Full wwPDB EM Validation Report ⓘ

Nov 21, 2022 – 09:18 PM JST

PDB ID	:	7DKF
EMDB ID	:	EMD-30706
Title	:	Activity optimized supercomplex state4
Authors	:	Jeon, T.J.; Lee, S.G.; Yoo, S.H.; Ryu, J.H.; Kim, D.S.; Hyun, J.K.; Kim, H.M.; Ryu, S.E.
Deposited on	:	2020-11-24
Resolution	:	8.30 Å(reported)

This is a Full wwPDB EM Validation Report for a publicly released PDB entry.

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

The following versions of software and data (see references ⓘ) were used in the production of this report:

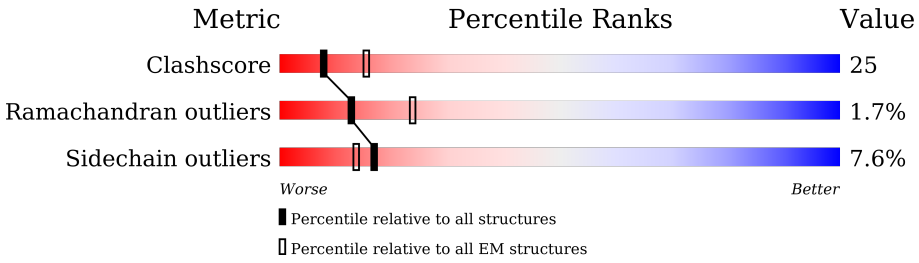
EMDB validation analysis	:	0.0.1.dev43
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.3

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 8.30 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A1	480	9% 19% 50% 18% • 10%
1	M1	480	23% 20% 50% 18% • 10%
2	B1	453	10% 24% 52% 15% • 8%
2	N1	453	14% 24% 53% 14% • 8%
3	C1	379	27% 21% 54% 22% •
3	O1	379	37% 23% 58% 17% •
4	D1	325	8% 18% 42% 11% • 26%
4	P1	325	16% 20% 40% 13% • 26%

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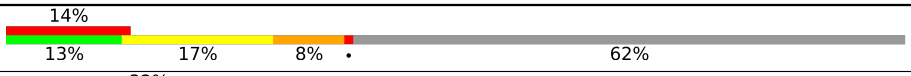
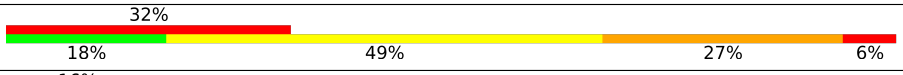
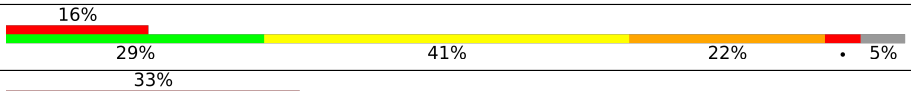
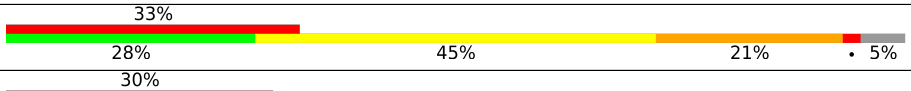
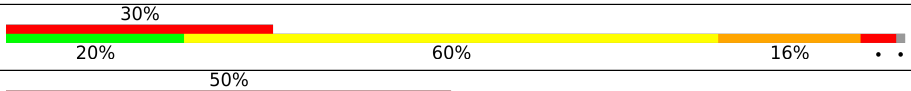
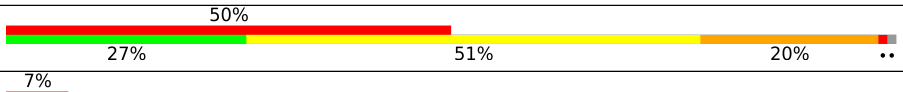
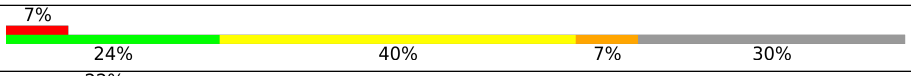
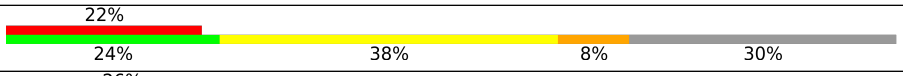
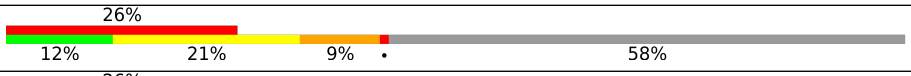
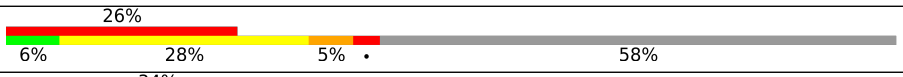
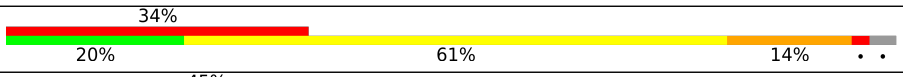
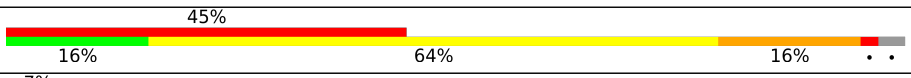
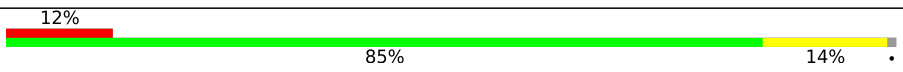
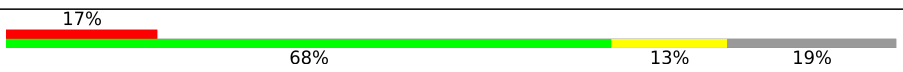
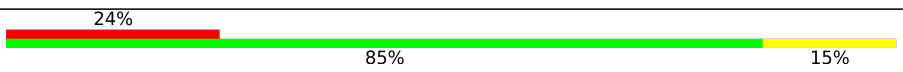
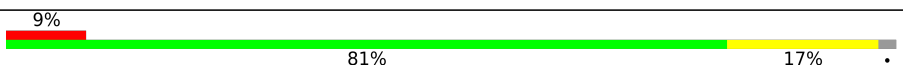
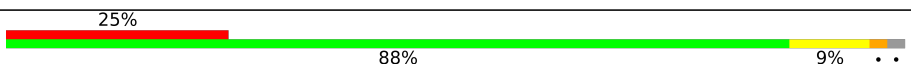
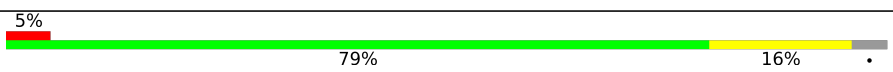
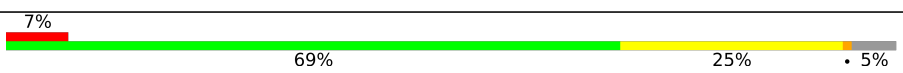
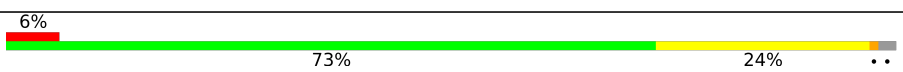
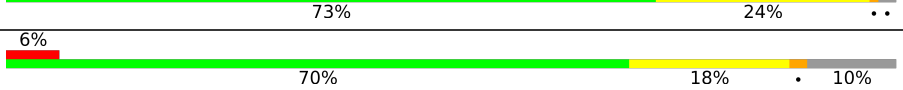
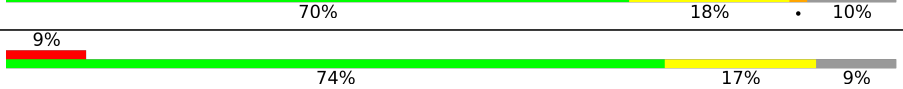
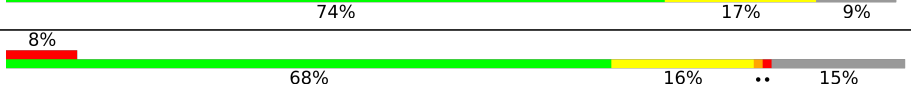
Mol	Chain	Length	Quality of chain
5	E1	196	
5	Q1	196	
6	F1	111	
6	R1	111	
7	G1	82	
7	S1	82	
8	H1	91	
8	T1	91	
9	I1	78	
9	U1	78	
10	J1	64	
10	V1	64	
11	K1	56	
11	W1	56	
12	22	347	
13	32	115	
14	42	459	
15	52	98	
16	72	175	
17	82	444	
18	92	217	
19	A2	704	
20	B2	430	
21	C2	228	
22	D2	179	

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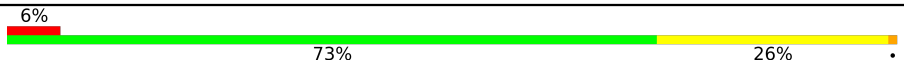
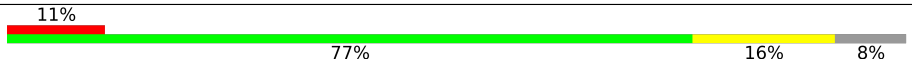
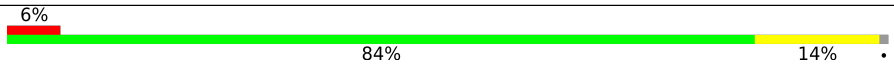
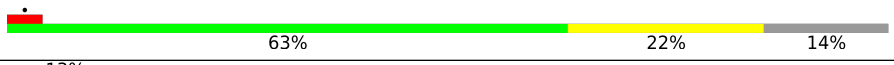
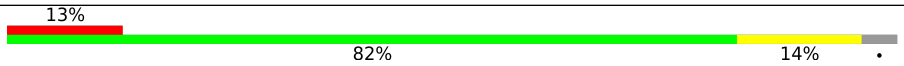
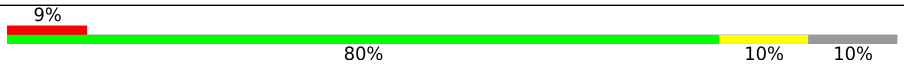
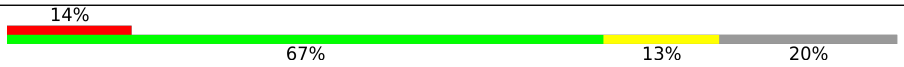
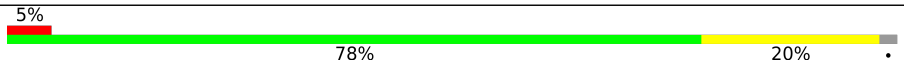
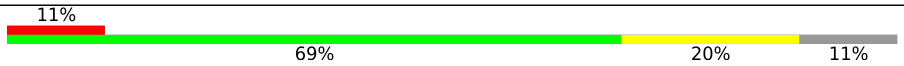
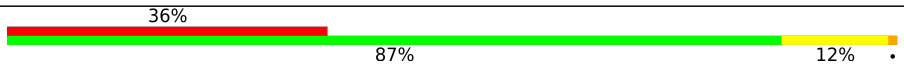
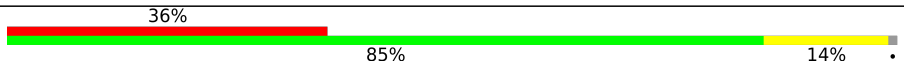
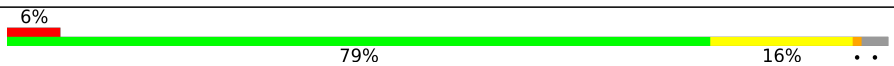
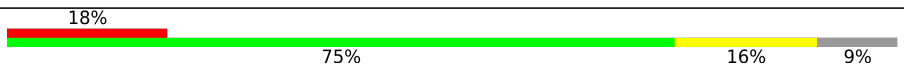
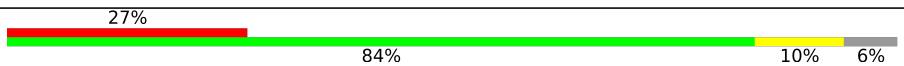
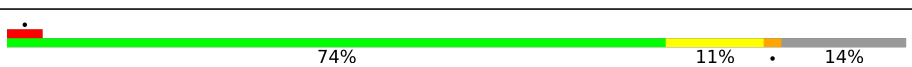
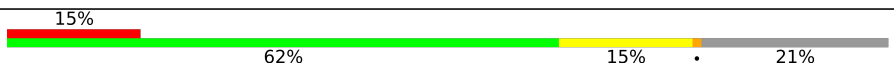
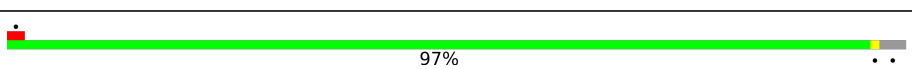
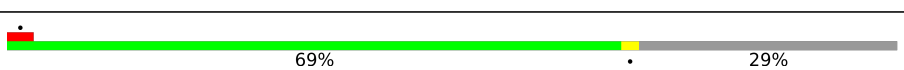
Mol	Chain	Length	Quality of chain
23	E2	176	
24	F2	75	
25	G2	133	
26	H2	105	
27	I2	96	
28	J2	70	
29	K2	98	
30	L2	83	
31	N2	115	
32	O2	127	
33	P2	112	
34	Q2	171	
35	R2	345	
36	S2	320	
37	T2	140	
38	U2	145	
39	V2	143	
40	M2	88	
40	W2	88	
41	X2	57	
42	Y2	72	
43	Z2	97	
44	a2	128	
45	b2	143	
46	c2	127	

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Mol	Chain	Length	Quality of chain
47	d2	136	15% 77% 21%
48	f2	178	30% 93% 6%
49	h2	125	18% 70% 27%
50	i2	49	6% 78% 22%
51	j2	120	5% 93% 6%
52	12	318	17% 77% 19%
53	62	606	33% 85% 15%
54	g2	176	11% 98%
55	e2	158	29% 82% 6% 11%
56	A3	514	45% 75% 22%
57	B3	227	26% 63% 33%
58	C3	261	61% 72% 24%
59	D3	169	46% 63% 20% 15%
60	E3	152	36% 57% 13% 28%
61	F3	129	47% 51% 20% 5% 24%
62	G3	97	63% 52% 27% 7% 13%
63	H3	86	45% 60% 20% 7% 13%
64	I3	74	28% 72% 23%
65	J3	80	52% 49% 15% 30%
66	K3	80	18% 45% 16% 39%
67	L3	63	43% 60% 11% 25%
68	M3	70	24% 46% 14% 39%

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
75	SF4	A2	801	-	-	X	-
75	SF4	A2	802	-	-	X	-
79	HEA	A3	601	X	-	-	-
79	HEA	A3	602	X	-	-	-

2 Entry composition

There are 81 unique types of molecules in this entry. The entry contains 105456 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called Cytochrome b-c1 complex subunit 1, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A1	432	Total	C	N	O	S	0	0
			3356	2098	595	643	20		
1	M1	432	Total	C	N	O	S	0	0
			3356	2098	595	643	20		

- Molecule 2 is a protein called Cytochrome b-c1 complex subunit 2, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B1	419	Total	C	N	O	S	0	0
			3141	1972	556	606	7		
2	N1	419	Total	C	N	O	S	0	0
			3141	1972	556	606	7		

- Molecule 3 is a protein called Cytochrome b.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	C1	379	Total	C	N	O	S	0	0
			3011	2018	472	502	19		
3	O1	379	Total	C	N	O	S	0	0
			3011	2018	472	502	19		

- Molecule 4 is a protein called Cytochrome c1, heme protein, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	D1	241	Total	C	N	O	S	0	0
			1919	1225	330	349	15		
4	P1	241	Total	C	N	O	S	0	0
			1919	1225	330	349	15		

- Molecule 5 is a protein called Cytochrome b-c1 complex subunit Rieske, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	E1	75	Total	C	N	O	S	0	0
			566	352	94	118	2		
5	Q1	196	Total	C	N	O	S	0	0
			1518	956	263	291	8		

- Molecule 6 is a protein called Cytochrome b-c1 complex subunit 7.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	F1	106	Total	C	N	O	S	0	0
			916	579	167	168	2		
6	R1	106	Total	C	N	O	S	0	0
			916	579	167	168	2		

- Molecule 7 is a protein called Cytochrome b-c1 complex subunit 8.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	G1	81	Total	C	N	O	S	0	0
			682	441	128	112	1		
7	S1	81	Total	C	N	O	S	0	0
			682	441	128	112	1		

- Molecule 8 is a protein called Cytochrome b-c1 complex subunit 6, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	H1	64	Total	C	N	O	S	0	0
			524	316	96	107	5		
8	T1	64	Total	C	N	O	S	0	0
			524	316	96	107	5		

- Molecule 9 is a protein called Cytochrome b-c1 complex subunit 9.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	I1	33	Total	C	N	O	S	0	0
			248	152	51	44	1		
9	U1	33	Total	C	N	O	S	0	0
			248	152	51	44	1		

- Molecule 10 is a protein called Cytochrome b-c1 complex subunit 9.

Mol	Chain	Residues	Atoms				AltConf	Trace
10	J1	62	Total	C	N	O	0	0
			511	335	89	87		

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Mol	Chain	Residues	Atoms				AltConf	Trace
10	V1	62	Total 511	C 335	N 89	O 87	0	0

- Molecule 11 is a protein called Cytochrome b-c1 complex subunit 10.

Mol	Chain	Residues	Atoms				AltConf	Trace
11	K1	22	Total 164	C 109	N 29	O 26	0	0
11	W1	22	Total 164	C 109	N 29	O 26	0	0

- Molecule 12 is a protein called NADH-ubiquinone oxidoreductase chain 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	22	344	Total 2582	C 1707	N 404	O 437	S 34	0	0

- Molecule 13 is a protein called NADH-ubiquinone oxidoreductase chain 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	32	93	Total 719	C 492	N 104	O 120	S 3	0	0

- Molecule 14 is a protein called NADH-ubiquinone oxidoreductase chain 4.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	42	458	Total 3447	C 2293	N 548	O 574	S 32	1	0

- Molecule 15 is a protein called NADH-ubiquinone oxidoreductase chain 4L.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	52	96	Total 697	C 454	N 109	O 124	S 10	0	0

- Molecule 16 is a protein called NADH-ubiquinone oxidoreductase chain 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	72	172	Total 1186	C 798	N 179	O 202	S 7	0	0

- Molecule 17 is a protein called NADH dehydrogenase [ubiquinone] flavoprotein 1, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	82	427	Total	C	N	O	S	0	0
			2965	1864	552	534	15		

- Molecule 18 is a protein called NADH dehydrogenase [ubiquinone] flavoprotein 2, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	92	207	Total	C	N	O	S	0	0
			1535	978	261	286	10		

- Molecule 19 is a protein called NADH-ubiquinone oxidoreductase 75 kDa subunit, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	A2	688	Total	C	N	O	S	0	0
			5183	3254	915	978	36		

- Molecule 20 is a protein called NADH dehydrogenase [ubiquinone] iron-sulfur protein 2, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	B2	385	Total	C	N	O	S	0	0
			3076	1963	530	559	24		

- Molecule 21 is a protein called NADH dehydrogenase [ubiquinone] iron-sulfur protein 3, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	C2	208	Total	C	N	O	S	0	0
			1705	1102	294	306	3		

- Molecule 22 is a protein called NADH dehydrogenase [ubiquinone] iron-sulfur protein 7, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	D2	152	Total	C	N	O	S	0	0
			1200	769	209	208	14		

- Molecule 23 is a protein called NADH dehydrogenase [ubiquinone] iron-sulfur protein 8, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	E2	176	Total	C	N	O	S	0	0
			1388	874	239	264	11		

- Molecule 24 is a protein called NADH dehydrogenase [ubiquinone] flavoprotein 3, mitochondrial.

Mol	Chain	Residues	Atoms				AltConf	Trace
24	F2	28	Total	C	N	O	0	0
			183	116	32	35		

- Molecule 25 is a protein called NADH dehydrogenase [ubiquinone] iron-sulfur protein 4, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	G2	123	Total	C	N	O	S	0	0
			981	619	177	182	3		

- Molecule 26 is a protein called NADH dehydrogenase [ubiquinone] iron-sulfur protein 5.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	H2	96	Total	C	N	O	S	0	0
			780	494	147	134	5		

- Molecule 27 is a protein called NADH dehydrogenase [ubiquinone] iron-sulfur protein 6, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	I2	71	Total	C	N	O	S	0	0
			532	332	99	98	3		

- Molecule 28 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	J2	69	Total	C	N	O	S	0	0
			530	344	96	88	2		

- Molecule 29 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 2.

Mol	Chain	Residues	Atoms				AltConf	Trace
29	K2	84	Total	C	N	O	0	0
			652	409	125	118		

- Molecule 30 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	L2	80	Total	C	N	O	S	0	0
			602	398	97	105	2		

- Molecule 31 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 5.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	N2	111	Total	C	N	O	S	0	0
			862	559	149	152	2		

- Molecule 32 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	O2	114	Total	C	N	O	S	0	0
			925	595	170	156	4		

- Molecule 33 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 7.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	P2	90	Total	C	N	O	S	0	0
			698	442	128	126	2		

- Molecule 34 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 8.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	Q2	168	Total	C	N	O	S	0	0
			1345	851	242	243	9		

- Molecule 35 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 9, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	R2	306	Total	C	N	O	S	0	0
			2334	1505	417	409	3		

- Molecule 36 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 10, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	S2	319	Total	C	N	O	S	0	0
			2299	1457	395	438	9		

- Molecule 37 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 11.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	T2	138	Total	C	N	O	S	0	0
			942	599	165	172	6		

- Molecule 38 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 12.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	U2	91	Total	C	N	O	S	0	0
			734	480	123	128	3		

- Molecule 39 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 13.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	V2	138	Total	C	N	O	S	0	0
			1093	702	189	193	9		

- Molecule 40 is a protein called Acyl carrier protein, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	W2	83	Total	C	N	O	S	0	0
			596	386	95	111	4		
40	M2	80	Total	C	N	O	S	0	0
			642	413	96	128	5		

- Molecule 41 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 1.

Mol	Chain	Residues	Atoms				AltConf	Trace
41	X2	49	Total	C	N	O	0	0
			372	243	64	65		

- Molecule 42 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 2, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	Y2	57	Total	C	N	O	S	0	0
			409	277	65	66	1		

- Molecule 43 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	Z2	74	Total	C	N	O	S	0	0
			493	320	89	82	2		

- Molecule 44 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 4.

Mol	Chain	Residues	Atoms				AltConf	Trace
44	a2	114	Total	C	N	O	0	0
			857	550	159	148		

- Molecule 45 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 5, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	b2	139	Total	C	N	O	S	0	0
			1032	672	190	168	2		

- Molecule 46 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 6.

Mol	Chain	Residues	Atoms				AltConf	Trace
46	c2	90	Total	C	N	O	0	0
			617	391	119	107		

- Molecule 47 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 7.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	d2	107	Total	C	N	O	S	0	0
			708	445	134	125	4		

- Molecule 48 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 9.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	f2	167	Total	C	N	O	S	0	0
			1156	739	205	208	4		

- Molecule 49 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 11, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	h2	91	Total	C	N	O	S	0	0
			721	461	123	135	2		

- Molecule 50 is a protein called NADH dehydrogenase [ubiquinone] 1 subunit C1, mitochondrial.

Mol	Chain	Residues	Atoms				AltConf	Trace
50	i2	38	Total	C	N	O	0	0
			277	185	46	46		

- Molecule 51 is a protein called NADH dehydrogenase [ubiquinone] 1 subunit C2.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	j2	113	Total	C	N	O	S	0	0
			892	587	149	153	3		

- Molecule 52 is a protein called NADH-ubiquinone oxidoreductase chain 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	12	309	Total	C	N	O	S	0	0
			2442	1642	376	401	23		

- Molecule 53 is a protein called NADH-ubiquinone oxidoreductase chain 5.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	62	606	Total	C	N	O	S	0	0
			4765	3172	732	819	42		

- Molecule 54 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 10.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	g2	173	Total	C	N	O	S	0	0
			1351	849	246	248	8		

- Molecule 55 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit

8, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	e2	141	Total	C	N	O	S	0	0
			864	539	161	160	4		

- Molecule 56 is a protein called Cytochrome c oxidase subunit 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	A3	514	Total	C	N	O	S	0	0
			4025	2690	623	677	35		

- Molecule 57 is a protein called Cytochrome c oxidase subunit 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	B3	227	Total	C	N	O	S	0	0
			1822	1184	281	339	18		

- Molecule 58 is a protein called Cytochrome c oxidase subunit 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	C3	261	Total	C	N	O	S	0	0
			2124	1420	338	353	13		

- Molecule 59 is a protein called Cytochrome c oxidase subunit 4 isoform 1, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	D3	144	Total	C	N	O	S	0	0
			1195	777	196	218	4		

- Molecule 60 is a protein called Cytochrome c oxidase subunit 5A, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	E3	109	Total	C	N	O	S	0	0
			878	558	150	168	2		

- Molecule 61 is a protein called Cytochrome c oxidase subunit 5B, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	F3	98	Total	C	N	O	S	0	0
			748	464	134	145	5		

- Molecule 62 is a protein called Cytochrome c oxidase subunit 6A2, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	G3	84	Total	C	N	O	S	0	0
			671	431	129	110	1		

- Molecule 63 is a protein called Cytochrome c oxidase subunit 6B1.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	H3	75	Total	C	N	O	S	0	0
			628	395	114	114	5		

- Molecule 64 is a protein called Cytochrome c oxidase subunit 6C.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	I3	73	Total	C	N	O	S	0	0
			598	388	107	99	4		

- Molecule 65 is a protein called Cytochrome c oxidase subunit 7A1, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	J3	56	Total	C	N	O	S	0	0
			441	285	73	80	3		

- Molecule 66 is a protein called Cytochrome c oxidase subunit 7B, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	K3	49	Total	C	N	O	S	0	0
			384	250	65	67	2		

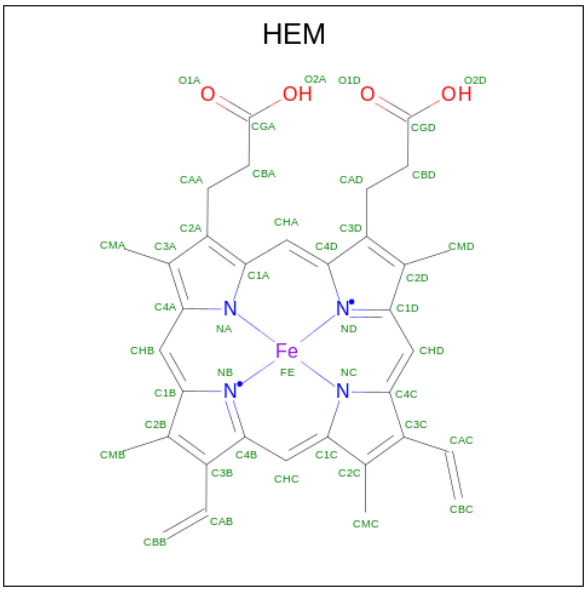
- Molecule 67 is a protein called Cytochrome c oxidase subunit 7C, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	L3	47	Total	C	N	O	S	0	0
			386	257	65	62	2		

- Molecule 68 is a protein called Cytochrome c oxidase subunit 8B, mitochondrial.

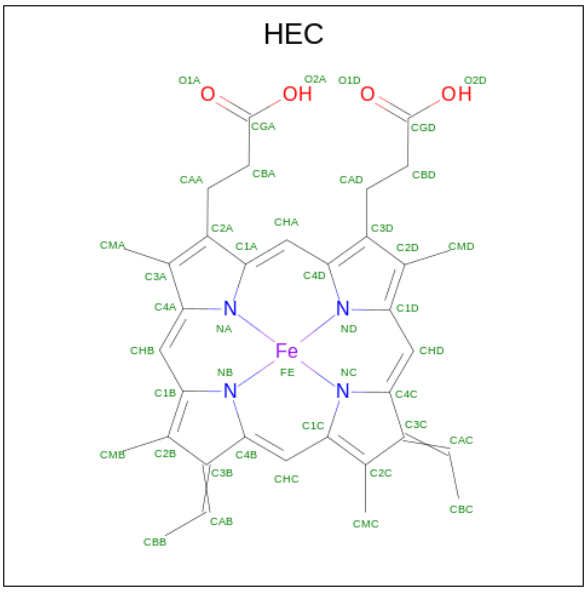
Mol	Chain	Residues	Atoms				AltConf	Trace
68	M3	43	Total	C	N	O	0	0
			335	223	53	59		

- Molecule 69 is PROTOPORPHYRIN IX CONTAINING FE (three-letter code: HEM) (formula: $C_{34}H_{32}FeN_4O_4$) (labeled as "Ligand of Interest" by depositor).



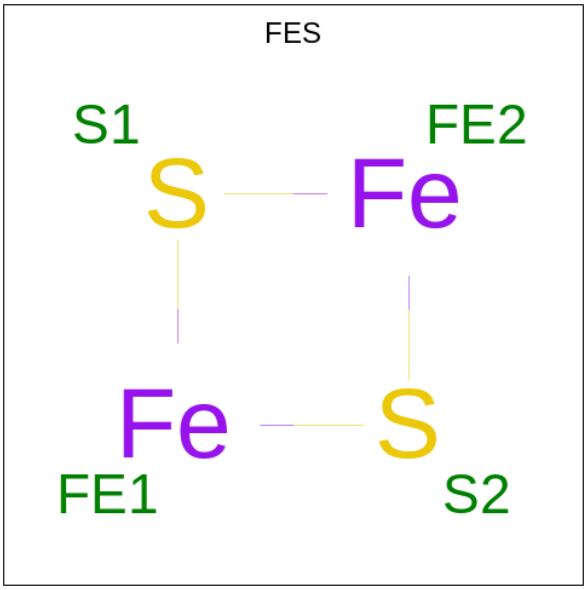
Mol	Chain	Residues	Atoms					AltConf
69	C1	1	Total	C	Fe	N	O	0
			86	68	2	8	8	
69	C1	1	Total	C	Fe	N	O	0
			86	68	2	8	8	
69	O1	1	Total	C	Fe	N	O	0
			86	68	2	8	8	
69	O1	1	Total	C	Fe	N	O	0
			86	68	2	8	8	

- Molecule 70 is HEME C (three-letter code: HEC) (formula: $C_{34}H_{34}FeN_4O_4$) (labeled as "Ligand of Interest" by depositor).



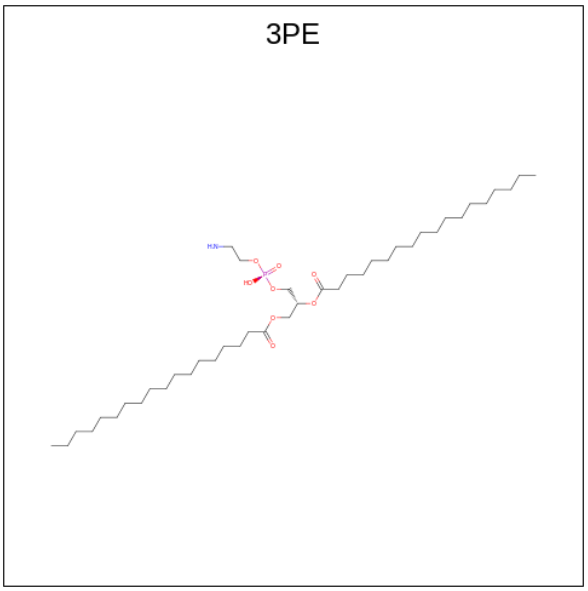
Mol	Chain	Residues	Atoms					AltConf
70	D1	1	Total	C	Fe	N	O	0
			43	34	1	4	4	
70	P1	1	Total	C	Fe	N	O	0
			43	34	1	4	4	

- Molecule 71 is FE2/S2 (INORGANIC) CLUSTER (three-letter code: FES) (formula: Fe_2S_2).



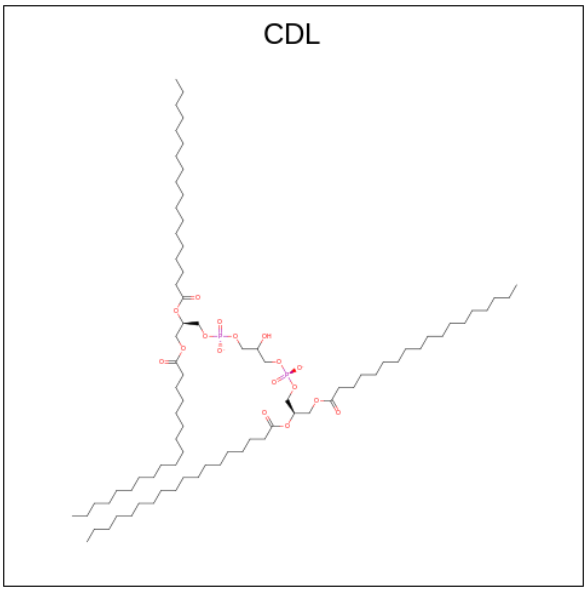
Mol	Chain	Residues	Atoms			AltConf
71	Q1	1	Total	Fe	S	0
			4	2	2	
71	92	1	Total	Fe	S	0
			4	2	2	
71	A2	1	Total	Fe	S	0
			4	2	2	

- Molecule 72 is 1,2-Distearoyl-sn-glycerophosphoethanolamine (three-letter code: 3PE) (formula: $C_{41}H_{82}NO_8P$) (labeled as "Ligand of Interest" by depositor).



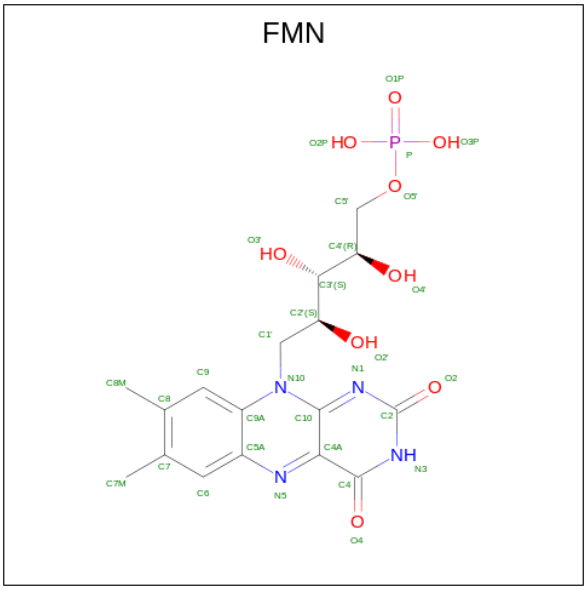
Mol	Chain	Residues	Atoms					AltConf
72	22	1	Total	C	N	O	P	0
			41	31	1	8	1	
72	42	1	Total	C	N	O	P	0
			41	31	1	8	1	
72	B2	1	Total	C	N	O	P	0
			51	41	1	8	1	

- Molecule 73 is CARDIOLIPIN (three-letter code: CDL) (formula: $C_{81}H_{156}O_{17}P_2$) (labeled as "Ligand of Interest" by depositor).



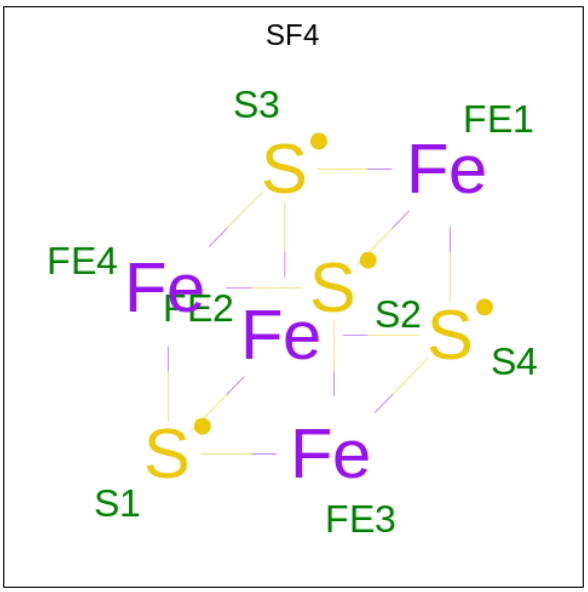
Mol	Chain	Residues	Atoms				AltConf
73	42	1	Total	C	O	P	0
			82	63	17	2	

- Molecule 74 is FLAVIN MONONUCLEOTIDE (three-letter code: FMN) (formula: $C_{17}H_{21}N_4O_9P$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
74	82	1	Total	C	N	O	P	0
			31	17	4	9	1	

- Molecule 75 is IRON/SULFUR CLUSTER (three-letter code: SF4) (formula: Fe_4S_4).

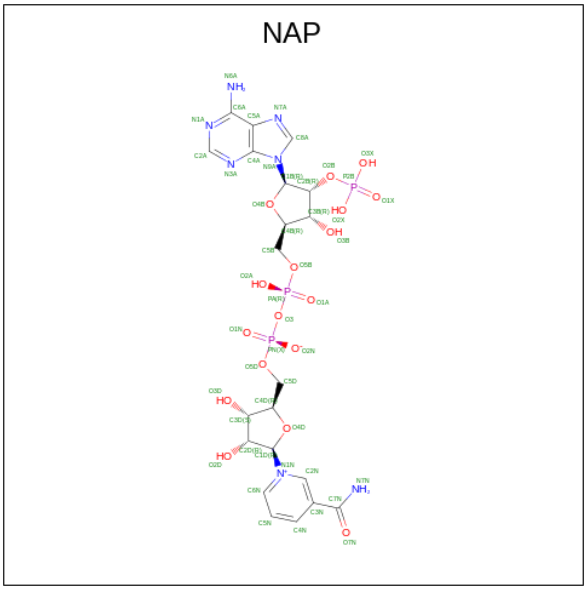


Mol	Chain	Residues	Atoms	AltConf
75	82	1	Total Fe S 8 4 4	0
75	A2	1	Total Fe S 16 8 8	0
75	A2	1	Total Fe S 16 8 8	0
75	D2	1	Total Fe S 8 4 4	0
75	E2	1	Total Fe S 16 8 8	0
75	E2	1	Total Fe S 16 8 8	0

- Molecule 76 is ZINC ION (three-letter code: ZN) (formula: Zn).

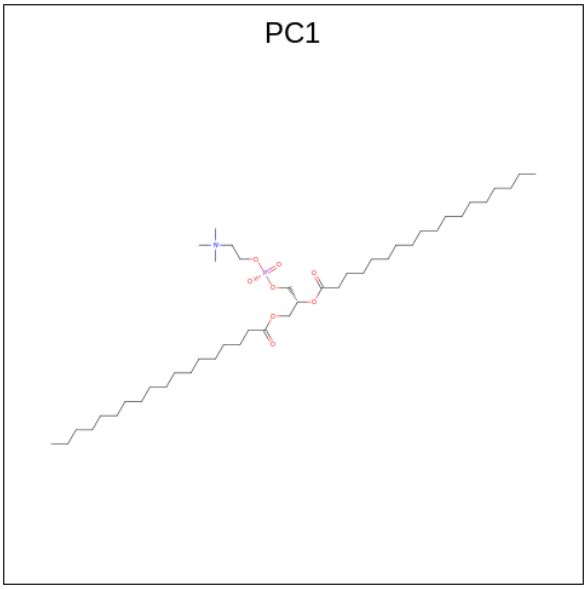
Mol	Chain	Residues	Atoms	AltConf
76	I2	1	Total Zn 1 1	0
76	F3	1	Total Zn 1 1	0

- Molecule 77 is NADP NICOTINAMIDE-ADENINE-DINUCLEOTIDE PHOSPHATE (three-letter code: NAP) (formula: $C_{21}H_{28}N_7O_{17}P_3$).



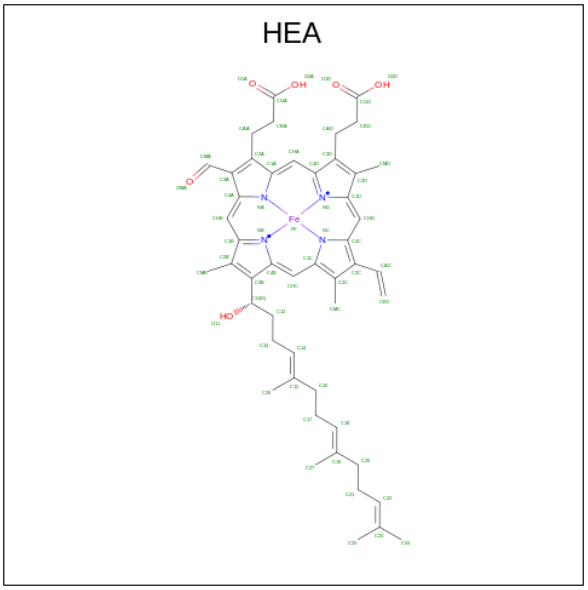
Mol	Chain	Residues	Atoms	AltConf
77	R2	1	Total C N O P 48 21 7 17 3	0

- Molecule 78 is 1,2-DIACYL-SN-GLYCERO-3-PHOSPHOCHOLINE (three-letter code: PC1) (formula: $C_{44}H_{88}NO_8P$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
78	S2	1	Total	C	N	O	P	0
			47	37	1	8	1	
78	j2	1	Total	C	N	O	P	0
			39	29	1	8	1	

- Molecule 79 is HEME-A (three-letter code: HEA) (formula: $C_{49}H_{56}FeN_4O_6$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
79	A3	1	Total 120	C 98	Fe 2	N 8	O 12	0
79	A3	1	Total 120	C 98	Fe 2	N 8	O 12	0

- Molecule 80 is COPPER (II) ION (three-letter code: CU) (formula: Cu).

Mol	Chain	Residues	Atoms		AltConf
80	A3	1	Total 1	Cu 1	0
80	B3	2	Total 2	Cu 2	0

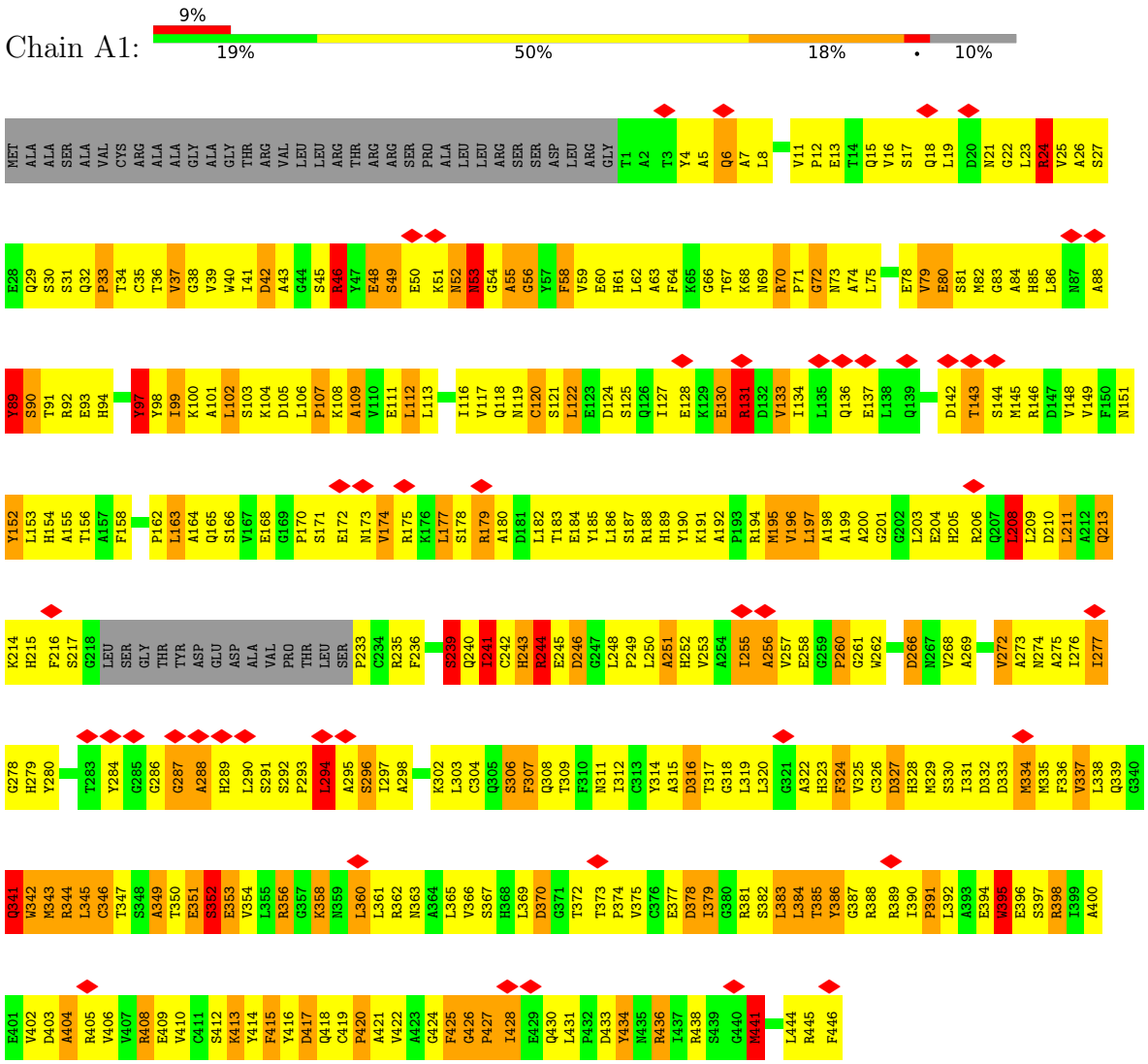
- Molecule 81 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
81	A3	1	Total 1	Mg 1	0

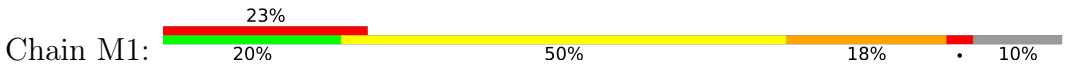
3 Residue-property plots (i)

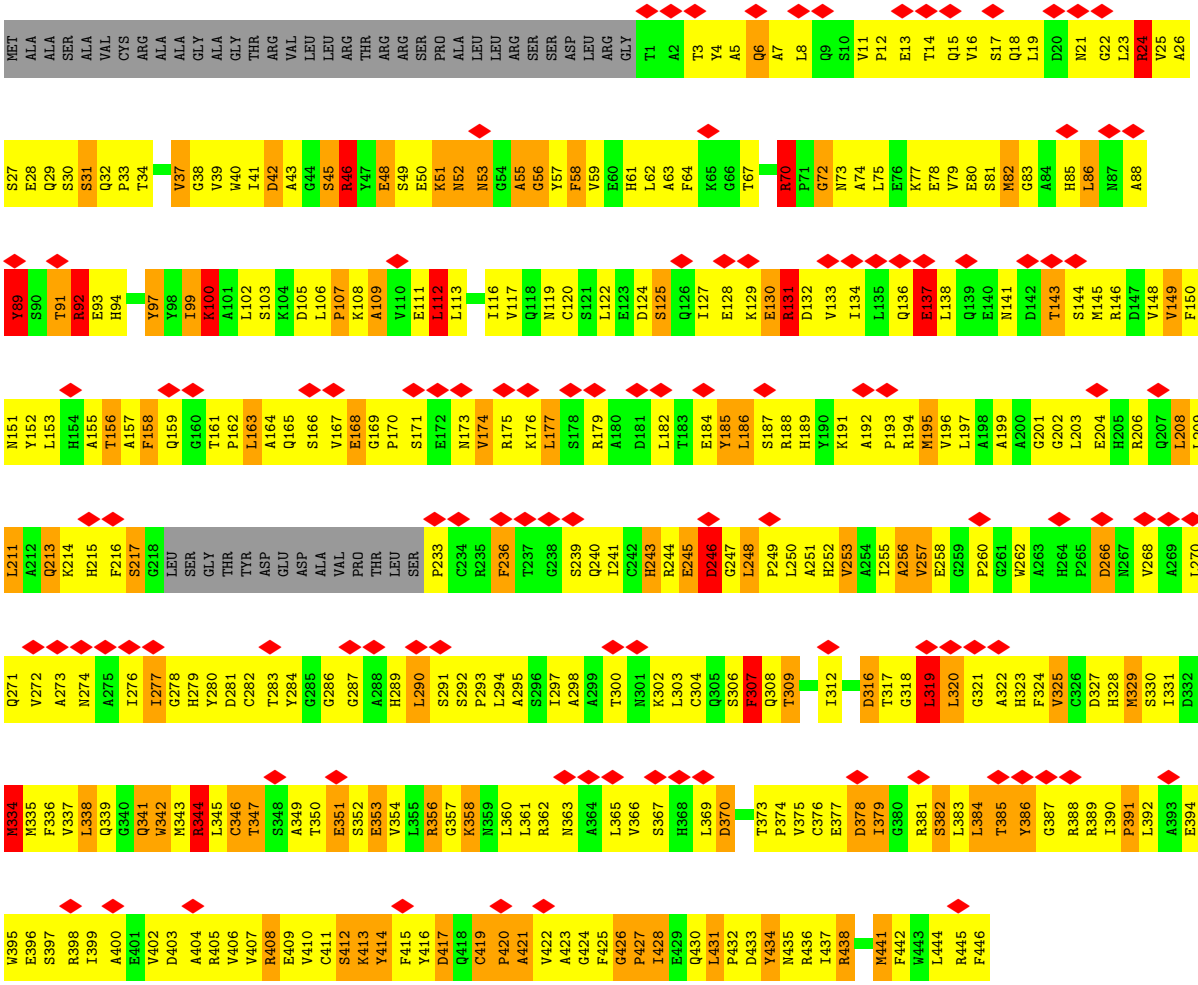
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

• Molecule 1: Cytochrome b-c1 complex subunit 1, mitochondrial



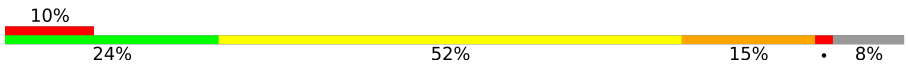
• Molecule 1: Cytochrome b-c1 complex subunit 1, mitochondrial

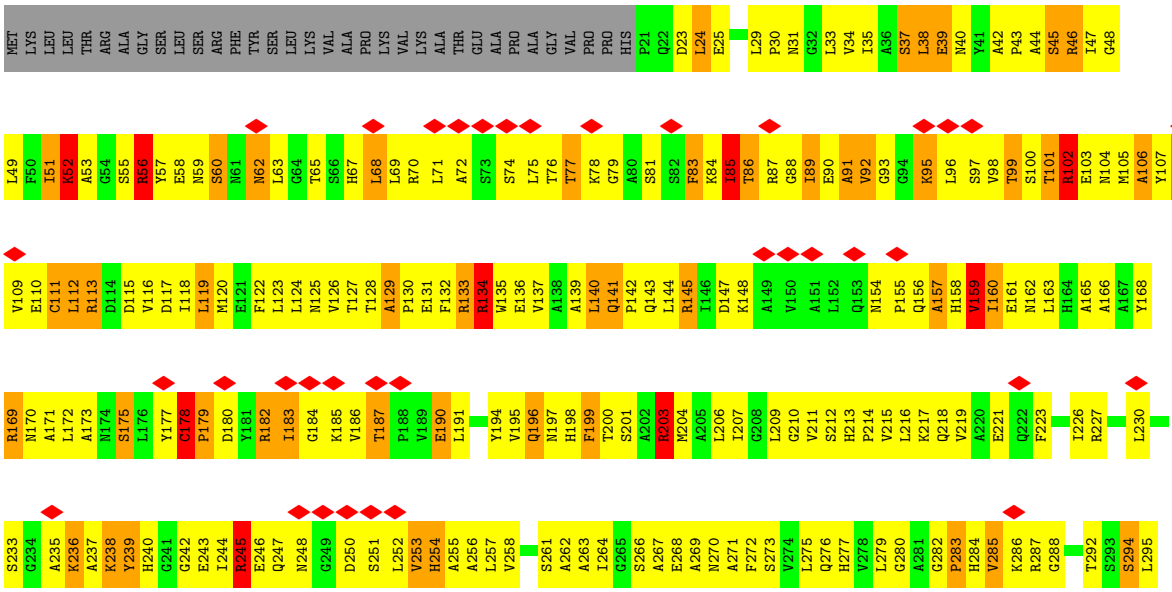


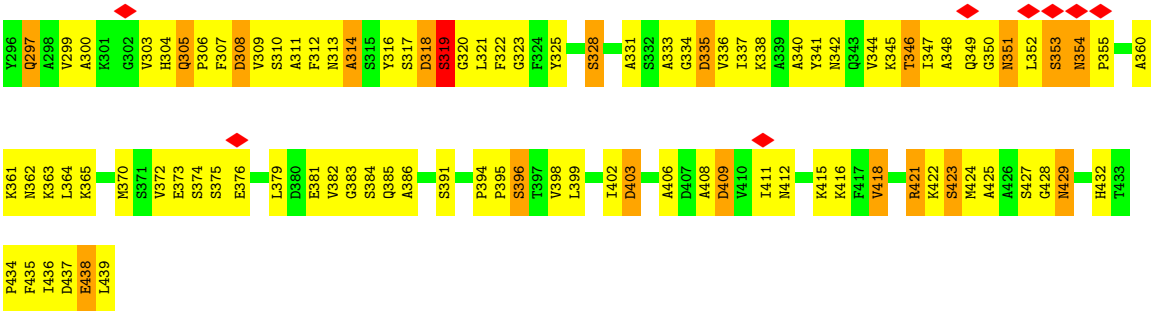


• Molecule 2: Cytochrome b-c1 complex subunit 2, mitochondrial

Chain B1:

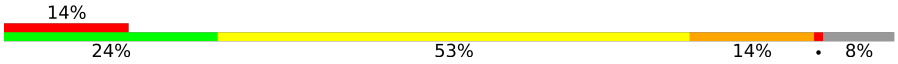


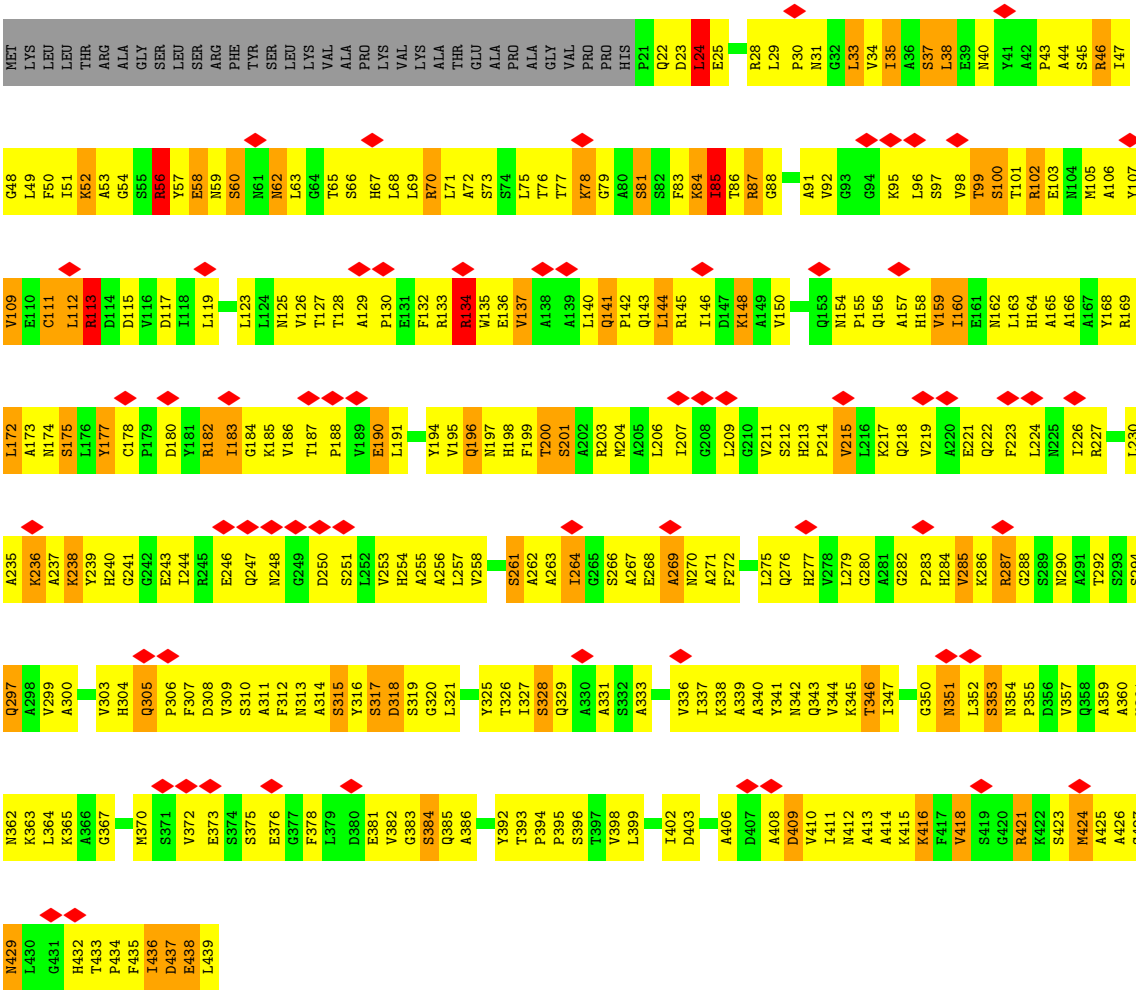




• Molecule 2: Cytochrome b-c1 complex subunit 2, mitochondrial

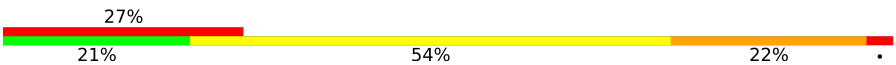
Chain N1:

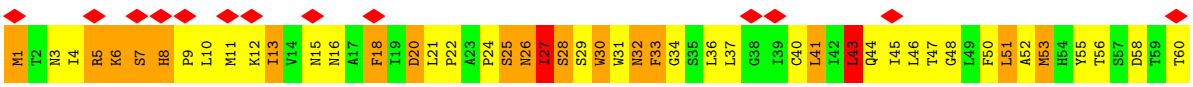


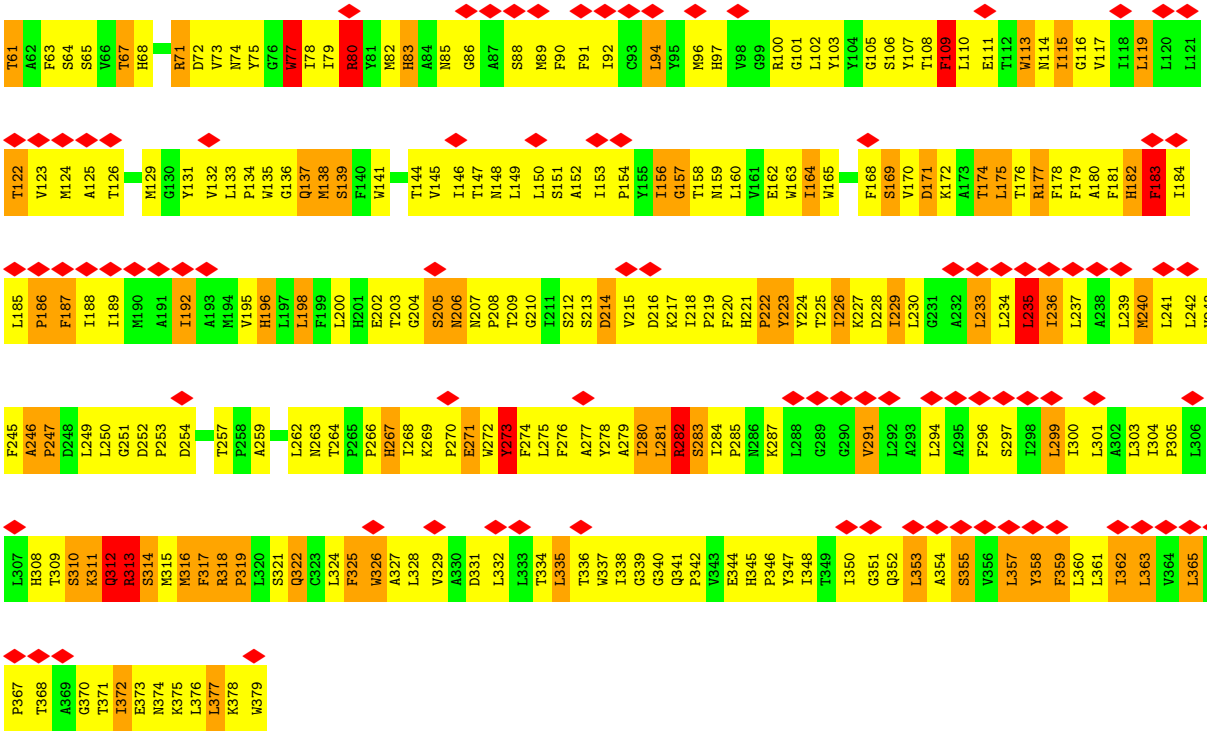


• Molecule 3: Cytochrome b

Chain C1:

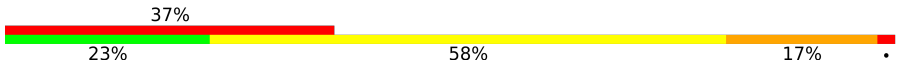


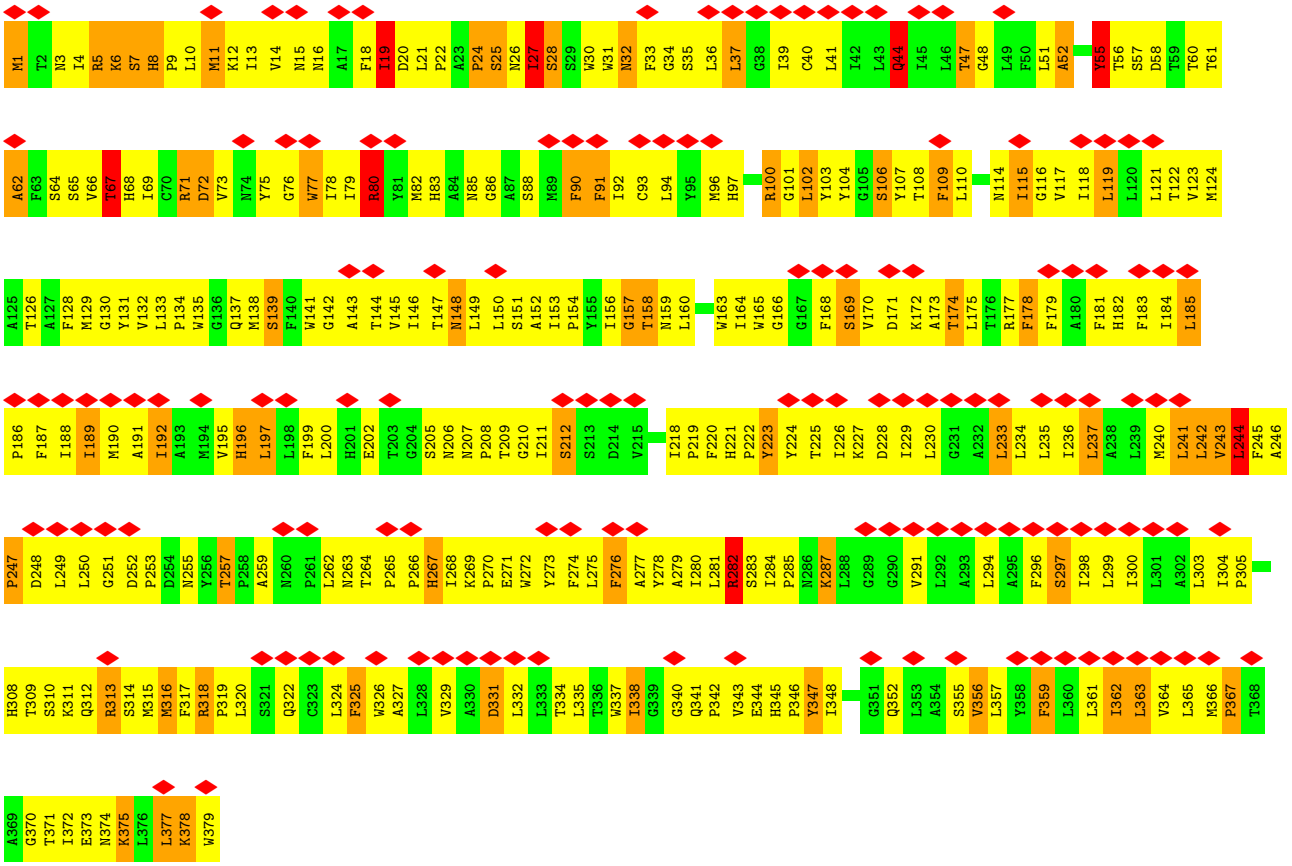




• Molecule 3: Cytochrome b

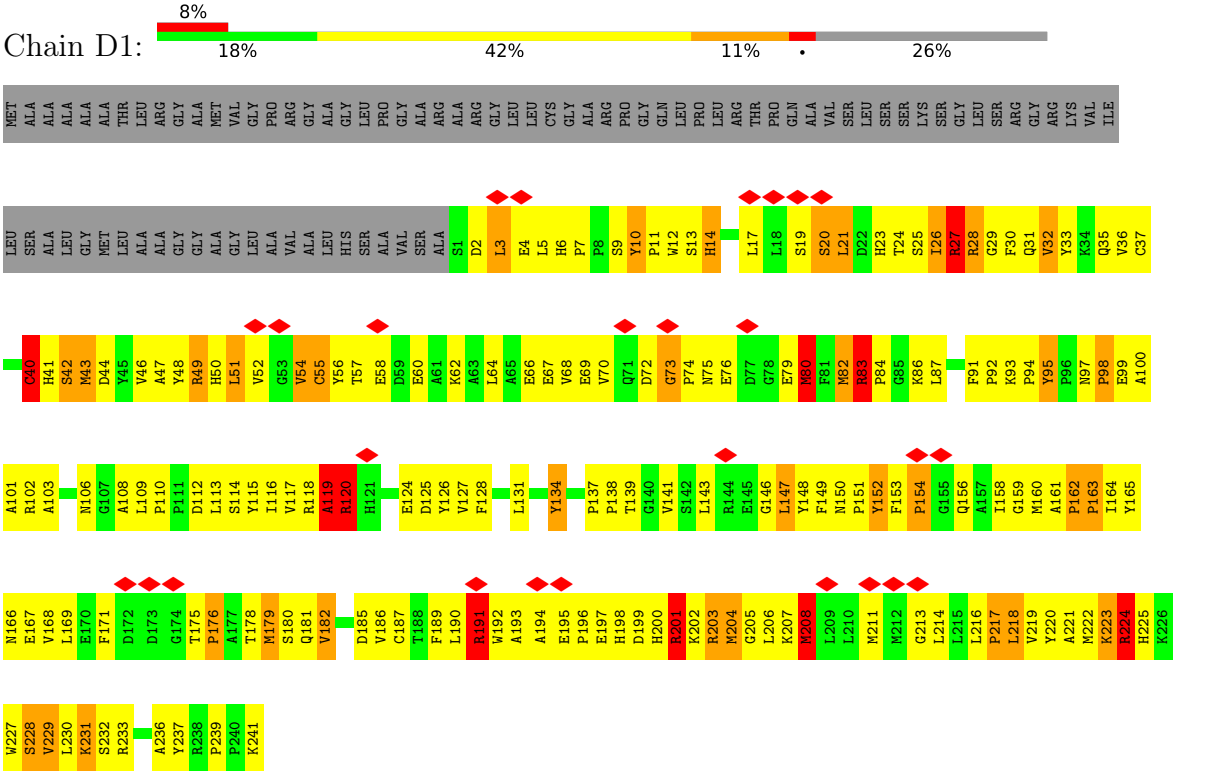
Chain O1:





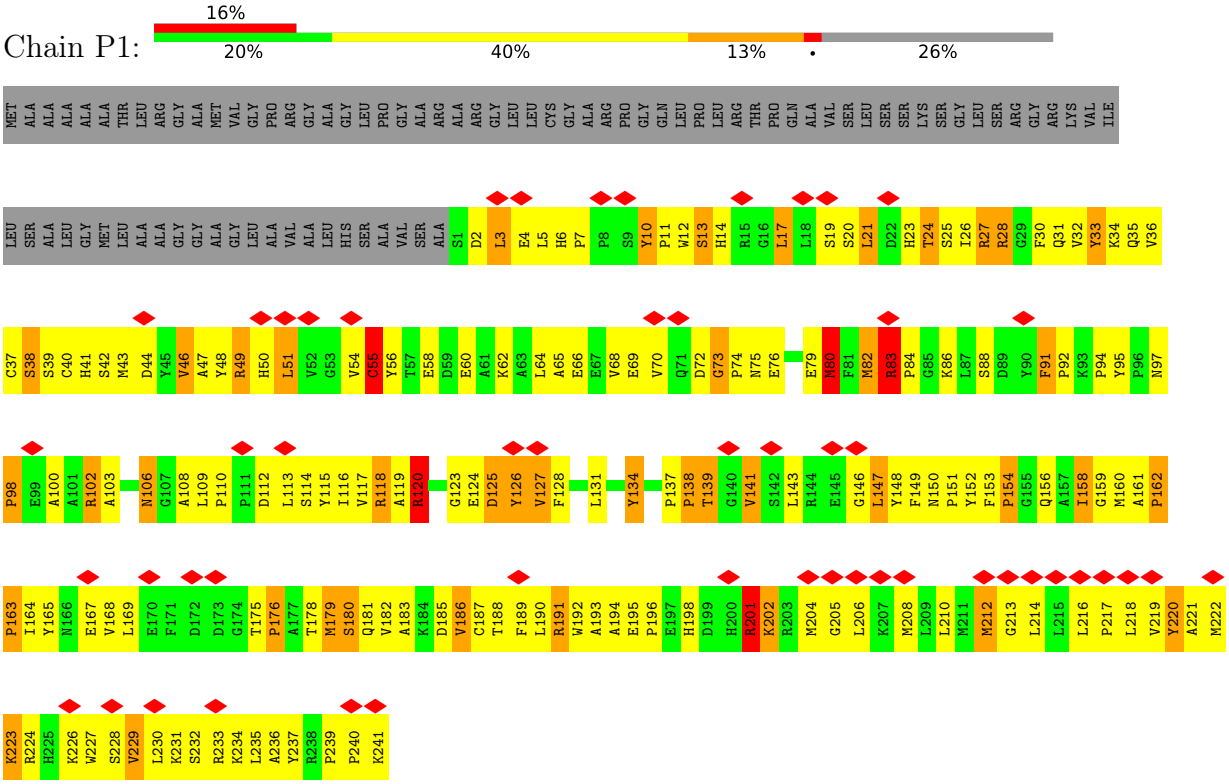
• Molecule 4: Cytochrome c1, heme protein, mitochondrial

Chain D1:



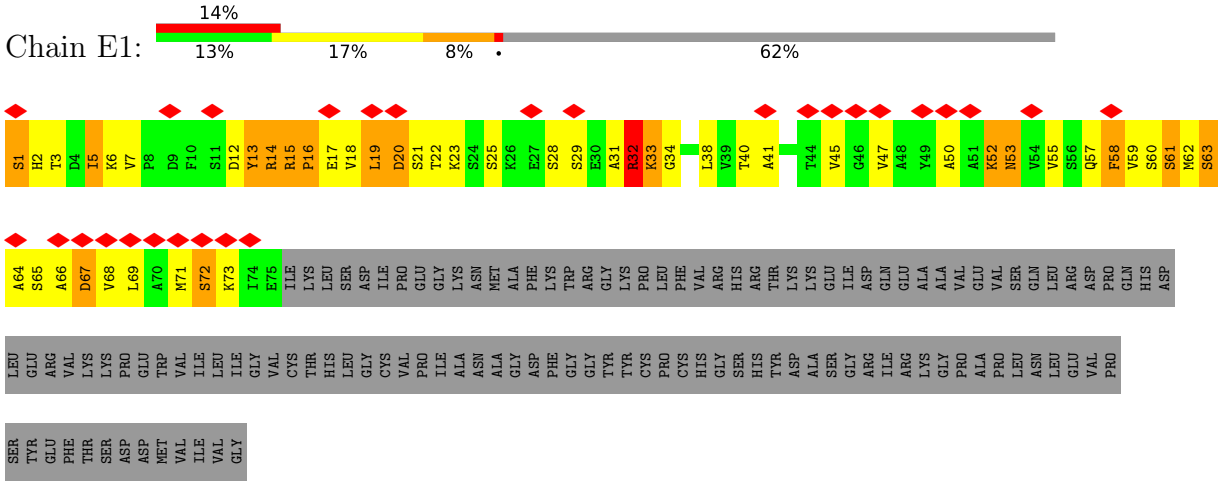
• Molecule 4: Cytochrome c1, heme protein, mitochondrial

Chain P1:



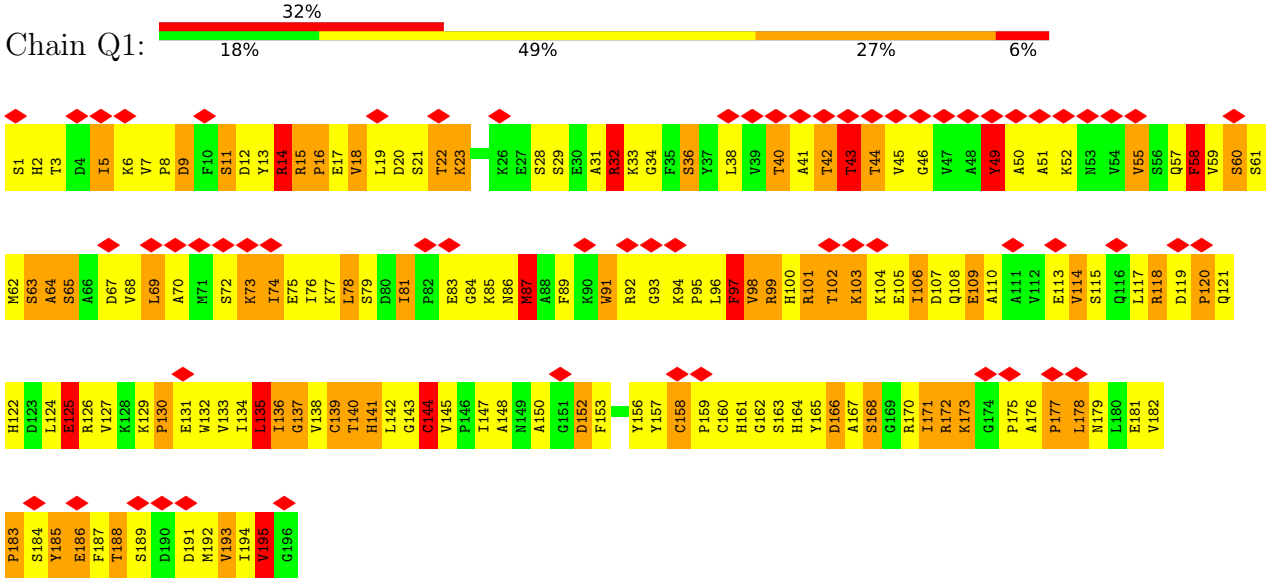
• Molecule 5: Cytochrome b-c1 complex subunit Rieske, mitochondrial

Chain E1:



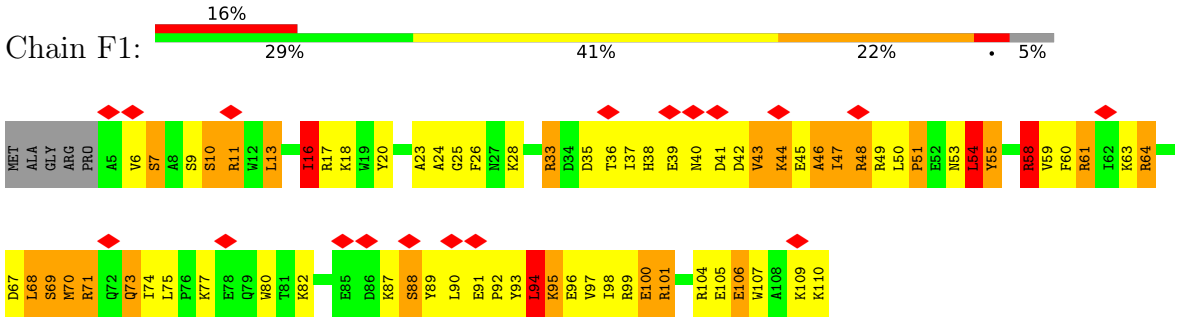
• Molecule 5: Cytochrome b-c1 complex subunit Rieske, mitochondrial

Chain Q1:



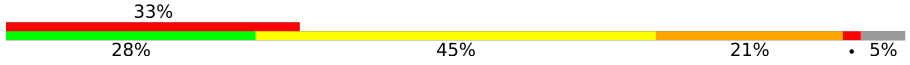
• Molecule 6: Cytochrome b-c1 complex subunit 7

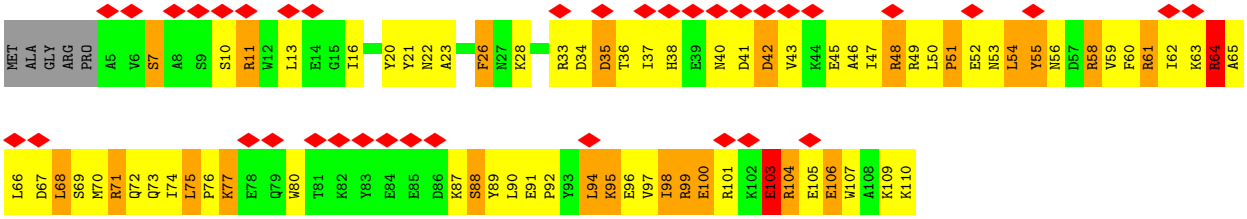
Chain F1:



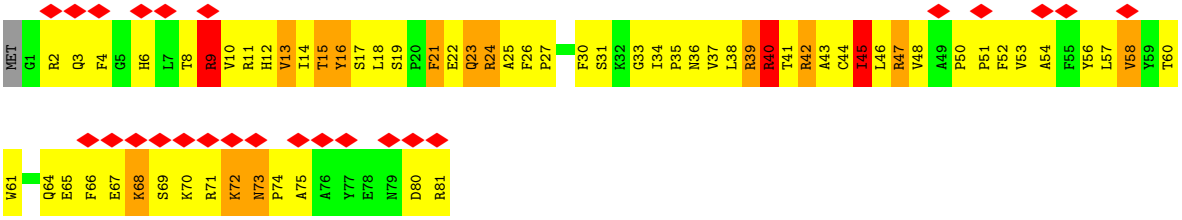
• Molecule 6: Cytochrome b-c1 complex subunit 7

Chain R1:

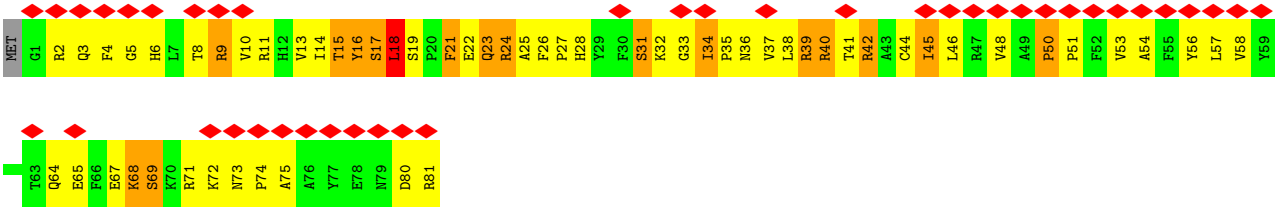




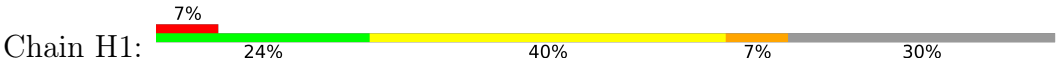
• Molecule 7: Cytochrome b-c1 complex subunit 8

