Supporting information

Chiral covalent organic frameworks synthesized via Suzuki–Miyaura–coupling reaction: Enantioselective recognition of D/L-amino acids

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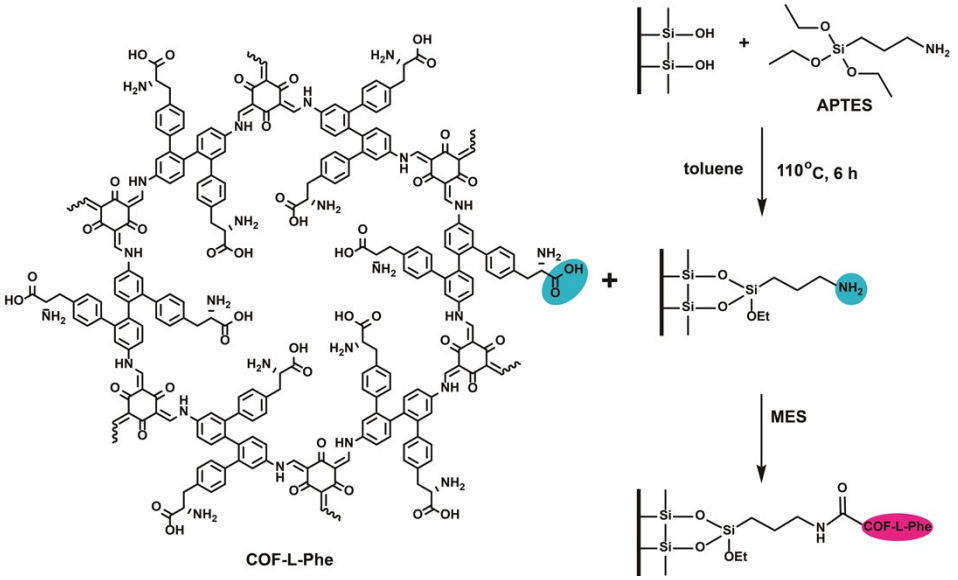

Scheme. S1 Schematic diagram of preparation of COF-L-Phe modified open-tube column.

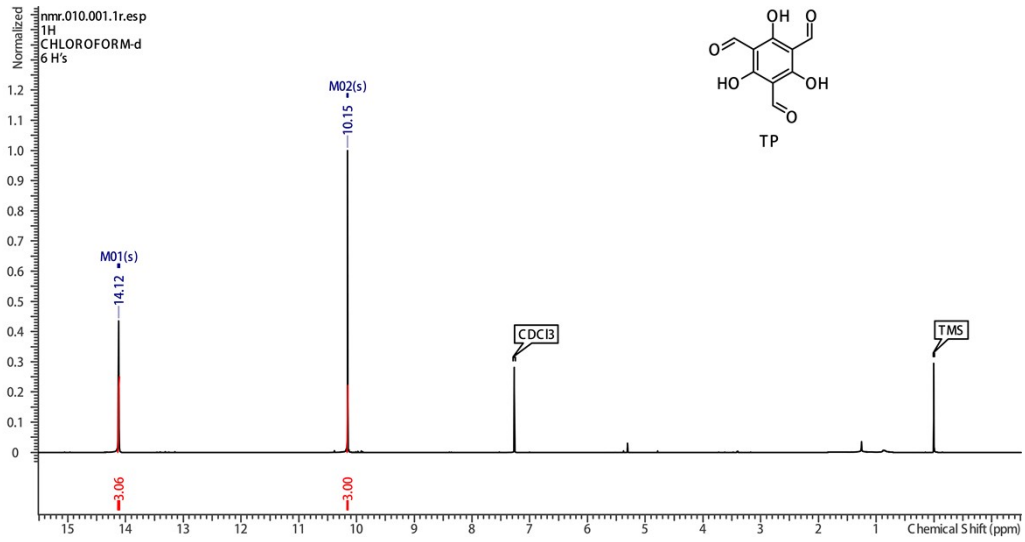

Fig. S1 ^{1}H-NMR of Tp.

