.2674	-0.5574	Ts	29.97791	7.1489	-0.4389	Tr
70	c1ccc(cc1)CN1c2cc(ccc2CCC1=O)OCCCN1CCOCC1	7.05	49.10411	7.4669	-0.4169	Tr	26.53673	7.6012	-0.5512	Ts	34.28694	7.3984	-0.3484	Tr
71	c1ccc(cc1)CN1c2ccc(cc2CCC1=O)OCCCCCN1CCOCC1	7.15	39.58536	7.078	0.072	Tr	20.834	7.2249	-0.0749	Tr	27.15477	6.9855	0.1645	Tr
72	c1ccc(cc1)CN1c2cc(ccc2CCC1=O)OCCCCN1CCOCC1	7.22	52.41471	7.6022	-0.3822	Tr	26.43486	7.5945	-0.3745	Tr	36.69953	7.538	-0.318	Ts
73	c1ccc(cc1)CN1c2cc(ccc2CCC1=O)OCCCN1CCCC1	7.62	66.76678	8.1885	-0.5685	Tr	35.28978	8.1788	-0.5588	Tr	48.27293	8.208	-0.588	Ts
74	c1ccc(cc1)CN1c2ccc(cc2CCC1=O)OCCCCN1CCOCC1	7.65	40.90076	7.1318	0.5182	Tr	21.07204	7.2406	0.4094	Ts	25.32822	6.8798	0.7702	Ts
75	c1ccc(cc1)CCN1c2cc(ccc2CCC1=O)OCCCN1CCOCC1	7.67	53.56038	7.649	0.021	Tr	26.88797	7.6244	0.0456	Tr	41.04012	7.7893	-0.1193	Tr
76	CN1CCN(CCCOc2ccc3CCC(=O)N(Cc4ccccc4)c3c2)CC1	8.37	64.7903	8.1078	0.2622	Tr	34.09132	8.0997	0.2703	Tr	47.83195	8.1824	0.1876	Tr
77	c1ccc(cc1)CN1c2cc(ccc2CCC1=O)OCCCN1CCCCC1	8.73	68.60999	8.2638	0.4662	Tr	35.3051	8.1798	0.5502	Tr	47.91783	8.1874	0.5426	Tr
78	c1ccc(cc1)CCN1c2cc(ccc2CCC1=O)OCCCCN1CCOCC1	7.35	56.87098	7.7842	-0.4342	Ts	26.78609	7.6177	-0.2677	Tr	43.45271	7.9289	-0.5789	Tr
79	c1ccc(cc1)CCN1c2cc(ccc2CCC1=O)OCCCCN1CCOCC1	8.95	56.87098	7.7842	1.1658	Tr	26.78609	7.6177	1.3323	Tr	43.45271	7.9289	1.0211	Tr
80	c1ccc(cc1)c1nc2CCCc2c(n1)OCCCN1CCC(=O)CC1	6.72	33.67383	6.8365	-0.1165	Tr	10.27107	6.5279	0.1921	Tr	20.78288	6.6167	0.1033	Tr
81	CN(C)CCCOc1c2CCCCc2nc(c2ccccc2)n1	6.86	30.26065	6.6971	0.1629	Tr	17.80721	7.0252	-0.1652	Tr	24.00644	6.8033	0.0567	Ts
82	CN(C)CCCOc1c2CCCc2nc(c2ccccc2)n1	6.92	37.17489	6.9796	-0.0596	Tr	19.05066	7.1072	-0.1872	Tr	22.50112	6.7161	0.2039	Tr
83	CCN(CC)CCCOc1c2CCCCc2nc(c2ccccc2)n1	7.17	39.58034	7.0778	0.0922	Tr	21.48747	7.268	-0.098	Tr	28.6993	7.0749	0.0951	Ts
84	CCN(CC)CCCOc1c2CCCc2nc(c2ccccc2)n1	7.21	46.49458	7.3603	-0.1503	Tr	22.73093	7.3501	-0.1401	Ts	27.19398	6.9878	0.2222	Tr
85	c1ccc(cc1)c1nc2CCCc2c(n1)OCCCN1CCCC1	7.23	47.9686	7.4205	-0.1905	Tr	22.81284	7.3555	-0.1255	Tr	29.38804	7.1148	0.1152	Ts
86	c1ccc(cc1)c1nc2CCCc2c(n1)OCCCN1CCCCC1	7.35	48.50702	7.4425	-0.0925	Tr	23.45018	7.3975	-0.0475	Tr	33.60498	7.3589	-0.0089	Tr
87	CN1CCN(CCCOc2c3CCCc3nc(c3ccccc3)n2)CC1	7.49	48.49261	7.4419	0.0481	Tr	23.86241	7.4247	0.0653	Ts	36.6207	7.5334	-0.0434	Tr
88	CC1CCN(CCCOc2c3CCCc3nc(c3ccccc3)n2)CC1	7.49	53.7084	7.655	-0.165	Tr	27.23724	7.6474	-0.1574	Tr	31.87184	7.2586	0.2314	Tr
89	CC1CCN(CCCOc2c3CCCCc3nc(c3ccc(cc3)C(F)(F)F)n2)CC1	7.53	54.85707	7.702	-0.172	Tr	26.14463	7.5753	-0.0453	Tr	37.01203	7.5561	-0.0261	Ts
90	CN1CCN(CCCOc2c3CCCCc3nc(c3ccccc3)n2)CC1	7.56	41.63674	7.1618	0.3982	Tr	22.37035	7.3263	0.2337	Tr	35.53703	7.4707	0.0893	Tr
91	Cc1ccc(cc1)c1nc2CCCCc2c(n1)OCCCN1CCC(C)CC1	7.61	44.76735	7.2897	0.3203	Tr	22.24955	7.3183	0.2917	Tr	34.04121	7.3841	0.2259	Tr
92	CC1CCN(CCCOc2c3CCCc3nc(c3ccc(cc3)Cl)n2)CC1	7.67	60.04039	7.9137	-0.2437	Ts	27.59425	7.671	-0.001	Ts	47.63045	8.1708	-0.5008	Tr
93	Cc1ccc(cc1)CN1c2cc(ccc2CCC1=O)OCCCN1CCCCC1	8.77	74.7259	8.5137	0.2563	Tr	39.4434	8.4529	0.3171	Tr	52.44782	8.4496	0.3204	Ts
94	Cc1ccc(cc1)CN1c2cc(ccc2CCC1=O)OCCCN1CCC(C)CC1	8.82	75.74779	8.5554	0.2646	Tr	38.19398	8.3704	0.4496	Tr	44.24577	7.9748	0.8452	Tr
95	c1ccc2c(c1)CCN2C(=O)c1cc(no1)OCC1CCCN1	7.86	55.44491	7.726	0.134	Tr	18.98655	7.103	0.757	Tr	27.4759	7.0041	0.8559	Ts
96	C1CCN(CC1)CCCOc1c2ccccc2c(=O)n(c2ccc(c(c2)Cl)Cl)n1	6.85	26.93069	6.561	0.289	Ts	12.41439	6.6693	0.1807	Tr	22.25526	6.7019	0.1481	Tr
97	c1ccc(cc1)c1nc2CCCc2c(n1)OCCCN1CCCC1	7.23	47.9686	7.4205	-0.1905	Ts	22.81284	7.3555	-0.1255	Ts	29.38804	7.1148	0.1152	Tr
98	c1ccc(cc1)c1nc2CCCCc2c(n1)OCCCN1CCCC1	6.95	39.80795	7.0871	-0.1371	Ts	21.94279	7.2981	-0.3481	Tr	32.87641	7.3167	-0.3667	Tr
99	C1CCN(CC1)CCCOc1ccc2CCC(=O)Nc2c1	7.05	29.60188	6.6702	0.3798	Ts	21.02475	7.2375	-0.1875	Tr	31.89062	7.2596	-0.2096	Tr

100	CN1c2cc(ccc2CCC1=O)OCCCN1CCCCC1	7.47	47.83736	7.4152	0.0548	Tr	26.04946	7.5691	-0.0991	Tr	40.25629	7.7439	-0.2739	Tr
101	CC1CCN(CCCOc2ccc3CCC(=O)Nc3c2)CC1	7.17	44.39707	7.2746	-0.1046	Ts	23.816	7.4217	-0.2517	Tr	30.92845	7.2039	-0.0339	Ts
102	CC1CCN(CCCOc2ccc3CCC(=O)N(C)c3c2)CC1	7.39	53.05182	7.6282	-0.2382	Tr	21.78971	7.288	0.102	Tr	27.70115	7.0171	0.3729	Tr
103	Cc1c(C)c(=O)n(c2ccc(c(c2)Cl)Cl)nc1OCCCN1CCCCC1	7.18	49.20208	7.4709	-0.2909	Tr	19.90313	7.1635	0.0165	Tr	38.20152	7.625	-0.445	Tr
104	CN1CCCC1Oc1cc(COc2cccc(c2)F)on1	9.15	79.46693	8.7074	0.4426	Ts	44.84946	8.8096	0.3404	Tr	69.5655	9.4405	-0.2905	Tr
105	c1cc(cc(c1)OCc1cc(no1)OC1CCCN1)F	8.85	63.25392	8.045	0.805	Ts	36.8953	8.2847	0.5653	Ts	53.41571	8.5056	0.3444	Tr
106	c1ccc(cc1)NC(=O)OCc1cc(no1)OC1CCCN1	6.52	32.83813	6.8024	-0.2824	Ts	11.95983	6.6393	-0.1193	Tr	18.65601	6.4935	0.0265	Ts
107	CN1CCCC1Oc1cc(COc2cccc(c2)Cl)on1	8.86	82.31606	8.8238	0.0362	Tr	45.41876	8.8472	0.0128	Tr	63.00296	9.0606	-0.2006	Ts
108	CN1CCC(CC1)Oc1cc(COc2ccccc2)on1	6.99	37.76831	7.0038	-0.0138	Tr	20.11533	7.1775	-0.1875	Tr	29.36972	7.1137	-0.1237	Tr
109	CC1CCN(CCCOc2ccc(=O)n(c3ccc(cc3Cl)Cl)n2)CC1	7.46	49.57931	7.4863	-0.0263	Tr	23.13908	7.377	0.083	Tr	38.10094	7.6191	-0.1591	Tr
110	CC1CCN(CCCOc2ccc(=O)n(c3ccccc3)n2)CC1	7.55	49.56123	7.4856	0.0644	Tr	24.71476	7.481	0.069	Ts	30.56891	7.1831	0.3669	Tr
111	c1ccc(cc1)n1c(=O)ccc(n1)OCCCN1CCCCC1	7.67	43.82388	7.2512	0.4188	Tr	20.4634	7.2005	0.4695	Tr	34.63873	7.4187	0.2513	Tr
112	CC1CCN(CCCOc2ccc(=O)n(c3cc(cc(c3)Cl)Cl)n2)CC1	7.37	58.04271	7.8321	-0.4621	Tr	24.53037	7.4688	-0.0988	Ts	39.85937	7.7209	-0.3509	Ts
113	CC1CCN(CCCOc2ccc(=O)n(c3cccc(c3Cl)Cl)n2)CC1	7.26	35.26333	6.9015	0.3585	Tr	22.62707	7.3432	-0.0832	Ts	33.31057	7.3418	-0.0818	Tr
114	CC1CCN(CCCOc2ccc(=O)n(c3ccc(cc3)Cl)n2)CC1	8.02	53.07867	7.6293	0.3907	Tr	27.94003	7.6938	0.3262	Tr	36.06246	7.5011	0.5189	Ts
115	C1CCN(CC1)CCCOc1ccc(=O)n(c2ccc(cc2Cl)Cl)n1	7.6	51.89367	7.5809	0.0191	Tr	24.9849	7.4988	0.1012	Tr	36.51426	7.5273	0.0727	Ts
116	C1CCN(CC1)CCCOc1ccc(=O)n(c2cccc(c2Cl)Cl)n1	7.32	35.23677	6.9004	0.4196	Tr	21.79507	7.2883	0.0317	Tr	29.422	7.1167	0.2033	Tr
117	c1ccc(cc1)CN1c2cc(ccc2CCC1=O)OCCCN1CCOCC1	7.83	49.10411	7.4669	0.3631	Tr	26.53673	7.6012	0.2288	Tr	34.28694	7.3984	0.4316	Tr
118	c1ccc(cc1)CCN1c2ccc(cc2CCC1=O)OCCCN1CCOCC1	7.39	40.72022	7.1244	0.2656	Tr	21.47733	7.2674	0.1226	Tr	29.97791	7.1489	0.2411	Tr
119	CN(C)CCCOc1ccc2CCC(=O)N(Cc3ccccc3)c2c1	7.08	38.36466	7.0282	0.0518	Ts	20.07301	7.1747	-0.0947	Tr	29.62687	7.1286	-0.0486	Ts
120	CCN(CC)CCCOc1ccc2CCC(=O)N(Cc3ccccc3)c2c1	7.4	47.68435	7.4089	-0.0089	Tr	23.75327	7.4175	-0.0175	Tr	34.31972	7.4002	-0.0002	Ts
121	c1ccc(cc1)CCN1c2ccc(cc2CCC1=O)OCCCN1CCOCC1	7.39	40.72022	7.1244	0.2656	Ts	21.47733	7.2674	0.1226	Ts	29.97791	7.1489	0.2411	Tr
122	CC1CCN(CCCOc2c3CCCCc3nc(c3ccccc3)n2)CC1	7.59	46.85253	7.3749	0.2151	Tr	25.74517	7.549	0.041	Tr	30.78818	7.1958	0.3942	Tr
123	c1ccc(cc1)CN1c2cc(ccc2CCC1=O)OCCCN1CCN(CC1)c1ccccc1~	6.47	44.09553	7.2623	-0.7923	Tr	19.31931	7.125	-0.655	Ts	26.80298	6.9651	-0.4951	Tr
124	c1ccc(cc1)OCc1cc(no1)N1CCNCC1	8.27	47.06634	7.3837	0.8863	Tr	20.87671	7.2277	1.0423	Tr	28.84991	7.0836	1.1864	Tr
125	c1cc(ccc1Cl)OCc1cc(no1)N1CCNCC1	7.44	55.6605	7.7348	-0.2948	Tr	29.50906	7.7974	-0.3574	Tr	38.47235	7.6406	-0.2006	Ts
126	CN1CCN(CC1)c1cc(COc2ccccc2)on1	7.19	54.50823	7.6877	-0.4977	Tr	25.67662	7.5445	-0.3545	Tr	39.38869	7.6937	-0.5037	Tr
127	C1CCN(CC1)CCCOc1c2CCCCc2c(=O)n(c2ccc(c(c2)Cl)Cl)n1	6.98	39.69621	7.0826	-0.1026	Tr	15.28332	6.8586	0.1214	Tr	30.21262	7.1625	-0.1825	Tr
128	c1ccc(cc1)c1nc2CCCCc2c(n1)OCCCN1CCOCC1	6.92	36.51117	6.9524	-0.0324	Tr	20.29482	7.1893	-0.2693	Ts	24.91571	6.8559	0.0641	Tr
129	c1ccc(cc1)c1nc2CCCCc2c(n1)OCCCN1CCCCC1	7.35	41.65116	7.1624	0.1876	Tr	21.95811	7.2991	0.0509	Ts	32.52131	7.2961	0.0539	Tr
130	C1CCN(CC1)CCCOc1ccc2CCC(=O)N(Cc3ccc(cc3)F)c2c1	8.91	78.44881	8.6658	0.2442	Tr	43.13625	8.6966	0.2134	Tr	54.37167	8.561	0.349	Tr
131	CC1CCN(CCCOc2c3CCCCc3nc(Cc3ccc(cc3)Cl)n2)CC1	7.81	67.61457	8.2231	-0.4131	Tr	35.54164	8.1954	-0.3854	Tr	50.65936	8.3461	-0.5361	Ts
132	c1ccc(cc1)c1cc(nc(c2ccccc2)n1)OCCCN1CCCCC1	6.01	35.58626	6.9147	-0.9047	Ts	14.16289	6.7847	-0.7747	Ts	21.82302	6.6769	-0.6669	Tr
134	Cc1cc(nc(c2ccccc2)n1)OCC(CN1CCOCC1)O	6.31	23.01288	6.401	-0.091	Tr	7.49473	6.3447	-0.0347	Tr	11.53387	6.0813	0.2287	Tr
135	Cc1cc(nc(c2ccccc2)n1)OCC(CN1CCOCC1)O	6.33	23.01288	6.401	-0.071	Tr	7.49473	6.3447	-0.0147	Tr	11.53387	6.0813	0.2487	Tr