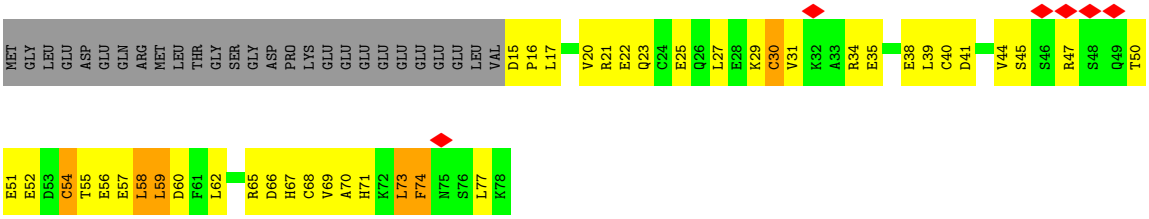


• Molecule 7: Cytochrome b-c1 complex subunit 8

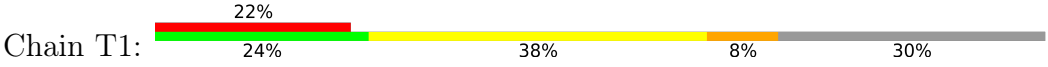


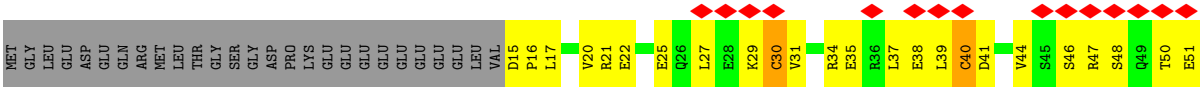
• Molecule 8: Cytochrome b-c1 complex subunit 6, mitochondrial

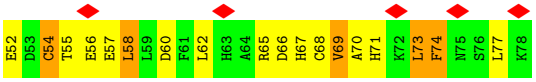




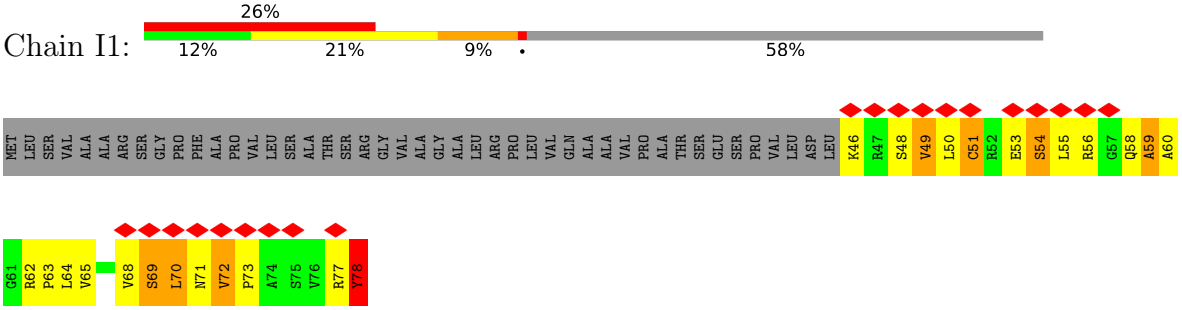
• Molecule 8: Cytochrome b-c1 complex subunit 6, mitochondrial



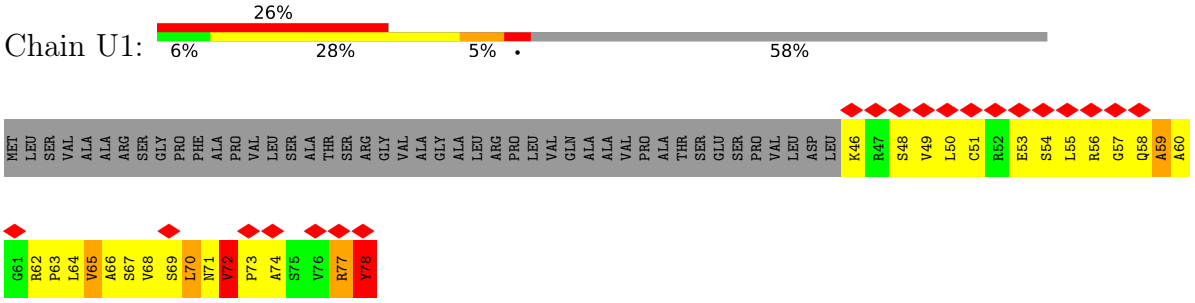




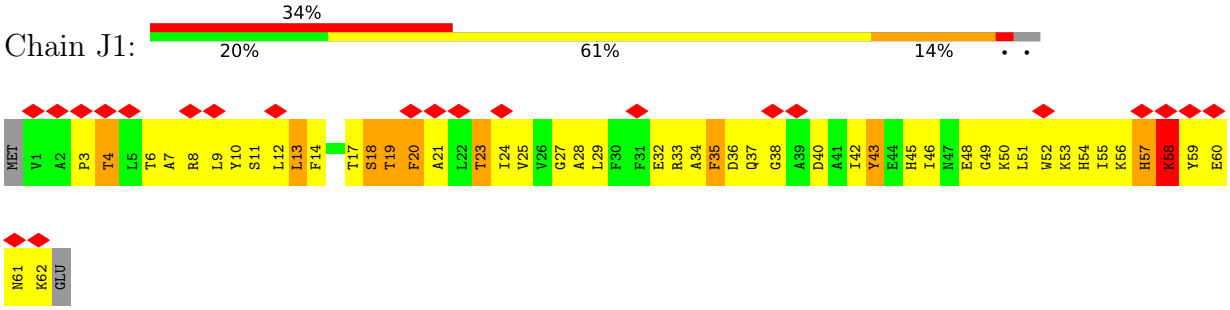
• Molecule 9: Cytochrome b-c1 complex subunit 9



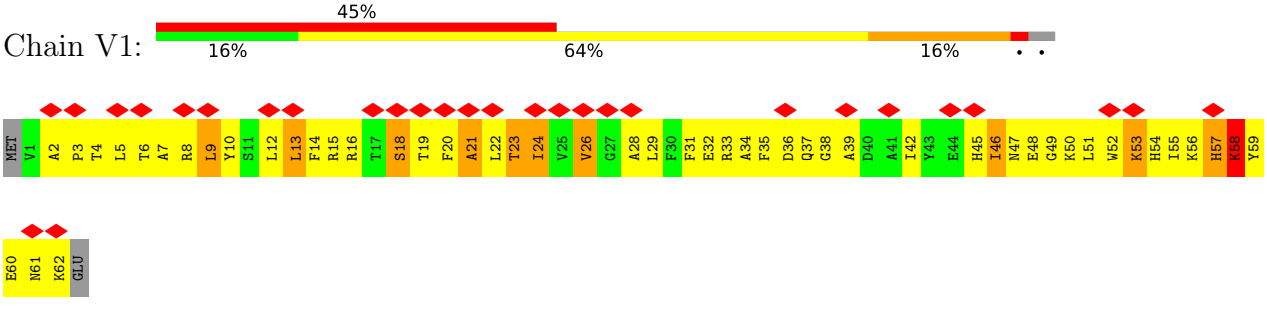
• Molecule 9: Cytochrome b-c1 complex subunit 9



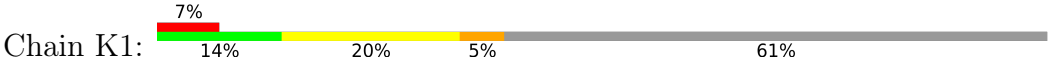
• Molecule 10: Cytochrome b-c1 complex subunit 9

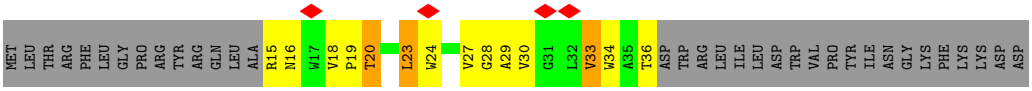


• Molecule 10: Cytochrome b-c1 complex subunit 9



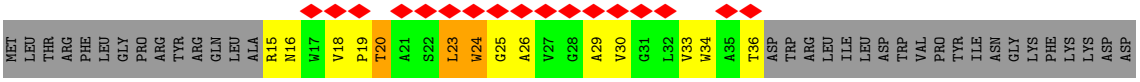
• Molecule 11: Cytochrome b-c1 complex subunit 10





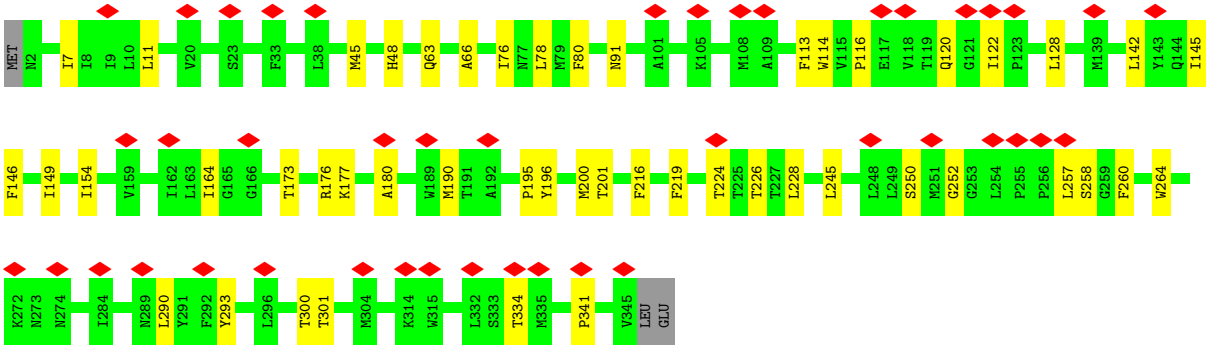
• Molecule 11: Cytochrome b-c1 complex subunit 10

Chain W1:



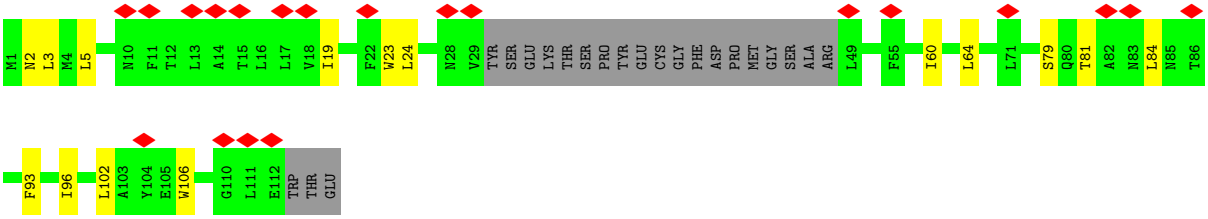
• Molecule 12: NADH-ubiquinone oxidoreductase chain 2

Chain 22:



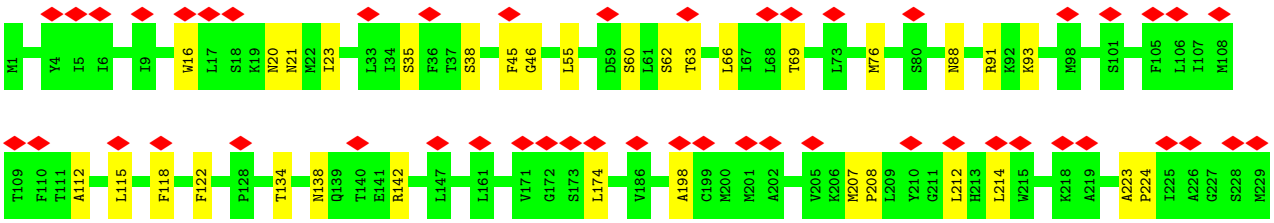
• Molecule 13: NADH-ubiquinone oxidoreductase chain 3

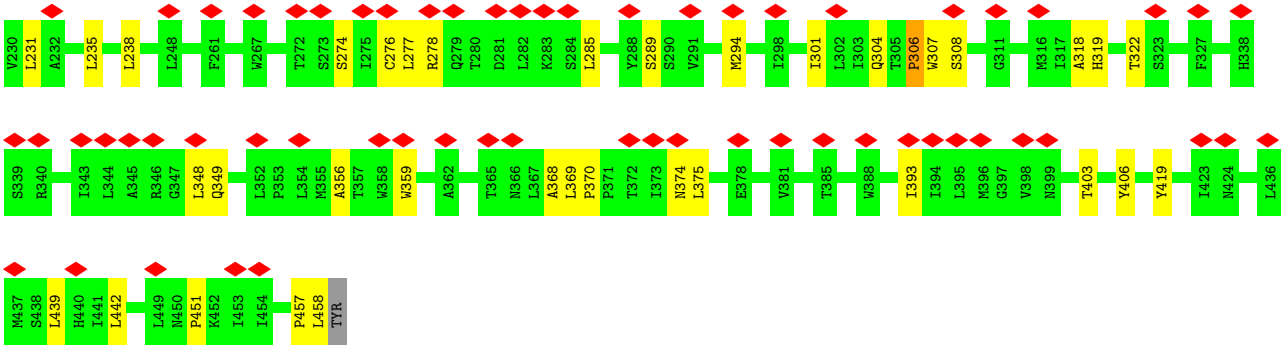
Chain 32:



• Molecule 14: NADH-ubiquinone oxidoreductase chain 4

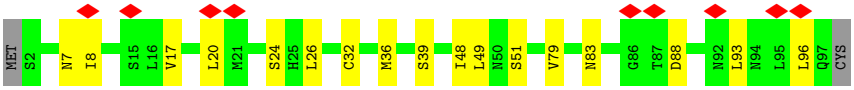
Chain 42:





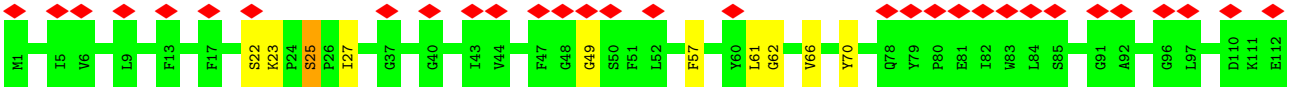
• Molecule 15: NADH-ubiquinone oxidoreductase chain 4L

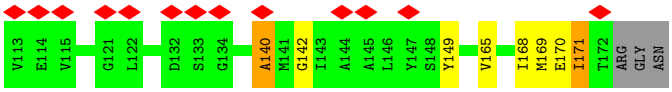
Chain 52:



• Molecule 16: NADH-ubiquinone oxidoreductase chain 6

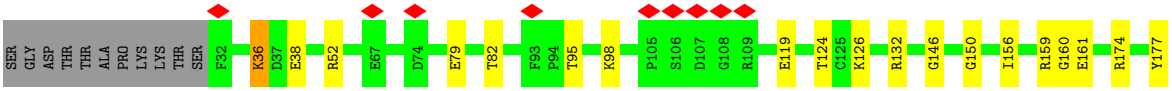
Chain 72:

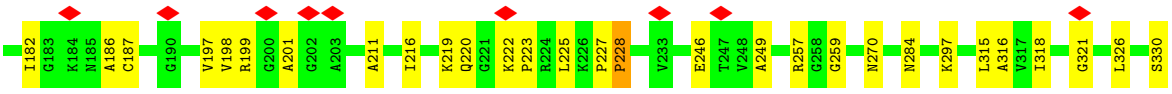


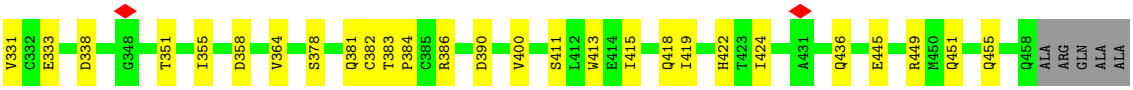


• Molecule 17: NADH dehydrogenase [ubiquinone] flavoprotein 1, mitochondrial

Chain 82:

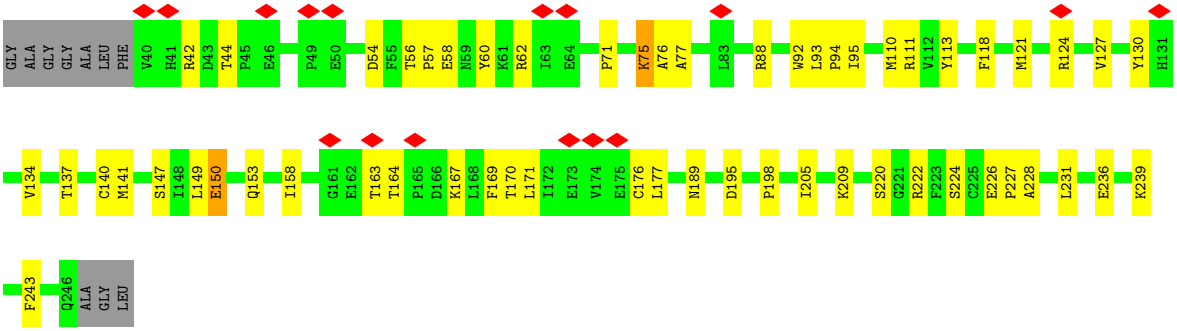






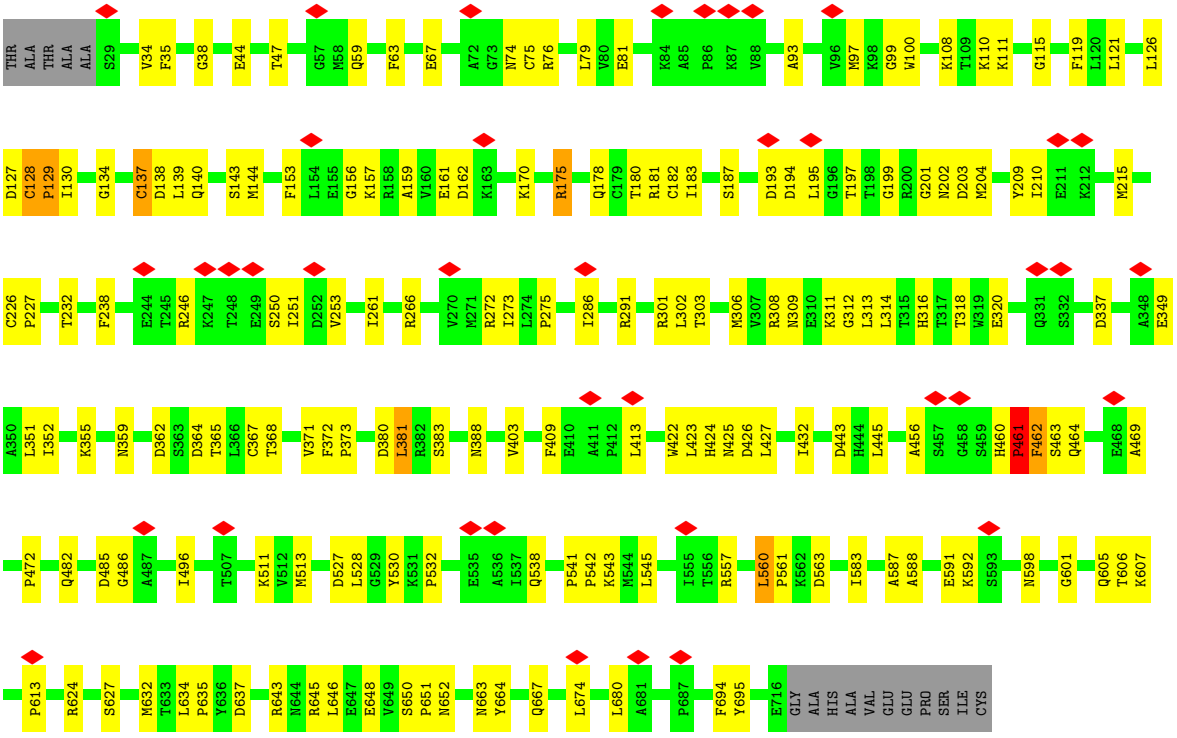
• Molecule 18: NADH dehydrogenase [ubiquinone] flavoprotein 2, mitochondrial

Chain 92:



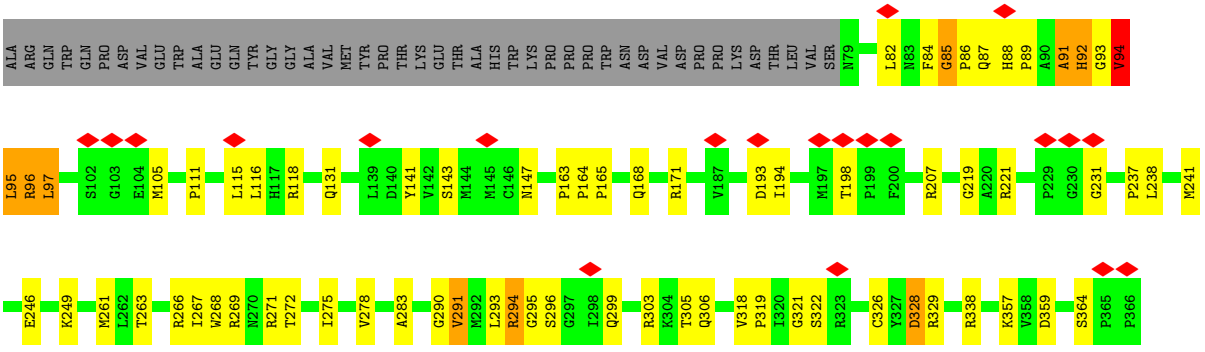
• Molecule 19: NADH-ubiquinone oxidoreductase 75 kDa subunit, mitochondrial

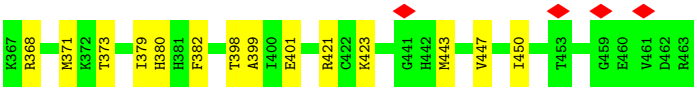
Chain A2:



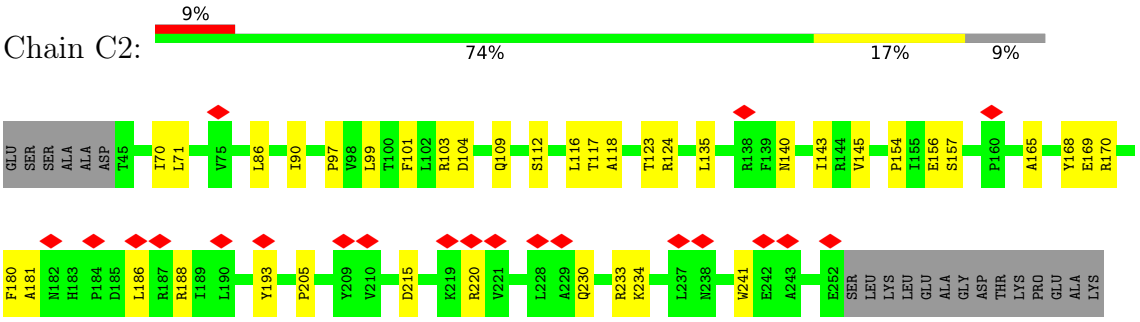
• Molecule 20: NADH dehydrogenase [ubiquinone] iron-sulfur protein 2, mitochondrial

Chain B2:

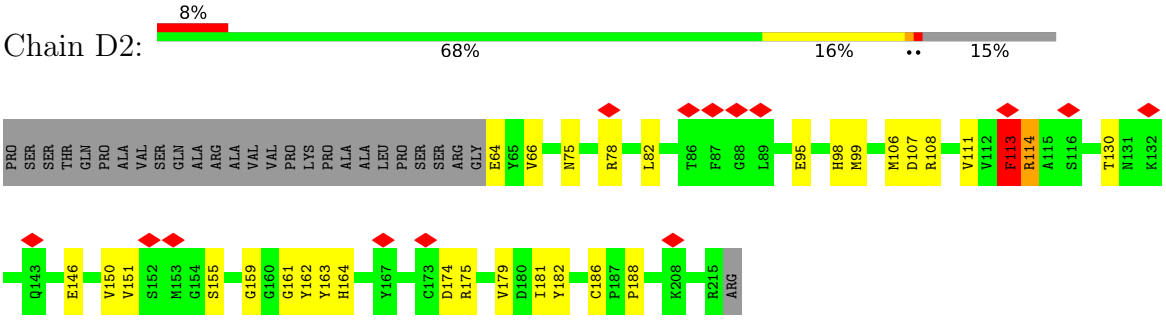




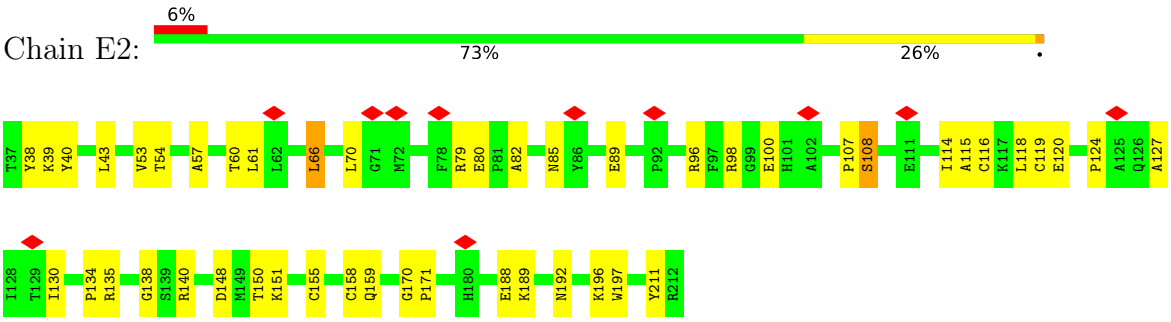
• Molecule 21: NADH dehydrogenase [ubiquinone] iron-sulfur protein 3, mitochondrial



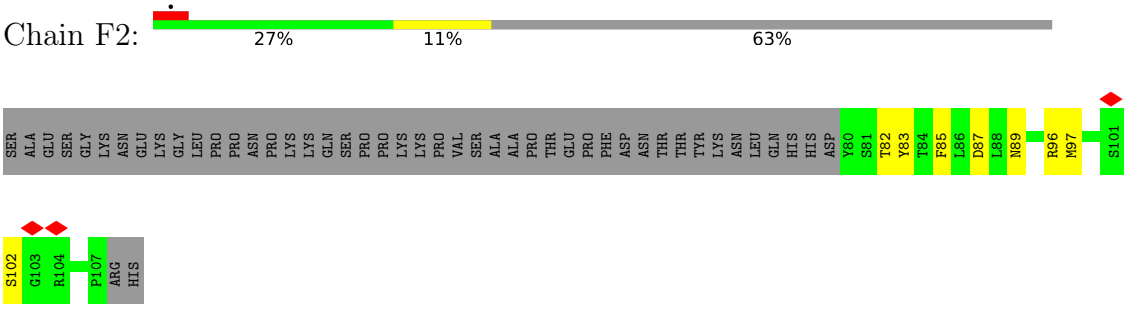
• Molecule 22: NADH dehydrogenase [ubiquinone] iron-sulfur protein 7, mitochondrial



• Molecule 23: NADH dehydrogenase [ubiquinone] iron-sulfur protein 8, mitochondrial

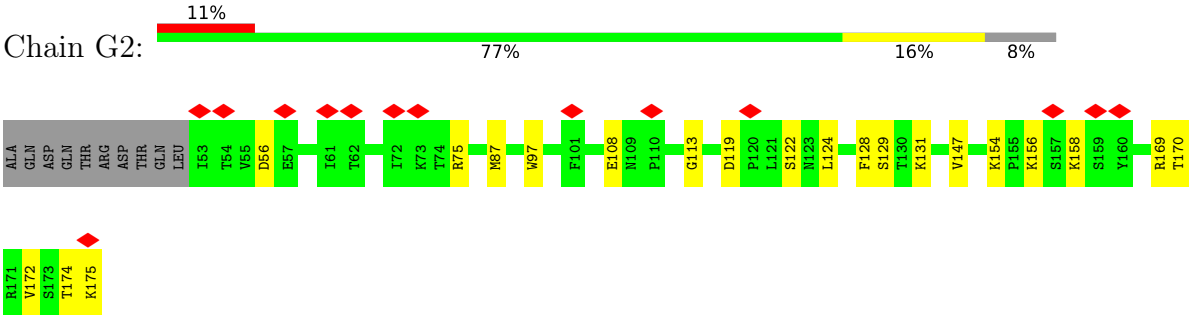


• Molecule 24: NADH dehydrogenase [ubiquinone] flavoprotein 3, mitochondrial



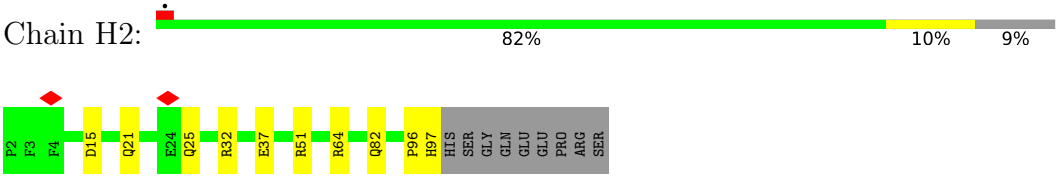
• Molecule 25: NADH dehydrogenase [ubiquinone] iron-sulfur protein 4, mitochondrial

Chain G2:



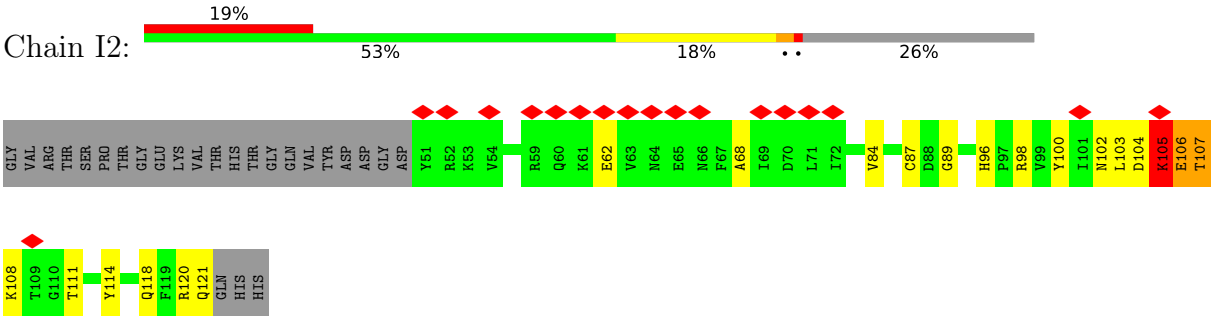
• Molecule 26: NADH dehydrogenase [ubiquinone] iron-sulfur protein 5

Chain H2:



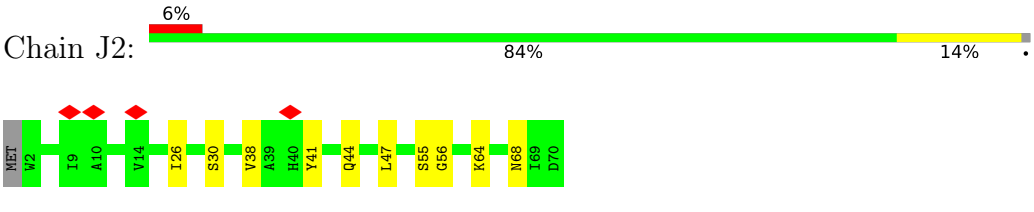
• Molecule 27: NADH dehydrogenase [ubiquinone] iron-sulfur protein 6, mitochondrial

Chain I2:



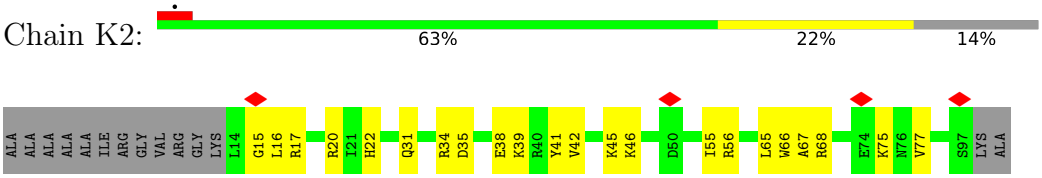
• Molecule 28: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 1

Chain J2:



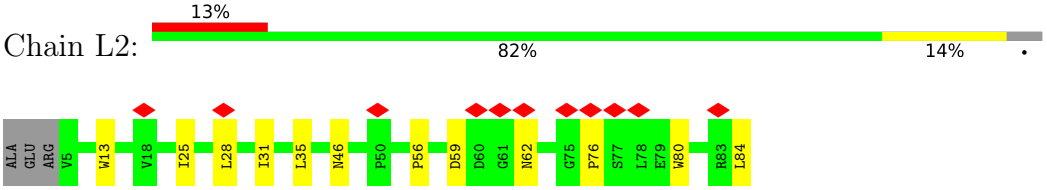
• Molecule 29: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 2

Chain K2:



• Molecule 30: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 3

Chain L2:

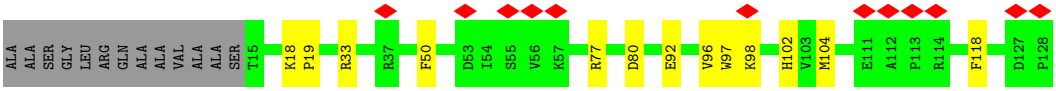


• Molecule 31: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 5

Chain N2:

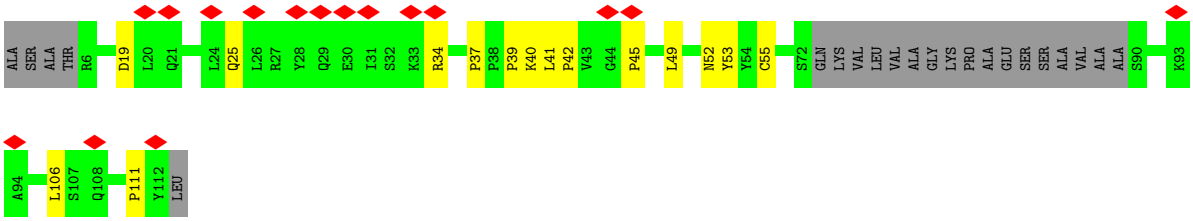
• Molecule 32: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 6

Chain O2:



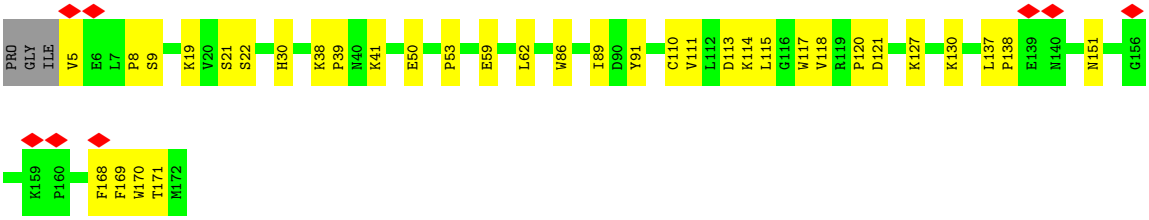
• Molecule 33: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 7

Chain P2:



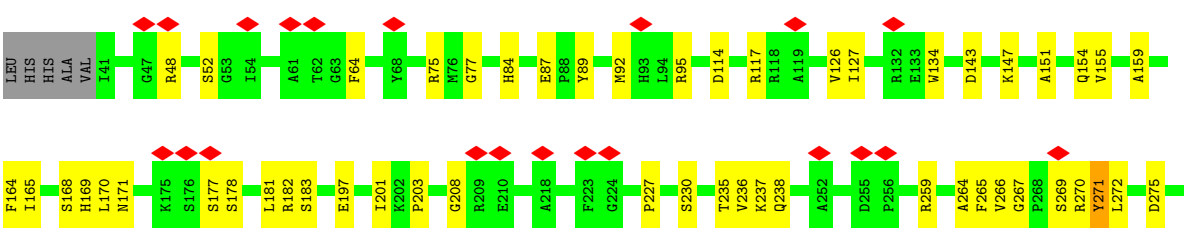
• Molecule 34: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 8

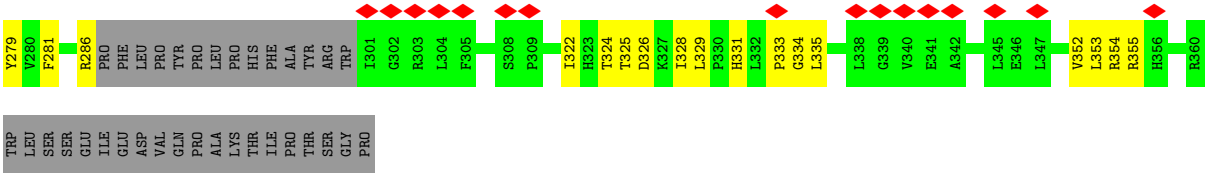
Chain Q2:



• Molecule 35: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 9, mitochondrial

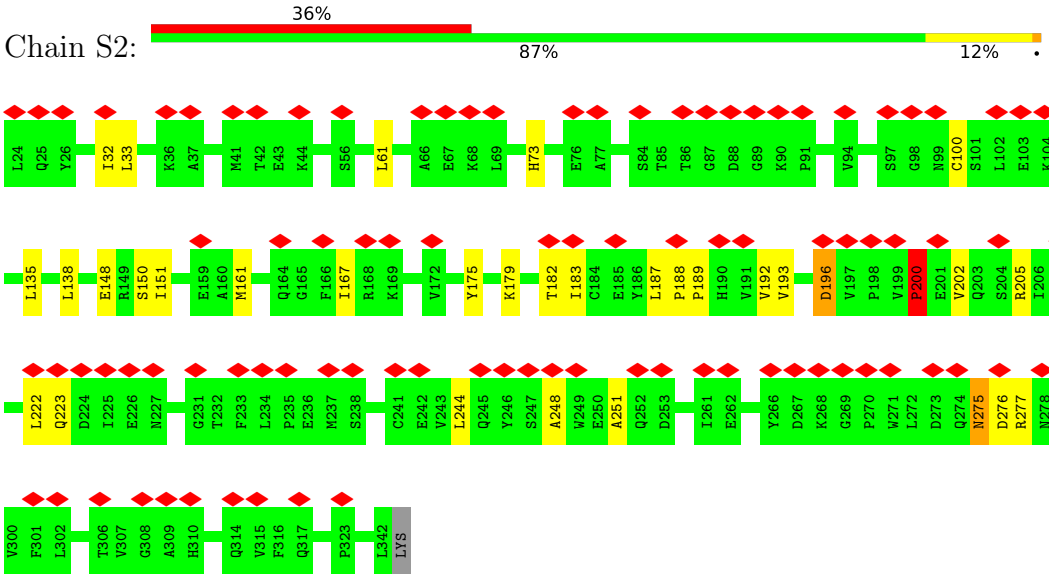
Chain R2:





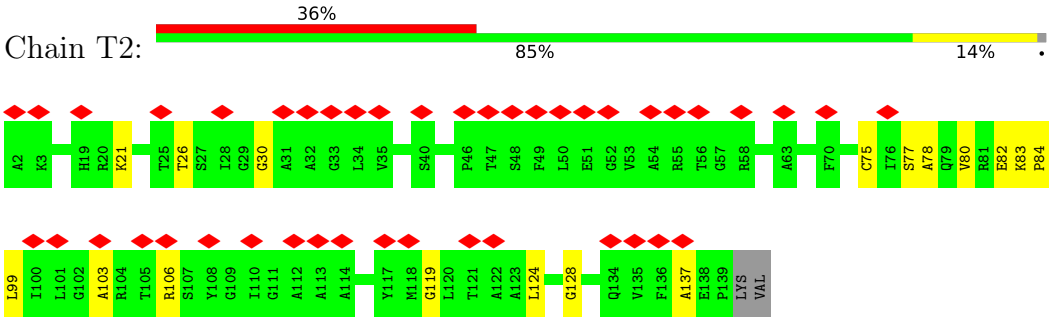
• Molecule 36: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 10, mitochondrial

Chain S2:



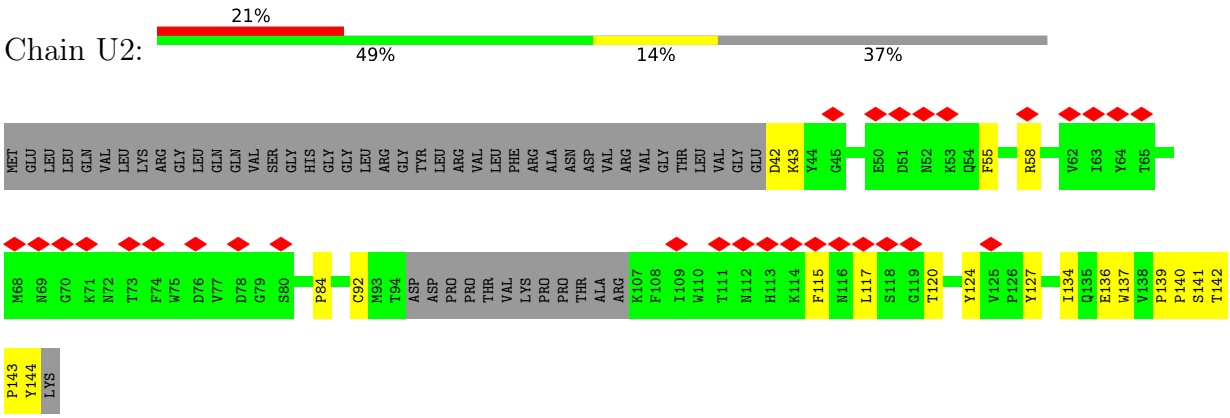
• Molecule 37: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 11

Chain T2:



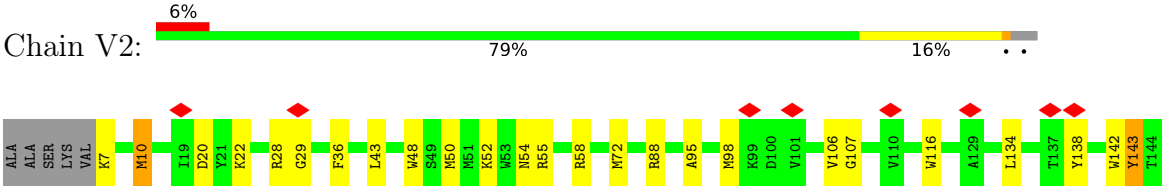
• Molecule 38: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 12

Chain U2:



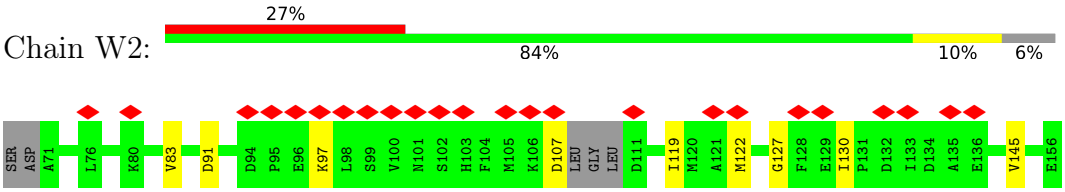
• Molecule 39: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 13

Chain V2:



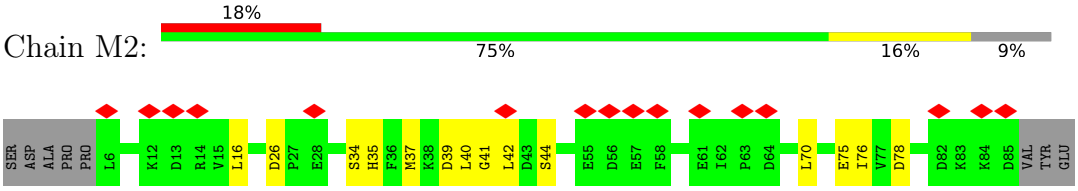
• Molecule 40: Acyl carrier protein, mitochondrial

Chain W2:



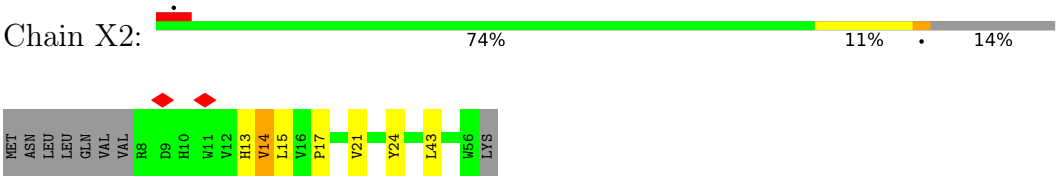
• Molecule 40: Acyl carrier protein, mitochondrial

Chain M2:



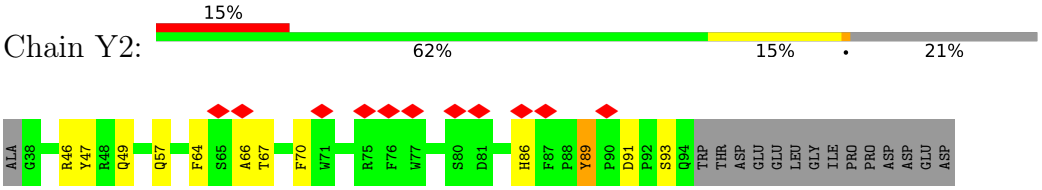
• Molecule 41: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 1

Chain X2:



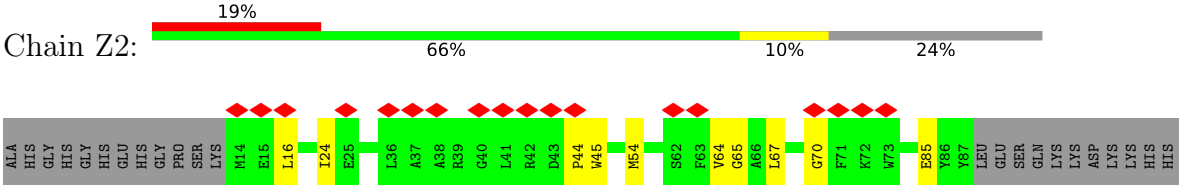
• Molecule 42: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 2, mitochondrial

Chain Y2:



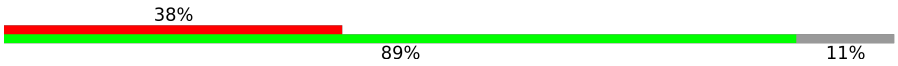
• Molecule 43: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 3

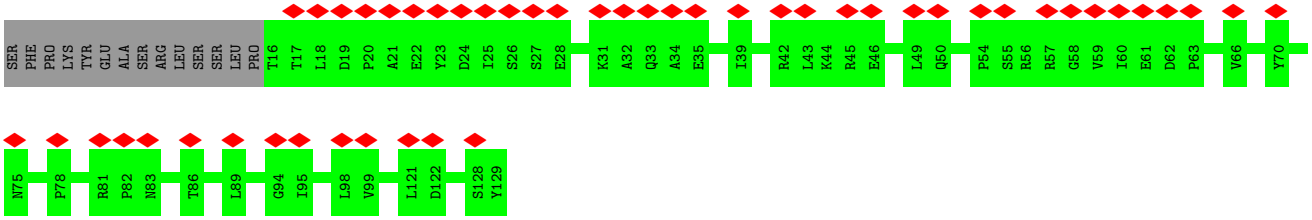
Chain Z2:



• Molecule 44: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 4

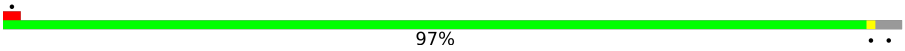
Chain a2:

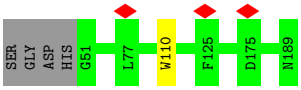




• Molecule 45: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 5, mitochondrial

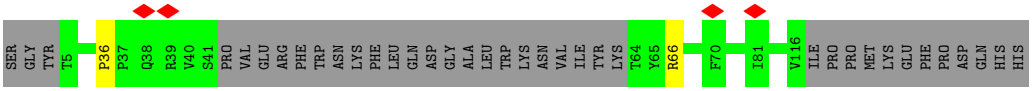
Chain b2:





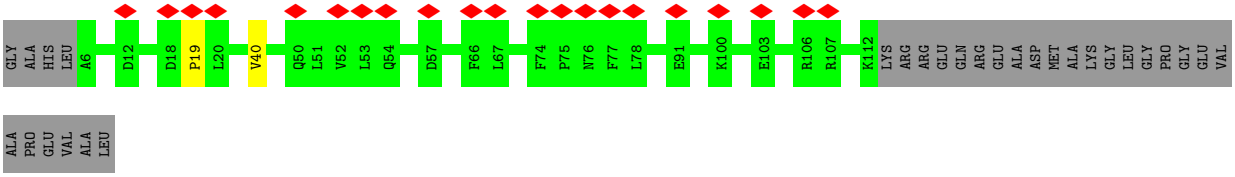
• Molecule 46: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 6

Chain c2:



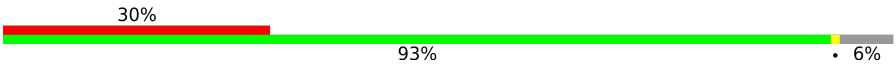
• Molecule 47: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 7

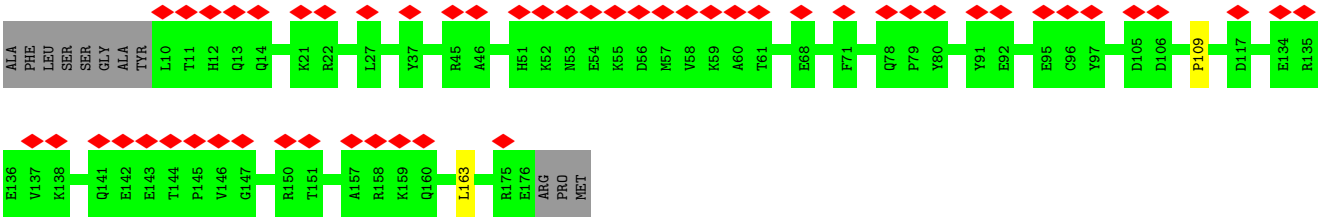
Chain d2:



• Molecule 48: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 9

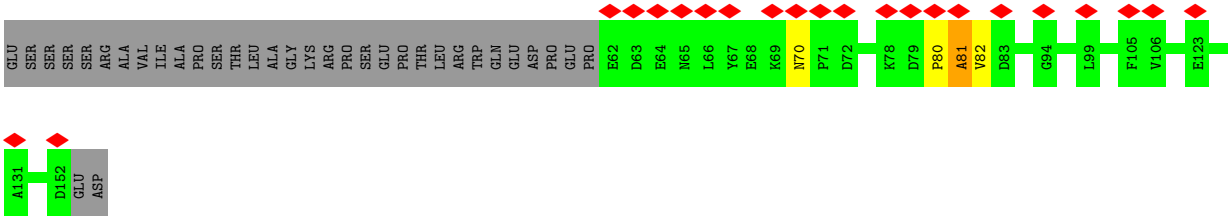
Chain f2:



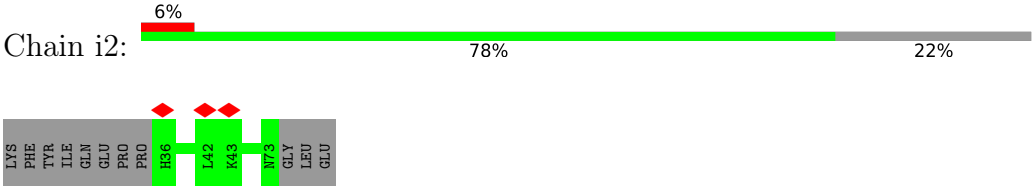


• Molecule 49: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 11, mitochondrial

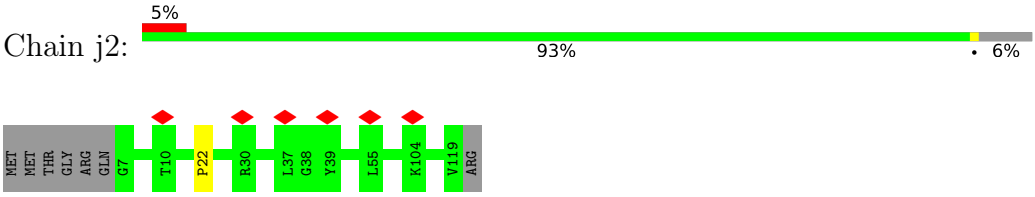
Chain h2:



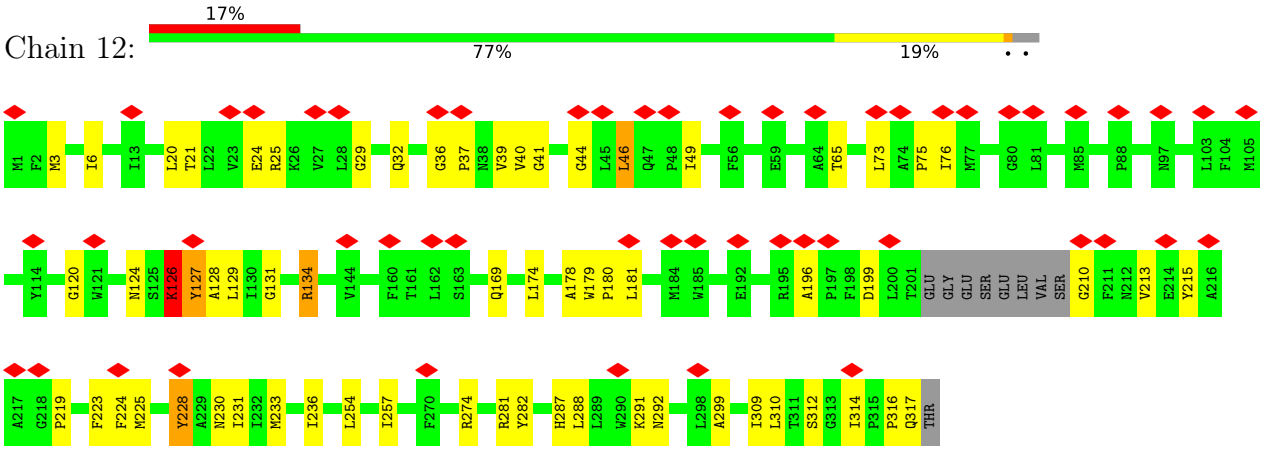
• Molecule 50: NADH dehydrogenase [ubiquinone] 1 subunit C1, mitochondrial



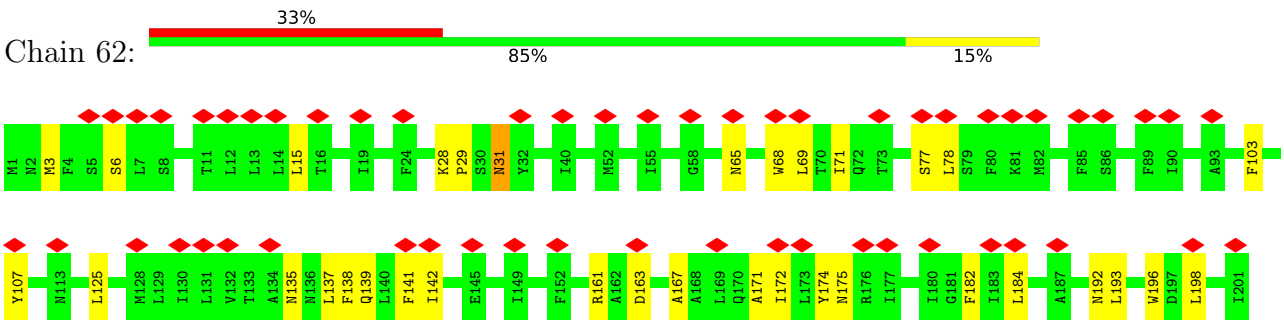
• Molecule 51: NADH dehydrogenase [ubiquinone] 1 subunit C2

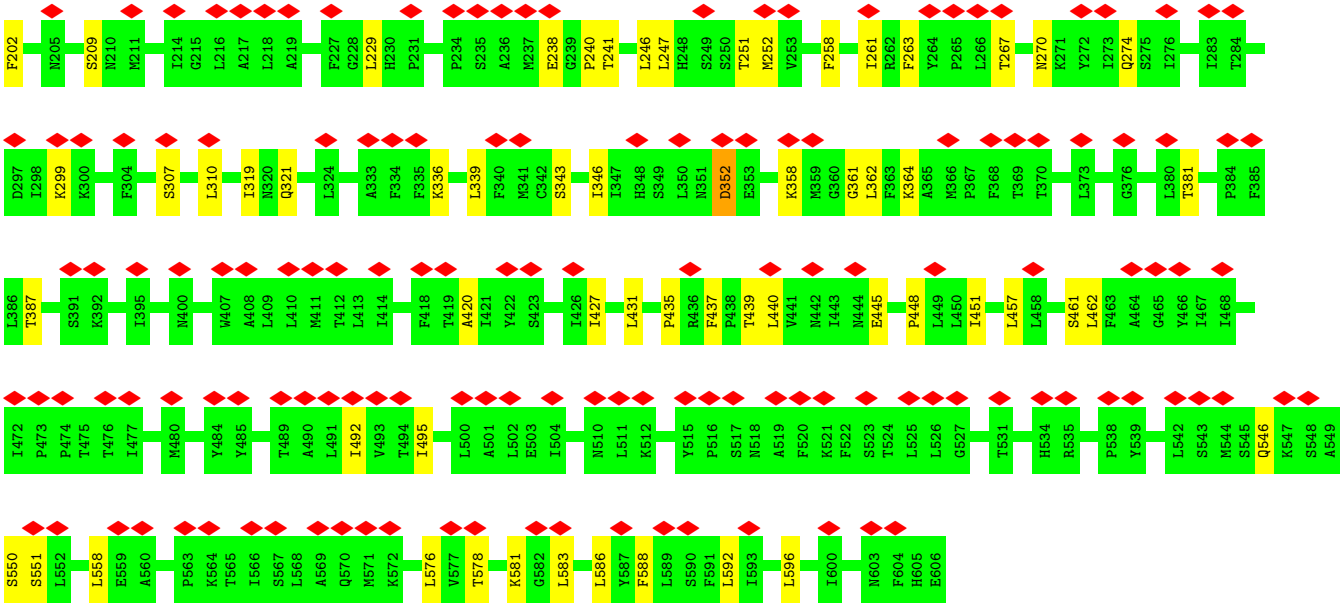


• Molecule 52: NADH-ubiquinone oxidoreductase chain 1



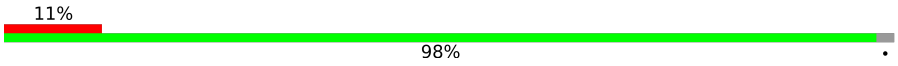
• Molecule 53: NADH-ubiquinone oxidoreductase chain 5

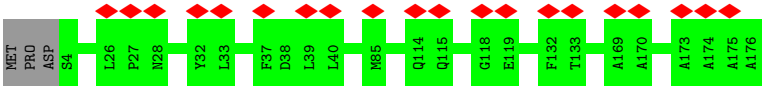




• Molecule 54: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 10

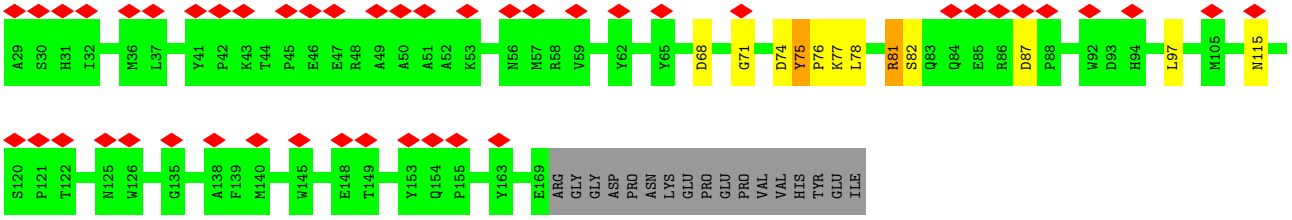
Chain g2:





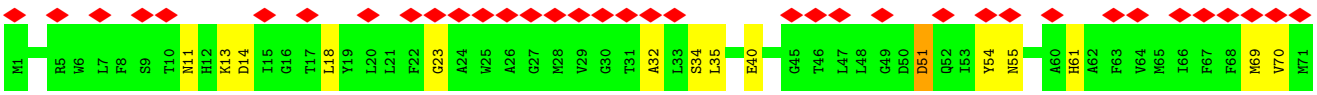
• Molecule 55: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 8, mitochondrial

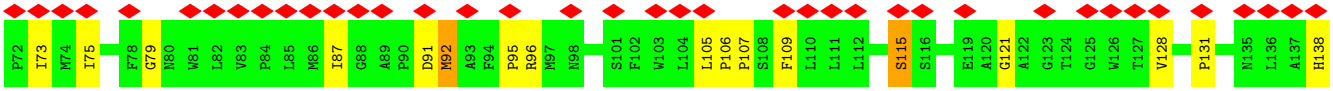
Chain e2:

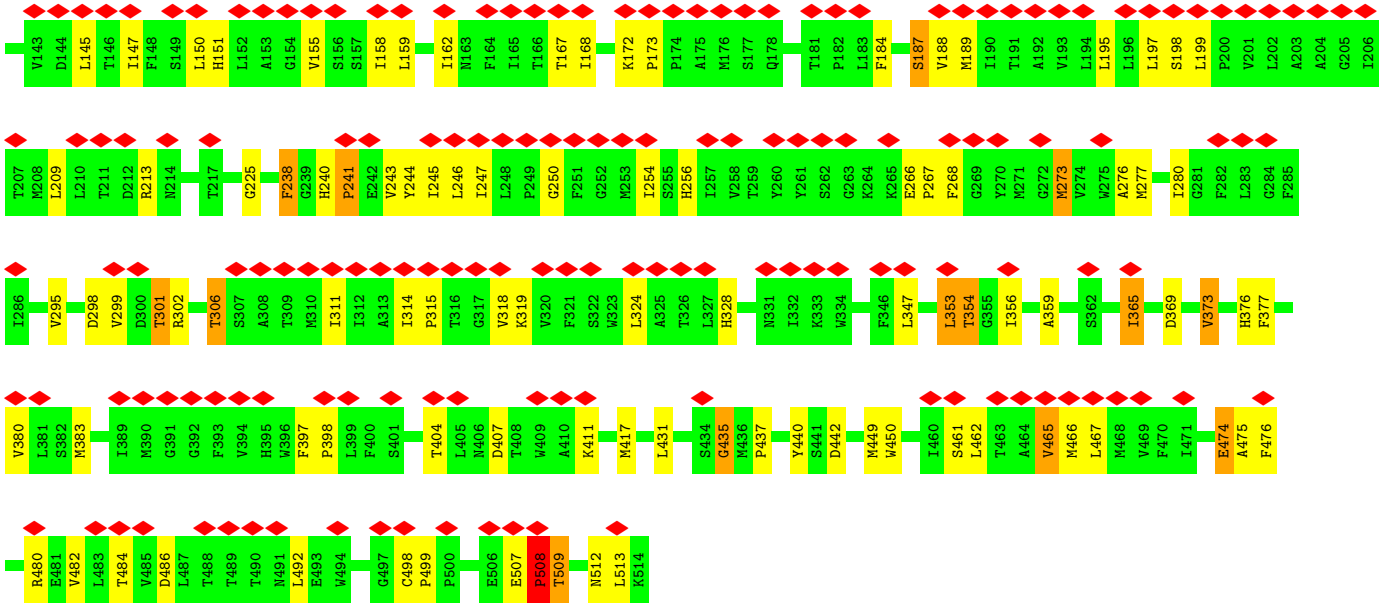


• Molecule 56: Cytochrome c oxidase subunit 1

Chain A3:

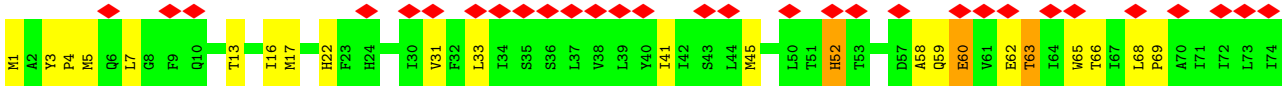






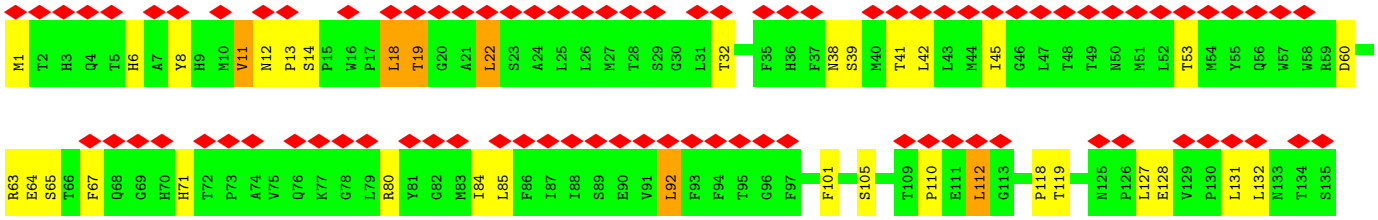
• Molecule 57: Cytochrome c oxidase subunit 2

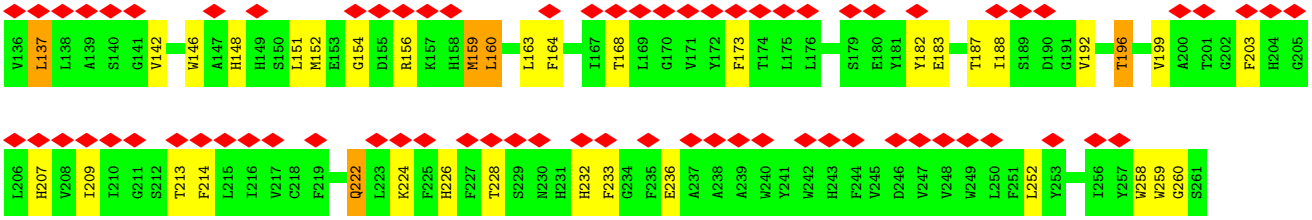
Chain B3:



• Molecule 58: Cytochrome c oxidase subunit 3

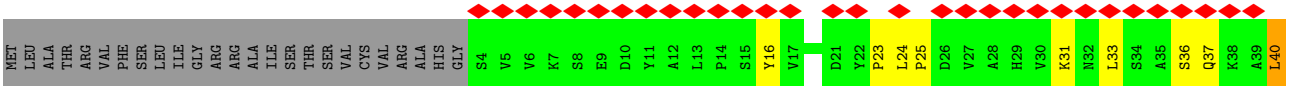
Chain C3:

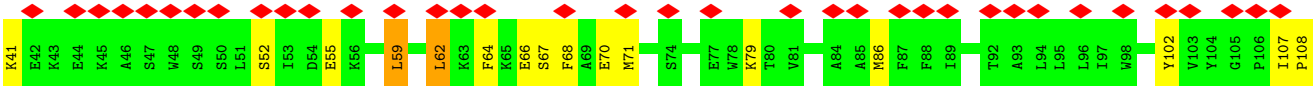


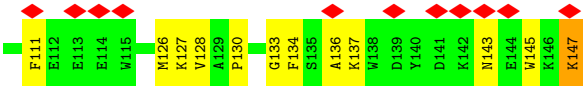


• Molecule 59: Cytochrome c oxidase subunit 4 isoform 1, mitochondrial

Chain D3:

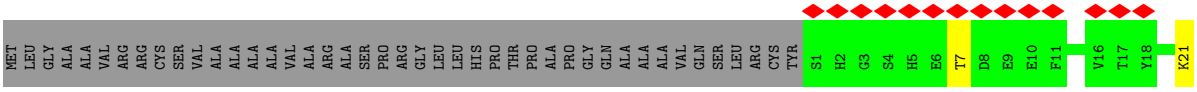


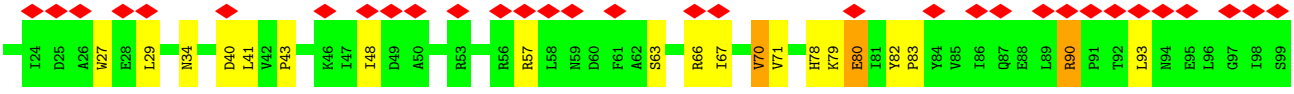


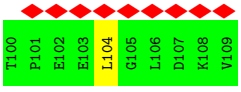


• Molecule 60: Cytochrome c oxidase subunit 5A, mitochondrial

Chain E3:

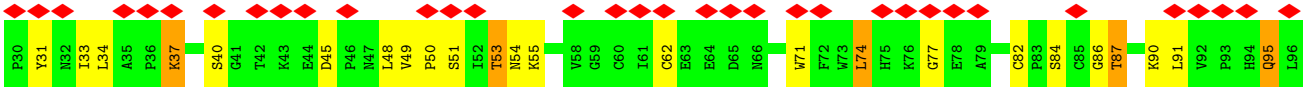






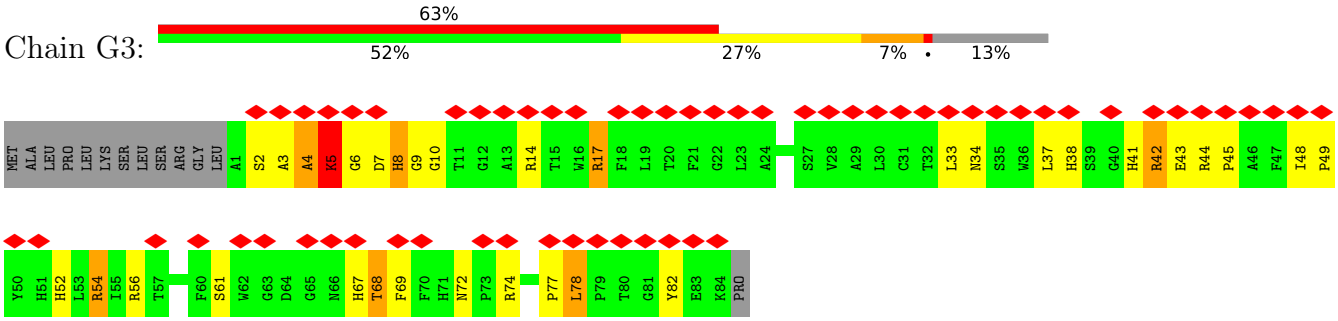
• Molecule 61: Cytochrome c oxidase subunit 5B, mitochondrial

Chain F3:



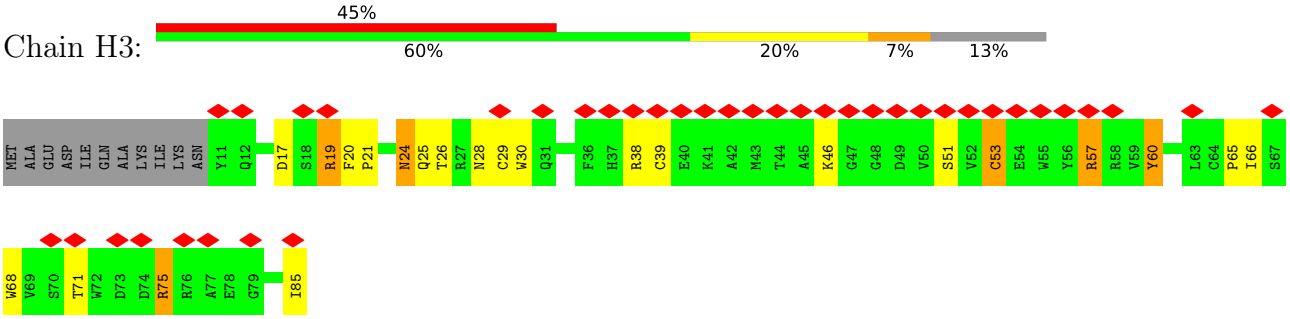
• Molecule 62: Cytochrome c oxidase subunit 6A2, mitochondrial

Chain G3:



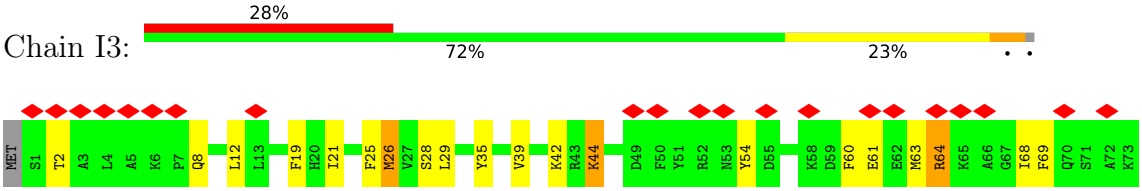
• Molecule 63: Cytochrome c oxidase subunit 6B1

Chain H3:



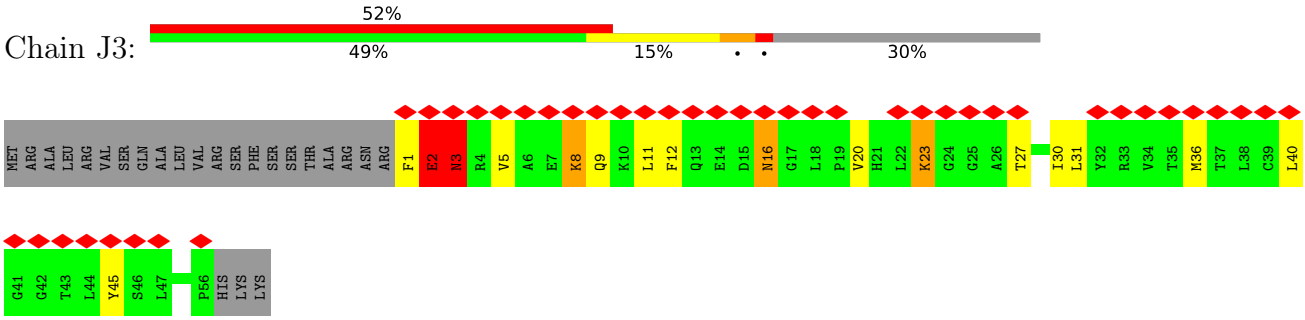
• Molecule 64: Cytochrome c oxidase subunit 6C

Chain I3:



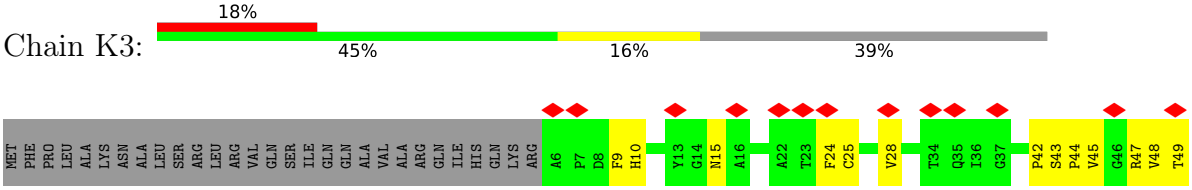
• Molecule 65: Cytochrome c oxidase subunit 7A1, mitochondrial

Chain J3:



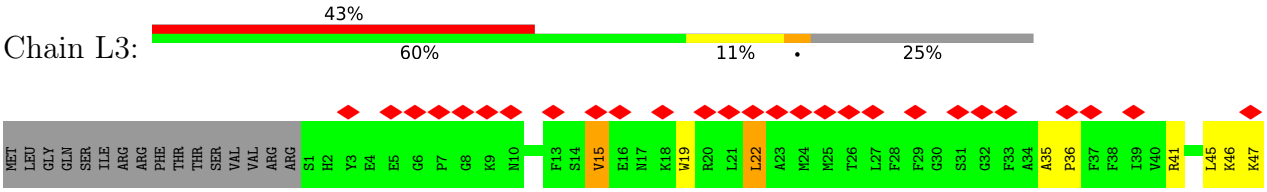
• Molecule 66: Cytochrome c oxidase subunit 7B, mitochondrial

Chain K3:



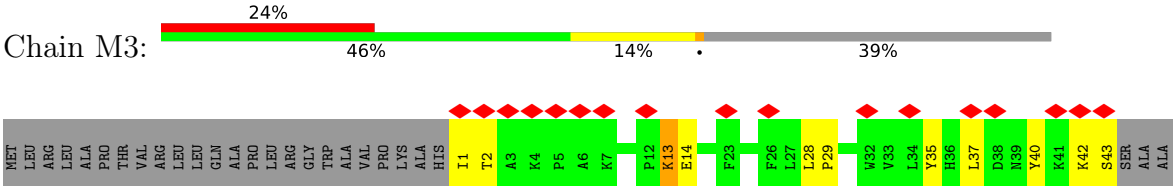
• Molecule 67: Cytochrome c oxidase subunit 7C, mitochondrial

Chain L3:



• Molecule 68: Cytochrome c oxidase subunit 8B, mitochondrial

Chain M3:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	11651	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	35	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	FEI FALCON II (4k x 4k)	Depositor
Maximum map value	0.334	Depositor
Minimum map value	-0.125	Depositor
Average map value	0.005	Depositor
Map value standard deviation	0.020	Depositor
Recommended contour level	0.07	Depositor
Map size (Å)	391.244, 391.244, 391.244	wwPDB
Map dimensions	280, 280, 280	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.3973, 1.3973, 1.3973	Depositor

5 Model quality (i)

5.1 Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: HEC, MG, PC1, CU, HEM, NAP, ZN, FES, SF4, 3PE, CDL, FMN, HEA

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	A1	0.61	2/3426 (0.1%)	1.59	43/4644 (0.9%)
1	M1	0.64	3/3426 (0.1%)	1.62	58/4644 (1.2%)
2	B1	0.51	0/3198	1.46	31/4336 (0.7%)
2	N1	0.51	0/3198	1.33	12/4336 (0.3%)
3	C1	0.71	2/3108 (0.1%)	1.73	64/4252 (1.5%)
3	O1	0.69	3/3108 (0.1%)	1.62	52/4252 (1.2%)
4	D1	0.55	0/1978	1.50	23/2684 (0.9%)
4	P1	0.55	0/1978	1.40	24/2684 (0.9%)
5	E1	0.60	0/574	1.63	7/775 (0.9%)
5	Q1	0.61	0/1551	1.68	28/2097 (1.3%)
6	F1	0.57	0/935	1.55	18/1253 (1.4%)
6	R1	0.56	0/935	1.65	23/1253 (1.8%)
7	G1	0.61	1/704 (0.1%)	1.41	9/951 (0.9%)
7	S1	0.59	0/704	1.31	5/951 (0.5%)
8	H1	0.42	0/529	1.12	0/708
8	T1	0.39	0/529	1.06	0/708
9	I1	0.48	0/250	1.31	2/335 (0.6%)
9	U1	0.49	0/250	1.32	1/335 (0.3%)
10	J1	0.51	0/524	1.31	5/707 (0.7%)
10	V1	0.51	0/524	1.42	6/707 (0.8%)
11	K1	0.41	0/170	0.99	0/236
11	W1	0.44	0/170	1.14	0/236
12	22	0.37	0/2646	0.65	0/3618
13	32	0.34	0/736	0.73	2/1011 (0.2%)
14	42	0.34	0/3538	0.67	1/4845 (0.0%)
15	52	0.34	0/706	0.66	0/960
16	72	0.34	0/1213	0.63	0/1659
17	82	0.34	0/3035	0.60	3/4130 (0.1%)
18	92	0.34	0/1572	0.64	1/2150 (0.0%)
19	A2	0.37	0/5269	0.64	4/7152 (0.1%)
20	B2	0.43	0/3150	0.65	0/4260
21	C2	0.40	0/1756	0.61	0/2394

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
22	D2	0.42	0/1231	0.58	0/1669
23	E2	0.43	0/1418	0.65	1/1922 (0.1%)
24	F2	0.37	0/188	1.05	1/259 (0.4%)
25	G2	0.37	0/1004	0.66	1/1359 (0.1%)
26	H2	0.33	0/800	0.58	0/1076
27	I2	0.34	0/540	0.68	0/725
28	J2	0.33	0/545	0.51	0/740
29	K2	0.32	0/663	0.60	0/896
30	L2	0.33	0/623	0.66	2/862 (0.2%)
31	N2	0.31	0/882	0.59	0/1203
32	O2	0.31	0/948	0.55	0/1279
33	P2	0.33	0/719	0.66	0/981
34	Q2	0.33	0/1381	0.62	0/1869
35	R2	0.32	0/2392	0.64	0/3248
36	S2	0.31	0/2348	0.64	2/3198 (0.1%)
37	T2	0.31	0/959	0.59	0/1305
38	U2	0.34	0/765	0.66	1/1050 (0.1%)
39	V2	0.35	0/1121	0.60	0/1515
40	M2	0.29	0/651	0.65	0/876
40	W2	0.30	0/603	0.63	0/817
41	X2	0.30	0/383	0.63	1/523 (0.2%)
42	Y2	0.35	0/428	0.61	1/592 (0.2%)
43	Z2	0.31	0/506	0.66	1/688 (0.1%)
44	a2	0.31	0/878	0.59	0/1195
45	b2	0.31	0/1058	0.60	0/1434
46	c2	0.32	0/632	0.69	2/871 (0.2%)
47	d2	0.32	0/724	0.53	0/989
48	f2	0.29	0/1191	0.55	1/1639 (0.1%)
49	h2	0.33	0/743	0.58	0/1013
50	i2	0.27	0/286	0.42	0/392
51	j2	0.35	0/922	0.66	1/1254 (0.1%)
52	12	0.37	0/2513	0.65	1/3432 (0.0%)
53	62	0.30	0/4892	0.60	0/6660
54	g2	0.30	0/1380	0.52	0/1872
55	e2	0.33	0/888	0.73	2/1234 (0.2%)
56	A3	0.60	0/4164	0.76	1/5688 (0.0%)
57	B3	0.57	0/1868	0.79	0/2544
58	C3	0.56	0/2211	0.68	0/3023
59	D3	0.57	0/1229	0.64	1/1658 (0.1%)
60	E3	0.50	0/898	0.66	0/1218
61	F3	0.56	0/765	0.81	0/1038
62	G3	0.54	0/698	0.72	1/950 (0.1%)
63	H3	0.55	0/648	0.73	0/877