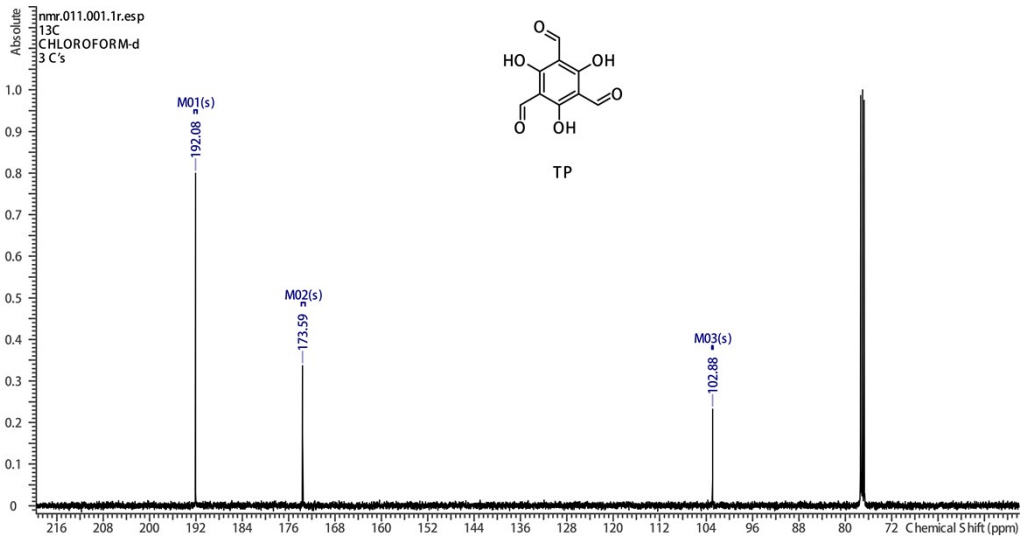

Fig. S2 ^{13}C-NMR of Tp.

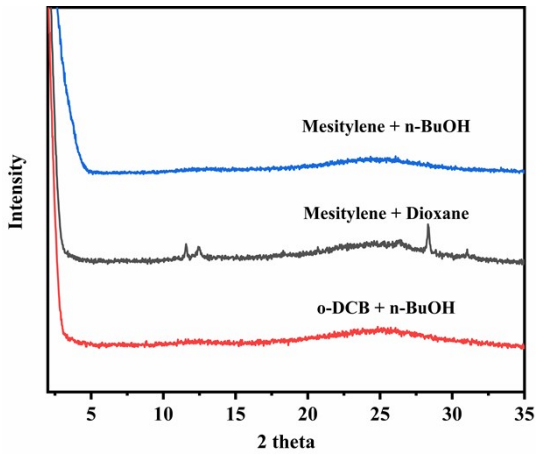

Fig. S3 PXRD patterns of COF-Br prepared in different solvents.

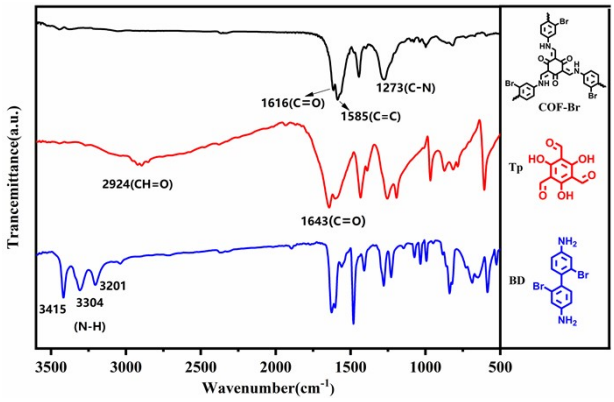

Fig. S4 FT-IR spectra of Tp, BD, COF-Br.

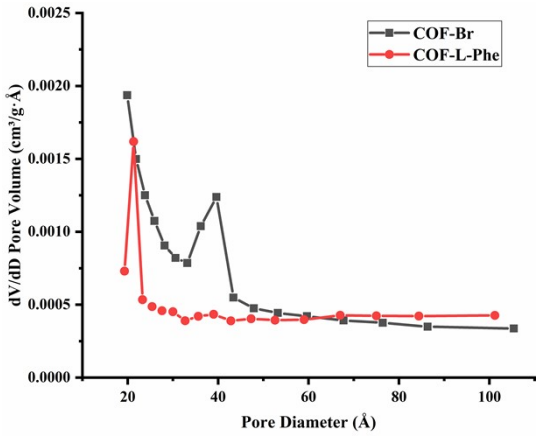

Fig. S5 Pore size distribution of COF-Br (black) and COF-L-Phe (red).