136	Cc1cc(nc(c2ccccc2)n1)OCCOCCN1CCOCC1	6.37	22.95086	6.3985	-0.0285	Tr	8.82825	6.4327	-0.0627	Tr	15.05782	6.2852	0.0848	Tr
137	Cc1cc(nc(c2ccccc2)n1)OCCCN1C(C)(C)CCCC1(C)C	6.42	33.93284	6.8471	-0.4271	Tr	8.42317	6.406	0.014	Tr	21.30306	6.6468	-0.2268	Tr
138	c1ccc(cc1)c1nc(cc(n1)OCCCN1CCCCC1)C1CC1	6.56	32.21405	6.7769	-0.2169	Tr	18.78335	7.0896	-0.5296	Tr	29.76497	7.1366	-0.5766	Tr
140	CC(C)c1cc(nc(c2ccccc2)n1)OCCCN1CCCCC1	6.66	31.97576	6.7672	-0.1072	Tr	17.42469	6.9999	-0.3399	Tr	24.60282	6.8378	-0.1778	Tr
141	Cc1c(c(ncn1)OCCCN1CCCCC1)Cl	6.73	35.88094	6.9267	-0.1967	Tr	17.61488	7.0125	-0.2825	Tr	31.9057	7.2605	-0.5305	Ts
142	CC(C)c1cc(nc(c2ccccc2)n1)OCCCN1CCCCC1	6.72	31.97576	6.7672	-0.0472	Ts	17.42469	6.9999	-0.2799	Ts	24.60282	6.8378	-0.1178	Ts
143	Cc1cc(nc(c2ccccc2)n1)OCCCN1CCNCC1	6.82	41.77103	7.1673	-0.3473	Ts	25.74796	7.5492	-0.7292	Tr	35.92979	7.4935	-0.6735	Ts
144	Cc1cc(nc(c2ccccc2)n1)OCCCN1CCOCC1	6.94	43.57342	7.241	-0.301	Tr	23.03425	7.3701	-0.4301	Tr	31.49924	7.237	-0.297	Tr
145	Cc1c(c(nc(c2ccc3ccccc3c2)n1)OCCCN1CCCCC1)Cl	6.99	44.60053	7.2829	-0.2929	Ts	22.04843	7.3051	-0.3151	Tr	36.11218	7.504	-0.514	Ts
146	Cc1c(c(nc(c2ccc3ccccc3c2)n1)OCCCN1CCCCC1)Cl	7.05	44.60053	7.2829	-0.2329	Tr	22.04843	7.3051	-0.2551	Tr	36.11218	7.504	-0.454	Tr
147	Cc1cc(nc(c2ccccc2)n1)OCCCN(C)C	7.08	36.55766	6.9543	0.1257	Tr	19.8233	7.1582	-0.0782	Tr	27.95322	7.0317	0.0483	Tr
148	Cc1c(c(nc(C)n1)OCCCN1CCCCC1)Cl	7.23	53.63494	7.652	-0.422	Tr	23.59391	7.407	-0.177	Ts	33.82078	7.3714	-0.1414	Tr
149	CCN(CC)CCCOc1cc(C)nc(c2ccccc2)n1	7.33	42.83889	7.211	0.119	Tr	22.48949	7.3342	-0.0042	Ts	33.01927	7.325	0.005	Tr
150	Cc1c(c(nc(C2CC2)n1)OCCCN1CCCCC1)Cl	7.4	64.07513	8.0785	-0.6785	Tr	29.15792	7.7742	-0.3742	Tr	43.77176	7.9474	-0.5474	Tr
151	CCCN(CCC)CCCOc1cc(C)nc(c2ccccc2)n1	7.41	53.10794	7.6305	-0.2205	Tr	24.96702	7.4976	-0.0876	Tr	35.88256	7.4907	-0.0807	Tr
152	Cc1cc(nc(c2ccccc2)n1)OCCCN1CCOCC1	7.44	43.57342	7.241	0.199	Ts	23.03425	7.3701	0.0699	Tr	31.49924	7.237	0.203	Tr
153	CCCc1cc(nc(c2ccccc2)n1)OCCCN1CCCCC1	7.45	55.23023	7.7172	-0.2672	Tr	26.76594	7.6163	-0.1663	Ts	35.38147	7.4617	-0.0117	Tr
154	CCN1CCN(CCCOc2cc(C)nc(c3ccccc3)n2)CC1	7.51	48.53296	7.4436	0.0664	Tr	26.73016	7.614	-0.104	Ts	36.87318	7.5481	-0.0381	Tr
155	CC1CC(C)CN(CCCOc2cc(C)nc(c3ccccc3)n2)C1	7.52	45.41599	7.3162	0.2038	Tr	20.63495	7.2118	0.3082	Tr	32.66696	7.3046	0.2154	Ts
156	c1ccc(cc1)c1nc(cc(n1)OCCCN1CCCCC1)C(F)(F)F	7.56	48.5618	7.4448	0.1152	Tr	25.9726	7.564	-0.004	Ts	35.93966	7.494	0.066	Tr
157	c1ccc(cc1)c1nc(cc(n1)OCCCN1CCCC1)C(F)(F)F	7.56	46.77697	7.3718	0.1882	Tr	25.70867	7.5466	0.0134	Tr	33.70578	7.3647	0.1953	Tr
158	Cc1cc(nc(c2ccccc2)n1)OCCCN1CCN(C)CC1	7.64	55.2676	7.7187	-0.0787	Ts	25.97271	7.564	0.076	Tr	39.79383	7.7171	-0.0771	Tr
159	CCc1cc(nc(c2ccccc2)n1)OCCCN1CCCC1	7.65	50.22841	7.5129	0.1371	Tr	26.8872	7.6243	0.0257	Tr	40.88133	7.7801	-0.1301	Tr
160	CCc1cc(nc(c2ccccc2)n1)OCCCN1CCCCC1	8.02	52.01324	7.5858	0.4342	Tr	27.15113	7.6418	0.3782	Tr	43.11521	7.9094	0.1106	Ts
161	Cc1cc(nc(c2ccccc2)n1)OCCCN1CCCN(C)CC1	7.73	50.39803	7.5198	0.2102	Ts	28.06137	7.7018	0.0282	Ts	42.5867	7.8788	-0.1488	Tr
162	CC1CCN(CCCOc2cc(C)nc(c3ccccc3)n2)CC1	7.77	50.97378	7.5433	0.2267	Tr	26.98995	7.6311	0.1389	Tr	35.3719	7.4612	0.3088	Tr
163	Cc1cc(nc(c2ccccc2)n1)OCCCN1CCCCC1	7.89	48.7134	7.451	0.439	Tr	24.69755	7.4799	0.4101	Tr	39.10484	7.6772	0.2128	Tr
164	Cc1c(C)nc(c2ccccc2)nc1OCCCN1CCCCC1	7.94	68.64275	8.2652	-0.3252	Ts	36.2185	8.2401	-0.3001	Tr	41.1151	7.7936	0.1464	Ts
165	Cc1c(C)nc(c2ccccc2)nc1OCCCN1CCCC1	8.02	66.85791	8.1922	-0.1722	Tr	35.95457	8.2227	-0.2027	Tr	38.88122	7.6643	0.3557	Ts
166	Cc1c(c(nc(c2ccc(cc2)C(F)(F)F)n1)OCCCN1CCCCC1)Cl	8.35	79.53954	8.7103	-0.3603	Tr	42.71506	8.6688	-0.3188	Tr	44.79429	8.0066	0.3434	Ts
167	Cc1c(Cl)nc(c2ccccc2)nc1OCCCN1CCCCC1	8.4	65.19971	8.1245	0.2755	Ts	33.0924	8.0338	0.3662	Tr	52.67955	8.463	-0.063	Tr
168	Cc1c(c(nc(c2ccc(cc2)OC)n1)OCCCN1CCCCC1)Cl	8.41	68.49221	8.259	0.151	Ts	31.83949	7.9511	0.4589	Tr	42.8105	7.8918	0.5182	Ts
169	Cc1c(F)nc(c2ccccc2)nc1OCCCN1CCCCC1	8.42	78.32879	8.6609	-0.2409	Ts	39.6118	8.464	-0.044	Tr	57.36733	8.7344	-0.3144	Ts
170	Cc1c(F)nc(c2ccccc2)nc1OCCCN1CCCC1	8.45	76.54396	8.588	-0.138	Tr	39.34787	8.4466	0.0034	Tr	55.13345	8.6051	-0.1551	Tr
171	Cc1ccc(cc1)c1nc(C)c(c(n1)OCCCN1CCCCC1)Cl	8.7	51.71004	7.5734	1.1266	Tr	32.72549	8.0096	0.6904	Ts	47.52259	8.1645	0.5355	Tr

172	Cc1cc(nc(c2ccccc2)n1)OCC=CCN1CCOCC1	7.93	44.76944	7.2898	0.6402	Tr	19.70481	7.1504	0.7796	Tr	31.44107	7.2336	0.6964	Ts
173	Cc1c(c(nc(c2ccc(cc2)F)n1)OCCCN1CCCCC1)Cl	8.94	81.7431	8.8004	0.1396	Tr	45.53311	8.8547	0.0853	Tr	59.65897	8.867	0.073	Tr
174	Cc1c(c(nc(c2ccc(cc2)Cl)n1)OCCCN1CCCCC1)Cl	8.97	77.51559	8.6276	0.3424	Tr	41.6684	8.5997	0.3703	Tr	57.54444	8.7446	0.2254	Ts
175	Cc1c(c(nc(c2ccc(c(c2)Cl)Cl)n1)OCCCN1CCCCC1)Cl	9.01	77.89832	8.6433	0.3667	Ts	49.58642	9.1222	-0.1122	Tr	51.85056	8.415	0.595	Tr
176	COc1cc(nc(c2ccccc2)n1)OCCCN1CCCCC1	7.71	50.92916	7.5415	0.1685	Tr	26.88761	7.6244	0.0856	Ts	40.17568	7.7392	-0.0292	Tr
177	CCCc1cc(nc(c2ccccc2)n1)OCCCN1CCCCC1	7.41	55.23023	7.7172	-0.3072	Tr	26.76594	7.6163	-0.2063	Ts	35.38147	7.4617	-0.0517	Tr
178	Cc1cc(nc(c2ccccc2)n1)OCCCN1CCCC1	7.87	46.92857	7.378	0.492	Tr	24.43361	7.4624	0.4076	Tr	36.87096	7.5479	0.3221	Tr
179	Cc1c(Cl)nc(c2ccccc2)nc1OCCCN1CCCCC1	8.63	65.19971	8.1245	0.5055	Ts	33.0924	8.0338	0.5962	Ts	52.67955	8.463	0.167	Ts
180	Cc1cc(nc(c2ccccc2)n1)OCCCN1CCOCC1	7.02	43.57342	7.241	-0.221	Tr	23.03425	7.3701	-0.3501	Ts	31.49924	7.237	-0.217	Tr

Table S2. The list of SAks together with their correlation weights for the three runs of the Monte Carlo optimization