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
64	I3	0.60	0/611	0.64	0/810
65	J3	0.61	0/451	0.72	0/610
66	K3	0.57	0/398	0.66	0/546
67	L3	0.63	0/399	0.62	0/534
68	M3	0.51	0/345	0.65	0/470
All	All	0.46	11/107280 (0.0%)	0.99	443/145866 (0.3%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand.A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A1	0	13
1	M1	0	3
2	B1	0	9
2	N1	0	6
3	C1	0	14
3	O1	0	6
4	D1	0	5
4	P1	0	4
5	E1	0	1
5	Q1	0	9
6	F1	0	2
7	G1	0	2
7	S1	0	3
8	T1	0	1
9	I1	0	1
9	U1	0	1
10	J1	0	1
11	W1	0	1
12	22	0	2
14	42	0	3
15	52	0	1
16	72	0	3
17	82	0	1
18	92	0	3
19	A2	0	6
20	B2	0	3
22	D2	0	4
23	E2	0	2
33	P2	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
34	Q2	0	2
35	R2	0	2
36	S2	0	1
37	T2	0	1
39	V2	0	3
40	M2	0	1
42	Y2	0	1
45	b2	0	1
48	f2	0	1
49	h2	0	2
52	12	0	1
53	62	0	2
55	e2	0	4
All	All	0	133

All (11) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A1	419	CYS	CB-SG	-7.22	1.70	1.82
1	M1	253	VAL	C-O	6.83	1.36	1.23
1	A1	104	LYS	CD-CE	6.56	1.67	1.51
1	M1	169	GLY	N-CA	-6.54	1.36	1.46
3	O1	106	SER	CB-OG	-6.45	1.33	1.42
7	G1	16	TYR	CD2-CE2	-6.08	1.30	1.39
1	M1	434	TYR	CG-CD2	-5.40	1.32	1.39
3	O1	40	CYS	CB-SG	-5.28	1.73	1.81
3	C1	183	PHE	CG-CD1	-5.09	1.31	1.38
3	C1	75	TYR	CG-CD1	-5.09	1.32	1.39
3	O1	37	LEU	C-N	-5.01	1.24	1.33

All (443) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	M1	46	ARG	NE-CZ-NH2	-19.33	110.64	120.30
4	D1	120	ARG	NE-CZ-NH2	-16.24	112.18	120.30
1	A1	419	CYS	CA-CB-SG	16.23	143.22	114.00
2	B1	70	ARG	NE-CZ-NH2	16.23	128.42	120.30
1	M1	253	VAL	O-C-N	-14.90	98.86	122.70
2	B1	245	ARG	NE-CZ-NH2	14.89	127.74	120.30
3	C1	91	PHE	CB-CG-CD2	-14.45	110.69	120.80
1	A1	434	TYR	CB-CG-CD1	13.97	129.38	121.00
3	O1	199	PHE	CB-CG-CD2	13.36	130.15	120.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B1	133	ARG	NE-CZ-NH1	12.96	126.78	120.30
3	O1	71	ARG	NE-CZ-NH1	-12.47	114.07	120.30
4	D1	201	ARG	NE-CZ-NH1	-12.30	114.15	120.30
3	O1	55	TYR	CB-CG-CD1	12.13	128.28	121.00
1	A1	46	ARG	NE-CZ-NH2	-12.09	114.25	120.30
1	M1	398	ARG	NE-CZ-NH1	11.93	126.26	120.30
3	C1	33	PHE	CG-CD2-CE2	11.89	133.88	120.80
1	M1	414	TYR	CB-CG-CD1	11.79	128.08	121.00
6	R1	34	ASP	CB-CG-OD1	-11.72	107.75	118.30
1	A1	438	ARG	NE-CZ-NH2	11.70	126.15	120.30
2	N1	70	ARG	NE-CZ-NH2	-11.69	114.46	120.30
1	M1	344	ARG	NE-CZ-NH1	11.68	126.14	120.30
2	B1	70	ARG	NE-CZ-NH1	-11.31	114.65	120.30
5	Q1	14	ARG	NE-CZ-NH1	-11.30	114.65	120.30
1	A1	244	ARG	NE-CZ-NH2	11.25	125.92	120.30
5	Q1	166	ASP	CB-CG-OD1	11.15	128.33	118.30
1	M1	256	ALA	CB-CA-C	-11.10	93.45	110.10
3	C1	313	ARG	NE-CZ-NH2	10.96	125.78	120.30
7	S1	15	THR	CA-CB-CG2	-10.67	97.47	112.40
1	M1	398	ARG	NE-CZ-NH2	-10.54	115.03	120.30
1	A1	438	ARG	NE-CZ-NH1	-10.51	115.05	120.30
3	O1	80	ARG	NE-CZ-NH1	-10.47	115.06	120.30
1	M1	168	GLU	C-N-CA	10.47	144.28	122.30
10	V1	26	VAL	CA-CB-CG1	10.39	126.49	110.90
1	M1	414	TYR	CB-CG-CD2	-10.33	114.80	121.00
6	F1	58	ARG	NE-CZ-NH2	-10.32	115.14	120.30
1	A1	24	ARG	NE-CZ-NH1	-10.24	115.18	120.30
6	F1	61	ARG	NE-CZ-NH2	10.17	125.39	120.30
3	C1	187	PHE	CB-CG-CD2	-9.91	113.86	120.80
2	B1	102	ARG	NE-CZ-NH2	9.88	125.24	120.30
2	N1	56	ARG	CD-NE-CZ	9.74	137.24	123.60
5	Q1	193	VAL	CG1-CB-CG2	9.73	126.47	110.90
5	E1	32	ARG	NE-CZ-NH1	-9.71	115.44	120.30
3	C1	131	TYR	CB-CG-CD1	-9.68	115.19	121.00
3	C1	196	HIS	CA-CB-CG	9.64	129.98	113.60
4	P1	118	ARG	NE-CZ-NH2	-9.61	115.49	120.30
3	C1	183	PHE	CB-CG-CD1	9.58	127.51	120.80
2	B1	102	ARG	NE-CZ-NH1	-9.53	115.54	120.30
2	B1	199	PHE	CB-CG-CD2	-9.51	114.15	120.80
3	C1	71	ARG	NE-CZ-NH1	-9.39	115.61	120.30
1	M1	92	ARG	NE-CZ-NH1	9.39	124.99	120.30
6	R1	26	PHE	CB-CG-CD2	9.32	127.33	120.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	O1	196	HIS	CA-CB-CG	9.32	129.44	113.60
3	C1	282	ARG	NE-CZ-NH1	-9.26	115.67	120.30
1	A1	408	ARG	NE-CZ-NH2	-9.24	115.68	120.30
2	B1	245	ARG	NE-CZ-NH1	-9.23	115.68	120.30
6	R1	21	TYR	CB-CG-CD2	-8.96	115.63	121.00
1	A1	434	TYR	CB-CG-CD2	-8.91	115.65	121.00
6	R1	58	ARG	NE-CZ-NH2	8.77	124.69	120.30
3	O1	55	TYR	CB-CG-CD2	-8.73	115.76	121.00
5	Q1	55	VAL	CA-CB-CG1	8.71	123.97	110.90
6	R1	64	ARG	NE-CZ-NH2	-8.51	116.04	120.30
6	R1	77	LYS	CG-CD-CE	8.51	137.43	111.90
5	Q1	99	ARG	NE-CZ-NH2	8.48	124.54	120.30
1	A1	441	MET	CA-CB-CG	-8.41	99.01	113.30
3	O1	104	TYR	CB-CG-CD1	8.39	126.04	121.00
2	B1	199	PHE	CB-CG-CD1	8.38	126.67	120.80
3	C1	33	PHE	CB-CG-CD1	8.32	126.63	120.80
3	C1	359	PHE	CB-CG-CD1	8.31	126.62	120.80
3	C1	171	ASP	CB-CG-OD1	8.30	125.77	118.30
1	M1	253	VAL	CA-C-O	8.25	137.42	120.10
4	D1	152	TYR	CB-CG-CD1	8.17	125.90	121.00
3	O1	223	TYR	CB-CG-CD2	8.16	125.89	121.00
2	B1	177	TYR	O-C-N	8.15	135.75	122.70
3	C1	204	GLY	C-N-CA	8.14	142.04	121.70
2	B1	56	ARG	CD-NE-CZ	8.11	134.96	123.60
3	O1	185	LEU	CA-CB-CG	8.08	133.89	115.30
3	C1	131	TYR	CB-CG-CD2	8.01	125.81	121.00
6	F1	61	ARG	NE-CZ-NH1	-8.01	116.30	120.30
10	V1	31	PHE	CB-CG-CD2	-8.01	115.19	120.80
6	R1	35	ASP	CB-CG-OD2	7.98	125.48	118.30
5	E1	13	TYR	CB-CG-CD2	-7.95	116.23	121.00
6	R1	55	TYR	CB-CG-CD1	-7.95	116.23	121.00
3	O1	128	PHE	CB-CG-CD2	-7.90	115.27	120.80
3	C1	235	LEU	CB-CG-CD2	7.90	124.42	111.00
1	A1	343	MET	CA-CB-CG	-7.89	99.88	113.30
1	M1	344	ARG	NE-CZ-NH2	-7.89	116.35	120.30
7	G1	9	ARG	NE-CZ-NH1	-7.86	116.37	120.30
5	E1	13	TYR	CB-CG-CD1	7.85	125.71	121.00
1	M1	342	TRP	CH2-CZ2-CE2	7.85	125.25	117.40
1	A1	436	ARG	NE-CZ-NH1	-7.80	116.40	120.30
10	V1	31	PHE	CB-CG-CD1	7.80	126.26	120.80
10	V1	14	PHE	CB-CG-CD1	7.77	126.24	120.80
1	A1	324	PHE	CB-CG-CD2	-7.75	115.37	120.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	O1	325	PHE	CG-CD2-CE2	7.67	129.23	120.80
2	B1	319	SER	N-CA-CB	7.66	121.99	110.50
1	A1	235	ARG	NE-CZ-NH1	7.65	124.13	120.30
1	A1	395	TRP	NE1-CE2-CZ2	-7.63	122.00	130.40
1	M1	334	MET	O-C-N	-7.59	110.56	122.70
3	O1	19	ILE	O-C-N	-7.58	110.57	122.70
6	F1	64	ARG	CD-NE-CZ	-7.57	113.01	123.60
10	J1	14	PHE	CB-CG-CD1	7.57	126.09	120.80
3	C1	313	ARG	NE-CZ-NH1	-7.52	116.54	120.30
4	P1	220	TYR	CB-CG-CD1	7.50	125.50	121.00
6	F1	55	TYR	CB-CG-CD1	7.49	125.49	121.00
2	B1	134	ARG	NE-CZ-NH1	-7.45	116.58	120.30
6	F1	58	ARG	NE-CZ-NH1	7.35	123.97	120.30
1	M1	431	LEU	CB-CG-CD1	7.32	123.45	111.00
4	D1	206	LEU	CB-CA-C	-7.32	96.29	110.20
1	A1	425	PHE	CB-CG-CD1	7.32	125.92	120.80
1	M1	307	PHE	CA-C-O	7.29	135.40	120.10
1	A1	168	GLU	CA-C-O	7.25	135.33	120.10
3	C1	317	PHE	CB-CG-CD2	7.24	125.87	120.80
1	A1	89	TYR	CB-CG-CD1	7.23	125.34	121.00
3	O1	44	GLN	C-N-CA	7.22	139.75	121.70
3	O1	273	TYR	CB-CG-CD2	7.22	125.33	121.00
3	C1	80	ARG	NE-CZ-NH1	-7.20	116.70	120.30
7	S1	16	TYR	CG-CD1-CE1	7.17	127.03	121.30
1	A1	408	ARG	NH1-CZ-NH2	7.16	127.28	119.40
1	M1	408	ARG	NE-CZ-NH2	-7.16	116.72	120.30
1	M1	362	ARG	NE-CZ-NH1	-7.13	116.73	120.30
1	M1	423	ALA	CB-CA-C	-7.13	99.40	110.10
1	M1	419	CYS	CA-CB-SG	7.09	126.76	114.00
3	C1	273	TYR	CB-CG-CD2	7.08	125.25	121.00
4	P1	125	ASP	CB-CG-OD2	7.08	124.67	118.30
4	P1	28	ARG	NE-CZ-NH2	-7.06	116.77	120.30
2	B1	147	ASP	CB-CG-OD2	7.04	124.64	118.30
1	M1	70	ARG	NE-CZ-NH2	-7.03	116.78	120.30
6	R1	61	ARG	NE-CZ-NH1	-7.01	116.79	120.30
6	R1	21	TYR	CB-CG-CD1	7.01	125.21	121.00
3	C1	214	ASP	CB-CG-OD2	7.00	124.60	118.30
5	Q1	97	PHE	CB-CG-CD1	6.97	125.68	120.80
1	M1	174	VAL	CA-CB-CG1	6.95	121.33	110.90
3	C1	75	TYR	CB-CG-CD1	6.95	125.17	121.00
1	M1	376	CYS	CA-CB-SG	-6.93	101.53	114.00
2	N1	87	ARG	NE-CZ-NH1	-6.92	116.84	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	D1	208	MET	CA-CB-CG	6.91	125.04	113.30
3	O1	47	THR	O-C-N	-6.90	111.47	123.20
3	C1	33	PHE	CZ-CE2-CD2	-6.90	111.82	120.10
1	M1	46	ARG	NH1-CZ-NH2	6.88	126.97	119.40
7	S1	16	TYR	CB-CG-CD1	6.83	125.10	121.00
24	F2	97	MET	C-N-CD	-6.83	105.58	120.60
1	A1	415	PHE	O-C-N	-6.81	111.80	122.70
1	M1	417	ASP	CB-CG-OD2	-6.81	112.17	118.30
7	G1	47	ARG	NE-CZ-NH2	-6.80	116.90	120.30
3	O1	80	ARG	CD-NE-CZ	-6.80	114.08	123.60
3	C1	55	TYR	CB-CG-CD2	6.75	125.05	121.00
3	O1	325	PHE	CB-CG-CD2	6.74	125.52	120.80
6	R1	55	TYR	CB-CG-CD2	6.72	125.03	121.00
1	M1	342	TRP	CD1-NE1-CE2	-6.71	102.97	109.00
3	C1	41	LEU	N-CA-CB	6.70	123.79	110.40
6	R1	65	ALA	CA-C-O	6.70	134.16	120.10
18	92	177	LEU	CA-CB-CG	6.69	130.68	115.30
7	G1	40	ARG	NE-CZ-NH2	-6.67	116.97	120.30
6	F1	101	ARG	NE-CZ-NH1	-6.67	116.97	120.30
1	M1	319	LEU	CB-CG-CD2	6.67	122.33	111.00
3	C1	75	TYR	CB-CG-CD2	-6.65	117.01	121.00
6	R1	63	LYS	CB-CA-C	6.63	123.66	110.40
3	O1	276	PHE	CB-CG-CD1	-6.61	116.17	120.80
5	Q1	14	ARG	NE-CZ-NH2	6.61	123.60	120.30
4	P1	235	LEU	CA-C-O	6.56	133.87	120.10
3	O1	72	ASP	CB-CG-OD2	6.55	124.20	118.30
10	J1	40	ASP	CB-CG-OD2	6.53	124.18	118.30
1	A1	408	ARG	NE-CZ-NH1	-6.53	117.03	120.30
42	Y2	86	HIS	C-N-CA	6.53	138.02	121.70
3	C1	175	LEU	N-CA-CB	6.52	123.44	110.40
4	P1	27	ARG	NE-CZ-NH1	6.52	123.56	120.30
14	42	212	LEU	CA-CB-CG	6.51	130.27	115.30
1	A1	404	ALA	CB-CA-C	6.49	119.84	110.10
5	Q1	15	ARG	NE-CZ-NH1	6.49	123.55	120.30
2	N1	177	TYR	CB-CG-CD1	-6.49	117.11	121.00
3	C1	180	ALA	N-CA-CB	6.47	119.16	110.10
6	R1	36	THR	CA-CB-CG2	6.45	121.43	112.40
3	O1	178	PHE	CB-CG-CD2	-6.44	116.29	120.80
5	Q1	99	ARG	NE-CZ-NH1	-6.44	117.08	120.30
1	M1	300	THR	CA-CB-CG2	-6.43	103.40	112.40
4	D1	134	TYR	CB-CG-CD1	6.43	124.86	121.00
59	D3	133	GLY	N-CA-C	6.42	129.15	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	O1	359	PHE	CB-CG-CD1	6.41	125.29	120.80
3	O1	91	PHE	CB-CG-CD2	-6.39	116.32	120.80
1	A1	441	MET	CG-SD-CE	6.39	110.42	100.20
1	M1	131	ARG	NE-CZ-NH2	-6.38	117.11	120.30
4	D1	120	ARG	NE-CZ-NH1	6.38	123.49	120.30
3	C1	267	HIS	CA-CB-CG	-6.37	102.77	113.60
3	O1	242	LEU	CB-CA-C	-6.36	98.12	110.20
13	32	3	LEU	C-N-CA	6.35	137.57	121.70
1	M1	421	ALA	CB-CA-C	6.35	119.62	110.10
38	U2	120	THR	C-N-CD	-6.34	106.66	120.60
1	M1	435	ASN	OD1-CG-ND2	6.34	136.47	121.90
1	A1	208	LEU	CA-CB-CG	6.33	129.87	115.30
6	R1	42	ASP	CB-CG-OD1	6.32	123.98	118.30
1	A1	190	TYR	CB-CG-CD2	6.31	124.78	121.00
7	S1	21	PHE	CB-CG-CD2	-6.29	116.40	120.80
3	O1	276	PHE	CB-CG-CD2	6.29	125.20	120.80
3	C1	246	ALA	N-CA-CB	-6.28	101.30	110.10
3	O1	40	CYS	CA-CB-SG	6.28	125.30	114.00
6	R1	104	ARG	NE-CZ-NH1	-6.28	117.16	120.30
2	B1	177	TYR	CB-CG-CD1	6.26	124.76	121.00
7	S1	21	PHE	CB-CG-CD1	6.25	125.17	120.80
3	O1	223	TYR	CZ-CE2-CD2	-6.24	114.18	119.80
48	f2	163	LEU	C-N-CA	6.23	148.18	122.00
3	C1	359	PHE	CB-CG-CD2	-6.23	116.44	120.80
1	A1	97	TYR	CG-CD1-CE1	6.21	126.27	121.30
3	C1	43	LEU	O-C-N	-6.19	112.80	122.70
3	O1	73	VAL	CG1-CB-CG2	-6.18	101.01	110.90
3	C1	325	PHE	CB-CG-CD1	-6.18	116.47	120.80
6	F1	107	TRP	CD1-NE1-CE2	6.17	114.55	109.00
3	O1	331	ASP	CB-CG-OD2	6.17	123.85	118.30
5	Q1	91	TRP	CB-CG-CD1	-6.16	118.99	127.00
2	N1	188	PRO	O-C-N	-6.15	112.85	122.70
6	F1	71	ARG	NE-CZ-NH2	-6.15	117.22	120.30
4	P1	118	ARG	NE-CZ-NH1	6.15	123.38	120.30
3	O1	223	TYR	CG-CD2-CE2	6.14	126.21	121.30
3	O1	52	ALA	N-CA-CB	6.13	118.69	110.10
5	Q1	91	TRP	CB-CG-CD2	6.11	134.55	126.60
1	A1	378	ASP	CB-CG-OD1	6.09	123.78	118.30
6	R1	26	PHE	CG-CD2-CE2	6.08	127.48	120.80
4	D1	49	ARG	NE-CZ-NH1	-6.07	117.26	120.30
3	C1	183	PHE	CB-CG-CD2	-6.07	116.55	120.80
1	M1	112	LEU	CB-CG-CD2	-6.07	100.68	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	F1	33	ARG	NE-CZ-NH2	-6.06	117.27	120.30
2	B1	134	ARG	NE-CZ-NH2	6.06	123.33	120.30
5	Q1	97	PHE	CB-CG-CD2	-6.06	116.56	120.80
3	O1	223	TYR	CB-CG-CD1	-6.06	117.37	121.00
7	G1	16	TYR	CZ-CE2-CD2	6.05	125.25	119.80
5	E1	14	ARG	CD-NE-CZ	-6.05	115.13	123.60
1	M1	89	TYR	CB-CG-CD1	6.05	124.63	121.00
10	J1	20	PHE	CZ-CE2-CD2	6.04	127.35	120.10
3	O1	237	LEU	CB-CG-CD2	6.04	121.27	111.00
1	M1	158	PHE	CB-CG-CD1	-6.03	116.58	120.80
1	M1	24	ARG	NE-CZ-NH2	-6.03	117.28	120.30
3	O1	104	TYR	CB-CG-CD2	-6.03	117.38	121.00
1	A1	168	GLU	O-C-N	-6.01	112.97	123.20
2	B1	83	PHE	CB-CG-CD1	-6.01	116.59	120.80
13	32	5	LEU	CA-CB-CG	5.99	129.07	115.30
2	N1	157	ALA	N-CA-CB	5.99	118.48	110.10
6	F1	73	GLN	CB-CA-C	5.98	122.37	110.40
7	G1	16	TYR	CB-CG-CD2	5.98	124.59	121.00
3	C1	115	ILE	C-N-CA	-5.97	109.76	122.30
2	B1	179	PRO	N-CA-CB	5.96	110.46	103.30
3	C1	205	SER	O-C-N	-5.96	113.16	122.70
3	O1	90	PHE	CB-CG-CD2	5.96	124.97	120.80
4	D1	204	MET	CA-CB-CG	5.95	123.42	113.30
2	B1	194	TYR	CB-CG-CD1	-5.95	117.43	121.00
1	A1	251	ALA	CA-C-O	5.95	132.59	120.10
4	P1	138	PRO	N-CD-CG	-5.91	94.33	103.20
5	Q1	183	PRO	O-C-N	5.91	132.16	122.70
10	V1	39	ALA	O-C-N	5.90	132.13	122.70
3	O1	199	PHE	CD1-CG-CD2	-5.89	110.64	118.30
5	Q1	144	CYS	CA-CB-SG	5.89	124.61	114.00
3	O1	267	HIS	CA-CB-CG	-5.89	103.59	113.60
3	O1	257	THR	N-CA-CB	5.88	121.47	110.30
1	M1	236	PHE	CB-CG-CD1	5.88	124.92	120.80
1	M1	89	TYR	CA-CB-CG	5.88	124.57	113.40
10	J1	14	PHE	CB-CG-CD2	-5.88	116.69	120.80
3	C1	358	TYR	CB-CG-CD1	-5.86	117.48	121.00
1	M1	325	VAL	CA-C-N	5.86	130.10	117.20
2	B1	308	ASP	CB-CG-OD2	5.86	123.57	118.30
4	D1	182	VAL	CA-CB-CG1	5.86	119.69	110.90
3	C1	18	PHE	CB-CG-CD1	5.86	124.90	120.80
2	N1	287	ARG	NE-CZ-NH1	5.85	123.23	120.30
4	P1	201	ARG	NE-CZ-NH2	5.85	123.22	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	P1	134	TYR	CB-CG-CD1	5.84	124.50	121.00
4	P1	220	TYR	CB-CG-CD2	-5.84	117.50	121.00
1	A1	425	PHE	N-CA-CB	5.84	121.11	110.60
3	C1	77	TRP	CD2-CE3-CZ3	-5.83	111.22	118.80
52	12	46	LEU	CA-CB-CG	5.82	128.68	115.30
1	A1	288	ALA	N-CA-CB	5.81	118.23	110.10
1	M1	334	MET	N-CA-CB	-5.79	100.17	110.60
1	A1	362	ARG	NE-CZ-NH2	5.79	123.19	120.30
1	M1	137	GLU	OE1-CD-OE2	-5.79	116.35	123.30
1	M1	435	ASN	CB-CG-OD1	-5.79	110.03	121.60
3	C1	223	TYR	CB-CG-CD2	5.78	124.47	121.00
4	P1	91	PHE	CZ-CE2-CD2	5.77	127.02	120.10
4	D1	28	ARG	NE-CZ-NH2	5.76	123.18	120.30
4	P1	55	CYS	CA-CB-SG	-5.76	103.64	114.00
4	D1	224	ARG	NE-CZ-NH1	5.75	123.17	120.30
3	C1	357	LEU	CB-CG-CD2	5.73	120.73	111.00
4	P1	235	LEU	O-C-N	-5.71	113.56	122.70
4	D1	14	HIS	CA-CB-CG	5.70	123.30	113.60
3	C1	53	MET	CA-CB-CG	5.70	122.99	113.30
5	Q1	135	LEU	O-C-N	-5.70	113.58	122.70
2	B1	314	ALA	N-CA-CB	-5.68	102.14	110.10
19	A2	381	LEU	CA-CB-CG	5.68	128.36	115.30
19	A2	560	LEU	CA-CB-CG	5.68	128.37	115.30
1	A1	294	LEU	O-C-N	-5.67	113.62	122.70
4	D1	199	ASP	CB-CG-OD1	5.67	123.41	118.30
4	D1	119	ALA	CB-CA-C	-5.66	101.61	110.10
5	Q1	14	ARG	CD-NE-CZ	-5.65	115.69	123.60
1	A1	417	ASP	CB-CG-OD2	-5.65	113.22	118.30
6	R1	34	ASP	OD1-CG-OD2	5.64	134.01	123.30
55	e2	75	TYR	C-N-CD	-5.63	108.20	120.60
3	C1	122	THR	CA-CB-CG2	-5.62	104.53	112.40
2	B1	178	CYS	O-C-N	5.61	131.76	121.10
3	C1	187	PHE	CG-CD1-CE1	-5.61	114.63	120.80
3	O1	347	TYR	CB-CG-CD2	5.60	124.36	121.00
25	G2	56	ASP	CB-CG-OD1	5.59	123.33	118.30
2	N1	66	SER	N-CA-CB	5.59	118.88	110.50
10	V1	21	ALA	CB-CA-C	5.58	118.46	110.10
1	A1	131	ARG	NE-CZ-NH2	-5.56	117.52	120.30
3	O1	128	PHE	CB-CG-CD1	5.56	124.69	120.80
3	C1	303	LEU	N-CA-CB	5.56	121.52	110.40
3	O1	143	ALA	CB-CA-C	5.56	118.44	110.10
1	M1	408	ARG	NH1-CZ-NH2	5.55	125.50	119.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	M1	92	ARG	NE-CZ-NH2	-5.54	117.53	120.30
3	O1	244	LEU	O-C-N	5.54	131.57	122.70
4	D1	201	ARG	CA-CB-CG	5.54	125.59	113.40
51	j2	22	PRO	C-N-CD	-5.54	108.41	120.60
4	D1	224	ARG	NE-CZ-NH2	-5.53	117.54	120.30
23	E2	66	LEU	CA-CB-CG	5.52	128.00	115.30
2	B1	203	ARG	NE-CZ-NH1	5.52	123.06	120.30
1	M1	342	TRP	NE1-CE2-CD2	5.52	112.82	107.30
3	C1	18	PHE	CB-CG-CD2	-5.51	116.94	120.80
4	D1	191	ARG	NE-CZ-NH2	5.49	123.05	120.30
1	M1	346	CYS	CA-CB-SG	5.49	123.88	114.00
3	C1	109	PHE	CG-CD1-CE1	5.48	126.83	120.80
5	Q1	185	TYR	CB-CG-CD2	5.48	124.29	121.00
4	P1	120	ARG	CD-NE-CZ	5.47	131.26	123.60
6	R1	71	ARG	NE-CZ-NH2	-5.47	117.56	120.30
4	P1	27	ARG	NE-CZ-NH2	-5.47	117.57	120.30
1	A1	241	ILE	CA-CB-CG1	-5.46	100.62	111.00
3	O1	25	SER	N-CA-CB	-5.46	102.31	110.50
6	R1	65	ALA	O-C-N	-5.46	113.96	122.70
6	R1	103	GLU	OE1-CD-OE2	-5.46	116.75	123.30
1	A1	341	GLN	O-C-N	5.45	131.43	122.70
46	c2	36	PRO	C-N-CD	-5.45	108.62	120.60
1	M1	442	PHE	CB-CG-CD1	5.43	124.60	120.80
6	F1	94	LEU	CB-CG-CD1	5.43	120.22	111.00
4	D1	191	ARG	NE-CZ-NH1	-5.41	117.59	120.30
41	X2	43	LEU	C-N-CA	5.41	135.22	121.70
2	B1	254	HIS	CA-CB-CG	5.40	122.78	113.60
5	E1	53	ASN	CB-CG-OD1	-5.40	110.80	121.60
3	O1	72	ASP	CB-CG-OD1	-5.40	113.44	118.30
6	R1	77	LYS	CD-CE-NZ	5.39	124.11	111.70
3	C1	109	PHE	O-C-N	-5.39	114.07	122.70
6	F1	59	VAL	CA-CB-CG1	-5.39	102.81	110.90
4	P1	49	ARG	NE-CZ-NH2	-5.38	117.61	120.30
4	D1	201	ARG	NH1-CZ-NH2	5.37	125.31	119.40
5	Q1	40	THR	CA-CB-CG2	5.35	119.89	112.40
1	M1	420	PRO	N-CA-CB	5.35	109.72	103.30
3	O1	67	THR	CA-CB-CG2	-5.34	104.93	112.40
1	A1	356	ARG	NE-CZ-NH1	-5.33	117.63	120.30
4	P1	44	ASP	CB-CG-OD2	-5.33	113.50	118.30
1	M1	217	SER	N-CA-CB	-5.32	102.52	110.50
9	U1	78	TYR	CA-CB-CG	5.32	123.50	113.40
3	C1	206	ASN	CB-CG-OD1	-5.32	110.97	121.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
5	Q1	193	VAL	CA-CB-CG2	-5.32	102.92	110.90
2	B1	157	ALA	CB-CA-C	5.30	118.06	110.10
3	C1	282	ARG	CD-NE-CZ	-5.30	116.18	123.60
7	G1	21	PHE	CB-CG-CD1	-5.30	117.09	120.80
6	F1	54	LEU	CB-CG-CD1	5.30	120.00	111.00
6	F1	71	ARG	NE-CZ-NH1	5.29	122.94	120.30
3	C1	183	PHE	CZ-CE2-CD2	5.28	126.43	120.10
5	E1	14	ARG	NE-CZ-NH2	-5.28	117.66	120.30
1	M1	378	ASP	CB-CG-OD1	5.28	123.05	118.30
5	Q1	49	TYR	CB-CG-CD1	5.27	124.16	121.00
2	B1	85	ILE	CB-CA-C	-5.26	101.07	111.60
3	C1	91	PHE	CD1-CG-CD2	5.26	125.14	118.30
4	D1	40	CYS	CA-CB-SG	5.26	123.47	114.00
1	M1	131	ARG	NE-CZ-NH1	5.26	122.93	120.30
5	Q1	5	ILE	CB-CA-C	-5.26	101.07	111.60
6	R1	99	ARG	CD-NE-CZ	5.26	130.97	123.60
2	B1	169	ARG	NE-CZ-NH1	5.26	122.93	120.30
3	C1	325	PHE	CB-CG-CD2	5.25	124.48	120.80
1	M1	434	TYR	O-C-N	-5.25	114.30	122.70
2	N1	113	ARG	NE-CZ-NH1	5.25	122.92	120.30
4	P1	191	ARG	NE-CZ-NH2	-5.25	117.68	120.30
5	Q1	118	ARG	NE-CZ-NH1	-5.25	117.68	120.30
3	O1	242	LEU	N-CA-CB	5.24	120.88	110.40
7	G1	13	VAL	O-C-N	-5.24	114.32	122.70
2	N1	134	ARG	NE-CZ-NH1	-5.22	117.69	120.30
3	C1	195	VAL	CG1-CB-CG2	-5.22	102.55	110.90
6	F1	43	VAL	CA-C-O	5.21	131.05	120.10
46	c2	66	ARG	C-N-CA	5.21	134.73	121.70
1	M1	325	VAL	O-C-N	-5.21	114.36	122.70
62	G3	5	LYS	N-CA-C	5.21	125.07	111.00
1	M1	421	ALA	N-CA-CB	-5.21	102.81	110.10
3	O1	325	PHE	CZ-CE2-CD2	-5.20	113.86	120.10
1	A1	294	LEU	C-N-CA	5.20	134.69	121.70
7	G1	47	ARG	NE-CZ-NH1	5.20	122.90	120.30
17	82	36	LYS	C-N-CA	5.20	134.69	121.70
3	C1	196	HIS	O-C-N	5.19	131.01	122.70
56	A3	435	GLY	N-CA-C	5.19	126.08	113.10
5	Q1	87	MET	CA-CB-CG	5.19	122.12	113.30
5	Q1	101	ARG	NE-CZ-NH2	-5.19	117.71	120.30
3	O1	131	TYR	CB-CG-CD1	-5.18	117.89	121.00
4	P1	208	MET	CA-CB-CG	5.18	122.11	113.30
4	D1	203	ARG	CD-NE-CZ	5.18	130.85	123.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	C1	30	TRP	O-C-N	-5.17	114.43	122.70
4	P1	102	ARG	NE-CZ-NH1	-5.17	117.72	120.30
36	S2	196	ASP	CB-CG-OD2	5.17	122.95	118.30
2	B1	346	THR	CA-CB-OG1	5.16	119.83	109.00
30	L2	62	ASN	C-N-CA	5.16	134.60	121.70
17	82	228	PRO	C-N-CA	5.15	134.57	121.70
2	B1	89	ILE	CA-CB-CG2	5.14	121.18	110.90
1	M1	320	LEU	O-C-N	-5.14	114.46	123.20
4	P1	33	TYR	CB-CG-CD2	-5.14	117.92	121.00
3	O1	93	CYS	N-CA-CB	5.13	119.84	110.60
2	B1	92	VAL	O-C-N	-5.13	114.48	123.20
3	O1	282	ARG	NE-CZ-NH1	-5.12	117.74	120.30
3	C1	13	ILE	CA-CB-CG1	5.12	120.72	111.00
19	A2	461	PRO	C-N-CA	5.12	134.49	121.70
7	G1	13	VAL	CA-C-O	5.11	130.84	120.10
6	F1	55	TYR	CB-CG-CD2	-5.11	117.93	121.00
1	M1	438	ARG	CA-CB-CG	-5.11	102.17	113.40
3	C1	13	ILE	CB-CA-C	-5.11	101.39	111.60
4	P1	126	TYR	CB-CG-CD2	5.10	124.06	121.00
2	B1	102	ARG	CD-NE-CZ	-5.10	116.46	123.60
5	Q1	70	ALA	CB-CA-C	-5.10	102.45	110.10
36	S2	113	ASP	C-N-CA	5.10	133.01	122.30
5	E1	61	SER	CA-CB-OG	-5.10	97.44	111.20
9	I1	78	TYR	CA-CB-CG	5.09	123.08	113.40
1	A1	420	PRO	N-CA-CB	5.09	109.41	103.30
1	M1	423	ALA	N-CA-CB	5.09	117.23	110.10
9	I1	68	VAL	CB-CA-C	-5.09	101.74	111.40
4	P1	212	MET	CA-CB-CG	5.09	121.95	113.30
17	82	259	GLY	C-N-CA	5.08	134.41	121.70
3	C1	51	LEU	CB-CG-CD1	5.08	119.64	111.00
3	C1	113	TRP	O-C-N	-5.08	114.58	122.70
3	C1	91	PHE	CZ-CE2-CD2	-5.08	114.01	120.10
3	O1	90	PHE	CB-CG-CD1	-5.07	117.25	120.80
1	M1	408	ARG	NE-CZ-NH1	-5.06	117.77	120.30
3	C1	182	HIS	CA-CB-CG	5.06	122.20	113.60
5	Q1	58	PHE	CB-CG-CD1	5.06	124.34	120.80
19	A2	137	CYS	CA-CB-SG	-5.06	104.90	114.00
1	M1	431	LEU	CB-CG-CD2	5.06	119.59	111.00
1	A1	349	ALA	CB-CA-C	5.05	117.68	110.10
3	O1	19	ILE	C-N-CA	5.05	134.33	121.70
5	Q1	18	VAL	CB-CA-C	-5.05	101.81	111.40
43	Z2	85	GLU	C-N-CA	5.04	134.31	121.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	C1	186	PRO	O-C-N	-5.04	114.64	122.70
2	N1	172	LEU	CA-CB-CG	5.03	126.88	115.30
1	A1	419	CYS	N-CA-CB	5.03	119.66	110.60
6	F1	54	LEU	CA-CB-CG	5.03	126.87	115.30
1	A1	89	TYR	CA-CB-CG	5.03	122.96	113.40
4	D1	134	TYR	CB-CG-CD2	-5.03	117.98	121.00
55	e2	77	LYS	N-CA-C	-5.03	97.42	111.00
10	J1	19	THR	CA-CB-CG2	-5.03	105.37	112.40
3	C1	51	LEU	CB-CG-CD2	-5.02	102.47	111.00
30	L2	28	LEU	CA-CB-CG	5.01	126.82	115.30
3	C1	312	GLN	O-C-N	-5.01	114.69	122.70
2	N1	28	ARG	CD-NE-CZ	5.00	130.61	123.60
3	O1	102	LEU	O-C-N	5.00	130.71	122.70
5	Q1	32	ARG	CB-CA-C	5.00	120.41	110.40

There are no chirality outliers.

All (133) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
52	12	199	ASP	Peptide
12	22	293	TYR	Peptide
12	22	45	MET	Peptide
14	42	224	PRO	Peptide
14	42	306	PRO	Peptide
14	42	369	LEU	Peptide
15	52	24	SER	Peptide
53	62	29	PRO	Peptide
53	62	352	ASP	Peptide
16	72	140	ALA	Peptide
16	72	170	GLU	Peptide
16	72	25	SER	Peptide
17	82	228	PRO	Peptide
18	92	150	GLU	Peptide
18	92	167	LYS	Peptide
18	92	75	LYS	Peptide
1	A1	118	GLN	Mainchain
1	A1	122	LEU	Mainchain
1	A1	196	VAL	Mainchain
1	A1	210	ASP	Mainchain
1	A1	239	SER	Mainchain
1	A1	242	CYS	Mainchain
1	A1	244	ARG	Mainchain

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Mol	Chain	Res	Type	Group
1	A1	256	ALA	Mainchain
1	A1	294	LEU	Mainchain
1	A1	306	SER	Mainchain
1	A1	345	LEU	Mainchain
1	A1	383	LEU	Mainchain
1	A1	53	ASN	Mainchain
19	A2	128	CYS	Peptide
19	A2	175	ARG	Peptide
19	A2	308	ARG	Peptide
19	A2	309	ASN	Peptide
19	A2	461	PRO	Peptide
19	A2	462	PHE	Peptide
2	B1	106	ALA	Mainchain
2	B1	159	VAL	Mainchain
2	B1	178	CYS	Mainchain
2	B1	239	TYR	Mainchain
2	B1	285	VAL	Mainchain
2	B1	335	ASP	Mainchain
2	B1	353	SER	Mainchain
2	B1	68	LEU	Mainchain
2	B1	99	THR	Mainchain
20	B2	290	GLY	Peptide
20	B2	291	VAL	Peptide
20	B2	328	ASP	Peptide
3	C1	134	PRO	Mainchain
3	C1	164	ILE	Mainchain
3	C1	20	ASP	Mainchain
3	C1	21	LEU	Mainchain
3	C1	222	PRO	Mainchain
3	C1	235	LEU	Mainchain
3	C1	281	LEU	Mainchain
3	C1	322	GLN	Mainchain
3	C1	326	TRP	Mainchain
3	C1	335	LEU	Mainchain
3	C1	355	SER	Mainchain
3	C1	362	ILE	Mainchain
3	C1	77	TRP	Mainchain
3	C1	83	HIS	Mainchain
4	D1	191	ARG	Mainchain
4	D1	217	PRO	Mainchain
4	D1	224	ARG	Mainchain
4	D1	229	VAL	Mainchain

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Mol	Chain	Res	Type	Group
4	D1	54	VAL	Mainchain
22	D2	161	GLY	Peptide
22	D2	162	TYR	Peptide
22	D2	186	CYS	Peptide
22	D2	188	PRO	Peptide
5	E1	20	ASP	Mainchain
23	E2	107	PRO	Peptide
23	E2	108	SER	Peptide
6	F1	16	ILE	Mainchain
6	F1	46	ALA	Mainchain
7	G1	15	THR	Mainchain
7	G1	73	ASN	Mainchain
9	I1	69	SER	Mainchain
10	J1	43	TYR	Mainchain
1	M1	100	LYS	Mainchain
1	M1	141	ASN	Mainchain
1	M1	290	LEU	Mainchain
40	M2	16	LEU	Peptide
2	N1	137	VAL	Mainchain
2	N1	144	LEU	Mainchain
2	N1	200	THR	Mainchain
2	N1	285	VAL	Mainchain
2	N1	290	ASN	Mainchain
2	N1	353	SER	Mainchain
3	O1	148	ASN	Mainchain
3	O1	159	ASN	Mainchain
3	O1	19	ILE	Mainchain
3	O1	355	SER	Mainchain
3	O1	55	TYR	Mainchain
3	O1	77	TRP	Mainchain
4	P1	202	LYS	Mainchain
4	P1	229	VAL	Mainchain
4	P1	24	THR	Mainchain
4	P1	46	VAL	Mainchain
33	P2	52	ASN	Peptide
5	Q1	125	GLU	Mainchain
5	Q1	135	LEU	Mainchain
5	Q1	186	GLU	Mainchain
5	Q1	195	VAL	Mainchain
5	Q1	32	ARG	Mainchain
5	Q1	36	SER	Mainchain
5	Q1	49	TYR	Mainchain

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Mol	Chain	Res	Type	Group
5	Q1	9	ASP	Mainchain
5	Q1	97	PHE	Mainchain
34	Q2	169	PHE	Peptide
34	Q2	91	TYR	Peptide
35	R2	271	TYR	Peptide
35	R2	333	PRO	Peptide
7	S1	17	SER	Mainchain
7	S1	18	LEU	Mainchain
7	S1	34	ILE	Mainchain
36	S2	275	ASN	Peptide
8	T1	40	CYS	Mainchain
37	T2	83	LYS	Peptide
9	U1	72	VAL	Mainchain
39	V2	10	MET	Peptide
39	V2	142	TRP	Peptide
39	V2	72	MET	Peptide
11	W1	24	TRP	Mainchain
42	Y2	89	TYR	Peptide
45	b2	110	TRP	Peptide
55	e2	115	ASN	Mainchain
55	e2	81	ARG	Peptide
55	e2	87	ASP	Peptide
55	e2	97	LEU	Peptide
48	f2	109	PRO	Peptide
49	h2	80	PRO	Peptide
49	h2	81	ALA	Peptide

5.2 Too-close contacts (i)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A1	3356	0	3263	468	0
1	M1	3356	0	3262	457	0
2	B1	3141	0	3123	401	0
2	N1	3141	0	3123	407	0
3	C1	3011	0	3076	450	0
3	O1	3011	0	3076	412	0
4	D1	1919	0	1868	296	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	P1	1919	0	1868	282	0
5	E1	566	0	564	64	0
5	Q1	1518	0	1499	264	0
6	F1	916	0	911	89	0
6	R1	916	0	911	90	0
7	G1	682	0	679	105	0
7	S1	682	0	679	99	0
8	H1	524	0	504	69	0
8	T1	524	0	504	75	0
9	I1	248	0	265	53	0
9	U1	248	0	265	65	0
10	J1	511	0	518	68	0
10	V1	511	0	518	73	0
11	K1	164	0	161	29	0
11	W1	164	0	161	28	0
12	22	2582	0	2612	28	0
13	32	719	0	741	9	0
14	42	3447	0	3442	40	0
15	52	697	0	708	12	0
16	72	1186	0	1123	12	0
17	82	2965	0	2595	73	0
18	92	1535	0	1491	60	0
19	A2	5183	0	5174	330	0
20	B2	3076	0	3041	86	0
21	C2	1705	0	1645	28	0
22	D2	1200	0	1195	27	0
23	E2	1388	0	1340	43	0
24	F2	183	0	132	6	0
25	G2	981	0	965	35	0
26	H2	780	0	753	8	0
27	I2	532	0	513	47	0
28	J2	530	0	503	7	0
29	K2	652	0	636	32	0
30	L2	602	0	592	9	0
31	N2	862	0	868	9	0
32	O2	925	0	907	9	0
33	P2	698	0	659	23	0
34	Q2	1345	0	1282	26	0
35	R2	2334	0	2258	50	0
36	S2	2299	0	2028	22	0
37	T2	942	0	890	10	0
38	U2	734	0	628	91	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
39	V2	1093	0	1048	20	0
40	M2	642	0	642	8	0
40	W2	596	0	553	5	0
41	X2	372	0	314	3	0
42	Y2	409	0	318	7	0
43	Z2	493	0	395	6	0
44	a2	857	0	765	0	0
45	b2	1032	0	954	0	0
46	c2	617	0	492	0	0
47	d2	708	0	514	0	0
48	f2	1156	0	892	0	0
49	h2	721	0	632	0	0
50	i2	277	0	240	0	0
51	j2	892	0	835	0	0
52	12	2442	0	2563	69	0
53	62	4765	0	4894	55	0
54	g2	1351	0	1262	0	0
55	e2	864	0	567	0	0
56	A3	4025	0	4003	82	0
57	B3	1822	0	1834	70	0
58	C3	2124	0	2042	51	0
59	D3	1195	0	1183	32	0
60	E3	878	0	868	21	0
61	F3	748	0	728	23	0
62	G3	671	0	645	29	0
63	H3	628	0	582	21	0
64	I3	598	0	612	16	0
65	J3	441	0	439	13	0
66	K3	384	0	366	9	0
67	L3	386	0	388	9	0
68	M3	335	0	352	11	0
69	C1	86	0	60	18	0
69	O1	86	0	60	25	0
70	D1	43	0	30	7	0
70	P1	43	0	30	5	0
71	92	4	0	0	0	0
71	A2	4	0	0	0	0
71	Q1	4	0	0	0	0
72	22	41	0	59	2	0
72	42	41	0	59	1	0
72	B2	51	0	82	1	0
73	42	82	0	114	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
74	82	31	0	19	2	0
75	82	8	0	0	0	0
75	A2	16	0	0	12	0
75	D2	8	0	0	0	0
75	E2	16	0	0	0	0
76	F3	1	0	0	0	0
76	I2	1	0	0	1	0
77	R2	48	0	23	3	0
78	S2	47	0	71	0	0
78	j2	39	0	55	0	0
79	A3	120	0	108	7	0
80	A3	1	0	0	0	0
80	B3	2	0	0	0	0
81	A3	1	0	0	0	0
All	All	105456	0	102211	5116	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 25.

All (5116) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:92:42:ARG:NH1	19:A2:199:GLY:HA2	1.33	1.42
19:A2:306:MET:SD	38:U2:139:PRO:HG3	1.60	1.39
52:12:126:LYS:HD3	52:12:127:TYR:N	1.31	1.38
19:A2:227:PRO:HD2	75:A2:802:SF4:S1	1.63	1.37
35:R2:170:LEU:O	35:R2:328:ILE:HD11	1.21	1.36
19:A2:424:HIS:HA	25:G2:170:THR:OG1	1.24	1.33
19:A2:422:TRP:O	25:G2:169:ARG:HD2	1.15	1.31
19:A2:557:ARG:NH2	38:U2:144:TYR:OH	1.64	1.30
35:R2:170:LEU:O	35:R2:328:ILE:CD1	1.78	1.28
77:R2:601:NAP:C1D	77:R2:601:NAP:O4D	1.63	1.24
52:12:75:PRO:HG3	52:12:223:PHE:CZ	1.74	1.22
19:A2:312:GLY:HA3	38:U2:143:PRO:C	1.57	1.21
9:I1:72:VAL:HB	9:I1:73:PRO:HD3	1.20	1.20
19:A2:312:GLY:O	38:U2:141:SER:O	1.61	1.18
7:S1:50:PRO:HB2	7:S1:51:PRO:HD3	1.25	1.17
4:D1:224:ARG:HB2	7:G1:25:ALA:HB1	1.27	1.17
19:A2:314:LEU:CD2	38:U2:140:PRO:HD2	1.74	1.17
7:G1:72:LYS:HB3	7:G1:75:ALA:HB2	1.19	1.16
2:B1:77:THR:HG22	2:B1:130:PRO:HA	1.25	1.15

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:A2:312:GLY:HA3	38:U2:143:PRO:O	0.97	1.15
5:Q1:114:VAL:HA	5:Q1:117:LEU:HD12	1.24	1.14
1:M1:426:GLY:CA	1:M1:428:ILE:HG13	1.78	1.14
11:W1:29:ALA:O	11:W1:33:VAL:HG23	1.46	1.14
1:A1:428:ILE:HG22	1:A1:431:LEU:HB2	1.29	1.13
19:A2:312:GLY:CA	38:U2:143:PRO:O	1.94	1.13
1:M1:67:THR:HG23	1:M1:70:ARG:H	1.13	1.13
2:B1:60:SER:HB3	2:N1:429:ASN:HD21	0.96	1.12
4:P1:83:ARG:HB3	4:P1:84:PRO:HD2	1.14	1.12
35:R2:328:ILE:HG22	35:R2:329:LEU:H	1.09	1.12
1:M1:428:ILE:HG22	1:M1:431:LEU:HB2	1.19	1.11
19:A2:422:TRP:O	25:G2:169:ARG:CD	1.99	1.11
3:C1:129:MET:HG2	3:C1:178:PHE:HD2	1.03	1.11
4:P1:83:ARG:HB3	4:P1:84:PRO:CD	1.81	1.10
18:92:42:ARG:CZ	19:A2:199:GLY:HA2	1.80	1.10
5:Q1:15:ARG:HB2	5:Q1:16:PRO:HD2	1.19	1.10
19:A2:557:ARG:CZ	38:U2:144:TYR:OH	1.99	1.09
17:82:225:LEU:CD2	19:A2:93:ALA:HB3	1.80	1.09
1:M1:428:ILE:HG21	1:M1:431:LEU:HD22	1.35	1.09
3:C1:77:TRP:CZ3	3:C1:78:ILE:HG23	1.88	1.08
1:M1:403:ASP:HB3	1:M1:406:VAL:HG23	1.34	1.08
36:S2:200:PRO:HG3	36:S2:223:GLN:HE22	1.17	1.08
11:W1:30:VAL:O	11:W1:34:TRP:CD1	2.05	1.08
5:Q1:76:ILE:CG2	5:Q1:194:ILE:HG12	1.84	1.08
19:A2:144:MET:HA	20:B2:380:HIS:NE2	1.68	1.08
4:P1:181:GLN:HG2	8:T1:77:LEU:HD22	1.29	1.07
18:92:124:ARG:NH1	19:A2:209:TYR:OH	1.87	1.07
19:A2:161:GLU:N	27:I2:102:ASN:HD22	1.52	1.07
20:B2:94:VAL:HG12	20:B2:115:LEU:HD22	1.27	1.07
3:O1:26:ASN:HD21	3:O1:207:ASN:HB2	1.15	1.07
3:O1:206:ASN:HB2	3:O1:313:ARG:NH2	1.68	1.07
18:92:95:ILE:HD11	19:A2:210:ILE:CG2	1.84	1.07
3:C1:206:ASN:HB2	3:C1:313:ARG:NH2	1.70	1.07
9:U1:72:VAL:HB	9:U1:73:PRO:HD3	1.36	1.06
1:A1:67:THR:HG23	1:A1:70:ARG:H	0.94	1.06
19:A2:314:LEU:HD23	38:U2:140:PRO:HD2	1.09	1.06
1:M1:24:ARG:HB2	1:M1:196:VAL:HG22	1.37	1.06
2:N1:200:THR:HG22	2:N1:203:ARG:HD2	1.36	1.06
1:A1:64:PHE:CE1	1:A1:86:LEU:HG	1.90	1.05
3:C1:310:SER:HA	3:C1:374:ASN:HD21	1.12	1.05
2:N1:305:GLN:HB2	2:N1:306:PRO:HD3	1.34	1.05

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O1:310:SER:HA	3:O1:374:ASN:HD21	1.21	1.05
9:I1:72:VAL:HB	9:I1:73:PRO:CD	1.86	1.05
5:Q1:96:LEU:HD21	5:Q1:195:VAL:HG21	1.38	1.05
17:82:418:GLN:HE21	19:A2:115:GLY:CA	1.70	1.05
5:Q1:109:GLU:HG2	5:Q1:167:ALA:HB3	1.37	1.04
1:A1:18:GLN:HE21	1:A1:22:GLY:HA2	1.19	1.04
4:D1:181:GLN:HG2	8:H1:77:LEU:HD22	1.40	1.04
1:A1:426:GLY:CA	1:A1:428:ILE:HG13	1.87	1.04
3:C1:170:VAL:HG13	3:C1:174:THR:HG21	1.34	1.04
7:G1:34:ILE:HB	7:G1:35:PRO:HD3	1.39	1.04
7:S1:72:LYS:HB3	7:S1:75:ALA:HB2	1.39	1.04
3:C1:129:MET:HG2	3:C1:178:PHE:CD2	1.93	1.04
4:D1:83:ARG:HB3	4:D1:84:PRO:CD	1.86	1.04
5:Q1:75:GLU:O	5:Q1:194:ILE:HA	1.57	1.04
2:B1:283:PRO:HG3	9:I1:55:LEU:HD22	1.39	1.03
2:B1:429:ASN:HD21	2:N1:60:SER:HB3	1.15	1.03
20:B2:82:LEU:HD21	52:12:126:LYS:HG3	1.04	1.03
2:B1:24:LEU:H	2:B1:24:LEU:HD12	1.23	1.03
5:Q1:134:ILE:HD11	5:Q1:185:TYR:CD2	1.94	1.03
10:J1:18:SER:HB3	11:K1:23:LEU:HD12	1.42	1.02
52:12:75:PRO:CG	52:12:223:PHE:CZ	2.42	1.02
2:B1:95:LYS:HE3	9:I1:70:LEU:HD22	1.41	1.02
3:C1:202:GLU:OE2	3:O1:10:LEU:HB2	1.59	1.02
6:R1:28:LYS:HD2	6:R1:74:ILE:HD11	1.42	1.01
19:A2:161:GLU:HB3	27:I2:102:ASN:ND2	1.74	1.01
3:C1:16:ASN:ND2	3:C1:20:ASP:OD2	1.93	1.01
1:M1:428:ILE:HG22	1:M1:431:LEU:CB	1.91	1.01
2:B1:165:ALA:HA	2:B1:173:ALA:HB1	1.39	1.01
4:P1:224:ARG:HB2	7:S1:25:ALA:HB1	1.40	1.01
2:B1:60:SER:CB	2:N1:429:ASN:HD21	1.72	1.01
3:C1:221:HIS:HB3	3:C1:222:PRO:HD3	1.42	1.00
3:O1:174:THR:HG23	3:O1:178:PHE:HE2	1.25	1.00
2:B1:52:LYS:HB2	2:B1:203:ARG:HB3	1.39	1.00
17:82:225:LEU:HD22	19:A2:93:ALA:HB3	1.04	1.00
1:M1:18:GLN:HE21	1:M1:22:GLY:HA2	1.23	1.00
2:N1:166:ALA:HB2	2:N1:244:ILE:HG13	1.39	1.00
52:12:126:LYS:CD	52:12:127:TYR:N	2.24	1.00
4:D1:74:PRO:HB2	4:D1:79:GLU:HB2	1.43	1.00
3:C1:100:ARG:HH21	69:C1:402:HEM:HBD1	1.26	1.00
4:D1:83:ARG:HB3	4:D1:84:PRO:HD2	1.00	0.99
4:D1:83:ARG:CB	4:D1:84:PRO:HD2	1.90	0.99

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C1:206:ASN:HB2	3:C1:313:ARG:HH21	1.24	0.99
1:M1:143:THR:HG21	9:U1:48:SER:H	1.24	0.99
3:C1:264:THR:HG21	5:Q1:144:CYS:HB3	1.44	0.99
3:C1:10:LEU:HB2	3:O1:202:GLU:OE2	1.59	0.99
3:C1:26:ASN:HB2	6:F1:69:SER:OG	1.62	0.99
3:O1:100:ARG:HH21	69:O1:402:HEM:HBD1	1.23	0.99
17:82:418:GLN:NE2	19:A2:115:GLY:HA2	1.77	0.99
19:A2:613:PRO:CB	38:U2:134:ILE:HG21	1.91	0.99
1:M1:64:PHE:CE1	1:M1:86:LEU:HG	1.98	0.99
9:U1:70:LEU:HD21	9:U1:73:PRO:HD2	1.40	0.99
3:O1:16:ASN:ND2	3:O1:20:ASP:OD2	1.96	0.99
5:Q1:86:ASN:HB2	5:Q1:99:ARG:HD2	1.45	0.99
8:T1:21:ARG:HB3	8:T1:65:ARG:HH21	1.26	0.99
17:82:225:LEU:HD22	19:A2:93:ALA:CB	1.92	0.99
4:D1:118:ARG:HG3	4:D1:194:ALA:HB1	1.44	0.98
1:A1:408:ARG:HH22	11:K1:15:ARG:NE	1.61	0.98
3:C1:179:PHE:HE2	3:O1:179:PHE:HE2	1.05	0.98
20:B2:82:LEU:CD2	52:12:126:LYS:HG3	1.93	0.98
6:F1:51:PRO:HG2	6:F1:54:LEU:HD23	1.44	0.98
52:12:75:PRO:HA	52:12:223:PHE:HE1	1.26	0.98
2:B1:200:THR:HG22	2:B1:203:ARG:HD2	1.44	0.98
2:B1:429:ASN:HD21	2:N1:60:SER:CB	1.74	0.98
17:82:383:THR:HG23	19:A2:75:CYS:HA	1.45	0.98
1:M1:417:ASP:OD2	10:V1:10:TYR:OH	1.82	0.98
4:P1:74:PRO:HB2	4:P1:79:GLU:HB2	1.46	0.98
19:A2:613:PRO:HB3	38:U2:134:ILE:HG21	1.45	0.98
2:N1:111:CYS:HB3	2:N1:119:LEU:HD22	1.46	0.98
20:B2:82:LEU:HD21	52:12:126:LYS:CG	1.93	0.98
1:A1:383:LEU:HD22	1:A1:388:ARG:HA	1.45	0.98
2:B1:24:LEU:HG	2:B1:38:LEU:HD11	1.42	0.98
1:A1:304:CYS:HB3	1:A1:334:MET:SD	2.04	0.97
3:C1:174:THR:HG23	3:C1:178:PHE:CE1	1.98	0.97
3:O1:345:HIS:HB3	3:O1:346:PRO:HD3	1.42	0.97
70:P1:301:HEC:HHD	70:P1:301:HEC:HBC2	1.45	0.97
1:M1:408:ARG:HH22	11:W1:15:ARG:NE	1.61	0.97
2:N1:24:LEU:HG	2:N1:38:LEU:HD11	1.43	0.97
4:P1:158:ILE:CD1	4:P1:160:MET:HB2	1.94	0.97
18:92:42:ARG:NH1	19:A2:199:GLY:CA	2.27	0.97
1:A1:24:ARG:HB2	1:A1:196:VAL:HG22	1.43	0.97
1:A1:403:ASP:HB3	1:A1:406:VAL:HG23	1.46	0.97
1:M1:392:LEU:HA	1:M1:395:TRP:CD1	1.99	0.97