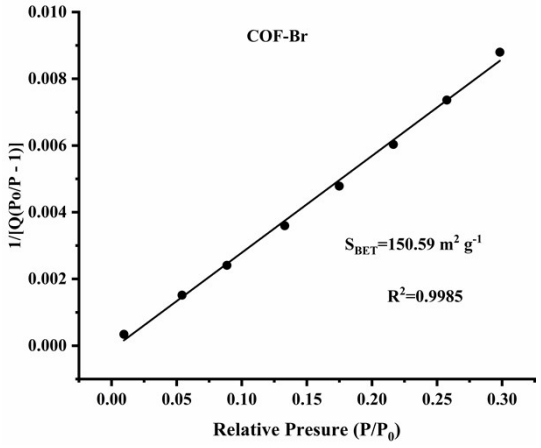

Fig. S6 BET plot of COF-Br.

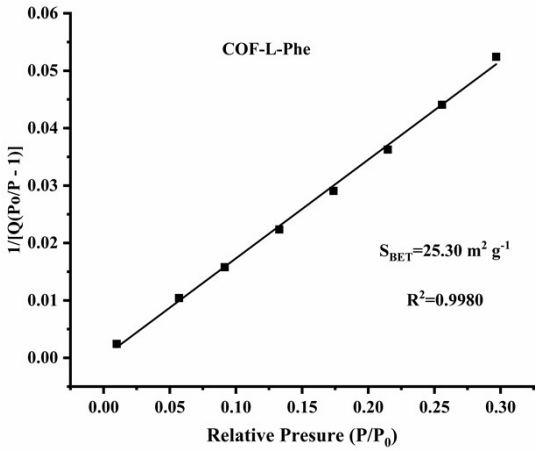

Fig. S7 BET plot of COF-L-Phe.

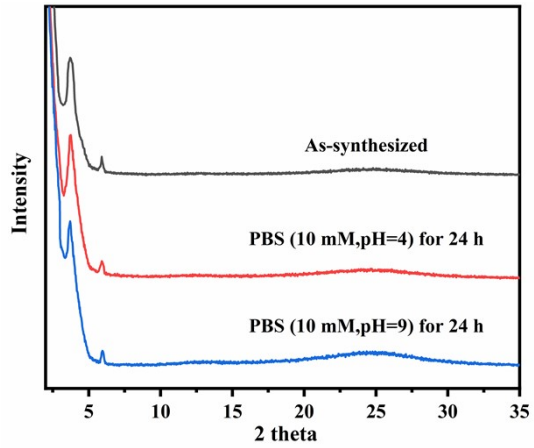

Fig. S8 PXRD patterns of measured after 24 h treatment of COF-Br in phosphate buffer with pH=4.0 and pH=9.0.

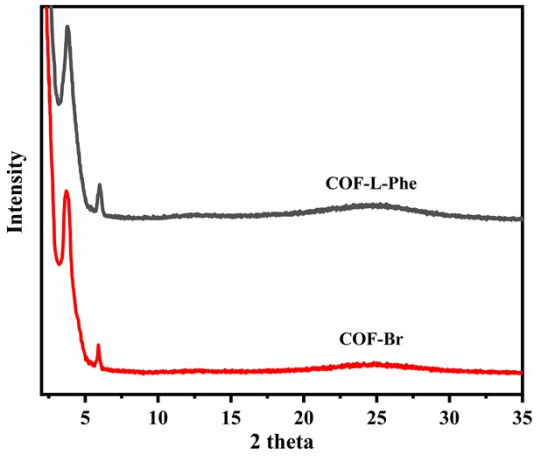

Fig. S9 PXRD patterns of COF-Br (black) and COF-L-Phe (red).