SA_k	Run 1	Run 2	Run 3	SA_k	Run 1	Run 2	Run 3	SA_k	Run 1	Run 2	Run 3	SA_k	Run 1	Run 2	Run 3	SA_k	Run 1	Run 2	Run 3
	$CW(SA_k)$				$CW(SA_k)$				$CW(SA_k)$				$CW(SA_k)$				$CW(SA_k)$		
$00011000000	0.1073	0.30494	-0.54278	Cl..(...3...	0.70109	-1.14792	0.58534	NNC-C...330.	0.2563	-0.11439	0.06109	PT2-Br..2...	-0.69665	0.92754	0.9242	VS3-C...15..	0.20026	-0.38208	0.21235
$00011000010	1.94563	-0.23574	2.16881	Cl..(...F...	1.91652	2.08791	2.9177	NNC-C...413.	-0.19571	2.28379	0.04819	PT2-Cl..2...	0.61795	0.05093	0.41819	VS3-C...2...	0.55892	1.07604	0.78136
$00011000100	0.17749	0.25786	0.22025	Cl..(...Cl..	-0.77524	-0.80485	0.27177	NNC-F...110.	-0.4909	-0.896	0.11873	PT2-N...1...	-4.08834	-2.23347	-0.79085	VS3-C...3...	0.12756	-0.41591	-0.24444
$00011001000	1.43727	2.69535	-0.13111	Cl.....	-0.86352	-0.79657	0.30549	NNC-Br..110.	2.38453	1.45372	2.66148	PT2-N...2...	0.3923	0.36417	1.08211	VS3-C...4...	-0.82147	1.71904	0.62032
$10011000000	-0.63412	0.54275	0.1107	Cl..2.....	-0.63697	-1.96139	-1.12629	NNC-Cl..110.	0.44293	-0.02583	0.19551	PT2-N...3...	0.34421	0.44568	0.30231	VS3-C...5...	-0.5201	-0.63544	0.01718
$10011000100	-0.41614	0.19271	0.72717	Cl..3.....	-0.57883	-0.38126	0.0313	NNC-N...110.	0.38875	-1.44334	-1.61886	PT2-N...4...	-0.90268	-0.83417	0.40852	VS3-C...6...	-0.1071	0.30888	0.17848
$10011001000	2.75664	1.67965	-0.09667	Cmax.1.....	0.66789	-0.22838	-1.25265	NNC-N...202.	0.10186	0.08848	0.33031	PT2-N...5...	1.07776	-0.56772	0.42728	VS3-C...7...	0.1948	2.20444	0.22897
$10011001100	1.04387	0.67946	-0.13534	Cmax.2.....	1.08828	0.98677	0.25908	NNC-N...211.	0.48939	-0.17825	0.304	PT2-O...2...	-1.29799	-0.85434	2.2355	VS3-C...8...	-0.6766	-0.18996	0.42242
(...(.....	0.6819	2.21789	0.63176	Cmax.3.....	-0.28501	-0.84379	-0.10649	NNC-N...220.	0.2799	1.03791	0.32529	PT2-O...3...	0.75177	2.16594	0.29931	VS3-C...9...	0.23872	0.13902	2.45975
(.....	0.451	1.25718	1.066	Cmax.4.....	0.43325	1.72716	0.32052	NNC-N...303.	0.16353	0.11242	0.10784	PT2-O...4...	-1.20012	-0.72877	-2.04257	VS3-F...4...	0.25926	0.29274	0.48412
(...C...(...	0.78195	3.24842	0.27474	HALO00000000	1.17343	1.01144	0.81517	NNC-N...321.	0.32888	-0.12203	0.38843	PT2-o...3...	-0.33245	-0.48995	0.85576	VS3-F...5...	0.64776	1.26559	0.27646
(...F...(...	0.18221	-1.89146	-1.68543	HALO00100000	1.3756	1.78209	2.48496	NNC-N...330.	0.06093	0.48448	1.06898	PT3-C...1...	0.38357	-0.91685	0.10139	VS3-F...6...	1.73375	1.29613	0.27823
(...Cl..(...	1.01115	0.92402	0.32836	HALO01000000	0.15531	0.41573	0.43836	NNC-O...110.	-0.97764	0.14597	-0.74347	PT3-C...2...	2.23844	1.14666	1.52734	VS3-Cl..4...	0.4146	0.79492	0.21895
(...N...(...	-0.99398	-0.87749	1.33205	HALO10000000	-0.06818	1.81795	2.93292	NNC-O...211.	0.46959	0.74778	1.13156	PT3-C...3...	-0.63505	0.09757	0.20932	VS3-Cl..5...	-2.34998	-0.50944	0.12485
(...c...(...	0.32137	0.23692	0.67091	HALO11000000	2.3101	0.22545	-0.39941	NNC-O...220.	0.35237	0.59407	2.29998	PT3-C...4...	0.43158	-0.00245	0.24926	VS3-Cl..6...	1.25938	0.13233	-0.7591
(...n...(...	-0.93099	-0.52166	-0.86923	N...(.....	2.41495	1.45964	0.77058	NNC-o...211.	-0.90959	0.52042	0.55421	PT3-C...5...	0.1347	-0.36836	-0.754	VS3-Cl..7...	2.35441	0.24805	-0.03128
++++F---B2==	1.00021	0.32756	2.08581	N...(...2...	2.04128	-1.40246	-1.92678	NNE0C...100-	2.47498	2.11217	-0.08511	PT3-C...6...	0.98188	0.32891	-0.34592	VS3-Cl..8...	0.00559	1.23073	-1.40891
++++F---Cl==	-0.01524	1.76265	-1.09064	N...(...C...	0.08367	0.01464	0.43769	NNE0C...109-	-0.97335	-0.54338	-0.72518	PT3-C...7...	-0.35105	2.10197	1.33893	VS3-N...10..	-0.19055	2.70641	0.18439
++++F---N===	0.44887	1.10076	2.68693	N.....	-0.53966	-1.35173	0.37212	NNE0C...209-	0.23709	0.68977	-0.03402	PT3-F...2...	0.22945	0.42598	0.38728	VS3-N...11..	0.86881	2.56367	0.00916
++++F---O===	0.10055	0.71971	2.21756	N...1...(...	5.37005	6.73044	6.74084	NNE0C...218-	-0.60912	-0.3571	-0.14624	PT3-F...3...	0.6371	-0.21536	0.00907	VS3-N...12..	-0.9846	-0.66966	-0.19608
++++CL--N===	0.10733	-0.58141	1.93257	N...1.....	0.44905	1.89183	0.02242	NNE0C...309-	0.39127	0.08121	0.03539	PT3-Br..2...	-0.77455	2.01254	1.06576	VS3-N...13..	0.7745	2.12142	1.28055
++++CL--O===	0.33779	2.30958	0.10214	N...1...C...	-0.01687	-0.7955	2.14965	NNE0C...318-	-1.0346	-0.11282	-1.2429	PT3-Cl..2...	0.29516	2.01814	0.07601	VS3-N...14..	-0.76636	-0.85501	0.33114
++++Br--N===	0.81187	1.78506	2.29548	N...C...(...	0.19891	-0.99816	0.1004	NNE0C...327-	-0.75801	0.66106	0.37755	PT3-Cl..3...	2.38598	-0.88886	-0.07637	VS3-N...15..	-0.60176	-0.37631	-0.90898
++++Br--O===	1.41264	0.17755	0.53421	N...C.....	0.19358	0.4896	0.35588	NNE0C...409-	0.14894	0.7116	-1.61483	PT3-Cl..4...	-0.2171	-0.23387	0.02468	VS3-N...2...	3.92513	2.33896	1.75395
++++Cl--B2==	1.06037	-0.44626	-0.10918	N...C...1...	1.27432	1.70729	1.85216	NNE0F...109-	0.35587	0.888	-0.66602	PT3-N...1...	-0.97686	4.55016	0.00343	VS3-N...4...	-1.81472	-0.12487	-0.29991
++++N---B2==	0.42648	-0.13024	-0.65364	N...C...C...	0.34985	0.36445	0.00084	NNE0Br..109-	-0.96946	0.82318	-0.30139	PT3-N...2...	-0.3286	-0.71379	0.35648	VS3-N...6...	1.91509	0.99404	1.23385
++++N---O===	14.1909	10.24521	7.01934	O...(.....	-0.50021	-0.66492	0.30332	NNE0Cl..109-	-0.60713	0.41593	-0.20531	PT3-N...3...	2.08287	0.03837	3.21606	VS3-N...7...	-0.1061	-0.092	-0.42952
++++O---B2==	-0.66407	0.07978	0.28912	O...(...1...	-0.17094	-0.40124	0.34796	NNE0N...109-	-0.52312	-0.21232	-1.45892	PT3-N...4...	0.39023	0.20429	0.18765	VS3-N...8...	2.89234	-0.0382	-1.68242
1...(.....	0.35388	-0.50581	-0.96358	O...(...N...	0.32333	0.24754	-0.0056	NNE0N...209-	0.47943	0.20214	0.09613	PT3-N...5...	0.20213	0.26597	0.05918	VS3-N...9...	0.20442	1.93347	0.16603
1.....	0.09539	0.72657	0.35141	O...(...O...	0.01767	-1.46988	0.11701	NNE0N...218-	0.20774	0.08389	0.37433	PT3-N...6...	0.45535	0.15756	0.31284	VS3-O...10..	1.54352	0.34779	0.85385
1...C...(...	3.14465	0.8103	2.81479	O.....	0.67746	0.33903	0.17313	NNE0N...318-	0.2158	-0.62755	0.28606	PT3-N...7...	0.53225	0.3623	0.59184	VS3-O...4...	-0.49629	-1.18636	0.14245
1...c...(...	0.41864	-0.2331	0.4783	O...1.....	1.93868	2.28357	2.28625	NNE0N...327-	0.22077	0.95286	3.37248	PT3-O...2...	-0.48973	-1.38727	-1.58405	VS3-O...5...	-0.64006	-1.11307	-2.21159