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M1:42:ASP:HB3	1:M1:384:LEU:HD22	1.45	0.97
18:92:110:MET:SD	19:A2:194:ASP:O	2.23	0.97
3:O1:77:TRP:CZ3	3:O1:78:ILE:HG23	1.98	0.96
35:R2:328:ILE:HG22	35:R2:329:LEU:N	1.80	0.96
19:A2:302:LEU:HA	38:U2:137:TRP:CB	1.95	0.96
2:N1:283:PRO:HG3	9:U1:55:LEU:HD22	1.47	0.96
2:B1:67:HIS:HD2	2:B1:144:LEU:HD22	1.27	0.96
1:A1:67:THR:HG23	1:A1:70:ARG:N	1.79	0.96
3:C1:26:ASN:HD21	3:C1:207:ASN:HB2	1.28	0.96
6:F1:50:LEU:HB2	6:F1:55:TYR:HB2	1.45	0.96
27:I2:104:ASP:O	27:I2:105:LYS:HB3	1.63	0.96
3:O1:106:SER:HB3	69:O1:402:HEM:HBD2	1.46	0.96
3:C1:115:ILE:HG21	3:C1:196:HIS:HB2	1.48	0.95
9:I1:70:LEU:HD21	9:I1:73:PRO:HD2	1.48	0.95
19:A2:312:GLY:CA	38:U2:143:PRO:C	2.31	0.95
7:G1:36:ASN:HA	7:G1:39:ARG:HD3	1.46	0.95
2:B1:60:SER:HB3	2:N1:429:ASN:ND2	1.81	0.95
18:92:42:ARG:HH12	19:A2:199:GLY:HA2	1.23	0.95
19:A2:313:LEU:CD2	38:U2:142:THR:CB	2.43	0.95
17:82:383:THR:CG2	19:A2:75:CYS:HA	1.95	0.95
20:B2:94:VAL:HG12	20:B2:115:LEU:CD2	1.96	0.95
7:S1:31:SER:O	7:S1:35:PRO:HD2	1.65	0.95
2:B1:304:HIS:CD2	2:B1:306:PRO:HD2	2.01	0.95
52:12:75:PRO:HA	52:12:223:PHE:CE1	2.02	0.95
2:B1:305:GLN:HB2	2:B1:306:PRO:HD3	1.46	0.95
2:N1:51:ILE:HG21	2:N1:199:PHE:HA	1.48	0.95
20:B2:97:LEU:H	20:B2:97:LEU:HD12	1.31	0.95
2:B1:159:VAL:HG12	2:B1:160:ILE:HD13	1.48	0.95
3:O1:210:GLY:HA3	3:O1:314:SER:HB2	1.46	0.95
2:N1:77:THR:HG22	2:N1:130:PRO:HA	1.46	0.95
3:O1:174:THR:HG23	3:O1:178:PHE:CE2	2.00	0.95
1:M1:61:HIS:NE2	1:M1:134:ILE:HD11	1.82	0.94
2:B1:51:ILE:HG21	2:B1:199:PHE:HA	1.49	0.94
35:R2:328:ILE:CG2	35:R2:329:LEU:H	1.80	0.94
3:O1:108:THR:HB	3:O1:313:ARG:HH11	1.31	0.94
4:P1:158:ILE:HD13	4:P1:160:MET:HB2	1.49	0.94
1:M1:21:ASN:HB3	1:M1:217:SER:HB3	1.46	0.94
4:P1:178:THR:HB	4:P1:181:GLN:HG3	1.46	0.94
1:A1:61:HIS:CD2	1:A1:134:ILE:HD11	2.03	0.94
3:C1:240:MET:HA	3:C1:243:VAL:HG12	1.49	0.94
3:C1:310:SER:HB3	3:C1:318:ARG:NH1	1.82	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:A2:527:ASP:O	29:K2:56:ARG:NH2	2.01	0.94
7:G1:9:ARG:NH2	7:G1:11:ARG:HD2	1.83	0.94
2:N1:248:ASN:HB2	2:N1:428:GLY:HA2	1.46	0.94
3:O1:252:ASP:HB3	3:O1:253:PRO:HD3	1.50	0.94
8:H1:50:THR:HG22	8:H1:52:GLU:H	1.28	0.94
2:N1:67:HIS:HD2	2:N1:144:LEU:HD22	1.30	0.94
4:D1:165:TYR:O	4:D1:168:VAL:HG23	1.67	0.94
19:A2:674:LEU:HD12	29:K2:46:LYS:HE2	1.49	0.94
3:C1:174:THR:HG23	3:C1:178:PHE:HE1	1.31	0.93
5:Q1:85:LYS:HG2	5:Q1:86:ASN:H	1.33	0.93
2:N1:29:LEU:HB3	2:N1:30:PRO:HD2	1.48	0.93
2:N1:132:PHE:CD2	2:N1:191:LEU:HD13	2.04	0.93
3:O1:135:TRP:HH2	3:O1:170:VAL:HG12	1.32	0.93
9:U1:72:VAL:HB	9:U1:73:PRO:CD	1.98	0.93
62:G3:5:LYS:HZ3	62:G3:6:GLY:H	1.02	0.93
1:A1:133:VAL:HG12	1:A1:134:ILE:HD13	1.48	0.93
1:A1:67:THR:CG2	1:A1:70:ARG:H	1.81	0.93
19:A2:557:ARG:NE	38:U2:144:TYR:OH	2.01	0.93
19:A2:306:MET:SD	38:U2:139:PRO:CG	2.56	0.93
2:N1:316:TYR:OH	9:U1:64:LEU:HD23	1.67	0.93
17:82:418:GLN:HE21	19:A2:115:GLY:HA2	1.30	0.92
1:A1:346:CYS:HB3	1:A1:412:SER:OG	1.68	0.92
1:A1:144:SER:O	1:A1:148:VAL:HG23	1.69	0.92
2:B1:77:THR:HG22	2:B1:130:PRO:CA	1.99	0.92
2:N1:207:ILE:HD11	2:N1:383:GLY:HA2	1.49	0.92
19:A2:161:GLU:OE1	27:I2:102:ASN:ND2	2.00	0.92
1:A1:91:THR:HG22	1:A1:93:GLU:H	1.35	0.92
2:B1:111:CYS:HB3	2:B1:119:LEU:HD22	1.49	0.92
2:B1:385:GLN:HG2	9:I1:62:ARG:HH12	1.35	0.92
1:M1:61:HIS:CE1	1:M1:134:ILE:HD11	2.04	0.92
1:A1:417:ASP:OD2	10:J1:10:TYR:OH	1.88	0.91
3:O1:26:ASN:ND2	3:O1:207:ASN:HB2	1.85	0.91
1:M1:91:THR:HG22	1:M1:93:GLU:H	1.32	0.91
1:A1:392:LEU:HA	1:A1:395:TRP:CD1	2.05	0.91
4:D1:74:PRO:HG2	4:D1:82:MET:SD	2.10	0.91
4:P1:23:HIS:HA	4:P1:26:ILE:HD12	1.49	0.91
5:Q1:15:ARG:HH21	5:Q1:32:ARG:HG3	1.35	0.91
5:Q1:109:GLU:CG	5:Q1:167:ALA:HB3	2.01	0.91
2:B1:162:ASN:HD22	2:B1:244:ILE:CG2	1.83	0.91
17:82:381:GLN:O	19:A2:74:ASN:HB2	1.70	0.91
19:A2:424:HIS:CA	25:G2:170:THR:OG1	2.17	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:A2:266:ARG:NH2	23:E2:130:ILE:O	2.05	0.90
1:A1:69:ASN:O	1:A1:71:PRO:HD3	1.70	0.90
1:A1:143:THR:HG21	9:I1:48:SER:H	1.33	0.90
52:12:75:PRO:CD	52:12:223:PHE:HZ	1.85	0.90
3:C1:34:GLY:O	3:C1:37:LEU:HB2	1.72	0.90
2:B1:29:LEU:HB3	2:B1:30:PRO:HD2	1.54	0.90
19:A2:129:PRO:HD2	27:I2:114:TYR:OH	1.70	0.90
2:B1:342:ASN:O	2:B1:345:LYS:HB2	1.72	0.90
3:C1:252:ASP:HB3	3:C1:253:PRO:HD3	1.52	0.90
3:O1:122:THR:HG22	3:O1:189:ILE:HD11	1.51	0.90
3:O1:206:ASN:HB2	3:O1:313:ARG:HH21	1.28	0.90
5:Q1:15:ARG:NH2	5:Q1:32:ARG:HG3	1.87	0.90
17:82:390:ASP:OD2	19:A2:202:ASN:HB2	1.70	0.89
1:M1:383:LEU:HD22	1:M1:388:ARG:HA	1.54	0.89
3:O1:221:HIS:HB3	3:O1:222:PRO:HD3	1.52	0.89
2:B1:258:VAL:HG11	2:B1:321:LEU:HB3	1.53	0.89
4:D1:178:THR:OG1	4:D1:181:GLN:NE2	2.05	0.89
6:F1:47:ILE:O	6:F1:50:LEU:HG	1.72	0.89
4:P1:165:TYR:O	4:P1:168:VAL:HG23	1.73	0.89
19:A2:137:CYS:HB3	75:A2:801:SF4:S4	2.12	0.89
52:12:126:LYS:HD3	52:12:127:TYR:H	1.11	0.89
1:A1:236:PHE:CE2	1:A1:258:GLU:HB3	2.07	0.89
4:D1:231:LYS:HD2	6:F1:71:ARG:HG2	1.52	0.89
1:A1:426:GLY:H	1:A1:428:ILE:CG1	1.85	0.89
3:C1:266:PRO:HB3	5:Q1:160:CYS:HA	1.54	0.89
1:M1:236:PHE:CE2	1:M1:258:GLU:HB3	2.07	0.89
7:S1:50:PRO:HB2	7:S1:51:PRO:CD	2.03	0.89
1:M1:158:PHE:CE1	1:M1:317:THR:HG21	2.08	0.89
2:N1:52:LYS:HB2	2:N1:203:ARG:HB3	1.54	0.89
19:A2:302:LEU:CA	38:U2:137:TRP:HB2	2.03	0.89
1:A1:40:TRP:CZ2	1:A1:377:GLU:HA	2.08	0.88
7:S1:9:ARG:NH2	7:S1:11:ARG:HD2	1.87	0.88
56:A3:365:ILE:HD12	57:B3:87:MET:HE1	1.53	0.88
1:M1:45:SER:HB3	1:M1:92:ARG:HA	1.53	0.88
2:N1:385:GLN:HG2	9:U1:62:ARG:HH12	1.38	0.88
8:H1:73:LEU:HD23	8:H1:74:PHE:N	1.89	0.88
4:D1:176:PRO:HB2	4:D1:181:GLN:HE22	1.37	0.88
3:O1:361:LEU:HD23	3:O1:365:LEU:HD12	1.54	0.88
20:B2:91:ALA:HB2	20:B2:193:ASP:OD2	1.73	0.88
22:D2:114:ARG:HG3	22:D2:114:ARG:HH21	1.39	0.88
1:A1:408:ARG:NH1	11:K1:15:ARG:HE	1.71	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B1:406:ALA:HB3	2:B1:409:ASP:HB2	1.53	0.88
3:C1:103:TYR:HA	3:C1:315:MET:HE3	1.53	0.88
19:A2:182:CYS:N	75:A2:802:SF4:S2	2.47	0.88
18:92:42:ARG:NH2	19:A2:203:ASP:O	2.07	0.88
19:A2:424:HIS:HA	25:G2:170:THR:HG1	1.32	0.88
1:A1:156:THR:HG23	1:A1:239:SER:OG	1.73	0.88
2:N1:123:LEU:O	2:N1:127:THR:HG22	1.74	0.88
4:P1:118:ARG:HG3	4:P1:194:ALA:HB1	1.55	0.88
52:12:25:ARG:HG2	52:12:25:ARG:HH11	1.36	0.88
1:M1:426:GLY:HA3	1:M1:428:ILE:HG13	1.54	0.87
2:N1:304:HIS:CD2	2:N1:306:PRO:HD2	2.08	0.87
3:C1:179:PHE:CE2	3:O1:179:PHE:HE2	1.92	0.87
3:C1:185:LEU:HB3	3:C1:186:PRO:HD3	1.55	0.87
11:K1:29:ALA:O	11:K1:33:VAL:HG12	1.73	0.87
18:92:95:ILE:CD1	19:A2:210:ILE:CG2	2.53	0.87
58:C3:112:LEU:HG	58:C3:118:PRO:HB3	1.55	0.87
19:A2:313:LEU:HD21	38:U2:142:THR:CB	2.05	0.87
5:E1:15:ARG:HB2	5:E1:16:PRO:HD2	1.57	0.87
1:A1:260:PRO:HD3	1:A1:414:TYR:CE1	2.10	0.87
2:N1:305:GLN:HB2	2:N1:306:PRO:CD	2.05	0.87
3:O1:108:THR:HB	3:O1:313:ARG:NH1	1.89	0.87
2:N1:347:ILE:O	2:N1:411:ILE:HG23	1.75	0.86
5:Q1:15:ARG:HB2	5:Q1:16:PRO:CD	2.02	0.86
3:C1:6:LYS:HE2	3:C1:16:ASN:HD21	1.38	0.86
3:C1:170:VAL:HG13	3:C1:174:THR:CG2	2.04	0.86
3:C1:179:PHE:HE2	3:O1:179:PHE:CE2	1.92	0.86
1:M1:408:ARG:HH12	11:W1:15:ARG:HE	1.20	0.86
3:O1:334:THR:O	3:O1:338:ILE:HD13	1.75	0.86
10:J1:58:LYS:HG2	10:J1:59:TYR:H	1.41	0.86
5:Q1:118:ARG:HH11	5:Q1:171:ILE:CG1	1.88	0.86
5:Q1:60:SER:HA	5:Q1:63:SER:OG	1.75	0.86
17:82:424:ILE:HG12	19:A2:76:ARG:NH2	1.89	0.86
1:M1:408:ARG:NH1	11:W1:15:ARG:HE	1.73	0.86
7:S1:36:ASN:HA	7:S1:39:ARG:HD3	1.57	0.86
35:R2:170:LEU:O	35:R2:328:ILE:HD12	1.73	0.86
2:N1:209:LEU:HD22	2:N1:375:SER:HB2	1.56	0.85
3:C1:10:LEU:HD12	3:C1:13:ILE:HD11	1.55	0.85
1:M1:213:GLN:HB3	1:M1:215:HIS:NE2	1.91	0.85
1:M1:52:ASN:HB2	1:M1:55:ALA:HB2	1.58	0.85
1:A1:213:GLN:HB3	1:A1:215:HIS:NE2	1.91	0.85
9:I1:70:LEU:CD2	9:I1:73:PRO:HD2	2.07	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:R1:75:LEU:HD12	6:R1:76:PRO:HD2	1.57	0.85
10:V1:29:LEU:HD13	11:W1:34:TRP:HB3	1.58	0.85
19:A2:67:GLU:O	25:G2:158:LYS:NZ	2.09	0.85
52:12:126:LYS:HD3	52:12:127:TYR:CA	2.07	0.85
18:92:95:ILE:CD1	19:A2:210:ILE:HG22	2.07	0.85
1:A1:64:PHE:HE1	1:A1:86:LEU:HG	1.36	0.85
18:92:224:SER:OG	18:92:226:GLU:HG2	1.75	0.85
19:A2:227:PRO:CD	75:A2:802:SF4:S1	2.59	0.85
18:92:42:ARG:CZ	19:A2:199:GLY:CA	2.55	0.85
9:I1:72:VAL:CB	9:I1:73:PRO:HD3	2.05	0.85
2:N1:263:ALA:O	2:N1:269:ALA:HB2	1.77	0.85
3:O1:30:TRP:O	3:O1:33:PHE:HD2	1.59	0.85
3:O1:234:LEU:HD23	4:P1:216:LEU:HD21	1.59	0.84
5:Q1:187:PHE:CD2	5:Q1:193:VAL:HB	2.11	0.84
2:B1:286:LYS:HD3	2:B1:287:ARG:NH1	1.92	0.84
7:S1:34:ILE:HB	7:S1:35:PRO:HD3	1.58	0.84
1:A1:21:ASN:HB3	1:A1:217:SER:CB	2.07	0.84
1:A1:408:ARG:HH12	11:K1:15:ARG:HE	1.22	0.84
5:Q1:134:ILE:HD11	5:Q1:185:TYR:CG	2.12	0.84
2:B1:213:HIS:N	2:B1:214:PRO:HD2	1.91	0.84
10:J1:21:ALA:O	10:J1:25:VAL:HG23	1.77	0.84
1:M1:32:GLN:CG	1:M1:33:PRO:HD2	2.08	0.84
2:N1:58:GLU:OE1	2:N1:63:LEU:HA	1.77	0.84
2:N1:126:VAL:O	2:N1:130:PRO:HG3	1.78	0.84
1:A1:61:HIS:NE2	1:A1:134:ILE:HD11	1.91	0.84
1:A1:84:ALA:HB2	1:A1:101:ALA:HB2	1.59	0.84
1:M1:378:ASP:O	1:M1:382:SER:HB2	1.77	0.84
3:O1:245:PHE:CD1	4:P1:17:LEU:HD13	2.11	0.84
2:B1:57:TYR:O	2:B1:233:SER:HB2	1.77	0.84
2:B1:263:ALA:O	2:B1:269:ALA:HB2	1.76	0.84
3:C1:115:ILE:CG2	3:C1:196:HIS:HB2	2.08	0.84
7:G1:73:ASN:N	7:G1:74:PRO:HD2	1.91	0.84
10:J1:18:SER:OG	11:K1:23:LEU:HB2	1.78	0.84
2:B1:198:HIS:HE1	2:B1:233:SER:HB3	1.42	0.84
1:M1:67:THR:HG23	1:M1:70:ARG:N	1.92	0.84
19:A2:159:ALA:HB3	27:I2:84:VAL:CG1	2.08	0.84
1:A1:106:LEU:HD22	1:A1:203:LEU:HD22	1.60	0.84
6:F1:51:PRO:HD3	2:N1:134:ARG:NH1	1.93	0.84
1:A1:308:GLN:O	1:A1:308:GLN:HG3	1.77	0.83
1:M1:40:TRP:CZ2	1:M1:377:GLU:HA	2.13	0.83
6:R1:37:ILE:HG12	6:R1:43:VAL:HG21	1.59	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:B3:78:LEU:HB2	57:B3:79:PRO:HD3	1.58	0.83
2:N1:341:TYR:HE2	2:N1:345:LYS:HE3	1.41	0.83
5:Q1:114:VAL:HA	5:Q1:117:LEU:CD1	2.06	0.83
1:A1:39:VAL:HG12	1:A1:41:ILE:HD11	1.59	0.83
3:C1:47:THR:HG21	3:C1:83:HIS:HB2	1.61	0.83
1:M1:106:LEU:HD22	1:M1:203:LEU:HD22	1.59	0.83
4:D1:17:LEU:O	4:D1:202:LYS:HD3	1.78	0.83
4:D1:70:VAL:HG23	4:D1:84:PRO:HD3	1.59	0.83
1:A1:426:GLY:HA3	1:A1:428:ILE:HG13	1.59	0.83
3:C1:213:SER:O	3:C1:216:ASP:N	2.10	0.83
1:M1:383:LEU:HA	1:M1:387:GLY:O	1.78	0.83
17:82:424:ILE:CG1	19:A2:76:ARG:HH21	1.92	0.83
2:N1:56:ARG:NH2	2:N1:318:ASP:OD1	2.12	0.82
19:A2:312:GLY:N	38:U2:142:THR:O	2.12	0.82
5:Q1:76:ILE:HG23	5:Q1:194:ILE:HG12	1.60	0.82
1:A1:408:ARG:HH22	11:K1:15:ARG:CZ	1.90	0.82
4:D1:178:THR:HB	4:D1:181:GLN:HG3	1.60	0.82
6:F1:6:VAL:HB	6:F1:10:SER:HB2	1.60	0.82
1:M1:428:ILE:CG2	1:M1:431:LEU:HD22	2.07	0.82
1:A1:145:MET:SD	1:A1:248:LEU:HD12	2.18	0.82
1:M1:408:ARG:HH22	11:W1:15:ARG:CZ	1.91	0.82
19:A2:613:PRO:HB2	38:U2:134:ILE:HD13	1.60	0.82
1:A1:241:ILE:HG13	7:G1:16:TYR:CE1	2.15	0.82
7:G1:30:PHE:O	7:G1:34:ILE:HG13	1.78	0.82
4:P1:41:HIS:CD2	4:P1:113:LEU:HD11	2.15	0.82
4:P1:176:PRO:HB2	4:P1:181:GLN:HE22	1.44	0.82
7:S1:72:LYS:CB	7:S1:75:ALA:HB2	2.09	0.82
3:C1:119:LEU:HG	69:C1:402:HEM:CBB	2.09	0.82
4:D1:50:HIS:HB3	4:D1:54:VAL:HB	1.62	0.82
7:G1:50:PRO:HB2	7:G1:51:PRO:HD3	1.61	0.82
19:A2:302:LEU:HA	38:U2:137:TRP:HB2	1.59	0.82
3:O1:297:SER:O	3:O1:300:ILE:HG22	1.79	0.82
7:S1:50:PRO:CB	7:S1:51:PRO:HD3	2.09	0.82
3:O1:234:LEU:CD2	4:P1:216:LEU:HD21	2.08	0.82
19:A2:128:CYS:SG	75:A2:801:SF4:S1	2.78	0.81
2:B1:198:HIS:CE1	2:B1:233:SER:HB3	2.14	0.81
3:O1:26:ASN:HD21	3:O1:207:ASN:CB	1.90	0.81
1:A1:18:GLN:NE2	1:A1:22:GLY:HA2	1.94	0.81
1:A1:408:ARG:NH2	11:K1:15:ARG:NE	2.28	0.81
3:C1:27:ILE:O	3:C1:27:ILE:HG22	1.79	0.81
4:D1:220:TYR:CE2	7:G1:26:PHE:HE1	1.97	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N1:279:LEU:HB3	2:N1:295:LEU:HD22	1.60	0.81
2:N1:331:ALA:HA	2:N1:432:HIS:ND1	1.96	0.81
4:P1:10:TYR:HE1	8:T1:73:LEU:HD21	1.46	0.81
1:A1:379:ILE:HD12	1:A1:390:ILE:HD12	1.62	0.81
1:A1:53:ASN:OD1	1:A1:165:GLN:HB2	1.80	0.81
2:B1:169:ARG:NH2	2:N1:438:GLU:OE2	2.14	0.81
3:O1:218:ILE:CG2	3:O1:223:TYR:CD2	2.63	0.81
19:A2:425:ASN:O	25:G2:169:ARG:NH1	2.13	0.81
3:C1:341:GLN:HB3	3:C1:347:TYR:CD2	2.15	0.81
8:H1:21:ARG:HB3	8:H1:65:ARG:HH21	1.45	0.81
2:B1:42:ALA:HB1	2:B1:43:PRO:HD2	1.62	0.81
5:Q1:99:ARG:HD3	5:Q1:156:TYR:OH	1.80	0.81
1:A1:102:LEU:HB2	1:A1:105:ASP:OD2	1.81	0.81
3:C1:266:PRO:HA	5:Q1:160:CYS:SG	2.21	0.81
52:12:75:PRO:N	52:12:223:PHE:HZ	1.79	0.81
62:G3:5:LYS:NZ	62:G3:6:GLY:H	1.78	0.81
1:A1:426:GLY:CA	1:A1:428:ILE:CG1	2.59	0.81
2:B1:248:ASN:HB2	2:B1:428:GLY:HA2	1.63	0.80
9:I1:78:TYR:OXT	9:I1:78:TYR:HD1	1.63	0.80
1:M1:67:THR:HG22	1:M1:70:ARG:HB2	1.61	0.80
3:O1:106:SER:O	3:O1:109:PHE:HD2	1.63	0.80
2:B1:185:LYS:HG3	2:B1:185:LYS:O	1.79	0.80
2:B1:394:PRO:O	2:B1:398:VAL:HG23	1.80	0.80
3:C1:33:PHE:CE1	3:C1:96:MET:HG3	2.16	0.80
5:E1:15:ARG:CB	5:E1:16:PRO:HD2	2.08	0.80
8:T1:50:THR:HG22	8:T1:52:GLU:H	1.47	0.80
17:82:424:ILE:CG1	19:A2:76:ARG:NH2	2.44	0.80
5:Q1:118:ARG:NH1	5:Q1:171:ILE:HG13	1.95	0.80
10:V1:58:LYS:HG2	10:V1:59:TYR:N	1.97	0.80
63:H3:39:CYS:SG	63:H3:53:CYS:HB3	2.22	0.80
1:A1:42:ASP:HB3	1:A1:384:LEU:HD22	1.62	0.80
5:E1:31:ALA:HB2	10:J1:7:ALA:HB2	1.63	0.80
1:M1:182:LEU:O	1:M1:186:LEU:HD12	1.82	0.80
1:M1:445:ARG:O	1:M1:446:PHE:HB2	1.79	0.80
2:N1:200:THR:CG2	2:N1:203:ARG:HD2	2.10	0.80
3:O1:126:THR:OG1	3:O1:185:LEU:HD23	1.82	0.80
4:P1:10:TYR:HE1	8:T1:73:LEU:CD2	1.94	0.80
4:P1:220:TYR:CE2	7:S1:26:PHE:HE1	1.98	0.80
3:C1:51:LEU:HD11	3:C1:80:ARG:HA	1.63	0.80
3:O1:244:LEU:HD11	4:P1:204:MET:HE2	1.63	0.80
69:O1:401:HEM:HBC2	69:O1:401:HEM:HMC1	1.61	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:R1:33:ARG:NH2	6:R1:91:GLU:OE2	2.14	0.80
2:B1:305:GLN:HB2	2:B1:306:PRO:CD	2.11	0.80
3:C1:5:ARG:O	3:C1:9:PRO:HD2	1.82	0.80
7:G1:72:LYS:CB	7:G1:75:ALA:HB2	2.09	0.80
8:T1:21:ARG:HB3	8:T1:65:ARG:NH2	1.95	0.80
2:B1:207:ILE:HD11	2:B1:383:GLY:HA2	1.62	0.80
5:E1:41:ALA:O	5:E1:45:VAL:HG23	1.81	0.80
19:A2:312:GLY:C	38:U2:141:SER:O	2.19	0.80
1:A1:426:GLY:N	1:A1:428:ILE:CG1	2.45	0.80
3:C1:3:ASN:N	3:C1:8:HIS:NE2	2.30	0.80
1:M1:335:MET:HE2	1:M1:339:GLN:HG3	1.63	0.80
2:N1:24:LEU:H	2:N1:24:LEU:HD12	1.47	0.80
3:C1:218:ILE:CG2	3:C1:223:TYR:CD2	2.65	0.79
2:B1:168:TYR:HB2	2:B1:173:ALA:HB2	1.63	0.79
3:O1:185:LEU:HB3	3:O1:186:PRO:HD3	1.61	0.79
52:12:126:LYS:O	52:12:129:LEU:N	2.15	0.79
2:B1:209:LEU:HD22	2:B1:375:SER:HB2	1.64	0.79
3:C1:169:SER:HB2	5:Q1:93:GLY:HA3	1.64	0.79
4:D1:220:TYR:HE2	7:G1:26:PHE:HE1	1.30	0.79
1:M1:260:PRO:HD3	1:M1:414:TYR:CE1	2.18	0.79
4:P1:27:ARG:HH12	10:V1:58:LYS:HG3	1.46	0.79
1:A1:428:ILE:HG22	1:A1:431:LEU:CB	2.12	0.79
2:B1:362:ASN:HA	2:B1:365:LYS:HD3	1.65	0.79
10:J1:58:LYS:HG2	10:J1:59:TYR:N	1.96	0.79
2:N1:68:LEU:HD23	2:N1:186:VAL:CG1	2.12	0.79
1:A1:46:ARG:HH22	1:A1:316:ASP:CG	1.83	0.79
3:O1:102:LEU:HD21	3:O1:304:ILE:CD1	2.12	0.79
6:R1:51:PRO:HG2	6:R1:54:LEU:CD2	2.12	0.79
1:A1:155:ALA:HA	1:A1:164:ALA:HB1	1.63	0.79
3:O1:135:TRP:CH2	3:O1:170:VAL:HG12	2.17	0.79
5:Q1:91:TRP:HB3	5:Q1:96:LEU:HB2	1.62	0.79
1:M1:408:ARG:NH2	11:W1:15:ARG:NE	2.30	0.79
2:N1:261:SER:OG	2:N1:320:GLY:HA3	1.83	0.79
4:P1:138:PRO:HG2	8:T1:55:THR:OG1	1.82	0.79
8:T1:73:LEU:HD23	8:T1:74:PHE:N	1.98	0.79
3:C1:111:GLU:O	3:C1:115:ILE:HD13	1.82	0.79
3:C1:264:THR:HG21	5:Q1:144:CYS:CB	2.13	0.79
2:N1:159:VAL:HG12	2:N1:160:ILE:HD13	1.65	0.79
3:O1:246:ALA:HB1	3:O1:249:LEU:HB2	1.65	0.79
1:A1:86:LEU:HD13	1:A1:99:ILE:HG12	1.64	0.79
63:H3:39:CYS:SG	63:H3:53:CYS:CB	2.70	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D1:10:TYR:CZ	4:D1:128:PHE:HE2	2.01	0.79
5:Q1:114:VAL:CA	5:Q1:117:LEU:HD12	2.12	0.79
10:V1:58:LYS:HG2	10:V1:59:TYR:H	1.48	0.79
19:A2:674:LEU:HD12	29:K2:46:LYS:CE	2.13	0.79
3:C1:280:ILE:HD11	3:C1:335:LEU:HD13	1.64	0.78
1:M1:39:VAL:HG12	1:M1:41:ILE:HD11	1.65	0.78
10:V1:3:PRO:HG2	10:V1:8:ARG:HG2	1.63	0.78
19:A2:426:ASP:HA	25:G2:169:ARG:HH12	1.48	0.78
1:M1:262:TRP:CD2	1:M1:385:THR:HG23	2.18	0.78
2:B1:297:GLN:OE1	2:B1:297:GLN:HA	1.82	0.78
2:B1:304:HIS:HD2	2:B1:306:PRO:HD2	1.48	0.78
2:B1:385:GLN:CG	9:I1:62:ARG:HH12	1.96	0.78
4:P1:198:HIS:NE2	4:P1:202:LYS:NZ	2.31	0.78
4:P1:220:TYR:HE2	7:S1:26:PHE:HE1	1.29	0.78
19:A2:302:LEU:HA	38:U2:137:TRP:HB3	1.64	0.78
19:A2:302:LEU:CA	38:U2:137:TRP:CB	2.60	0.78
4:D1:74:PRO:CB	4:D1:79:GLU:HB2	2.13	0.78
7:G1:44:CYS:SG	7:G1:48:VAL:HG21	2.22	0.78
2:N1:309:VAL:HG22	2:N1:326:THR:HA	1.63	0.78
36:S2:200:PRO:CG	36:S2:223:GLN:HE22	1.93	0.78
63:H3:75:ARG:HG2	63:H3:75:ARG:HH11	1.48	0.78
3:C1:51:LEU:HD21	3:C1:79:ILE:HG22	1.63	0.78
4:D1:3:LEU:HD11	7:G1:71:ARG:HB2	1.64	0.78
4:P1:115:TYR:HD1	4:P1:119:ALA:HB2	1.47	0.78
9:U1:64:LEU:HG	9:U1:65:VAL:HG23	1.65	0.78
2:B1:438:GLU:OE2	2:N1:169:ARG:NH2	2.16	0.78
3:O1:1:MET:SD	3:O1:7:SER:HB2	2.23	0.78
4:D1:228:SER:HB2	7:G1:23:GLN:NE2	1.98	0.78
7:G1:31:SER:O	7:G1:35:PRO:HD2	1.83	0.78
1:M1:297:ILE:HG22	1:M1:303:LEU:HD12	1.63	0.78
2:B1:347:ILE:O	2:B1:411:ILE:HG23	1.83	0.78
4:P1:10:TYR:CZ	4:P1:128:PHE:HE2	2.01	0.78
1:A1:45:SER:HB3	1:A1:92:ARG:HA	1.66	0.78
2:N1:308:ASP:OD1	2:N1:309:VAL:N	2.17	0.78
3:O1:309:THR:CG2	3:O1:370:GLY:HA3	2.14	0.78
19:A2:557:ARG:HH21	38:U2:144:TYR:HH	1.30	0.77
22:D2:107:ASP:OD2	22:D2:113:PHE:CE1	2.37	0.77
2:N1:286:LYS:HD3	2:N1:287:ARG:NH1	1.98	0.77
1:M1:32:GLN:HG3	1:M1:33:PRO:HD2	1.66	0.77
5:Q1:65:SER:OG	5:Q1:67:ASP:HB3	1.85	0.77
2:N1:297:GLN:OE1	2:N1:297:GLN:HA	1.83	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C1:106:SER:O	3:C1:109:PHE:HD1	1.66	0.77
3:C1:108:THR:HB	3:C1:313:ARG:NH1	2.00	0.77
4:D1:14:HIS:HA	4:D1:19:SER:HB3	1.66	0.77
2:N1:341:TYR:CE2	2:N1:345:LYS:HE3	2.19	0.77
1:A1:46:ARG:NH2	1:A1:316:ASP:OD2	2.17	0.77
3:O1:341:GLN:HB3	3:O1:347:TYR:CD2	2.19	0.77
7:S1:9:ARG:HH21	7:S1:11:ARG:HD2	1.44	0.77
1:A1:39:VAL:HG12	1:A1:41:ILE:CD1	2.13	0.77
2:B1:331:ALA:HA	2:B1:432:HIS:ND1	2.00	0.77
3:C1:26:ASN:ND2	3:C1:207:ASN:HB2	1.99	0.77
1:M1:21:ASN:HB3	1:M1:217:SER:CB	2.13	0.77
1:M1:75:LEU:O	1:M1:79:VAL:HG23	1.82	0.77
4:P1:50:HIS:HB3	4:P1:54:VAL:HB	1.64	0.77
1:A1:386:TYR:HD1	1:A1:386:TYR:H	1.32	0.77
1:M1:92:ARG:HD2	1:M1:163:LEU:HD12	1.65	0.77
3:O1:170:VAL:HG13	3:O1:174:THR:HG21	1.66	0.77
6:F1:28:LYS:CD	6:F1:74:ILE:HD11	2.14	0.77
19:A2:159:ALA:HB3	27:I2:84:VAL:HG11	1.65	0.77
20:B2:94:VAL:CG1	20:B2:115:LEU:HD22	2.12	0.77
1:A1:21:ASN:HB3	1:A1:217:SER:OG	1.84	0.76
3:C1:310:SER:HB3	3:C1:318:ARG:HH11	1.47	0.76
3:C1:338:ILE:HD12	3:C1:338:ILE:N	1.99	0.76
4:D1:182:VAL:O	4:D1:186:VAL:HG23	1.84	0.76
1:M1:331:ILE:HD11	1:M1:427:PRO:O	1.85	0.76
3:O1:310:SER:OG	3:O1:318:ARG:NH1	2.18	0.76
2:B1:101:THR:HG23	2:B1:104:ASN:H	1.48	0.76
4:P1:143:LEU:HD22	4:P1:147:LEU:O	1.86	0.76
5:Q1:157:TYR:OH	5:Q1:162:GLY:HA2	1.84	0.76
2:B1:59:ASN:O	2:B1:63:LEU:HG	1.84	0.76
2:N1:29:LEU:HB3	2:N1:30:PRO:CD	2.14	0.76
3:C1:187:PHE:CZ	3:O1:184:ILE:HG13	2.20	0.76
4:D1:229:VAL:HG12	4:D1:233:ARG:HE	1.49	0.76
3:O1:206:ASN:CB	3:O1:313:ARG:HH21	1.99	0.76
4:P1:55:CYS:SG	10:V1:52:TRP:HB2	2.25	0.76
4:P1:178:THR:OG1	4:P1:181:GLN:NE2	2.14	0.76
5:Q1:153:PHE:HE1	5:Q1:173:LYS:HG3	1.50	0.76
27:I2:104:ASP:O	27:I2:105:LYS:CB	2.30	0.76
2:B1:67:HIS:CD2	2:B1:144:LEU:HD22	2.18	0.76
2:B1:148:LYS:HE2	2:B1:180:ASP:OD1	1.85	0.76
1:M1:24:ARG:CB	1:M1:196:VAL:HG22	2.14	0.76
2:N1:200:THR:HG22	2:N1:203:ARG:CD	2.15	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:R1:73:GLN:NE2	7:S1:32:LYS:NZ	2.33	0.76
1:A1:92:ARG:HD2	1:A1:163:LEU:HD12	1.67	0.76
1:A1:146:ARG:NH2	1:A1:308:GLN:HE22	1.82	0.76
3:C1:210:GLY:HA3	3:C1:314:SER:HB2	1.68	0.76
3:O1:3:ASN:N	3:O1:8:HIS:NE2	2.32	0.76
4:P1:181:GLN:HA	8:T1:77:LEU:HD13	1.67	0.76
18:92:42:ARG:HH12	19:A2:199:GLY:CA	1.96	0.76
3:C1:9:PRO:HG2	3:C1:12:LYS:HB2	1.68	0.76
2:N1:213:HIS:N	2:N1:214:PRO:HD2	2.01	0.76
2:N1:305:GLN:CB	2:N1:306:PRO:HD3	2.15	0.76
1:A1:27:SER:HA	1:A1:199:ALA:O	1.86	0.76
3:C1:47:THR:CG2	3:C1:83:HIS:HB2	2.16	0.76
6:F1:94:LEU:O	6:F1:98:ILE:HG13	1.86	0.76
1:M1:41:ILE:H	1:M1:41:ILE:HD12	1.50	0.76
19:A2:313:LEU:CA	38:U2:142:THR:HA	2.15	0.76
1:M1:102:LEU:HB2	1:M1:105:ASP:OD2	1.85	0.75
2:N1:257:LEU:HD13	2:N1:424:MET:HB2	1.68	0.75
19:A2:313:LEU:HD23	38:U2:142:THR:CA	2.16	0.75
5:E1:55:VAL:O	5:E1:59:VAL:HG23	1.85	0.75
6:R1:28:LYS:CD	6:R1:74:ILE:HD11	2.15	0.75
19:A2:314:LEU:HD23	38:U2:140:PRO:CD	2.04	0.75
2:B1:141:GLN:HB2	2:B1:142:PRO:HD3	1.68	0.75
4:D1:127:VAL:HG12	4:D1:187:CYS:SG	2.26	0.75
57:B3:59:GLN:H	57:B3:62:GLU:HG3	1.51	0.75
1:A1:249:PRO:O	1:A1:250:LEU:HD23	1.85	0.75
3:C1:310:SER:CB	3:C1:318:ARG:HH11	1.99	0.75
3:O1:47:THR:CG2	3:O1:83:HIS:HB2	2.16	0.75
3:O1:129:MET:HG2	3:O1:178:PHE:HD1	1.49	0.75
10:J1:51:LEU:HD22	10:J1:52:TRP:HZ3	1.50	0.75
9:U1:72:VAL:CB	9:U1:73:PRO:HD3	2.15	0.75
52:12:75:PRO:CA	52:12:223:PHE:CE1	2.69	0.75
2:B1:207:ILE:HD12	2:B1:382:VAL:HG12	1.69	0.75
2:N1:314:ALA:CB	9:U1:64:LEU:HD22	2.17	0.75
3:O1:177:ARG:O	3:O1:181:PHE:HD2	1.69	0.75
5:Q1:134:ILE:HD11	5:Q1:185:TYR:CE2	2.22	0.75
5:Q1:171:ILE:CD1	5:Q1:176:ALA:HB3	2.17	0.75
6:R1:50:LEU:HB2	6:R1:55:TYR:HB2	1.67	0.75
2:N1:59:ASN:O	2:N1:63:LEU:HG	1.87	0.75
3:O1:310:SER:CB	3:O1:318:ARG:HH11	2.00	0.75
5:Q1:77:LYS:HG3	5:Q1:89:PHE:CE2	2.22	0.75
7:G1:9:ARG:HH21	7:G1:11:ARG:HD2	1.49	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N1:49:LEU:HD11	2:N1:204:MET:SD	2.26	0.75
19:A2:613:PRO:HB2	38:U2:134:ILE:CD1	2.17	0.75
1:A1:236:PHE:HD2	1:A1:258:GLU:HG2	1.52	0.75
1:M1:386:TYR:HD1	1:M1:386:TYR:H	1.33	0.75
58:C3:187:THR:HG21	62:G3:68:THR:HG21	1.68	0.75
3:C1:169:SER:OG	3:C1:170:VAL:N	2.18	0.74
3:C1:345:HIS:HB3	3:C1:346:PRO:CD	2.17	0.74
3:C1:361:LEU:HD23	3:C1:365:LEU:HD12	1.69	0.74
5:Q1:118:ARG:HH11	5:Q1:171:ILE:HG13	1.50	0.74
19:A2:181:ARG:HB3	75:A2:802:SF4:S2	2.27	0.74
19:A2:426:ASP:CA	25:G2:169:ARG:HH12	1.98	0.74
1:A1:72:GLY:O	1:A1:73:ASN:OD1	2.04	0.74
3:C1:126:THR:OG1	3:C1:185:LEU:HD23	1.87	0.74
2:N1:304:HIS:HD2	2:N1:306:PRO:HD2	1.51	0.74
1:A1:316:ASP:OD1	1:A1:316:ASP:N	2.21	0.74
4:D1:5:LEU:HB3	4:D1:152:TYR:CD1	2.22	0.74
1:M1:39:VAL:HG23	1:M1:113:LEU:HD23	1.68	0.74
3:O1:90:PHE:CE1	3:O1:123:VAL:HG21	2.22	0.74
1:M1:18:GLN:NE2	1:M1:22:GLY:HA2	2.01	0.74
5:Q1:118:ARG:HD2	5:Q1:171:ILE:HG12	1.70	0.74
18:92:42:ARG:NH2	19:A2:199:GLY:HA3	2.03	0.74
22:D2:107:ASP:OD2	22:D2:113:PHE:HE1	1.70	0.74
3:C1:206:ASN:ND2	3:C1:207:ASN:H	1.85	0.74
19:A2:426:ASP:HA	25:G2:169:ARG:NH1	2.03	0.74
1:A1:84:ALA:CB	1:A1:101:ALA:HB2	2.18	0.74
3:C1:7:SER:HA	3:C1:13:ILE:HG12	1.69	0.74
4:D1:11:PRO:O	8:H1:74:PHE:CE2	2.41	0.74
1:M1:53:ASN:OD1	1:M1:165:GLN:HB2	1.87	0.74
1:M1:99:ILE:HG13	1:M1:113:LEU:HD13	1.69	0.74
2:N1:68:LEU:HD23	2:N1:186:VAL:HG12	1.69	0.74
19:A2:144:MET:HG2	20:B2:380:HIS:CD2	2.23	0.74
1:A1:75:LEU:O	1:A1:79:VAL:HG23	1.88	0.74
1:A1:292:SER:O	1:A1:295:ALA:HB3	1.88	0.74
2:B1:337:ILE:HG21	2:B1:434:PRO:HG2	1.68	0.74
19:A2:161:GLU:CB	27:I2:102:ASN:ND2	2.50	0.74
1:A1:236:PHE:CD2	1:A1:258:GLU:HG2	2.22	0.74
3:C1:184:ILE:HG13	3:O1:187:PHE:CZ	2.23	0.74
1:A1:408:ARG:CZ	11:K1:15:ARG:HE	2.01	0.73
8:H1:15:ASP:N	8:H1:16:PRO:HD2	2.03	0.73
2:N1:237:ALA:HB2	2:N1:318:ASP:OD2	1.87	0.73
5:Q1:188:THR:N	5:Q1:192:MET:O	2.21	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B1:162:ASN:HD22	2:B1:244:ILE:HG21	1.51	0.73
3:O1:122:THR:CG2	3:O1:189:ILE:HD11	2.17	0.73
3:O1:184:ILE:O	3:O1:188:ILE:HD12	1.88	0.73
5:Q1:121:GLN:O	5:Q1:170:ARG:NH1	2.18	0.73
57:B3:184:LEU:HD11	57:B3:211:LEU:HD21	1.69	0.73
1:A1:236:PHE:HE2	1:A1:258:GLU:HB3	1.50	0.73
1:A1:383:LEU:HA	1:A1:387:GLY:O	1.88	0.73
2:B1:129:ALA:N	2:B1:130:PRO:HD2	2.01	0.73
1:M1:408:ARG:HH12	11:W1:15:ARG:NE	1.85	0.73
5:Q1:55:VAL:O	5:Q1:59:VAL:HG23	1.88	0.73
5:Q1:157:TYR:HE2	5:Q1:159:PRO:HA	1.51	0.73
2:B1:78:LYS:HB3	2:B1:129:ALA:HB1	1.70	0.73
2:B1:347:ILE:H	2:B1:347:ILE:HD12	1.54	0.73
3:C1:275:LEU:O	3:C1:276:PHE:C	2.23	0.73
1:M1:426:GLY:CA	1:M1:428:ILE:CG1	2.64	0.73
2:N1:385:GLN:CG	9:U1:62:ARG:HH12	2.00	0.73
3:C1:280:ILE:CD1	3:C1:335:LEU:HD13	2.19	0.73
1:M1:256:ALA:HA	1:M1:320:LEU:O	1.89	0.73
1:M1:363:ASN:OD1	2:N1:112:LEU:HD23	1.88	0.73
2:N1:34:VAL:HG11	2:N1:386:ALA:HB1	1.70	0.73
2:N1:95:LYS:HE3	9:U1:70:LEU:HD22	1.69	0.73
3:O1:361:LEU:CD2	3:O1:365:LEU:HD12	2.18	0.73
17:82:424:ILE:HD11	19:A2:76:ARG:HH21	1.51	0.73
27:I2:106:GLU:O	27:I2:108:LYS:NZ	2.18	0.73
1:A1:274:ASN:HB3	1:A1:309:THR:OG1	1.89	0.73
5:Q1:134:ILE:O	5:Q1:135:LEU:HD23	1.89	0.73
17:82:424:ILE:CD1	19:A2:76:ARG:HH21	2.01	0.73
1:A1:163:LEU:HD12	1:A1:163:LEU:O	1.88	0.73
1:A1:262:TRP:CD2	1:A1:385:THR:HG23	2.24	0.73
2:B1:328:SER:HB3	2:B1:336:VAL:HG21	1.69	0.73
2:N1:67:HIS:CD2	2:N1:144:LEU:HD22	2.21	0.73
3:O1:147:THR:HG21	3:O1:165:TRP:NE1	2.03	0.73
9:U1:70:LEU:CD2	9:U1:73:PRO:HD2	2.17	0.73
2:B1:182:ARG:NH1	2:B1:185:LYS:HG2	2.03	0.73
3:O1:22:PRO:HG2	7:S1:3:GLN:HB3	1.69	0.73
62:G3:54:ARG:HD3	62:G3:54:ARG:N	2.04	0.73
1:A1:41:ILE:HG13	1:A1:195:MET:HE3	1.70	0.73
3:C1:30:TRP:O	3:C1:33:PHE:HD2	1.71	0.73
18:92:44:THR:OG1	19:A2:209:TYR:CE2	2.42	0.73
20:B2:82:LEU:HD11	52:12:126:LYS:CE	2.19	0.73
62:G3:5:LYS:HZ3	62:G3:5:LYS:HB3	1.54	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B1:395:PRO:O	2:B1:398:VAL:HB	1.88	0.73
4:D1:41:HIS:CD2	4:D1:113:LEU:HD11	2.24	0.73
2:N1:24:LEU:CG	2:N1:38:LEU:HD11	2.19	0.73
19:A2:238:PHE:O	23:E2:134:PRO:HD3	1.88	0.73
59:D3:23:PRO:O	60:E3:66:ARG:HD3	1.89	0.73
1:A1:343:MET:HE1	1:A1:416:TYR:CD2	2.23	0.72
4:D1:224:ARG:CB	7:G1:25:ALA:HB1	2.14	0.72
1:M1:426:GLY:N	1:M1:428:ILE:HG13	2.02	0.72
4:P1:10:TYR:CE1	8:T1:73:LEU:HD21	2.23	0.72
5:Q1:98:VAL:HA	5:Q1:134:ILE:HG22	1.69	0.72
52:12:75:PRO:CD	52:12:223:PHE:CZ	2.67	0.72
1:A1:171:SER:OG	1:A1:172:GLU:N	2.19	0.72
7:S1:15:THR:HG22	7:S1:16:TYR:N	1.97	0.72
11:W1:18:VAL:HB	11:W1:19:PRO:HD3	1.71	0.72
1:A1:408:ARG:HH12	11:K1:15:ARG:NE	1.85	0.72
2:B1:352:LEU:HB3	2:B1:411:ILE:HD11	1.70	0.72
4:D1:27:ARG:HH12	10:J1:58:LYS:HG3	1.55	0.72
1:A1:273:ALA:HA	1:A1:276:ILE:HD12	1.71	0.72
2:B1:279:LEU:CD2	2:B1:295:LEU:HD13	2.19	0.72
6:F1:28:LYS:HB3	6:F1:74:ILE:HD11	1.69	0.72
19:A2:302:LEU:HB3	38:U2:137:TRP:CB	2.19	0.72
4:D1:54:VAL:O	4:D1:54:VAL:HG12	1.89	0.72
5:E1:19:LEU:HD12	5:E1:19:LEU:O	1.90	0.72
2:N1:46:ARG:HH12	2:N1:376:GLU:HG3	1.55	0.72
3:C1:297:SER:O	3:C1:300:ILE:HG22	1.90	0.72
5:Q1:121:GLN:HB2	5:Q1:170:ARG:HD3	1.71	0.72
19:A2:314:LEU:O	38:U2:139:PRO:CB	2.38	0.72
2:B1:56:ARG:NH2	2:B1:318:ASP:OD1	2.22	0.72
1:M1:8:LEU:O	1:M1:11:VAL:HG23	1.90	0.72
3:O1:309:THR:HG21	3:O1:370:GLY:HA3	1.70	0.72
4:P1:74:PRO:HG2	4:P1:82:MET:SD	2.30	0.72
3:C1:310:SER:HA	3:C1:374:ASN:ND2	1.97	0.72
4:D1:43:MET:HG2	4:D1:46:VAL:HG23	1.70	0.72
3:O1:51:LEU:HD11	3:O1:80:ARG:HA	1.69	0.72
22:D2:113:PHE:HB2	22:D2:114:ARG:HE	1.54	0.72
1:A1:408:ARG:HH12	11:K1:15:ARG:CG	2.02	0.72
3:C1:252:ASP:HB3	3:C1:253:PRO:CD	2.18	0.72
2:N1:217:LYS:HZ2	2:N1:221:GLU:CD	1.93	0.72
4:D1:7:PRO:HG3	4:D1:126:TYR:HA	1.71	0.71
4:P1:164:ILE:HD13	4:P1:182:VAL:HG12	1.70	0.71
1:A1:100:LYS:NZ	1:A1:373:THR:OG1	2.18	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M1:67:THR:CG2	1:M1:70:ARG:HB2	2.20	0.71
1:M1:262:TRP:CG	1:M1:385:THR:HG23	2.24	0.71
1:M1:329:MET:SD	7:S1:5:GLY:HA3	2.31	0.71
2:N1:277:HIS:NE2	2:N1:364:LEU:HD13	2.05	0.71
2:B1:77:THR:CG2	2:B1:130:PRO:HA	2.13	0.71
6:F1:33:ARG:NH2	6:F1:91:GLU:OE2	2.22	0.71
1:M1:255:ILE:HG13	1:M1:422:VAL:HG22	1.71	0.71
17:82:418:GLN:NE2	19:A2:115:GLY:CA	2.44	0.71
4:D1:10:TYR:HE1	8:H1:73:LEU:CD2	2.03	0.71
2:N1:314:ALA:HB2	9:U1:64:LEU:HD22	1.70	0.71
6:R1:73:GLN:HE21	7:S1:32:LYS:NZ	1.89	0.71
1:A1:41:ILE:H	1:A1:41:ILE:HD12	1.54	0.71
9:I1:70:LEU:HD12	9:I1:71:ASN:N	2.04	0.71
1:M1:45:SER:OG	1:M1:92:ARG:HG3	1.91	0.71
5:Q1:139:CYS:HB2	5:Q1:165:TYR:HE2	1.54	0.71
19:A2:140:GLN:OE1	75:A2:801:SF4:S4	2.48	0.71
59:D3:147:LYS:HA	59:D3:147:LYS:HE3	1.72	0.71
2:B1:29:LEU:HB3	2:B1:30:PRO:CD	2.20	0.71
37:T2:82:GLU:HG3	37:T2:84:PRO:HD2	1.72	0.71
1:A1:21:ASN:HB3	1:A1:217:SER:HB3	1.72	0.71
2:B1:251:SER:OG	2:B1:252:LEU:N	2.22	0.71
2:B1:300:ALA:HA	2:B1:307:PHE:CZ	2.26	0.71
69:C1:401:HEM:HBC2	69:C1:401:HEM:HMC1	1.73	0.71
6:R1:59:VAL:HG11	7:S1:10:VAL:HG22	1.73	0.71
4:D1:150:ASN:OD1	4:D1:151:PRO:HD2	1.89	0.71
3:O1:237:LEU:HD13	4:P1:212:MET:HG2	1.73	0.71
4:P1:7:PRO:HG3	4:P1:126:TYR:HA	1.73	0.71
2:B1:429:ASN:ND2	2:N1:60:SER:HB3	1.98	0.71
3:C1:100:ARG:NH2	69:C1:402:HEM:HBD1	2.05	0.71
19:A2:312:GLY:N	38:U2:143:PRO:C	2.45	0.71
19:A2:427:LEU:N	25:G2:169:ARG:HH12	1.89	0.70
2:B1:162:ASN:ND2	2:B1:244:ILE:HG21	2.06	0.70
2:B1:283:PRO:HG3	9:I1:55:LEU:CD2	2.18	0.70
3:C1:147:THR:HG21	3:C1:165:TRP:NE1	2.06	0.70
2:N1:68:LEU:HD11	2:N1:140:LEU:HD23	1.71	0.70
19:A2:162:ASP:O	27:I2:105:LYS:NZ	2.22	0.70
1:A1:233:PRO:HG2	5:E1:23:LYS:CD	2.20	0.70
2:B1:384:SER:HB2	9:I1:62:ARG:HG2	1.71	0.70
3:C1:110:LEU:HG	3:C1:114:ASN:HD21	1.55	0.70
18:92:42:ARG:NH2	19:A2:199:GLY:CA	2.53	0.70
2:B1:162:ASN:O	2:B1:244:ILE:HD12	1.89	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D1:102:ARG:HA	4:D1:108:ALA:O	1.91	0.70
5:E1:15:ARG:HB2	5:E1:16:PRO:CD	2.21	0.70
10:J1:49:GLY:HA2	10:J1:54:HIS:CB	2.20	0.70
3:O1:5:ARG:O	3:O1:9:PRO:HD2	1.90	0.70
3:O1:47:THR:HG21	3:O1:83:HIS:HB2	1.73	0.70
3:O1:61:THR:O	3:O1:62:ALA:C	2.30	0.70
3:O1:218:ILE:HD13	4:P1:230:LEU:CD1	2.22	0.70
3:O1:280:ILE:HD13	3:O1:335:LEU:HD22	1.72	0.70
19:A2:313:LEU:N	38:U2:142:THR:HA	2.05	0.70
19:A2:314:LEU:O	38:U2:139:PRO:HB2	1.91	0.70
3:C1:156:ILE:HG12	3:C1:157:GLY:H	1.56	0.70
3:C1:174:THR:CG2	3:C1:178:PHE:HE1	2.03	0.70
4:D1:50:HIS:HB3	4:D1:54:VAL:CB	2.22	0.70
4:D1:165:TYR:CZ	4:D1:168:VAL:HG22	2.27	0.70
9:I1:78:TYR:OXT	9:I1:78:TYR:CD1	2.43	0.70
2:N1:352:LEU:HB3	2:N1:411:ILE:HD11	1.73	0.70
1:A1:60:GLU:OE2	1:A1:88:ALA:O	2.09	0.70
1:A1:351:GLU:OE2	1:A1:403:ASP:OD1	2.10	0.70
2:N1:51:ILE:HD13	2:N1:199:PHE:CG	2.26	0.70
4:P1:11:PRO:O	8:T1:74:PHE:CE2	2.45	0.70
5:Q1:95:PRO:HG2	5:Q1:145:VAL:HG22	1.74	0.70
2:B1:237:ALA:HB2	2:B1:318:ASP:OD2	1.92	0.70
1:M1:274:ASN:HB3	1:M1:309:THR:OG1	1.91	0.70
2:N1:182:ARG:NH1	2:N1:185:LYS:HG2	2.06	0.70
2:N1:212:SER:OG	2:N1:215:VAL:HB	1.92	0.70
36:S2:200:PRO:HG3	36:S2:223:GLN:NE2	2.01	0.70
1:A1:298:ALA:HA	1:A1:303:LEU:HB2	1.73	0.70
2:B1:83:PHE:CE2	2:B1:87:ARG:HG3	2.27	0.70
2:B1:277:HIS:NE2	2:B1:364:LEU:HD13	2.07	0.70
1:M1:236:PHE:HE2	1:M1:258:GLU:HB3	1.51	0.70
2:B1:46:ARG:HH12	2:B1:376:GLU:HG3	1.57	0.70
3:C1:18:PHE:O	3:C1:220:PHE:CD2	2.45	0.70
3:O1:27:ILE:HG22	3:O1:27:ILE:O	1.91	0.70
4:P1:74:PRO:CB	4:P1:79:GLU:HB2	2.19	0.70
5:Q1:34:GLY:HA2	10:V1:10:TYR:HD1	1.57	0.70
5:Q1:118:ARG:HH11	5:Q1:171:ILE:HG12	1.55	0.70
5:Q1:171:ILE:HG22	5:Q1:179:ASN:OD1	1.92	0.70
19:A2:238:PHE:HB3	23:E2:140:ARG:HB3	1.72	0.70
2:B1:166:ALA:HB2	2:B1:244:ILE:HG13	1.74	0.70
3:C1:122:THR:HG22	3:C1:189:ILE:HD11	1.72	0.70
4:D1:51:LEU:HA	4:D1:56:TYR:O	1.91	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:Q1:185:TYR:HB3	5:Q1:195:VAL:HG13	1.74	0.70
3:C1:26:ASN:HD21	3:C1:207:ASN:CB	2.01	0.69
7:S1:15:THR:CG2	7:S1:16:TYR:N	2.51	0.69
58:C3:156:ARG:HH11	58:C3:156:ARG:HG3	1.56	0.69
2:B1:129:ALA:N	2:B1:130:PRO:CD	2.55	0.69
2:N1:78:LYS:HB3	2:N1:129:ALA:HB1	1.73	0.69
4:D1:82:MET:SD	4:D1:86:LYS:HD2	2.32	0.69
3:O1:225:THR:O	3:O1:229:ILE:HD12	1.92	0.69
4:P1:158:ILE:HD11	4:P1:160:MET:HB2	1.73	0.69
1:A1:162:PRO:O	1:A1:165:GLN:HG2	1.93	0.69
1:A1:379:ILE:HD12	1:A1:390:ILE:CD1	2.22	0.69
4:D1:94:PRO:HB2	4:D1:95:TYR:CD1	2.27	0.69
2:N1:258:VAL:HG11	2:N1:321:LEU:HB3	1.74	0.69
4:P1:10:TYR:CE1	8:T1:73:LEU:CD2	2.75	0.69
5:Q1:158:CYS:SG	5:Q1:158:CYS:O	2.50	0.69
56:A3:11:ASN:HD22	56:A3:14:ASP:H	1.39	0.69
5:E1:13:TYR:O	7:G1:23:GLN:HB3	1.91	0.69
7:G1:34:ILE:CB	7:G1:35:PRO:HD3	2.18	0.69
1:M1:5:ALA:O	1:M1:8:LEU:HB2	1.93	0.69
1:M1:316:ASP:N	1:M1:316:ASP:OD1	2.24	0.69
1:M1:403:ASP:CB	1:M1:406:VAL:HG23	2.19	0.69
2:N1:338:LYS:HG2	2:N1:439:LEU:HD21	1.73	0.69
3:O1:119:LEU:HD23	69:O1:402:HEM:C4B	2.28	0.69
4:P1:97:ASN:OD1	4:P1:98:PRO:HD2	1.93	0.69
4:P1:27:ARG:NH1	10:V1:58:LYS:NZ	2.41	0.69
1:A1:32:GLN:CG	1:A1:33:PRO:HD2	2.22	0.69
2:B1:140:LEU:O	2:B1:141:GLN:C	2.30	0.69
2:N1:165:ALA:HA	2:N1:173:ALA:HB1	1.73	0.69
3:O1:156:ILE:HG13	3:O1:157:GLY:H	1.58	0.69
5:Q1:136:ILE:O	5:Q1:136:ILE:HG22	1.93	0.69
20:B2:92:HIS:CE1	20:B2:141:TYR:HE2	2.10	0.69
1:A1:426:GLY:HA2	1:A1:428:ILE:N	2.08	0.69
2:B1:34:VAL:HG11	2:B1:386:ALA:HB1	1.74	0.69
3:C1:79:ILE:HG12	5:E1:58:PHE:HE1	1.57	0.69
7:G1:73:ASN:N	7:G1:74:PRO:CD	2.55	0.69
1:M1:145:MET:SD	1:M1:248:LEU:HD12	2.32	0.69
1:M1:365:LEU:HD21	1:M1:395:TRP:CD1	2.27	0.69
2:N1:319:SER:OG	2:N1:320:GLY:N	2.26	0.69
3:O1:129:MET:HG2	3:O1:178:PHE:CD1	2.27	0.69
4:P1:220:TYR:CE2	7:S1:26:PHE:CE1	2.81	0.69
5:Q1:68:VAL:HG12	5:Q1:69:LEU:N	2.08	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:Q1:114:VAL:HG12	5:Q1:115:SER:N	2.08	0.69
2:B1:247:GLN:HE22	2:B1:429:ASN:ND2	1.91	0.69
3:C1:135:TRP:HH2	3:C1:170:VAL:HG12	1.57	0.69
4:D1:176:PRO:HB2	4:D1:181:GLN:NE2	2.06	0.69
2:N1:47:ILE:HG22	2:N1:48:GLY:N	2.08	0.69
3:O1:103:TYR:O	3:O1:315:MET:HB2	1.93	0.69
1:M1:278:GLY:O	1:M1:309:THR:HG23	1.93	0.69
1:M1:304:CYS:HB3	1:M1:334:MET:SD	2.33	0.69
3:O1:15:ASN:ND2	3:O1:18:PHE:CE2	2.60	0.69
7:S1:2:ARG:HB2	7:S1:6:HIS:HD2	1.58	0.69
58:C3:12:ASN:HD22	65:J3:20:VAL:H	1.39	0.69
2:B1:308:ASP:OD1	2:B1:309:VAL:N	2.26	0.68
3:C1:132:VAL:HA	3:C1:139:SER:HB3	1.74	0.68
3:C1:177:ARG:NH2	5:Q1:62:MET:O	2.23	0.68
3:O1:79:ILE:HG12	5:Q1:58:PHE:HE1	1.59	0.68
4:P1:158:ILE:HD13	4:P1:160:MET:CB	2.22	0.68
4:P1:236:ALA:HB3	7:S1:14:ILE:HB	1.76	0.68
5:Q1:83:GLU:HG3	5:Q1:100:HIS:NE2	2.08	0.68
57:B3:13:THR:HB	57:B3:168:LEU:HD23	1.74	0.68
1:A1:244:ARG:HG2	7:G1:10:VAL:HG12	1.74	0.68
4:D1:97:ASN:OD1	4:D1:98:PRO:HD2	1.92	0.68
2:N1:100:SER:HB3	2:N1:105:MET:HG3	1.74	0.68
3:O1:252:ASP:HB3	3:O1:253:PRO:CD	2.23	0.68
1:A1:39:VAL:HG11	1:A1:117:VAL:HG21	1.73	0.68
1:A1:341:GLN:OE1	1:A1:344:ARG:NH1	2.25	0.68
1:M1:245:GLU:OE1	1:M1:248:LEU:HD23	1.92	0.68
1:M1:389:ARG:O	1:M1:390:ILE:HD13	1.94	0.68
2:N1:300:ALA:HA	2:N1:307:PHE:CZ	2.28	0.68
4:P1:102:ARG:HA	4:P1:108:ALA:O	1.92	0.68
5:Q1:121:GLN:HB2	5:Q1:170:ARG:CD	2.24	0.68
8:T1:65:ARG:HG3	8:T1:66:ASP:N	2.09	0.68
1:A1:408:ARG:NH1	11:K1:15:ARG:HG2	2.09	0.68
1:A1:445:ARG:O	1:A1:446:PHE:HB2	1.93	0.68
2:B1:348:ALA:HB1	2:B1:415:LYS:HA	1.76	0.68
3:C1:234:LEU:HD23	4:D1:216:LEU:HD21	1.74	0.68
8:H1:22:GLU:O	8:H1:25:GLU:HG2	1.94	0.68
1:M1:21:ASN:CB	1:M1:217:SER:HB3	2.22	0.68
1:M1:351:GLU:OE2	1:M1:403:ASP:OD1	2.10	0.68
6:R1:75:LEU:HD12	6:R1:76:PRO:CD	2.23	0.68
2:B1:62:ASN:ND2	2:B1:65:THR:OG1	2.26	0.68
4:D1:134:TYR:HE2	4:D1:163:PRO:HG2	1.58	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D1:237:TYR:CE2	4:D1:239:PRO:HG3	2.29	0.68
19:A2:367:CYS:SG	19:A2:368:THR:N	2.66	0.68
3:C1:245:PHE:CD1	4:D1:17:LEU:HD13	2.27	0.68
6:R1:75:LEU:O	6:R1:80:TRP:NE1	2.27	0.68
2:B1:135:TRP:CD2	6:R1:49:ARG:HD3	2.29	0.68
6:R1:51:PRO:HG2	6:R1:54:LEU:HD22	1.74	0.68
5:E1:18:VAL:HG11	5:E1:32:ARG:NH1	2.09	0.68
5:E1:53:ASN:OD1	5:E1:53:ASN:N	2.27	0.68
1:M1:236:PHE:CD2	1:M1:258:GLU:HG2	2.28	0.68
4:P1:5:LEU:HB3	4:P1:152:TYR:CD1	2.28	0.68
5:Q1:171:ILE:HG23	5:Q1:171:ILE:O	1.94	0.68
7:S1:51:PRO:O	7:S1:54:ALA:HB3	1.94	0.68
10:V1:22:LEU:O	10:V1:26:VAL:HG23	1.93	0.68
1:A1:151:ASN:ND2	5:E1:2:HIS:NE2	2.42	0.68
1:A1:350:THR:HB	1:A1:353:GLU:CG	2.24	0.68
1:A1:426:GLY:N	1:A1:428:ILE:HG13	2.06	0.68
3:C1:311:LYS:HD2	3:C1:379:TRP:HB3	1.76	0.68
3:O1:100:ARG:NH2	69:O1:402:HEM:HBD1	2.04	0.68
27:I2:106:GLU:OE1	27:I2:106:GLU:N	2.27	0.68
1:A1:67:THR:HG22	1:A1:70:ARG:HB2	1.76	0.68
1:A1:80:GLU:O	1:A1:83:GLY:N	2.26	0.68
1:A1:365:LEU:HD21	1:A1:395:TRP:CD1	2.29	0.68
3:C1:174:THR:O	3:C1:178:PHE:HD1	1.77	0.68
5:E1:60:SER:HA	5:E1:63:SER:OG	1.94	0.68
1:M1:39:VAL:HG12	1:M1:41:ILE:CD1	2.23	0.68
4:P1:27:ARG:NH1	10:V1:58:LYS:HZ2	1.91	0.68
18:92:110:MET:HG2	19:A2:194:ASP:C	2.14	0.68
3:C1:244:LEU:HD23	4:D1:205:GLY:HA2	1.76	0.67
1:M1:4:TYR:CZ	1:M1:8:LEU:HD11	2.28	0.67
2:N1:264:ILE:CG2	2:N1:317:SER:HA	2.23	0.67
60:E3:43:PRO:HB2	60:E3:48:ILE:HD11	1.76	0.67
67:L3:19:TRP:HZ2	68:M3:14:GLU:HG2	1.59	0.67
3:C1:108:THR:HB	3:C1:313:ARG:HH11	1.58	0.67
1:A1:158:PHE:CE1	1:A1:317:THR:HG21	2.28	0.67
3:C1:22:PRO:HG2	7:G1:3:GLN:HB3	1.76	0.67
1:M1:86:LEU:HD13	1:M1:99:ILE:HG12	1.75	0.67
1:M1:408:ARG:HH12	11:W1:15:ARG:CG	2.07	0.67
3:O1:177:ARG:O	3:O1:181:PHE:CD2	2.47	0.67
3:O1:244:LEU:O	4:P1:201:ARG:HD3	1.95	0.67
2:B1:257:LEU:HD13	2:B1:424:MET:HE2	1.76	0.67
3:C1:244:LEU:O	4:D1:201:ARG:HD3	1.95	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F1:51:PRO:HD3	2:N1:134:ARG:HH12	1.57	0.67
7:G1:50:PRO:CB	7:G1:51:PRO:HD3	2.24	0.67
17:82:211:ALA:HB2	17:82:223:PRO:HB3	1.76	0.67
63:H3:38:ARG:HG2	63:H3:85:ILE:HG23	1.76	0.67
5:E1:68:VAL:HG12	5:E1:69:LEU:N	2.10	0.67
9:I1:53:GLU:O	9:I1:55:LEU:HG	1.94	0.67
17:82:422:HIS:ND1	19:A2:79:LEU:HD13	2.10	0.67
20:B2:163:PRO:HG2	20:B2:168:GLN:HE21	1.59	0.67
52:12:120:GLY:O	52:12:128:ALA:O	2.12	0.67
1:A1:408:ARG:NH1	11:K1:15:ARG:CG	2.57	0.67
2:N1:156:GLN:HE22	9:U1:56:ARG:HD3	1.58	0.67
5:Q1:89:PHE:HB2	5:Q1:96:LEU:HB3	1.76	0.67
19:A2:313:LEU:CD2	38:U2:142:THR:CA	2.72	0.67
56:A3:151:HIS:O	56:A3:155:VAL:HG23	1.95	0.67
58:C3:154:GLY:HA2	61:F3:6:VAL:HG22	1.75	0.67
2:N1:209:LEU:CD2	2:N1:375:SER:HB2	2.25	0.67
18:92:224:SER:OG	18:92:226:GLU:CG	2.43	0.67
1:A1:241:ILE:HG13	7:G1:16:TYR:CD1	2.30	0.67
3:C1:234:LEU:CD2	4:D1:216:LEU:HD21	2.24	0.67
3:C1:332:LEU:HD21	3:C1:358:TYR:HE1	1.60	0.67
19:A2:311:LYS:CB	38:U2:142:THR:O	2.43	0.67
52:12:126:LYS:CD	52:12:127:TYR:H	1.98	0.67
3:O1:22:PRO:CG	7:S1:3:GLN:HB3	2.25	0.67
4:P1:32:VAL:HG11	4:P1:186:VAL:HG22	1.76	0.67
1:A1:53:ASN:OD1	1:A1:170:PRO:HD3	1.95	0.67
1:A1:251:ALA:O	1:A1:325:VAL:HA	1.95	0.67
1:M1:80:GLU:O	1:M1:83:GLY:N	2.28	0.67
9:U1:70:LEU:CD1	9:U1:72:VAL:H	2.08	0.67
1:A1:286:GLY:O	1:A1:287:GLY:C	2.33	0.66
1:A1:324:PHE:CD1	1:A1:334:MET:HG2	2.30	0.66
3:C1:56:THR:HG21	3:O1:58:ASP:OD2	1.94	0.66
8:H1:73:LEU:HD21	8:H1:74:PHE:HD1	1.58	0.66
1:M1:27:SER:HA	1:M1:199:ALA:O	1.94	0.66
1:M1:405:ARG:O	1:M1:409:GLU:HG3	1.96	0.66
2:N1:283:PRO:HG3	9:U1:55:LEU:CD2	2.24	0.66
2:N1:394:PRO:O	2:N1:398:VAL:HG23	1.94	0.66
5:Q1:109:GLU:CD	5:Q1:167:ALA:HB3	2.15	0.66
19:A2:313:LEU:CG	38:U2:142:THR:HA	2.24	0.66
1:A1:346:CYS:CB	1:A1:412:SER:OG	2.44	0.66
4:D1:75:ASN:ND2	4:D1:80:MET:O	2.28	0.66
6:F1:42:ASP:OD2	6:F1:101:ARG:NH1	2.28	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:P1:82:MET:SD	4:P1:86:LYS:HD2	2.35	0.66
19:A2:111:LYS:CE	33:P2:53:TYR:HE2	2.07	0.66
3:C1:169:SER:CB	5:Q1:93:GLY:HA3	2.24	0.66
2:N1:303:VAL:HG12	2:N1:304:HIS:N	2.11	0.66
2:N1:327:ILE:O	2:N1:327:ILE:HG22	1.95	0.66
3:O1:122:THR:HG21	3:O1:189:ILE:HG12	1.78	0.66
4:P1:138:PRO:HB3	8:T1:55:THR:N	2.10	0.66
6:R1:28:LYS:HD2	6:R1:74:ILE:CD1	2.24	0.66
57:B3:186:SER:HB3	57:B3:213:LEU:HD22	1.75	0.66
4:D1:10:TYR:HE1	8:H1:73:LEU:HD21	1.60	0.66
1:M1:236:PHE:HD2	1:M1:258:GLU:HG2	1.60	0.66
1:M1:408:ARG:CZ	11:W1:15:ARG:HE	2.08	0.66
3:O1:200:LEU:HG	3:O1:200:LEU:O	1.95	0.66
3:O1:267:HIS:NE2	3:O1:269:LYS:HD3	2.10	0.66
17:82:383:THR:HG21	19:A2:75:CYS:HA	1.76	0.66
18:92:137:THR:H	18:92:140:CYS:HB2	1.60	0.66
27:I2:105:LYS:HG3	27:I2:105:LYS:O	1.96	0.66
2:B1:31:ASN:HB3	2:B1:201:SER:HB3	1.78	0.66
2:N1:134:ARG:HG2	2:N1:135:TRP:N	2.11	0.66
2:N1:159:VAL:HG23	2:N1:427:SER:OG	1.95	0.66
3:O1:72:ASP:OD1	4:P1:49:ARG:NH1	2.25	0.66
3:O1:359:PHE:O	3:O1:363:LEU:HB2	1.95	0.66
4:P1:26:ILE:HG22	4:P1:54:VAL:HG13	1.78	0.66
58:C3:209:ILE:O	58:C3:213:THR:HG23	1.95	0.66
2:B1:319:SER:OG	2:B1:320:GLY:N	2.27	0.66
3:C1:240:MET:HA	3:C1:243:VAL:CG1	2.24	0.66
4:D1:220:TYR:CE2	7:G1:26:PHE:CE1	2.83	0.66
2:N1:129:ALA:N	2:N1:130:PRO:CD	2.58	0.66
2:N1:132:PHE:HB3	2:N1:137:VAL:HG21	1.76	0.66
2:N1:148:LYS:HG3	2:N1:177:TYR:HB3	1.76	0.66
2:N1:180:ASP:O	2:N1:183:ILE:HD12	1.95	0.66
5:Q1:126:ARG:NH2	5:Q1:168:SER:O	2.23	0.66
1:M1:236:PHE:CD2	1:M1:258:GLU:HB3	2.30	0.66
3:O1:8:HIS:HB3	3:O1:9:PRO:HD3	1.76	0.66
3:O1:26:ASN:ND2	3:O1:208:PRO:HD2	2.11	0.66
3:O1:345:HIS:HB3	3:O1:346:PRO:CD	2.21	0.66
17:82:381:GLN:C	19:A2:74:ASN:HB2	2.15	0.66
1:A1:236:PHE:CD2	1:A1:258:GLU:HB3	2.31	0.66
1:A1:351:GLU:HA	1:A1:404:ALA:HB2	1.77	0.66
1:M1:91:THR:HG23	1:M1:92:ARG:H	1.60	0.66
1:M1:426:GLY:HA2	1:M1:428:ILE:HG13	1.72	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N1:191:LEU:O	2:N1:195:VAL:HG23	1.94	0.66
2:N1:395:PRO:O	2:N1:398:VAL:HB	1.94	0.66
3:O1:32:ASN:O	3:O1:36:LEU:HG	1.95	0.66
3:O1:102:LEU:HD21	3:O1:304:ILE:HD12	1.78	0.66
4:P1:233:ARG:HG3	7:S1:17:SER:HB2	1.77	0.66
5:Q1:1:SER:OG	5:Q1:1:SER:CA	2.44	0.66
8:T1:22:GLU:O	8:T1:25:GLU:HG2	1.94	0.66
19:A2:313:LEU:HD23	38:U2:142:THR:HA	1.76	0.66
1:A1:143:THR:O	1:A1:143:THR:HG23	1.94	0.66
1:A1:331:ILE:HD11	1:A1:427:PRO:O	1.96	0.66
7:S1:73:ASN:N	7:S1:74:PRO:CD	2.58	0.66
19:A2:159:ALA:HB3	27:I2:84:VAL:HG12	1.77	0.66
19:A2:303:THR:HG23	38:U2:136:GLU:HA	1.76	0.66
63:H3:39:CYS:HG	63:H3:53:CYS:HG	0.70	0.66
3:C1:32:ASN:HD21	3:C1:228:ASP:HA	1.61	0.66
5:E1:15:ARG:HH21	5:E1:32:ARG:HB2	1.60	0.66
9:I1:70:LEU:CD1	9:I1:72:VAL:H	2.09	0.66
5:Q1:188:THR:OG1	5:Q1:192:MET:HB2	1.96	0.66
56:A3:298:ASP:HB2	56:A3:301:THR:HG23	1.77	0.66
58:C3:160:LEU:HD13	58:C3:222:GLN:HG2	1.78	0.66
1:A1:262:TRP:CG	1:A1:385:THR:HG23	2.31	0.65
1:M1:161:THR:HB	1:M1:162:PRO:HD2	1.77	0.65
2:N1:140:LEU:O	2:N1:141:GLN:C	2.35	0.65
3:O1:44:GLN:OE1	3:O1:83:HIS:ND1	2.30	0.65
4:P1:27:ARG:NH1	10:V1:58:LYS:HG3	2.11	0.65
19:A2:313:LEU:HG	38:U2:142:THR:CB	2.26	0.65
29:K2:20:ARG:HB2	29:K2:66:TRP:HB2	1.77	0.65
1:M1:163:LEU:HD12	1:M1:163:LEU:O	1.95	0.65
3:O1:102:LEU:HD21	3:O1:304:ILE:HD13	1.77	0.65
1:A1:78:GLU:HG2	1:A1:112:LEU:HD21	1.78	0.65
3:C1:243:VAL:HG13	3:C1:244:LEU:HD13	1.77	0.65
1:M1:351:GLU:OE2	1:M1:404:ALA:HB3	1.96	0.65
2:N1:98:VAL:HG22	2:N1:107:TYR:CD2	2.30	0.65
2:N1:247:GLN:HE22	2:N1:429:ASN:ND2	1.95	0.65
2:N1:248:ASN:HB2	2:N1:428:GLY:CA	2.22	0.65
3:O1:122:THR:CG2	3:O1:189:ILE:CD1	2.75	0.65
3:O1:218:ILE:HD13	4:P1:230:LEU:HD11	1.78	0.65
5:Q1:102:THR:O	5:Q1:106:ILE:HG13	1.96	0.65
19:A2:111:LYS:HD2	33:P2:53:TYR:OH	1.96	0.65
1:A1:75:LEU:HD21	1:A1:116:ILE:HG12	1.78	0.65
4:D1:11:PRO:O	8:H1:74:PHE:CZ	2.49	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N1:207:ILE:CD1	2:N1:383:GLY:HA2	2.25	0.65
3:O1:310:SER:CB	3:O1:318:ARG:NH1	2.59	0.65
5:Q1:101:ARG:HD3	5:Q1:133:VAL:HG11	1.76	0.65
10:V1:9:LEU:HD12	10:V1:13:LEU:HD12	1.77	0.65
52:12:75:PRO:CA	52:12:223:PHE:CZ	2.79	0.65
57:B3:120:SER:OG	57:B3:138:VAL:HG21	1.97	0.65
4:D1:236:ALA:HB3	7:G1:14:ILE:HB	1.78	0.65
7:G1:2:ARG:HB2	7:G1:6:HIS:HD2	1.59	0.65
10:J1:55:ILE:HG23	10:J1:58:LYS:HE2	1.79	0.65
6:R1:42:ASP:OD2	6:R1:101:ARG:NH1	2.30	0.65
6:R1:96:GLU:O	6:R1:97:VAL:C	2.32	0.65
58:C3:101:PHE:HZ	58:C3:260:GLY:HA3	1.61	0.65
1:A1:106:LEU:CD2	1:A1:203:LEU:HD13	2.26	0.65
1:A1:426:GLY:N	1:A1:428:ILE:HG12	2.10	0.65
2:B1:56:ARG:NH2	2:B1:172:LEU:HD21	2.12	0.65
2:B1:134:ARG:NH1	6:R1:51:PRO:HD3	2.11	0.65
2:B1:354:ASN:N	2:B1:355:PRO:HD2	2.10	0.65
4:D1:241:LYS:OXT	4:D1:241:LYS:HG2	1.95	0.65
1:M1:45:SER:OG	1:M1:92:ARG:CG	2.44	0.65
2:N1:156:GLN:NE2	9:U1:56:ARG:HD3	2.12	0.65
2:N1:384:SER:HB2	9:U1:62:ARG:HG2	1.79	0.65
5:Q1:85:LYS:HG2	5:Q1:86:ASN:N	2.11	0.65
5:E1:62:MET:O	3:O1:177:ARG:NH2	2.30	0.65
1:M1:298:ALA:HA	1:M1:303:LEU:HB2	1.77	0.65
19:A2:422:TRP:C	25:G2:169:ARG:HD2	2.12	0.65
1:A1:198:ALA:O	1:A1:199:ALA:HB2	1.95	0.65
3:C1:174:THR:O	3:C1:178:PHE:CD1	2.50	0.65
3:C1:183:PHE:CE1	3:O1:183:PHE:CD1	2.84	0.65
3:O1:311:LYS:HD2	3:O1:379:TRP:HB3	1.79	0.65
4:P1:50:HIS:HB3	4:P1:54:VAL:CB	2.26	0.65
19:A2:157:LYS:HB2	27:I2:100:TYR:CE2	2.31	0.65
21:C2:123:THR:HG21	25:G2:129:SER:H	1.62	0.65
2:B1:109:VAL:HG22	2:B1:119:LEU:HD23	1.77	0.65
2:B1:279:LEU:HD22	2:B1:295:LEU:HD13	1.76	0.65
4:D1:178:THR:HG23	8:H1:15:ASP:N	2.11	0.65
4:P1:164:ILE:HD11	4:P1:186:VAL:HG21	1.79	0.65
19:A2:422:TRP:O	25:G2:169:ARG:NH1	2.30	0.65
19:A2:674:LEU:HD12	29:K2:46:LYS:CD	2.26	0.65
1:A1:158:PHE:HB2	1:A1:164:ALA:HB2	1.79	0.65
3:C1:296:PHE:HD1	3:C1:359:PHE:HE1	1.45	0.65
4:D1:138:PRO:HB3	8:H1:55:THR:N	2.12	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F1:28:LYS:CB	6:F1:74:ILE:HD11	2.26	0.65
1:M1:38:GLY:HA3	1:M1:40:TRP:HZ3	1.62	0.65
1:M1:91:THR:CG2	1:M1:92:ARG:N	2.60	0.65
1:M1:391:PRO:HB2	1:M1:395:TRP:CZ2	2.32	0.65
2:N1:436:ILE:HD12	2:N1:437:ASP:OD1	1.96	0.65
56:A3:195:LEU:HD23	56:A3:245:ILE:HD13	1.79	0.65
2:B1:155:PRO:HB2	2:B1:254:HIS:CE1	2.32	0.64
2:B1:333:ALA:O	2:B1:337:ILE:HD12	1.97	0.64
3:C1:78:ILE:HD11	5:E1:57:GLN:NE2	2.12	0.64
3:C1:270:PRO:HB2	3:C1:274:PHE:HB2	1.78	0.64
3:C1:345:HIS:HB3	3:C1:346:PRO:HD3	1.79	0.64
10:J1:12:LEU:HD23	10:J1:13:LEU:HD21	1.79	0.64
4:P1:70:VAL:HG23	4:P1:84:PRO:HD3	1.80	0.64