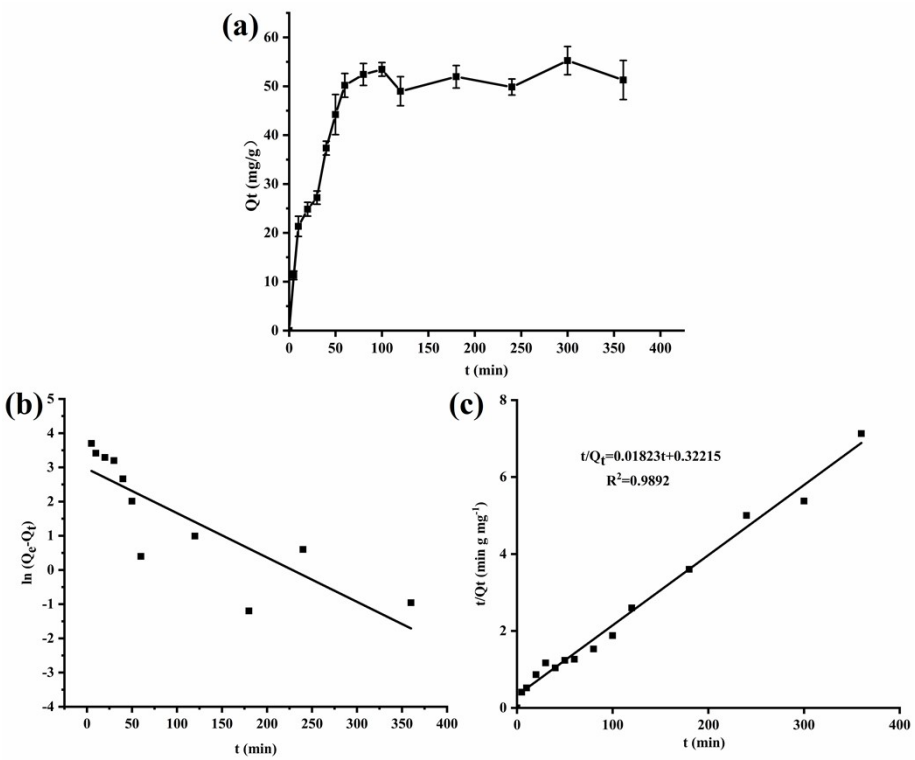

Fig. S10 a) Time-dependent adsorption of Phenylalanine on COF-L-Phe; b) Pseudo-first-order kinetics equation; c) Pseudo-Second-order adsorption kinetics fitting of COF-L-Phe for Phenylalanine adsorption.

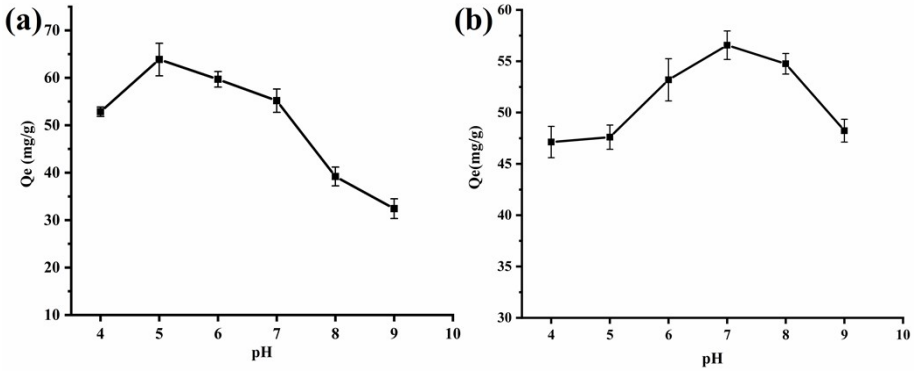

Fig. S11 The equilibrium adsorption capacity of COF-L-Phe for a) Phenylalanine and b) Tryptophan under different pH conditions.

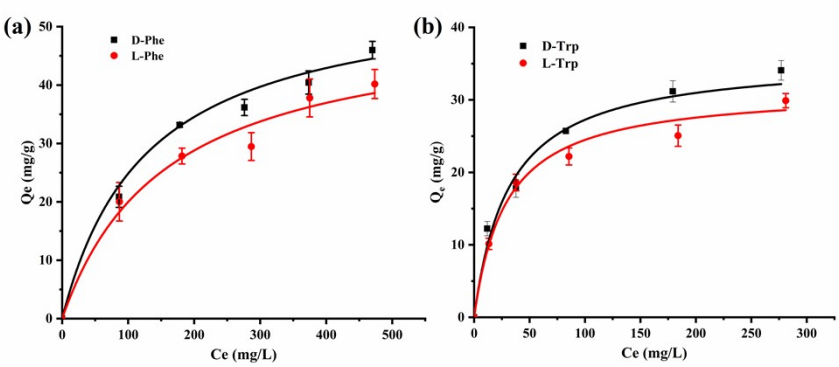

Fig. S12 The adsorption equilibrium isotherms of COF-Br for a) Phenylalanine; b) Tryptophan.