1...n...(...	-0.93647	-0.47623	0.16326	O...=...(...	0.01415	0.14054	-0.05947	NNE0O...109-	-0.57296	0.36869	-0.43646	PT3-O...3...	0.38906	0.52801	0.40782	VS3-O...6...	0.07582	-0.5357	0.0814
2...(.....	-2.76582	-3.73805	-2.50383	O...=.....	0.21983	-0.93921	0.7654	NNE0O...218-	0.17156	-0.03605	0.1657	PT3-O...4...	-1.14409	-0.03853	-0.80945	VS3-O...7...	-1.25376	-1.20514	-1.23262
2.....	0.19303	0.23924	-0.99092	O...=...1...	1.69917	4.5027	1.39589	NNE0o...209-	-0.35385	-0.36261	-0.42496	PT3-O...5...	1.87533	2.3228	0.29856	VS3-O...8...	2.23539	2.40333	0.16009
2...Cl..(...	0.50567	-0.88521	0.03685	O...C...(...	-0.87141	1.27708	-0.1141	NOSP11000000	-1.65575	1.95467	-0.63232	PT3-o...4...	1.14807	0.28959	0.29363	VS3-O...9...	2.00622	-0.03317	0.20452
2...c...(...	-0.53576	0.27827	-1.51427	O...C.....	-0.04525	-0.21472	0.09294	S2E0C...0-..	0.87873	7.02446	2.22234	PT4-C...1...	-0.72584	0.30653	-0.05397	VS3-o...10..	1.73252	-0.33614	0.64522
2...c...1...	-0.3455	1.84045	-1.33531	O...C...C...	-0.68104	-0.56523	-0.80358	S2E0C...1-..	0.29894	-0.02242	0.27387	PT4-C...10..	0.29156	1.61576	0.16436	VS3-o...9...	2.29007	-0.60026	0.76703
2...n...(...	-0.00663	-1.42527	-0.4742	O...c...1...	0.52599	0.19711	1.95214	S2E0C...2-..	0.19936	0.2301	0.10486	PT4-C...11..	1.66724	1.29468	0.87458	Smax.0.....	-0.33674	1.86891	0.3822
3...(.....	-0.17364	-1.05614	-0.2642	O...c...2...	2.05596	0.96917	2.16275	S2E0C...3-..	0.38171	-0.04408	0.00597	PT4-C...12..	2.12892	1.94075	2.6967	c...(.....	0.10015	0.05275	0.15785
3.....	0.5704	-0.74982	-0.42322	O...c...3...	1.12028	-1.2913	0.01352	S2E0C...4-..	0.70554	1.45614	0.97402	PT4-C...2...	-0.37308	0.0567	-0.42518	c...(...1...	0.1385	-0.88654	-0.11088
3...Cl..(...	-0.14232	-0.69475	-0.12783	P2E0C...0-..	-0.09007	-0.78848	0.33928	S2E0C...5-..	-0.97789	0.11694	0.28513	PT4-C...3...	0.74697	-0.18444	0.10172	c...(...3...	-0.34219	0.98527	-0.34577
3...c...(...	0.11569	-0.53056	0.3009	P2E0C...1-..	0.30951	-0.44416	0.40363	S2E0C...6-..	0.40723	0.34468	0.26259	PT4-C...4...	-0.17678	0.28742	0.02936	c...(...=...	0.30259	-0.236	0.24774
3...c...2...	-0.62491	1.73513	0.26169	P2E0C...2-..	-0.40749	0.2263	-0.21733	S2E0C...7-..	-0.19102	-0.72697	0.5684	PT4-C...5...	0.07645	0.21407	-0.77364	c...(...C...	-1.53462	-0.63773	-3.30595
4.....	0.93107	0.57278	1.04503	P2E0F...1-..	2.26716	0.33754	0.48747	S2E0C...8-..	-0.18658	-0.99821	-0.12279	PT4-C...6...	0.13143	-0.15035	-0.95235	c...(...F...	2.92851	6.53263	3.54108
=...(.....	0.06557	-0.19936	0.1304	P2E0F...2-..	-0.61923	-0.00017	0.07459	S2E0C...9-..	2.58371	2.97483	2.72026	PT4-C...7...	0.00181	1.25711	-0.52857	c...(...O...	0.20318	0.11747	0.00326
=.....	0.1046	0.09129	0.88359	P2E0Br..1-..	1.29732	-0.49592	-0.61021	S2E0F...3-..	4.47065	0.13802	1.17179	PT4-C...8...	0.19957	0.09266	0.06303	c...(...c...	0.24058	0.34709	0.17538
=...1.....	2.39341	-0.64862	0.35581	P2E0Cl..1-..	0.10277	-0.1244	0.10915	S2E0F...4-..	-1.25011	-0.67136	0.55514	PT4-C...9...	0.69775	-0.9237	0.02873	c.....	-0.31561	-1.29663	-0.31754
=...O...(...	-0.768	-0.44636	0.07203	P2E0N...0-..	0.9235	-0.91719	0.06412	S2E0Br..3-..	2.4701	1.99385	-0.85544	PT4-F...2...	2.66288	1.33365	2.50784	c...1...(...	0.10378	-0.81996	0.2179
C...(.....	1.09242	1.35655	0.61518	P2E0N...1-..	-0.9154	0.04331	2.10909	S2E0Cl..3-..	-0.62446	0.11684	0.36713	PT4-F...4...	0.30119	-0.96483	-0.28384	c...1.....	0.09933	-0.08239	-0.2347
C...(...1...	-0.04947	2.38687	0.55945	P2E0N...2-..	0.10501	0.37142	0.70572	S2E0Cl..4-..	-0.97123	-0.77874	0.45861	PT4-F...5...	0.12469	1.7684	-0.46854	c...1...N...	0.13373	0.36833	3.77769
C...(...2...	-0.88769	0.47906	-0.06921	P2E0O...0-..	-1.0265	-1.11885	-0.99814	S2E0Cl..5-..	1.15038	2.1344	-0.01661	PT4-Br..2...	1.77996	-0.80758	0.11138	c...1...O...	0.08681	1.5851	-0.39465
C...(...=...	-0.84721	0.03554	0.23332	P2E0O...1-..	0.14371	-1.17249	-0.80454	S2E0N...0-..	2.59021	-0.42517	-0.1454	PT4-Cl..2...	0.14372	-0.15478	0.02484	c...1...c...	-1.21187	-4.13117	-2.12332
C...(...C...	-1.52657	-3.2075	-2.19701	P2E0O...2-..	2.30186	2.07975	-1.84089	S2E0N...1-..	-0.21382	0.49453	0.03151	PT4-Cl..5...	0.04308	0.7187	0.02252	c...2...(...	2.29286	-0.31593	-0.82483
C.....	0.26666	0.84869	0.29213	P2E0o...1-..	0.17449	1.9865	1.94672	S2E0N...2-..	-2.27648	0.09078	0.5666	PT4-Cl..8...	-0.03023	-0.88537	-0.11198	c...2.....	-0.09964	0.42379	1.31321
C...1...(...	-1.45088	-1.16519	-2.1028	P3E0C...0-..	2.17896	0.15965	2.06156	S2E0N...3-..	0.54849	0.38956	0.85015	PT4-N...1...	-0.49223	0.1153	1.11392	c...2...C...	1.80296	5.37448	2.49031
C...1.....	0.17617	0.79176	0.00964	P3E0C...1-..	0.11746	-0.59855	0.49098	S2E0N...4-..	3.97108	4.27352	4.91281	PT4-N...10..	-0.1109	0.55481	0.11479	c...2...Cl..	2.19819	-0.82381	-1.15038
C...1...=...	1.85349	2.03792	0.97793	P3E0C...2-..	2.01776	0.09511	0.19388	S2E0N...5-..	-2.62808	-4.65186	-4.23834	PT4-N...13..	-0.73978	-0.98603	-0.75282	c...2...c...	-0.94015	-0.52699	0.52403
C...1...C...	2.18467	0.50977	1.48702	P3E0C...3-..	-0.91359	-0.25902	-0.81734	S2E0N...6-..	4.48676	1.82165	6.58066	PT4-N...15..	2.34901	2.01732	0.80292	c...3...(...	-0.15685	-0.2064	-0.38598
C...2.....	-0.46199	-0.06036	-0.31106	P3E0C...4-..	0.04688	0.58228	0.01393	S2E0N...7-..	3.53793	3.41495	2.92003	PT4-N...2...	-0.93989	0.22089	-0.04032	c...3.....	0.01917	-0.0908	0.05011
C...3.....	0.5496	1.13955	1.46441	P3E0F...1-..	-0.70294	0.03158	0.39815	S2E0N...8-..	0.44268	0.00852	-0.27779	PT4-N...3...	1.3144	2.38033	0.09817	c...3...C...	1.92975	-0.45132	0.6772
C...C...(...	-0.29574	-0.6978	-1.08828	P3E0F...2-..	2.09884	1.92296	2.42763	S2E0N...9-..	0.21951	-0.77169	0.51762	PT4-N...4...	-7.47255	-2.9966	-7.5769	c...3...Cl..	-0.2617	-1.73138	1.02905
C...C.....	0.44764	0.50874	0.12547	P3E0Br..1-..	1.1056	-0.13031	-0.1232	S2E0O...2-..	0.73729	-0.79402	-1.36021	PT4-N...5...	-4.53678	-1.45329	-2.49203	c...3...c...	-1.42482	0.14031	-0.88361
C...C...1...	1.00424	2.32387	0.54632	P3E0Cl..1-..	0.55549	0.51391	0.02251	S2E0O...3-..	0.25413	-0.63205	-0.62387	PT4-N...6...	0.32427	-0.23566	-0.10655	c...4.....	0.25633	0.41191	0.20567
C...C...2...	1.53627	-0.37921	2.48525	P3E0Cl..2-..	-0.38194	0.45583	0.94208	S2E0O...4-..	1.31464	-0.27123	0.43963	PT4-N...7...	0.21169	0.25382	0.42618	c...4...c...	-0.11338	0.2909	2.34021
C...C...3...	-0.20722	2.07065	1.94657	P3E0Cl..3-..	0.14754	2.02608	0.73353	S2E0O...5-..	0.80028	-0.49019	-0.7188	PT4-N...9...	2.39141	0.43387	2.63593	c...C...(...	0.09083	-1.50789	-0.45357
C...C...C...	0.11947	1.10397	0.41237	P3E0N...0-..	1.31299	-0.69967	0.19944	S2E0O...6-..	-0.00028	0.26985	1.68542	PT4-O...2...	0.23344	-1.19473	-1.58617	c...C.....	0.29788	1.09046	0.40445

C...N...(...	0.02367	1.10666	-0.45455	P3E0N...1-..	0.22356	-0.54485	-1.35633	S2E0o...5-..	1.16793	0.6017	0.23398	PT4-O...3...	-0.4158	0.62629	-0.96576	c...C...C...	3.0079	0.61434	2.36904
C...N...1...	-0.67901	-2.08897	-1.25897	P3E0N...2-..	-0.24456	2.44172	-0.05462	S3E0C...0-..	2.9645	2.19408	-0.42864	PT4-O...4...	-4.28128	-0.74963	-1.7804	c...C...O...	-0.40319	0.15387	0.44453
C...N...C...	1.31018	0.48506	0.07441	P3E0N...3-..	0.38737	0.70559	-0.13455	S3E0C...1-..	2.56657	2.41996	-0.15634	PT4-O...5...	0.58844	-1.17737	0.1897	c...O.....	0.24348	-0.30822	1.97537
C...O...(...	-0.48505	0.1494	-0.25006	P3E0N...4-..	0.89744	0.07985	-0.57319	S3E0C...10-.	-0.63705	-0.9161	0.18484	PT4-O...6...	-1.18413	-0.52861	0.26539	c...O...C...	0.18867	1.28445	0.09585
C...O...1...	0.16879	2.17313	0.06069	P3E0N...5-..	-0.91114	-0.83313	0.44355	S3E0C...11-.	-0.26482	-0.10524	-0.47173	PT4-O...8...	-0.22291	4.50332	1.27249	c...c...(...	0.42018	0.29226	0.42836
C...O...C...	-0.31507	0.34591	-0.59832	P3E0O...0-..	-0.55565	0.54392	-0.90811	S3E0C...12-.	8.92992	0.84939	8.87814	PT4-O...9...	-0.18395	2.64485	0.65151	c...c.....	-0.18681	0.03138	0.34329
C...c...1...	0.44542	2.24423	2.44561	P3E0O...1-..	-0.53967	-0.55263	0.12909	S3E0C...2-..	0.44947	2.03674	-0.39133	PT4-o...6...	0.33417	0.07771	0.0544	c...c...1...	-0.64285	0.36508	0.23824
C...c...2...	-2.02005	-0.21928	0.03531	P3E0O...2-..	2.07347	0.24679	-0.77532	S3E0C...3-..	-0.10304	-0.58307	-0.34667	Nmax.1.....	-0.05113	-0.21042	0.16825	c...c...2...	2.47854	1.40718	-0.14395
C...c...3...	-0.92707	0.34343	0.02495	P3E0O...3-..	2.73164	2.77076	4.02297	S3E0C...4-..	0.0135	0.44584	-0.04801	Nmax.2.....	0.68634	0.89648	-0.09541	c...c...3...	-0.39744	-0.66343	-0.63067
C3.....0...	-1.34151	0.27199	-0.18468	P3E0o...2-..	-0.3462	-0.27684	0.02172	S3E0C...5-..	0.14319	0.31007	0.06846	Nmax.3.....	-2.42179	-1.33798	-2.52464	c...c...4...	2.09853	1.3423	0.6005
C3.....1...	0.30735	1.90729	0.61636	P4E0C...0-..	-1.04114	-1.33946	-1.2062	S3E0C...6-..	0.68033	0.31309	0.02608	Omax.1.....	0.11756	-0.8632	0.88518	c...c...c...	-1.11725	-0.13544	-0.70127
C4.....0...	-1.42488	-1.45314	0.17164	P4E0C...1-..	0.13875	0.45181	-0.59683	S3E0C...7-..	0.45595	0.34358	0.35231	Omax.2.....	0.16055	0.10095	2.00356	c...n...(...	0.43542	0.42971	0.34424
C5.....0...	0.11301	-0.95606	0.10636	P4E0C...10-.	-1.2479	-1.21379	-0.16743	S3E0C...8-..	0.17486	0.10772	0.29205	Omax.3.....	-3.53518	-5.22849	-2.90334	c...n...1...	1.6184	-0.57376	-0.69382
C5....H.1...	3.14797	-4.39605	1.61875	P4E0C...2-..	0.11106	2.30925	-0.34321	S3E0C...9-..	0.25054	-0.62984	-0.8077	VS2-C...10..	0.75138	-0.49175	0.14474	c...n...2...	-0.92739	-0.90564	0.27383
C5...A..1...	-0.42285	2.1922	1.34049	P4E0C...3-..	0.01414	0.3645	0.2206	S3E0F...3-..	0.96001	-0.53141	0.13989	VS2-C...11..	-5.1177	-3.22774	-6.27332	c...n...3...	2.12904	1.64641	2.05622
C5...AH.1...	2.01177	2.43834	0.41772	P4E0C...4-..	0.13474	0.22343	0.08773	S3E0F...4-..	0.55734	-0.06788	2.43515	VS2-C...12..	3.0947	3.53155	2.13873	n...(.....	-0.15341	-0.74164	0.04899
C5...AH.2...	2.77535	2.26353	0.86983	P4E0C...5-..	0.30152	0.26413	0.2771	S3E0F...5-..	2.05577	-0.78369	-1.1622	VS2-C...2...	2.31487	-0.96231	0.12949	n...(...1...	0.91411	0.92534	-0.01294
C6...A..1...	0.50934	1.44709	2.19197	P4E0C...6-..	2.41072	0.35853	0.01766	S3E0Cl..3-..	1.04857	0.29992	-0.12516	VS2-C...3...	-3.94602	-0.12807	-0.90627	n...(...2...	-2.18641	-0.03803	0.93805
C6...A..2...	3.13068	2.16639	8.60524	P4E0C...7-..	0.34459	0.5068	0.16144	S3E0Cl..4-..	0.9325	-0.17766	-1.45631	VS2-C...4...	-0.12206	0.4615	0.19971	n...(...3...	-0.1015	1.42462	0.38588
C6...AH.2...	-0.03571	-0.87755	-0.29967	P4E0C...8-..	0.19455	0.58633	0.59319	S3E0Cl..5-..	-0.59139	1.92266	0.98029	VS2-C...5...	-0.09353	0.49569	-0.92606	n...(...C...	0.13026	-0.30508	0.99034
C6...AH.3...	0.2918	-0.68626	1.03402	P4E0F...1-..	0.44357	2.38932	-0.92562	S3E0Cl..6-..	0.10454	1.09081	1.5175	VS2-C...6...	0.95496	0.45912	0.72624	n...(...F...	-0.18039	1.91116	2.31783
C6...AH.4...	1.70042	0.70334	-0.22127	P4E0F...3-..	-0.2604	-0.59934	0.64122	S3E0Cl..7-..	-0.40561	0.21557	-2.68884	VS2-C...7...	0.26281	0.89135	0.13496	n...(...Cl..	1.36147	-0.44425	2.02243
C7.....0...	0.28956	2.33074	0.28315	P4E0F...4-..	0.38356	-0.9027	-0.2331	S3E0N...0-..	0.76144	2.11077	2.49914	VS2-C...8...	-0.8845	-1.13503	-0.40616	n...(...O...	0.22174	-0.55394	-0.56759
BOND00000000	2.61433	-0.24676	1.29137	P4E0Br..1-..	-2.05323	0.67106	-0.0258	S3E0N...1-..	-0.48055	-8.12224	-0.90195	VS2-C...9...	0.48867	0.34572	0.38481	n...(...c...	-0.75127	0.62693	-0.82795
BOND10000000	0.45948	-0.52228	0.36545	P4E0Cl..1-..	-0.00555	0.21121	0.39167	S3E0N...10-.	-0.46694	-1.46052	-1.21372	VS2-F...4...	0.65637	1.6251	0.17003	n.....	-1.71919	-1.15977	-0.1552
F...(...(...	0.37346	-0.60594	0.17382	P4E0Cl..4-..	0.28722	0.30904	-0.09372	S3E0N...11-.	0.28986	-0.03391	-0.09242	VS2-F...5...	0.14833	-0.56044	1.00072	n...1...(...	0.30131	0.04869	0.29076
F...(.....	-0.63114	0.21399	-1.20183	P4E0Cl..7-..	0.06424	0.32842	0.22975	S3E0N...12-.	-0.0474	1.01519	0.24165	VS2-Br..4...	2.09644	3.02597	-0.14256	n...1.....	0.25361	0.02151	0.05105
F...(...1...	3.36786	2.31051	1.82582	P4E0N...0-..	0.07878	0.29268	0.12426	S3E0N...13-.	-0.67758	-0.76496	0.5761	VS2-Cl..4...	1.36689	2.3002	0.3227	n...1...c...	2.1203	-0.34195	0.3123
F...(...2...	-0.56419	1.92616	1.9927	P4E0N...1-..	2.45704	-0.84252	2.0493	S3E0N...3-..	0.6165	0.00793	-0.64892	VS2-Cl..5...	0.19597	0.35979	0.22337	n...2...(...	-0.53643	-0.8918	0.47372
F...(...3...	-2.42989	1.6804	3.5726	P4E0N...11-.	-1.40425	-0.87393	-0.638	S3E0N...4-..	-0.84847	-0.67251	-1.09214	VS2-Cl..6...	-0.84897	-0.22492	0.07799	n...2.....	0.85285	-1.40108	0.0066
F...(...C...	-1.23893	-0.59105	0.62027	P4E0N...13-.	1.17297	0.14823	1.19949	S3E0N...5-..	-3.71858	-1.81413	-1.32167	VS2-N...10..	-0.34718	0.72686	-0.86385	n...2...c...	0.11717	0.89027	-0.60847
F...(...F...	1.55683	3.82385	1.27211	P4E0N...2-..	5.51567	1.00358	3.46113	S3E0N...6-..	1.93414	2.26832	2.26117	VS2-N...11..	-0.60743	-0.76964	-1.89009	n...3.....	-1.06675	0.39945	-0.17224
F.....	-0.25642	0.40271	-0.02977	P4E0N...3-..	-3.15323	-3.94294	-1.23125	S3E0N...7-..	0.13702	0.26118	-0.91587	VS2-N...2...	-2.38137	-2.68547	-2.32919	n...3...c...	-0.50479	-2.743	0.11153
EC0-C...1...	1.36529	0.63532	-0.71085	P4E0N...4-..	0.64645	0.29485	-0.77612	S3E0N...8-..	-0.17321	2.08017	0.2511	VS2-N...3...	0.37537	1.09706	2.22914	n...c...(...	-0.77907	0.34709	0.10819
EC0-C...2...	-0.59099	0.32309	-0.69295	P4E0N...5-..	0.25437	-0.45967	-0.73298	S3E0N...9-..	0.2891	0.10828	0.20508	VS2-N...4...	-1.43371	-2.57522	-0.25179	n...c.....	0.34427	0.028	-0.84239