2:B1:257:LEU:HD13	2:B1:424:MET:HB2	1.77	0.64
4:D1:229:VAL:HG22	7:G1:18:LEU:O	1.97	0.64
4:D1:233:ARG:HG3	7:G1:17:SER:HB2	1.80	0.64
1:M1:426:GLY:N	1:M1:428:ILE:CG1	2.60	0.64
2:N1:71:LEU:HD13	2:N1:143:GLN:HG3	1.78	0.64
4:P1:51:LEU:HA	4:P1:56:TYR:O	1.97	0.64
2:B1:318:ASP:OD1	2:B1:318:ASP:N	2.28	0.64
1:M1:158:PHE:CZ	1:M1:317:THR:HG21	2.31	0.64
1:M1:279:HIS:HA	1:M1:307:PHE:O	1.97	0.64
2:N1:279:LEU:HD22	2:N1:344:VAL:HG22	1.80	0.64
4:P1:54:VAL:O	4:P1:54:VAL:HG12	1.96	0.64
5:Q1:91:TRP:O	5:Q1:92:ARG:HB2	1.97	0.64
10:V1:51:LEU:HB3	10:V1:52:TRP:CZ3	2.32	0.64
19:A2:312:GLY:H	38:U2:143:PRO:C	2.01	0.64
28:J2:47:LEU:HD23	34:Q2:22:SER:HB2	1.80	0.64
1:A1:106:LEU:N	1:A1:107:PRO:HD2	2.11	0.64
2:B1:385:GLN:HG2	9:I1:62:ARG:NH1	2.10	0.64
3:C1:170:VAL:HG12	3:C1:170:VAL:O	1.97	0.64
3:C1:206:ASN:CB	3:C1:313:ARG:HH21	2.05	0.64
4:D1:55:CYS:SG	10:J1:55:ILE:HG22	2.37	0.64
2:N1:133:ARG:HD3	2:N1:135:TRP:CZ2	2.33	0.64
5:Q1:76:ILE:HD12	5:Q1:192:MET:CE	2.28	0.64
19:A2:111:LYS:HE2	33:P2:53:TYR:HE2	1.62	0.64
1:A1:269:ALA:HB3	1:A1:410:VAL:HG11	1.80	0.64
2:B1:128:THR:HG23	2:B1:226:ILE:HD11	1.80	0.64
3:C1:240:MET:O	3:C1:244:LEU:HB2	1.96	0.64
4:D1:178:THR:HG21	8:H1:16:PRO:HG2	1.79	0.64
3:O1:296:PHE:HD1	3:O1:359:PHE:HE1	1.43	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B1:253:VAL:HG23	2:B1:427:SER:O	1.96	0.64
3:C1:264:THR:CG2	5:Q1:144:CYS:HB3	2.24	0.64
1:M1:436:ARG:HE	3:O1:222:PRO:HD3	1.62	0.64
6:R1:73:GLN:HA	7:S1:39:ARG:HH21	1.61	0.64
17:82:386:ARG:HD2	19:A2:178:GLN:OE1	1.97	0.64
52:12:25:ARG:HG2	52:12:25:ARG:NH1	2.10	0.64
62:G3:5:LYS:HZ3	62:G3:6:GLY:N	1.86	0.64
2:B1:200:THR:CG2	2:B1:203:ARG:HD2	2.23	0.64
1:M1:408:ARG:NH1	11:W1:15:ARG:CG	2.61	0.64
3:O1:207:ASN:OD1	3:O1:210:GLY:N	2.26	0.64
19:A2:426:ASP:C	25:G2:169:ARG:HH12	2.00	0.64
20:B2:82:LEU:HD11	52:12:126:LYS:HE3	1.80	0.64
56:A3:172:LYS:HB2	56:A3:172:LYS:NZ	2.12	0.64
1:A1:358:LYS:HD2	1:A1:402:VAL:CG1	2.28	0.64
2:B1:24:LEU:HD12	2:B1:24:LEU:N	2.04	0.64
2:B1:95:LYS:HE3	9:I1:70:LEU:CD2	2.24	0.64
2:B1:347:ILE:HD12	2:B1:347:ILE:N	2.13	0.64
3:C1:338:ILE:N	3:C1:338:ILE:CD1	2.61	0.64
2:N1:352:LEU:HG	2:N1:352:LEU:O	1.96	0.64
5:Q1:63:SER:O	5:Q1:64:ALA:HB2	1.98	0.64
8:T1:67:HIS:CE1	8:T1:71:HIS:HE2	2.16	0.64
35:R2:328:ILE:CG2	35:R2:329:LEU:N	2.49	0.64
59:D3:24:LEU:H	60:E3:34:ASN:HD21	1.44	0.64
1:A1:145:MET:SD	1:A1:248:LEU:CD1	2.86	0.64
2:B1:434:PRO:HB3	2:B1:438:GLU:HB3	1.80	0.64
3:C1:47:THR:HG21	3:C1:83:HIS:CB	2.27	0.64
3:C1:309:THR:HG23	3:C1:370:GLY:HA3	1.80	0.64
4:D1:94:PRO:HB2	4:D1:95:TYR:CE1	2.33	0.64
1:M1:15:GLN:O	1:M1:26:ALA:HA	1.97	0.64
1:M1:199:ALA:HB3	1:M1:208:LEU:HD21	1.79	0.64
3:O1:79:ILE:HG12	5:Q1:58:PHE:CE1	2.33	0.64
5:Q1:15:ARG:CB	5:Q1:16:PRO:HD2	2.06	0.64
6:R1:43:VAL:HG22	6:R1:94:LEU:HD21	1.80	0.64
7:S1:34:ILE:HB	7:S1:35:PRO:CD	2.27	0.64
3:C1:78:ILE:O	3:C1:82:MET:HB2	1.98	0.64
1:M1:408:ARG:NH1	11:W1:15:ARG:HG2	2.13	0.64
3:O1:141:TRP:O	3:O1:145:VAL:HG23	1.98	0.64
5:Q1:118:ARG:HB3	5:Q1:171:ILE:HG23	1.80	0.64
1:A1:385:THR:HG22	1:A1:386:TYR:N	2.12	0.63
3:C1:183:PHE:CD1	3:O1:183:PHE:CE1	2.86	0.63
6:F1:96:GLU:OE1	6:F1:99:ARG:HD2	1.98	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G1:34:ILE:HB	7:G1:35:PRO:CD	2.21	0.63
3:O1:119:LEU:HD13	3:O1:192:ILE:HG22	1.80	0.63
5:Q1:15:ARG:HH21	5:Q1:32:ARG:CG	2.08	0.63
52:12:288:LEU:HA	52:12:292:ASN:HD22	1.63	0.63
53:62:578:THR:HA	53:62:581:LYS:HE2	1.79	0.63
1:A1:64:PHE:CE2	1:A1:88:ALA:HB2	2.33	0.63
1:A1:204:GLU:HG2	1:A1:206:ARG:HB3	1.80	0.63
2:B1:109:VAL:HG22	2:B1:119:LEU:CD2	2.28	0.63
1:M1:426:GLY:CA	1:M1:428:ILE:N	2.61	0.63
3:O1:30:TRP:O	3:O1:33:PHE:CD2	2.47	0.63
6:R1:96:GLU:OE1	6:R1:99:ARG:HD2	1.98	0.63
19:A2:313:LEU:N	38:U2:142:THR:O	2.30	0.63
2:B1:384:SER:CB	9:I1:62:ARG:HG2	2.28	0.63
3:C1:44:GLN:OE1	3:C1:83:HIS:ND1	2.30	0.63
1:M1:143:THR:HG23	1:M1:143:THR:O	1.98	0.63
1:M1:385:THR:HG22	1:M1:386:TYR:N	2.13	0.63
4:P1:50:HIS:HB3	4:P1:54:VAL:CG2	2.28	0.63
5:Q1:193:VAL:HG13	5:Q1:193:VAL:O	1.97	0.63
3:C1:78:ILE:HG21	4:D1:204:MET:HE1	1.81	0.63
3:C1:230:LEU:HD12	4:D1:219:VAL:HG12	1.80	0.63
1:M1:352:SER:OG	1:M1:353:GLU:N	2.31	0.63
3:O1:102:LEU:HB3	3:O1:325:PHE:HE1	1.62	0.63
5:Q1:76:ILE:HG22	5:Q1:193:VAL:C	2.19	0.63
5:Q1:157:TYR:CE2	5:Q1:159:PRO:HA	2.33	0.63
10:V1:51:LEU:HD22	10:V1:52:TRP:HZ3	1.64	0.63
53:62:138:PHE:HB2	53:62:196:TRP:HE1	1.62	0.63
1:A1:41:ILE:HG13	1:A1:195:MET:CE	2.27	0.63
2:B1:338:LYS:HD3	2:B1:439:LEU:HD23	1.81	0.63
3:C1:183:PHE:CD1	3:C1:183:PHE:O	2.52	0.63
3:C1:346:PRO:HG2	7:G1:66:PHE:HD1	1.63	0.63
4:D1:32:VAL:HG21	4:D1:186:VAL:HG22	1.79	0.63
1:M1:72:GLY:O	1:M1:73:ASN:OD1	2.17	0.63
39:V2:58:ARG:HE	52:12:316:PRO:HB3	1.63	0.63
53:62:28:LYS:HE3	53:62:31:ASN:HD21	1.63	0.63
56:A3:273:MET:HG3	56:A3:319:LYS:HZ1	1.63	0.63
1:A1:308:GLN:O	1:A1:308:GLN:CG	2.46	0.63
1:A1:333:ASP:O	1:A1:337:VAL:HG23	1.98	0.63
3:C1:311:LYS:O	6:F1:38:HIS:HB2	1.98	0.63
3:O1:137:GLN:OE1	3:O1:259:ALA:HA	1.99	0.63
4:P1:229:VAL:HG12	4:P1:233:ARG:HE	1.63	0.63
2:B1:341:TYR:HE2	2:B1:345:LYS:HE3	1.61	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J1:3:PRO:HG2	10:J1:8:ARG:HG2	1.81	0.63
1:M1:155:ALA:HA	1:M1:164:ALA:HB1	1.80	0.63
1:M1:350:THR:HB	1:M1:353:GLU:CG	2.28	0.63
1:M1:404:ALA:O	1:M1:408:ARG:HG3	1.98	0.63
4:P1:75:ASN:ND2	4:P1:80:MET:O	2.32	0.63
5:Q1:76:ILE:HG22	5:Q1:194:ILE:HG12	1.79	0.63
19:A2:314:LEU:HD22	38:U2:140:PRO:HD2	1.77	0.63
52:12:75:PRO:N	52:12:223:PHE:CZ	2.64	0.63
4:D1:10:TYR:O	4:D1:12:TRP:CD1	2.51	0.63
6:F1:75:LEU:O	6:F1:80:TRP:NE1	2.30	0.63
8:H1:67:HIS:CE1	8:H1:71:HIS:HE2	2.16	0.63
3:O1:90:PHE:HE1	3:O1:123:VAL:HG21	1.60	0.63
3:O1:115:ILE:CG2	3:O1:196:HIS:HB2	2.27	0.63
3:O1:153:ILE:HG23	3:O1:154:PRO:HD2	1.79	0.63
3:C1:15:ASN:ND2	3:C1:18:PHE:CE1	2.67	0.63
3:C1:109:PHE:O	3:C1:110:LEU:C	2.36	0.63
3:C1:296:PHE:CD1	3:C1:359:PHE:HE1	2.17	0.63
1:M1:151:ASN:ND2	5:Q1:2:HIS:NE2	2.46	0.63
3:O1:28:SER:HB3	3:O1:30:TRP:HD1	1.63	0.63
3:O1:33:PHE:CE1	3:O1:96:MET:HG3	2.34	0.63
3:O1:132:VAL:HA	3:O1:139:SER:HB3	1.81	0.63
19:A2:302:LEU:N	38:U2:137:TRP:HB2	2.13	0.63
67:L3:45:LEU:HD21	68:M3:40:TYR:HA	1.78	0.63
1:A1:38:GLY:HA3	1:A1:40:TRP:HZ3	1.62	0.62
1:A1:426:GLY:HA2	1:A1:427:PRO:C	2.19	0.62
3:C1:119:LEU:HD13	3:C1:192:ILE:HG22	1.80	0.62
1:M1:46:ARG:HH22	1:M1:316:ASP:CG	2.02	0.62
1:M1:86:LEU:HB3	2:N1:285:VAL:HG22	1.81	0.62
1:M1:365:LEU:O	1:M1:365:LEU:HG	1.99	0.62
2:N1:83:PHE:CE2	2:N1:87:ARG:HG3	2.34	0.62
3:O1:207:ASN:HB2	3:O1:208:PRO:HD2	1.80	0.62
60:E3:82:TYR:HB3	60:E3:83:PRO:HD3	1.81	0.62
1:A1:370:ASP:OD1	2:B1:375:SER:HB3	1.99	0.62
2:B1:352:LEU:HB3	2:B1:411:ILE:CD1	2.29	0.62
1:M1:45:SER:CB	1:M1:167:VAL:HG22	2.29	0.62
4:P1:62:LYS:O	4:P1:66:GLU:HG3	1.99	0.62
1:A1:297:ILE:HG22	1:A1:303:LEU:HD12	1.79	0.62
2:B1:111:CYS:CB	2:B1:119:LEU:HD22	2.28	0.62
3:C1:116:GLY:HA3	69:C1:402:HEM:C3C	2.34	0.62
3:O1:160:LEU:HD11	3:O1:164:ILE:HD11	1.80	0.62
5:Q1:153:PHE:CE1	5:Q1:173:LYS:HG3	2.34	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:D3:16:TYR:CE1	59:D3:25:PRO:HG3	2.34	0.62
63:H3:57:ARG:HB3	63:H3:57:ARG:HH11	1.64	0.62
1:A1:351:GLU:OE2	1:A1:404:ALA:HB3	2.00	0.62
1:A1:403:ASP:OD1	1:A1:404:ALA:N	2.33	0.62
2:B1:47:ILE:HG22	2:B1:48:GLY:N	2.15	0.62
2:B1:156:GLN:NE2	9:I1:56:ARG:HD3	2.14	0.62
2:B1:303:VAL:HG12	2:B1:304:HIS:N	2.14	0.62
3:C1:119:LEU:HD13	3:C1:192:ILE:CG2	2.29	0.62
3:C1:207:ASN:OD1	3:C1:210:GLY:N	2.32	0.62
4:D1:50:HIS:HB3	4:D1:54:VAL:CG2	2.29	0.62
1:M1:309:THR:HA	1:M1:322:ALA:HA	1.81	0.62
8:T1:34:ARG:O	8:T1:38:GLU:HG2	1.99	0.62
19:A2:129:PRO:CG	27:I2:114:TYR:HE1	2.12	0.62
34:Q2:50:GLU:HB3	34:Q2:138:PRO:HG3	1.80	0.62
57:B3:122:MET:HB2	57:B3:208:PRO:HD2	1.81	0.62
2:B1:341:TYR:CE2	2:B1:345:LYS:HE3	2.34	0.62
3:C1:27:ILE:O	3:C1:27:ILE:CG2	2.46	0.62
2:N1:37:SER:OG	2:N1:213:HIS:HB2	2.00	0.62
2:N1:56:ARG:NH2	2:N1:172:LEU:HD21	2.14	0.62
2:N1:95:LYS:CE	9:U1:70:LEU:HD22	2.29	0.62
4:P1:127:VAL:HG12	4:P1:187:CYS:SG	2.39	0.62
5:Q1:76:ILE:HG23	5:Q1:194:ILE:CG1	2.29	0.62
5:Q1:78:LEU:HD23	5:Q1:79:SER:H	1.64	0.62
17:82:52:ARG:HH21	17:82:132:ARG:HG3	1.63	0.62
1:A1:43:ALA:CB	1:A1:189:HIS:HB3	2.30	0.62
1:A1:92:ARG:HD2	1:A1:163:LEU:CD1	2.29	0.62
1:A1:158:PHE:CB	1:A1:164:ALA:HB2	2.29	0.62
4:D1:72:ASP:O	4:D1:73:GLY:O	2.18	0.62
8:H1:25:GLU:HA	8:H1:30:CYS:SG	2.39	0.62
2:N1:203:ARG:NE	2:N1:230:LEU:HD23	2.15	0.62
2:N1:255:ALA:HB2	2:N1:426:ALA:HB2	1.81	0.62
3:O1:8:HIS:CB	3:O1:9:PRO:HD3	2.29	0.62
4:P1:3:LEU:HD11	7:S1:71:ARG:HB2	1.81	0.62
9:U1:53:GLU:O	9:U1:55:LEU:HG	2.00	0.62
1:A1:91:THR:CG2	1:A1:92:ARG:N	2.62	0.62
1:A1:240:GLN:HG3	1:A1:422:VAL:O	1.98	0.62
1:A1:417:ASP:OD1	1:A1:417:ASP:O	2.17	0.62
2:B1:42:ALA:CB	2:B1:43:PRO:HD2	2.28	0.62
2:B1:187:THR:O	2:B1:190:GLU:HB2	1.99	0.62
3:C1:106:SER:HB3	69:C1:402:HEM:HBD2	1.81	0.62
3:O1:115:ILE:HG21	3:O1:196:HIS:HB2	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:S1:71:ARG:HH21	8:T1:60:ASP:CG	2.02	0.62
10:V1:51:LEU:HB3	10:V1:52:TRP:CE3	2.35	0.62
11:W1:26:ALA:O	11:W1:30:VAL:HG23	1.99	0.62
19:A2:272:ARG:CZ	25:G2:87:MET:HE3	2.29	0.62
19:A2:423:LEU:HD12	25:G2:169:ARG:O	1.98	0.62
27:I2:96:HIS:HB2	27:I2:114:TYR:HB3	1.81	0.62
1:A1:32:GLN:HG3	1:A1:33:PRO:HD2	1.80	0.62
1:A1:61:HIS:NE2	1:A1:134:ILE:CD1	2.62	0.62
1:A1:408:ARG:NH1	11:K1:15:ARG:NE	2.45	0.62
2:B1:58:GLU:OE1	2:B1:63:LEU:HA	2.00	0.62
2:B1:156:GLN:HE22	9:I1:56:ARG:HD3	1.65	0.62
2:B1:163:LEU:HD22	2:B1:256:ALA:CB	2.29	0.62
2:B1:247:GLN:NE2	2:B1:429:ASN:HA	2.14	0.62
10:J1:36:ASP:O	10:J1:37:GLN:C	2.35	0.62
5:Q1:103:LYS:HA	5:Q1:106:ILE:HD12	1.82	0.62
2:B1:58:GLU:HB2	2:B1:63:LEU:HD23	1.82	0.62
2:B1:101:THR:OG1	2:B1:102:ARG:N	2.32	0.62
3:C1:329:VAL:HA	3:C1:332:LEU:HD12	1.80	0.62
4:D1:57:THR:HG22	4:D1:58:GLU:H	1.65	0.62
1:M1:53:ASN:OD1	1:M1:170:PRO:HD3	1.99	0.62
1:M1:134:ILE:HG21	1:M1:174:VAL:HG21	1.81	0.62
1:M1:144:SER:O	1:M1:148:VAL:HG23	1.99	0.62
2:N1:195:VAL:HG13	2:N1:199:PHE:CD2	2.34	0.62
2:N1:352:LEU:HB3	2:N1:411:ILE:CD1	2.29	0.62
4:P1:120:ARG:HG2	4:P1:120:ARG:HH11	1.62	0.62
4:P1:231:LYS:HD2	6:R1:71:ARG:HG2	1.81	0.62
5:Q1:187:PHE:CE2	5:Q1:193:VAL:HB	2.34	0.62
17:82:384:PRO:HD3	19:A2:76:ARG:HB2	1.82	0.62
19:A2:111:LYS:HE2	33:P2:53:TYR:CE2	2.35	0.62
19:A2:313:LEU:CG	38:U2:142:THR:CB	2.78	0.62
2:B1:209:LEU:CD2	2:B1:375:SER:HB2	2.30	0.62
3:C1:25:SER:HA	3:C1:218:ILE:CD1	2.29	0.62
3:C1:79:ILE:HG12	5:E1:58:PHE:CE1	2.35	0.62
1:M1:162:PRO:O	1:M1:165:GLN:HG2	1.99	0.62
3:O1:7:SER:HA	3:O1:13:ILE:HG12	1.81	0.62
3:O1:52:ALA:HB2	69:O1:401:HEM:HMD1	1.81	0.62
4:P1:79:GLU:OE1	4:P1:82:MET:HG3	1.98	0.62
4:P1:176:PRO:HB2	4:P1:181:GLN:NE2	2.14	0.62
6:R1:73:GLN:HE21	7:S1:32:LYS:CE	2.12	0.62
19:A2:140:GLN:HG3	20:B2:379:ILE:HG23	1.81	0.62
20:B2:82:LEU:HD11	52:12:126:LYS:CD	2.30	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A1:433:ASP:HB2	3:C1:219:PRO:HG2	1.82	0.61
3:C1:10:LEU:HD12	3:C1:13:ILE:CD1	2.28	0.61
2:N1:129:ALA:N	2:N1:130:PRO:HD3	2.14	0.61
56:A3:128:VAL:HG22	56:A3:128:VAL:O	1.99	0.61
1:A1:336:PHE:HE2	1:A1:446:PHE:HD2	1.47	0.61
2:B1:111:CYS:HB3	2:B1:119:LEU:CD2	2.29	0.61
3:C1:156:ILE:O	3:C1:157:GLY:C	2.39	0.61
3:C1:207:ASN:ND2	3:C1:209:THR:OG1	2.32	0.61
3:C1:313:ARG:HB3	6:F1:38:HIS:CD2	2.35	0.61
10:J1:51:LEU:HB3	10:J1:52:TRP:CZ3	2.36	0.61
1:M1:373:THR:HB	1:M1:374:PRO:HD3	1.81	0.61
3:O1:304:ILE:N	3:O1:305:PRO:HD2	2.14	0.61
18:92:130:TYR:HA	18:92:189:ASN:HD21	1.65	0.61
19:A2:34:VAL:HG22	19:A2:99:GLY:HA2	1.82	0.61
57:B3:16:ILE:HD12	57:B3:17:MET:N	2.15	0.61
2:B1:47:ILE:HD12	2:B1:120:MET:SD	2.39	0.61
2:B1:169:ARG:CZ	2:N1:438:GLU:OE2	2.47	0.61
3:O1:8:HIS:CB	3:O1:9:PRO:CD	2.78	0.61
3:O1:156:ILE:O	3:O1:157:GLY:C	2.39	0.61
4:P1:68:VAL:HG12	4:P1:92:PRO:HG2	1.82	0.61
4:P1:83:ARG:CB	4:P1:84:PRO:CD	2.63	0.61
4:P1:138:PRO:HG2	8:T1:55:THR:CB	2.30	0.61
10:V1:55:ILE:HG23	10:V1:58:LYS:HE2	1.82	0.61
22:D2:99:MET:HG2	22:D2:106:MET:HB2	1.83	0.61
61:F3:13:ALA:O	61:F3:18:ARG:HD2	2.00	0.61
1:A1:5:ALA:O	1:A1:8:LEU:HB2	2.00	0.61
1:A1:428:ILE:HG21	1:A1:431:LEU:HD22	1.83	0.61
2:B1:123:LEU:O	2:B1:127:THR:HG22	2.00	0.61
2:B1:162:ASN:ND2	2:B1:244:ILE:CG2	2.61	0.61
3:C1:52:ALA:HB2	69:C1:401:HEM:HMD2	1.83	0.61
3:C1:153:ILE:HG23	3:C1:154:PRO:HD2	1.82	0.61
10:J1:29:LEU:HD13	11:K1:34:TRP:HB3	1.81	0.61
5:Q1:141:HIS:NE2	5:Q1:175:PRO:HB2	2.15	0.61
7:S1:54:ALA:O	7:S1:58:VAL:HG23	2.01	0.61
17:82:419:ILE:HD11	19:A2:119:PHE:HE2	1.65	0.61
58:C3:154:GLY:HA2	61:F3:6:VAL:CG2	2.30	0.61
3:C1:372:ILE:O	3:C1:375:LYS:N	2.32	0.61
70:D1:301:HEC:HMC1	70:D1:301:HEC:HBC3	1.82	0.61
1:M1:403:ASP:OD1	1:M1:404:ALA:N	2.33	0.61
2:N1:354:ASN:N	2:N1:355:PRO:HD2	2.16	0.61
3:O1:126:THR:HG21	69:O1:401:HEM:C3B	2.36	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:T1:15:ASP:HB2	8:T1:16:PRO:HD3	1.83	0.61
19:A2:129:PRO:HG2	27:I2:114:TYR:HE1	1.65	0.61
19:A2:313:LEU:CD2	38:U2:142:THR:HA	2.31	0.61
20:B2:95:LEU:O	20:B2:95:LEU:HD23	2.01	0.61
3:C1:267:HIS:NE2	3:C1:269:LYS:HD3	2.15	0.61
6:F1:106:GLU:HA	6:F1:109:LYS:HZ3	1.64	0.61
9:I1:62:ARG:HB3	9:I1:63:PRO:HD3	1.83	0.61
1:M1:37:VAL:HG13	1:M1:199:ALA:HB2	1.82	0.61
1:M1:358:LYS:HE3	1:M1:402:VAL:HB	1.82	0.61
4:P1:27:ARG:HH11	10:V1:58:LYS:NZ	1.98	0.61
4:P1:27:ARG:NH2	4:P1:60:GLU:OE2	2.34	0.61
19:A2:273:ILE:HD11	19:A2:291:ARG:HA	1.83	0.61
40:M2:70:LEU:HD13	40:M2:76:ILE:HG12	1.82	0.61
1:A1:436:ARG:HE	3:C1:222:PRO:CG	2.12	0.61
2:B1:86:THR:HG23	9:I1:71:ASN:HD21	1.66	0.61
3:C1:146:ILE:O	3:C1:149:LEU:HB3	2.00	0.61
8:H1:40:CYS:HB2	8:H1:57:GLU:HG2	1.83	0.61
2:N1:412:ASN:O	2:N1:415:LYS:HB2	2.01	0.61
10:V1:35:PHE:O	10:V1:36:ASP:C	2.37	0.61
14:42:294:MET:SD	14:42:319:HIS:NE2	2.70	0.61
52:12:75:PRO:HG3	52:12:223:PHE:CE2	2.32	0.61
56:A3:92:MET:CE	56:A3:167:THR:HG21	2.31	0.61
58:C3:6:HIS:HD2	58:C3:8:TYR:H	1.49	0.61
2:B1:140:LEU:HD12	2:B1:143:GLN:HB3	1.83	0.61
3:O1:244:LEU:HD23	4:P1:205:GLY:HA2	1.83	0.61
4:P1:13:SER:O	4:P1:19:SER:HB3	1.99	0.61
19:A2:67:GLU:HA	25:G2:158:LYS:HE2	1.81	0.61
56:A3:11:ASN:HD21	56:A3:13:LYS:HB2	1.64	0.61
56:A3:92:MET:HE2	56:A3:167:THR:HG21	1.83	0.61
2:B1:435:PHE:HB2	2:B1:438:GLU:OE1	2.00	0.61
3:C1:315:MET:HA	3:C1:318:ARG:HG3	1.82	0.61
1:M1:354:VAL:CG1	1:M1:407:VAL:HG21	2.31	0.61
4:P1:11:PRO:O	8:T1:74:PHE:CZ	2.54	0.61
20:B2:87:GLN:HA	20:B2:87:GLN:OE1	2.01	0.61
58:C3:148:HIS:O	58:C3:152:MET:HG3	2.01	0.61
68:M3:13:LYS:HD3	68:M3:13:LYS:H	1.65	0.61
1:A1:86:LEU:HD13	1:A1:99:ILE:CG1	2.31	0.61
1:A1:244:ARG:CZ	7:G1:10:VAL:HB	2.31	0.61
2:B1:59:ASN:OD1	2:B1:60:SER:N	2.32	0.61
2:B1:434:PRO:HB2	2:B1:439:LEU:HD11	1.81	0.61
3:C1:22:PRO:CG	7:G1:3:GLN:HB3	2.31	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D1:10:TYR:CE1	8:H1:73:LEU:CD2	2.84	0.61
5:E1:29:SER:HA	5:E1:32:ARG:HD3	1.81	0.61
1:M1:4:TYR:CE2	1:M1:396:GLU:HG3	2.36	0.61
1:M1:366:VAL:HG12	1:M1:367:SER:N	2.16	0.61
3:O1:129:MET:CG	3:O1:178:PHE:HD1	2.14	0.61
5:Q1:13:TYR:O	7:S1:23:GLN:HB3	2.01	0.61
63:H3:39:CYS:HG	63:H3:53:CYS:CB	2.09	0.61
1:A1:80:GLU:O	1:A1:82:MET:N	2.34	0.60
2:B1:337:ILE:CG2	2:B1:434:PRO:HG2	2.31	0.60
3:C1:163:TRP:O	3:C1:177:ARG:NH1	2.32	0.60
7:G1:68:LYS:O	7:G1:72:LYS:N	2.34	0.60
1:M1:91:THR:HG23	1:M1:92:ARG:N	2.16	0.60
4:P1:237:TYR:CD2	4:P1:239:PRO:HD3	2.36	0.60
25:G2:75:ARG:NH2	25:G2:119:ASP:OD1	2.34	0.60
1:A1:236:PHE:HD2	1:A1:258:GLU:CG	2.12	0.60
5:Q1:188:THR:OG1	5:Q1:189:SER:N	2.33	0.60
19:A2:313:LEU:HG	38:U2:142:THR:CA	2.31	0.60
20:B2:97:LEU:HD12	20:B2:97:LEU:N	2.01	0.60
1:A1:182:LEU:O	1:A1:186:LEU:HD12	2.01	0.60
1:A1:342:TRP:O	1:A1:343:MET:C	2.38	0.60
1:A1:413:LYS:HB2	1:A1:414:TYR:CD2	2.37	0.60
2:B1:60:SER:CB	2:N1:429:ASN:ND2	2.53	0.60
2:B1:196:GLN:HG2	2:B1:197:ASN:OD1	2.01	0.60
2:B1:256:ALA:O	2:B1:424:MET:HG3	2.01	0.60
2:B1:299:VAL:O	2:B1:303:VAL:HG23	2.01	0.60
3:C1:18:PHE:O	3:C1:220:PHE:HD2	1.84	0.60
4:D1:165:TYR:CE1	4:D1:168:VAL:HG22	2.34	0.60
6:F1:106:GLU:HA	6:F1:109:LYS:NZ	2.16	0.60
7:G1:71:ARG:O	8:H1:56:GLU:OE2	2.20	0.60
57:B3:226:MET:O	57:B3:227:LEU:HB2	2.02	0.60
1:A1:327:ASP:OD1	1:A1:328:HIS:N	2.32	0.60
3:C1:26:ASN:O	3:C1:27:ILE:HG13	2.01	0.60
3:C1:218:ILE:HG22	3:C1:223:TYR:CD2	2.35	0.60
3:C1:296:PHE:O	3:C1:300:ILE:HB	2.01	0.60
4:D1:27:ARG:NH2	4:D1:60:GLU:OE2	2.33	0.60
6:F1:28:LYS:HD3	6:F1:74:ILE:HD11	1.84	0.60
9:I1:58:GLN:O	9:I1:59:ALA:HB2	2.01	0.60
9:I1:58:GLN:HA	9:I1:78:TYR:CD2	2.36	0.60
9:I1:62:ARG:N	9:I1:63:PRO:HD2	2.17	0.60
2:N1:56:ARG:NE	2:N1:103:GLU:OE1	2.19	0.60
19:A2:302:LEU:HB3	38:U2:137:TRP:CG	2.35	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A1:154:HIS:O	1:A1:158:PHE:HB2	2.00	0.60
1:A1:338:LEU:O	1:A1:341:GLN:N	2.35	0.60
3:C1:240:MET:CA	3:C1:243:VAL:HG12	2.28	0.60
4:D1:165:TYR:CE2	4:D1:168:VAL:HG22	2.37	0.60
8:H1:73:LEU:HD21	8:H1:74:PHE:CD1	2.35	0.60
1:M1:39:VAL:HG11	1:M1:117:VAL:HG21	1.81	0.60
1:M1:312:ILE:HB	1:M1:319:LEU:HB2	1.83	0.60
2:N1:34:VAL:HG11	2:N1:386:ALA:CB	2.32	0.60
3:O1:206:ASN:CB	3:O1:313:ARG:NH2	2.55	0.60
3:O1:296:PHE:CD1	3:O1:359:PHE:HE1	2.19	0.60
3:O1:331:ASP:O	3:O1:334:THR:HB	2.00	0.60
4:P1:214:LEU:O	4:P1:218:LEU:HG	2.01	0.60
9:U1:62:ARG:N	9:U1:63:PRO:HD2	2.15	0.60
20:B2:443:MET:SD	52:12:281:ARG:NH1	2.75	0.60
53:62:209:SER:OG	53:62:270:ASN:ND2	2.34	0.60
1:A1:280:TYR:O	1:A1:306:SER:HA	2.00	0.60
2:B1:200:THR:HG22	2:B1:203:ARG:CD	2.25	0.60
3:C1:72:ASP:OD1	4:D1:49:ARG:NH1	2.28	0.60
4:D1:57:THR:HG22	4:D1:58:GLU:N	2.17	0.60
2:N1:362:ASN:HA	2:N1:365:LYS:HD3	1.83	0.60
2:N1:385:GLN:HG2	9:U1:62:ARG:NH1	2.13	0.60
4:P1:32:VAL:HG11	4:P1:186:VAL:CG2	2.31	0.60
5:Q1:29:SER:HA	5:Q1:32:ARG:HD3	1.83	0.60
5:Q1:117:LEU:O	5:Q1:118:ARG:C	2.39	0.60
6:R1:73:GLN:HG2	7:S1:36:ASN:HD21	1.65	0.60
21:C2:215:ASP:OD2	35:R2:75:ARG:NH2	2.34	0.60
57:B3:59:GLN:HA	57:B3:62:GLU:HB2	1.83	0.60
61:F3:62:CYS:SG	61:F3:84:SER:OG	2.60	0.60
1:A1:373:THR:HB	1:A1:374:PRO:HD3	1.84	0.60
2:B1:98:VAL:HG22	2:B1:107:TYR:CD2	2.37	0.60
3:C1:301:LEU:O	3:C1:304:ILE:HD12	2.02	0.60
1:M1:6:GLN:O	1:M1:7:ALA:C	2.39	0.60
1:M1:64:PHE:CE2	1:M1:88:ALA:HB2	2.36	0.60
2:N1:255:ALA:HA	2:N1:425:ALA:O	2.01	0.60
2:N1:352:LEU:HD21	2:N1:357:VAL:HG23	1.82	0.60
3:O1:196:HIS:HE1	69:O1:402:HEM:C1D	2.19	0.60
4:P1:42:SER:O	4:P1:112:ASP:OD1	2.20	0.60
10:V1:13:LEU:O	10:V1:19:THR:OG1	2.17	0.60
20:B2:171:ARG:HH21	20:B2:231:GLY:HA2	1.66	0.60
4:D1:30:PHE:HD1	4:D1:189:PHE:CE1	2.19	0.60
6:F1:96:GLU:OE2	6:F1:99:ARG:NH1	2.34	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:Q1:97:PHE:CE1	5:Q1:137:GLY:HA3	2.37	0.60
19:A2:75:CYS:SG	19:A2:76:ARG:N	2.75	0.60
19:A2:143:SER:O	20:B2:380:HIS:NE2	2.35	0.60
36:S2:219:SER:HA	36:S2:222:LEU:HB2	1.83	0.60
4:D1:23:HIS:CD2	10:J1:51:LEU:HA	2.37	0.60
1:M1:146:ARG:NH2	1:M1:308:GLN:HE22	2.00	0.60
3:O1:4:ILE:O	3:O1:4:ILE:HG22	2.00	0.60
3:O1:32:ASN:HD21	3:O1:228:ASP:HA	1.67	0.60
5:Q1:164:HIS:H	5:Q1:173:LYS:HB2	1.67	0.60
58:C3:192:VAL:O	58:C3:196:THR:HB	2.01	0.60
1:M1:91:THR:HG22	1:M1:94:HIS:H	1.67	0.60
2:N1:269:ALA:O	2:N1:272:PHE:N	2.35	0.60
4:P1:134:TYR:HE2	4:P1:163:PRO:HG2	1.66	0.60
5:Q1:78:LEU:HD23	5:Q1:79:SER:N	2.17	0.60
5:Q1:101:ARG:HD3	5:Q1:133:VAL:CG1	2.31	0.60
7:S1:2:ARG:HB2	7:S1:6:HIS:CD2	2.37	0.60
68:M3:28:LEU:HB2	68:M3:29:PRO:HD3	1.84	0.60
2:B1:258:VAL:CG1	2:B1:321:LEU:HB3	2.29	0.59
3:C1:359:PHE:O	3:C1:363:LEU:HB2	2.02	0.59
4:D1:28:ARG:HD2	4:D1:185:ASP:OD2	2.01	0.59
4:D1:32:VAL:HG11	4:D1:182:VAL:HG13	1.84	0.59
3:O1:92:ILE:O	3:O1:96:MET:HG2	2.02	0.59
4:P1:46:VAL:HG12	4:P1:47:ALA:O	2.02	0.59
4:P1:72:ASP:O	4:P1:73:GLY:O	2.20	0.59
5:Q1:121:GLN:HB3	5:Q1:126:ARG:HD3	1.83	0.59
8:T1:37:LEU:HD21	8:T1:58:LEU:HA	1.84	0.59
9:U1:78:TYR:HD1	9:U1:78:TYR:OXT	1.83	0.59
10:V1:9:LEU:HD12	10:V1:13:LEU:CD1	2.32	0.59
10:V1:20:PHE:O	10:V1:23:THR:HB	2.02	0.59
18:92:95:ILE:HD11	19:A2:210:ILE:HG21	1.80	0.59
31:N2:38:ILE:O	31:N2:45:ARG:NH2	2.36	0.59
2:B1:162:ASN:HB3	2:B1:244:ILE:HG21	1.84	0.59
2:B1:438:GLU:OE2	2:N1:169:ARG:CZ	2.51	0.59
3:C1:312:GLN:HE22	3:C1:317:PHE:HB2	1.67	0.59
4:D1:21:LEU:HD11	4:D1:192:TRP:HB2	1.84	0.59
4:D1:27:ARG:O	4:D1:28:ARG:C	2.41	0.59
4:P1:36:VAL:HG23	4:P1:169:LEU:HD11	1.84	0.59
9:U1:62:ARG:HB3	9:U1:63:PRO:HD3	1.84	0.59
9:U1:70:LEU:HD12	9:U1:71:ASN:N	2.16	0.59
19:A2:130:ILE:HG12	27:I2:114:TYR:OH	2.02	0.59
52:12:25:ARG:O	52:12:29:GLY:N	2.34	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:C3:119:THR:O	62:G3:52:HIS:HE1	1.84	0.59
1:A1:15:GLN:O	1:A1:26:ALA:HA	2.03	0.59
1:A1:317:THR:HG22	1:A1:318:GLY:H	1.67	0.59
1:A1:350:THR:HB	1:A1:353:GLU:HG3	1.84	0.59
3:C1:122:THR:HG23	3:C1:185:LEU:HD11	1.83	0.59
4:D1:164:ILE:HD11	70:D1:301:HEC:HBB2	1.83	0.59
1:M1:184:GLU:O	1:M1:188:ARG:HG3	2.02	0.59
1:M1:426:GLY:HA2	1:M1:428:ILE:N	2.17	0.59
3:O1:78:ILE:O	3:O1:82:MET:HB2	2.02	0.59
5:Q1:118:ARG:NH1	5:Q1:171:ILE:CG1	2.57	0.59
7:S1:71:ARG:O	8:T1:56:GLU:OE2	2.19	0.59
19:A2:583:ILE:HD13	38:U2:137:TRP:CZ3	2.37	0.59
22:D2:114:ARG:HH21	22:D2:114:ARG:CG	2.13	0.59
40:M2:37:MET:HG2	40:M2:42:LEU:H	1.67	0.59
1:A1:32:GLN:HG2	1:A1:33:PRO:CD	2.33	0.59
4:D1:10:TYR:CE1	8:H1:73:LEU:HD21	2.37	0.59
1:M1:428:ILE:HG22	1:M1:431:LEU:CG	2.32	0.59
3:O1:348:ILE:O	3:O1:352:GLN:HG3	2.02	0.59
5:Q1:45:VAL:HG23	10:V1:24:ILE:HA	1.83	0.59
5:Q1:101:ARG:HA	5:Q1:105:GLU:OE1	2.02	0.59
8:T1:21:ARG:CB	8:T1:65:ARG:HH21	2.09	0.59
11:W1:30:VAL:O	11:W1:34:TRP:CG	2.56	0.59
18:92:71:PRO:HA	24:F2:102:SER:HB3	1.85	0.59
18:92:149:LEU:HD23	18:92:150:GLU:H	1.67	0.59
18:92:236:GLU:OE1	18:92:239:LYS:NZ	2.35	0.59
19:A2:302:LEU:CB	38:U2:137:TRP:CB	2.79	0.59
5:E1:33:LYS:HB3	7:G1:21:PHE:CE2	2.38	0.59
1:M1:43:ALA:CB	1:M1:189:HIS:HB3	2.32	0.59
1:M1:106:LEU:N	1:M1:107:PRO:HD2	2.18	0.59
1:M1:408:ARG:NH1	11:W1:15:ARG:NE	2.47	0.59
3:O1:172:LYS:O	3:O1:173:ALA:C	2.41	0.59
3:O1:242:LEU:HD21	3:O1:250:LEU:HD22	1.83	0.59
5:Q1:118:ARG:HH22	5:Q1:173:LYS:HA	1.66	0.59
7:S1:25:ALA:O	7:S1:27:PRO:HD3	2.02	0.59
57:B3:179:LEU:HD21	63:H3:65:PRO:HD3	1.85	0.59
63:H3:57:ARG:HG3	63:H3:60:TYR:CE2	2.38	0.59
67:L3:46:LYS:O	67:L3:47:LYS:HB2	2.02	0.59
1:A1:11:VAL:HG13	1:A1:12:PRO:HD2	1.84	0.59
1:A1:64:PHE:HE1	1:A1:86:LEU:CG	2.12	0.59
2:B1:203:ARG:CZ	2:B1:230:LEU:HD23	2.32	0.59
1:M1:239:SER:HB2	7:S1:18:LEU:HD23	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M1:341:GLN:OE1	1:M1:344:ARG:HD3	2.03	0.59
2:N1:76:THR:HG21	2:N1:133:ARG:NH2	2.18	0.59
2:N1:206:LEU:HD13	2:N1:224:LEU:HD11	1.84	0.59
4:P1:139:THR:HB	8:T1:44:VAL:HB	1.83	0.59
5:Q1:69:LEU:HG	5:Q1:69:LEU:O	2.02	0.59
5:Q1:104:LYS:HG2	5:Q1:104:LYS:O	2.01	0.59
8:T1:58:LEU:HD11	8:T1:62:LEU:CD1	2.32	0.59
9:U1:58:GLN:HA	9:U1:78:TYR:CD2	2.37	0.59
14:42:60:SER:OG	14:42:63:THR:O	2.19	0.59
15:52:49:LEU:HD21	16:72:49:GLY:H	1.68	0.59
1:A1:233:PRO:HG2	5:E1:23:LYS:HD2	1.84	0.59
3:C1:160:LEU:HD12	3:C1:160:LEU:O	2.03	0.59
3:C1:218:ILE:HG21	3:C1:223:TYR:CD2	2.38	0.59
4:D1:26:ILE:HG22	4:D1:54:VAL:HG13	1.84	0.59
10:J1:34:ALA:O	10:J1:35:PHE:C	2.38	0.59
1:M1:233:PRO:HG2	5:Q1:23:LYS:CD	2.32	0.59
1:M1:351:GLU:HA	1:M1:404:ALA:HB2	1.85	0.59
2:N1:203:ARG:CZ	2:N1:230:LEU:HD23	2.33	0.59
5:Q1:40:THR:HG22	10:V1:20:PHE:HZ	1.67	0.59
5:Q1:76:ILE:HA	5:Q1:193:VAL:O	2.03	0.59
6:R1:58:ARG:HG2	6:R1:58:ARG:HH11	1.68	0.59
19:A2:362:ASP:CG	29:K2:17:ARG:HH21	2.06	0.59
23:E2:188:GLU:O	23:E2:192:ASN:ND2	2.36	0.59
32:O2:33:ARG:NH1	40:M2:44:SER:O	2.34	0.59
79:A3:602:HEA:HBC1	79:A3:602:HEA:HMC1	1.83	0.59
1:A1:338:LEU:O	1:A1:339:GLN:C	2.41	0.59
2:B1:132:PHE:HB3	2:B1:137:VAL:HG21	1.85	0.59
3:C1:28:SER:HB3	3:C1:30:TRP:HD1	1.67	0.59
3:C1:115:ILE:CD1	3:C1:115:ILE:N	2.66	0.59
2:N1:264:ILE:HD12	2:N1:315:SER:O	2.03	0.59
3:O1:1:MET:SD	3:O1:4:ILE:HB	2.43	0.59
3:O1:221:HIS:HB3	3:O1:222:PRO:CD	2.29	0.59
52:12:228:TYR:O	52:12:231:ILE:HG22	2.03	0.59
1:A1:436:ARG:HE	3:C1:222:PRO:HD3	1.68	0.59
3:C1:8:HIS:CB	3:C1:9:PRO:CD	2.81	0.59
3:C1:309:THR:HG21	3:C1:367:PRO:O	2.03	0.59
1:M1:46:ARG:NH2	1:M1:316:ASP:OD2	2.34	0.59
1:M1:272:VAL:HG21	1:M1:402:VAL:HG21	1.85	0.59
2:N1:69:LEU:HD21	2:N1:199:PHE:CZ	2.37	0.59
19:A2:469:ALA:HB3	19:A2:472:PRO:HG3	1.85	0.59
25:G2:131:LYS:HE3	25:G2:147:VAL:HG11	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D1:168:VAL:O	4:D1:169:LEU:HD23	2.01	0.59
7:G1:44:CYS:SG	7:G1:48:VAL:CG2	2.91	0.59
1:M1:308:GLN:HG3	1:M1:308:GLN:O	2.02	0.59
1:M1:397:SER:O	1:M1:400:ALA:HB3	2.03	0.59
2:N1:100:SER:HB3	2:N1:105:MET:CG	2.32	0.59
2:N1:384:SER:CB	9:U1:62:ARG:HG2	2.32	0.59
3:O1:153:ILE:HD12	3:O1:153:ILE:N	2.18	0.59
1:A1:426:GLY:HA2	1:A1:428:ILE:CG1	2.32	0.58
2:B1:247:GLN:HG3	2:B1:248:ASN:N	2.18	0.58
1:M1:236:PHE:HD2	1:M1:258:GLU:CG	2.15	0.58
2:N1:183:ILE:HG22	2:N1:184:GLY:N	2.16	0.58
5:Q1:77:LYS:HG3	5:Q1:89:PHE:HE2	1.68	0.58
7:S1:25:ALA:C	7:S1:27:PRO:HD3	2.23	0.58
1:A1:408:ARG:CZ	11:K1:15:ARG:NE	2.63	0.58
70:D1:301:HEC:HMB1	70:D1:301:HEC:HBB3	1.84	0.58
1:M1:32:GLN:HG2	1:M1:33:PRO:HD2	1.84	0.58
5:Q1:121:GLN:HG3	5:Q1:179:ASN:HD22	1.67	0.58
10:V1:51:LEU:H	10:V1:54:HIS:HD2	1.49	0.58
14:42:115:LEU:HB2	14:42:174:LEU:HD13	1.85	0.58
19:A2:129:PRO:HD2	27:I2:114:TYR:CZ	2.37	0.58
1:A1:48:GLU:OE1	1:A1:53:ASN:O	2.20	0.58
1:A1:426:GLY:H	1:A1:428:ILE:HG13	1.63	0.58
3:C1:4:ILE:HG22	3:C1:4:ILE:O	2.02	0.58
3:C1:239:LEU:HD12	3:C1:239:LEU:O	2.02	0.58
4:P1:120:ARG:HH11	4:P1:120:ARG:CG	2.16	0.58
10:V1:18:SER:HB3	11:W1:23:LEU:HD12	1.84	0.58
19:A2:161:GLU:N	27:I2:102:ASN:ND2	2.37	0.58
20:B2:92:HIS:O	20:B2:94:VAL:N	2.35	0.58
20:B2:305:THR:HG23	20:B2:306:GLN:HG2	1.85	0.58
27:I2:107:THR:HB	27:I2:121:GLN:O	2.03	0.58
39:V2:50:MET:SD	39:V2:54:ASN:ND2	2.75	0.58
1:A1:408:ARG:NH2	11:K1:15:ARG:CZ	2.64	0.58
2:B1:59:ASN:CG	2:B1:60:SER:H	2.07	0.58
2:B1:169:ARG:HG2	2:N1:435:PHE:CE1	2.39	0.58
3:C1:332:LEU:HD21	3:C1:358:TYR:CE1	2.38	0.58
4:D1:138:PRO:O	4:D1:139:THR:C	2.40	0.58
2:N1:146:ILE:O	2:N1:150:VAL:HG13	2.03	0.58
6:R1:73:GLN:NE2	7:S1:32:LYS:HZ1	2.01	0.58
1:A1:120:CYS:O	1:A1:122:LEU:HG	2.04	0.58
1:A1:156:THR:OG1	1:A1:241:ILE:HB	2.03	0.58
1:A1:268:VAL:O	1:A1:272:VAL:HG23	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C1:137:GLN:OE1	3:C1:259:ALA:HA	2.02	0.58
4:D1:40:CYS:HB3	4:D1:95:TYR:OH	2.02	0.58
4:D1:43:MET:HG2	4:D1:46:VAL:CG2	2.33	0.58
4:D1:79:GLU:OE1	4:D1:82:MET:HG3	2.03	0.58
2:N1:109:VAL:O	2:N1:109:VAL:HG13	2.04	0.58
3:O1:240:MET:HA	3:O1:243:VAL:HG12	1.86	0.58
19:A2:313:LEU:HA	38:U2:142:THR:HA	1.85	0.58
21:C2:109:GLN:HE21	31:N2:83:GLN:HE22	1.50	0.58
22:D2:64:GLU:HG2	22:D2:66:VAL:H	1.67	0.58
1:A1:55:ALA:O	1:A1:58:PHE:N	2.35	0.58
2:B1:213:HIS:N	2:B1:214:PRO:CD	2.66	0.58
3:C1:51:LEU:HD21	3:C1:79:ILE:CG2	2.33	0.58
2:N1:257:LEU:HD13	2:N1:424:MET:HE2	1.83	0.58
3:O1:68:HIS:NE2	5:Q1:67:ASP:HB2	2.18	0.58
3:O1:320:LEU:HB2	3:O1:373:GLU:OE2	2.04	0.58
7:S1:68:LYS:O	7:S1:72:LYS:N	2.31	0.58
8:T1:73:LEU:O	8:T1:73:LEU:HG	2.02	0.58
10:V1:45:HIS:O	10:V1:48:GLU:HG2	2.02	0.58
33:P2:40:LYS:O	39:V2:7:LYS:N	2.37	0.58
4:D1:100:ALA:O	4:D1:103:ALA:N	2.37	0.58
5:E1:15:ARG:CB	5:E1:16:PRO:CD	2.79	0.58
3:O1:15:ASN:O	3:O1:18:PHE:HD2	1.87	0.58
3:O1:110:LEU:HG	3:O1:114:ASN:HD21	1.67	0.58
5:Q1:153:PHE:CE1	5:Q1:172:ARG:HB2	2.39	0.58
5:Q1:188:THR:CG2	5:Q1:194:ILE:HG13	2.34	0.58
6:R1:28:LYS:CB	6:R1:74:ILE:HD11	2.34	0.58
1:A1:36:THR:OG1	1:A1:372:THR:HG22	2.03	0.58
3:C1:67:THR:O	3:C1:71:ARG:HG3	2.04	0.58
5:E1:34:GLY:HA2	10:J1:10:TYR:HD2	1.67	0.58
7:G1:71:ARG:HH21	8:H1:60:ASP:CG	2.07	0.58
7:G1:73:ASN:H	7:G1:74:PRO:HD2	1.67	0.58
1:M1:91:THR:CG2	1:M1:93:GLU:H	2.11	0.58
3:O1:377:LEU:O	3:O1:378:LYS:HB3	2.03	0.58
19:A2:311:LYS:HB2	38:U2:142:THR:O	2.04	0.58
2:B1:49:LEU:HD21	2:B1:204:MET:SD	2.44	0.58
2:B1:238:LYS:HE3	2:B1:239:TYR:O	2.04	0.58
3:C1:51:LEU:CD2	3:C1:79:ILE:HG22	2.34	0.58
4:D1:138:PRO:CB	8:H1:55:THR:N	2.66	0.58
7:G1:2:ARG:HB2	7:G1:6:HIS:CD2	2.38	0.58
8:H1:21:ARG:HB3	8:H1:65:ARG:NH2	2.17	0.58
1:M1:233:PRO:HG2	5:Q1:23:LYS:NZ	2.19	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N1:299:VAL:HG13	2:N1:303:VAL:HG21	1.86	0.58
3:O1:163:TRP:O	3:O1:177:ARG:NH1	2.34	0.58
3:O1:310:SER:HB3	3:O1:318:ARG:NH1	2.18	0.58
4:P1:50:HIS:O	4:P1:51:LEU:C	2.40	0.58
4:P1:178:THR:CB	4:P1:181:GLN:HG3	2.28	0.58
5:Q1:185:TYR:HA	5:Q1:194:ILE:O	2.04	0.58
8:T1:73:LEU:HD21	8:T1:74:PHE:HD1	1.68	0.58
26:H2:21:GLN:HB3	26:H2:37:GLU:HG3	1.85	0.58
1:A1:24:ARG:CB	1:A1:196:VAL:HG22	2.25	0.58
1:A1:311:ASN:OD1	1:A1:320:LEU:CD2	2.52	0.58
1:A1:426:GLY:CA	1:A1:428:ILE:N	2.66	0.58
2:B1:68:LEU:HD11	2:B1:140:LEU:HD23	1.85	0.58
2:B1:72:ALA:O	2:B1:75:LEU:HG	2.04	0.58
3:C1:377:LEU:HB3	6:F1:33:ARG:HD2	1.85	0.58
2:N1:275:LEU:HD22	2:N1:414:ALA:HB2	1.85	0.58
2:N1:280:GLY:HA2	2:N1:311:ALA:HB3	1.85	0.58
19:A2:226:CYS:SG	75:A2:802:SF4:S3	3.02	0.58
25:G2:154:LYS:HB2	25:G2:156:LYS:HE2	1.85	0.58
1:A1:351:GLU:O	1:A1:352:SER:C	2.42	0.57
3:C1:327:ALA:O	3:C1:331:ASP:N	2.32	0.57
4:D1:3:LEU:HD22	7:G1:70:LYS:NZ	2.19	0.57
4:D1:50:HIS:O	4:D1:54:VAL:N	2.28	0.57
9:I1:58:GLN:HG2	9:I1:78:TYR:CD2	2.38	0.57
10:J1:38:GLY:O	10:J1:42:ILE:HG13	2.04	0.57
1:M1:342:TRP:O	1:M1:345:LEU:HB2	2.04	0.57
2:N1:97:SER:OG	9:U1:70:LEU:HB2	2.04	0.57
2:N1:154:ASN:O	2:N1:155:PRO:C	2.43	0.57
5:Q1:114:VAL:O	5:Q1:117:LEU:HB2	2.04	0.57
6:R1:51:PRO:HG2	6:R1:54:LEU:HD23	1.84	0.57
34:Q2:168:PHE:H	34:Q2:170:TRP:HD1	1.52	0.57
1:A1:343:MET:CE	1:A1:416:TYR:HD2	2.17	0.57
4:D1:178:THR:CB	4:D1:181:GLN:HG3	2.32	0.57
1:M1:64:PHE:HE1	1:M1:86:LEU:HG	1.61	0.57
3:O1:67:THR:O	3:O1:71:ARG:HG3	2.04	0.57
3:O1:240:MET:O	3:O1:244:LEU:HB2	2.04	0.57
7:S1:50:PRO:CB	7:S1:51:PRO:CD	2.70	0.57
8:T1:25:GLU:HA	8:T1:30:CYS:SG	2.44	0.57
19:A2:140:GLN:HB2	75:A2:801:SF4:S4	2.44	0.57
56:A3:404:THR:O	56:A3:480:ARG:NH1	2.37	0.57
2:B1:99:THR:O	2:B1:106:ALA:N	2.37	0.57
10:J1:32:GLU:CG	10:J1:33:ARG:N	2.67	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M1:317:THR:HG22	1:M1:318:GLY:N	2.19	0.57
4:P1:10:TYR:O	4:P1:12:TRP:CD1	2.58	0.57
6:R1:47:ILE:O	6:R1:50:LEU:HG	2.04	0.57
19:A2:302:LEU:CB	38:U2:137:TRP:HB3	2.34	0.57
19:A2:456:ALA:HA	19:A2:496:ILE:HD13	1.86	0.57
1:A1:6:GLN:O	1:A1:7:ALA:C	2.41	0.57
2:B1:248:ASN:HB2	2:B1:428:GLY:CA	2.33	0.57
3:C1:221:HIS:CB	3:C1:222:PRO:HD3	2.22	0.57
4:D1:138:PRO:HG2	8:H1:55:THR:OG1	2.04	0.57
5:E1:33:LYS:HA	7:G1:21:PHE:CE2	2.38	0.57
8:H1:35:GLU:O	8:H1:39:LEU:HG	2.04	0.57
8:H1:65:ARG:CG	8:H1:66:ASP:N	2.66	0.57
1:M1:45:SER:HB3	1:M1:167:VAL:HG22	1.86	0.57
1:M1:268:VAL:O	1:M1:272:VAL:HG23	2.04	0.57
1:M1:270:LEU:O	1:M1:273:ALA:HB3	2.04	0.57
1:M1:350:THR:HB	1:M1:353:GLU:HG3	1.85	0.57
2:N1:141:GLN:HB2	2:N1:142:PRO:HD3	1.86	0.57
2:N1:264:ILE:HG21	2:N1:317:SER:HA	1.85	0.57
3:O1:309:THR:HG23	3:O1:370:GLY:HA3	1.87	0.57
4:P1:23:HIS:CD2	10:V1:51:LEU:HA	2.38	0.57
13:32:64:LEU:HD13	16:72:165:VAL:HG22	1.85	0.57
18:92:111:ARG:NH1	19:A2:193:ASP:CB	2.68	0.57
19:A2:127:ASP:OD2	19:A2:175:ARG:NH1	2.36	0.57
36:S2:193:VAL:HG22	36:S2:244:LEU:HB3	1.85	0.57
1:A1:106:LEU:HB3	1:A1:107:PRO:HD3	1.85	0.57
1:M1:408:ARG:CZ	11:W1:15:ARG:NE	2.67	0.57
3:O1:211:ILE:HG21	6:R1:62:ILE:HD13	1.86	0.57
3:O1:310:SER:HB3	3:O1:318:ARG:HH11	1.70	0.57
17:82:315:LEU:H	17:82:358:ASP:HA	1.69	0.57
19:A2:161:GLU:CA	27:I2:102:ASN:HD22	2.16	0.57
20:B2:338:ARG:NH1	39:V2:22:LYS:O	2.37	0.57
1:A1:386:TYR:N	1:A1:386:TYR:CD1	2.72	0.57
1:A1:417:ASP:OD1	5:E1:33:LYS:HD2	2.04	0.57
2:B1:52:LYS:HB2	2:B1:203:ARG:CB	2.25	0.57
2:B1:203:ARG:NE	2:B1:230:LEU:HD23	2.20	0.57
5:E1:29:SER:CB	5:E1:32:ARG:HD3	2.35	0.57
6:F1:39:GLU:HB3	6:F1:44:LYS:HE2	1.87	0.57
8:H1:58:LEU:HD11	8:H1:62:LEU:CD1	2.34	0.57
2:N1:328:SER:HB3	2:N1:336:VAL:HG21	1.86	0.57
4:P1:138:PRO:CB	8:T1:55:THR:N	2.67	0.57
12:22:176:ARG:O	12:22:180:ALA:N	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:72:57:PHE:O	16:72:62:GLY:N	2.37	0.57
18:92:95:ILE:HD11	19:A2:210:ILE:HG23	1.79	0.57
21:C2:230:GLN:HE21	21:C2:233:ARG:HH12	1.53	0.57
37:T2:103:ALA:O	37:T2:106:ARG:NH1	2.37	0.57
52:12:41:GLY:HA3	52:12:44:GLY:H	1.69	0.57
53:62:267:THR:O	53:62:274:GLN:NE2	2.38	0.57
66:K3:43:SER:OG	66:K3:45:VAL:HG12	2.04	0.57
2:B1:134:ARG:HH12	6:R1:51:PRO:HD3	1.69	0.57
3:C1:163:TRP:CZ2	5:Q1:62:MET:HE2	2.39	0.57
3:C1:213:SER:O	3:C1:215:VAL:N	2.36	0.57
1:M1:64:PHE:CE1	1:M1:86:LEU:CG	2.81	0.57
1:M1:354:VAL:HG13	1:M1:407:VAL:HG21	1.86	0.57
2:N1:187:THR:O	2:N1:190:GLU:HB2	2.05	0.57
2:N1:304:HIS:CG	2:N1:305:GLN:H	2.22	0.57
15:52:96:LEU:HD13	53:62:581:LYS:HB3	1.86	0.57
23:E2:66:LEU:HD12	23:E2:70:LEU:HD12	1.87	0.57
53:62:247:LEU:HD12	53:62:252:MET:HG3	1.87	0.57
67:L3:41:ARG:HG3	68:M3:40:TYR:CE2	2.40	0.57
1:A1:4:TYR:CE2	1:A1:396:GLU:HG3	2.38	0.57
1:A1:143:THR:HG21	9:I1:48:SER:N	2.14	0.57
1:A1:248:LEU:N	1:A1:248:LEU:HD23	2.19	0.57
1:A1:394:GLU:O	1:A1:397:SER:N	2.38	0.57
1:A1:395:TRP:O	1:A1:396:GLU:C	2.43	0.57
2:B1:277:HIS:CD2	2:B1:364:LEU:HD13	2.40	0.57
1:M1:240:GLN:HG3	1:M1:422:VAL:O	2.05	0.57
2:N1:79:GLY:CA	2:N1:125:ASN:HD21	2.17	0.57
2:N1:148:LYS:HD2	2:N1:178:CYS:O	2.04	0.57
3:O1:218:ILE:HG23	3:O1:219:PRO:HD2	1.86	0.57
5:Q1:87:MET:HG2	5:Q1:89:PHE:CE1	2.40	0.57
17:82:422:HIS:ND1	19:A2:79:LEU:CD1	2.67	0.57
19:A2:272:ARG:CZ	25:G2:87:MET:CE	2.82	0.57
1:A1:151:ASN:O	1:A1:152:TYR:C	2.43	0.57
3:C1:71:ARG:NH2	4:D1:193:ALA:O	2.38	0.57
1:M1:270:LEU:O	1:M1:273:ALA:N	2.38	0.57
3:O1:149:LEU:HD21	3:O1:281:LEU:HD22	1.86	0.57
4:P1:240:PRO:CD	4:P1:241:LYS:H	2.16	0.57
19:A2:422:TRP:CD2	25:G2:169:ARG:HD3	2.40	0.57
19:A2:667:GLN:HE22	29:K2:38:GLU:CD	2.07	0.57
20:B2:97:LEU:CB	20:B2:111:PRO:HA	2.35	0.57
20:B2:263:THR:O	20:B2:269:ARG:NH2	2.37	0.57
20:B2:357:LYS:HD3	20:B2:364:SER:HB2	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:D2:113:PHE:N	22:D2:113:PHE:CD1	2.73	0.57
2:B1:90:GLU:O	2:B1:91:ALA:C	2.44	0.57
3:C1:28:SER:HB3	3:C1:30:TRP:CD1	2.40	0.57
2:N1:79:GLY:HA3	2:N1:125:ASN:HD21	1.70	0.57
2:N1:206:LEU:HD13	2:N1:224:LEU:CD1	2.34	0.57
2:N1:352:LEU:HD12	2:N1:353:SER:N	2.20	0.57
3:O1:28:SER:HB3	3:O1:30:TRP:CD1	2.38	0.57
3:O1:270:PRO:HB2	3:O1:274:PHE:HB2	1.85	0.57
4:P1:161:ALA:HB1	4:P1:162:PRO:HD2	1.86	0.57
5:Q1:121:GLN:HG3	5:Q1:179:ASN:ND2	2.20	0.57
6:R1:28:LYS:HB3	6:R1:74:ILE:HD11	1.86	0.57
56:A3:184:PHE:H	56:A3:256:HIS:HE1	1.52	0.57
57:B3:132:GLU:HB3	57:B3:137:GLU:HG3	1.87	0.57
57:B3:189:PRO:HD2	64:I3:54:TYR:OH	2.05	0.57
3:C1:215:VAL:O	6:F1:63:LYS:NZ	2.37	0.56
8:H1:34:ARG:O	8:H1:38:GLU:HG2	2.05	0.56
1:M1:18:GLN:HG2	1:M1:19:LEU:O	2.04	0.56
1:M1:32:GLN:HG2	1:M1:33:PRO:CD	2.35	0.56
1:M1:134:ILE:HA	1:M1:137:GLU:HG3	1.87	0.56
2:N1:141:GLN:HE22	2:N1:186:VAL:HB	1.70	0.56
2:N1:262:ALA:HB2	2:N1:272:PHE:HE2	1.69	0.56
2:N1:303:VAL:CG1	2:N1:304:HIS:N	2.67	0.56
2:N1:304:HIS:CG	2:N1:305:GLN:N	2.72	0.56
5:Q1:12:ASP:O	7:S1:24:ARG:NH2	2.32	0.56
16:72:57:PHE:HA	16:72:61:LEU:HB3	1.87	0.56
19:A2:121:LEU:HD21	19:A2:139:LEU:HD22	1.87	0.56
19:A2:306:MET:CE	38:U2:139:PRO:HG3	2.32	0.56
1:A1:86:LEU:HD13	1:A1:99:ILE:CD1	2.35	0.56
1:A1:425:PHE:O	1:A1:426:GLY:O	2.23	0.56
1:A1:436:ARG:HE	3:C1:222:PRO:CD	2.18	0.56
2:B1:160:ILE:HD11	2:B1:325:TYR:CE2	2.40	0.56
1:M1:161:THR:CB	1:M1:162:PRO:HD2	2.34	0.56
3:O1:107:TYR:OH	3:O1:308:HIS:ND1	2.09	0.56
5:Q1:147:ILE:N	5:Q1:157:TYR:O	2.36	0.56
19:A2:381:LEU:HD21	19:A2:664:TYR:HB2	1.87	0.56
19:A2:624:ARG:NH1	19:A2:634:LEU:O	2.37	0.56
20:B2:198:THR:HG22	52:12:32:GLN:HE22	1.70	0.56
53:62:174:TYR:HB3	53:62:229:LEU:HD23	1.87	0.56
65:J3:3:ASN:HD22	65:J3:3:ASN:C	2.08	0.56
1:A1:142:ASP:OD1	5:E1:2:HIS:ND1	2.36	0.56
3:C1:225:THR:O	3:C1:229:ILE:HD12	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D1:115:TYR:HD2	4:D1:119:ALA:HB2	1.69	0.56
4:D1:139:THR:HB	8:H1:44:VAL:HB	1.86	0.56
4:D1:150:ASN:OD1	4:D1:151:PRO:CD	2.53	0.56
4:D1:204:MET:O	4:D1:205:GLY:C	2.42	0.56
4:D1:229:VAL:CG1	4:D1:233:ARG:HE	2.18	0.56
6:F1:28:LYS:HD2	6:F1:74:ILE:HD11	1.88	0.56
6:F1:74:ILE:HD13	6:F1:80:TRP:CZ2	2.40	0.56
10:J1:60:GLU:HG3	10:J1:60:GLU:O	2.06	0.56
1:M1:417:ASP:OD1	5:Q1:33:LYS:HD2	2.05	0.56
2:N1:68:LEU:HD23	2:N1:186:VAL:HG11	1.87	0.56
2:N1:217:LYS:O	2:N1:221:GLU:HG3	2.05	0.56
3:O1:88:SER:HA	3:O1:272:TRP:HZ2	1.70	0.56
3:O1:171:ASP:O	3:O1:172:LYS:C	2.44	0.56
3:O1:313:ARG:HB3	6:R1:38:HIS:CD2	2.40	0.56
4:P1:7:PRO:HG3	4:P1:126:TYR:CA	2.36	0.56
4:P1:117:VAL:HG11	4:P1:191:ARG:HH11	1.70	0.56
7:S1:73:ASN:HD22	8:T1:56:GLU:CD	2.08	0.56
9:U1:58:GLN:HG2	9:U1:78:TYR:CD2	2.40	0.56
17:82:382:CYS:HB3	17:82:384:PRO:HD2	1.88	0.56
19:A2:140:GLN:HA	20:B2:379:ILE:CG2	2.35	0.56
19:A2:302:LEU:CA	38:U2:137:TRP:HB3	2.32	0.56
20:B2:305:THR:OG1	21:C2:140:ASN:ND2	2.39	0.56
1:A1:309:THR:HA	1:A1:322:ALA:HA	1.86	0.56
1:A1:354:VAL:HG21	1:A1:404:ALA:HA	1.87	0.56
2:B1:239:TYR:OH	2:B1:421:ARG:O	2.19	0.56
4:D1:181:GLN:HA	8:H1:77:LEU:HD13	1.87	0.56
8:H1:21:ARG:CB	8:H1:65:ARG:HH21	2.18	0.56
1:M1:111:GLU:HG2	1:M1:213:GLN:HE22	1.71	0.56
1:M1:434:TYR:HA	1:M1:437:ILE:HD12	1.87	0.56
3:O1:18:PHE:O	3:O1:220:PHE:CD2	2.58	0.56
3:O1:165:TRP:HA	3:O1:174:THR:OG1	2.04	0.56
4:P1:158:ILE:HG12	4:P1:159:GLY:N	2.19	0.56
60:E3:78:HIS:ND1	64:I3:12:LEU:HD22	2.21	0.56
62:G3:5:LYS:HD2	62:G3:6:GLY:N	2.21	0.56
63:H3:71:THR:O	63:H3:75:ARG:HD3	2.05	0.56
1:A1:272:VAL:HG13	1:A1:358:LYS:HA	1.88	0.56
3:C1:182:HIS:O	3:C1:186:PRO:HD2	2.06	0.56
4:D1:74:PRO:O	4:D1:79:GLU:N	2.36	0.56
1:M1:349:ALA:HB3	1:M1:408:ARG:CG	2.35	0.56
3:O1:34:GLY:O	3:O1:37:LEU:HB2	2.06	0.56
20:B2:116:LEU:HD23	20:B2:118:ARG:HE	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B1:47:ILE:CD1	2:B1:120:MET:SD	2.93	0.56
2:B1:102:ARG:HH12	2:B1:175:SER:HA	1.71	0.56
3:C1:300:ILE:CD1	3:C1:362:ILE:HG21	2.36	0.56
6:F1:73:GLN:HA	7:G1:39:ARG:HH21	1.71	0.56
10:J1:12:LEU:HD23	10:J1:13:LEU:CD2	2.36	0.56
1:M1:33:PRO:O	1:M1:103:SER:N	2.34	0.56
1:M1:134:ILE:CG2	1:M1:174:VAL:HG21	2.35	0.56
2:N1:294:SER:HB3	2:N1:343:GLN:HE21	1.70	0.56
3:O1:296:PHE:O	3:O1:300:ILE:HB	2.05	0.56
4:P1:182:VAL:O	4:P1:186:VAL:HG23	2.05	0.56
5:Q1:102:THR:OG1	5:Q1:105:GLU:HB2	2.06	0.56
13:32:102:LEU:O	13:32:106:TRP:N	2.38	0.56
17:82:159:ARG:HG2	17:82:161:GLU:H	1.71	0.56
1:A1:5:ALA:O	1:A1:6:GLN:C	2.43	0.56
1:A1:278:GLY:O	1:A1:309:THR:HG23	2.05	0.56
2:B1:264:ILE:CG2	2:B1:317:SER:HA	2.36	0.56
2:B1:273:SER:O	2:B1:276:GLN:HB3	2.06	0.56
2:B1:280:GLY:HA2	2:B1:311:ALA:HB3	1.88	0.56
4:D1:21:LEU:CD1	4:D1:192:TRP:HB2	2.36	0.56
1:M1:64:PHE:HA	1:M1:75:LEU:CD2	2.35	0.56
3:O1:300:ILE:O	3:O1:300:ILE:HG12	2.05	0.56
3:O1:327:ALA:O	3:O1:331:ASP:N	2.35	0.56
6:R1:73:GLN:HE21	7:S1:32:LYS:HZ1	1.54	0.56
7:S1:31:SER:O	7:S1:35:PRO:CD	2.47	0.56
13:32:81:THR:H	30:L2:46:ASN:HD21	1.53	0.56
14:42:451:PRO:HG2	53:62:69:LEU:HD23	1.88	0.56
17:82:411:SER:HB3	33:P2:49:LEU:HD13	1.86	0.56
17:82:419:ILE:HD11	19:A2:119:PHE:CE2	2.41	0.56
58:C3:203:PHE:O	58:C3:207:HIS:HD2	1.88	0.56
2:B1:155:PRO:O	2:B1:156:GLN:C	2.43	0.56
3:C1:41:LEU:O	3:C1:45:ILE:HG13	2.06	0.56
6:F1:50:LEU:CB	6:F1:55:TYR:HB2	2.29	0.56
7:G1:25:ALA:C	7:G1:27:PRO:HD3	2.26	0.56
2:N1:318:ASP:OD1	2:N1:318:ASP:N	2.39	0.56
3:O1:185:LEU:HB3	3:O1:186:PRO:CD	2.35	0.56
4:P1:21:LEU:HD11	4:P1:192:TRP:HB2	1.88	0.56
4:P1:180:SER:HB3	8:T1:17:LEU:HB2	1.88	0.56
17:82:159:ARG:NH1	18:92:176:CYS:O	2.38	0.56
19:A2:130:ILE:HG12	27:I2:114:TYR:CZ	2.41	0.56
19:A2:313:LEU:HD23	38:U2:142:THR:CB	2.31	0.56
1:A1:106:LEU:HD22	1:A1:203:LEU:CD2	2.31	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A1:272:VAL:HG21	1:A1:402:VAL:HG21	1.87	0.56
3:C1:133:LEU:HD21	3:C1:179:PHE:HA	1.88	0.56
3:C1:338:ILE:CD1	3:C1:338:ILE:H	2.19	0.56
5:E1:31:ALA:HB1	10:J1:6:THR:OG1	2.05	0.56
5:E1:45:VAL:HG13	10:J1:28:ALA:N	2.21	0.56
6:F1:91:GLU:HB2	6:F1:92:PRO:HD3	1.86	0.56
2:N1:264:ILE:HB	2:N1:316:TYR:O	2.06	0.56
3:O1:108:THR:CB	3:O1:313:ARG:HH11	2.12	0.56
3:O1:218:ILE:CG2	3:O1:223:TYR:HD2	2.19	0.56
5:Q1:142:LEU:HD12	5:Q1:161:HIS:HE1	1.71	0.56
19:A2:140:GLN:HA	20:B2:379:ILE:HG21	1.87	0.56
1:A1:146:ARG:CZ	1:A1:308:GLN:HE22	2.19	0.56
2:B1:24:LEU:H	2:B1:24:LEU:CD1	2.03	0.56
2:B1:55:SER:OG	2:B1:102:ARG:HG2	2.06	0.56
3:C1:221:HIS:HB3	3:C1:222:PRO:CD	2.27	0.56
4:D1:228:SER:HB2	7:G1:23:GLN:HE22	1.71	0.56
1:M1:233:PRO:HG2	5:Q1:23:LYS:CE	2.36	0.56
2:N1:264:ILE:HG22	2:N1:317:SER:HA	1.88	0.56
2:N1:308:ASP:OD2	9:U1:55:LEU:HA	2.06	0.56
5:Q1:76:ILE:O	5:Q1:77:LYS:HG2	2.06	0.56
5:Q1:140:THR:HG21	5:Q1:178:LEU:HB2	1.88	0.56
18:92:56:THR:HG22	18:92:58:GLU:H	1.70	0.56
19:A2:313:LEU:HG	38:U2:142:THR:HA	1.87	0.56
19:A2:349:GLU:HG2	19:A2:646:LEU:HD11	1.88	0.56
19:A2:588:ALA:O	19:A2:592:LYS:NZ	2.39	0.56
19:A2:645:ARG:NH1	19:A2:648:GLU:OE1	2.39	0.56
19:A2:667:GLN:HB3	29:K2:42:VAL:HB	1.87	0.56
1:A1:25:VAL:HG21	1:A1:209:LEU:HD12	1.87	0.55
3:C1:115:ILE:N	3:C1:115:ILE:HD12	2.21	0.55
3:C1:218:ILE:HG22	3:C1:219:PRO:N	2.20	0.55
4:D1:69:GLU:HA	4:D1:73:GLY:HA2	1.88	0.55
2:N1:435:PHE:HB2	2:N1:438:GLU:OE1	2.05	0.55
3:O1:24:PRO:HG2	3:O1:205:SER:O	2.06	0.55
19:A2:111:LYS:HD2	33:P2:53:TYR:CE2	2.41	0.55
19:A2:111:LYS:CD	33:P2:53:TYR:CE2	2.89	0.55
19:A2:129:PRO:HB2	27:I2:114:TYR:HE1	1.72	0.55
20:B2:295:GLY:HA2	20:B2:321:GLY:H	1.72	0.55
35:R2:238:GLN:HB3	35:R2:267:GLY:HA3	1.87	0.55
1:A1:394:GLU:O	1:A1:395:TRP:C	2.44	0.55
3:C1:72:ASP:HB3	5:E1:67:ASP:H	1.71	0.55
4:D1:27:ARG:NH1	10:J1:58:LYS:HG3	2.18	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D1:35:GLN:HB2	4:D1:169:LEU:CD1	2.35	0.55
1:M1:55:ALA:O	1:M1:56:GLY:C	2.43	0.55
1:M1:335:MET:CE	1:M1:339:GLN:HG3	2.35	0.55
2:N1:62:ASN:O	2:N1:62:ASN:ND2	2.39	0.55
2:N1:342:ASN:O	2:N1:345:LYS:HB2	2.06	0.55
3:O1:275:LEU:O	3:O1:276:PHE:C	2.45	0.55
4:P1:138:PRO:O	4:P1:141:VAL:HB	2.06	0.55
4:P1:139:THR:HG21	8:T1:41:ASP:O	2.06	0.55
5:Q1:139:CYS:HB2	5:Q1:165:TYR:CE2	2.39	0.55
5:Q1:150:ALA:HB3	5:Q1:157:TYR:CB	2.36	0.55
14:42:278:ARG:H	53:62:546:GLN:HE22	1.54	0.55
20:B2:237:PRO:HD3	23:E2:96:ARG:HH22	1.70	0.55
35:R2:84:HIS:HD2	35:R2:87:GLU:H	1.52	0.55
37:T2:78:ALA:HA	37:T2:89:ASN:HD21	1.71	0.55
1:A1:136:GLN:HE21	9:I1:50:LEU:HB3	1.70	0.55
1:A1:343:MET:O	1:A1:344:ARG:C	2.41	0.55
6:F1:101:ARG:HG2	6:F1:105:GLU:OE2	2.06	0.55
3:O1:148:ASN:O	3:O1:151:SER:OG	2.24	0.55
9:U1:62:ARG:H	9:U1:63:PRO:HD2	1.71	0.55
9:U1:70:LEU:HD21	9:U1:73:PRO:CD	2.26	0.55
31:N2:35:LEU:O	31:N2:45:ARG:NH2	2.40	0.55
32:O2:92:GLU:HG3	32:O2:97:TRP:HE3	1.72	0.55
1:A1:334:MET:HA	1:A1:334:MET:CE	2.37	0.55
2:B1:217:LYS:O	2:B1:218:GLN:C	2.45	0.55
6:F1:51:PRO:CD	2:N1:134:ARG:NH1	2.68	0.55
1:M1:245:GLU:O	1:M1:247:GLY:N	2.39	0.55
19:A2:303:THR:CG2	38:U2:136:GLU:HA	2.37	0.55
58:C3:42:LEU:HD13	65:J3:45:TYR:CD2	2.41	0.55
1:A1:33:PRO:O	1:A1:103:SER:N	2.36	0.55
1:A1:343:MET:CE	1:A1:416:TYR:CD2	2.89	0.55
3:C1:135:TRP:HH2	3:C1:170:VAL:O	1.89	0.55
3:C1:137:GLN:HB2	3:C1:257:THR:OG1	2.07	0.55
3:C1:244:LEU:HD11	4:D1:204:MET:CE	2.37	0.55
4:D1:69:GLU:O	4:D1:73:GLY:HA3	2.05	0.55
4:D1:229:VAL:O	4:D1:233:ARG:HG3	2.06	0.55
6:F1:10:SER:OG	6:F1:13:LEU:HD11	2.07	0.55
6:F1:49:ARG:HD3	2:N1:135:TRP:CD2	2.41	0.55
1:M1:338:LEU:O	1:M1:341:GLN:N	2.38	0.55
1:M1:438:ARG:HH11	1:M1:438:ARG:HG3	1.70	0.55
2:N1:92:VAL:O	2:N1:92:VAL:HG12	2.06	0.55
3:O1:234:LEU:HD21	4:P1:216:LEU:HD21	1.86	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:P1:7:PRO:CB	4:P1:125:ASP:HB3	2.37	0.55
4:P1:149:PHE:HZ	8:T1:55:THR:HG23	1.71	0.55
6:R1:106:GLU:OE1	6:R1:109:LYS:HE2	2.06	0.55
17:82:156:ILE:HD11	17:82:197:VAL:HG22	1.88	0.55
35:R2:92:MET:HG3	35:R2:95:ARG:HH21	1.71	0.55
1:A1:93:GLU:O	1:A1:94:HIS:ND1	2.40	0.55
3:C1:218:ILE:HG22	3:C1:223:TYR:HD2	1.72	0.55
3:C1:353:LEU:HD23	3:C1:353:LEU:N	2.22	0.55
5:E1:72:SER:O	5:E1:73:LYS:HG2	2.05	0.55
2:N1:213:HIS:N	2:N1:214:PRO:CD	2.69	0.55
3:O1:44:GLN:HE22	3:O1:86:GLY:HA3	1.70	0.55
3:O1:315:MET:HA	3:O1:318:ARG:HG3	1.87	0.55
5:Q1:188:THR:HG21	5:Q1:194:ILE:HD11	1.87	0.55
10:V1:47:ASN:HB3	10:V1:50:LYS:HD2	1.88	0.55
19:A2:180:THR:HA	19:A2:183:ILE:HD12	1.89	0.55
19:A2:651:PRO:HD2	29:K2:56:ARG:HB3	1.89	0.55
56:A3:95:PRO:HB2	58:C3:11:VAL:HG13	1.87	0.55
1:A1:30:SER:N	1:A1:201:GLY:O	2.38	0.55
2:B1:100:SER:CB	2:B1:105:MET:HG3	2.37	0.55
2:B1:261:SER:OG	2:B1:262:ALA:N	2.39	0.55
4:D1:164:ILE:HD11	70:D1:301:HEC:CBB	2.37	0.55
1:M1:331:ILE:CD1	1:M1:427:PRO:O	2.55	0.55
2:N1:168:TYR:HB2	2:N1:173:ALA:HB2	1.88	0.55
3:O1:122:THR:HG22	3:O1:189:ILE:CD1	2.27	0.55
3:O1:206:ASN:ND2	3:O1:207:ASN:H	2.04	0.55
3:O1:210:GLY:CA	3:O1:314:SER:HB2	2.31	0.55
7:S1:33:GLY:O	7:S1:37:VAL:N	2.35	0.55
18:92:88:ARG:NH1	24:F2:82:THR:O	2.39	0.55
19:A2:303:THR:HG21	38:U2:136:GLU:CB	2.37	0.55
19:A2:583:ILE:HD13	38:U2:137:TRP:HZ3	1.71	0.55
20:B2:92:HIS:HE1	20:B2:141:TYR:HE2	1.54	0.55
23:E2:39:LYS:HG3	33:P2:111:PRO:HA	1.88	0.55
1:A1:342:TRP:O	1:A1:345:LEU:N	2.40	0.55
1:A1:385:THR:CG2	1:A1:386:TYR:CD1	2.89	0.55