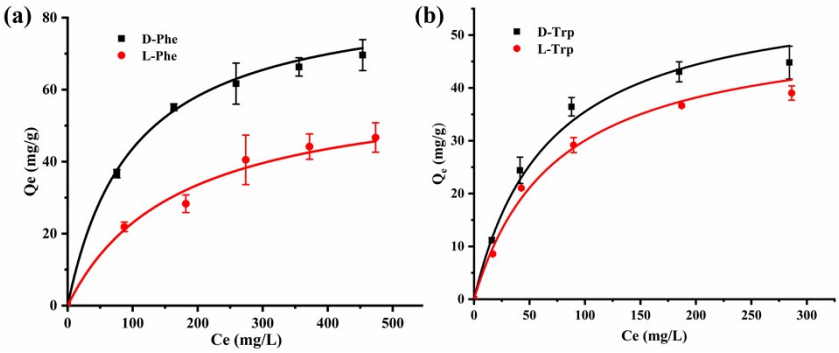

Fig. S13 The adsorption equilibrium isotherms of COF-L-Phe for a) Phenylalanine; b) Tryptophan.

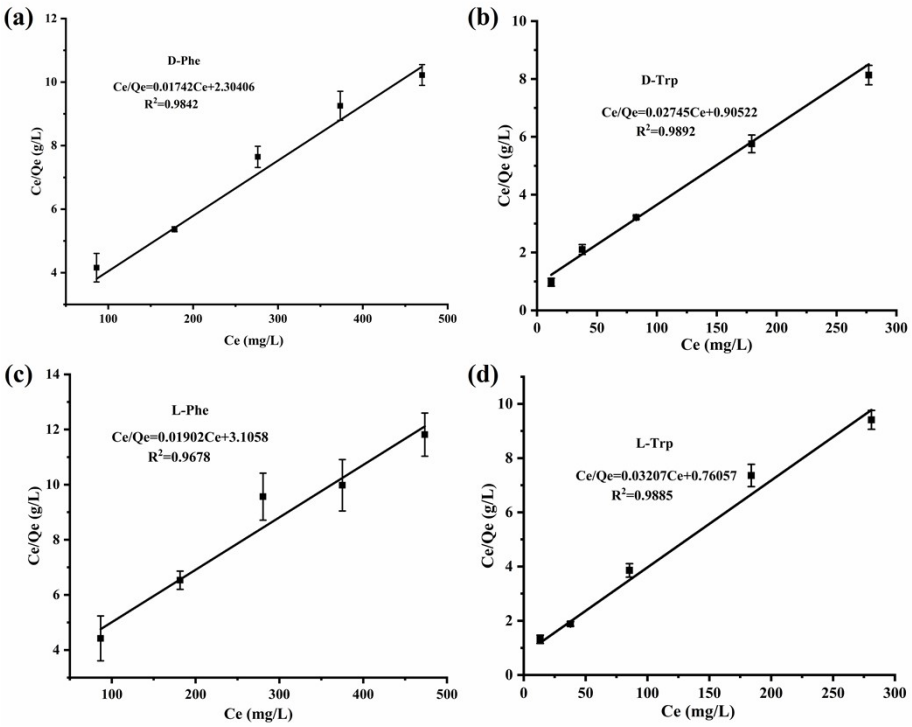

Fig. S14 The Langmuir isotherm about the adsorption for a) *D*-, c) *L*-Phenylalanine; b) *D*-, d) *L*-Tryptophan on COF-Br.