EC0-C...3...	0.44363	-0.94802	0.02841	P4E0N...7-..	-0.32941	0.30537	0.20456	S3E0O...3-..	-3.57489	-1.73856	-2.63004	VS2-N...5...	2.25265	1.60792	0.74477	n...c...1...	0.36382	1.96704	0.07398
EC0-C...4...	-2.84645	-3.52218	-4.85621	P4E0N...8-..	-0.23901	-0.01088	0.45676	S3E0O...4-..	3.6375	3.40626	2.58661	VS2-N...6...	1.89395	0.64373	0.35143	n...c...2...	0.22884	-0.53396	0.29612
EC0-F...1...	1.88975	-0.67049	0.79813	P4E0O...0-..	-0.72253	0.15051	-1.09229	S3E0O...5-..	0.80665	0.61133	-0.21338	VS2-N...7...	-1.49594	-2.54936	-0.99321	n...o...(...	0.23062	2.17714	-0.35412
EC0-Br..1...	4.85701	-0.76633	-0.25409	P4E0O...1-..	0.20479	-0.91822	-0.44337	S3E0O...6-..	0.31675	0.42987	-0.40945	VS2-N...8...	4.04346	1.53327	-0.4605	n...o...1...	0.44218	0.34891	-0.154
EC0-Cl..1...	2.28233	2.28898	0.30913	P4E0O...2-..	-3.47871	-2.73523	-3.94233	S3E0O...7-..	1.95468	2.07466	0.44614	VS2-N...9...	0.20129	0.21981	0.13947	o...(.....	2.31636	1.60588	-0.05444
EC0-N...1...	-1.11831	-0.71682	-1.7126	P4E0O...4-..	-0.77744	1.55049	-1.11294	S3E0O...8-..	-0.91091	2.33479	0.41136	VS2-O...4...	-2.0011	-3.38297	-0.46263	o...(...2...	0.34666	0.41474	2.46063
EC0-N...2...	-0.31655	2.34999	0.02513	P4E0O...7-..	0.22855	2.31026	-0.63354	S3E0O...9-..	-0.82849	-1.79604	-0.42181	VS2-O...5...	-0.28746	-1.66268	0.84813	o...(...F...	0.81514	0.44325	0.06351
EC0-N...3...	0.30352	0.49394	0.05686	P4E0o...4-..	2.06573	0.18558	1.05362	S3E0o...7-..	0.02463	0.33814	2.10003	VS2-O...6...	-0.87637	-0.99916	0.12417	o...(...Cl..	-0.12286	0.9133	1.09011
EC0-O...1...	-0.78822	-0.6673	-0.9418	NNC-C...101.	0.11339	0.37319	1.05365	S3E0o...8-..	-0.34056	-0.53838	0.17812	VS2-O...7...	-1.20212	-0.77395	0.46408	o.....	-0.37712	0.37427	-0.21875
EC0-O...2...	0.394	-0.57243	-0.63992	NNC-C...110.	0.48951	0.33972	0.32992	PT2-C...1...	-0.32632	1.32811	1.17307	VS2-O...8...	1.39421	0.74258	-1.31927	o...1...(...	0.01789	-0.39389	0.56597
EC0-o...2...	0.472	0.20462	-0.01912	NNC-C...202.	-0.17631	-1.70867	-1.50167	PT2-C...2...	0.0512	0.43351	0.37673	VS2-o...7...	0.05538	1.12612	0.35851	o...1.....	0.23644	-0.80073	-0.36603
Br..(.....	-0.57195	-0.03614	0.44963	NNC-C...211.	-0.96548	-0.17938	-0.84007	PT2-C...3...	0.09868	0.25393	0.13102	VS3-C...10..	0.01945	-0.74064	-0.12108	o...n...(...	0.42093	0.7053	0.18398
Br.....	2.29067	0.20406	1.06347	NNC-C...220.	-0.05685	0.07171	0.23139	PT2-C...4...	0.20403	-0.55072	0.49361	VS3-C...11..	0.0859	-0.00809	0.40133	o...n.....	0.07576	1.08643	-0.53852
Cl..(.....	0.12255	-0.52382	0.27748	NNC-C...303.	-0.84083	-0.57118	0.43963	PT2-C...5...	3.72097	2.35433	1.87727	VS3-C...12..	0.15472	0.48983	0.44631	o...n...1...	-0.15187	1.77072	0.48232
Cl..(...1...	0.4202	-0.51959	2.32791	NNC-C...312.	0.64318	-0.2417	-0.61019	PT2-F...2...	0.21277	0.37043	0.90618	VS3-C...13..	-0.59742	1.01497	0.1602	o...n...2...	-2.60318	-2.09995	2.35885
Cl..(...2...	0.67631	1.78638	1.47438	NNC-C...321.	-0.57378	1.55696	1.5637	PT2-F...3...	0.47427	-0.94258	0.01426	VS3-C...14..	0.13508	-0.00858	-0.9751				

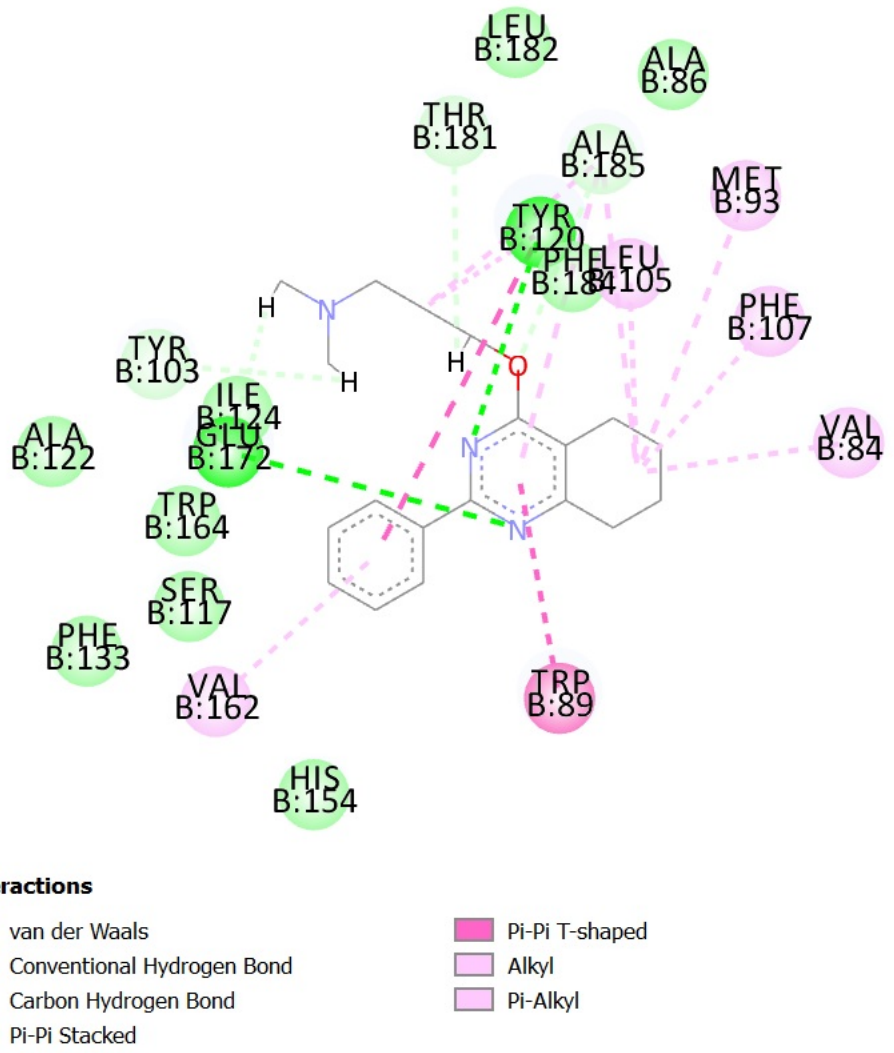

Figure S1. Two-dimensional representation of the interaction between molecule A and amino acids inside sigma 1 receptor binding pocket.

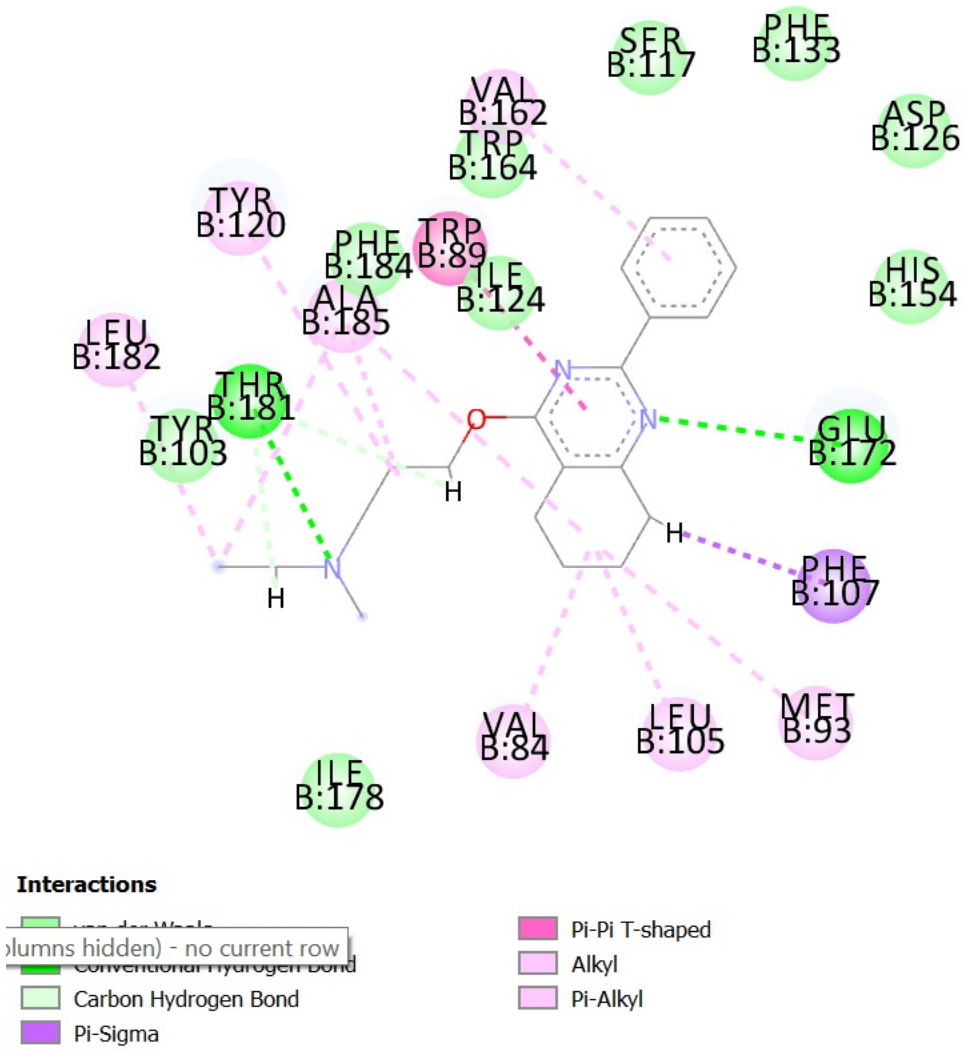

Figure S2. Two-dimensional representation of the interaction between molecule A1 and amino acids inside sigma 1 receptor binding pocket.