1:A1:397:SER:O	1:A1:400:ALA:HB3	2.07	0.55
2:B1:86:THR:CG2	9:I1:71:ASN:HD21	2.19	0.55
2:B1:203:ARG:NH2	2:B1:230:LEU:HD23	2.22	0.55
4:D1:236:ALA:O	7:G1:14:ILE:N	2.27	0.55
5:E1:15:ARG:NH2	5:E1:32:ARG:HG3	2.22	0.55
1:M1:67:THR:CG2	1:M1:70:ARG:H	2.03	0.55
1:M1:266:ASP:O	1:M1:270:LEU:HG	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N1:33:LEU:O	2:N1:33:LEU:HD23	2.07	0.55
2:N1:155:PRO:HB2	2:N1:254:HIS:CE1	2.41	0.55
2:N1:198:HIS:HE1	2:N1:233:SER:OG	1.89	0.55
3:O1:147:THR:O	3:O1:150:LEU:HB2	2.07	0.55
4:P1:4:GLU:HG3	4:P1:6:HIS:CE1	2.42	0.55
5:Q1:118:ARG:HB3	5:Q1:171:ILE:CG2	2.36	0.55
5:Q1:136:ILE:O	5:Q1:136:ILE:CG2	2.55	0.55
16:72:66:VAL:O	16:72:70:TYR:N	2.40	0.55
56:A3:407:ASP:O	56:A3:411:LYS:HG3	2.07	0.55
1:A1:112:LEU:O	1:A1:116:ILE:HD12	2.07	0.55
2:B1:161:GLU:OE1	2:B1:175:SER:HB2	2.07	0.55
3:C1:312:GLN:O	3:C1:314:SER:N	2.40	0.55
4:D1:74:PRO:HG2	4:D1:82:MET:HB3	1.89	0.55
1:M1:249:PRO:O	1:M1:250:LEU:HD23	2.07	0.55
1:M1:256:ALA:HB3	1:M1:421:ALA:HB3	1.89	0.55
4:P1:42:SER:HB3	4:P1:94:PRO:HD2	1.89	0.55
19:A2:139:LEU:O	20:B2:379:ILE:HD13	2.07	0.55
19:A2:427:LEU:H	25:G2:169:ARG:HH22	1.55	0.55
3:C1:15:ASN:O	3:C1:18:PHE:HD1	1.90	0.55
3:C1:71:ARG:HE	4:D1:196:PRO:HG3	1.72	0.55
3:C1:310:SER:CB	3:C1:318:ARG:NH1	2.58	0.55
4:D1:82:MET:HE2	4:D1:86:LYS:NZ	2.21	0.55
4:D1:219:VAL:HA	4:D1:222:MET:HG3	1.88	0.55
5:E1:12:ASP:O	7:G1:24:ARG:NH2	2.35	0.55
7:G1:73:ASN:HD22	8:H1:56:GLU:CD	2.10	0.55
1:M1:112:LEU:O	1:M1:116:ILE:HG13	2.07	0.55
3:O1:119:LEU:HD13	3:O1:192:ILE:CG2	2.37	0.55
3:O1:132:VAL:HA	3:O1:139:SER:CB	2.36	0.55
5:Q1:187:PHE:HA	5:Q1:193:VAL:HA	1.88	0.55
6:R1:91:GLU:N	6:R1:92:PRO:HD2	2.22	0.55
8:T1:15:ASP:HB2	8:T1:16:PRO:CD	2.37	0.55
26:H2:51:ARG:NH1	34:Q2:151:ASN:OD1	2.40	0.55
35:R2:203:PRO:HA	35:R2:265:PHE:HB2	1.88	0.55
60:E3:80:GLU:H	60:E3:80:GLU:CD	2.10	0.55
1:A1:109:ALA:O	1:A1:112:LEU:N	2.40	0.54
3:C1:378:LYS:HD3	6:F1:33:ARG:HH12	1.72	0.54
6:F1:42:ASP:O	6:F1:43:VAL:C	2.43	0.54
6:F1:96:GLU:O	6:F1:97:VAL:C	2.45	0.54
1:M1:136:GLN:HE21	9:U1:50:LEU:HB3	1.70	0.54
1:M1:413:LYS:HB2	1:M1:414:TYR:CD2	2.42	0.54
4:P1:94:PRO:HB2	4:P1:95:TYR:CE1	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:T1:40:CYS:HB2	8:T1:57:GLU:HG2	1.89	0.54
17:82:174:ARG:NH2	24:F2:87:ASP:O	2.40	0.54
18:92:44:THR:OG1	19:A2:209:TYR:HE2	1.84	0.54
19:A2:272:ARG:NH1	25:G2:87:MET:HE3	2.22	0.54
19:A2:303:THR:CG2	38:U2:136:GLU:CB	2.84	0.54
35:R2:354:ARG:O	35:R2:355:ARG:NH2	2.36	0.54
40:W2:91:ASP:H	43:Z2:45:TRP:HB3	1.71	0.54
2:B1:266:SER:O	2:B1:269:ALA:HB3	2.07	0.54
2:B1:303:VAL:CG1	2:B1:304:HIS:N	2.70	0.54
3:C1:192:ILE:HD13	3:C1:192:ILE:N	2.21	0.54
1:M1:363:ASN:CG	2:N1:112:LEU:HD23	2.27	0.54
2:N1:408:ALA:O	2:N1:411:ILE:N	2.40	0.54
3:O1:234:LEU:HD21	4:P1:216:LEU:CD2	2.37	0.54
4:P1:50:HIS:HE1	4:P1:91:PHE:HZ	1.54	0.54
70:P1:301:HEC:HBC2	70:P1:301:HEC:CHD	2.26	0.54
9:U1:58:GLN:HG2	9:U1:78:TYR:HD2	1.72	0.54
19:A2:674:LEU:CD1	29:K2:46:LYS:HD2	2.37	0.54
27:I2:106:GLU:O	27:I2:108:LYS:HG3	2.07	0.54
58:C3:151:LEU:HB2	58:C3:159:MET:HG3	1.89	0.54
1:A1:18:GLN:HG2	1:A1:19:LEU:O	2.07	0.54
1:A1:255:ILE:HG13	1:A1:422:VAL:CG2	2.37	0.54
3:C1:61:THR:O	3:C1:64:SER:N	2.41	0.54
3:C1:68:HIS:NE2	5:E1:67:ASP:HB2	2.22	0.54
3:C1:102:LEU:HB3	3:C1:325:PHE:HE1	1.71	0.54
3:C1:106:SER:O	3:C1:109:PHE:CD1	2.54	0.54
3:O1:170:VAL:HG13	3:O1:174:THR:CG2	2.34	0.54
4:P1:128:PHE:HB2	4:P1:187:CYS:SG	2.46	0.54
10:V1:18:SER:HB3	11:W1:23:LEU:HB2	1.90	0.54
19:A2:137:CYS:SG	19:A2:138:ASP:N	2.80	0.54
58:C3:222:GLN:HE21	58:C3:222:GLN:HA	1.72	0.54
64:I3:63:MET:HB3	64:I3:68:ILE:HD11	1.89	0.54
1:A1:143:THR:O	1:A1:143:THR:CG2	2.56	0.54
1:A1:256:ALA:HA	1:A1:320:LEU:O	2.06	0.54
2:B1:33:LEU:HB2	2:B1:204:MET:O	2.07	0.54
3:C1:25:SER:HA	3:C1:218:ILE:HD12	1.89	0.54
3:C1:25:SER:O	3:C1:26:ASN:C	2.45	0.54
3:C1:88:SER:HA	3:C1:272:TRP:HZ2	1.73	0.54
4:D1:11:PRO:HB2	8:H1:74:PHE:CG	2.41	0.54
4:D1:131:LEU:CD2	4:D1:163:PRO:HB3	2.38	0.54
5:E1:29:SER:CA	5:E1:32:ARG:HD3	2.37	0.54
10:J1:32:GLU:HG2	10:J1:33:ARG:N	2.22	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J1:51:LEU:HB3	10:J1:52:TRP:CE3	2.42	0.54
1:M1:51:LYS:O	1:M1:53:ASN:N	2.38	0.54
1:M1:61:HIS:CB	1:M1:130:GLU:HG3	2.38	0.54
2:N1:372:VAL:O	2:N1:372:VAL:HG12	2.08	0.54
5:Q1:85:LYS:CG	5:Q1:86:ASN:H	2.12	0.54
17:82:222:LYS:O	25:G2:175:LYS:NZ	2.40	0.54
34:Q2:110:CYS:HA	34:Q2:113:ASP:HB3	1.88	0.54
58:C3:156:ARG:HG3	58:C3:156:ARG:NH1	2.23	0.54
1:A1:62:LEU:O	1:A1:63:ALA:C	2.46	0.54
1:A1:111:GLU:HG2	1:A1:213:GLN:HE22	1.73	0.54
1:A1:317:THR:HG22	1:A1:318:GLY:N	2.21	0.54
3:C1:124:MET:HG2	3:C1:274:PHE:HE1	1.71	0.54
4:D1:51:LEU:HD22	4:D1:58:GLU:HA	1.89	0.54
5:E1:63:SER:O	5:E1:64:ALA:HB2	2.08	0.54
5:Q1:78:LEU:HD21	5:Q1:132:TRP:CZ2	2.43	0.54
19:A2:650:SER:OG	29:K2:56:ARG:HD2	2.08	0.54
20:B2:91:ALA:CB	20:B2:193:ASP:OD2	2.50	0.54
40:M2:35:HIS:H	40:M2:39:ASP:HB3	1.72	0.54
61:F3:82:CYS:N	61:F3:86:GLY:O	2.40	0.54
1:A1:236:PHE:CD2	1:A1:258:GLU:CB	2.91	0.54
1:A1:334:MET:HA	1:A1:334:MET:HE3	1.90	0.54
2:B1:100:SER:HB3	2:B1:105:MET:HG3	1.88	0.54
5:E1:52:LYS:NZ	10:J1:32:GLU:OE1	2.40	0.54
1:M1:22:GLY:O	1:M1:24:ARG:HG2	2.08	0.54
1:M1:241:ILE:HG13	7:S1:16:TYR:CE2	2.43	0.54
1:M1:336:PHE:HE2	1:M1:446:PHE:HD2	1.55	0.54
1:M1:343:MET:HE1	1:M1:416:TYR:CD2	2.42	0.54
2:N1:95:LYS:HE3	2:N1:97:SER:OG	2.08	0.54
3:O1:37:LEU:HD11	3:O1:97:HIS:CG	2.43	0.54
3:O1:133:LEU:HB2	3:O1:134:PRO:HD3	1.90	0.54
4:P1:69:GLU:HG3	4:P1:84:PRO:HA	1.89	0.54
17:82:201:ALA:HB1	18:92:121:MET:HB2	1.90	0.54
19:A2:381:LEU:HB2	29:K2:55:ILE:HD12	1.89	0.54
1:A1:39:VAL:CG2	1:A1:197:LEU:HD22	2.37	0.54
1:A1:397:SER:OG	1:A1:398:ARG:N	2.41	0.54
1:A1:418:GLN:O	1:A1:420:PRO:HD3	2.08	0.54
2:B1:163:LEU:HD22	2:B1:256:ALA:HB1	1.90	0.54
3:C1:88:SER:HB3	3:C1:250:LEU:CD2	2.38	0.54
3:C1:88:SER:CB	3:C1:250:LEU:HD23	2.37	0.54
6:F1:7:SER:HA	6:F1:11:ARG:HE	1.73	0.54
1:M1:324:PHE:CD1	1:M1:334:MET:HG2	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O1:76:GLY:HA2	3:O1:79:ILE:HD12	1.90	0.54
3:O1:169:SER:OG	3:O1:170:VAL:N	2.37	0.54
5:Q1:118:ARG:HH22	5:Q1:173:LYS:CA	2.20	0.54
14:42:403:THR:HA	14:42:406:TYR:HB3	1.90	0.54
19:A2:111:LYS:CD	33:P2:53:TYR:HE2	2.20	0.54
57:B3:203:ASN:HD22	57:B3:206:PHE:HD2	1.55	0.54
59:D3:40:LEU:HD13	59:D3:59:LEU:HD13	1.90	0.54
1:A1:61:HIS:CB	1:A1:130:GLU:HG3	2.37	0.54
1:A1:173:ASN:O	1:A1:177:LEU:HB2	2.07	0.54
2:B1:90:GLU:O	2:B1:92:VAL:N	2.41	0.54
3:C1:30:TRP:HA	3:C1:33:PHE:HE2	1.73	0.54
3:C1:58:ASP:OD2	3:O1:56:THR:HG21	2.08	0.54
3:C1:264:THR:O	3:C1:266:PRO:HD3	2.06	0.54
3:C1:348:ILE:O	3:C1:352:GLN:HG3	2.08	0.54
4:D1:4:GLU:HG3	4:D1:6:HIS:CE1	2.43	0.54
1:M1:240:GLN:HA	1:M1:422:VAL:O	2.06	0.54
2:N1:88:GLY:O	2:N1:91:ALA:HB3	2.07	0.54
4:P1:168:VAL:O	4:P1:169:LEU:HD23	2.08	0.54
10:V1:57:HIS:O	10:V1:58:LYS:C	2.46	0.54
14:42:319:HIS:HA	14:42:322:THR:HB	1.89	0.54
17:82:220:GLN:HE21	18:92:118:PHE:HB2	1.72	0.54
19:A2:110:LYS:HD2	33:P2:55:CYS:SG	2.48	0.54
1:A1:241:ILE:HG23	1:A1:241:ILE:O	2.07	0.54
4:D1:50:HIS:HE1	4:D1:91:PHE:HZ	1.53	0.54
1:M1:426:GLY:HA3	1:M1:428:ILE:H	1.71	0.54
1:M1:445:ARG:O	1:M1:446:PHE:CB	2.55	0.54
2:N1:255:ALA:HB2	2:N1:426:ALA:CB	2.37	0.54
2:N1:280:GLY:HA2	2:N1:311:ALA:CB	2.38	0.54
3:O1:7:SER:O	3:O1:8:HIS:O	2.26	0.54
3:O1:377:LEU:HB3	6:R1:33:ARG:HD2	1.88	0.54
4:P1:51:LEU:HD22	4:P1:58:GLU:HA	1.90	0.54
4:P1:216:LEU:N	4:P1:217:PRO:HD2	2.22	0.54
5:Q1:109:GLU:HG2	5:Q1:167:ALA:CB	2.25	0.54
8:T1:35:GLU:O	8:T1:39:LEU:HG	2.07	0.54
14:42:289:SER:HB3	14:42:406:TYR:HE2	1.71	0.54
27:I2:106:GLU:HB3	27:I2:108:LYS:NZ	2.23	0.54
30:L2:59:ASP:HB3	34:Q2:130:LYS:HD2	1.90	0.54
34:Q2:9:SER:HA	39:V2:88:ARG:HH12	1.73	0.54
57:B3:165:VAL:HB	57:B3:170:LEU:HD12	1.90	0.54
3:C1:148:ASN:O	3:C1:151:SER:OG	2.26	0.54
3:C1:183:PHE:CE1	3:C1:187:PHE:CE2	2.96	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F1:35:ASP:OD2	6:F1:61:ARG:HD2	2.07	0.54
6:F1:75:LEU:C	6:F1:80:TRP:HE1	2.12	0.54
8:H1:73:LEU:HG	8:H1:73:LEU:O	2.08	0.54
4:P1:220:TYR:HE2	7:S1:26:PHE:CE1	2.19	0.54
19:A2:302:LEU:HB3	38:U2:137:TRP:HB3	1.90	0.54
23:E2:82:ALA:HB2	33:P2:25:GLN:HE21	1.73	0.54
56:A3:398:PRO:O	56:A3:498:CYS:HB3	2.08	0.54
57:B3:111:THR:HG21	63:H3:66:ILE:HD11	1.88	0.54
1:A1:40:TRP:CZ2	1:A1:377:GLU:CA	2.89	0.53
2:B1:62:ASN:ND2	2:B1:62:ASN:O	2.41	0.53
2:B1:340:ALA:O	2:B1:344:VAL:HG23	2.08	0.53
3:C1:309:THR:CG2	3:C1:370:GLY:HA3	2.38	0.53
1:M1:88:ALA:O	2:N1:286:LYS:HE2	2.07	0.53
2:N1:258:VAL:HG12	2:N1:321:LEU:HD22	1.89	0.53
5:Q1:139:CYS:O	5:Q1:143:GLY:HA2	2.08	0.53
6:R1:51:PRO:HG2	6:R1:54:LEU:HB2	1.89	0.53
19:A2:161:GLU:HB3	27:I2:102:ASN:CG	2.28	0.53
20:B2:87:GLN:CB	20:B2:89:PRO:HD3	2.32	0.53
61:F3:51:SER:HB2	61:F3:91:LEU:HD11	1.90	0.53
1:A1:252:HIS:CD2	1:A1:325:VAL:CG2	2.92	0.53
2:B1:160:ILE:HD11	2:B1:325:TYR:HE2	1.74	0.53
2:B1:262:ALA:HB2	2:B1:272:PHE:HE2	1.72	0.53
2:B1:304:HIS:CG	2:B1:305:GLN:N	2.76	0.53
2:B1:396:SER:O	2:B1:399:LEU:HB2	2.08	0.53
1:M1:204:GLU:HG2	1:M1:206:ARG:HB3	1.90	0.53
1:M1:236:PHE:CD2	1:M1:258:GLU:CB	2.91	0.53
2:N1:168:TYR:HD2	2:N1:238:LYS:O	1.92	0.53
3:O1:207:ASN:ND2	3:O1:209:THR:OG1	2.41	0.53
3:O1:265:PRO:O	3:O1:268:ILE:HG13	2.07	0.53
4:P1:11:PRO:HB2	8:T1:74:PHE:CG	2.44	0.53
4:P1:48:TYR:OH	4:P1:68:VAL:HG11	2.08	0.53
4:P1:113:LEU:O	4:P1:114:SER:C	2.46	0.53
8:T1:70:ALA:HA	8:T1:73:LEU:HD22	1.89	0.53
19:A2:311:LYS:HB3	38:U2:142:THR:O	2.07	0.53
21:C2:70:ILE:HG13	21:C2:71:LEU:HD12	1.90	0.53
59:D3:108:PRO:HG2	59:D3:111:PHE:CE2	2.42	0.53
2:B1:140:LEU:HD12	2:B1:143:GLN:CB	2.38	0.53
3:C1:1:MET:SD	3:C1:4:ILE:HB	2.48	0.53
3:C1:141:TRP:HB3	3:C1:268:ILE:HD13	1.90	0.53
4:D1:33:TYR:HA	4:D1:37:CYS:HB2	1.89	0.53
4:D1:224:ARG:O	4:D1:225:HIS:C	2.47	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E1:15:ARG:HH21	5:E1:32:ARG:HG3	1.74	0.53
10:J1:52:TRP:CE3	10:J1:52:TRP:N	2.77	0.53
2:N1:159:VAL:HG12	2:N1:160:ILE:N	2.21	0.53
4:P1:237:TYR:HD1	7:S1:13:VAL:HG22	1.73	0.53
6:R1:7:SER:HA	6:R1:11:ARG:HE	1.73	0.53
52:12:37:PRO:HB2	52:12:44:GLY:HA2	1.90	0.53
6:F1:35:ASP:OD1	6:F1:89:TYR:OH	2.21	0.53
3:O1:218:ILE:HD13	4:P1:230:LEU:HD13	1.91	0.53
5:Q1:171:ILE:HD12	5:Q1:176:ALA:HB3	1.90	0.53
8:T1:73:LEU:HD21	8:T1:74:PHE:CD1	2.43	0.53
10:V1:49:GLY:HA2	10:V1:54:HIS:CB	2.39	0.53
12:22:224:THR:H	12:22:228:LEU:HD23	1.72	0.53
15:52:17:VAL:HG12	53:62:588:PHE:HB3	1.91	0.53
18:92:111:ARG:NE	25:G2:174:THR:OG1	2.42	0.53
19:A2:129:PRO:HG2	27:I2:114:TYR:CE1	2.43	0.53
53:62:361:GLY:O	53:62:364:LYS:NZ	2.40	0.53
57:B3:193:TYR:HE1	59:D3:126:MET:HE1	1.73	0.53
59:D3:52:SER:OG	59:D3:55:GLU:HG3	2.08	0.53
61:F3:48:LEU:O	61:F3:50:PRO:HD3	2.08	0.53
1:A1:32:GLN:CG	1:A1:33:PRO:CD	2.86	0.53
1:A1:106:LEU:HD21	1:A1:203:LEU:HD13	1.89	0.53
2:B1:276:GLN:O	2:B1:280:GLY:N	2.40	0.53
3:C1:219:PRO:CB	3:C1:222:PRO:HD2	2.39	0.53
4:D1:149:PHE:HZ	8:H1:55:THR:HG23	1.73	0.53
4:D1:213:GLY:O	4:D1:217:PRO:HG3	2.07	0.53
1:M1:25:VAL:HG21	1:M1:209:LEU:CD1	2.39	0.53
1:M1:106:LEU:HD22	1:M1:203:LEU:CD2	2.35	0.53
2:N1:132:PHE:HD2	2:N1:191:LEU:HD13	1.67	0.53
2:N1:285:VAL:HG12	2:N1:288:GLY:HA3	1.91	0.53
3:O1:26:ASN:HD22	3:O1:208:PRO:HD2	1.70	0.53
3:O1:218:ILE:HG23	3:O1:223:TYR:CD2	2.43	0.53
5:Q1:150:ALA:HB3	5:Q1:157:TYR:HB3	1.91	0.53
14:42:118:PHE:O	14:42:122:PHE:N	2.39	0.53
18:92:95:ILE:HD13	19:A2:210:ILE:HG22	1.88	0.53
34:Q2:30:HIS:NE2	34:Q2:120:PRO:O	2.41	0.53
1:A1:61:HIS:CD2	2:B1:287:ARG:HD3	2.43	0.53
1:A1:134:ILE:HD13	1:A1:134:ILE:N	2.23	0.53
1:A1:134:ILE:HA	1:A1:137:GLU:HG3	1.91	0.53
2:B1:92:VAL:HG12	2:B1:92:VAL:O	2.08	0.53
3:C1:103:TYR:O	3:C1:315:MET:CB	2.57	0.53
7:G1:15:THR:HG22	7:G1:15:THR:O	2.07	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I1:58:GLN:HG2	9:I1:78:TYR:HD2	1.72	0.53
10:J1:45:HIS:O	10:J1:48:GLU:HG2	2.08	0.53
1:M1:53:ASN:HB3	1:M1:170:PRO:CD	2.39	0.53
1:M1:411:CYS:O	1:M1:415:PHE:HD1	1.92	0.53
2:N1:276:GLN:O	2:N1:280:GLY:N	2.40	0.53
2:N1:367:GLY:HA2	2:N1:370:MET:HE2	1.90	0.53
4:P1:26:ILE:O	4:P1:27:ARG:C	2.47	0.53
5:Q1:95:PRO:HG2	5:Q1:145:VAL:CG2	2.38	0.53
28:J2:64:LYS:H	34:Q2:21:SER:HB3	1.74	0.53
57:B3:102:HIS:O	57:B3:104:TRP:N	2.42	0.53
59:D3:67:SER:OG	59:D3:70:GLU:HG3	2.08	0.53
62:G3:8:HIS:O	62:G3:10:GLY:N	2.42	0.53
2:B1:79:GLY:H	2:B1:125:ASN:ND2	2.07	0.53
1:M1:29:GLN:HG3	1:M1:203:LEU:O	2.09	0.53
1:M1:53:ASN:HB3	1:M1:170:PRO:HD2	1.89	0.53
2:N1:25:GLU:O	2:N1:213:HIS:CE1	2.62	0.53
2:N1:247:GLN:HG3	2:N1:248:ASN:N	2.24	0.53
2:N1:262:ALA:HB3	2:N1:269:ALA:HA	1.91	0.53
3:O1:71:ARG:NH2	4:P1:193:ALA:O	2.42	0.53
3:O1:345:HIS:CB	3:O1:346:PRO:HD3	2.26	0.53
4:P1:219:VAL:HA	4:P1:222:MET:HG3	1.89	0.53
4:P1:237:TYR:CE2	4:P1:239:PRO:HG3	2.44	0.53
19:A2:637:ASP:OD1	32:O2:118:PHE:CE1	2.62	0.53
56:A3:268:PHE:CZ	57:B3:58:ALA:HA	2.44	0.53
60:E3:41:LEU:HD12	60:E3:41:LEU:O	2.08	0.53
61:F3:55:LYS:HA	61:F3:74:LEU:O	2.08	0.53
1:A1:162:PRO:O	1:A1:165:GLN:NE2	2.38	0.53
2:B1:316:TYR:OH	9:I1:64:LEU:HD23	2.09	0.53
3:O1:219:PRO:HB2	3:O1:222:PRO:HD2	1.89	0.53
4:P1:3:LEU:HD21	7:S1:71:ARG:HA	1.90	0.53
4:P1:69:GLU:O	4:P1:73:GLY:HA3	2.09	0.53
19:A2:134:GLY:O	20:B2:382:PHE:HE2	1.92	0.53
19:A2:238:PHE:HE2	23:E2:138:GLY:O	1.92	0.53
59:D3:23:PRO:HD2	60:E3:34:ASN:HD22	1.74	0.53
1:A1:34:THR:HB	2:B1:373:GLU:OE1	2.09	0.53
4:D1:138:PRO:HG2	8:H1:55:THR:CB	2.38	0.53
5:E1:2:HIS:O	5:E1:5:ILE:HG12	2.09	0.53
6:F1:25:GLY:O	6:F1:28:LYS:HG3	2.09	0.53
1:M1:106:LEU:HB3	1:M1:107:PRO:HD3	1.90	0.53
4:P1:120:ARG:HG2	4:P1:120:ARG:NH1	2.24	0.53
5:Q1:45:VAL:CG2	10:V1:24:ILE:HA	2.39	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:R1:75:LEU:CD1	6:R1:76:PRO:HD2	2.36	0.53
17:82:415:ILE:HD12	19:A2:119:PHE:HE1	1.72	0.53
19:A2:301:ARG:O	38:U2:137:TRP:N	2.41	0.53
57:B3:136:LEU:HB3	57:B3:193:TYR:HD2	1.73	0.53
1:A1:85:HIS:HA	2:B1:284:HIS:O	2.09	0.53
2:B1:300:ALA:HA	2:B1:307:PHE:HZ	1.74	0.53
3:C1:90:PHE:CE1	3:C1:123:VAL:HG21	2.44	0.53
8:H1:65:ARG:HG3	8:H1:66:ASP:N	2.23	0.53
10:J1:52:TRP:HE3	10:J1:52:TRP:H	1.57	0.53
10:J1:56:LYS:HE2	10:J1:60:GLU:OE1	2.09	0.53
1:M1:317:THR:HG22	1:M1:318:GLY:H	1.73	0.53
2:N1:262:ALA:HB2	2:N1:268:GLU:HB3	1.90	0.53
3:O1:106:SER:O	3:O1:109:PHE:CD2	2.54	0.53
3:O1:174:THR:O	3:O1:178:PHE:CD2	2.62	0.53
3:O1:196:HIS:CE1	69:O1:402:HEM:C1D	2.97	0.53
10:V1:4:THR:HG22	10:V1:6:THR:OG1	2.09	0.53
40:W2:83:VAL:HG21	40:W2:145:VAL:HG22	1.91	0.53
56:A3:11:ASN:ND2	56:A3:14:ASP:H	2.07	0.53
1:A1:11:VAL:CG1	1:A1:12:PRO:HD2	2.39	0.52
1:A1:67:THR:OG1	1:A1:119:ASN:HB2	2.09	0.52
2:B1:132:PHE:CD2	2:B1:191:LEU:HD13	2.43	0.52
2:B1:160:ILE:CD1	2:B1:325:TYR:HE2	2.21	0.52
2:B1:347:ILE:H	2:B1:347:ILE:CD1	2.21	0.52
2:B1:435:PHE:CE1	2:N1:169:ARG:HG2	2.44	0.52
3:C1:80:ARG:O	3:C1:80:ARG:HD3	2.09	0.52
3:C1:103:TYR:HA	3:C1:315:MET:CE	2.32	0.52
3:C1:171:ASP:O	3:C1:172:LYS:C	2.47	0.52
4:D1:48:TYR:OH	4:D1:68:VAL:HG11	2.09	0.52
7:G1:25:ALA:O	7:G1:27:PRO:HD3	2.09	0.52
1:M1:270:LEU:O	1:M1:271:GLN:C	2.47	0.52
2:N1:277:HIS:CD2	2:N1:364:LEU:HD13	2.43	0.52
2:N1:406:ALA:HB3	2:N1:409:ASP:HB2	1.92	0.52
4:P1:181:GLN:HG2	8:T1:77:LEU:CD2	2.21	0.52
4:P1:237:TYR:CE2	4:P1:239:PRO:HD3	2.44	0.52
8:T1:58:LEU:HD12	8:T1:58:LEU:O	2.10	0.52
10:V1:34:ALA:O	10:V1:35:PHE:C	2.46	0.52
12:22:164:ILE:HG13	53:62:576:LEU:HD11	1.89	0.52
14:42:439:LEU:H	14:42:442:LEU:HD13	1.74	0.52
15:52:93:LEU:HD22	53:62:583:LEU:H	1.73	0.52
21:C2:170:ARG:HG3	21:C2:186:LEU:HD12	1.91	0.52
57:B3:68:LEU:HB3	57:B3:69:PRO:HD3	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:G3:2:SER:OG	62:G3:3:ALA:N	2.41	0.52
2:B1:69:LEU:HD21	2:B1:199:PHE:CZ	2.44	0.52
2:B1:141:GLN:OE1	2:B1:183:ILE:O	2.27	0.52
2:B1:268:GLU:O	2:B1:271:ALA:HB3	2.10	0.52
3:C1:26:ASN:ND2	3:C1:26:ASN:C	2.63	0.52
3:C1:372:ILE:O	3:C1:373:GLU:C	2.46	0.52
8:H1:73:LEU:CD2	8:H1:74:PHE:HD1	2.21	0.52
1:M1:64:PHE:HE1	1:M1:86:LEU:CG	2.22	0.52
1:M1:244:ARG:CZ	7:S1:10:VAL:HB	2.38	0.52
1:M1:408:ARG:NH2	11:W1:15:ARG:CZ	2.65	0.52
2:N1:209:LEU:HG	2:N1:209:LEU:O	2.09	0.52
3:O1:174:THR:O	3:O1:178:PHE:HD2	1.90	0.52
3:O1:200:LEU:HD13	69:O1:402:HEM:HAD2	1.90	0.52
3:O1:244:LEU:HD11	4:P1:204:MET:CE	2.36	0.52
3:O1:275:LEU:O	3:O1:278:TYR:N	2.42	0.52
4:P1:160:MET:HE3	4:P1:163:PRO:HG3	1.92	0.52
5:Q1:81:ILE:H	5:Q1:81:ILE:HD12	1.75	0.52
6:R1:96:GLU:OE2	6:R1:99:ARG:NH1	2.43	0.52
12:22:196:TYR:OH	37:T2:137:ALA:O	2.26	0.52
19:A2:313:LEU:CG	38:U2:142:THR:CA	2.86	0.52
19:A2:667:GLN:NE2	29:K2:38:GLU:CD	2.62	0.52
36:S2:32:ILE:HG13	36:S2:33:LEU:HD12	1.92	0.52
53:62:241:THR:HG23	53:62:299:LYS:HZ1	1.74	0.52
53:62:427:ILE:HG13	53:62:431:LEU:HD12	1.91	0.52
59:D3:128:VAL:O	59:D3:134:PHE:HB3	2.09	0.52
63:H3:75:ARG:HG2	63:H3:75:ARG:NH1	2.19	0.52
3:C1:92:ILE:O	3:C1:96:MET:HG2	2.09	0.52
5:E1:31:ALA:O	5:E1:34:GLY:N	2.42	0.52
6:F1:45:GLU:O	6:F1:49:ARG:HG3	2.08	0.52
1:M1:277:ILE:CG2	1:M1:294:LEU:HD12	2.39	0.52
3:O1:304:ILE:N	3:O1:305:PRO:CD	2.72	0.52
4:P1:11:PRO:HG2	8:T1:74:PHE:HB2	1.92	0.52
19:A2:126:LEU:HB2	27:I2:98:ARG:O	2.10	0.52
53:62:550:SER:OG	53:62:551:SER:N	2.42	0.52
56:A3:302:ARG:O	56:A3:306:THR:HG23	2.09	0.52
1:A1:239:SER:OG	1:A1:240:GLN:N	2.39	0.52
1:A1:260:PRO:HD3	1:A1:414:TYR:CD1	2.44	0.52
2:B1:135:TRP:CD1	2:B1:136:GLU:HG3	2.44	0.52
2:B1:191:LEU:O	2:B1:195:VAL:HG23	2.09	0.52
3:C1:103:TYR:O	3:C1:315:MET:HB2	2.10	0.52
3:C1:135:TRP:CH2	3:C1:170:VAL:O	2.62	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C1:301:LEU:HA	3:C1:304:ILE:HD12	1.91	0.52
3:C1:368:THR:O	3:C1:371:THR:HB	2.10	0.52
1:M1:25:VAL:HG21	1:M1:209:LEU:HD13	1.91	0.52
1:M1:41:ILE:HD12	1:M1:41:ILE:N	2.24	0.52
1:M1:277:ILE:HB	1:M1:309:THR:HG21	1.91	0.52
2:N1:164:HIS:O	2:N1:173:ALA:HA	2.09	0.52
3:O1:218:ILE:HG21	3:O1:223:TYR:CD2	2.43	0.52
19:A2:157:LYS:HB2	27:I2:100:TYR:HE2	1.71	0.52
20:B2:86:PRO:HG3	20:B2:96:ARG:HB3	1.90	0.52
57:B3:191:LEU:HB2	59:D3:126:MET:HE1	1.92	0.52
61:F3:8:THR:OG1	61:F3:11:GLU:HG2	2.10	0.52
2:B1:308:ASP:OD2	9:I1:55:LEU:HA	2.10	0.52
3:C1:119:LEU:HD23	69:C1:402:HEM:C4B	2.44	0.52
4:D1:68:VAL:HG12	4:D1:92:PRO:HG2	1.91	0.52
4:D1:233:ARG:HG3	7:G1:17:SER:CB	2.40	0.52
5:E1:18:VAL:HG11	5:E1:32:ARG:HH11	1.73	0.52
9:I1:58:GLN:HB3	9:I1:78:TYR:HB2	1.91	0.52
1:M1:111:GLU:HG2	1:M1:213:GLN:NE2	2.25	0.52
1:M1:241:ILE:CD1	7:S1:16:TYR:CE2	2.92	0.52
1:M1:292:SER:O	1:M1:295:ALA:HB3	2.09	0.52
2:N1:304:HIS:CD2	2:N1:305:GLN:N	2.78	0.52
4:P1:146:GLY:O	4:P1:148:TYR:N	2.42	0.52
4:P1:195:GLU:HG3	4:P1:198:HIS:HB2	1.92	0.52
6:R1:73:GLN:HE21	7:S1:32:LYS:HE3	1.74	0.52
8:T1:62:LEU:O	8:T1:65:ARG:HG2	2.09	0.52
8:T1:65:ARG:CG	8:T1:66:ASP:N	2.72	0.52
14:42:23:ILE:HG21	14:42:93:LYS:HE3	1.89	0.52
36:S2:275:ASN:O	36:S2:277:ARG:N	2.41	0.52
1:A1:166:SER:CB	5:E1:3:THR:HG22	2.39	0.52
3:C1:221:HIS:HA	3:C1:225:THR:HG23	1.92	0.52
3:C1:377:LEU:O	3:C1:378:LYS:HB3	2.09	0.52
5:E1:47:VAL:O	5:E1:50:ALA:HB3	2.10	0.52
2:N1:59:ASN:CG	2:N1:60:SER:H	2.11	0.52
2:N1:198:HIS:CE1	2:N1:233:SER:HB3	2.45	0.52
2:N1:247:GLN:NE2	2:N1:429:ASN:HA	2.25	0.52
2:N1:275:LEU:HB2	2:N1:410:VAL:HG13	1.92	0.52
3:O1:47:THR:HG22	3:O1:83:HIS:HB2	1.91	0.52
5:Q1:20:ASP:O	5:Q1:21:SER:C	2.46	0.52
5:Q1:102:THR:H	5:Q1:105:GLU:HB2	1.74	0.52
12:22:142:LEU:HD23	12:22:145:ILE:HD12	1.91	0.52
22:D2:114:ARG:HG3	22:D2:114:ARG:NH2	2.15	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:E2:116:CYS:HA	23:E2:140:ARG:HH22	1.75	0.52
35:R2:264:ALA:H	35:R2:334:GLY:HA3	1.75	0.52
1:A1:37:VAL:HG13	1:A1:199:ALA:CB	2.40	0.52
1:A1:426:GLY:H	1:A1:428:ILE:CD1	2.22	0.52
3:C1:183:PHE:CD1	3:O1:183:PHE:CD1	2.97	0.52
4:D1:79:GLU:HB3	4:D1:82:MET:HB2	1.91	0.52
1:M1:426:GLY:HA2	1:M1:428:ILE:CG1	2.37	0.52
3:O1:27:ILE:O	3:O1:27:ILE:CG2	2.58	0.52
4:P1:55:CYS:SG	10:V1:52:TRP:CB	2.97	0.52
4:P1:138:PRO:HB3	8:T1:55:THR:HA	1.90	0.52
19:A2:314:LEU:CD2	38:U2:140:PRO:CD	2.69	0.52
20:B2:299:GLN:HG2	23:E2:38:TYR:HE1	1.75	0.52
57:B3:33:LEU:HD23	64:I3:28:SER:HB2	1.91	0.52
60:E3:63:SER:O	60:E3:67:ILE:HG13	2.10	0.52
1:A1:55:ALA:O	1:A1:56:GLY:C	2.48	0.52
4:D1:10:TYR:HD1	8:H1:74:PHE:CE1	2.28	0.52
4:D1:64:LEU:O	4:D1:68:VAL:HG23	2.09	0.52
4:D1:139:THR:HG21	8:H1:41:ASP:O	2.09	0.52
7:G1:33:GLY:O	7:G1:37:VAL:N	2.36	0.52
1:M1:392:LEU:HA	1:M1:395:TRP:NE1	2.25	0.52
2:N1:262:ALA:HB3	2:N1:269:ALA:N	2.24	0.52
3:O1:246:ALA:N	3:O1:247:PRO:CD	2.73	0.52
5:Q1:76:ILE:CG2	5:Q1:194:ILE:CG1	2.74	0.52
17:82:390:ASP:OD2	19:A2:202:ASN:CB	2.51	0.52
18:92:62:ARG:NH2	24:F2:83:TYR:OH	2.40	0.52
35:R2:197:GLU:HB2	35:R2:259:ARG:HE	1.75	0.52
52:12:25:ARG:NH1	52:12:25:ARG:CG	2.73	0.52
52:12:230:ASN:HA	52:12:233:MET:HE2	1.92	0.52
53:62:258:PHE:HA	53:62:261:ILE:HD12	1.92	0.52
56:A3:225:GLY:HA3	58:C3:112:LEU:HD13	1.92	0.52
57:B3:104:TRP:CG	57:B3:203:ASN:HB2	2.44	0.52
1:A1:19:LEU:HB2	1:A1:23:LEU:HB3	1.92	0.52
1:A1:91:THR:HG23	1:A1:92:ARG:H	1.74	0.52
1:A1:436:ARG:HE	3:C1:222:PRO:HG3	1.73	0.52
2:B1:280:GLY:HA2	2:B1:311:ALA:CB	2.40	0.52
3:C1:300:ILE:HD13	3:C1:362:ILE:HG21	1.92	0.52
4:D1:143:LEU:HD22	4:D1:147:LEU:O	2.09	0.52
5:E1:38:LEU:HD13	10:J1:9:LEU:HD23	1.92	0.52
6:F1:96:GLU:OE1	6:F1:96:GLU:HA	2.09	0.52
1:M1:262:TRP:CE3	1:M1:385:THR:CG2	2.93	0.52
2:N1:51:ILE:CG2	2:N1:199:PHE:HA	2.33	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O1:6:LYS:HE2	3:O1:16:ASN:HD21	1.74	0.52
3:O1:170:VAL:HG12	3:O1:170:VAL:O	2.08	0.52
3:O1:245:PHE:CG	4:P1:17:LEU:HD13	2.43	0.52
6:R1:98:ILE:O	6:R1:99:ARG:C	2.47	0.52
22:D2:82:LEU:HB2	22:D2:111:VAL:HG22	1.90	0.52
57:B3:100:MET:CE	57:B3:157:GLU:HG3	2.40	0.52
57:B3:145:PRO:CG	57:B3:148:MET:HE2	2.40	0.52
1:A1:326:CYS:SG	1:A1:331:ILE:HA	2.50	0.52
1:A1:433:ASP:CB	3:C1:219:PRO:HG2	2.40	0.52
2:B1:25:GLU:O	2:B1:213:HIS:CE1	2.63	0.52
2:B1:97:SER:OG	9:I1:70:LEU:HB2	2.10	0.52
3:C1:115:ILE:O	3:C1:116:GLY:C	2.46	0.52
4:D1:7:PRO:HB2	4:D1:125:ASP:HB3	1.92	0.52
8:H1:15:ASP:N	8:H1:16:PRO:CD	2.73	0.52
10:J1:57:HIS:O	10:J1:58:LYS:C	2.46	0.52
1:M1:19:LEU:HD13	1:M1:214:LYS:HG2	1.92	0.52
1:M1:426:GLY:HA3	1:M1:428:ILE:N	2.24	0.52
3:O1:52:ALA:HB2	69:O1:401:HEM:CMD	2.40	0.52
3:O1:200:LEU:HD13	69:O1:402:HEM:CAD	2.40	0.52
18:92:222:ARG:HD3	18:92:228:ALA:HB2	1.92	0.52
35:R2:127:ILE:HG22	35:R2:165:ILE:HB	1.91	0.52
2:B1:79:GLY:HA3	2:B1:125:ASN:HD21	1.75	0.51
2:B1:279:LEU:HD22	2:B1:344:VAL:HG22	1.91	0.51
2:B1:286:LYS:O	2:B1:287:ARG:HB2	2.09	0.51
4:D1:62:LYS:O	4:D1:66:GLU:HG3	2.10	0.51
6:F1:13:LEU:O	6:F1:16:ILE:N	2.42	0.51
3:O1:200:LEU:CD1	69:O1:402:HEM:HAD2	2.40	0.51
7:S1:67:GLU:O	7:S1:71:ARG:HB3	2.10	0.51
8:T1:50:THR:HG22	8:T1:51:GLU:N	2.25	0.51
19:A2:674:LEU:CD1	29:K2:46:LYS:CD	2.88	0.51
20:B2:97:LEU:HB3	20:B2:111:PRO:HB3	1.90	0.51
20:B2:303:ARG:HD3	20:B2:401:GLU:HG2	1.92	0.51
21:C2:124:ARG:NH1	31:N2:111:GLN:O	2.43	0.51
22:D2:159:GLY:O	22:D2:164:HIS:ND1	2.42	0.51
57:B3:186:SER:CB	57:B3:213:LEU:HD22	2.40	0.51
1:A1:34:THR:CB	2:B1:373:GLU:OE1	2.59	0.51
1:A1:111:GLU:HG2	1:A1:213:GLN:NE2	2.25	0.51
1:A1:381:ARG:HA	1:A1:384:LEU:HD12	1.91	0.51
4:D1:26:ILE:HG21	4:D1:54:VAL:HG22	1.92	0.51
4:D1:32:VAL:HG11	4:D1:186:VAL:CG2	2.41	0.51
4:D1:113:LEU:O	4:D1:114:SER:C	2.48	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J1:49:GLY:HA2	10:J1:54:HIS:HB3	1.92	0.51
10:J1:51:LEU:H	10:J1:54:HIS:HD2	1.57	0.51
1:M1:152:TYR:O	1:M1:153:LEU:C	2.47	0.51
1:M1:213:GLN:CB	1:M1:215:HIS:NE2	2.70	0.51
2:N1:258:VAL:CG1	2:N1:321:LEU:HD22	2.40	0.51
3:O1:117:VAL:N	69:O1:402:HEM:HBC2	2.25	0.51
5:Q1:119:ASP:HB3	5:Q1:179:ASN:ND2	2.26	0.51
5:Q1:119:ASP:OD1	5:Q1:120:PRO:HD2	2.09	0.51
19:A2:238:PHE:CE2	23:E2:138:GLY:O	2.63	0.51
20:B2:97:LEU:HB3	20:B2:111:PRO:CB	2.40	0.51
30:L2:76:PRO:HD2	34:Q2:127:LYS:HG2	1.91	0.51
2:B1:89:ILE:O	2:B1:90:GLU:C	2.47	0.51
2:B1:178:CYS:SG	2:B1:179:PRO:HD2	2.51	0.51
3:C1:153:ILE:HD12	3:C1:153:ILE:N	2.25	0.51
3:C1:337:TRP:O	3:C1:338:ILE:C	2.48	0.51
6:F1:7:SER:O	6:F1:11:ARG:HD2	2.10	0.51
1:M1:134:ILE:HD13	1:M1:137:GLU:HG3	1.91	0.51
4:P1:27:ARG:NH1	10:V1:58:LYS:CE	2.72	0.51
4:P1:82:MET:HE2	4:P1:86:LYS:NZ	2.25	0.51
4:P1:138:PRO:HB3	8:T1:55:THR:CA	2.40	0.51
4:P1:213:GLY:O	4:P1:217:PRO:HG3	2.11	0.51
16:72:165:VAL:O	16:72:169:MET:N	2.42	0.51
19:A2:587:ALA:HB1	19:A2:591:GLU:HB2	1.91	0.51
35:R2:281:PHE:HB3	35:R2:286:ARG:HD3	1.91	0.51
35:R2:329:LEU:HG	35:R2:331:HIS:H	1.76	0.51
1:A1:279:HIS:CE1	1:A1:284:TYR:OH	2.63	0.51
2:B1:34:VAL:HG11	2:B1:386:ALA:CB	2.41	0.51
2:B1:412:ASN:O	2:B1:415:LYS:HB2	2.11	0.51
4:D1:79:GLU:O	4:D1:80:MET:C	2.49	0.51
1:M1:46:ARG:NH1	1:M1:316:ASP:OD1	2.40	0.51
1:M1:158:PHE:HE1	1:M1:317:THR:HG21	1.72	0.51
1:M1:428:ILE:CG2	1:M1:431:LEU:CD2	2.85	0.51
2:N1:102:ARG:HH12	2:N1:175:SER:HA	1.75	0.51
2:N1:141:GLN:OE1	2:N1:183:ILE:O	2.29	0.51
3:O1:19:ILE:HG23	3:O1:221:HIS:HB2	1.92	0.51
3:O1:166:GLY:HA3	3:O1:177:ARG:NH2	2.26	0.51
4:P1:48:TYR:CD2	4:P1:65:ALA:HB2	2.46	0.51
22:D2:75:ASN:OD1	22:D2:78:ARG:NH2	2.43	0.51
56:A3:240:HIS:HB3	56:A3:241:PRO:HD3	1.92	0.51
62:G3:42:ARG:HH11	62:G3:42:ARG:HG3	1.74	0.51
1:A1:41:ILE:HD12	1:A1:41:ILE:N	2.24	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A1:53:ASN:HB3	1:A1:170:PRO:HD2	1.91	0.51
1:A1:200:ALA:HB2	1:A1:375:VAL:HG12	1.92	0.51
2:B1:162:ASN:HB3	2:B1:244:ILE:CG2	2.40	0.51
3:C1:344:GLU:O	3:C1:348:ILE:HG13	2.11	0.51
2:N1:67:HIS:CE1	2:N1:177:TYR:HD1	2.28	0.51
2:N1:262:ALA:CB	2:N1:268:GLU:HB3	2.41	0.51
2:N1:435:PHE:H	2:N1:438:GLU:HB2	1.74	0.51
3:O1:153:ILE:HD12	3:O1:153:ILE:H	1.74	0.51
4:P1:43:MET:HA	4:P1:112:ASP:OD1	2.10	0.51
14:42:301:ILE:O	14:42:304:GLN:NE2	2.43	0.51
19:A2:199:GLY:HA3	19:A2:204:MET:HA	1.93	0.51
19:A2:380:ASP:OD1	19:A2:380:ASP:N	2.38	0.51
19:A2:557:ARG:HG3	19:A2:560:LEU:HD23	1.91	0.51
36:S2:182:THR:HG23	36:S2:183:ILE:HG13	1.92	0.51
1:A1:39:VAL:CG1	1:A1:41:ILE:HD11	2.35	0.51
1:A1:106:LEU:HB3	1:A1:107:PRO:CD	2.41	0.51
1:A1:211:LEU:O	1:A1:211:LEU:HD12	2.11	0.51
2:B1:148:LYS:HD2	2:B1:178:CYS:O	2.10	0.51
2:B1:261:SER:HB3	2:B1:321:LEU:N	2.25	0.51
3:C1:184:ILE:O	3:C1:188:ILE:HD12	2.10	0.51
3:C1:331:ASP:OD1	3:C1:354:ALA:HB1	2.11	0.51
4:D1:2:ASP:HB3	4:D1:156:GLN:NE2	2.26	0.51
1:M1:106:LEU:HB3	1:M1:107:PRO:CD	2.40	0.51
2:N1:303:VAL:CG1	2:N1:304:HIS:H	2.24	0.51
5:Q1:86:ASN:HD21	5:Q1:97:PHE:HD2	1.54	0.51
14:42:276:CYS:SG	14:42:406:TYR:OH	2.65	0.51
52:12:46:LEU:HG	52:12:49:ILE:HD11	1.91	0.51
52:12:210:GLY:HA2	52:12:213:VAL:HG12	1.91	0.51
57:B3:136:LEU:HB3	57:B3:193:TYR:CD2	2.46	0.51
1:A1:84:ALA:HB2	1:A1:101:ALA:CB	2.37	0.51
1:A1:329:MET:HA	1:A1:430:GLN:OE1	2.10	0.51
1:A1:335:MET:HE2	1:A1:339:GLN:HG3	1.93	0.51
2:B1:275:LEU:HD11	2:B1:279:LEU:CD1	2.41	0.51
2:B1:305:GLN:CB	2:B1:306:PRO:HD3	2.31	0.51
2:B1:375:SER:OG	2:B1:376:GLU:N	2.42	0.51
3:C1:177:ARG:O	3:C1:181:PHE:HD2	1.93	0.51
3:C1:236:ILE:O	3:C1:237:LEU:C	2.48	0.51
3:C1:240:MET:SD	3:C1:243:VAL:HG11	2.51	0.51
3:C1:282:ARG:O	3:C1:284:ILE:N	2.43	0.51
4:D1:27:ARG:NH1	10:J1:58:LYS:HE3	2.26	0.51
7:G1:33:GLY:O	7:G1:37:VAL:HB	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H1:27:LEU:O	8:H1:30:CYS:N	2.38	0.51
8:H1:70:ALA:HA	8:H1:73:LEU:HD22	1.92	0.51
2:N1:129:ALA:H	2:N1:130:PRO:HD3	1.76	0.51
2:N1:393:THR:HG22	2:N1:394:PRO:O	2.10	0.51
3:O1:196:HIS:CE1	69:O1:402:HEM:ND	2.78	0.51
3:O1:274:PHE:O	3:O1:275:LEU:C	2.47	0.51
3:O1:357:LEU:O	3:O1:361:LEU:HG	2.10	0.51
6:R1:37:ILE:HG23	6:R1:37:ILE:O	2.11	0.51
6:R1:49:ARG:NH2	6:R1:100:GLU:OE2	2.37	0.51
8:T1:66:ASP:O	8:T1:67:HIS:C	2.49	0.51
19:A2:403:VAL:HG12	19:A2:432:ILE:HB	1.92	0.51
26:H2:21:GLN:O	26:H2:25:GLN:NE2	2.43	0.51
35:R2:171:ASN:HD21	35:R2:324:THR:HB	1.76	0.51
57:B3:1:MET:SD	57:B3:133:LEU:CD1	2.98	0.51
2:B1:85:ILE:O	2:B1:89:ILE:HG13	2.10	0.51
2:B1:237:ALA:HB2	2:B1:318:ASP:CG	2.31	0.51
2:B1:350:GLY:HA2	2:B1:411:ILE:HG21	1.92	0.51
3:C1:107:TYR:OH	3:C1:308:HIS:ND1	2.09	0.51
5:E1:15:ARG:HH21	5:E1:32:ARG:CB	2.24	0.51
9:I1:53:GLU:O	9:I1:54:SER:C	2.47	0.51
1:M1:162:PRO:O	1:M1:165:GLN:NE2	2.42	0.51
2:N1:261:SER:HB3	2:N1:321:LEU:N	2.26	0.51
5:Q1:135:LEU:HD22	5:Q1:182:VAL:HG22	1.92	0.51
5:Q1:191:ASP:OD1	5:Q1:191:ASP:N	2.42	0.51
29:K2:65:LEU:HB3	29:K2:77:VAL:HG23	1.92	0.51
39:V2:48:TRP:O	39:V2:52:LYS:NZ	2.39	0.51
56:A3:250:GLY:O	56:A3:254:ILE:HG12	2.11	0.51
1:A1:426:GLY:H	1:A1:428:ILE:HG12	1.66	0.51
2:B1:88:GLY:O	2:B1:91:ALA:HB3	2.11	0.51
2:B1:200:THR:OG1	2:B1:201:SER:N	2.44	0.51
2:B1:383:GLY:O	2:B1:386:ALA:HB3	2.10	0.51
3:C1:105:GLY:HA2	3:C1:107:TYR:CD1	2.46	0.51
4:D1:42:SER:O	4:D1:112:ASP:OD1	2.29	0.51
4:D1:102:ARG:HG2	4:D1:109:LEU:HB2	1.93	0.51
1:M1:55:ALA:O	1:M1:58:PHE:N	2.39	0.51
1:M1:82:MET:SD	1:M1:105:ASP:HB3	2.51	0.51
1:M1:124:ASP:O	1:M1:128:GLU:HG2	2.11	0.51
1:M1:279:HIS:ND1	1:M1:284:TYR:OH	2.39	0.51
1:M1:329:MET:HA	1:M1:430:GLN:OE1	2.11	0.51
1:M1:394:GLU:O	1:M1:395:TRP:C	2.47	0.51
1:M1:408:ARG:O	1:M1:412:SER:OG	2.28	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O1:30:TRP:HA	3:O1:33:PHE:HE2	1.75	0.51
4:P1:79:GLU:HB3	4:P1:82:MET:HB2	1.93	0.51
4:P1:224:ARG:NH2	7:S1:27:PRO:HD2	2.26	0.51
35:R2:168:SER:OG	35:R2:169:HIS:N	2.44	0.51
35:R2:326:ASP:O	35:R2:328:ILE:HG13	2.10	0.51
2:B1:115:ASP:HA	2:B1:118:ILE:HD12	1.92	0.51
4:D1:82:MET:CE	4:D1:86:LYS:HZ2	2.23	0.51
4:D1:164:ILE:HG21	4:D1:182:VAL:HG12	1.92	0.51
2:N1:308:ASP:OD2	9:U1:54:SER:O	2.29	0.51
3:O1:109:PHE:O	3:O1:110:LEU:C	2.49	0.51
5:Q1:50:ALA:O	5:Q1:51:ALA:C	2.49	0.51
9:U1:58:GLN:HB3	9:U1:78:TYR:HB2	1.92	0.51
12:22:63:GLN:HE21	12:22:114:TRP:HZ2	1.59	0.51
59:D3:40:LEU:HD22	59:D3:59:LEU:HD13	1.92	0.51
1:A1:279:HIS:CE1	1:A1:284:TYR:HH	2.29	0.50
1:A1:378:ASP:O	1:A1:382:SER:HB2	2.11	0.50
2:B1:77:THR:HG22	2:B1:130:PRO:N	2.24	0.50
2:B1:304:HIS:CG	2:B1:305:GLN:H	2.29	0.50
3:C1:100:ARG:NH2	69:C1:402:HEM:O2A	2.44	0.50
3:C1:135:TRP:CH2	3:C1:170:VAL:HG12	2.41	0.50
3:C1:312:GLN:NE2	3:C1:317:PHE:HB2	2.25	0.50
3:C1:373:GLU:HB3	6:F1:20:TYR:OH	2.12	0.50
4:D1:50:HIS:O	4:D1:51:LEU:C	2.48	0.50
4:D1:120:ARG:HH11	4:D1:120:ARG:CG	2.24	0.50
6:F1:96:GLU:O	6:F1:99:ARG:N	2.44	0.50
7:G1:80:ASP:O	7:G1:81:ARG:HB2	2.10	0.50
1:M1:392:LEU:HG	1:M1:392:LEU:O	2.09	0.50
2:N1:47:ILE:CG2	2:N1:48:GLY:N	2.72	0.50
3:O1:130:GLY:O	69:O1:401:HEM:HAA1	2.11	0.50
3:O1:147:THR:HG21	3:O1:165:TRP:CD1	2.46	0.50
4:P1:14:HIS:HA	4:P1:19:SER:HB3	1.93	0.50
5:Q1:45:VAL:HG22	10:V1:28:ALA:N	2.26	0.50
5:Q1:51:ALA:O	5:Q1:55:VAL:HG23	2.11	0.50
9:U1:58:GLN:O	9:U1:59:ALA:HB2	2.11	0.50
9:U1:78:TYR:OXT	9:U1:78:TYR:CD1	2.64	0.50
18:92:54:ASP:OD1	18:92:60:TYR:OH	2.29	0.50
19:A2:126:LEU:HD11	20:B2:373:THR:O	2.11	0.50
31:N2:62:GLU:OE2	31:N2:71:ARG:NH1	2.37	0.50
34:Q2:111:VAL:HG12	34:Q2:117:TRP:HB2	1.93	0.50
56:A3:75:ILE:O	56:A3:79:GLY:HA3	2.11	0.50
56:A3:377:PHE:HA	56:A3:380:VAL:HG22	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A1:26:ALA:O	1:A1:27:SER:HB3	2.10	0.50
1:A1:236:PHE:HB2	5:E1:25:SER:HB2	1.93	0.50
1:A1:291:SER:HB3	2:B1:87:ARG:HD3	1.93	0.50
2:B1:166:ALA:HB2	2:B1:244:ILE:CD1	2.41	0.50
3:C1:175:LEU:HG	3:C1:175:LEU:O	2.11	0.50
8:H1:73:LEU:HD23	8:H1:73:LEU:C	2.31	0.50
1:M1:143:THR:HG21	9:U1:48:SER:N	2.08	0.50
1:M1:256:ALA:CA	1:M1:320:LEU:O	2.59	0.50
3:O1:152:ALA:N	3:O1:287:LYS:NZ	2.59	0.50
11:W1:18:VAL:CB	11:W1:19:PRO:HD3	2.41	0.50
23:E2:189:LYS:HB2	38:U2:124:TYR:CZ	2.47	0.50
53:62:172:ILE:HA	53:62:175:ASN:HD22	1.76	0.50
1:A1:279:HIS:ND1	1:A1:284:TYR:OH	2.42	0.50
1:A1:331:ILE:CD1	1:A1:427:PRO:O	2.58	0.50
2:B1:352:LEU:HD23	2:B1:411:ILE:HD11	1.92	0.50
4:D1:230:LEU:O	4:D1:233:ARG:HB2	2.12	0.50
1:M1:294:LEU:CD2	1:M1:337:VAL:HG12	2.41	0.50
1:M1:446:PHE:HE2	3:O1:6:LYS:HZ1	1.59	0.50
2:N1:304:HIS:CD2	2:N1:305:GLN:H	2.30	0.50
2:N1:359:ALA:O	2:N1:360:ALA:C	2.50	0.50
3:O1:152:ALA:HB2	3:O1:287:LYS:NZ	2.26	0.50
3:O1:160:LEU:O	3:O1:164:ILE:HD12	2.11	0.50
5:Q1:114:VAL:CG1	5:Q1:115:SER:N	2.73	0.50
12:22:300:THR:HG23	12:22:301:THR:HG23	1.93	0.50
19:A2:129:PRO:CB	27:I2:114:TYR:HE1	2.24	0.50
52:12:131:GLY:HA2	52:12:134:ARG:HE	1.76	0.50
56:A3:40:GLU:HG2	56:A3:54:TYR:CD1	2.47	0.50
58:C3:119:THR:O	62:G3:52:HIS:CE1	2.63	0.50
62:G3:5:LYS:HD2	62:G3:5:LYS:C	2.32	0.50
1:A1:64:PHE:HE2	1:A1:88:ALA:HB2	1.75	0.50
1:A1:106:LEU:HD22	1:A1:203:LEU:HD13	1.93	0.50
2:B1:38:LEU:O	2:B1:40:ASN:N	2.45	0.50
3:C1:46:LEU:O	3:C1:50:PHE:HD1	1.94	0.50
3:C1:132:VAL:HA	3:C1:139:SER:CB	2.42	0.50
3:C1:164:ILE:O	3:C1:177:ARG:NH1	2.42	0.50
3:C1:276:PHE:HE2	3:C1:297:SER:OG	1.95	0.50
4:D1:46:VAL:HG12	4:D1:47:ALA:O	2.10	0.50
4:D1:138:PRO:CB	8:H1:55:THR:CA	2.90	0.50
4:D1:161:ALA:O	4:D1:163:PRO:N	2.45	0.50
7:G1:54:ALA:O	7:G1:58:VAL:HG23	2.12	0.50
10:J1:35:PHE:O	10:J1:36:ASP:C	2.50	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O1:191:ALA:O	3:O1:195:VAL:HG23	2.12	0.50
4:P1:69:GLU:HA	4:P1:73:GLY:HA2	1.93	0.50
4:P1:72:ASP:OD1	4:P1:76:GLU:OE1	2.29	0.50
5:Q1:18:VAL:HG11	5:Q1:32:ARG:NH1	2.27	0.50
58:C3:224:LYS:HZ2	58:C3:226:HIS:HE2	1.59	0.50
1:A1:64:PHE:HA	1:A1:75:LEU:CD2	2.42	0.50
1:A1:142:ASP:OD2	5:E1:1:SER:HB3	2.11	0.50
3:C1:246:ALA:HB1	3:C1:249:LEU:HB2	1.94	0.50
3:C1:280:ILE:HD13	3:C1:280:ILE:N	2.27	0.50
4:D1:160:MET:HE2	4:D1:163:PRO:HG3	1.94	0.50
4:D1:178:THR:O	4:D1:179:MET:C	2.50	0.50
2:N1:47:ILE:HG22	2:N1:48:GLY:H	1.76	0.50
2:N1:76:THR:HG21	2:N1:133:ARG:CZ	2.42	0.50
2:N1:97:SER:HA	9:U1:70:LEU:HB2	1.94	0.50
3:O1:10:LEU:HD12	3:O1:13:ILE:HD11	1.92	0.50
3:O1:115:ILE:HD13	3:O1:115:ILE:N	2.26	0.50
3:O1:242:LEU:HD21	3:O1:250:LEU:CD2	2.41	0.50
4:P1:10:TYR:HD1	8:T1:74:PHE:CE1	2.29	0.50
4:P1:23:HIS:CD2	10:V1:50:LYS:O	2.65	0.50
5:Q1:157:TYR:HH	5:Q1:162:GLY:HA2	1.77	0.50
10:V1:32:GLU:CG	10:V1:33:ARG:N	2.74	0.50
19:A2:423:LEU:CD1	25:G2:169:ARG:O	2.60	0.50
19:A2:613:PRO:CB	38:U2:134:ILE:HD13	2.38	0.50
33:P2:41:LEU:HD12	33:P2:42:PRO:HD2	1.94	0.50
58:C3:18:LEU:HD22	58:C3:22:LEU:HD22	1.92	0.50
2:B1:197:ASN:HB2	2:B1:198:HIS:CD2	2.46	0.50
3:C1:147:THR:O	3:C1:150:LEU:HB2	2.11	0.50
4:D1:30:PHE:CE1	4:D1:50:HIS:CE1	2.99	0.50
4:D1:138:PRO:HB3	8:H1:55:THR:HA	1.94	0.50
1:M1:334:MET:O	1:M1:335:MET:C	2.48	0.50
2:N1:109:VAL:HG22	2:N1:119:LEU:CD2	2.41	0.50
2:N1:198:HIS:HE1	2:N1:233:SER:CB	2.23	0.50
2:N1:340:ALA:O	2:N1:344:VAL:HG23	2.12	0.50
2:N1:350:GLY:HA2	2:N1:411:ILE:HG21	1.93	0.50
3:O1:371:THR:O	3:O1:372:ILE:C	2.49	0.50
4:P1:146:GLY:O	4:P1:148:TYR:CD1	2.65	0.50
6:R1:58:ARG:HG2	6:R1:58:ARG:NH1	2.25	0.50
18:92:111:ARG:HH12	19:A2:193:ASP:HA	1.77	0.50
20:B2:272:THR:HA	20:B2:275:ILE:HD12	1.93	0.50
42:Y2:46:ARG:HA	42:Y2:49:GLN:HE22	1.76	0.50
56:A3:168:ILE:HG21	56:A3:189:MET:HG3	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:F3:37:LYS:HD3	61:F3:37:LYS:N	2.27	0.50
1:A1:48:GLU:HB3	1:A1:52:ASN:O	2.10	0.50
2:B1:429:ASN:ND2	2:N1:60:SER:OG	2.45	0.50
3:C1:251:GLY:O	3:C1:252:ASP:C	2.50	0.50
4:D1:72:ASP:OD1	4:D1:76:GLU:OE1	2.30	0.50
9:I1:62:ARG:H	9:I1:63:PRO:HD2	1.76	0.50
10:J1:49:GLY:HA2	10:J1:54:HIS:HB2	1.91	0.50
1:M1:30:SER:N	1:M1:201:GLY:O	2.44	0.50
2:N1:155:PRO:O	2:N1:156:GLN:C	2.49	0.50
4:P1:7:PRO:HB2	4:P1:125:ASP:HB3	1.93	0.50
14:42:214:LEU:HD11	53:62:558:LEU:HB3	1.92	0.50
19:A2:238:PHE:CB	23:E2:140:ARG:HB3	2.40	0.50
35:R2:281:PHE:HD1	35:R2:286:ARG:HA	1.75	0.50
53:62:103:PHE:O	53:62:107:TYR:N	2.40	0.50
57:B3:139:ASP:OD1	57:B3:140:ASN:N	2.44	0.50
1:A1:124:ASP:O	1:A1:128:GLU:HG2	2.11	0.50
1:A1:252:HIS:CD2	1:A1:325:VAL:HG22	2.47	0.50
1:A1:272:VAL:O	1:A1:275:ALA:HB3	2.12	0.50
2:B1:275:LEU:HD12	2:B1:275:LEU:O	2.12	0.50
6:F1:51:PRO:CD	2:N1:134:ARG:HH12	2.24	0.50
1:M1:120:CYS:O	1:M1:122:LEU:HG	2.12	0.50
2:N1:130:PRO:HB2	2:N1:132:PHE:CE1	2.46	0.50
2:N1:196:GLN:HG2	2:N1:197:ASN:OD1	2.12	0.50
2:N1:257:LEU:CD1	2:N1:424:MET:HB2	2.40	0.50
2:N1:279:LEU:CD2	2:N1:344:VAL:HG22	2.40	0.50
4:P1:30:PHE:HD1	4:P1:189:PHE:CE1	2.29	0.50
4:P1:138:PRO:CB	8:T1:55:THR:CA	2.90	0.50
5:Q1:152:ASP:N	5:Q1:164:HIS:ND1	2.59	0.50
39:V2:55:ARG:NH2	52:12:312:SER:OG	2.32	0.50
1:A1:113:LEU:HA	1:A1:116:ILE:HD12	1.92	0.50
2:B1:45:SER:HB2	2:B1:210:GLY:HA3	1.93	0.50
2:B1:372:VAL:O	2:B1:372:VAL:HG12	2.11	0.50
3:C1:26:ASN:ND2	3:C1:208:PRO:HD2	2.27	0.50
3:C1:106:SER:CB	69:C1:402:HEM:HBD2	2.41	0.50
4:D1:33:TYR:O	4:D1:37:CYS:HB2	2.12	0.50
9:I1:62:ARG:N	9:I1:63:PRO:CD	2.75	0.50
3:O1:124:MET:HE1	3:O1:298:ILE:HD13	1.94	0.50
3:O1:378:LYS:O	3:O1:378:LYS:HD3	2.11	0.50
4:P1:117:VAL:CG1	4:P1:191:ARG:HH11	2.25	0.50
4:P1:134:TYR:HE2	4:P1:163:PRO:CG	2.25	0.50
4:P1:165:TYR:H	4:P1:168:VAL:CG2	2.24	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:Q1:34:GLY:CA	10:V1:10:TYR:HD1	2.22	0.50
12:22:245:LEU:HD22	12:22:301:THR:HG21	1.94	0.50
17:82:321:GLY:N	17:82:351:THR:OG1	2.43	0.50
20:B2:326:CYS:HA	20:B2:329:ARG:HG2	1.94	0.50
35:R2:84:HIS:CD2	35:R2:87:GLU:H	2.30	0.50
1:A1:22:GLY:O	1:A1:24:ARG:HG2	2.12	0.49
1:A1:63:ALA:HB2	1:A1:97:TYR:HE2	1.76	0.49
1:A1:335:MET:CE	1:A1:339:GLN:HG3	2.42	0.49
1:A1:395:TRP:O	1:A1:398:ARG:N	2.45	0.49
3:C1:88:SER:O	3:C1:89:MET:C	2.47	0.49
5:E1:20:ASP:O	5:E1:21:SER:C	2.49	0.49
1:M1:40:TRP:HZ2	1:M1:377:GLU:HB2	1.75	0.49
1:M1:92:ARG:HD2	1:M1:163:LEU:CD1	2.37	0.49
2:N1:185:LYS:HG3	2:N1:185:LYS:O	2.11	0.49
2:N1:206:LEU:CD1	2:N1:224:LEU:HD11	2.41	0.49
3:O1:164:ILE:O	3:O1:177:ARG:NH1	2.44	0.49
3:O1:317:PHE:CD1	6:R1:26:PHE:HB3	2.47	0.49
4:P1:35:GLN:HB2	4:P1:169:LEU:CD1	2.42	0.49
4:P1:232:SER:CB	7:S1:23:GLN:OE1	2.59	0.49
5:Q1:9:ASP:OD1	5:Q1:11:SER:OG	2.30	0.49
5:Q1:119:ASP:HB3	5:Q1:179:ASN:HD21	1.76	0.49
7:S1:27:PRO:O	7:S1:28:HIS:C	2.48	0.49
9:U1:62:ARG:N	9:U1:63:PRO:CD	2.75	0.49
17:82:119:GLU:O	17:82:159:ARG:NH2	2.45	0.49
18:92:227:PRO:HD2	18:92:231:LEU:HA	1.93	0.49
21:C2:188:ARG:NH1	21:C2:193:TYR:O	2.45	0.49
23:E2:188:GLU:OE1	38:U2:127:TYR:OH	2.30	0.49
27:I2:106:GLU:HB3	27:I2:108:LYS:HZ1	1.76	0.49
56:A3:365:ILE:HD12	57:B3:87:MET:CE	2.34	0.49
59:D3:64:PHE:CE1	60:E3:66:ARG:HD2	2.47	0.49
1:A1:158:PHE:O	1:A1:164:ALA:HB2	2.12	0.49
1:A1:408:ARG:HH12	11:K1:15:ARG:CD	2.25	0.49
2:B1:381:GLU:O	2:B1:384:SER:OG	2.24	0.49
3:C1:37:LEU:HD21	3:C1:94:LEU:HD13	1.93	0.49
4:D1:82:MET:HE2	4:D1:86:LYS:HZ2	1.77	0.49
4:D1:138:PRO:O	4:D1:141:VAL:HB	2.12	0.49
6:F1:55:TYR:CD1	6:F1:55:TYR:C	2.86	0.49
3:O1:122:THR:HB	3:O1:189:ILE:HD13	1.95	0.49
8:T1:68:CYS:O	8:T1:69:VAL:C	2.51	0.49
10:V1:60:GLU:O	10:V1:60:GLU:HG3	2.11	0.49
57:B3:186:SER:HB3	57:B3:213:LEU:CD2	2.42	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A1:171:SER:O	1:A1:174:VAL:HB	2.13	0.49
1:A1:349:ALA:HB3	1:A1:408:ARG:HG2	1.95	0.49
2:B1:255:ALA:HA	2:B1:425:ALA:O	2.12	0.49
3:C1:338:ILE:HA	3:C1:341:GLN:CG	2.43	0.49
1:M1:106:LEU:O	1:M1:107:PRO:C	2.51	0.49
1:M1:307:PHE:HA	1:M1:323:HIS:O	2.12	0.49
1:M1:433:ASP:CG	3:O1:223:TYR:HH	2.13	0.49
3:O1:344:GLU:O	3:O1:348:ILE:HG13	2.11	0.49
4:P1:100:ALA:O	4:P1:103:ALA:N	2.45	0.49
9:U1:53:GLU:O	9:U1:54:SER:C	2.51	0.49
17:82:95:THR:HA	17:82:98:LYS:HG2	1.95	0.49
19:A2:352:ILE:HD11	19:A2:528:LEU:HD22	1.94	0.49
36:S2:189:PRO:HB2	36:S2:192:VAL:HG22	1.94	0.49
56:A3:184:PHE:H	56:A3:256:HIS:CE1	2.29	0.49
1:A1:15:GLN:O	1:A1:205:HIS:CE1	2.66	0.49
1:A1:43:ALA:HB2	1:A1:189:HIS:HB3	1.94	0.49
1:A1:385:THR:HB	1:A1:386:TYR:CD1	2.48	0.49
2:B1:185:LYS:O	2:B1:185:LYS:CG	2.54	0.49
2:B1:352:LEU:HD23	2:B1:411:ILE:CD1	2.43	0.49
3:C1:74:ASN:O	5:E1:61:SER:HA	2.12	0.49
4:D1:211:MET:HA	4:D1:211:MET:HE3	1.94	0.49
4:D1:237:TYR:HB2	6:F1:60:PHE:CE1	2.47	0.49
9:I1:70:LEU:HG	9:I1:72:VAL:H	1.78	0.49
3:O1:21:LEU:HD12	3:O1:22:PRO:HD2	1.94	0.49
69:O1:401:HEM:HBC2	69:O1:401:HEM:CMC	2.35	0.49
4:P1:2:ASP:HB3	4:P1:156:GLN:NE2	2.27	0.49
7:S1:34:ILE:CB	7:S1:35:PRO:HD3	2.32	0.49
7:S1:48:VAL:O	7:S1:51:PRO:HD2	2.12	0.49
7:S1:80:ASP:O	7:S1:81:ARG:HB2	2.11	0.49
19:A2:371:VAL:HB	19:A2:482:GLN:HG3	1.94	0.49
20:B2:143:SER:OG	20:B2:147:ASN:OD1	2.30	0.49
20:B2:266:ARG:HH22	23:E2:60:THR:HA	1.76	0.49
28:J2:26:ILE:O	28:J2:30:SER:N	2.42	0.49
62:G3:42:ARG:NH1	62:G3:74:ARG:HH21	2.10	0.49
1:A1:146:ARG:NH2	1:A1:308:GLN:NE2	2.58	0.49
2:B1:258:VAL:CG1	2:B1:321:LEU:HD22	2.42	0.49
3:C1:269:LYS:CD	3:C1:340:GLY:HA2	2.43	0.49
6:F1:40:ASN:CG	6:F1:41:ASP:H	2.16	0.49
8:H1:40:CYS:O	8:H1:44:VAL:HG23	2.12	0.49
1:M1:349:ALA:O	1:M1:408:ARG:NH2	2.45	0.49
2:N1:92:VAL:O	2:N1:92:VAL:CG1	2.60	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O1:26:ASN:HA	6:R1:70:MET:HA	1.94	0.49
6:R1:10:SER:HA	6:R1:13:LEU:CD1	2.42	0.49
14:42:134:THR:O	14:42:142:ARG:NH1	2.44	0.49
18:92:42:ARG:HH22	19:A2:199:GLY:HA3	1.76	0.49
20:B2:86:PRO:HD3	20:B2:96:ARG:HA	1.94	0.49
32:O2:50:PHE:HE1	32:O2:96:VAL:HG12	1.77	0.49
63:H3:24:ASN:ND2	63:H3:26:THR:H	2.11	0.49
1:A1:43:ALA:HB1	1:A1:189:HIS:HB3	1.94	0.49
3:C1:200:LEU:HD13	69:C1:402:HEM:HAD2	1.93	0.49
1:M1:39:VAL:HG13	1:M1:195:MET:HE3	1.94	0.49
1:M1:379:ILE:O	1:M1:383:LEU:HG	2.13	0.49
1:M1:431:LEU:HD12	1:M1:432:PRO:HD2	1.95	0.49
2:N1:255:ALA:CB	2:N1:426:ALA:HB2	2.42	0.49
3:O1:372:ILE:O	3:O1:375:LYS:N	2.45	0.49
4:P1:168:VAL:HG12	4:P1:169:LEU:CD2	2.42	0.49
4:P1:168:VAL:HG12	4:P1:169:LEU:HD23	1.93	0.49
7:S1:71:ARG:O	7:S1:73:ASN:N	2.46	0.49
20:B2:241:MET:HG3	39:V2:10:MET:HB3	1.95	0.49
22:D2:155:SER:OG	23:E2:150:THR:O	2.30	0.49
53:62:439:THR:OG1	53:62:440:LEU:N	2.42	0.49
56:A3:145:LEU:HD21	58:C3:32:THR:HG21	1.93	0.49
1:A1:89:TYR:CD1	1:A1:89:TYR:C	2.85	0.49
2:B1:126:VAL:O	2:B1:126:VAL:HG12	2.11	0.49
2:B1:207:ILE:HG22	2:B1:379:LEU:HD12	1.95	0.49
2:B1:299:VAL:HG13	2:B1:303:VAL:HG21	1.94	0.49
3:C1:103:TYR:OH	3:C1:322:GLN:HG3	2.12	0.49
3:C1:119:LEU:HG	69:C1:402:HEM:HBB2	1.90	0.49
3:C1:122:THR:HG21	3:C1:189:ILE:CG1	2.42	0.49
4:D1:69:GLU:HG3	4:D1:84:PRO:HA	1.94	0.49
4:D1:229:VAL:HG12	4:D1:233:ARG:NE	2.22	0.49
2:N1:24:LEU:HD13	2:N1:392:TYR:CD2	2.48	0.49
2:N1:68:LEU:CD1	2:N1:140:LEU:HD23	2.39	0.49
5:Q1:38:LEU:O	5:Q1:42:THR:OG1	2.30	0.49
5:Q1:42:THR:O	5:Q1:45:VAL:N	2.45	0.49
5:Q1:89:PHE:O	5:Q1:96:LEU:N	2.23	0.49
12:22:78:LEU:HD11	15:52:48:ILE:HD11	1.93	0.49
13:32:93:PHE:HA	13:32:96:ILE:HD12	1.95	0.49
35:R2:178:SER:H	35:R2:181:LEU:HB3	1.78	0.49
52:12:127:TYR:C	52:12:127:TYR:CD1	2.86	0.49
56:A3:508:PRO:HG3	58:C3:6:HIS:HB3	1.94	0.49
1:A1:37:VAL:HG13	1:A1:199:ALA:HB2	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A1:37:VAL:CG1	1:A1:199:ALA:HB2	2.43	0.49
1:A1:53:ASN:C	1:A1:53:ASN:HD22	2.16	0.49
1:A1:315:ALA:HB3	1:A1:316:ASP:OD1	2.13	0.49
2:B1:79:GLY:CA	2:B1:125:ASN:HD21	2.26	0.49
2:B1:166:ALA:HB2	2:B1:244:ILE:CG1	2.39	0.49
2:B1:183:ILE:HG22	2:B1:184:GLY:N	2.28	0.49
2:B1:348:ALA:HB3	2:B1:418:VAL:HG21	1.94	0.49
2:B1:381:GLU:OE1	2:B1:381:GLU:HA	2.13	0.49
4:D1:13:SER:O	4:D1:19:SER:HB3	2.11	0.49
4:D1:161:ALA:HB1	4:D1:162:PRO:HD2	1.93	0.49
1:M1:327:ASP:OD1	1:M1:328:HIS:N	2.44	0.49
1:M1:386:TYR:N	1:M1:386:TYR:CD1	2.74	0.49
4:P1:138:PRO:O	4:P1:139:THR:C	2.50	0.49
5:Q1:32:ARG:HH12	7:S1:22:GLU:CD	2.15	0.49
5:Q1:142:LEU:HD12	5:Q1:161:HIS:CE1	2.46	0.49
15:52:36:MET:O	15:52:39:SER:OG	2.31	0.49
18:92:137:THR:O	18:92:141:MET:N	2.43	0.49
19:A2:312:GLY:N	38:U2:144:TYR:N	2.61	0.49
19:A2:355:LYS:HD2	19:A2:530:TYR:HE1	1.77	0.49
19:A2:674:LEU:CD1	29:K2:46:LYS:HE2	2.32	0.49
39:V2:134:LEU:HG	39:V2:138:TYR:HD2	1.78	0.49
56:A3:87:ILE:O	56:A3:173:PRO:HD3	2.13	0.49
62:G3:44:ARG:HD2	62:G3:74:ARG:O	2.12	0.49
1:A1:286:GLY:O	1:A1:287:GLY:O	2.30	0.49
2:B1:207:ILE:CG2	2:B1:379:LEU:HD12	2.43	0.49
2:B1:429:ASN:ND2	2:N1:60:SER:CB	2.59	0.49
3:C1:88:SER:HB3	3:C1:250:LEU:HD21	1.95	0.49
3:C1:210:GLY:HA3	3:C1:314:SER:CB	2.40	0.49
4:D1:116:ILE:HD11	4:D1:120:ARG:HH11	1.78	0.49
4:D1:139:THR:CG2	8:H1:44:VAL:HB	2.43	0.49
4:D1:237:TYR:CD2	4:D1:239:PRO:HD3	2.48	0.49
6:F1:73:GLN:HG2	7:G1:36:ASN:HD21	1.77	0.49
1:M1:262:TRP:CE3	1:M1:385:THR:HG21	2.48	0.49
2:N1:254:HIS:O	2:N1:426:ALA:HA	2.13	0.49
3:O1:142:GLY:O	3:O1:146:ILE:HG12	2.12	0.49
3:O1:150:LEU:O	3:O1:153:ILE:HD13	2.13	0.49
3:O1:192:ILE:N	3:O1:192:ILE:HD13	2.28	0.49
3:O1:329:VAL:HA	3:O1:332:LEU:HD12	1.94	0.49
5:Q1:188:THR:HG21	5:Q1:194:ILE:CD1	2.42	0.49
19:A2:246:ARG:HH22	21:C2:234:LYS:H	1.60	0.49
35:R2:329:LEU:HD11	35:R2:331:HIS:HD2	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:V2:95:ALA:HB2	39:V2:106:VAL:HG11	1.95	0.49
57:B3:13:THR:HG22	57:B3:13:THR:O	2.11	0.49
2:B1:213:HIS:O	2:B1:213:HIS:HD2	1.96	0.49
4:D1:138:PRO:HB3	8:H1:55:THR:CA	2.43	0.49
4:D1:158:ILE:HG13	70:D1:301:HEC:HBD2	1.95	0.49
4:D1:217:PRO:HG2	4:D1:218:LEU:H	1.78	0.49
6:F1:45:GLU:O	6:F1:46:ALA:O	2.31	0.49
8:H1:66:ASP:O	8:H1:67:HIS:C	2.50	0.49
1:M1:370:ASP:OD1	2:N1:375:SER:HB3	2.12	0.49
2:N1:227:ARG:HD2	2:N1:227:ARG:N	2.27	0.49
3:O1:221:HIS:N	3:O1:222:PRO:HD2	2.28	0.49
4:P1:49:ARG:HG3	4:P1:49:ARG:O	2.13	0.49
8:T1:15:ASP:CB	8:T1:16:PRO:CD	2.91	0.49
18:92:163:THR:HA	18:92:170:THR:HA	1.94	0.49
52:12:73:LEU:HA	52:12:76:ILE:HD12	1.95	0.49
53:62:457:LEU:O	53:62:461:SER:N	2.46	0.49