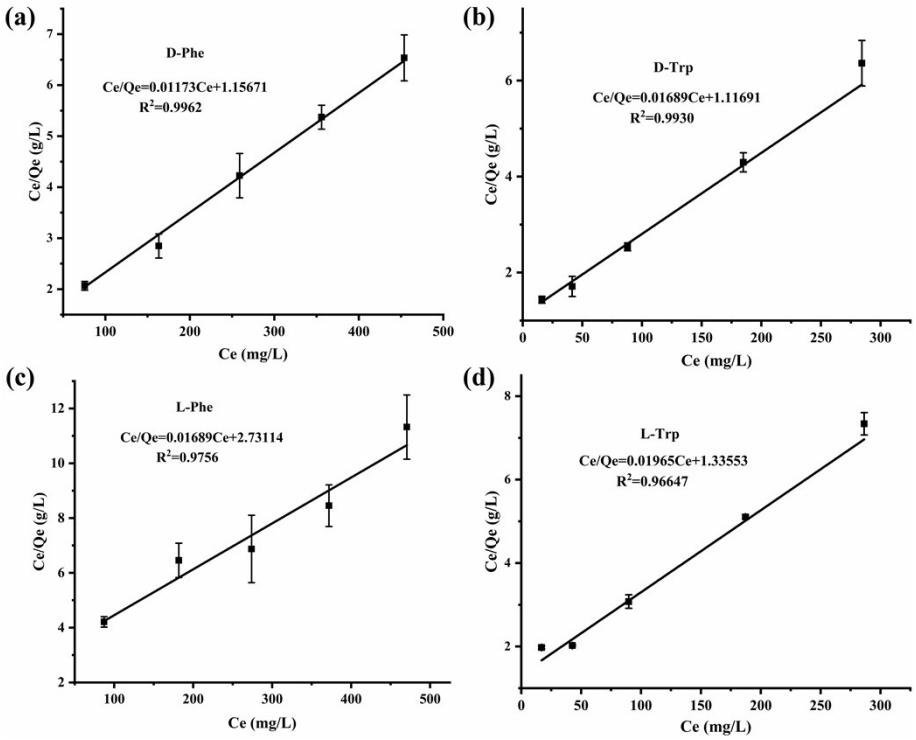

Fig. S15 The Langmuir isotherm about the adsorption for a) *D*-, c) *L*-Phenylalanine; b) *D*-, d) *L*-Tryptophan on COF-L-Phe.

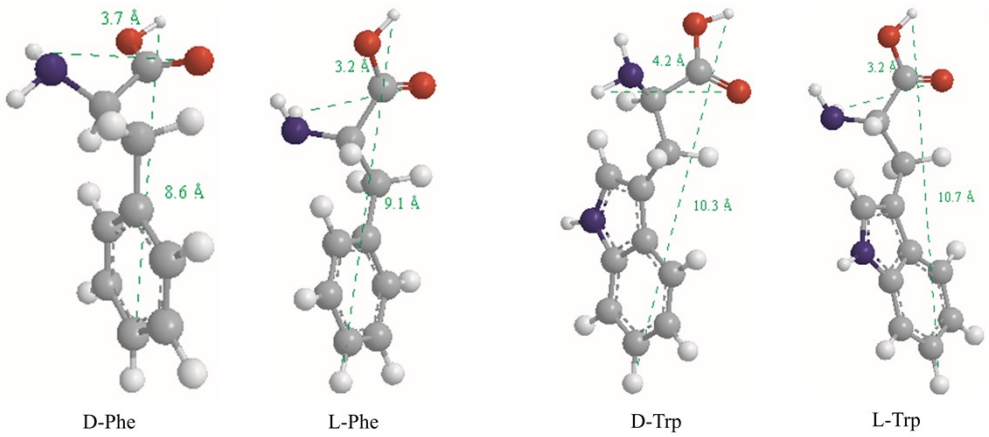

Fig. S16 Structure and molecular dimension of the racemates (calculated with ChemBio3D Ultra).

Table. S1 Fractional atomic coordinates for the simulated unit cells of COF-Br

P-6m group a = b = 29.907 Å, c = 3.9361 Å $\alpha=\beta=120^{o}$, $\lambda=120^{o}$							
Atom	X/a	Y/b	Z/c	Atom	X/a	Y/b	Z/c
C1	0.571	0.46208	0.69055	C52	0.48521	0.9732	0.27757