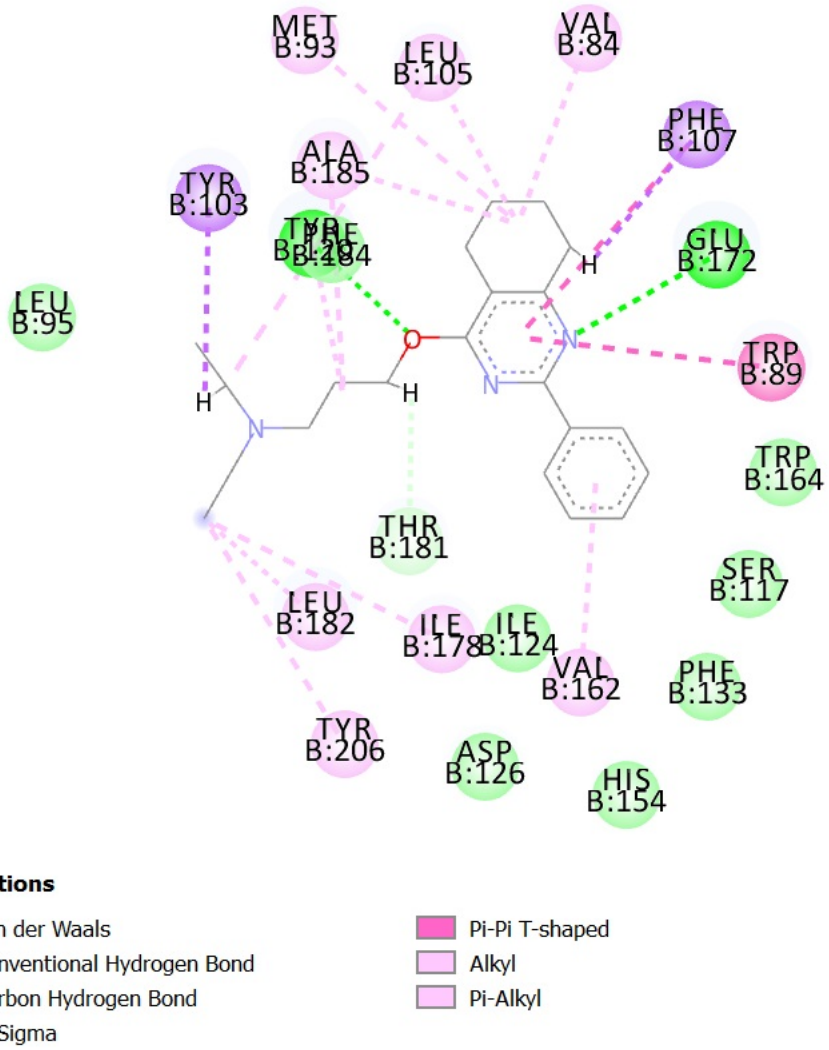

Figure S3. Two-dimensional representation of the interaction between molecule A2 and amino acids inside sigma 1 receptor binding pocket.

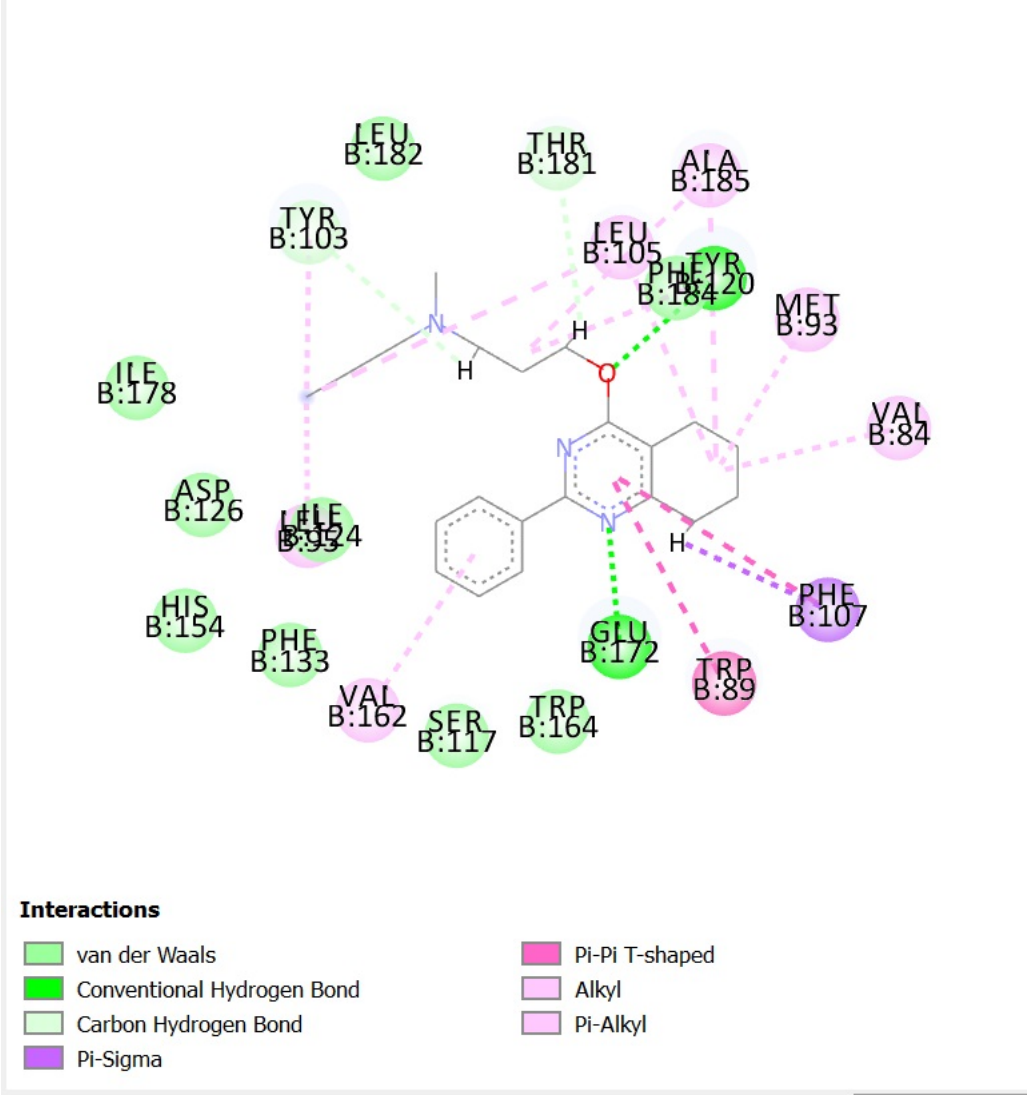

Figure S4. Two-dimensional representation of the interaction between molecule A3 and amino acids inside sigma 1 receptor binding pocket.

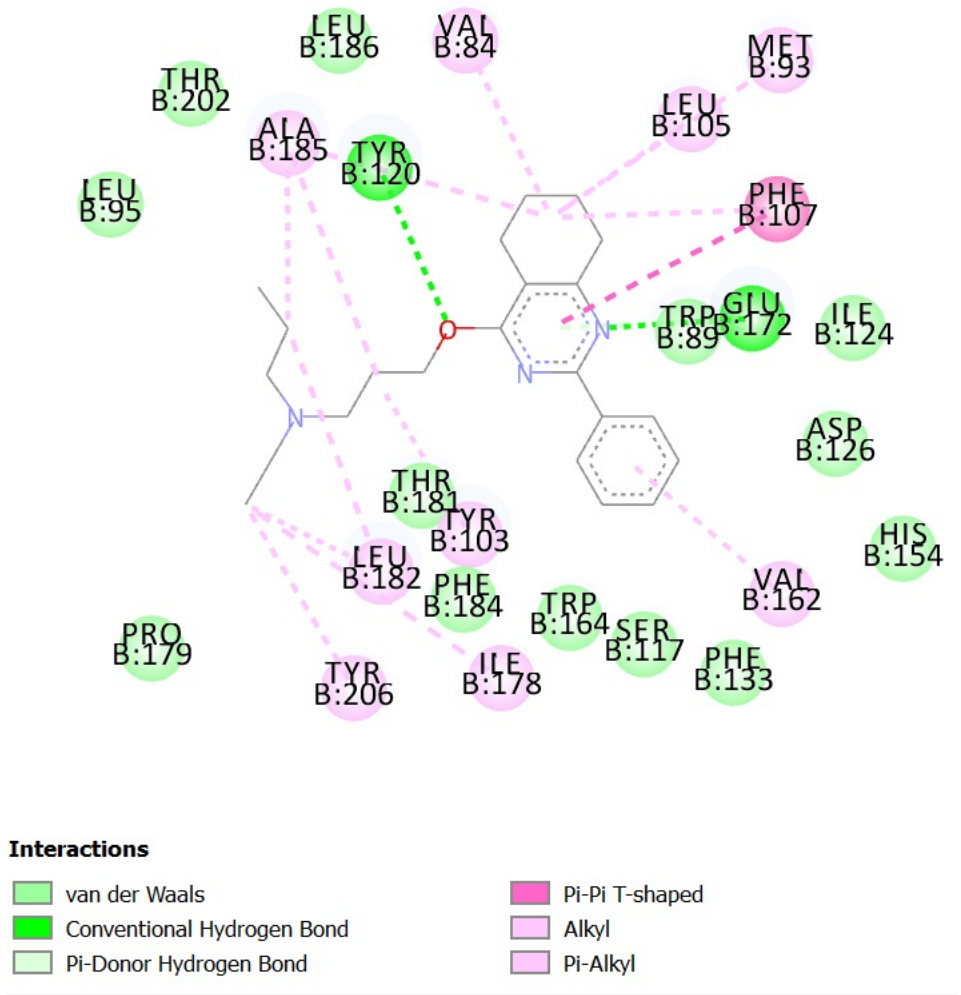

Figure S5. Two-dimensional representation of the interaction between molecule A4 and amino acids inside sigma 1 receptor binding pocket.

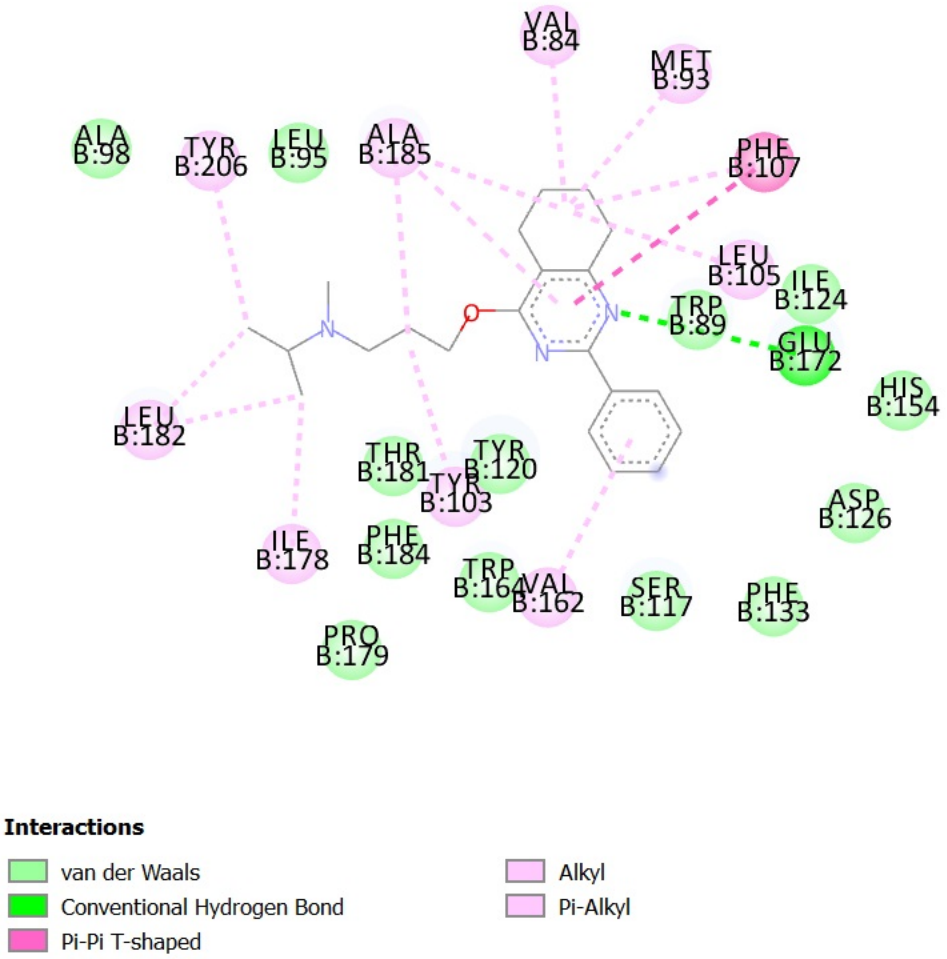

Figure S6. Two-dimensional representation of the interaction between molecule A5 and amino acids inside sigma 1 receptor binding pocket.