1:A1:260:PRO:HG3	1:A1:414:TYR:CZ	2.49	0.48
1:A1:347:THR:O	11:K1:16:ASN:ND2	2.43	0.48
4:D1:10:TYR:CZ	4:D1:128:PHE:CE2	2.92	0.48
4:D1:32:VAL:CB	4:D1:186:VAL:HG22	2.43	0.48
4:D1:134:TYR:HE2	4:D1:163:PRO:CG	2.24	0.48
1:M1:243:HIS:CD2	1:M1:425:PHE:CE1	3.01	0.48
1:M1:291:SER:HB3	2:N1:87:ARG:HD3	1.94	0.48
1:M1:436:ARG:HE	3:O1:222:PRO:CD	2.26	0.48
2:N1:72:ALA:HB2	2:N1:140:LEU:CD2	2.43	0.48
2:N1:283:PRO:HG3	9:U1:55:LEU:HB3	1.95	0.48
2:N1:312:PHE:HD1	9:U1:58:GLN:O	1.96	0.48
3:O1:284:ILE:CG2	3:O1:285:PRO:HD2	2.43	0.48
10:V1:61:ASN:O	10:V1:62:LYS:HB2	2.13	0.48
12:22:149:ILE:HD12	12:22:154:ILE:HG21	1.95	0.48
18:92:228:ALA:HA	18:92:231:LEU:HD23	1.94	0.48
19:A2:381:LEU:HB2	29:K2:55:ILE:CD1	2.42	0.48
19:A2:443:ASP:OD1	19:A2:443:ASP:N	2.45	0.48
22:D2:151:VAL:HG22	22:D2:181:ILE:HB	1.95	0.48
37:T2:21:LYS:HG2	37:T2:75:CYS:HB3	1.94	0.48
53:62:381:THR:HA	53:62:420:ALA:HA	1.95	0.48
57:B3:90:ILE:HD12	57:B3:90:ILE:H	1.77	0.48
2:B1:141:GLN:OE1	2:B1:141:GLN:HA	2.13	0.48
4:D1:224:ARG:HH21	7:G1:27:PRO:HD2	1.78	0.48
6:F1:51:PRO:HG3	2:N1:134:ARG:HH12	1.78	0.48
7:G1:34:ILE:O	7:G1:38:LEU:HG	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J1:4:THR:HG22	10:J1:6:THR:H	1.77	0.48
1:M1:4:TYR:CE1	2:N1:43:PRO:HB3	2.48	0.48
3:O1:251:GLY:O	3:O1:252:ASP:C	2.51	0.48
4:P1:66:GLU:O	4:P1:69:GLU:HG2	2.13	0.48
9:U1:51:CYS:SG	9:U1:53:GLU:HB3	2.52	0.48
19:A2:59:GLN:HB3	21:C2:241:TRP:CZ3	2.49	0.48
31:N2:6:LYS:HE2	31:N2:16:VAL:HG11	1.95	0.48
35:R2:178:SER:H	35:R2:182:ARG:H	1.61	0.48
35:R2:238:GLN:HE22	35:R2:271:TYR:HA	1.77	0.48
56:A3:187:SER:HB2	56:A3:277:MET:HE1	1.94	0.48
56:A3:397:PHE:HB3	56:A3:398:PRO:HD3	1.95	0.48
58:C3:42:LEU:HD13	65:J3:45:TYR:HD2	1.77	0.48
2:B1:198:HIS:HE1	2:B1:233:SER:CB	2.19	0.48
3:C1:357:LEU:O	3:C1:361:LEU:HG	2.13	0.48
4:D1:20:SER:OG	4:D1:21:LEU:N	2.46	0.48
4:D1:102:ARG:HE	4:D1:109:LEU:HB2	1.78	0.48
4:D1:190:LEU:O	4:D1:191:ARG:C	2.52	0.48
1:M1:161:THR:HB	1:M1:162:PRO:CD	2.41	0.48
1:M1:349:ALA:HB3	1:M1:408:ARG:HE	1.78	0.48
2:N1:79:GLY:H	2:N1:125:ASN:ND2	2.12	0.48
3:O1:126:THR:HG21	69:O1:401:HEM:CAB	2.43	0.48
3:O1:218:ILE:HG23	3:O1:223:TYR:CE2	2.48	0.48
4:P1:74:PRO:O	4:P1:79:GLU:N	2.42	0.48
4:P1:106:ASN:C	4:P1:106:ASN:HD22	2.17	0.48
10:V1:38:GLY:O	10:V1:42:ILE:HG13	2.14	0.48
19:A2:337:ASP:O	19:A2:543:LYS:N	2.42	0.48
2:B1:132:PHE:HB3	2:B1:137:VAL:CG2	2.42	0.48
2:B1:187:THR:HG23	2:B1:190:GLU:OE1	2.13	0.48
4:D1:26:ILE:HG22	4:D1:27:ARG:N	2.27	0.48
4:D1:131:LEU:HD22	4:D1:163:PRO:HB3	1.95	0.48
4:D1:165:TYR:H	4:D1:168:VAL:CG2	2.26	0.48
6:F1:16:ILE:O	6:F1:17:ARG:C	2.50	0.48
7:G1:64:GLN:O	7:G1:65:GLU:C	2.50	0.48
8:H1:62:LEU:O	8:H1:65:ARG:HG2	2.14	0.48
1:M1:62:LEU:HB3	1:M1:122:LEU:HD22	1.94	0.48
1:M1:80:GLU:O	1:M1:82:MET:N	2.46	0.48
1:M1:100:LYS:HD2	1:M1:373:THR:OG1	2.13	0.48
1:M1:280:TYR:O	1:M1:306:SER:HA	2.14	0.48
1:M1:385:THR:CG2	1:M1:386:TYR:CD1	2.96	0.48
1:M1:417:ASP:CG	10:V1:10:TYR:OH	2.51	0.48
2:N1:133:ARG:O	2:N1:134:ARG:C	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N1:381:GLU:OE1	2:N1:381:GLU:HA	2.13	0.48
3:O1:233:LEU:CD2	4:P1:219:VAL:HG21	2.44	0.48
12:22:122:ILE:HD13	12:22:128:LEU:HD11	1.95	0.48
17:82:381:GLN:O	19:A2:74:ASN:O	2.31	0.48
23:E2:61:LEU:HD23	39:V2:36:PHE:HE1	1.77	0.48
23:E2:80:GLU:O	33:P2:25:GLN:NE2	2.47	0.48
1:A1:239:SER:HB2	7:G1:18:LEU:HD23	1.95	0.48
4:D1:3:LEU:HD21	7:G1:71:ARG:HA	1.95	0.48
4:D1:50:HIS:CE1	4:D1:91:PHE:HZ	2.31	0.48
1:M1:277:ILE:H	1:M1:277:ILE:HG12	1.42	0.48
1:M1:290:LEU:HD13	1:M1:295:ALA:HB1	1.95	0.48
2:N1:217:LYS:O	2:N1:218:GLN:C	2.51	0.48
3:O1:296:PHE:O	3:O1:297:SER:C	2.52	0.48
5:Q1:33:LYS:HB2	10:V1:10:TYR:CE1	2.48	0.48
5:Q1:76:ILE:HG22	5:Q1:193:VAL:O	2.12	0.48
23:E2:100:GLU:O	23:E2:170:GLY:N	2.46	0.48
64:I3:39:VAL:O	64:I3:42:LYS:HE2	2.14	0.48
65:J3:8:LYS:NZ	65:J3:8:LYS:HB3	2.29	0.48
1:A1:61:HIS:CE1	1:A1:134:ILE:HD11	2.49	0.48
2:B1:130:PRO:HB2	2:B1:132:PHE:CE1	2.48	0.48
2:B1:140:LEU:O	2:B1:142:PRO:N	2.47	0.48
3:C1:218:ILE:CG2	3:C1:223:TYR:CE2	2.97	0.48
4:D1:7:PRO:CB	4:D1:125:ASP:HB3	2.43	0.48
9:I1:60:ALA:HB3	9:I1:63:PRO:O	2.12	0.48
3:O1:252:ASP:CB	3:O1:253:PRO:HD3	2.34	0.48
4:P1:10:TYR:CE1	8:T1:73:LEU:HD22	2.47	0.48
13:32:19:ILE:HA	13:32:23:TRP:HB2	1.96	0.48
34:Q2:8:PRO:O	39:V2:88:ARG:NH2	2.46	0.48
34:Q2:38:LYS:HG3	34:Q2:39:PRO:HD3	1.95	0.48
1:A1:277:ILE:CG2	1:A1:294:LEU:HD12	2.44	0.48
2:B1:139:ALA:O	2:B1:142:PRO:HD2	2.14	0.48
3:C1:24:PRO:O	3:C1:224:TYR:OH	2.20	0.48
5:E1:72:SER:HB2	3:O1:168:PHE:CE2	2.48	0.48
6:F1:36:THR:O	6:F1:36:THR:HG22	2.14	0.48
7:G1:50:PRO:HB2	7:G1:51:PRO:CD	2.38	0.48
1:M1:33:PRO:O	1:M1:103:SER:HB3	2.14	0.48
1:M1:64:PHE:HA	1:M1:75:LEU:HD23	1.96	0.48
2:N1:128:THR:HG23	2:N1:226:ILE:HD11	1.96	0.48
2:N1:294:SER:O	2:N1:295:LEU:C	2.51	0.48
2:N1:360:ALA:O	2:N1:363:LYS:N	2.46	0.48
3:O1:276:PHE:O	3:O1:277:ALA:C	2.52	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:Q1:96:LEU:CD2	5:Q1:195:VAL:HG21	2.27	0.48
19:A2:318:THR:HG22	19:A2:320:GLU:H	1.79	0.48
19:A2:542:PRO:HG2	19:A2:545:LEU:HD11	1.95	0.48
20:B2:131:GLN:HE21	23:E2:124:PRO:HA	1.77	0.48
22:D2:114:ARG:CG	22:D2:114:ARG:NH2	2.73	0.48
35:R2:147:LYS:O	35:R2:151:ALA:N	2.47	0.48
36:S2:61:LEU:HD22	36:S2:251:ALA:HB2	1.96	0.48
56:A3:11:ASN:ND2	56:A3:13:LYS:HB2	2.28	0.48
56:A3:266:GLU:HB2	56:A3:267:PRO:HD2	1.94	0.48
59:D3:68:PHE:HA	59:D3:71:MET:HG2	1.95	0.48
62:G3:42:ARG:HD2	62:G3:42:ARG:O	2.13	0.48
2:B1:76:THR:HG21	2:B1:133:ARG:NH2	2.29	0.48
3:C1:43:LEU:O	3:C1:44:GLN:C	2.51	0.48
3:C1:108:THR:O	3:C1:110:LEU:N	2.46	0.48
3:C1:297:SER:O	3:C1:300:ILE:CG2	2.62	0.48
3:C1:310:SER:HB3	3:C1:318:ARG:HH12	1.71	0.48
1:M1:406:VAL:O	1:M1:410:VAL:HG23	2.13	0.48
2:N1:132:PHE:CE2	2:N1:191:LEU:HD22	2.49	0.48
3:O1:51:LEU:HD21	3:O1:79:ILE:HG22	1.95	0.48
3:O1:300:ILE:HD13	3:O1:362:ILE:HG21	1.95	0.48
3:O1:361:LEU:HD23	3:O1:365:LEU:CD1	2.36	0.48
4:P1:137:PRO:HA	4:P1:138:PRO:HD3	1.58	0.48
4:P1:146:GLY:O	4:P1:148:TYR:HD1	1.97	0.48
5:Q1:105:GLU:O	5:Q1:108:GLN:HB3	2.14	0.48
10:V1:32:GLU:HG2	10:V1:33:ARG:N	2.29	0.48
17:82:257:ARG:HA	18:92:243:PHE:HB2	1.96	0.48
19:A2:373:PRO:HG3	19:A2:486:GLY:HA3	1.96	0.48
20:B2:97:LEU:N	20:B2:97:LEU:CD1	2.73	0.48
21:C2:112:SER:HB2	21:C2:135:LEU:HB3	1.96	0.48
35:R2:170:LEU:HD12	35:R2:328:ILE:HD12	1.95	0.48
56:A3:507:GLU:O	56:A3:508:PRO:O	2.32	0.48
1:A1:39:VAL:HG12	1:A1:41:ILE:HD12	1.95	0.48
1:A1:39:VAL:HG23	1:A1:113:LEU:HD23	1.95	0.48
2:B1:47:ILE:CG2	2:B1:48:GLY:N	2.77	0.48
2:B1:235:ALA:O	2:B1:236:LYS:CB	2.61	0.48
3:C1:147:THR:HG21	3:C1:165:TRP:CD1	2.48	0.48
3:C1:215:VAL:O	6:F1:63:LYS:CE	2.62	0.48
4:D1:224:ARG:NH2	7:G1:27:PRO:HD2	2.28	0.48
6:F1:73:GLN:HA	7:G1:39:ARG:NH2	2.28	0.48
1:M1:134:ILE:O	1:M1:137:GLU:N	2.47	0.48
4:P1:27:ARG:O	4:P1:28:ARG:C	2.52	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:Q1:102:THR:O	5:Q1:105:GLU:N	2.46	0.48
5:Q1:188:THR:HG21	5:Q1:194:ILE:HG13	1.96	0.48
10:V1:36:ASP:O	10:V1:37:GLN:C	2.53	0.48
17:82:383:THR:HG23	19:A2:74:ASN:O	2.14	0.48
19:A2:226:CYS:SG	75:A2:802:SF4:S1	3.11	0.48
29:K2:67:ALA:O	29:K2:75:LYS:N	2.45	0.48
40:W2:119:ILE:HD12	40:W2:130:ILE:HG21	1.95	0.48
56:A3:197:LEU:O	58:C3:92:LEU:HD22	2.13	0.48
56:A3:449:MET:SD	57:B3:5:MET:CE	3.02	0.48
57:B3:4:PRO:HB2	66:K3:43:SER:HA	1.96	0.48
1:A1:84:ALA:HB1	1:A1:100:LYS:O	2.14	0.48
2:B1:303:VAL:CG1	2:B1:304:HIS:H	2.26	0.48
1:M1:236:PHE:CD2	1:M1:258:GLU:CG	2.95	0.48
2:N1:24:LEU:HD13	2:N1:392:TYR:HD2	1.78	0.48
2:N1:111:CYS:CB	2:N1:119:LEU:HD22	2.31	0.48
3:O1:47:THR:HG21	3:O1:83:HIS:CB	2.43	0.48
4:P1:153:PHE:O	4:P1:156:GLN:N	2.36	0.48
5:Q1:15:ARG:HH21	5:Q1:32:ARG:CB	2.27	0.48
5:Q1:29:SER:CA	5:Q1:32:ARG:HD3	2.44	0.48
5:Q1:87:MET:HG2	5:Q1:89:PHE:HE1	1.78	0.48
5:Q1:193:VAL:O	5:Q1:193:VAL:CG1	2.61	0.48
7:S1:39:ARG:HA	7:S1:42:ARG:HD2	1.96	0.48
19:A2:129:PRO:HB2	27:I2:114:TYR:CE1	2.48	0.48
56:A3:476:PHE:CD1	67:L3:15:VAL:HG21	2.48	0.48
58:C3:80:ARG:O	58:C3:84:ILE:HG12	2.14	0.48
1:A1:53:ASN:CG	1:A1:165:GLN:HB2	2.34	0.47
4:D1:117:VAL:CG1	4:D1:191:ARG:HH11	2.27	0.47
4:D1:232:SER:CB	7:G1:23:GLN:OE1	2.62	0.47
70:D1:301:HEC:HBD1	70:D1:301:HEC:HHA	1.95	0.47
7:G1:67:GLU:O	7:G1:71:ARG:HB3	2.14	0.47
8:H1:15:ASP:HB2	8:H1:16:PRO:CD	2.44	0.47
1:M1:53:ASN:ND2	1:M1:165:GLN:HG3	2.29	0.47
2:N1:250:ASP:OD1	2:N1:251:SER:N	2.47	0.47
2:N1:262:ALA:HB3	2:N1:269:ALA:CA	2.44	0.47
3:O1:315:MET:O	3:O1:318:ARG:N	2.40	0.47
5:Q1:127:VAL:CG1	5:Q1:133:VAL:HG23	2.44	0.47
6:R1:7:SER:O	6:R1:11:ARG:HD2	2.13	0.47
17:82:364:VAL:HG12	17:82:400:VAL:HG22	1.95	0.47
20:B2:207:ARG:HD3	22:D2:98:HIS:HE1	1.79	0.47
52:12:169:GLN:HE21	52:12:174:LEU:HD13	1.79	0.47
40:M2:34:SER:HB3	40:M2:40:LEU:HD22	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A1:415:PHE:O	1:A1:441:MET:HE2	2.14	0.47
3:C1:77:TRP:CE3	3:C1:78:ILE:HG23	2.44	0.47
4:D1:36:VAL:HG23	4:D1:169:LEU:HD11	1.96	0.47
5:E1:40:THR:HG22	10:J1:20:PHE:HZ	1.79	0.47
1:M1:24:ARG:CG	1:M1:196:VAL:HG22	2.45	0.47
1:M1:392:LEU:HA	1:M1:395:TRP:HD1	1.72	0.47
2:N1:346:THR:HG23	2:N1:351:ASN:HB3	1.96	0.47
5:Q1:18:VAL:HG21	7:S1:22:GLU:OE1	2.14	0.47
6:R1:75:LEU:C	6:R1:80:TRP:HE1	2.17	0.47
17:82:220:GLN:OE1	19:A2:197:THR:OG1	2.32	0.47
18:92:42:ARG:HH22	19:A2:199:GLY:CA	2.26	0.47
19:A2:238:PHE:HB3	23:E2:140:ARG:CB	2.42	0.47
19:A2:409:PHE:HD1	19:A2:694:PHE:HB2	1.79	0.47
19:A2:462:PHE:O	19:A2:464:GLN:N	2.39	0.47
34:Q2:5:VAL:N	39:V2:107:GLY:O	2.47	0.47
53:62:202:PHE:HZ	53:62:263:PHE:HA	1.78	0.47
53:62:362:LEU:HB3	53:62:431:LEU:HB3	1.96	0.47
56:A3:115:SER:O	56:A3:121:GLY:HA2	2.14	0.47
57:B3:16:ILE:HD12	57:B3:17:MET:H	1.78	0.47
58:C3:65:SER:HB3	58:C3:71:HIS:CE1	2.48	0.47
1:A1:85:HIS:CE1	2:B1:284:HIS:ND1	2.82	0.47
2:B1:122:PHE:O	2:B1:123:LEU:C	2.53	0.47
2:B1:207:ILE:CD1	2:B1:383:GLY:HA2	2.37	0.47
2:B1:242:GLY:H	2:B1:423:SER:HB3	1.80	0.47
3:C1:44:GLN:HE22	3:C1:86:GLY:HA3	1.78	0.47
3:C1:350:ILE:O	3:C1:351:GLY:C	2.53	0.47
4:D1:241:LYS:HE3	6:F1:53:ASN:HB3	1.96	0.47
10:J1:13:LEU:O	10:J1:19:THR:OG1	2.16	0.47
3:O1:153:ILE:CG2	3:O1:154:PRO:HD2	2.45	0.47
4:P1:43:MET:HE3	4:P1:91:PHE:HE2	1.78	0.47
5:Q1:122:HIS:ND1	5:Q1:124:LEU:HB2	2.29	0.47
5:Q1:170:ARG:O	5:Q1:172:ARG:HG2	2.15	0.47
57:B3:5:MET:CE	66:K3:42:PRO:HA	2.45	0.47
57:B3:22:HIS:CE1	64:I3:44:LYS:HD3	2.49	0.47
57:B3:59:GLN:O	57:B3:62:GLU:HB2	2.13	0.47
1:A1:70:ARG:HB3	1:A1:74:ALA:HB3	1.97	0.47
1:A1:213:GLN:HB3	1:A1:215:HIS:HE2	1.72	0.47
1:A1:261:GLY:HA2	1:A1:314:TYR:O	2.13	0.47
1:A1:365:LEU:HG	1:A1:365:LEU:O	2.15	0.47
2:B1:76:THR:HG21	2:B1:133:ARG:CZ	2.44	0.47
2:B1:218:GLN:O	2:B1:221:GLU:HB2	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C1:26:ASN:N	6:F1:70:MET:HB2	2.28	0.47
3:C1:183:PHE:O	3:C1:183:PHE:HD1	1.94	0.47
3:C1:237:LEU:HD12	4:D1:208:MET:HE3	1.96	0.47
4:D1:23:HIS:NE2	10:J1:51:LEU:HA	2.29	0.47
4:D1:82:MET:SD	4:D1:86:LYS:NZ	2.82	0.47
4:D1:137:PRO:HA	4:D1:138:PRO:HD3	1.44	0.47
2:N1:24:LEU:HD12	2:N1:24:LEU:N	2.21	0.47
2:N1:299:VAL:O	2:N1:303:VAL:HG23	2.14	0.47
3:O1:341:GLN:NE2	3:O1:341:GLN:HA	2.29	0.47
4:P1:131:LEU:HD22	4:P1:163:PRO:HB2	1.96	0.47
5:Q1:68:VAL:CG1	5:Q1:69:LEU:N	2.77	0.47
5:Q1:122:HIS:HB3	5:Q1:125:GLU:HG3	1.97	0.47
5:Q1:158:CYS:SG	5:Q1:160:CYS:HB2	2.54	0.47
7:S1:56:TYR:HD1	7:S1:57:LEU:HD23	1.78	0.47
10:V1:4:THR:HG22	10:V1:6:THR:H	1.80	0.47
10:V1:52:TRP:CE3	10:V1:52:TRP:N	2.82	0.47
19:A2:238:PHE:CG	23:E2:140:ARG:HB3	2.49	0.47
20:B2:86:PRO:HG3	20:B2:96:ARG:CB	2.44	0.47
34:Q2:110:CYS:O	34:Q2:114:LYS:N	2.42	0.47
52:12:233:MET:HA	52:12:236:ILE:HG22	1.97	0.47
40:M2:37:MET:H	40:M2:41:GLY:H	1.61	0.47
57:B3:83:ILE:O	57:B3:87:MET:HG3	2.14	0.47
1:A1:52:ASN:HB2	1:A1:55:ALA:HB2	1.97	0.47
2:B1:68:LEU:C	2:B1:68:LEU:HD12	2.34	0.47
3:C1:85:ASN:O	3:C1:86:GLY:C	2.50	0.47
3:C1:185:LEU:HB3	3:C1:186:PRO:CD	2.36	0.47
3:C1:284:ILE:CG2	3:C1:285:PRO:HD2	2.44	0.47
3:C1:345:HIS:CB	3:C1:346:PRO:CD	2.85	0.47
1:M1:255:ILE:O	1:M1:321:GLY:HA3	2.14	0.47
1:M1:361:LEU:HG	1:M1:399:ILE:HD11	1.97	0.47
3:O1:107:TYR:HE1	3:O1:305:PRO:HA	1.79	0.47
3:O1:269:LYS:CD	3:O1:340:GLY:HA2	2.44	0.47
3:O1:276:PHE:CG	3:O1:277:ALA:N	2.82	0.47
4:P1:64:LEU:O	4:P1:68:VAL:HG23	2.15	0.47
4:P1:183:ALA:HA	4:P1:186:VAL:HG23	1.97	0.47
5:Q1:118:ARG:HH12	5:Q1:173:LYS:N	2.11	0.47
5:Q1:141:HIS:HA	5:Q1:177:PRO:HD3	1.96	0.47
6:R1:73:GLN:NE2	7:S1:32:LYS:HZ2	2.10	0.47
6:R1:95:LYS:O	6:R1:96:GLU:C	2.53	0.47
23:E2:40:TYR:HB3	23:E2:43:LEU:HD13	1.95	0.47
34:Q2:118:VAL:HG13	34:Q2:120:PRO:HD3	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:R2:352:VAL:HG13	35:R2:353:LEU:HD12	1.96	0.47
57:B3:59:GLN:N	57:B3:62:GLU:HG3	2.24	0.47
1:A1:32:GLN:HG2	1:A1:33:PRO:N	2.30	0.47
1:A1:405:ARG:O	1:A1:409:GLU:HG3	2.15	0.47
2:B1:360:ALA:O	2:B1:363:LYS:HB2	2.14	0.47
3:C1:183:PHE:CD1	3:C1:183:PHE:C	2.88	0.47
3:C1:192:ILE:N	3:C1:192:ILE:CD1	2.77	0.47
3:C1:326:TRP:NE1	7:G1:48:VAL:HG22	2.29	0.47
3:C1:361:LEU:CD2	3:C1:365:LEU:HD12	2.42	0.47
4:D1:76:GLU:OE2	4:D1:93:LYS:O	2.33	0.47
7:G1:45:ILE:HD12	7:G1:45:ILE:HA	1.67	0.47
11:K1:18:VAL:HB	11:K1:19:PRO:HD3	1.95	0.47
1:M1:5:ALA:O	1:M1:6:GLN:C	2.53	0.47
1:M1:34:THR:HB	2:N1:373:GLU:OE1	2.14	0.47
1:M1:151:ASN:O	1:M1:152:TYR:C	2.53	0.47
1:M1:251:ALA:O	1:M1:325:VAL:HA	2.14	0.47
1:M1:260:PRO:HG3	1:M1:414:TYR:CZ	2.50	0.47
1:M1:436:ARG:HE	3:O1:222:PRO:HG3	1.79	0.47
2:N1:163:LEU:HD22	2:N1:256:ALA:CB	2.45	0.47
2:N1:197:ASN:HB2	2:N1:198:HIS:CD2	2.49	0.47
3:O1:26:ASN:ND2	3:O1:26:ASN:O	2.48	0.47
3:O1:208:PRO:O	3:O1:314:SER:OG	2.30	0.47
3:O1:221:HIS:N	3:O1:222:PRO:CD	2.77	0.47
4:P1:10:TYR:HD1	8:T1:74:PHE:CD1	2.32	0.47
5:Q1:46:GLY:O	5:Q1:49:TYR:HB3	2.14	0.47
5:Q1:121:GLN:CG	5:Q1:179:ASN:ND2	2.77	0.47
5:Q1:163:SER:HA	5:Q1:173:LYS:O	2.14	0.47
15:52:79:VAL:O	15:52:83:ASN:N	2.48	0.47
17:82:451:GLN:O	17:82:455:GLN:N	2.44	0.47
21:C2:154:PRO:HG2	32:O2:18:LYS:HE2	1.97	0.47
35:R2:237:LYS:HA	35:R2:325:THR:HG23	1.96	0.47
42:Y2:64:PHE:HA	42:Y2:67:THR:HG22	1.97	0.47
57:B3:63:THR:O	57:B3:66:THR:HG22	2.15	0.47
57:B3:108:TYR:N	57:B3:108:TYR:CD1	2.83	0.47
58:C3:164:PHE:O	58:C3:168:THR:HG23	2.14	0.47
1:A1:64:PHE:HE2	1:A1:88:ALA:CB	2.27	0.47
1:A1:131:ARG:NH2	1:A1:177:LEU:O	2.47	0.47
1:A1:260:PRO:CD	1:A1:414:TYR:CE1	2.92	0.47
2:B1:52:LYS:CB	2:B1:203:ARG:HB3	2.28	0.47
2:B1:83:PHE:CZ	2:B1:87:ARG:HG3	2.49	0.47
2:B1:207:ILE:HG22	2:B1:379:LEU:CD1	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B1:247:GLN:NE2	2:B1:429:ASN:ND2	2.59	0.47
2:B1:252:LEU:HD11	9:I1:49:VAL:HB	1.95	0.47
3:C1:108:THR:CB	3:C1:313:ARG:HH11	2.27	0.47
4:D1:161:ALA:O	4:D1:163:PRO:HD3	2.14	0.47
5:E1:33:LYS:HA	7:G1:21:PHE:CD2	2.50	0.47
8:H1:50:THR:HG22	8:H1:51:GLU:N	2.29	0.47
1:M1:61:HIS:CD2	2:N1:287:ARG:HD3	2.50	0.47
2:N1:395:PRO:O	2:N1:396:SER:C	2.52	0.47
3:O1:41:LEU:HD23	3:O1:190:MET:HG3	1.96	0.47
3:O1:91:PHE:O	3:O1:92:ILE:C	2.52	0.47
3:O1:119:LEU:HD23	69:O1:402:HEM:C3B	2.49	0.47
3:O1:174:THR:CG2	3:O1:178:PHE:HE2	2.12	0.47
3:O1:309:THR:HG23	3:O1:310:SER:N	2.30	0.47
3:O1:312:GLN:NE2	3:O1:317:PHE:HB2	2.30	0.47
3:O1:345:HIS:CB	3:O1:346:PRO:CD	2.88	0.47
4:P1:80:MET:H	4:P1:80:MET:HG2	1.49	0.47
4:P1:115:TYR:O	4:P1:119:ALA:N	2.47	0.47
4:P1:220:TYR:CD2	7:S1:26:PHE:CE1	3.02	0.47
6:R1:45:GLU:O	6:R1:49:ARG:HG3	2.14	0.47
12:22:252:GLY:HA3	12:22:290:LEU:HD13	1.96	0.47
12:22:260:PHE:HE2	12:22:264:TRP:HE3	1.63	0.47
14:42:306:PRO:HA	14:42:308:SER:H	1.80	0.47
18:92:75:LYS:O	18:92:77:ALA:N	2.45	0.47
19:A2:130:ILE:HG12	27:I2:114:TYR:HH	1.77	0.47
27:I2:62:GLU:HB3	38:U2:124:TYR:HA	1.97	0.47
36:S2:100:CYS:HB3	36:S2:119:LEU:HB2	1.97	0.47
40:W2:122:MET:O	40:W2:127:GLY:N	2.43	0.47
52:12:21:THR:O	52:12:25:ARG:HG3	2.14	0.47
52:12:287:HIS:CE1	52:12:291:LYS:HG3	2.49	0.47
53:62:592:LEU:HD23	53:62:596:LEU:HD23	1.97	0.47
59:D3:41:LYS:HD3	59:D3:62:LEU:HD23	1.97	0.47
61:F3:49:VAL:HG21	61:F3:74:LEU:HD12	1.95	0.47
65:J3:16:ASN:ND2	65:J3:16:ASN:H	2.12	0.47
4:D1:32:VAL:CG2	4:D1:186:VAL:HG22	2.44	0.47
4:D1:82:MET:CG	4:D1:86:LYS:HZ2	2.27	0.47
10:J1:32:GLU:HG2	10:J1:33:ARG:H	1.79	0.47
10:J1:51:LEU:O	10:J1:54:HIS:N	2.46	0.47
10:J1:55:ILE:O	10:J1:58:LYS:HD2	2.14	0.47
3:O1:9:PRO:HB2	3:O1:12:LYS:HB2	1.96	0.47
3:O1:107:TYR:CE1	3:O1:305:PRO:HA	2.50	0.47
3:O1:218:ILE:CD1	4:P1:230:LEU:HD13	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:Q1:42:THR:O	5:Q1:43:THR:C	2.53	0.47
5:Q1:122:HIS:CE1	5:Q1:124:LEU:HD12	2.50	0.47
5:Q1:141:HIS:HE2	5:Q1:175:PRO:HB2	1.78	0.47
6:R1:46:ALA:O	6:R1:47:ILE:C	2.53	0.47
19:A2:97:MET:HB2	19:A2:100:TRP:HE1	1.79	0.47
19:A2:427:LEU:H	25:G2:169:ARG:NH2	2.12	0.47
20:B2:82:LEU:HD11	52:12:126:LYS:CG	2.44	0.47
35:R2:114:ASP:HA	35:R2:117:ARG:HB2	1.95	0.47
37:T2:94:GLY:HA3	37:T2:119:GLY:HA2	1.96	0.47
1:A1:36:THR:CB	1:A1:372:THR:HG22	2.45	0.47
1:A1:277:ILE:HG22	1:A1:294:LEU:HD12	1.96	0.47
2:B1:227:ARG:N	2:B1:227:ARG:HD2	2.30	0.47
3:C1:28:SER:CB	3:C1:30:TRP:HD1	2.28	0.47
5:E1:65:SER:OG	5:E1:67:ASP:HB3	2.15	0.47
11:K1:19:PRO:O	11:K1:23:LEU:HG	2.14	0.47
1:M1:32:GLN:CG	1:M1:33:PRO:CD	2.86	0.47
3:O1:122:THR:CG2	3:O1:189:ILE:HG12	2.44	0.47
10:V1:21:ALA:O	10:V1:22:LEU:C	2.53	0.47
10:V1:52:TRP:HE3	10:V1:52:TRP:H	1.62	0.47
12:22:120:GLN:HG2	12:22:177:LYS:HE3	1.97	0.47
14:42:66:LEU:O	14:42:69:THR:OG1	2.28	0.47
19:A2:261:ILE:HG22	19:A2:286:ILE:HD11	1.97	0.47
19:A2:485:ASP:HB3	19:A2:680:LEU:HG	1.97	0.47
40:M2:75:GLU:HA	40:M2:78:ASP:HB2	1.97	0.47
61:F3:31:TYR:HE1	61:F3:98:HIS:HE1	1.62	0.47
62:G3:67:HIS:CD2	62:G3:78:LEU:HD11	2.50	0.47
2:B1:37:SER:HB3	2:B1:213:HIS:HB2	1.97	0.47
2:B1:276:GLN:OE1	2:B1:313:ASN:HB3	2.14	0.47
3:C1:105:GLY:HA2	3:C1:107:TYR:CE1	2.50	0.47
3:C1:280:ILE:HD13	3:C1:280:ILE:H	1.80	0.47
3:C1:373:GLU:HA	3:C1:376:LEU:HD12	1.97	0.47
6:F1:67:ASP:HA	6:F1:70:MET:HE2	1.96	0.47
11:K1:30:VAL:HA	11:K1:33:VAL:CG1	2.44	0.47
1:M1:34:THR:CB	2:N1:373:GLU:OE1	2.62	0.47
1:M1:287:GLY:O	1:M1:289:HIS:N	2.48	0.47
3:O1:183:PHE:CE1	3:O1:187:PHE:CE2	3.03	0.47
21:C2:156:GLU:HA	21:C2:181:ALA:HB3	1.96	0.47
35:R2:182:ARG:O	35:R2:183:SER:OG	2.29	0.47
59:D3:33:LEU:HD22	59:D3:37:GLN:HB3	1.97	0.47
1:A1:312:ILE:HB	1:A1:319:LEU:HB2	1.97	0.46
1:A1:324:PHE:CG	1:A1:334:MET:HG2	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B1:159:VAL:HG12	2:B1:160:ILE:N	2.30	0.46
2:B1:279:LEU:HD23	2:B1:295:LEU:HD13	1.94	0.46
2:B1:308:ASP:OD2	9:I1:54:SER:O	2.32	0.46
4:D1:138:PRO:CB	8:H1:55:THR:HA	2.46	0.46
4:D1:168:VAL:HG12	4:D1:169:LEU:HD23	1.97	0.46
4:D1:220:TYR:CD2	7:G1:26:PHE:CE1	3.03	0.46
1:M1:45:SER:OG	1:M1:92:ARG:HG2	2.15	0.46
1:M1:61:HIS:HB3	1:M1:130:GLU:HG3	1.97	0.46
2:N1:68:LEU:HG	2:N1:191:LEU:HD21	1.98	0.46
3:O1:85:ASN:O	3:O1:86:GLY:C	2.53	0.46
3:O1:130:GLY:HA3	3:O1:182:HIS:CE1	2.49	0.46
4:P1:233:ARG:HG3	7:S1:17:SER:CB	2.42	0.46
5:Q1:99:ARG:NH1	5:Q1:156:TYR:CZ	2.83	0.46
5:Q1:103:LYS:HA	5:Q1:106:ILE:CD1	2.43	0.46
5:Q1:114:VAL:O	5:Q1:117:LEU:CB	2.63	0.46
5:Q1:133:VAL:HG13	5:Q1:133:VAL:O	2.15	0.46
6:R1:35:ASP:OD1	6:R1:89:TYR:OH	2.22	0.46
6:R1:73:GLN:HA	7:S1:39:ARG:NH2	2.29	0.46
6:R1:88:SER:O	6:R1:92:PRO:HD2	2.15	0.46
17:82:219:LYS:NZ	25:G2:172:VAL:O	2.42	0.46
18:92:57:PRO:HA	18:92:60:TYR:HD2	1.79	0.46
20:B2:322:SER:OG	20:B2:328:ASP:OD2	2.31	0.46
36:S2:161:MET:HG2	36:S2:167:ILE:HB	1.98	0.46
59:D3:33:LEU:HD13	59:D3:41:LYS:HG3	1.97	0.46
59:D3:108:PRO:HG2	59:D3:111:PHE:CD2	2.50	0.46
2:B1:84:LYS:HG3	2:B1:122:PHE:HZ	1.80	0.46
2:B1:135:TRP:NE1	2:B1:136:GLU:HG3	2.31	0.46
3:C1:15:ASN:ND2	3:C1:18:PHE:HE1	2.12	0.46
3:C1:26:ASN:ND2	3:C1:26:ASN:O	2.48	0.46
3:C1:110:LEU:HG	3:C1:114:ASN:ND2	2.27	0.46
3:C1:125:ALA:O	3:C1:126:THR:C	2.53	0.46
11:K1:33:VAL:HG13	11:K1:34:TRP:CD1	2.50	0.46
1:M1:43:ALA:HB1	1:M1:189:HIS:HB3	1.97	0.46
1:M1:57:TYR:HE2	1:M1:134:ILE:HD12	1.80	0.46
2:N1:262:ALA:HB2	2:N1:272:PHE:CE2	2.49	0.46
3:O1:26:ASN:O	3:O1:27:ILE:HG13	2.14	0.46
4:P1:30:PHE:CE1	4:P1:50:HIS:CE1	3.03	0.46
14:42:88:ASN:HB2	14:42:91:ARG:HE	1.80	0.46
14:42:138:ASN:ND2	14:42:223:ALA:O	2.48	0.46
19:A2:427:LEU:N	25:G2:169:ARG:NH1	2.60	0.46
56:A3:240:HIS:NE2	56:A3:244:TYR:CE2	2.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:D3:102:TYR:CD2	68:M3:35:TYR:HE1	2.34	0.46
1:A1:49:SER:N	1:A1:52:ASN:OD1	2.35	0.46
1:A1:60:GLU:OE1	1:A1:90:SER:HB2	2.15	0.46
1:A1:67:THR:CG2	1:A1:70:ARG:HB2	2.43	0.46
2:B1:145:ARG:HG3	2:B1:183:ILE:HD13	1.97	0.46
2:B1:429:ASN:C	2:B1:429:ASN:HD22	2.19	0.46
4:D1:35:GLN:HA	4:D1:35:GLN:OE1	2.16	0.46
4:D1:165:TYR:CD1	4:D1:168:VAL:HG22	2.51	0.46
1:M1:39:VAL:CG1	1:M1:41:ILE:HD11	2.40	0.46
1:M1:195:MET:HE3	1:M1:195:MET:HB3	1.84	0.46
1:M1:241:ILE:HG13	7:S1:16:TYR:CD2	2.50	0.46
1:M1:253:VAL:O	1:M1:323:HIS:HA	2.16	0.46
2:N1:279:LEU:CD2	2:N1:295:LEU:HD13	2.45	0.46
3:O1:252:ASP:CB	3:O1:253:PRO:CD	2.90	0.46
3:O1:278:TYR:O	3:O1:281:LEU:N	2.48	0.46
8:T1:73:LEU:CD2	8:T1:74:PHE:HD1	2.28	0.46
18:92:110:MET:HA	18:92:113:TYR:HD2	1.81	0.46
18:92:111:ARG:NH2	19:A2:187:SER:HB2	2.31	0.46
19:A2:312:GLY:H	38:U2:143:PRO:CA	2.28	0.46
19:A2:364:ASP:OD1	19:A2:364:ASP:N	2.48	0.46
29:K2:35:ASP:OD1	29:K2:39:LYS:NZ	2.39	0.46
53:62:343:SER:HA	53:62:346:ILE:HD12	1.97	0.46
66:K3:9:PHE:HD1	66:K3:10:HIS:HD2	1.64	0.46
68:M3:1:ILE:HG23	68:M3:1:ILE:O	2.15	0.46
1:A1:120:CYS:HB2	1:A1:122:LEU:HD21	1.96	0.46
3:C1:40:CYS:HB3	3:C1:90:PHE:HD2	1.81	0.46
3:C1:63:PHE:O	3:C1:67:THR:OG1	2.33	0.46
3:C1:252:ASP:CB	3:C1:253:PRO:CD	2.88	0.46
3:C1:277:ALA:O	3:C1:278:TYR:C	2.52	0.46
3:C1:341:GLN:HA	3:C1:341:GLN:NE2	2.31	0.46
3:C1:357:LEU:HG	3:C1:361:LEU:HD11	1.98	0.46
1:M1:131:ARG:O	1:M1:132:ASP:C	2.53	0.46
1:M1:438:ARG:HG3	1:M1:438:ARG:NH1	2.31	0.46
3:O1:322:GLN:HE21	3:O1:326:TRP:HE1	1.62	0.46
4:P1:241:LYS:NZ	6:R1:53:ASN:HB2	2.31	0.46
5:Q1:43:THR:HG22	5:Q1:44:THR:N	2.30	0.46
5:Q1:134:ILE:HD11	5:Q1:185:TYR:CD1	2.48	0.46
14:42:235:LEU:HA	14:42:238:LEU:HG	1.97	0.46
19:A2:111:LYS:CD	33:P2:53:TYR:OH	2.63	0.46
32:O2:98:LYS:HB3	32:O2:102:HIS:HB2	1.96	0.46
53:62:139:GLN:HA	53:62:142:ILE:HD12	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A1:91:THR:HG22	1:A1:93:GLU:N	2.18	0.46
2:B1:99:THR:O	2:B1:99:THR:HG22	2.14	0.46
2:B1:141:GLN:HE22	2:B1:186:VAL:HB	1.79	0.46
3:C1:310:SER:OG	3:C1:311:LYS:N	2.48	0.46
3:C1:376:LEU:HD13	6:F1:20:TYR:CD2	2.51	0.46
4:D1:153:PHE:O	4:D1:156:GLN:N	2.35	0.46
6:F1:104:ARG:O	6:F1:105:GLU:C	2.53	0.46
1:M1:3:THR:O	1:M1:4:TYR:C	2.54	0.46
1:M1:28:GLU:OE1	1:M1:375:VAL:HG11	2.15	0.46
1:M1:70:ARG:HB3	1:M1:74:ALA:HB3	1.97	0.46
1:M1:279:HIS:CE1	1:M1:284:TYR:OH	2.68	0.46
1:M1:389:ARG:C	1:M1:391:PRO:HD3	2.36	0.46
2:N1:38:LEU:HD13	2:N1:378:PHE:CE2	2.50	0.46
2:N1:276:GLN:OE1	2:N1:313:ASN:HB3	2.15	0.46
3:O1:102:LEU:HD23	3:O1:102:LEU:HA	1.67	0.46
3:O1:116:GLY:HA3	69:O1:402:HEM:C3C	2.51	0.46
7:S1:34:ILE:O	7:S1:38:LEU:HG	2.14	0.46
72:22:401:3PE:H2C2	14:42:16:TRP:HE1	1.80	0.46
19:A2:246:ARG:NH2	21:C2:234:LYS:H	2.14	0.46
39:V2:58:ARG:NH2	52:12:314:ILE:O	2.47	0.46
59:D3:23:PRO:HB3	60:E3:70:VAL:CG2	2.45	0.46
1:A1:184:GLU:O	1:A1:188:ARG:HG3	2.16	0.46
2:B1:112:LEU:O	2:B1:113:ARG:C	2.54	0.46
7:G1:36:ASN:HA	7:G1:39:ARG:CD	2.32	0.46
1:M1:51:LYS:C	1:M1:53:ASN:H	2.19	0.46
2:N1:286:LYS:O	2:N1:287:ARG:HB2	2.14	0.46
4:P1:24:THR:O	4:P1:25:SER:C	2.54	0.46
4:P1:79:GLU:O	4:P1:80:MET:C	2.52	0.46
4:P1:220:TYR:O	4:P1:221:ALA:C	2.53	0.46
4:P1:240:PRO:CG	4:P1:241:LYS:N	2.79	0.46
5:Q1:94:LYS:HD2	5:Q1:138:VAL:HG21	1.97	0.46
7:S1:40:ARG:O	7:S1:44:CYS:SG	2.71	0.46
10:V1:56:LYS:HE2	10:V1:60:GLU:OE1	2.15	0.46
19:A2:351:LEU:O	19:A2:530:TYR:OH	2.34	0.46
20:B2:293:LEU:O	20:B2:296:SER:N	2.35	0.46
31:N2:114:TRP:O	31:N2:116:ILE:N	2.46	0.46
33:P2:34:ARG:NH2	38:U2:92:CYS:O	2.46	0.46
56:A3:484:THR:HB	68:M3:2:THR:OG1	2.15	0.46
61:F3:98:HIS:ND1	61:F3:98:HIS:N	2.64	0.46
1:A1:61:HIS:HB3	1:A1:130:GLU:HG3	1.97	0.46
1:A1:91:THR:HG22	1:A1:92:ARG:N	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A1:236:PHE:CD2	1:A1:258:GLU:CG	2.92	0.46
3:C1:30:TRP:HA	3:C1:33:PHE:CE2	2.51	0.46
3:C1:51:LEU:CD2	3:C1:79:ILE:CG2	2.93	0.46
3:C1:152:ALA:CA	3:C1:287:LYS:HZ2	2.29	0.46
3:C1:246:ALA:N	3:C1:247:PRO:HD3	2.31	0.46
3:C1:334:THR:O	3:C1:337:TRP:HB3	2.15	0.46
4:D1:10:TYR:CE1	4:D1:128:PHE:HE2	2.34	0.46
1:M1:40:TRP:CZ2	1:M1:377:GLU:CA	2.95	0.46
4:P1:10:TYR:CZ	4:P1:128:PHE:CE2	2.92	0.46
15:52:17:VAL:HA	15:52:20:LEU:HB3	1.98	0.46
34:Q2:86:TRP:HA	34:Q2:89:ILE:HG22	1.98	0.46
35:R2:154:GLN:HG3	35:R2:155:VAL:H	1.81	0.46
39:V2:20:ASP:HB2	39:V2:22:LYS:H	1.81	0.46
56:A3:306:THR:HB	56:A3:359:ALA:O	2.15	0.46
1:A1:21:ASN:CB	1:A1:217:SER:HB3	2.45	0.46
1:A1:360:LEU:HD22	2:B1:93:GLY:HA2	1.97	0.46
1:A1:369:LEU:HD21	1:A1:378:ASP:OD2	2.16	0.46
2:B1:113:ARG:O	2:B1:116:VAL:HG23	2.15	0.46
2:B1:182:ARG:NH1	2:B1:185:LYS:CG	2.77	0.46
2:B1:285:VAL:O	2:B1:285:VAL:HG12	2.16	0.46
3:C1:31:TRP:CD2	3:C1:100:ARG:HD2	2.50	0.46
3:C1:312:GLN:O	3:C1:313:ARG:C	2.53	0.46
3:C1:341:GLN:O	3:C1:342:PRO:C	2.52	0.46
3:C1:346:PRO:CG	7:G1:66:PHE:HD1	2.28	0.46
4:D1:10:TYR:CE1	8:H1:73:LEU:HD22	2.51	0.46
4:D1:233:ARG:CG	7:G1:17:SER:CB	2.94	0.46
1:M1:14:THR:HG21	1:M1:390:ILE:HG13	1.98	0.46
3:O1:61:THR:O	3:O1:64:SER:N	2.48	0.46
3:O1:313:ARG:CB	6:R1:38:HIS:CD2	2.98	0.46
4:P1:23:HIS:NE2	10:V1:51:LEU:HA	2.31	0.46
4:P1:224:ARG:HH21	7:S1:27:PRO:HD2	1.79	0.46
19:A2:157:LYS:HB2	27:I2:100:TYR:CD2	2.51	0.46
19:A2:303:THR:HG23	38:U2:136:GLU:CA	2.46	0.46
20:B2:92:HIS:HE1	20:B2:141:TYR:CE2	2.34	0.46
23:E2:150:THR:OG1	23:E2:151:LYS:N	2.48	0.46
40:W2:97:LYS:NZ	40:W2:107:ASP:CB	2.79	0.46
57:B3:1:MET:SD	57:B3:133:LEU:HD11	2.56	0.46
59:D3:66:GLU:O	60:E3:66:ARG:NH2	2.49	0.46
62:G3:5:LYS:NZ	62:G3:5:LYS:HB3	2.27	0.46
1:A1:51:LYS:O	1:A1:53:ASN:N	2.46	0.46
3:C1:165:TRP:HA	3:C1:174:THR:OG1	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C1:378:LYS:NZ	6:F1:91:GLU:OE1	2.48	0.46
4:D1:195:GLU:HG3	4:D1:195:GLU:O	2.15	0.46
6:F1:23:ALA:O	6:F1:24:ALA:C	2.52	0.46
1:M1:11:VAL:CG1	1:M1:12:PRO:HD2	2.46	0.46
1:M1:192:ALA:HA	1:M1:194:ARG:N	2.31	0.46
1:M1:243:HIS:O	1:M1:425:PHE:HA	2.16	0.46
2:N1:62:ASN:HD21	2:N1:65:THR:CB	2.28	0.46
2:N1:345:LYS:HG2	2:N1:418:VAL:CG1	2.46	0.46
3:O1:373:GLU:O	3:O1:377:LEU:HD12	2.16	0.46
4:P1:33:TYR:O	4:P1:37:CYS:N	2.41	0.46
5:Q1:51:ALA:O	5:Q1:52:LYS:C	2.54	0.46
5:Q1:141:HIS:HB3	5:Q1:142:LEU:H	1.50	0.46
17:82:186:ALA:HA	17:82:187:CYS:HA	1.57	0.46
17:82:330:SER:OG	17:82:331:VAL:N	2.46	0.46
17:82:422:HIS:O	19:A2:76:ARG:HD2	2.16	0.46
29:K2:31:GLN:HA	29:K2:34:ARG:HE	1.79	0.46
37:T2:99:LEU:O	37:T2:103:ALA:N	2.47	0.46
52:12:21:THR:CG2	52:12:25:ARG:NH2	2.79	0.46
1:A1:192:ALA:HA	1:A1:194:ARG:N	2.31	0.46
2:B1:304:HIS:CD2	2:B1:305:GLN:N	2.84	0.46
3:C1:6:LYS:HG2	3:C1:16:ASN:OD1	2.15	0.46
3:C1:200:LEU:O	3:C1:200:LEU:HG	2.15	0.46
3:C1:345:HIS:N	3:C1:346:PRO:HD2	2.29	0.46
4:D1:98:PRO:O	4:D1:101:ALA:HB3	2.16	0.46
4:D1:116:ILE:HD11	4:D1:120:ARG:HG3	1.97	0.46
4:D1:150:ASN:OD1	4:D1:151:PRO:N	2.49	0.46
6:F1:10:SER:HA	6:F1:13:LEU:CD1	2.45	0.46
7:G1:50:PRO:CB	7:G1:51:PRO:CD	2.92	0.46
7:G1:52:PHE:O	7:G1:53:VAL:C	2.54	0.46
1:M1:43:ALA:CB	1:M1:189:HIS:CB	2.94	0.46
1:M1:75:LEU:HD12	1:M1:112:LEU:HD11	1.96	0.46
2:N1:286:LYS:HZ2	2:N1:286:LYS:HG3	1.66	0.46
3:O1:116:GLY:O	3:O1:119:LEU:HB2	2.16	0.46
4:P1:138:PRO:CB	8:T1:55:THR:HA	2.46	0.46
7:S1:73:ASN:N	7:S1:74:PRO:HD2	2.31	0.46
19:A2:583:ILE:CD1	38:U2:137:TRP:CZ3	2.99	0.46
20:B2:368:ARG:HA	20:B2:371:MET:HG2	1.98	0.46
29:K2:15:GLY:HA2	29:K2:16:LEU:HA	1.58	0.46
56:A3:299:VAL:HA	56:A3:302:ARG:NH1	2.31	0.46
65:J3:11:LEU:O	65:J3:11:LEU:HD23	2.15	0.46
1:A1:39:VAL:CG1	1:A1:195:MET:CE	2.94	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A1:243:HIS:CD2	1:A1:425:PHE:CE2	3.04	0.45
1:A1:296:SER:O	1:A1:297:ILE:C	2.55	0.45
2:B1:264:ILE:HG21	2:B1:317:SER:HA	1.97	0.45
3:C1:26:ASN:HA	6:F1:70:MET:HA	1.98	0.45
3:C1:227:LYS:HG3	4:D1:223:LYS:HZ3	1.82	0.45
7:G1:48:VAL:O	7:G1:51:PRO:HD2	2.16	0.45
10:J1:61:ASN:O	10:J1:62:LYS:HB2	2.15	0.45
1:M1:40:TRP:HZ2	1:M1:377:GLU:CB	2.28	0.45
1:M1:46:ARG:HB3	1:M1:92:ARG:O	2.15	0.45
1:M1:252:HIS:O	1:M1:424:GLY:HA2	2.16	0.45
2:N1:352:LEU:HD21	2:N1:357:VAL:CG2	2.46	0.45
3:O1:119:LEU:CD1	3:O1:192:ILE:HG22	2.45	0.45
5:Q1:186:GLU:HG3	5:Q1:186:GLU:O	2.16	0.45
10:V1:52:TRP:O	10:V1:53:LYS:C	2.53	0.45
12:22:113:PHE:HA	12:22:116:PRO:HD2	1.97	0.45
16:72:140:ALA:HA	16:72:142:GLY:H	1.80	0.45
19:A2:59:GLN:HB3	21:C2:241:TRP:HZ3	1.79	0.45
19:A2:651:PRO:HD3	29:K2:22:HIS:CE1	2.50	0.45
25:G2:97:TRP:HB2	25:G2:128:PHE:HB2	1.98	0.45
27:I2:103:LEU:HD13	27:I2:121:GLN:HB3	1.98	0.45
36:S2:196:ASP:HB3	36:S2:248:ALA:H	1.81	0.45
53:62:137:LEU:HB3	53:62:196:TRP:HD1	1.81	0.45
79:A3:601:HEA:HMC1	79:A3:601:HEA:CBC	2.46	0.45
57:B3:58:ALA:O	57:B3:60:GLU:HG3	2.16	0.45
1:A1:349:ALA:O	1:A1:408:ARG:NH2	2.50	0.45
2:B1:262:ALA:HB3	2:B1:269:ALA:N	2.31	0.45
3:C1:152:ALA:N	3:C1:287:LYS:NZ	2.64	0.45
5:E1:15:ARG:HH21	5:E1:32:ARG:CG	2.29	0.45
10:J1:57:HIS:O	10:J1:60:GLU:HG2	2.17	0.45
1:M1:64:PHE:CZ	1:M1:88:ALA:HB2	2.51	0.45
1:M1:262:TRP:CD2	1:M1:385:THR:CG2	2.97	0.45
1:M1:262:TRP:CE3	1:M1:385:THR:HG23	2.52	0.45
1:M1:408:ARG:HH12	11:W1:15:ARG:CD	2.28	0.45
4:P1:43:MET:HE3	4:P1:91:PHE:CE2	2.51	0.45
4:P1:50:HIS:O	4:P1:54:VAL:N	2.32	0.45
4:P1:227:TRP:CE3	4:P1:230:LEU:HD12	2.51	0.45
14:42:318:ALA:HB1	14:42:374:ASN:HD22	1.82	0.45
17:82:415:ILE:HG23	19:A2:119:PHE:HZ	1.82	0.45
18:92:164:THR:HB	18:92:169:PHE:HB2	1.98	0.45
19:A2:153:PHE:HE2	19:A2:156:GLY:HA3	1.81	0.45
19:A2:613:PRO:HB2	38:U2:134:ILE:HG21	1.91	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:B2:85:GLY:C	20:B2:87:GLN:N	2.70	0.45
23:E2:158:CYS:SG	23:E2:159:GLN:N	2.89	0.45
27:I2:111:THR:HG22	27:I2:118:GLN:HA	1.97	0.45
38:U2:42:ASP:HA	38:U2:43:LYS:HA	1.75	0.45
56:A3:32:ALA:HB3	67:L3:36:PRO:HG2	1.98	0.45
56:A3:147:ILE:HD11	56:A3:209:LEU:HD23	1.98	0.45
56:A3:172:LYS:HB2	56:A3:172:LYS:HZ3	1.81	0.45
56:A3:435:GLY:O	56:A3:437:PRO:HD3	2.15	0.45
1:A1:179:ARG:HG3	1:A1:180:ALA:N	2.31	0.45
2:B1:71:LEU:HD13	2:B1:143:GLN:HG3	1.97	0.45
2:B1:338:LYS:HD3	2:B1:439:LEU:CD2	2.46	0.45
3:C1:61:THR:O	3:C1:64:SER:HB3	2.16	0.45
3:C1:136:GLY:O	3:C1:139:SER:N	2.49	0.45
4:D1:180:SER:HB3	8:H1:17:LEU:HB2	1.98	0.45
5:E1:71:MET:O	5:E1:72:SER:C	2.54	0.45
7:G1:11:ARG:HB3	7:G1:12:HIS:CD2	2.50	0.45
10:J1:55:ILE:CG2	10:J1:58:LYS:HE2	2.44	0.45
2:N1:35:ILE:HD11	2:N1:213:HIS:CD2	2.50	0.45
3:O1:352:GLN:O	3:O1:356:VAL:HG23	2.17	0.45
4:P1:26:ILE:HG21	4:P1:54:VAL:HG22	1.98	0.45
4:P1:178:THR:HB	4:P1:181:GLN:CG	2.32	0.45
6:R1:67:ASP:HA	6:R1:70:MET:HE3	1.98	0.45
8:T1:40:CYS:O	8:T1:44:VAL:HG23	2.15	0.45
8:T1:65:ARG:O	8:T1:69:VAL:HG23	2.16	0.45
10:V1:55:ILE:CG2	10:V1:58:LYS:HE2	2.45	0.45
14:42:393:ILE:HG21	53:62:184:LEU:HD13	1.98	0.45
17:82:415:ILE:HD12	19:A2:119:PHE:CE1	2.51	0.45
19:A2:181:ARG:N	75:A2:802:SF4:S2	2.89	0.45
19:A2:306:MET:HA	19:A2:316:HIS:HA	1.98	0.45
19:A2:381:LEU:HD12	29:K2:55:ILE:HG21	1.99	0.45
34:Q2:111:VAL:O	34:Q2:117:TRP:N	2.44	0.45
36:S2:114:GLY:HA3	36:S2:115:ASN:HA	1.62	0.45
57:B3:76:ILE:O	57:B3:79:PRO:HD2	2.16	0.45
63:H3:60:TYR:C	63:H3:60:TYR:CD1	2.88	0.45
1:A1:255:ILE:HD12	1:A1:335:MET:CE	2.47	0.45
2:B1:46:ARG:NH1	2:B1:376:GLU:HG3	2.30	0.45
2:B1:83:PHE:CZ	6:R1:104:ARG:HG2	2.52	0.45
2:B1:243:GLU:HA	2:B1:424:MET:O	2.17	0.45
3:C1:26:ASN:HD22	3:C1:208:PRO:HD2	1.82	0.45
3:C1:90:PHE:CE1	3:C1:123:VAL:HG11	2.51	0.45
3:C1:136:GLY:O	3:C1:138:MET:N	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C1:149:LEU:O	3:C1:291:VAL:HG21	2.15	0.45
4:D1:23:HIS:CD2	10:J1:50:LYS:O	2.70	0.45
4:D1:35:GLN:HB2	4:D1:169:LEU:HD11	1.98	0.45
4:D1:74:PRO:CG	4:D1:82:MET:HB3	2.46	0.45
10:J1:52:TRP:N	10:J1:52:TRP:HE3	2.14	0.45
1:M1:125:SER:O	1:M1:129:LYS:HG3	2.16	0.45
1:M1:294:LEU:HD23	1:M1:337:VAL:HG12	1.98	0.45
1:M1:430:GLN:CG	1:M1:430:GLN:O	2.63	0.45
3:O1:10:LEU:O	3:O1:13:ILE:HG13	2.17	0.45
3:O1:24:PRO:O	3:O1:224:TYR:OH	2.22	0.45
3:O1:26:ASN:HB2	6:R1:69:SER:OG	2.17	0.45
3:O1:115:ILE:HG22	3:O1:196:HIS:HB2	1.97	0.45
4:P1:228:SER:HB2	7:S1:23:GLN:NE2	2.32	0.45
6:R1:7:SER:O	6:R1:11:ARG:HB2	2.16	0.45
20:B2:97:LEU:HB3	20:B2:111:PRO:HA	1.98	0.45
53:62:352:ASP:OD1	53:62:352:ASP:N	2.49	0.45
56:A3:158:ILE:O	56:A3:162:ILE:HG13	2.17	0.45
56:A3:240:HIS:O	56:A3:243:VAL:HG22	2.16	0.45
56:A3:273:MET:HG3	56:A3:319:LYS:NZ	2.31	0.45
1:A1:335:MET:O	1:A1:335:MET:HE3	2.17	0.45
2:B1:170:ASN:CG	2:B1:171:ALA:N	2.70	0.45
2:B1:213:HIS:H	2:B1:214:PRO:HD2	1.77	0.45
3:C1:4:ILE:O	3:C1:5:ARG:C	2.53	0.45
4:D1:168:VAL:HG12	4:D1:169:LEU:CD2	2.47	0.45
7:G1:71:ARG:O	7:G1:73:ASN:N	2.50	0.45
1:M1:246:ASP:HA	1:M1:427:PRO:HD3	1.97	0.45
2:N1:109:VAL:HG22	2:N1:119:LEU:HD23	1.99	0.45
2:N1:141:GLN:CB	2:N1:142:PRO:HD3	2.46	0.45
2:N1:159:VAL:CG1	2:N1:160:ILE:N	2.79	0.45
2:N1:235:ALA:O	2:N1:236:LYS:CB	2.65	0.45
2:N1:258:VAL:HG21	2:N1:312:PHE:HD2	1.82	0.45
2:N1:396:SER:O	2:N1:399:LEU:HB2	2.15	0.45
3:O1:28:SER:CB	3:O1:30:TRP:HD1	2.26	0.45
3:O1:338:ILE:HA	3:O1:341:GLN:HG3	1.99	0.45
6:R1:48:ARG:HD3	6:R1:48:ARG:HA	1.51	0.45
6:R1:64:ARG:O	6:R1:68:LEU:HD12	2.16	0.45
7:S1:64:GLN:O	7:S1:65:GLU:C	2.55	0.45
12:22:258:SER:HA	12:22:334:THR:HB	1.99	0.45
22:D2:113:PHE:HB2	22:D2:114:ARG:NE	2.28	0.45
61:F3:40:SER:OG	61:F3:45:ASP:HB3	2.16	0.45
1:A1:332:ASP:O	1:A1:332:ASP:OD1	2.34	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A1:341:GLN:OE1	1:A1:344:ARG:HD3	2.16	0.45
4:D1:80:MET:H	4:D1:80:MET:HG2	1.47	0.45
4:D1:165:TYR:CD2	4:D1:168:VAL:HG22	2.52	0.45
1:M1:16:VAL:HG11	1:M1:388:ARG:HB2	1.98	0.45
1:M1:43:ALA:HB2	1:M1:189:HIS:HB3	1.99	0.45
1:M1:241:ILE:HG21	1:M1:241:ILE:HD13	1.64	0.45
1:M1:329:MET:HG3	7:S1:2:ARG:HH11	1.82	0.45
2:N1:53:ALA:HB2	2:N1:198:HIS:HB3	1.99	0.45
2:N1:237:ALA:HB2	2:N1:318:ASP:CG	2.37	0.45
3:O1:44:GLN:OE1	3:O1:83:HIS:CE1	2.69	0.45
3:O1:218:ILE:CG2	3:O1:219:PRO:HD2	2.46	0.45
4:P1:161:ALA:O	4:P1:163:PRO:N	2.49	0.45
4:P1:220:TYR:CD2	7:S1:26:PHE:CZ	3.04	0.45
14:42:307:TRP:HE1	53:62:71:ILE:HD12	1.81	0.45
17:82:177:TYR:HD1	17:82:182:ILE:HB	1.82	0.45
19:A2:557:ARG:CZ	38:U2:144:TYR:CZ	2.98	0.45
35:R2:52:SER:OG	35:R2:77:GLY:O	2.26	0.45
35:R2:155:VAL:O	35:R2:159:ALA:N	2.49	0.45
57:B3:78:LEU:HB2	57:B3:79:PRO:CD	2.38	0.45
1:A1:64:PHE:CZ	1:A1:88:ALA:HB2	2.51	0.45
1:A1:444:LEU:HA	1:A1:444:LEU:HD12	1.82	0.45
4:D1:28:ARG:HB2	4:D1:185:ASP:HB3	1.99	0.45
7:G1:40:ARG:O	7:G1:41:THR:C	2.55	0.45
1:M1:426:GLY:H	1:M1:428:ILE:HD11	1.82	0.45
2:N1:239:TYR:HE2	2:N1:421:ARG:HB3	1.81	0.45
2:N1:308:ASP:O	2:N1:309:VAL:HG23	2.17	0.45
2:N1:314:ALA:HB1	9:U1:64:LEU:HD22	1.97	0.45
2:N1:316:TYR:HH	9:U1:64:LEU:HD23	1.78	0.45
2:N1:338:LYS:O	2:N1:341:TYR:N	2.50	0.45
4:P1:23:HIS:CD2	10:V1:52:TRP:N	2.85	0.45
5:Q1:120:PRO:O	5:Q1:121:GLN:NE2	2.49	0.45
10:V1:52:TRP:CG	10:V1:53:LYS:N	2.84	0.45
13:32:60:ILE:HG21	16:72:168:ILE:HG21	1.97	0.45
14:42:115:LEU:HD12	14:42:174:LEU:HB2	1.98	0.45
14:42:207:MET:HA	14:42:208:PRO:HD3	1.82	0.45
17:82:318:ILE:HD13	17:82:355:ILE:HG13	1.99	0.45
19:A2:381:LEU:HD11	19:A2:664:TYR:HD2	1.81	0.45
34:Q2:121:ASP:N	34:Q2:121:ASP:OD1	2.49	0.45
43:Z2:44:PRO:HA	43:Z2:45:TRP:HA	1.81	0.45
58:C3:105:SER:HG	58:C3:259:TRP:HZ3	1.64	0.45
60:E3:78:HIS:CE1	64:I3:12:LEU:HD22	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A1:39:VAL:HG22	1:A1:197:LEU:HD22	1.98	0.45
1:A1:53:ASN:C	1:A1:53:ASN:ND2	2.69	0.45
1:A1:197:LEU:HD11	1:A1:208:LEU:HD11	1.98	0.45
1:A1:255:ILE:HG13	1:A1:422:VAL:HG22	1.98	0.45
1:A1:392:LEU:HA	1:A1:395:TRP:NE1	2.30	0.45
2:B1:160:ILE:HD13	2:B1:160:ILE:N	2.31	0.45
2:B1:262:ALA:HB2	2:B1:268:GLU:HB3	1.98	0.45
3:C1:25:SER:HA	3:C1:218:ILE:HD11	1.98	0.45
3:C1:47:THR:HG23	3:C1:79:ILE:HG23	1.99	0.45
3:C1:182:HIS:O	3:C1:186:PRO:CD	2.64	0.45
3:C1:278:TYR:O	3:C1:279:ALA:C	2.55	0.45
4:D1:32:VAL:HG11	4:D1:186:VAL:HG22	1.97	0.45
5:E1:45:VAL:HG13	10:J1:28:ALA:CA	2.46	0.45
1:M1:50:GLU:O	1:M1:173:ASN:ND2	2.49	0.45
1:M1:394:GLU:O	1:M1:397:SER:N	2.49	0.45
1:M1:444:LEU:HD12	1:M1:444:LEU:HA	1.73	0.45
2:N1:50:PHE:CE1	2:N1:207:ILE:HG13	2.52	0.45
2:N1:182:ARG:O	2:N1:185:LYS:HB3	2.17	0.45
3:O1:147:THR:CG2	3:O1:165:TRP:NE1	2.75	0.45
5:Q1:7:VAL:HG13	5:Q1:8:PRO:HD2	1.98	0.45
5:Q1:131:GLU:HG2	5:Q1:132:TRP:CD1	2.51	0.45
72:22:401:3PE:H292	72:22:401:3PE:H2E1	1.98	0.45
19:A2:81:GLU:HG3	19:A2:108:LYS:HD2	1.99	0.45
35:R2:275:ASP:O	35:R2:279:TYR:N	2.48	0.45
53:62:307:SER:HA	53:62:310:LEU:HD12	1.99	0.45
57:B3:41:ILE:O	57:B3:45:MET:HG2	2.16	0.45
57:B3:98:LYS:HB2	57:B3:98:LYS:HE3	1.79	0.45
67:L3:35:ALA:HB3	67:L3:36:PRO:HD3	1.99	0.45
1:A1:46:ARG:NH1	1:A1:316:ASP:OD1	2.50	0.45
1:A1:106:LEU:N	1:A1:107:PRO:CD	2.77	0.45
1:A1:236:PHE:HD2	1:A1:258:GLU:CB	2.28	0.45
1:A1:240:GLN:HE21	1:A1:431:LEU:HD21	1.81	0.45
1:A1:345:LEU:HD23	1:A1:345:LEU:HA	1.68	0.45
3:C1:53:MET:SD	3:O1:181:PHE:CZ	3.10	0.45
5:E1:7:VAL:HG13	7:G1:16:TYR:CD1	2.51	0.45
1:M1:272:VAL:HG13	1:M1:358:LYS:HA	1.98	0.45
2:N1:135:TRP:CD1	2:N1:136:GLU:HG3	2.52	0.45
2:N1:159:VAL:CG1	2:N1:160:ILE:HD13	2.40	0.45
2:N1:203:ARG:NH2	2:N1:230:LEU:HD23	2.31	0.45
3:O1:337:TRP:O	3:O1:341:GLN:HG2	2.17	0.45
4:P1:102:ARG:O	4:P1:106:ASN:N	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:S1:34:ILE:CB	7:S1:35:PRO:CD	2.91	0.45
9:U1:64:LEU:CG	9:U1:65:VAL:HG23	2.41	0.45
19:A2:181:ARG:CB	75:A2:802:SF4:S2	3.03	0.45
72:B2:501:3PE:H382	52:12:180:PRO:HB3	1.99	0.45
53:62:161:ARG:NH2	53:62:238:GLU:OE1	2.49	0.45
56:A3:431:LEU:HD21	56:A3:450:TRP:HB2	1.99	0.45
79:A3:602:HEA:HHC	79:A3:602:HEA:O11	2.17	0.45
58:C3:42:LEU:HD12	58:C3:42:LEU:HA	1.66	0.45
62:G3:3:ALA:O	62:G3:4:ALA:HB2	2.17	0.45
65:J3:2:GLU:CG	65:J3:3:ASN:H	2.30	0.45
1:A1:17:SER:HB2	1:A1:25:VAL:HB	1.99	0.45
2:B1:29:LEU:HD12	2:B1:33:LEU:HD21	1.98	0.45
2:B1:42:ALA:HB1	2:B1:43:PRO:CD	2.40	0.45
2:B1:124:LEU:HD13	2:B1:223:PHE:CG	2.52	0.45
3:C1:125:ALA:HB3	3:C1:185:LEU:HD21	1.98	0.45
3:C1:153:ILE:HD12	3:C1:153:ILE:H	1.82	0.45
4:D1:24:THR:O	4:D1:25:SER:C	2.53	0.45
4:D1:228:SER:HB2	7:G1:23:GLN:HE21	1.74	0.45
1:M1:53:ASN:CG	1:M1:165:GLN:HB2	2.35	0.45
1:M1:233:PRO:HG2	5:Q1:23:LYS:HD3	1.98	0.45
1:M1:329:MET:CA	1:M1:329:MET:HE3	2.46	0.45
1:M1:339:GLN:O	1:M1:343:MET:HG2	2.17	0.45
2:N1:112:LEU:O	2:N1:113:ARG:C	2.54	0.45
2:N1:300:ALA:HA	2:N1:307:PHE:HZ	1.77	0.45
3:O1:137:GLN:HE22	3:O1:263:ASN:HB3	1.80	0.45
4:P1:143:LEU:HD11	4:P1:149:PHE:HB2	1.98	0.45
17:82:413:TRP:HE1	17:82:436:GLN:HG3	1.82	0.45
23:E2:115:ALA:O	23:E2:140:ARG:NH1	2.40	0.45
53:62:171:ALA:O	53:62:175:ASN:ND2	2.50	0.45
61:F3:31:TYR:HE1	61:F3:98:HIS:CE1	2.34	0.45
2:B1:299:VAL:CG1	2:B1:303:VAL:HG21	2.46	0.44
2:B1:346:THR:O	2:B1:349:GLN:N	2.39	0.44
3:C1:113:TRP:O	3:C1:117:VAL:HG23	2.17	0.44
3:C1:177:ARG:HG2	3:C1:181:PHE:HE2	1.82	0.44
3:C1:183:PHE:HZ	3:O1:184:ILE:HB	1.82	0.44
3:C1:282:ARG:O	3:C1:283:SER:C	2.55	0.44
4:D1:153:PHE:O	4:D1:154:PRO:C	2.54	0.44
5:E1:65:SER:O	5:E1:66:ALA:C	2.55	0.44
1:M1:430:GLN:O	1:M1:430:GLN:HG2	2.16	0.44
2:N1:54:GLY:H	2:N1:57:TYR:HD1	1.65	0.44
2:N1:170:ASN:CG	2:N1:171:ALA:N	2.70	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O1:55:TYR:CE2	3:O1:56:THR:O	2.70	0.44
3:O1:90:PHE:CE1	3:O1:123:VAL:HG11	2.52	0.44
3:O1:107:TYR:OH	3:O1:308:HIS:HB2	2.17	0.44
3:O1:185:LEU:N	3:O1:186:PRO:CD	2.80	0.44
3:O1:277:ALA:HB1	3:O1:294:LEU:HD11	1.99	0.44
3:O1:341:GLN:HA	3:O1:341:GLN:HE21	1.82	0.44
4:P1:55:CYS:SG	10:V1:52:TRP:HA	2.57	0.44
4:P1:65:ALA:O	4:P1:69:GLU:OE2	2.35	0.44
4:P1:138:PRO:HB3	8:T1:54:CYS:C	2.38	0.44
19:A2:301:ARG:C	38:U2:137:TRP:HB2	2.37	0.44
20:B2:382:PHE:HD1	23:E2:118:LEU:HD11	1.81	0.44
21:C2:117:THR:OG1	21:C2:118:ALA:N	2.50	0.44
22:D2:150:VAL:HG12	22:D2:179:VAL:HG13	1.99	0.44
35:R2:64:PHE:HZ	35:R2:208:GLY:HA3	1.82	0.44
39:V2:28:ARG:HA	39:V2:29:GLY:HA3	1.70	0.44
53:62:246:LEU:O	53:62:251:THR:OG1	2.31	0.44
58:C3:183:GLU:O	62:G3:42:ARG:NH2	2.50	0.44
2:B1:211:VAL:CG1	2:B1:212:SER:N	2.81	0.44
3:C1:183:PHE:CE1	3:C1:187:PHE:HE2	2.35	0.44
3:C1:315:MET:O	3:C1:318:ARG:N	2.35	0.44
4:D1:31:GLN:OE1	4:D1:31:GLN:HA	2.17	0.44
4:D1:67:GLU:O	4:D1:70:VAL:HG12	2.17	0.44
6:F1:58:ARG:HG2	6:F1:58:ARG:HH11	1.82	0.44
9:I1:51:CYS:SG	9:I1:53:GLU:HB3	2.57	0.44
10:J1:4:THR:HG22	10:J1:6:THR:N	2.33	0.44
1:M1:37:VAL:HG13	1:M1:199:ALA:CB	2.45	0.44
2:N1:198:HIS:HE1	2:N1:233:SER:HB3	1.81	0.44
3:O1:4:ILE:O	3:O1:5:ARG:C	2.55	0.44
3:O1:48:GLY:HA3	69:O1:401:HEM:C3C	2.52	0.44
3:O1:264:THR:O	3:O1:266:PRO:HD3	2.16	0.44
3:O1:364:VAL:O	3:O1:367:PRO:HG2	2.17	0.44
4:P1:116:ILE:HD12	4:P1:116:ILE:HA	1.74	0.44
5:Q1:171:ILE:O	5:Q1:171:ILE:CG2	2.62	0.44
9:U1:57:GLY:O	9:U1:78:TYR:CE2	2.70	0.44
19:A2:275:PRO:HB3	19:A2:286:ILE:HB	1.99	0.44
23:E2:196:LYS:HD2	23:E2:197:TRP:CZ3	2.52	0.44
36:S2:175:TYR:O	36:S2:179:LYS:N	2.45	0.44
56:A3:131:PRO:HB2	57:B3:159:VAL:HA	2.00	0.44
57:B3:1:MET:SD	57:B3:133:LEU:HD13	2.58	0.44
57:B3:94:SER:OG	57:B3:148:MET:HE3	2.17	0.44
1:A1:197:LEU:CD1	1:A1:208:LEU:HD11	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A1:252:HIS:NE2	1:A1:325:VAL:HG21	2.32	0.44
2:B1:314:ALA:CB	9:I1:64:LEU:HD22	2.48	0.44
3:C1:26:ASN:CA	6:F1:70:MET:HB2	2.48	0.44
3:C1:271:GLU:OE2	3:C1:273:TYR:OH	2.35	0.44
3:C1:281:LEU:HD12	3:C1:281:LEU:O	2.16	0.44
4:D1:167:GLU:HG2	4:D1:167:GLU:O	2.17	0.44
4:D1:175:THR:HA	4:D1:176:PRO:HD2	1.73	0.44
4:D1:229:VAL:HG12	4:D1:229:VAL:O	2.18	0.44
1:M1:82:MET:HE2	1:M1:82:MET:HB2	1.93	0.44
1:M1:157:ALA:HB2	1:M1:421:ALA:HB1	2.00	0.44
1:M1:279:HIS:CE1	1:M1:284:TYR:HH	2.35	0.44
1:M1:426:GLY:HA2	1:M1:427:PRO:C	2.36	0.44
2:N1:81:SER:O	2:N1:84:LYS:N	2.50	0.44
5:Q1:40:THR:CG2	10:V1:20:PHE:HZ	2.28	0.44
6:R1:43:VAL:HG22	6:R1:94:LEU:CD2	2.46	0.44
10:V1:49:GLY:HA2	10:V1:54:HIS:HB3	1.98	0.44
11:W1:23:LEU:N	11:W1:23:LEU:HD23	2.32	0.44
14:42:370:PRO:HA	14:42:375:LEU:HB2	1.99	0.44
17:82:146:GLY:O	17:82:150:GLY:N	2.48	0.44
17:82:246:GLU:HA	17:82:249:ALA:HB3	1.98	0.44
19:A2:388:ASN:ND2	19:A2:513:MET:O	2.36	0.44
30:L2:56:PRO:HG3	34:Q2:41:LYS:HB3	2.00	0.44
31:N2:56:LEU:HA	31:N2:59:VAL:HB	1.99	0.44
42:Y2:66:ALA:O	42:Y2:70:PHE:N	2.50	0.44
52:12:3:MET:HA	52:12:6:ILE:HD12	2.00	0.44
56:A3:51:ASP:O	56:A3:55:ASN:HB2	2.17	0.44
57:B3:122:MET:HB2	57:B3:208:PRO:CD	2.47	0.44
59:D3:79:LYS:NZ	66:K3:15:ASN:HD21	2.15	0.44
64:I3:21:ILE:HD12	64:I3:21:ILE:HA	1.82	0.44
1:A1:152:TYR:OH	1:A1:243:HIS:CD2	2.70	0.44
2:B1:112:LEU:HD22	2:B1:112:LEU:HA	1.79	0.44
3:C1:243:VAL:O	3:C1:243:VAL:HG22	2.17	0.44
3:C1:310:SER:OG	3:C1:312:GLN:N	2.48	0.44
4:D1:5:LEU:HG	4:D1:152:TYR:CE1	2.51	0.44
5:E1:15:ARG:H	5:E1:15:ARG:HG2	1.66	0.44
10:J1:18:SER:CB	11:K1:23:LEU:HD12	2.30	0.44
1:M1:89:TYR:CD1	1:M1:89:TYR:C	2.91	0.44
2:N1:51:ILE:HD13	2:N1:199:PHE:CD2	2.53	0.44
4:P1:165:TYR:CZ	4:P1:168:VAL:HG22	2.53	0.44
4:P1:218:LEU:HD23	4:P1:218:LEU:HA	1.73	0.44
6:R1:28:LYS:HB3	6:R1:74:ILE:CD1	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:R1:37:ILE:CG1	6:R1:43:VAL:HG21	2.40	0.44
8:T1:73:LEU:HD23	8:T1:73:LEU:C	2.37	0.44
12:22:173:THR:O	12:22:226:THR:OG1	2.27	0.44
19:A2:215:MET:SD	19:A2:695:TYR:OH	2.73	0.44
20:B2:293:LEU:HB3	20:B2:294:ARG:H	1.51	0.44
20:B2:359:ASP:HB2	33:P2:45:PRO:HG2	2.00	0.44
56:A3:195:LEU:CD2	56:A3:245:ILE:HD13	2.45	0.44
61:F3:33:ILE:HG22	61:F3:34:LEU:HD12	1.98	0.44
1:A1:199:ALA:HB3	1:A1:208:LEU:HD21	1.99	0.44
1:A1:349:ALA:HB3	1:A1:408:ARG:CG	2.48	0.44
1:A1:379:ILE:CD1	1:A1:390:ILE:HD12	2.41	0.44
1:A1:417:ASP:CG	10:J1:10:TYR:OH	2.55	0.44
3:C1:147:THR:CG2	3:C1:165:TRP:NE1	2.78	0.44
3:C1:338:ILE:HA	3:C1:341:GLN:HG3	1.99	0.44
6:F1:37:ILE:CD1	6:F1:43:VAL:HG22	2.47	0.44
1:M1:8:LEU:HD11	1:M1:396:GLU:HG3	2.00	0.44
1:M1:49:SER:N	1:M1:52:ASN:OD1	2.41	0.44
1:M1:286:GLY:O	1:M1:287:GLY:C	2.56	0.44
1:M1:349:ALA:O	1:M1:408:ARG:CZ	2.65	0.44
2:N1:140:LEU:O	2:N1:142:PRO:N	2.51	0.44
3:O1:156:ILE:HG13	3:O1:157:GLY:N	2.29	0.44
4:P1:139:THR:HB	8:T1:54:CYS:SG	2.58	0.44
5:Q1:76:ILE:HD12	5:Q1:192:MET:HE3	1.99	0.44
5:Q1:107:ASP:O	5:Q1:108:GLN:C	2.55	0.44
10:V1:4:THR:CG2	10:V1:6:THR:OG1	2.66	0.44
10:V1:57:HIS:O	10:V1:60:GLU:HG2	2.18	0.44
12:22:48:HIS:HD2	16:72:171:ILE:HG23	1.83	0.44
14:42:55:LEU:HD22	34:Q2:171:THR:HG22	1.99	0.44
19:A2:111:LYS:HD2	33:P2:53:TYR:CZ	2.52	0.44
20:B2:97:LEU:CD1	20:B2:97:LEU:C	2.86	0.44
22:D2:174:ASP:OD1	22:D2:182:TYR:OH	2.35	0.44
52:12:254:LEU:HA	52:12:257:ILE:HD12	1.99	0.44
53:62:448:PRO:HA	53:62:451:ILE:HB	2.00	0.44
57:B3:59:GLN:CA	57:B3:62:GLU:HB2	2.46	0.44
59:D3:40:LEU:HD22	59:D3:59:LEU:CD1	2.47	0.44
1:A1:33:PRO:O	1:A1:103:SER:HB3	2.17	0.44
1:A1:145:MET:HB2	1:A1:145:MET:HE3	1.70	0.44
1:A1:358:LYS:HD2	1:A1:402:VAL:HB	1.98	0.44
1:A1:426:GLY:HA2	1:A1:428:ILE:HG13	1.84	0.44
2:B1:264:ILE:HG22	2:B1:317:SER:HA	1.99	0.44