C2	0.54986	0.49399	0.74478	C53	0.4341	0.95222	0.37716
C3	0.49992	0.47839	0.62638	C54	0.40009	0.89881	0.3711
C4	0.47356	0.43055	0.45401	N1	0.56581	0.38236	0.44997
C5	0.49489	0.39903	0.40246	N2	0.41615	0.61523	0.74469
C6	0.54404	0.41479	0.51533	N3	0.80584	0.43474	0.52623
C7	0.47606	0.51207	0.6595	N4	0.62094	0.19407	0.4559
C8	0.505	0.56528	0.57748	N5	0.18348	0.57727	0.51596
C9	0.4851	0.59842	0.60865	N6	0.38016	0.80927	0.27406
C10	0.43494	0.57942	0.71355	Br1	0.59292	0.55808	0.97812
C11	0.40476	0.5261	0.78421	Br2	0.37674	0.42067	0.85271
C12	0.4244	0.49241	0.75554	Br3	0.44372	0.05053	0.96877
C13	0.61971	0.40307	0.42355	Br4	0.95164	0.39418	0.83316
C14	0.36313	0.59999	0.74997	Br5	0.03957	0.61618	0.90829
C15	0.6417	0.37323	0.44218	Br6	0.5697	0.95695	0.05158
C16	0.34529	0.63154	0.64859	O1	0.70188	0.28147	0.17805
C17	0.61308	0.31736	0.54246	O2	0.72099	0.44117	0.26081
C18	0.63318	0.28231	0.45364	O3	0.57437	0.30074	0.71221
C19	0.68646	0.30686	0.32842	O4	0.41732	0.69173	0.33974
C20	0.72057	0.36338	0.37606	O5	0.26271	0.5734	0.84299
C21	0.69668	0.39638	0.36247	O6	0.29499	0.73663	0.63748
C22	0.37782	0.68272	0.47896	H1	0.60869	0.47437	0.78767
C23	0.36092	0.72188	0.458	H2	0.43658	0.41758	0.34931
C24	0.30781	0.70499	0.5618	H3	0.47341	0.36276	0.26499
C25	0.2707	0.64889	0.59301	H4	0.54144	0.34433	0.36728
C26	0.2906	0.61444	0.6985	H5	0.54338	0.5819	0.48522
C27	0.77068	0.3819	0.42813	H6	0.50887	0.63919	0.54594
C28	0.60298	0.23036	0.49033	H7	0.36586	0.50989	0.86625
C29	0.39412	0.77056	0.34819	H8	0.44326	0.6546	0.76832
C30	0.22104	0.63159	0.53266	H9	0.64314	0.44418	0.36849
C31	0.85961	0.45453	0.5512	H10	0.33643	0.56225	0.85232
C32	0.58704	0.13954	0.39741	H11	0.78469	0.35486	0.40972
C33	0.41613	0.86414	0.27279	H12	0.56361	0.215	0.56304
C34	0.1298	0.55839	0.5401	H13	0.4332	0.78066	0.30871
C35	0.87931	0.42335	0.66364	H14	0.2093	0.65964	0.47119
C36	0.93186	0.44303	0.68217	H15	0.79321	0.46079	0.58021
C37	0.9664	0.49577	0.59319	H16	0.65817	0.20575	0.52959
C38	0.94554	0.52644	0.48552	H17	0.19485	0.55087	0.44093
C39	0.89316	0.50635	0.46788	H18	0.3424	0.79811	0.22187
C40	0.54014	0.12144	0.23408	H19	0.85391	0.38365	0.74242

C41	0.50682	0.06808	0.18656	H20	0.96943	0.5661	0.40715
C42	0.52051	0.03111	0.29921	H21	0.87866	0.5311	0.38119
C43	0.56813	0.05042	0.45813	H22	0.52925	0.14883	0.14157
C44	0.60097	0.10356	0.50395	H23	0.58002	0.02452	0.55649
C45	0.11069	0.58797	0.6905	H24	0.63699	0.11664	0.63138
C46	0.05827	0.56904	0.71079	H25	0.13646	0.62593	0.7958
C47	0.02316	0.51836	0.58752	H26	0.01889	0.45199	0.32738
C48	0.04336	0.4896	0.43634	H27	0.10937	0.48548	0.29592
C49	0.09557	0.50897	0.41525	H28	0.4799	0.85816	0.08613
C50	0.46686	0.88401	0.1737	H29	0.41995	0.97684	0.46676
C51	0.50149	0.9376	0.17969	H30	0.36114	0.88425	0.45076