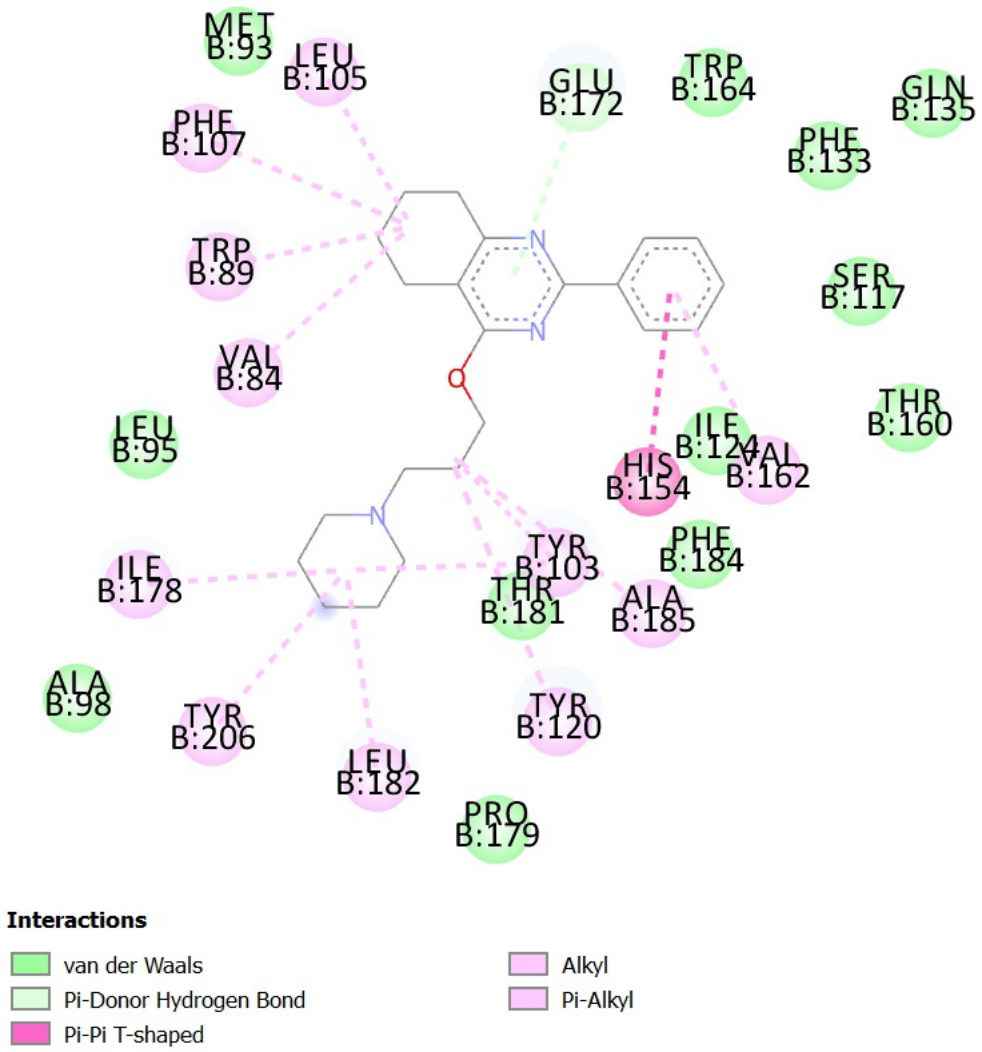

Figure S7. Two-dimensional representation of the interaction between molecule A6 and amino acids inside sigma 1 receptor binding pocket.

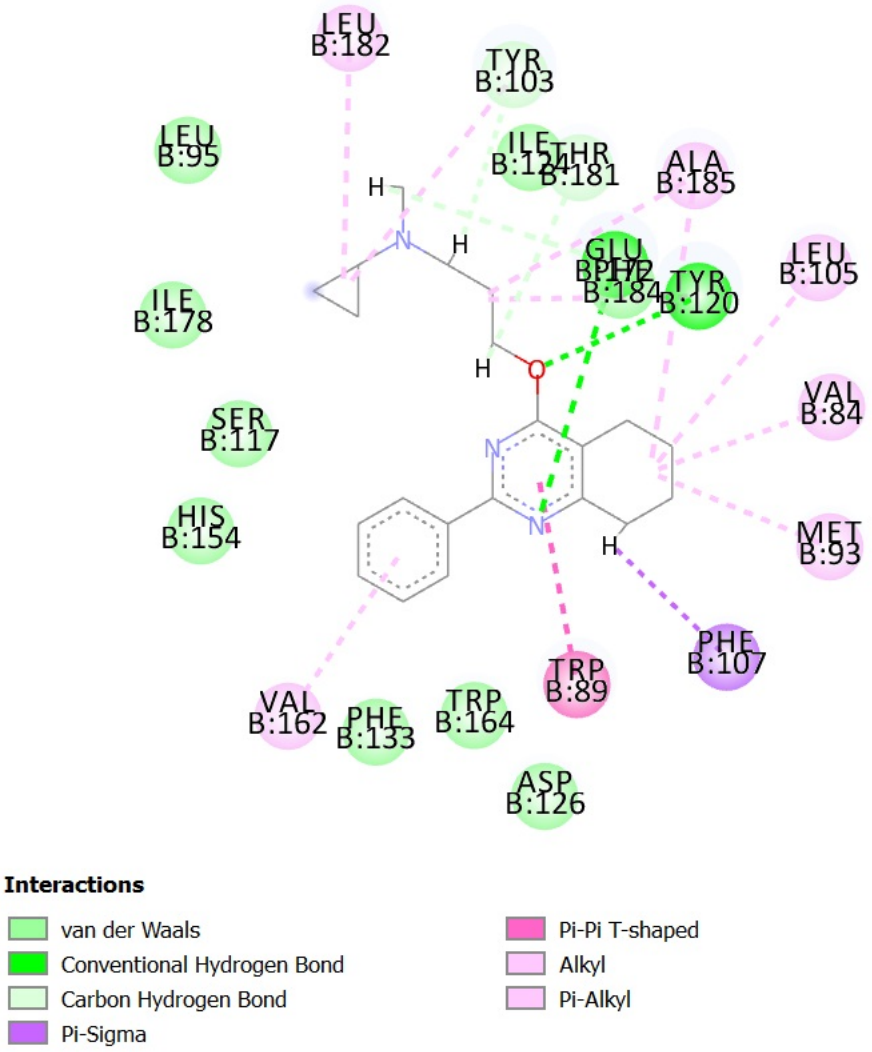

Figure S8. Two-dimensional representation of the interaction between molecule A7 and amino acids inside sigma 1 receptor binding pocket.

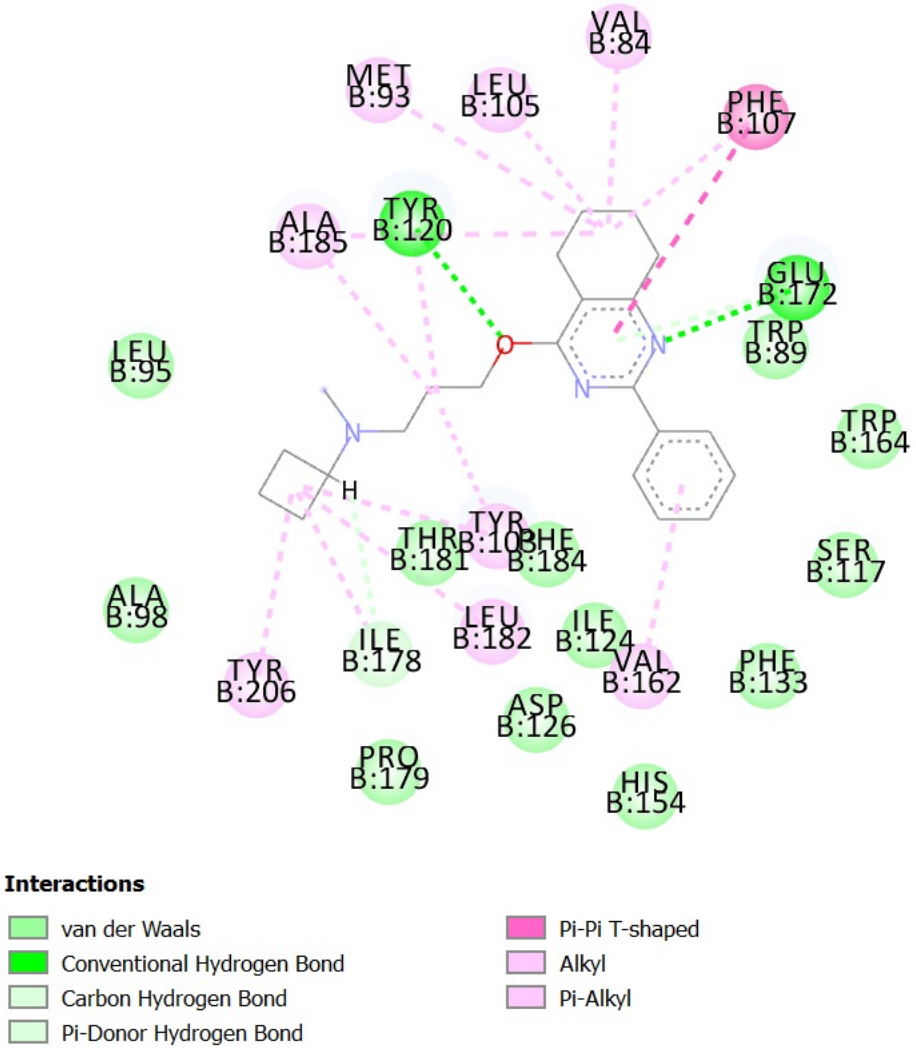

Figure S9. Two-dimensional representation of the interaction between molecule A8 and amino acids inside sigma 1 receptor binding pocket.

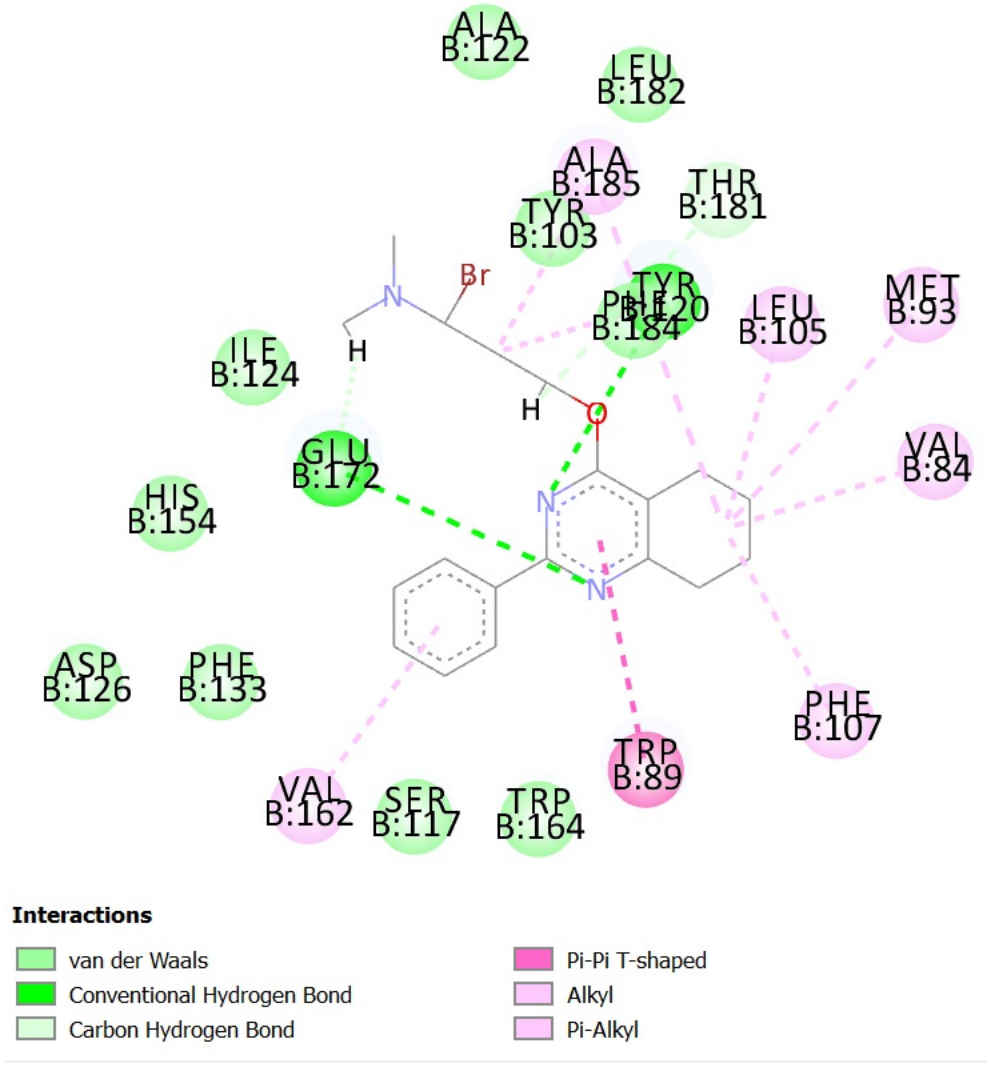

Figure S10. Two-dimensional representation of the interaction between molecule A9 and amino acids inside sigma 1 receptor binding pocket.

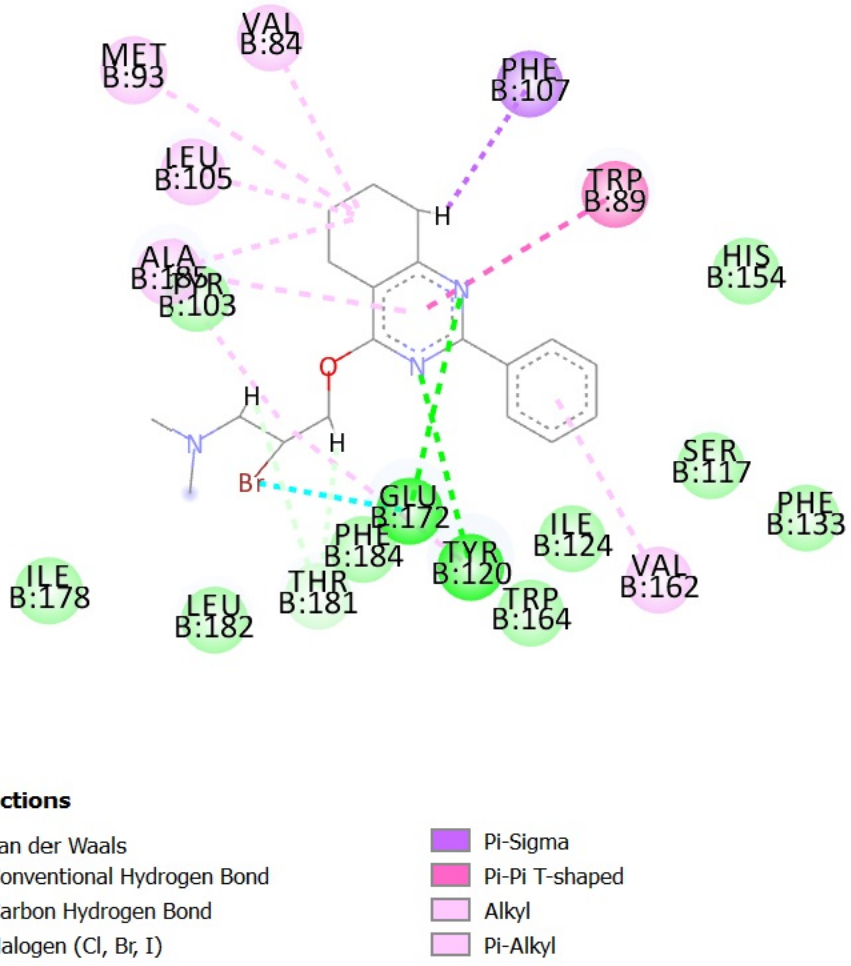

Figure S11. Two-dimensional representation of the interaction between molecule A10 and amino acids inside sigma 1 receptor binding pocket.