3:C1:109:PHE:HE2	3:C1:203:THR:HG1	1.57	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C1:156:ILE:HG12	3:C1:157:GLY:N	2.29	0.44
3:C1:213:SER:O	3:C1:214:ASP:C	2.56	0.44
4:D1:233:ARG:CG	7:G1:17:SER:HB3	2.48	0.44
1:M1:307:PHE:CD1	1:M1:307:PHE:C	2.91	0.44
1:M1:324:PHE:CG	1:M1:334:MET:HG2	2.52	0.44
2:N1:267:ALA:O	2:N1:268:GLU:C	2.56	0.44
3:O1:341:GLN:O	3:O1:342:PRO:C	2.55	0.44
4:P1:28:ARG:HD2	4:P1:185:ASP:OD2	2.17	0.44
4:P1:161:ALA:O	4:P1:163:PRO:HD3	2.18	0.44
4:P1:237:TYR:HB2	6:R1:60:PHE:CE1	2.53	0.44
5:Q1:186:GLU:O	5:Q1:186:GLU:CG	2.66	0.44
9:U1:72:VAL:CB	9:U1:73:PRO:CD	2.76	0.44
19:A2:422:TRP:HA	19:A2:427:LEU:HB3	1.99	0.44
20:B2:221:ARG:NH1	22:D2:95:GLU:OE2	2.51	0.44
22:D2:175:ARG:HG2	35:R2:48:ARG:HH21	1.83	0.44
25:G2:108:GLU:HG2	25:G2:113:GLY:HA2	1.99	0.44
34:Q2:59:GLU:HA	34:Q2:62:LEU:HD13	2.00	0.44
77:R2:601:NAP:O4D	77:R2:601:NAP:C2N	2.65	0.44
60:E3:70:VAL:HG12	60:E3:71:VAL:N	2.31	0.44
1:A1:32:GLN:HE22	2:B1:373:GLU:HA	1.83	0.44
1:A1:385:THR:HG22	1:A1:386:TYR:CD1	2.52	0.44
2:B1:24:LEU:HG	2:B1:38:LEU:CD1	2.31	0.44
2:B1:55:SER:HG	2:B1:102:ARG:HG2	1.83	0.44
2:B1:211:VAL:HG12	2:B1:212:SER:N	2.32	0.44
2:B1:294:SER:O	2:B1:295:LEU:C	2.55	0.44
2:B1:322:PHE:CD1	2:B1:322:PHE:C	2.90	0.44
3:C1:103:TYR:CE1	3:C1:322:GLN:HG3	2.53	0.44
3:C1:276:PHE:CE2	3:C1:297:SER:OG	2.68	0.44
4:D1:30:PHE:O	4:D1:31:GLN:C	2.53	0.44
7:G1:56:TYR:O	7:G1:57:LEU:C	2.56	0.44
7:G1:80:ASP:CG	8:H1:47:ARG:HH22	2.21	0.44
8:H1:69:VAL:O	8:H1:73:LEU:HB3	2.18	0.44
3:O1:30:TRP:HA	3:O1:33:PHE:CE2	2.52	0.44
4:P1:27:ARG:NH1	10:V1:58:LYS:HE3	2.33	0.44
4:P1:50:HIS:CE1	4:P1:91:PHE:HZ	2.33	0.44
4:P1:131:LEU:CD2	4:P1:163:PRO:HB3	2.48	0.44
5:Q1:99:ARG:NH1	5:Q1:148:ALA:HB1	2.32	0.44
14:42:16:TRP:HA	14:42:93:LYS:HD3	1.99	0.44
15:52:51:SER:HA	26:H2:32:ARG:HE	1.83	0.44
17:82:383:THR:CG2	19:A2:75:CYS:CA	2.82	0.44
18:92:110:MET:CE	19:A2:195:LEU:C	2.86	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:12:39:VAL:HG13	52:12:40:VAL:HG13	1.99	0.44
53:62:135:ASN:HA	53:62:198:LEU:HD12	1.99	0.44
1:A1:277:ILE:HB	1:A1:309:THR:HG21	2.00	0.44
1:A1:433:ASP:CG	3:C1:223:TYR:HH	2.14	0.44
2:B1:128:THR:C	2:B1:130:PRO:HD2	2.39	0.44
2:B1:135:TRP:CE2	6:R1:49:ARG:HD3	2.53	0.44
3:C1:233:LEU:HD12	3:C1:233:LEU:HA	1.80	0.44
4:D1:7:PRO:HG3	4:D1:126:TYR:CA	2.43	0.44
4:D1:10:TYR:HD1	8:H1:74:PHE:CD1	2.36	0.44
4:D1:138:PRO:HB3	8:H1:54:CYS:C	2.37	0.44
4:D1:178:THR:HB	4:D1:181:GLN:CG	2.42	0.44
5:E1:32:ARG:HH12	7:G1:22:GLU:CD	2.21	0.44
6:F1:106:GLU:OE1	6:F1:109:LYS:HE2	2.17	0.44
1:M1:287:GLY:O	1:M1:290:LEU:HG	2.18	0.44
2:N1:433:THR:HA	2:N1:434:PRO:HD2	1.58	0.44
3:O1:227:LYS:HG2	4:P1:223:LYS:HZ3	1.82	0.44
4:P1:26:ILE:CG2	4:P1:54:VAL:HG13	2.46	0.44
4:P1:34:LYS:O	4:P1:34:LYS:HG2	2.18	0.44
5:Q1:81:ILE:HD11	5:Q1:132:TRP:HH2	1.82	0.44
5:Q1:136:ILE:O	5:Q1:138:VAL:N	2.49	0.44
35:R2:143:ASP:O	35:R2:147:LYS:N	2.43	0.44
57:B3:162:SER:HB2	57:B3:198:GLU:HB2	1.99	0.44
1:A1:198:ALA:O	1:A1:199:ALA:CB	2.63	0.44
1:A1:293:PRO:HA	1:A1:296:SER:OG	2.17	0.44
2:B1:258:VAL:HG11	2:B1:321:LEU:HD22	2.00	0.44
2:B1:275:LEU:HD11	2:B1:279:LEU:HD12	1.99	0.44
3:C1:357:LEU:HD12	3:C1:361:LEU:HG	2.00	0.44
4:D1:120:ARG:HH11	4:D1:120:ARG:HG2	1.82	0.44
7:G1:26:PHE:N	7:G1:27:PRO:HD3	2.33	0.44
1:M1:143:THR:O	1:M1:143:THR:CG2	2.66	0.44
1:M1:385:THR:HB	1:M1:386:TYR:CD1	2.53	0.44
2:N1:160:ILE:HD11	2:N1:325:TYR:CE2	2.53	0.44
2:N1:271:ALA:O	2:N1:272:PHE:C	2.57	0.44
3:O1:160:LEU:O	3:O1:160:LEU:HD12	2.18	0.44
3:O1:197:LEU:HD12	3:O1:197:LEU:HA	1.77	0.44
4:P1:35:GLN:OE1	4:P1:35:GLN:HA	2.18	0.44
4:P1:68:VAL:CG1	4:P1:92:PRO:HG2	2.47	0.44
5:Q1:171:ILE:HB	5:Q1:178:LEU:O	2.17	0.44
7:S1:26:PHE:N	7:S1:27:PRO:HD3	2.32	0.44
17:82:124:THR:HG22	17:82:126:LYS:H	1.83	0.44
17:82:445:GLU:O	17:82:449:ARG:NH1	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:A2:634:LEU:HA	19:A2:635:PRO:HD3	1.81	0.44
35:R2:235:THR:HA	35:R2:236:VAL:HA	1.57	0.44
35:R2:269:SER:HA	35:R2:270:ARG:HA	1.64	0.44
53:62:319:ILE:HG22	53:62:321:GLN:HG2	1.99	0.44
2:B1:262:ALA:CB	2:B1:268:GLU:HB3	2.48	0.43
2:B1:285:VAL:HG12	2:B1:288:GLY:HA3	1.98	0.43
3:C1:242:LEU:HD21	3:C1:250:LEU:HD22	1.99	0.43
3:C1:254:ASP:HB3	4:D1:119:ALA:O	2.18	0.43
3:C1:294:LEU:O	3:C1:297:SER:HB3	2.17	0.43
69:C1:401:HEM:CMB	69:C1:401:HEM:HBB2	2.48	0.43
4:D1:72:ASP:OD2	4:D1:92:PRO:HB2	2.18	0.43
4:D1:131:LEU:HD13	4:D1:164:ILE:CD1	2.48	0.43
4:D1:161:ALA:O	4:D1:163:PRO:CD	2.66	0.43
1:M1:85:HIS:HA	2:N1:284:HIS:O	2.18	0.43
1:M1:152:TYR:OH	1:M1:243:HIS:CD2	2.71	0.43
2:N1:62:ASN:ND2	2:N1:65:THR:CB	2.81	0.43
3:O1:101:GLY:O	3:O1:107:TYR:HD2	2.01	0.43
3:O1:327:ALA:HA	7:S1:51:PRO:HB3	1.99	0.43
4:P1:102:ARG:HE	4:P1:109:LEU:HB2	1.83	0.43
4:P1:178:THR:O	4:P1:179:MET:C	2.55	0.43
5:Q1:182:VAL:C	5:Q1:183:PRO:O	2.57	0.43
8:T1:58:LEU:CD1	8:T1:62:LEU:HG	2.48	0.43
14:42:76:MET:HG2	14:42:231:LEU:HD12	1.99	0.43
17:82:284:ASN:HD22	18:92:228:ALA:HB3	1.83	0.43
19:A2:250:SER:OG	19:A2:251:ILE:N	2.51	0.43
27:I2:89:GLY:H	27:I2:96:HIS:CE1	2.35	0.43
42:Y2:47:TYR:HD2	43:Z2:16:LEU:HD12	1.82	0.43
58:C3:19:THR:CG2	58:C3:53:THR:OG1	2.66	0.43
1:A1:16:VAL:HG11	1:A1:388:ARG:HB2	1.99	0.43
1:A1:433:ASP:O	1:A1:434:TYR:C	2.56	0.43
3:C1:8:HIS:HB2	3:C1:9:PRO:HD2	2.00	0.43
3:C1:245:PHE:CE1	4:D1:17:LEU:HB3	2.53	0.43
5:E1:33:LYS:HA	7:G1:21:PHE:HE2	1.82	0.43
9:I1:64:LEU:HG	9:I1:65:VAL:HG23	1.99	0.43
1:M1:64:PHE:HE1	1:M1:86:LEU:CD1	2.31	0.43
1:M1:252:HIS:CD2	1:M1:325:VAL:HG22	2.53	0.43
2:N1:53:ALA:O	2:N1:105:MET:HB2	2.17	0.43
2:N1:83:PHE:CZ	2:N1:87:ARG:HG3	2.53	0.43
2:N1:99:THR:O	2:N1:106:ALA:N	2.51	0.43
2:N1:109:VAL:O	2:N1:109:VAL:CG1	2.66	0.43
3:O1:31:TRP:CD2	3:O1:100:ARG:HD2	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:Q1:150:ALA:CB	5:Q1:157:TYR:HB2	2.48	0.43
5:Q1:153:PHE:HE1	5:Q1:173:LYS:CG	2.25	0.43
5:Q1:185:TYR:HB3	5:Q1:195:VAL:HA	2.00	0.43
19:A2:35:PHE:HB3	19:A2:38:GLY:HA2	2.00	0.43
19:A2:380:ASP:OD2	29:K2:45:LYS:HE3	2.18	0.43
52:12:75:PRO:CB	52:12:223:PHE:CE1	3.02	0.43
58:C3:63:ARG:HA	58:C3:67:PHE:CD2	2.53	0.43
65:J3:3:ASN:ND2	65:J3:5:VAL:HG13	2.33	0.43
67:L3:22:LEU:HD23	67:L3:22:LEU:HA	1.83	0.43
1:A1:46:ARG:NH2	1:A1:316:ASP:CG	2.62	0.43
1:A1:347:THR:HA	11:K1:16:ASN:HD22	1.84	0.43
2:B1:341:TYR:O	2:B1:342:ASN:C	2.57	0.43
3:C1:7:SER:O	3:C1:8:HIS:O	2.36	0.43
3:C1:107:TYR:CE2	3:C1:305:PRO:HA	2.53	0.43
3:C1:170:VAL:CG1	3:C1:174:THR:CG2	2.89	0.43
3:C1:235:LEU:HG	3:C1:236:ILE:N	2.32	0.43
4:D1:26:ILE:O	4:D1:27:ARG:C	2.56	0.43
4:D1:138:PRO:CG	8:H1:55:THR:HA	2.48	0.43
1:M1:64:PHE:CD1	1:M1:86:LEU:HG	2.51	0.43
1:M1:211:LEU:HD12	1:M1:211:LEU:O	2.18	0.43
1:M1:395:TRP:O	1:M1:396:GLU:C	2.57	0.43
2:N1:222:GLN:HB3	2:N1:223:PHE:CD2	2.53	0.43
3:O1:56:THR:HG22	3:O1:57:SER:N	2.34	0.43
5:Q1:29:SER:OG	5:Q1:32:ARG:HD3	2.17	0.43
6:R1:40:ASN:CG	6:R1:41:ASP:H	2.20	0.43
14:42:368:ALA:HB1	14:42:374:ASN:HB2	1.99	0.43
19:A2:313:LEU:N	38:U2:142:THR:C	2.70	0.43
52:12:20:LEU:O	52:12:24:GLU:N	2.49	0.43
58:C3:60:ASP:O	58:C3:64:GLU:HG3	2.19	0.43
1:A1:21:ASN:CB	1:A1:217:SER:CB	2.89	0.43
3:C1:32:ASN:O	3:C1:36:LEU:HG	2.18	0.43
3:C1:192:ILE:HD13	3:C1:192:ILE:H	1.82	0.43
3:C1:206:ASN:ND2	3:C1:207:ASN:N	2.60	0.43
3:C1:269:LYS:HA	3:C1:270:PRO:HD3	1.81	0.43
6:F1:46:ALA:O	6:F1:47:ILE:C	2.56	0.43
1:M1:19:LEU:HB2	1:M1:23:LEU:HB3	2.00	0.43
1:M1:75:LEU:HD21	1:M1:116:ILE:HG12	2.00	0.43
1:M1:292:SER:O	1:M1:295:ALA:N	2.52	0.43
1:M1:381:ARG:HA	1:M1:384:LEU:HD12	1.99	0.43
2:N1:182:ARG:NH1	2:N1:185:LYS:CG	2.79	0.43
3:O1:25:SER:HB2	3:O1:26:ASN:H	1.30	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O1:183:PHE:CD1	3:O1:183:PHE:O	2.72	0.43
3:O1:227:LYS:CG	4:P1:223:LYS:NZ	2.82	0.43
3:O1:280:ILE:HD13	3:O1:335:LEU:CD2	2.44	0.43
5:Q1:121:GLN:O	5:Q1:170:ARG:HD3	2.18	0.43
7:S1:68:LYS:HD3	7:S1:72:LYS:HE3	2.01	0.43
12:22:146:PHE:HE1	12:22:195:PRO:HA	1.82	0.43
14:42:198:ALA:HB2	72:42:502:3PE:H271	2.00	0.43
17:82:378:SER:OG	19:A2:201:GLY:HA2	2.18	0.43
74:82:501:FMN:H9	74:82:501:FMN:H1'1	1.68	0.43
20:B2:118:ARG:HD3	22:D2:163:TYR:CZ	2.54	0.43
21:C2:157:SER:HB3	21:C2:180:PHE:HB3	2.01	0.43
23:E2:197:TRP:HB3	38:U2:84:PRO:HB2	2.00	0.43
35:R2:177:SER:HA	35:R2:178:SER:HA	1.68	0.43
52:12:178:ALA:HB1	52:12:181:LEU:HB2	2.00	0.43
58:C3:19:THR:HG22	58:C3:53:THR:OG1	2.18	0.43
1:A1:154:HIS:HE1	1:A1:314:TYR:OH	2.02	0.43
2:B1:262:ALA:HB2	2:B1:272:PHE:CE2	2.53	0.43
4:D1:3:LEU:HD22	7:G1:70:LYS:HZ1	1.83	0.43
1:M1:106:LEU:HA	1:M1:109:ALA:HB3	2.01	0.43
1:M1:158:PHE:O	1:M1:164:ALA:HB2	2.18	0.43
2:N1:47:ILE:CG2	2:N1:48:GLY:H	2.31	0.43
2:N1:162:ASN:ND2	2:N1:244:ILE:HG21	2.33	0.43
2:N1:194:TYR:O	2:N1:195:VAL:C	2.55	0.43
2:N1:362:ASN:O	2:N1:363:LYS:C	2.57	0.43
3:O1:276:PHE:HE2	3:O1:297:SER:OG	2.00	0.43
3:O1:373:GLU:HB3	6:R1:20:TYR:OH	2.18	0.43
4:P1:131:LEU:HD22	4:P1:163:PRO:CB	2.48	0.43
5:Q1:83:GLU:HG3	5:Q1:100:HIS:HE2	1.83	0.43
5:Q1:122:HIS:HB3	5:Q1:125:GLU:CG	2.48	0.43
17:82:177:TYR:O	24:F2:96:ARG:NH1	2.52	0.43
28:J2:68:ASN:ND2	34:Q2:19:LYS:O	2.51	0.43
36:S2:73:HIS:NE2	36:S2:148:GLU:OE2	2.41	0.43
41:X2:21:VAL:HA	41:X2:24:TYR:HB3	1.99	0.43
43:Z2:65:GLY:O	43:Z2:70:GLY:N	2.48	0.43
56:A3:353:LEU:HD12	56:A3:353:LEU:HA	1.91	0.43
1:A1:428:ILE:CG2	1:A1:431:LEU:HD22	2.47	0.43
2:B1:245:ARG:HH11	2:B1:245:ARG:HD3	1.53	0.43
3:C1:34:GLY:O	3:C1:37:LEU:CB	2.57	0.43
3:C1:122:THR:CG2	3:C1:189:ILE:CG1	2.96	0.43
4:D1:220:TYR:CD2	7:G1:26:PHE:CZ	3.06	0.43
1:M1:4:TYR:CD1	2:N1:43:PRO:HB3	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M1:134:ILE:HA	1:M1:134:ILE:HD13	1.53	0.43
1:M1:145:MET:CE	1:M1:248:LEU:HD12	2.48	0.43
1:M1:153:LEU:CD2	1:M1:319:LEU:HD13	2.48	0.43
1:M1:366:VAL:HG11	2:N1:44:ALA:HB2	1.99	0.43
2:N1:207:ILE:CD1	2:N1:383:GLY:CA	2.93	0.43
3:O1:207:ASN:OD1	3:O1:207:ASN:O	2.37	0.43
4:P1:7:PRO:HB3	4:P1:125:ASP:HB3	2.01	0.43
4:P1:31:GLN:O	4:P1:32:VAL:C	2.56	0.43
4:P1:165:TYR:CE1	4:P1:168:VAL:HA	2.54	0.43
4:P1:190:LEU:O	4:P1:191:ARG:C	2.55	0.43
4:P1:229:VAL:HG12	4:P1:233:ARG:NE	2.32	0.43
5:Q1:122:HIS:ND1	5:Q1:124:LEU:N	2.57	0.43
19:A2:560:LEU:HD12	19:A2:561:PRO:HD2	1.99	0.43
20:B2:267:ILE:O	20:B2:271:ARG:N	2.49	0.43
36:S2:280:HIS:O	36:S2:283:ARG:N	2.51	0.43
57:B3:63:THR:HA	57:B3:66:THR:HG22	2.00	0.43
60:E3:27:TRP:CH2	61:F3:86:GLY:HA2	2.54	0.43
62:G3:42:ARG:HG3	62:G3:42:ARG:NH1	2.32	0.43
64:I3:21:ILE:O	64:I3:25:PHE:HD2	2.02	0.43
64:I3:68:ILE:HG13	64:I3:69:PHE:N	2.33	0.43
65:J3:30:ILE:HG13	65:J3:31:LEU:N	2.33	0.43
66:K3:44:PRO:HA	66:K3:47:ARG:NH1	2.34	0.43
1:A1:106:LEU:O	1:A1:107:PRO:C	2.56	0.43
2:B1:348:ALA:CB	2:B1:418:VAL:HG21	2.49	0.43
3:C1:92:ILE:HG12	3:C1:272:TRP:CH2	2.54	0.43
3:C1:163:TRP:CE2	5:Q1:62:MET:HE2	2.54	0.43
3:C1:200:LEU:HD13	69:C1:402:HEM:CAD	2.49	0.43
3:C1:342:PRO:HG2	7:G1:66:PHE:CZ	2.53	0.43
4:D1:93:LYS:O	4:D1:94:PRO:C	2.56	0.43
8:H1:68:CYS:O	8:H1:69:VAL:C	2.55	0.43
10:J1:52:TRP:CG	10:J1:53:LYS:N	2.86	0.43
1:M1:64:PHE:HE2	1:M1:88:ALA:HB2	1.81	0.43
2:N1:283:PRO:HG3	9:U1:55:LEU:CG	2.49	0.43
2:N1:357:VAL:O	2:N1:360:ALA:HB3	2.18	0.43
4:P1:91:PHE:HA	4:P1:92:PRO:HD3	1.60	0.43
4:P1:195:GLU:HA	4:P1:196:PRO:HD2	1.73	0.43
5:Q1:14:ARG:HA	7:S1:23:GLN:HA	2.01	0.43
5:Q1:49:TYR:O	5:Q1:50:ALA:C	2.56	0.43
5:Q1:141:HIS:CE1	5:Q1:175:PRO:HG2	2.54	0.43
9:U1:70:LEU:CD2	9:U1:73:PRO:CD	2.92	0.43
19:A2:650:SER:OG	19:A2:652:ASN:OD1	2.30	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:B2:278:VAL:HG12	20:B2:283:ALA:HB2	2.00	0.43
27:I2:105:LYS:HB3	27:I2:105:LYS:HE2	1.82	0.43
52:12:65:THR:OG1	52:12:124:ASN:ND2	2.49	0.43
53:62:15:LEU:HD21	53:62:125:LEU:HD22	1.99	0.43
56:A3:513:LEU:HD12	56:A3:513:LEU:HA	1.65	0.43
57:B3:52:HIS:CD2	60:E3:40:ASP:HB2	2.54	0.43
63:H3:57:ARG:HB3	63:H3:57:ARG:NH1	2.31	0.43
1:A1:19:LEU:HD22	1:A1:214:LYS:NZ	2.34	0.43
2:B1:110:GLU:O	2:B1:111:CYS:HB3	2.18	0.43
2:B1:122:PHE:O	2:B1:126:VAL:HG23	2.18	0.43
3:C1:9:PRO:CG	3:C1:12:LYS:HB2	2.45	0.43
3:C1:37:LEU:CD1	3:C1:97:HIS:CD2	3.02	0.43
3:C1:71:ARG:HB3	4:D1:49:ARG:HH22	1.84	0.43
3:C1:107:TYR:HE2	3:C1:305:PRO:HA	1.83	0.43
3:C1:196:HIS:HE1	69:C1:402:HEM:C1D	2.37	0.43
3:C1:218:ILE:CG2	3:C1:219:PRO:N	2.82	0.43
4:D1:41:HIS:CD2	70:D1:301:HEC:NB	2.84	0.43
6:F1:43:VAL:O	6:F1:44:LYS:C	2.57	0.43
6:F1:49:ARG:NH2	6:F1:100:GLU:OE2	2.47	0.43
2:N1:47:ILE:HB	2:N1:109:VAL:CG1	2.49	0.43
2:N1:372:VAL:O	2:N1:372:VAL:CG1	2.67	0.43
3:O1:119:LEU:CD1	3:O1:192:ILE:CG2	2.97	0.43
3:O1:338:ILE:HA	3:O1:341:GLN:CG	2.49	0.43
4:P1:150:ASN:OD1	4:P1:151:PRO:HD2	2.19	0.43
4:P1:220:TYR:O	4:P1:223:LYS:N	2.52	0.43
6:R1:94:LEU:O	6:R1:98:ILE:HG13	2.19	0.43
16:72:25:SER:O	16:72:27:ILE:N	2.47	0.43
19:A2:162:ASP:O	27:I2:105:LYS:CE	2.66	0.43
19:A2:251:ILE:HB	19:A2:606:THR:HG22	2.01	0.43
19:A2:313:LEU:N	38:U2:142:THR:CA	2.78	0.43
20:B2:398:THR:OG1	20:B2:399:ALA:N	2.52	0.43
42:Y2:57:GLN:HE22	53:62:445:GLU:HB3	1.83	0.43
58:C3:41:THR:O	58:C3:45:ILE:HG13	2.18	0.43
58:C3:173:PHE:CD1	58:C3:173:PHE:C	2.92	0.43
1:A1:86:LEU:HD12	1:A1:98:TYR:O	2.19	0.43
1:A1:86:LEU:CD1	1:A1:99:ILE:HG12	2.44	0.43
3:C1:336:THR:O	3:C1:336:THR:HG22	2.18	0.43
7:G1:36:ASN:OD1	7:G1:39:ARG:NE	2.52	0.43
8:H1:15:ASP:HB2	8:H1:16:PRO:HD3	2.01	0.43
1:M1:62:LEU:O	1:M1:63:ALA:C	2.57	0.43
1:M1:73:ASN:O	1:M1:77:LYS:CD	2.66	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M1:281:ASP:HB3	1:M1:284:TYR:CD1	2.53	0.43
1:M1:349:ALA:HB3	1:M1:408:ARG:NE	2.34	0.43
2:N1:67:HIS:HD2	2:N1:144:LEU:CD2	2.16	0.43
3:O1:103:TYR:CE1	3:O1:322:GLN:HG3	2.53	0.43
3:O1:230:LEU:O	3:O1:230:LEU:HG	2.17	0.43
4:P1:5:LEU:HG	4:P1:152:TYR:CE1	2.54	0.43
4:P1:43:MET:HE2	4:P1:43:MET:HB2	1.75	0.43
5:Q1:20:ASP:O	5:Q1:22:THR:N	2.52	0.43
6:R1:101:ARG:HG2	6:R1:105:GLU:OE2	2.19	0.43
12:22:200:MET:HG2	12:22:341:PRO:HB3	2.01	0.43
18:92:153:GLN:HG3	18:92:158:ILE:HG13	2.00	0.43
19:A2:144:MET:HG2	20:B2:380:HIS:HD2	1.80	0.43
23:E2:170:GLY:HA2	23:E2:171:PRO:HD3	1.78	0.43
56:A3:70:VAL:HG11	56:A3:246:LEU:HD22	2.00	0.43
58:C3:110:PRO:HB3	63:H3:30:TRP:CD2	2.54	0.43
62:G3:5:LYS:CD	62:G3:6:GLY:N	2.81	0.43
67:L3:41:ARG:HD2	68:M3:40:TYR:CZ	2.54	0.43
1:A1:89:TYR:C	1:A1:89:TYR:HD1	2.21	0.43
1:A1:136:GLN:HE21	9:I1:50:LEU:HG	1.84	0.43
1:A1:343:MET:H	1:A1:343:MET:HG2	1.34	0.43
1:A1:343:MET:HE3	1:A1:416:TYR:HD2	1.84	0.43
2:B1:295:LEU:O	2:B1:299:VAL:HG23	2.19	0.43
4:D1:21:LEU:CD1	4:D1:26:ILE:HD11	2.49	0.43
1:M1:19:LEU:CD1	1:M1:214:LYS:HG2	2.48	0.43
1:M1:213:GLN:CB	1:M1:215:HIS:CD2	3.02	0.43
2:N1:70:ARG:HD2	9:U1:69:SER:HB3	2.01	0.43
6:R1:87:LYS:HE2	6:R1:89:TYR:HB3	2.01	0.43
19:A2:140:GLN:HE22	20:B2:382:PHE:HE2	1.66	0.43
21:C2:165:ALA:HB1	21:C2:169:GLU:HG3	2.00	0.43
57:B3:3:TYR:CD1	57:B3:3:TYR:N	2.87	0.43
61:F3:53:THR:HG22	61:F3:54:ASN:OD1	2.19	0.43
65:J3:36:MET:O	65:J3:40:LEU:HG	2.18	0.43
1:A1:260:PRO:HG3	1:A1:414:TYR:OH	2.19	0.42
1:A1:289:HIS:O	1:A1:290:LEU:C	2.55	0.42
3:C1:157:GLY:O	3:C1:160:LEU:N	2.51	0.42
3:C1:316:MET:HG2	3:C1:317:PHE:CD1	2.54	0.42
4:D1:10:TYR:CE1	4:D1:128:PHE:CE2	3.07	0.42
4:D1:116:ILE:CD1	4:D1:120:ARG:HG3	2.49	0.42
7:G1:44:CYS:O	7:G1:47:ARG:N	2.47	0.42
11:K1:20:THR:HG23	11:K1:24:TRP:CD1	2.54	0.42
1:M1:184:GLU:O	1:M1:185:TYR:C	2.56	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M1:283:THR:OG1	9:U1:74:ALA:HB3	2.19	0.42
2:N1:24:LEU:H	2:N1:24:LEU:CD1	2.18	0.42
2:N1:84:LYS:O	2:N1:85:ILE:C	2.56	0.42
2:N1:211:VAL:HG12	2:N1:212:SER:N	2.34	0.42
2:N1:338:LYS:O	2:N1:339:ALA:C	2.58	0.42
3:O1:211:ILE:HG22	3:O1:212:SER:N	2.34	0.42
4:P1:94:PRO:HB2	4:P1:95:TYR:CD1	2.54	0.42
12:22:63:GLN:HA	12:22:66:ALA:HB3	2.01	0.42
12:22:257:LEU:HD23	12:22:257:LEU:HA	1.89	0.42
17:82:160:GLY:HA2	17:82:199:ARG:HD2	2.00	0.42
21:C2:86:LEU:HB2	21:C2:143:ILE:HG13	2.01	0.42
21:C2:99:LEU:O	21:C2:103:ARG:N	2.52	0.42
26:H2:96:PRO:HA	26:H2:97:HIS:HA	1.65	0.42
36:S2:150:SER:OG	36:S2:151:ILE:N	2.51	0.42
41:X2:14:VAL:HA	41:X2:17:PRO:HD2	2.01	0.42
43:Z2:24:ILE:HG12	43:Z2:54:MET:HE1	2.00	0.42
53:62:68:TRP:H	53:62:77:SER:HA	1.84	0.42
64:I3:61:GLU:OE1	64:I3:64:ARG:NH1	2.51	0.42
1:A1:29:GLN:HA	1:A1:201:GLY:O	2.18	0.42
1:A1:248:LEU:HA	1:A1:249:PRO:HD3	1.59	0.42
2:B1:38:LEU:O	2:B1:39:GLU:C	2.56	0.42
2:B1:79:GLY:H	2:B1:125:ASN:HD22	1.67	0.42
2:B1:286:LYS:HD3	2:B1:287:ARG:HH12	1.81	0.42
3:C1:90:PHE:CZ	3:C1:123:VAL:HG21	2.54	0.42
4:D1:214:LEU:O	4:D1:218:LEU:HG	2.19	0.42
6:F1:87:LYS:HG3	6:F1:89:TYR:HB3	2.01	0.42
7:G1:39:ARG:HA	7:G1:42:ARG:HD2	2.00	0.42
1:M1:38:GLY:HA3	1:M1:40:TRP:CZ3	2.49	0.42
1:M1:277:ILE:HG22	1:M1:294:LEU:HD12	1.99	0.42
2:N1:163:LEU:HD22	2:N1:256:ALA:HB1	2.01	0.42
4:P1:139:THR:CB	8:T1:44:VAL:HB	2.49	0.42
5:Q1:29:SER:CB	5:Q1:32:ARG:HD3	2.49	0.42
7:S1:80:ASP:CG	8:T1:47:ARG:HH22	2.21	0.42
12:22:80:PHE:HB3	26:H2:64:ARG:HH12	1.82	0.42
23:E2:119:CYS:SG	23:E2:120:GLU:N	2.92	0.42
52:12:196:ALA:HB2	52:12:274:ARG:HH21	1.83	0.42
56:A3:106:PRO:HB2	56:A3:107:PRO:HD3	2.01	0.42
62:G3:5:LYS:NZ	62:G3:6:GLY:N	2.54	0.42
64:I3:26:MET:N	64:I3:26:MET:SD	2.91	0.42
1:A1:297:ILE:H	1:A1:297:ILE:HG12	1.63	0.42
1:A1:311:ASN:OD1	1:A1:320:LEU:HD23	2.18	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A1:328:HIS:NE2	1:A1:329:MET:HG2	2.35	0.42
2:B1:295:LEU:HD12	2:B1:295:LEU:HA	1.88	0.42
3:C1:80:ARG:HD3	3:C1:80:ARG:C	2.39	0.42
4:D1:220:TYR:O	4:D1:221:ALA:C	2.56	0.42
7:G1:33:GLY:O	7:G1:34:ILE:C	2.56	0.42
1:M1:63:ALA:HB2	1:M1:97:TYR:HE2	1.84	0.42
2:N1:279:LEU:HD23	2:N1:295:LEU:HD13	2.00	0.42
3:O1:44:GLN:OE1	3:O1:44:GLN:HA	2.19	0.42
5:Q1:40:THR:HG22	10:V1:20:PHE:CZ	2.51	0.42
5:Q1:102:THR:H	5:Q1:105:GLU:CB	2.32	0.42
6:R1:103:GLU:O	6:R1:104:ARG:C	2.55	0.42
18:92:92:TRP:HB3	18:92:127:VAL:HG22	2.00	0.42
19:A2:674:LEU:CD1	29:K2:46:LYS:CE	2.90	0.42
22:D2:108:ARG:HD3	52:12:36:GLY:HA2	2.01	0.42
34:Q2:30:HIS:CD2	34:Q2:120:PRO:HG2	2.55	0.42
34:Q2:137:LEU:HD12	34:Q2:138:PRO:HD2	2.01	0.42
56:A3:474:GLU:HG3	56:A3:475:ALA:N	2.34	0.42
58:C3:80:ARG:HG2	58:C3:233:PHE:CE1	2.54	0.42
59:D3:37:GLN:O	59:D3:41:LYS:HG2	2.18	0.42
60:E3:43:PRO:HB2	60:E3:48:ILE:CD1	2.48	0.42
1:A1:61:HIS:HB2	1:A1:130:GLU:HG3	2.00	0.42
1:A1:372:THR:O	1:A1:373:THR:C	2.58	0.42
1:A1:426:GLY:CA	1:A1:427:PRO:C	2.86	0.42
3:C1:78:ILE:HG21	3:C1:78:ILE:HD13	1.80	0.42
3:C1:235:LEU:HD12	3:C1:235:LEU:O	2.19	0.42
3:C1:239:LEU:O	3:C1:243:VAL:HB	2.19	0.42
4:D1:43:MET:HA	4:D1:112:ASP:OD1	2.20	0.42
6:F1:48:ARG:HD3	6:F1:48:ARG:HA	1.54	0.42
6:F1:88:SER:O	6:F1:92:PRO:HD3	2.18	0.42
7:G1:44:CYS:O	7:G1:45:ILE:C	2.57	0.42
1:M1:59:VAL:CG2	1:M1:186:LEU:HD11	2.50	0.42
2:N1:56:ARG:HH22	2:N1:318:ASP:CG	2.18	0.42
2:N1:59:ASN:OD1	2:N1:60:SER:N	2.43	0.42
3:O1:183:PHE:CE1	3:O1:187:PHE:HE2	2.37	0.42
3:O1:192:ILE:N	3:O1:192:ILE:CD1	2.82	0.42
3:O1:235:LEU:O	3:O1:235:LEU:HD12	2.19	0.42
3:O1:366:MET:N	3:O1:367:PRO:HD2	2.33	0.42
4:P1:82:MET:HE2	4:P1:86:LYS:HZ2	1.83	0.42
4:P1:149:PHE:CZ	8:T1:55:THR:HG23	2.53	0.42
4:P1:192:TRP:CE3	4:P1:193:ALA:N	2.88	0.42
5:Q1:114:VAL:HG13	5:Q1:120:PRO:HB3	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:Q1:134:ILE:HD13	5:Q1:134:ILE:HG21	1.76	0.42
5:Q1:172:ARG:HE	5:Q1:172:ARG:HB3	1.67	0.42
6:R1:71:ARG:O	6:R1:72:GLN:HB2	2.19	0.42
14:42:62:SER:HB2	14:42:457:PRO:HD3	2.00	0.42
18:92:195:ASP:OD2	18:92:220:SER:OG	2.34	0.42
19:A2:111:LYS:CE	33:P2:53:TYR:CE2	2.93	0.42
19:A2:380:ASP:CG	29:K2:41:TYR:OH	2.58	0.42
20:B2:116:LEU:HA	22:D2:130:THR:HG21	2.02	0.42
36:S2:187:LEU:HD13	36:S2:277:ARG:HB2	2.01	0.42
53:62:492:ILE:HA	53:62:495:ILE:HD12	2.02	0.42
56:A3:377:PHE:CD2	79:A3:602:HEA:HAD1	2.53	0.42
1:A1:151:ASN:O	1:A1:154:HIS:N	2.53	0.42
1:A1:277:ILE:O	1:A1:292:SER:OG	2.30	0.42
2:B1:83:PHE:CE1	6:R1:104:ARG:HG2	2.54	0.42
2:B1:92:VAL:O	2:B1:92:VAL:CG1	2.68	0.42
2:B1:92:VAL:HG11	2:B1:115:ASP:HB3	2.02	0.42
2:B1:206:LEU:HA	2:B1:206:LEU:HD12	1.85	0.42
3:C1:372:ILE:HD13	3:C1:372:ILE:HG21	1.84	0.42
4:D1:116:ILE:CD1	4:D1:120:ARG:HH11	2.32	0.42
4:D1:158:ILE:CG1	4:D1:159:GLY:N	2.82	0.42
6:F1:64:ARG:O	6:F1:68:LEU:HD12	2.20	0.42
10:J1:43:TYR:O	10:J1:43:TYR:CG	2.73	0.42
1:M1:149:VAL:CG1	1:M1:150:PHE:N	2.81	0.42
1:M1:334:MET:CE	1:M1:334:MET:HA	2.49	0.42
2:N1:72:ALA:HB1	2:N1:75:LEU:CD1	2.49	0.42
2:N1:99:THR:OG1	9:U1:68:VAL:HG13	2.19	0.42
2:N1:102:ARG:NH1	2:N1:174:ASN:O	2.53	0.42
2:N1:312:PHE:CD1	9:U1:58:GLN:O	2.73	0.42
3:O1:170:VAL:O	3:O1:170:VAL:CG1	2.68	0.42
3:O1:218:ILE:HG22	3:O1:223:TYR:HD2	1.85	0.42
4:P1:23:HIS:O	4:P1:26:ILE:HB	2.20	0.42
4:P1:178:THR:HG23	8:T1:15:ASP:N	2.34	0.42
4:P1:233:ARG:O	4:P1:234:LYS:HE2	2.19	0.42
5:Q1:97:PHE:CD1	5:Q1:137:GLY:HA3	2.54	0.42
6:R1:22:ASN:O	6:R1:23:ALA:C	2.57	0.42
6:R1:73:GLN:HG2	7:S1:36:ASN:ND2	2.34	0.42
17:82:316:ALA:HB1	17:82:326:LEU:HD22	2.02	0.42
19:A2:380:ASP:HB2	29:K2:41:TYR:OH	2.20	0.42
23:E2:38:TYR:HB2	33:P2:106:LEU:HA	2.00	0.42
30:L2:25:ILE:HB	52:12:299:ALA:HB1	2.00	0.42
36:S2:202:VAL:HA	36:S2:205:ARG:HB2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:62:358:LYS:HB3	53:62:437:PHE:HA	2.02	0.42
56:A3:449:MET:SD	57:B3:5:MET:HE2	2.60	0.42
60:E3:90:ARG:HD3	60:E3:90:ARG:HA	1.77	0.42
1:A1:54:GLY:O	1:A1:55:ALA:O	2.37	0.42
1:A1:56:GLY:O	1:A1:59:VAL:HB	2.19	0.42
1:A1:213:GLN:HB3	1:A1:215:HIS:CD2	2.53	0.42
1:A1:436:ARG:NE	3:C1:222:PRO:HG3	2.33	0.42
2:B1:158:HIS:ND1	2:B1:246:GLU:OE1	2.52	0.42
3:C1:3:ASN:HA	3:C1:8:HIS:CD2	2.55	0.42
3:C1:126:THR:HG21	69:C1:401:HEM:C3B	2.54	0.42
4:D1:50:HIS:HB3	4:D1:54:VAL:HG21	2.01	0.42
6:F1:99:ARG:O	6:F1:100:GLU:C	2.57	0.42
10:J1:49:GLY:H	10:J1:54:HIS:CD2	2.37	0.42
1:M1:28:GLU:OE1	1:M1:375:VAL:CG1	2.68	0.42
1:M1:168:GLU:H	1:M1:168:GLU:HG3	1.66	0.42
2:N1:29:LEU:HG	2:N1:33:LEU:CD2	2.50	0.42
2:N1:213:HIS:HD2	2:N1:213:HIS:O	2.02	0.42
2:N1:269:ALA:O	2:N1:270:ASN:C	2.57	0.42
2:N1:360:ALA:O	2:N1:361:LYS:C	2.58	0.42
3:O1:244:LEU:O	4:P1:201:ARG:HG2	2.20	0.42
4:P1:139:THR:CG2	8:T1:44:VAL:HB	2.50	0.42
4:P1:188:THR:O	4:P1:189:PHE:C	2.55	0.42
5:Q1:129:LYS:HA	5:Q1:130:PRO:HD2	1.85	0.42
19:A2:63:PHE:O	19:A2:181:ARG:NH2	2.51	0.42
19:A2:359:ASN:HD21	29:K2:17:ARG:HG2	1.85	0.42
20:B2:447:VAL:HA	20:B2:450:ILE:HD12	2.02	0.42
23:E2:53:VAL:O	23:E2:57:ALA:N	2.53	0.42
27:I2:108:LYS:HA	27:I2:120:ARG:HA	2.01	0.42
32:O2:77:ARG:HA	32:O2:80:ASP:HB3	2.01	0.42
53:62:163:ASP:O	53:62:167:ALA:N	2.51	0.42
56:A3:311:ILE:HG21	56:A3:311:ILE:HD13	1.75	0.42
58:C3:137:LEU:HA	58:C3:137:LEU:HD12	1.69	0.42
58:C3:154:GLY:CA	61:F3:6:VAL:HG22	2.47	0.42
63:H3:57:ARG:HA	63:H3:60:TYR:CD2	2.55	0.42
3:C1:30:TRP:O	3:C1:33:PHE:CD2	2.62	0.42
3:C1:36:LEU:HD22	3:C1:235:LEU:HB2	2.02	0.42
3:C1:73:VAL:O	3:C1:73:VAL:HG12	2.19	0.42
4:D1:237:TYR:HE2	4:D1:239:PRO:HG3	1.80	0.42
6:F1:10:SER:HA	6:F1:13:LEU:HG	2.01	0.42
8:H1:22:GLU:O	8:H1:23:GLN:C	2.57	0.42
1:M1:88:ALA:O	2:N1:286:LYS:HD2	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M1:100:LYS:HG2	2:N1:370:MET:SD	2.59	0.42
1:M1:276:ILE:O	1:M1:277:ILE:C	2.57	0.42
2:N1:34:VAL:O	2:N1:35:ILE:HG22	2.19	0.42
2:N1:156:GLN:OE1	9:U1:58:GLN:NE2	2.39	0.42
2:N1:201:SER:OG	2:N1:226:ILE:N	2.51	0.42
2:N1:304:HIS:HD2	2:N1:306:PRO:CD	2.28	0.42
3:O1:126:THR:CG2	69:O1:401:HEM:C3B	3.01	0.42
7:S1:68:LYS:O	7:S1:69:SER:C	2.58	0.42
7:S1:71:ARG:NH2	8:T1:60:ASP:OD1	2.38	0.42
19:A2:359:ASN:ND2	29:K2:68:ARG:HH22	2.17	0.42
21:C2:116:LEU:HD23	21:C2:168:TYR:HB3	2.02	0.42
23:E2:79:ARG:NH2	33:P2:19:ASP:OD2	2.50	0.42
28:J2:55:SER:OG	28:J2:56:GLY:N	2.52	0.42
53:62:336:LYS:HA	53:62:339:LEU:HB3	2.01	0.42
53:62:583:LEU:HD23	53:62:586:LEU:HD13	2.02	0.42
56:A3:509:THR:HG1	61:F3:71:TRP:HZ3	1.68	0.42
79:A3:601:HEA:HHC	79:A3:601:HEA:H122	2.02	0.42
1:A1:5:ALA:O	1:A1:6:GLN:O	2.38	0.42
1:A1:106:LEU:HA	1:A1:106:LEU:HD12	1.74	0.42
1:A1:257:VAL:N	1:A1:320:LEU:O	2.48	0.42
1:A1:262:TRP:CE3	1:A1:385:THR:CG2	3.02	0.42
1:A1:366:VAL:HG11	2:B1:44:ALA:HB2	2.01	0.42
2:B1:57:TYR:HB3	2:B1:198:HIS:CE1	2.55	0.42
2:B1:72:ALA:HB2	2:B1:140:LEU:CD2	2.50	0.42
2:B1:162:ASN:CB	2:B1:244:ILE:HG21	2.50	0.42
2:B1:216:LEU:O	2:B1:217:LYS:C	2.57	0.42
2:B1:239:TYR:OH	2:B1:423:SER:OG	2.37	0.42
3:C1:177:ARG:O	3:C1:181:PHE:CD2	2.72	0.42
3:C1:313:ARG:HH11	3:C1:313:ARG:HD2	1.59	0.42
4:D1:7:PRO:HB2	4:D1:125:ASP:CB	2.49	0.42
4:D1:69:GLU:O	4:D1:73:GLY:CA	2.67	0.42
4:D1:171:PHE:HZ	4:D1:182:VAL:HG22	1.85	0.42
4:D1:211:MET:HA	4:D1:211:MET:CE	2.49	0.42
4:D1:237:TYR:HD1	7:G1:13:VAL:HG22	1.85	0.42
1:M1:67:THR:OG1	1:M1:119:ASN:HB2	2.20	0.42
1:M1:255:ILE:HD13	1:M1:335:MET:HE1	2.00	0.42
1:M1:329:MET:HA	1:M1:329:MET:CE	2.50	0.42
2:N1:31:ASN:HB3	2:N1:201:SER:CB	2.50	0.42
2:N1:134:ARG:CG	2:N1:135:TRP:N	2.81	0.42
2:N1:294:SER:O	2:N1:297:GLN:N	2.53	0.42
2:N1:308:ASP:OD1	2:N1:308:ASP:C	2.57	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O1:234:LEU:O	3:O1:237:LEU:HB3	2.19	0.42
3:O1:248:ASP:O	3:O1:249:LEU:C	2.58	0.42
3:O1:278:TYR:O	3:O1:279:ALA:C	2.55	0.42
3:O1:314:SER:OG	3:O1:316:MET:HB3	2.19	0.42
4:P1:58:GLU:O	4:P1:62:LYS:HB2	2.19	0.42
4:P1:240:PRO:CG	4:P1:241:LYS:H	2.33	0.42
17:82:297:LYS:N	17:82:333:GLU:O	2.45	0.42
19:A2:34:VAL:HG13	19:A2:100:TRP:H	1.84	0.42
19:A2:140:GLN:NE2	20:B2:382:PHE:CD2	2.88	0.42
19:A2:583:ILE:CD1	38:U2:137:TRP:HZ3	2.31	0.42
23:E2:211:TYR:CZ	33:P2:39:PRO:HG3	2.55	0.42
29:K2:55:ILE:O	29:K2:56:ARG:NH1	2.43	0.42
35:R2:266:VAL:HG23	35:R2:335:LEU:HB3	2.02	0.42
36:S2:187:LEU:HA	36:S2:188:PRO:HD3	1.84	0.42
56:A3:187:SER:HB2	56:A3:277:MET:CE	2.50	0.42
56:A3:247:ILE:HB	79:A3:602:HEA:HBC1	2.01	0.42
1:A1:38:GLY:HA3	1:A1:40:TRP:CZ3	2.50	0.42
1:A1:64:PHE:CE1	1:A1:86:LEU:CG	2.81	0.42
1:A1:361:LEU:HD12	1:A1:361:LEU:O	2.19	0.42
2:B1:312:PHE:N	2:B1:323:GLY:O	2.47	0.42
2:B1:361:LYS:NZ	2:B1:403:ASP:O	2.39	0.42
4:D1:57:THR:CG2	4:D1:58:GLU:N	2.83	0.42
4:D1:223:LYS:NZ	4:D1:227:TRP:CD1	2.86	0.42
6:F1:94:LEU:O	6:F1:94:LEU:HD12	2.20	0.42
7:G1:36:ASN:O	7:G1:37:VAL:C	2.56	0.42
1:M1:158:PHE:HB2	1:M1:164:ALA:HB2	2.02	0.42
1:M1:213:GLN:HB2	1:M1:215:HIS:CD2	2.55	0.42
1:M1:343:MET:CE	1:M1:416:TYR:CD2	3.03	0.42
1:M1:345:LEU:HA	1:M1:345:LEU:HD23	1.69	0.42
1:M1:420:PRO:HG3	1:M1:441:MET:SD	2.60	0.42
1:M1:428:ILE:CG2	1:M1:431:LEU:CG	2.97	0.42
2:N1:200:THR:OG1	2:N1:201:SER:N	2.53	0.42
3:O1:14:VAL:O	3:O1:14:VAL:HG12	2.20	0.42
3:O1:41:LEU:HD12	69:O1:401:HEM:HBB1	2.00	0.42
3:O1:64:SER:O	3:O1:65:SER:C	2.55	0.42
5:Q1:13:TYR:O	7:S1:24:ARG:HG3	2.20	0.42
12:22:7:ILE:O	12:22:11:LEU:N	2.53	0.42
15:52:32:CYS:O	15:52:36:MET:N	2.53	0.42
74:82:501:FMN:O4'	74:82:501:FMN:O2'	2.34	0.42
19:A2:511:LYS:HD3	19:A2:663:ASN:HB3	2.02	0.42
19:A2:613:PRO:CG	38:U2:134:ILE:HG21	2.46	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:12:75:PRO:CB	52:12:223:PHE:CZ	2.99	0.42
56:A3:356:ILE:HD13	56:A3:356:ILE:HA	1.90	0.42
59:D3:126:MET:HG3	59:D3:128:VAL:HG23	2.00	0.42
60:E3:93:LEU:HD23	60:E3:93:LEU:HA	1.88	0.42
1:A1:43:ALA:CB	1:A1:189:HIS:CB	2.97	0.42
1:A1:343:MET:HE1	1:A1:416:TYR:CE2	2.54	0.42
2:B1:283:PRO:CG	9:I1:55:LEU:HD13	2.50	0.42
3:C1:53:MET:SD	3:O1:181:PHE:HZ	2.43	0.42
3:C1:159:ASN:O	3:C1:162:GLU:HB2	2.20	0.42
3:C1:184:ILE:O	3:C1:184:ILE:HG12	2.19	0.42
3:C1:317:PHE:CD1	6:F1:26:PHE:HB3	2.55	0.42
3:C1:373:GLU:O	3:C1:377:LEU:HD12	2.19	0.42
4:D1:44:ASP:OD1	4:D1:93:LYS:HE3	2.20	0.42
4:D1:57:THR:CG2	4:D1:58:GLU:H	2.32	0.42
4:D1:146:GLY:O	4:D1:148:TYR:CD1	2.73	0.42
4:D1:221:ALA:O	4:D1:222:MET:C	2.57	0.42
11:K1:20:THR:HG23	11:K1:24:TRP:HD1	1.83	0.42
1:M1:152:TYR:CE2	1:M1:243:HIS:HD2	2.38	0.42
2:N1:343:GLN:O	2:N1:343:GLN:HG3	2.20	0.42
3:O1:233:LEU:HD12	3:O1:233:LEU:HA	1.74	0.42
3:O1:347:TYR:O	3:O1:348:ILE:C	2.58	0.42
5:Q1:147:ILE:O	5:Q1:148:ALA:C	2.57	0.42
9:U1:66:ALA:O	9:U1:77:ARG:HG3	2.20	0.42
11:W1:20:THR:HG23	11:W1:24:TRP:HD1	1.85	0.42
19:A2:422:TRP:C	25:G2:169:ARG:CD	2.81	0.42
36:S2:135:LEU:HA	36:S2:138:LEU:HD13	2.02	0.42
59:D3:86:MET:O	66:K3:25:CYS:HB2	2.20	0.42
61:F3:86:GLY:O	61:F3:87:THR:O	2.37	0.42
64:I3:35:TYR:O	64:I3:39:VAL:HB	2.19	0.42
1:A1:253:VAL:O	1:A1:323:HIS:HA	2.20	0.41
2:B1:168:TYR:CB	2:B1:173:ALA:HB2	2.44	0.41
2:B1:282:GLY:HA2	2:B1:283:PRO:HD2	1.77	0.41
3:C1:234:LEU:HD21	4:D1:216:LEU:HD21	2.01	0.41
4:D1:29:GLY:HA2	4:D1:32:VAL:HG23	2.02	0.41
4:D1:150:ASN:OD1	4:D1:150:ASN:C	2.59	0.41
6:F1:95:LYS:O	6:F1:96:GLU:C	2.57	0.41
10:J1:20:PHE:O	10:J1:23:THR:HB	2.20	0.41
1:M1:4:TYR:O	1:M1:5:ALA:C	2.56	0.41
1:M1:78:GLU:HG2	1:M1:112:LEU:HD21	2.01	0.41
1:M1:91:THR:HG22	1:M1:94:HIS:N	2.33	0.41
2:N1:180:ASP:HA	2:N1:183:ILE:HD12	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N1:243:GLU:HA	2:N1:424:MET:O	2.20	0.41
3:O1:15:ASN:ND2	3:O1:18:PHE:CD2	2.88	0.41
3:O1:123:VAL:O	3:O1:123:VAL:CG1	2.65	0.41
4:P1:10:TYR:CE1	4:P1:128:PHE:HE2	2.36	0.41
4:P1:164:ILE:CD1	4:P1:186:VAL:HG21	2.50	0.41
4:P1:206:LEU:HG	4:P1:210:LEU:HD11	2.02	0.41
14:42:45:PHE:HA	14:42:46:GLY:HA3	1.68	0.41
20:B2:194:ILE:HD13	20:B2:268:TRP:HE1	1.85	0.41
37:T2:77:SER:HA	37:T2:80:VAL:HG22	2.02	0.41
52:12:127:TYR:C	52:12:127:TYR:HD1	2.23	0.41
56:A3:314:ILE:HB	56:A3:315:PRO:CD	2.51	0.41
57:B3:185:MET:SD	57:B3:185:MET:C	2.99	0.41
58:C3:224:LYS:NZ	58:C3:226:HIS:HE2	2.18	0.41
58:C3:252:LEU:HD23	58:C3:252:LEU:HA	1.90	0.41
1:A1:33:PRO:O	1:A1:103:SER:CB	2.67	0.41
1:A1:46:ARG:NH2	1:A1:316:ASP:OD1	2.52	0.41
1:A1:83:GLY:O	2:B1:370:MET:HE1	2.19	0.41
1:A1:152:TYR:O	1:A1:153:LEU:C	2.57	0.41
2:B1:342:ASN:O	2:B1:345:LYS:N	2.52	0.41
3:C1:8:HIS:O	3:C1:9:PRO:C	2.57	0.41
3:C1:101:GLY:HA2	3:C1:106:SER:HB2	2.02	0.41
3:C1:163:TRP:CZ2	5:Q1:62:MET:CE	3.02	0.41
3:C1:198:LEU:HD22	3:O1:11:MET:HG2	2.02	0.41
3:C1:264:THR:HG21	5:Q1:144:CYS:SG	2.60	0.41
4:D1:204:MET:O	4:D1:207:LYS:N	2.53	0.41
6:F1:45:GLU:O	6:F1:46:ALA:C	2.56	0.41
2:N1:135:TRP:NE1	2:N1:136:GLU:HG3	2.35	0.41
3:O1:211:ILE:CG2	6:R1:62:ILE:HD13	2.50	0.41
3:O1:378:LYS:CD	6:R1:33:ARG:HH12	2.32	0.41
5:Q1:109:GLU:OE2	5:Q1:166:ASP:OD2	2.37	0.41
7:S1:33:GLY:O	7:S1:37:VAL:HB	2.19	0.41
17:82:383:THR:HG23	19:A2:75:CYS:CA	2.32	0.41
18:92:134:VAL:HG23	18:92:171:LEU:HD11	2.01	0.41
19:A2:598:ASN:OD1	19:A2:601:GLY:N	2.53	0.41
21:C2:230:GLN:HE21	21:C2:233:ARG:NH1	2.16	0.41
22:D2:114:ARG:HD2	22:D2:114:ARG:O	2.20	0.41
35:R2:154:GLN:HG3	35:R2:155:VAL:HG23	2.02	0.41
56:A3:354:THR:HG21	56:A3:376:HIS:HA	2.03	0.41
79:A3:601:HEA:HMC1	79:A3:601:HEA:HBC1	2.03	0.41
58:C3:146:TRP:CE2	62:G3:17:ARG:HB2	2.56	0.41
58:C3:146:TRP:NE1	62:G3:17:ARG:HB2	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:G3:77:PRO:HA	62:G3:82:TYR:HA	2.02	0.41
1:A1:136:GLN:NE2	9:I1:50:LEU:HG	2.35	0.41
2:B1:24:LEU:CG	2:B1:38:LEU:HD11	2.31	0.41
2:B1:134:ARG:HG2	2:B1:135:TRP:N	2.35	0.41
2:B1:154:ASN:O	2:B1:157:ALA:N	2.54	0.41
2:B1:271:ALA:O	2:B1:272:PHE:C	2.58	0.41
1:M1:347:THR:HA	11:W1:16:ASN:HD22	1.85	0.41
1:M1:426:GLY:H	1:M1:428:ILE:HG13	1.83	0.41
2:N1:255:ALA:HA	2:N1:426:ALA:HA	2.02	0.41
2:N1:264:ILE:HD12	2:N1:315:SER:OG	2.20	0.41
2:N1:285:VAL:HG12	2:N1:285:VAL:O	2.20	0.41
2:N1:309:VAL:CG2	2:N1:326:THR:HG22	2.50	0.41
3:O1:10:LEU:HD12	3:O1:13:ILE:CD1	2.50	0.41
3:O1:122:THR:HB	3:O1:189:ILE:CD1	2.49	0.41
3:O1:156:ILE:O	3:O1:158:THR:N	2.54	0.41
3:O1:236:ILE:O	3:O1:237:LEU:C	2.57	0.41
4:P1:139:THR:O	8:T1:44:VAL:HG11	2.20	0.41
5:Q1:75:GLU:O	5:Q1:194:ILE:CA	2.47	0.41
5:Q1:150:ALA:CB	5:Q1:157:TYR:CB	2.98	0.41
5:Q1:181:GLU:HG2	5:Q1:182:VAL:N	2.35	0.41
5:Q1:184:SER:O	5:Q1:195:VAL:HA	2.20	0.41
8:T1:15:ASP:CB	8:T1:16:PRO:HD3	2.49	0.41
8:T1:65:ARG:HH11	8:T1:65:ARG:HD2	1.65	0.41
12:22:216:PHE:HA	12:22:219:PHE:HB2	2.02	0.41
19:A2:613:PRO:HB2	38:U2:134:ILE:HD12	2.01	0.41
20:B2:238:LEU:HD13	33:P2:37:PRO:HD2	2.02	0.41
22:D2:150:VAL:HB	22:D2:179:VAL:HA	2.02	0.41
23:E2:98:ARG:NH2	23:E2:155:CYS:O	2.53	0.41
28:J2:38:VAL:O	28:J2:44:GLN:NE2	2.53	0.41
56:A3:461:SER:O	56:A3:465:VAL:HG13	2.21	0.41
1:A1:66:GLY:O	1:A1:121:SER:N	2.50	0.41
2:B1:55:SER:OG	2:B1:102:ARG:HA	2.20	0.41
2:B1:160:ILE:HA	2:B1:160:ILE:HD12	1.73	0.41
2:B1:279:LEU:CD2	2:B1:344:VAL:HG22	2.50	0.41
3:C1:280:ILE:HA	3:C1:355:SER:OG	2.20	0.41
3:C1:319:PRO:O	3:C1:322:GLN:N	2.52	0.41
4:D1:7:PRO:CG	4:D1:126:TYR:HA	2.47	0.41
8:H1:15:ASP:CB	8:H1:16:PRO:CD	2.97	0.41
1:M1:31:SER:N	1:M1:202:GLY:HA2	2.35	0.41
1:M1:156:THR:OG1	1:M1:241:ILE:HB	2.21	0.41
1:M1:166:SER:HB2	5:Q1:3:THR:HG22	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M1:236:PHE:HD2	1:M1:258:GLU:CB	2.29	0.41
1:M1:369:LEU:HD21	1:M1:378:ASP:OD2	2.20	0.41
1:M1:385:THR:HG22	1:M1:386:TYR:CD1	2.55	0.41
2:N1:95:LYS:HG3	9:U1:70:LEU:HD13	2.02	0.41
2:N1:168:TYR:CZ	2:N1:172:LEU:HD12	2.56	0.41
2:N1:435:PHE:N	2:N1:438:GLU:HB2	2.35	0.41
3:O1:47:THR:HG23	3:O1:79:ILE:HG23	2.01	0.41
3:O1:115:ILE:N	3:O1:115:ILE:CD1	2.83	0.41
3:O1:219:PRO:HB2	3:O1:222:PRO:CD	2.50	0.41
3:O1:282:ARG:NH1	3:O1:343:VAL:HG22	2.36	0.41
4:P1:230:LEU:O	4:P1:233:ARG:HB2	2.19	0.41
4:P1:240:PRO:HG2	4:P1:241:LYS:N	2.34	0.41
5:Q1:41:ALA:HA	10:V1:24:ILE:HD11	2.03	0.41
5:Q1:107:ASP:O	5:Q1:110:ALA:N	2.51	0.41
5:Q1:119:ASP:OD1	5:Q1:120:PRO:CD	2.67	0.41
5:Q1:177:PRO:HB2	5:Q1:178:LEU:HG	2.03	0.41
6:R1:74:ILE:HG23	6:R1:75:LEU:O	2.21	0.41
15:52:7:ASN:HA	15:52:8:ILE:HA	1.72	0.41
20:B2:318:VAL:HA	20:B2:319:PRO:HD3	1.94	0.41
24:F2:85:PHE:O	24:F2:89:ASN:N	2.44	0.41
39:V2:143:TYR:HD1	39:V2:143:TYR:HA	1.73	0.41
60:E3:21:LYS:O	60:E3:57:ARG:NH1	2.53	0.41
65:J3:12:PHE:O	65:J3:23:LYS:HE2	2.21	0.41
1:A1:134:ILE:O	1:A1:137:GLU:N	2.53	0.41
1:A1:143:THR:CG2	9:I1:48:SER:H	2.18	0.41
1:A1:280:TYR:HB3	1:A1:307:PHE:CD2	2.55	0.41
1:A1:426:GLY:H	1:A1:428:ILE:HD11	1.83	0.41
2:B1:283:PRO:HG3	9:I1:55:LEU:CG	2.50	0.41
3:C1:163:TRP:CH2	5:Q1:62:MET:HE1	2.56	0.41
3:C1:360:LEU:HA	3:C1:360:LEU:HD12	1.82	0.41
4:D1:91:PHE:N	4:D1:91:PHE:CD1	2.89	0.41
4:D1:165:TYR:CE1	4:D1:168:VAL:HA	2.56	0.41
1:M1:43:ALA:HB1	1:M1:189:HIS:CB	2.50	0.41
2:N1:182:ARG:O	2:N1:185:LYS:N	2.54	0.41
2:N1:333:ALA:O	2:N1:337:ILE:HD12	2.20	0.41
3:O1:277:ALA:HB1	3:O1:294:LEU:CD1	2.50	0.41
3:O1:277:ALA:O	3:O1:278:TYR:C	2.57	0.41
3:O1:282:ARG:O	3:O1:283:SER:C	2.59	0.41
3:O1:282:ARG:CZ	3:O1:343:VAL:HG22	2.49	0.41
3:O1:337:TRP:NE1	3:O1:341:GLN:OE1	2.54	0.41
4:P1:102:ARG:HG2	4:P1:109:LEU:HB2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:P1:165:TYR:CE2	4:P1:168:VAL:HG22	2.55	0.41
70:P1:301:HEC:CHD	70:P1:301:HEC:CBC	2.95	0.41
5:Q1:33:LYS:HA	7:S1:21:PHE:CE1	2.55	0.41
6:R1:74:ILE:H	7:S1:39:ARG:NH2	2.19	0.41
17:82:418:GLN:HE21	19:A2:115:GLY:HA3	1.70	0.41
18:92:147:SER:HB2	18:92:198:PRO:HG3	2.01	0.41
19:A2:627:SER:OG	19:A2:632:MET:O	2.31	0.41
23:E2:85:ASN:O	23:E2:89:GLU:N	2.42	0.41
23:E2:114:ILE:HD12	23:E2:114:ILE:HA	1.97	0.41
31:N2:26:ILE:O	31:N2:30:LYS:N	2.48	0.41
39:V2:43:LEU:HB2	52:12:179:TRP:HE1	1.86	0.41
42:Y2:89:TYR:O	42:Y2:91:ASP:N	2.53	0.41
56:A3:198:SER:HB2	56:A3:238:PHE:HA	2.03	0.41
58:C3:182:TYR:O	62:G3:72:ASN:HB2	2.21	0.41
59:D3:130:PRO:O	59:D3:136:ALA:HB2	2.20	0.41
63:H3:24:ASN:HD22	63:H3:25:GLN:N	2.18	0.41
64:I3:19:PHE:CD1	64:I3:19:PHE:C	2.94	0.41
1:A1:260:PRO:HG3	1:A1:414:TYR:CE1	2.55	0.41
1:A1:314:TYR:HB2	1:A1:317:THR:O	2.20	0.41
2:B1:68:LEU:HB2	2:B1:144:LEU:HD21	2.02	0.41
2:B1:68:LEU:O	2:B1:71:LEU:N	2.50	0.41
2:B1:170:ASN:OD1	2:B1:171:ALA:N	2.52	0.41
2:B1:257:LEU:CD1	2:B1:424:MET:HE2	2.49	0.41
3:C1:163:TRP:CD1	5:Q1:63:SER:HA	2.55	0.41
3:C1:328:LEU:O	3:C1:329:VAL:C	2.56	0.41
6:F1:28:LYS:HB3	6:F1:74:ILE:CD1	2.44	0.41
7:G1:60:THR:O	7:G1:61:TRP:C	2.59	0.41
10:J1:29:LEU:HD12	10:J1:32:GLU:OE2	2.21	0.41
11:K1:24:TRP:CE3	11:K1:24:TRP:HA	2.56	0.41
1:M1:61:HIS:HB2	1:M1:130:GLU:HG3	2.02	0.41
1:M1:64:PHE:HE2	1:M1:88:ALA:CB	2.34	0.41
2:N1:33:LEU:HB2	2:N1:204:MET:O	2.20	0.41
2:N1:49:LEU:HD21	2:N1:204:MET:SD	2.60	0.41
2:N1:160:ILE:CD1	2:N1:325:TYR:HE2	2.33	0.41
2:N1:309:VAL:CG1	2:N1:310:SER:N	2.82	0.41
2:N1:436:ILE:H	2:N1:436:ILE:HG13	1.41	0.41
3:O1:11:MET:O	3:O1:14:VAL:HB	2.21	0.41
3:O1:196:HIS:HE1	69:O1:402:HEM:CHD	2.32	0.41
3:O1:211:ILE:CG2	3:O1:212:SER:N	2.83	0.41
3:O1:276:PHE:CE2	3:O1:297:SER:OG	2.74	0.41
3:O1:284:ILE:HG23	3:O1:285:PRO:HD2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:P1:120:ARG:HD2	70:P1:301:HEC:CGA	2.50	0.41
4:P1:138:PRO:CG	8:T1:55:THR:HA	2.50	0.41
5:Q1:31:ALA:HB2	10:V1:7:ALA:HB2	2.03	0.41
6:R1:35:ASP:OD2	6:R1:61:ARG:HD2	2.20	0.41
10:V1:52:TRP:N	10:V1:52:TRP:HE3	2.18	0.41
11:W1:24:TRP:O	11:W1:25:GLY:C	2.59	0.41
17:82:36:LYS:HB2	17:82:38:GLU:HG3	2.01	0.41
19:A2:613:PRO:HG3	38:U2:134:ILE:CG2	2.51	0.41
23:E2:54:THR:HG22	30:L2:13:TRP:HH2	1.85	0.41
27:I2:87:CYS:O	27:I2:96:HIS:NE2	2.53	0.41
27:I2:106:GLU:N	27:I2:106:GLU:CD	2.73	0.41
28:J2:41:TYR:OH	52:12:317:GLN:NE2	2.39	0.41
57:B3:100:MET:HE2	57:B3:157:GLU:HG3	2.01	0.41
57:B3:146:MET:SD	57:B3:189:PRO:HB3	2.60	0.41
58:C3:6:HIS:CD2	58:C3:8:TYR:HB2	2.55	0.41
1:A1:433:ASP:O	1:A1:436:ARG:N	2.52	0.41
2:B1:211:VAL:HG11	2:B1:216:LEU:HD13	2.02	0.41
2:B1:250:ASP:OD1	2:B1:251:SER:N	2.54	0.41
3:C1:122:THR:HG21	3:C1:189:ILE:HG12	2.03	0.41
3:C1:347:TYR:O	3:C1:348:ILE:C	2.59	0.41
4:D1:55:CYS:SG	10:J1:52:TRP:HB2	2.60	0.41
6:F1:68:LEU:HD11	6:F1:75:LEU:HD13	2.01	0.41
7:G1:31:SER:O	7:G1:35:PRO:CD	2.62	0.41
8:H1:59:LEU:HD23	8:H1:59:LEU:HA	1.76	0.41
1:M1:48:GLU:HB3	1:M1:52:ASN:O	2.21	0.41
1:M1:133:VAL:HG12	1:M1:134:ILE:N	2.35	0.41
1:M1:257:VAL:O	1:M1:320:LEU:HB2	2.21	0.41
1:M1:333:ASP:O	1:M1:334:MET:C	2.58	0.41
1:M1:426:GLY:H	1:M1:428:ILE:CG1	2.30	0.41
2:N1:47:ILE:HB	2:N1:109:VAL:HG12	2.02	0.41
2:N1:170:ASN:OD1	2:N1:171:ALA:N	2.50	0.41
3:O1:88:SER:HA	3:O1:272:TRP:CZ2	2.53	0.41
3:O1:133:LEU:HA	3:O1:175:LEU:HD11	2.01	0.41
3:O1:149:LEU:O	3:O1:291:VAL:HG21	2.21	0.41
3:O1:184:ILE:O	3:O1:184:ILE:HG12	2.20	0.41
4:P1:48:TYR:OH	4:P1:68:VAL:HG21	2.21	0.41
5:Q1:87:MET:O	5:Q1:89:PHE:HD1	2.04	0.41
5:Q1:185:TYR:HD2	5:Q1:193:VAL:HG21	1.84	0.41
11:W1:24:TRP:HA	11:W1:24:TRP:CE3	2.55	0.41
12:22:190:MET:HB2	12:22:201:THR:HG23	2.02	0.41
13:32:84:LEU:HD21	52:12:309:ILE:HD13	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:72:140:ALA:HA	16:72:142:GLY:N	2.36	0.41
18:92:93:LEU:HA	18:92:94:PRO:HD3	1.94	0.41
19:A2:44:GLU:HB3	19:A2:47:THR:HG23	2.03	0.41
23:E2:135:ARG:NH1	27:I2:68:ALA:O	2.54	0.41
35:R2:126:VAL:HG13	35:R2:164:PHE:HD1	1.86	0.41
35:R2:227:PRO:HG2	35:R2:230:SER:HA	2.02	0.41
56:A3:23:GLY:HA3	56:A3:73:ILE:HG13	2.03	0.41
56:A3:462:LEU:O	56:A3:466:MET:HG3	2.20	0.41
57:B3:193:TYR:CD1	57:B3:193:TYR:N	2.88	0.41
1:A1:8:LEU:HD23	1:A1:8:LEU:HA	1.94	0.41
1:A1:29:GLN:HG3	1:A1:203:LEU:O	2.21	0.41
1:A1:97:TYR:CD1	1:A1:97:TYR:N	2.88	0.41
1:A1:244:ARG:NH1	7:G1:10:VAL:HG21	2.35	0.41
1:A1:292:SER:HA	1:A1:293:PRO:HD2	1.88	0.41
1:A1:385:THR:HB	1:A1:386:TYR:HD1	1.83	0.41
3:C1:200:LEU:CD1	69:C1:402:HEM:HAD2	2.51	0.41
3:C1:300:ILE:HD11	3:C1:362:ILE:CG2	2.50	0.41
4:D1:5:LEU:HG	4:D1:152:TYR:HE1	1.86	0.41
5:Q1:76:ILE:O	5:Q1:77:LYS:CG	2.68	0.41
6:R1:52:GLU:HG3	6:R1:56:ASN:ND2	2.36	0.41
6:R1:62:ILE:O	6:R1:66:LEU:HG	2.21	0.41
9:U1:62:ARG:HB3	9:U1:63:PRO:CD	2.51	0.41
73:42:501:CDL:H742	73:42:501:CDL:H712	1.80	0.41
34:Q2:53:PRO:HD2	39:V2:116:TRP:CD1	2.56	0.41
35:R2:201:ILE:HD12	35:R2:201:ILE:HA	1.95	0.41
52:12:126:LYS:CD	52:12:127:TYR:CA	2.91	0.41
52:12:215:TYR:HD1	52:12:219:PRO:HB2	1.86	0.41
53:62:3:MET:HA	53:62:6:SER:HB2	2.02	0.41
56:A3:276:ALA:O	56:A3:280:ILE:HG13	2.21	0.41
59:D3:79:LYS:HZ3	66:K3:15:ASN:HD21	1.68	0.41
1:A1:46:ARG:NE	1:A1:163:LEU:HD22	2.36	0.41
1:A1:64:PHE:HA	1:A1:75:LEU:HD22	2.02	0.41
1:A1:136:GLN:HE21	9:I1:50:LEU:CB	2.34	0.41
1:A1:252:HIS:O	1:A1:424:GLY:HA2	2.20	0.41
1:A1:297:ILE:HG22	1:A1:303:LEU:CD1	2.49	0.41
2:B1:68:LEU:HD12	2:B1:68:LEU:O	2.21	0.41
2:B1:71:LEU:HA	2:B1:71:LEU:HD23	1.72	0.41
2:B1:159:VAL:CG1	2:B1:160:ILE:N	2.84	0.41
2:B1:312:PHE:HB3	2:B1:323:GLY:O	2.20	0.41
2:B1:395:PRO:O	2:B1:396:SER:C	2.59	0.41
3:C1:1:MET:HG3	3:C1:4:ILE:HB	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C1:8:HIS:CB	3:C1:9:PRO:HD2	2.51	0.41
3:C1:115:ILE:HG21	3:C1:196:HIS:CB	2.33	0.41
3:C1:168:PHE:CE2	5:Q1:72:SER:HB2	2.56	0.41
3:C1:275:LEU:O	3:C1:276:PHE:O	2.39	0.41
4:D1:23:HIS:O	4:D1:24:THR:C	2.55	0.41
4:D1:207:LYS:HB3	10:J1:35:PHE:HE2	1.85	0.41
5:E1:20:ASP:O	5:E1:22:THR:N	2.54	0.41
7:G1:3:GLN:OE1	7:G1:3:GLN:HA	2.20	0.41
8:H1:65:ARG:HG2	8:H1:66:ASP:OD2	2.21	0.41
10:J1:27:GLY:O	10:J1:28:ALA:C	2.59	0.41
1:M1:32:GLN:HG2	1:M1:33:PRO:N	2.36	0.41
1:M1:97:TYR:CD1	1:M1:97:TYR:N	2.88	0.41
1:M1:130:GLU:O	1:M1:131:ARG:C	2.57	0.41
1:M1:136:GLN:HE21	9:U1:50:LEU:HG	1.84	0.41
1:M1:166:SER:CB	5:Q1:3:THR:HG22	2.51	0.41
1:M1:170:PRO:O	1:M1:171:SER:C	2.55	0.41
1:M1:244:ARG:NH1	7:S1:10:VAL:HB	2.36	0.41
1:M1:245:GLU:C	1:M1:247:GLY:H	2.24	0.41
1:M1:248:LEU:HA	1:M1:249:PRO:HD3	1.78	0.41
1:M1:289:HIS:O	2:N1:87:ARG:NE	2.54	0.41
1:M1:356:ARG:HG2	1:M1:357:GLY:N	2.36	0.41
2:N1:223:PHE:O	2:N1:224:LEU:HD23	2.21	0.41
2:N1:237:ALA:O	2:N1:238:LYS:HB2	2.20	0.41
2:N1:396:SER:HA	2:N1:399:LEU:HD12	2.02	0.41
2:N1:413:ALA:O	2:N1:416:LYS:HB2	2.21	0.41
3:O1:124:MET:HE1	3:O1:298:ILE:HG21	2.03	0.41
3:O1:241:LEU:HD12	3:O1:241:LEU:HA	1.81	0.41
3:O1:248:ASP:CG	4:P1:118:ARG:HH21	2.22	0.41
3:O1:303:LEU:HD23	3:O1:303:LEU:HA	1.85	0.41
4:P1:21:LEU:CD1	4:P1:192:TRP:HB2	2.50	0.41
4:P1:34:LYS:O	4:P1:38:SER:HB3	2.21	0.41
5:Q1:73:LYS:O	5:Q1:74:ILE:HD13	2.20	0.41
7:S1:36:ASN:OD1	7:S1:39:ARG:NE	2.53	0.41
9:U1:60:ALA:HB3	9:U1:63:PRO:O	2.21	0.41
10:V1:4:THR:O	10:V1:5:LEU:C	2.57	0.41
13:32:79:SER:O	30:L2:46:ASN:ND2	2.50	0.41
16:72:22:SER:OG	16:72:23:LYS:N	2.54	0.41
17:82:79:GLU:O	17:82:82:THR:OG1	2.30	0.41
19:A2:605:GLN:HG3	19:A2:607:LYS:HZ2	1.86	0.41
19:A2:643:ARG:HA	19:A2:646:LEU:HB2	2.03	0.41
20:B2:91:ALA:HB2	20:B2:193:ASP:CG	2.39	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:B2:246:GLU:HA	20:B2:249:LYS:HE3	2.02	0.41
21:C2:104:ASP:N	21:C2:104:ASP:OD1	2.54	0.41
23:E2:127:ALA:HB1	23:E2:148:ASP:H	1.86	0.41
29:K2:67:ALA:N	29:K2:75:LYS:O	2.54	0.41
30:L2:31:ILE:HG22	30:L2:35:LEU:HD11	2.03	0.41
32:O2:18:LYS:HA	32:O2:19:PRO:HD3	1.93	0.41
52:12:236:ILE:HD12	52:12:236:ILE:HA	1.97	0.41
53:62:65:ASN:HB2	53:62:78:LEU:HD11	2.01	0.41
53:62:364:LYS:HD3	53:62:435:PRO:HB3	2.01	0.41
40:M2:26:ASP:N	40:M2:26:ASP:OD1	2.54	0.41
58:C3:233:PHE:HA	58:C3:236:GLU:HG3	2.03	0.41
59:D3:102:TYR:HD2	68:M3:35:TYR:HE1	1.68	0.41
59:D3:127:LYS:O	59:D3:130:PRO:HD3	2.20	0.41
60:E3:104:LEU:HA	60:E3:104:LEU:HD23	1.87	0.41
63:H3:20:PHE:N	63:H3:21:PRO:HD3	2.35	0.41
1:A1:62:LEU:HB3	1:A1:122:LEU:HD22	2.02	0.41
1:A1:389:ARG:C	1:A1:391:PRO:HD3	2.41	0.41
2:B1:51:ILE:CG2	2:B1:199:PHE:HA	2.34	0.41
2:B1:134:ARG:HE	2:B1:134:ARG:HB3	1.54	0.41
3:C1:244:LEU:HD11	4:D1:204:MET:HE3	2.03	0.41
3:C1:263:ASN:OD1	3:C1:264:THR:N	2.54	0.41
3:C1:299:LEU:HD22	3:C1:299:LEU:HA	1.79	0.41
10:J1:49:GLY:N	10:J1:54:HIS:CD2	2.89	0.41
1:M1:53:ASN:CG	1:M1:170:PRO:HD3	2.41	0.41
1:M1:271:GLN:O	1:M1:272:VAL:C	2.59	0.41
1:M1:333:ASP:O	1:M1:337:VAL:HG23	2.21	0.41
2:N1:24:LEU:CD2	2:N1:38:LEU:HD11	2.51	0.41
2:N1:241:GLY:HA2	2:N1:423:SER:HB3	2.03	0.41
2:N1:345:LYS:HG2	2:N1:418:VAL:HG11	2.03	0.41
3:O1:246:ALA:N	3:O1:247:PRO:HD3	2.36	0.41
3:O1:363:LEU:HD12	3:O1:363:LEU:HA	1.85	0.41
4:P1:6:HIS:HA	4:P1:7:PRO:HD3	1.87	0.41
4:P1:167:GLU:O	4:P1:167:GLU:HG2	2.20	0.41
8:T1:37:LEU:HD21	8:T1:58:LEU:CA	2.49	0.41
13:32:2:ASN:OD1	13:32:2:ASN:N	2.52	0.41
19:A2:557:ARG:NE	38:U2:144:TYR:CZ	2.85	0.41
20:B2:326:CYS:SG	20:B2:329:ARG:NH1	2.94	0.41
21:C2:97:PRO:O	21:C2:101:PHE:N	2.50	0.41
22:D2:146:GLU:O	35:R2:89:TYR:OH	2.35	0.41
77:R2:601:NAP:H3B	77:R2:601:NAP:PA	2.61	0.41
38:U2:55:PHE:HB3	38:U2:58:ARG:HG3	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:12:75:PRO:HG3	52:12:223:PHE:CE1	2.45	0.41
56:A3:168:ILE:CG2	56:A3:189:MET:HG3	2.51	0.41
63:H3:65:PRO:HG2	63:H3:68:TRP:CG	2.55	0.41
1:A1:43:ALA:HB1	1:A1:189:HIS:CB	2.51	0.40
1:A1:256:ALA:HB3	1:A1:421:ALA:HB3	2.02	0.40
1:A1:266:ASP:OD1	1:A1:266:ASP:N	2.54	0.40
1:A1:392:LEU:HA	1:A1:395:TRP:HD1	1.76	0.40
2:B1:122:PHE:HD1	2:B1:122:PHE:HA	1.69	0.40
2:B1:267:ALA:O	2:B1:268:GLU:C	2.59	0.40
2:B1:270:ASN:O	2:B1:271:ALA:C	2.59	0.40
2:B1:360:ALA:O	2:B1:361:LYS:C	2.60	0.40
3:C1:40:CYS:CB	3:C1:90:PHE:HD2	2.34	0.40
3:C1:226:ILE:HD13	3:C1:226:ILE:N	2.35	0.40
3:C1:301:LEU:HA	3:C1:304:ILE:CD1	2.51	0.40
4:D1:197:GLU:O	4:D1:198:HIS:C	2.59	0.40
7:G1:18:LEU:HD23	7:G1:18:LEU:HA	1.94	0.40
1:M1:131:ARG:NH2	1:M1:177:LEU:O	2.54	0.40
1:M1:297:ILE:HG22	1:M1:303:LEU:CD1	2.43	0.40
2:N1:22:GLN:OE1	2:N1:22:GLN:HA	2.21	0.40
2:N1:54:GLY:HA3	2:N1:102:ARG:O	2.20	0.40
2:N1:286:LYS:HD3	2:N1:287:ARG:HH12	1.80	0.40
3:O1:51:LEU:HD12	69:O1:401:HEM:O1D	2.21	0.40
3:O1:300:ILE:CD1	3:O1:362:ILE:HG21	2.50	0.40
4:P1:224:ARG:HH21	7:S1:27:PRO:CD	2.34	0.40
5:Q1:15:ARG:HH21	5:