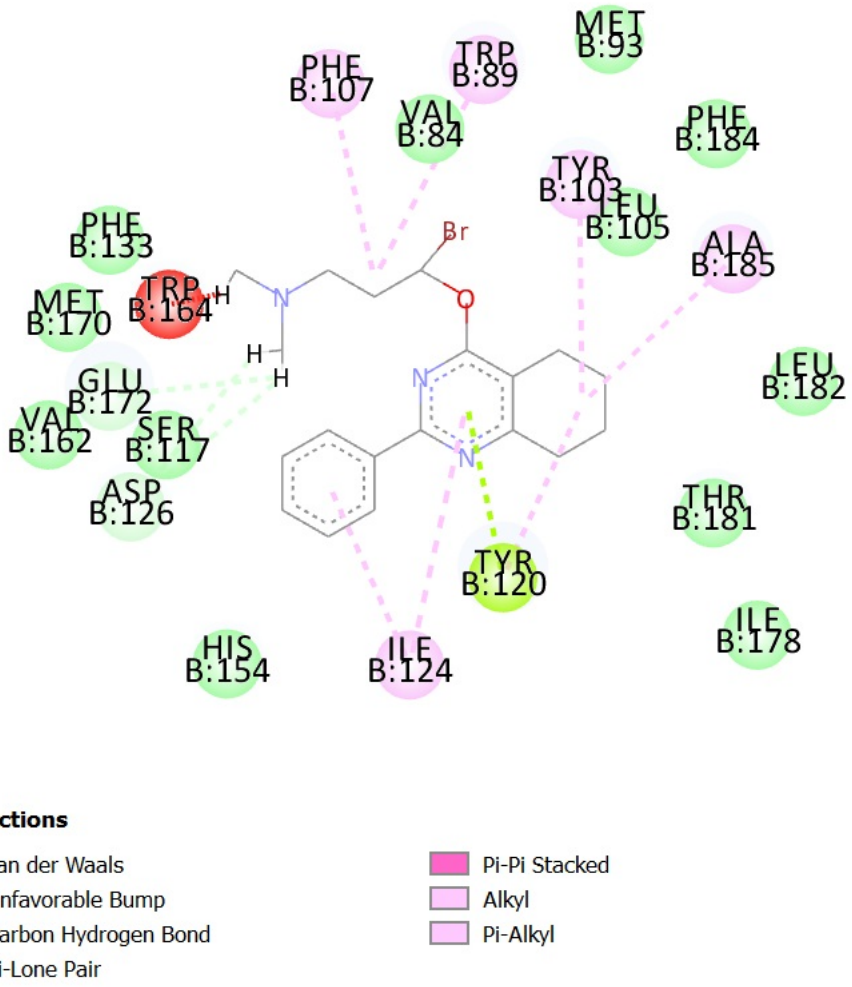

Figure S12. Two-dimensional representation of the interaction between molecule A11 and amino acids inside sigma 1 receptor binding pocket.

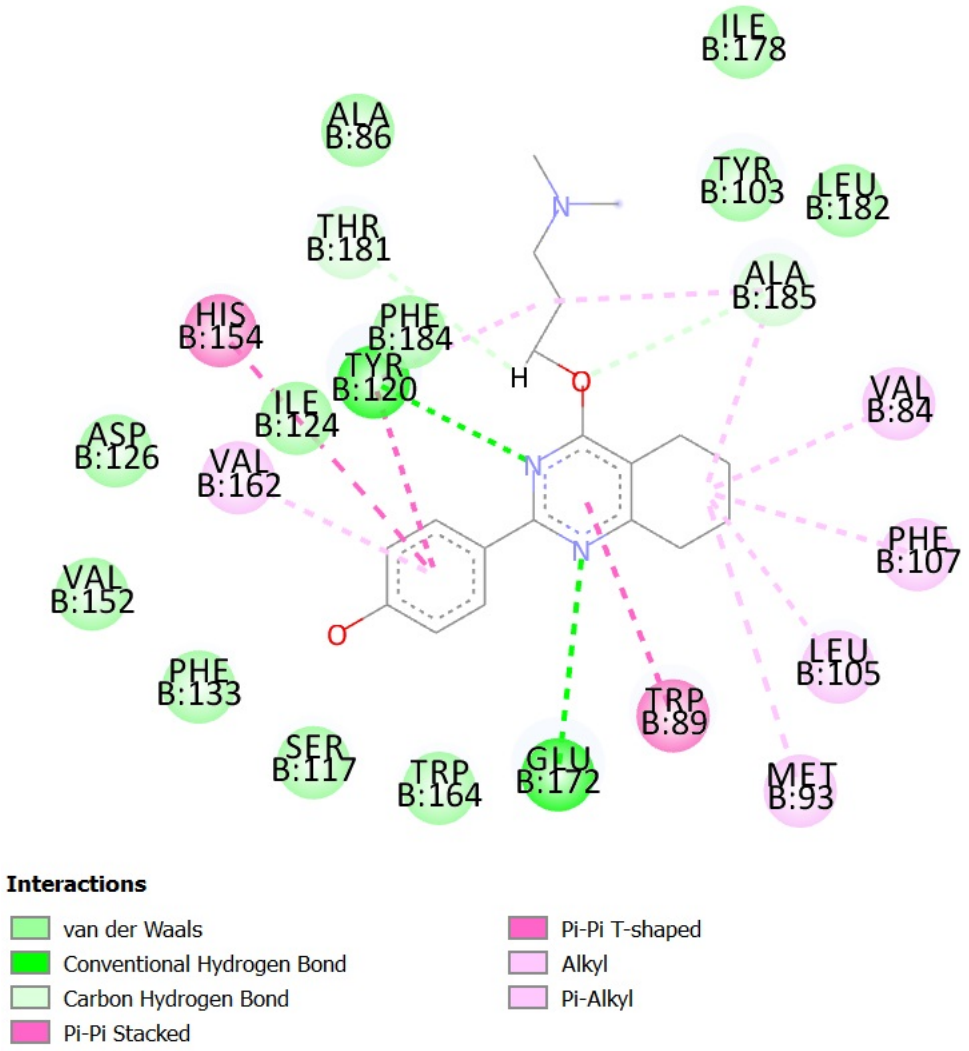

Figure S13. Two-dimensional representation of the interaction between molecule A12 and amino acids inside sigma 1 receptor binding pocket.

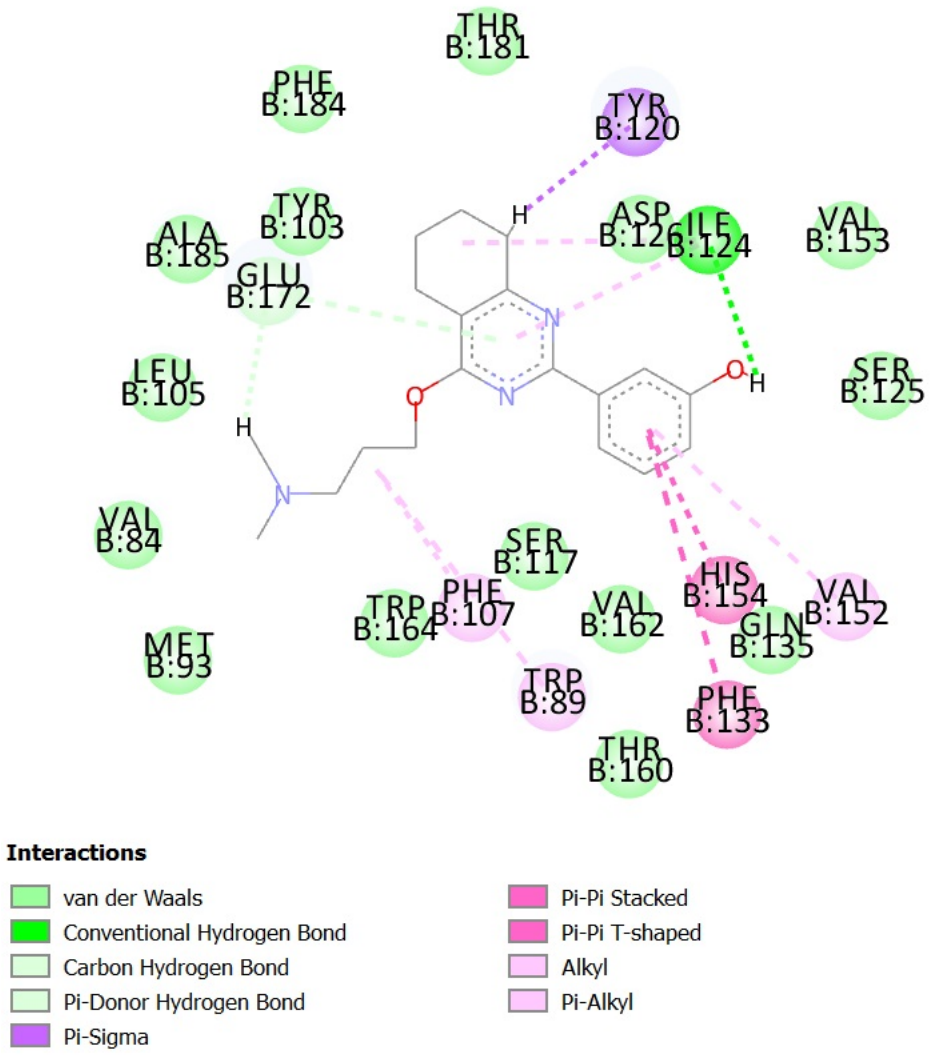

Figure S14. Two-dimensional representation of the interaction between molecule A13 and amino acids inside sigma 1 receptor binding pocket.

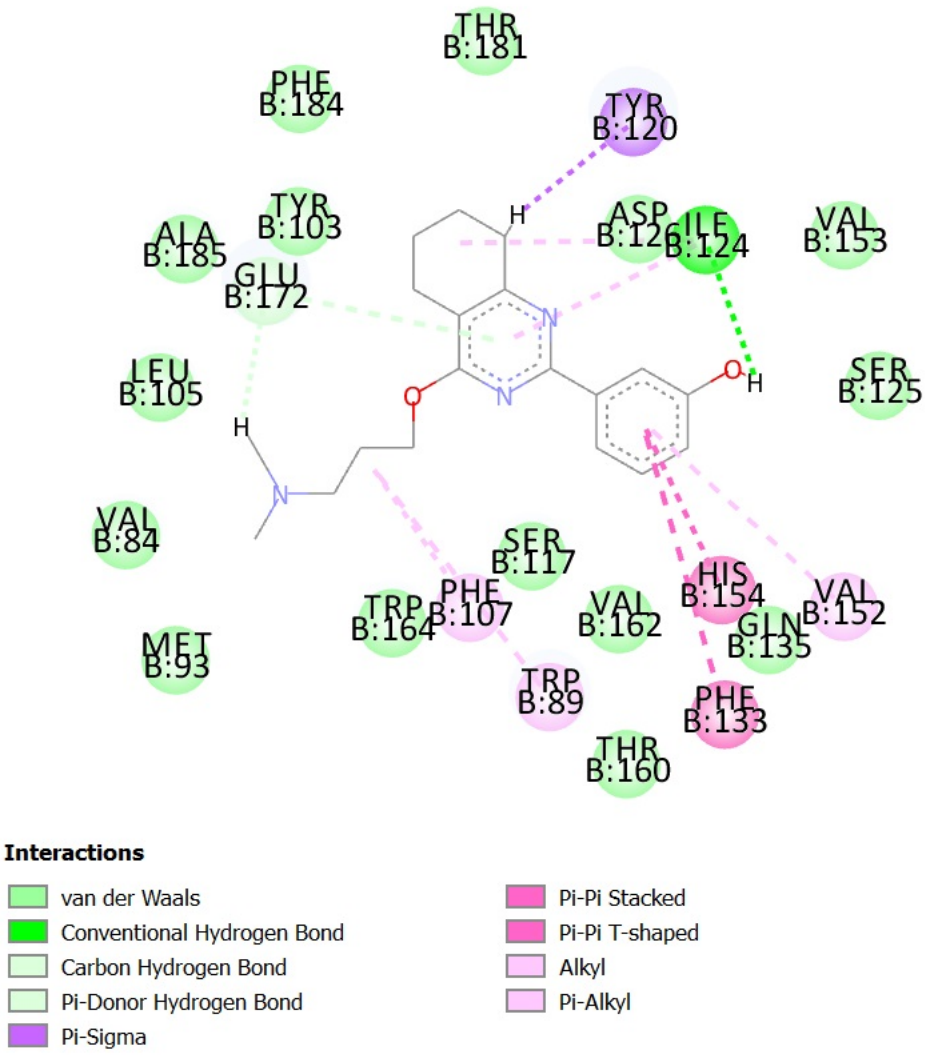

Figure S15. Two-dimensional representation of the interaction between molecule A14 and amino acids inside sigma 1 receptor binding pocket.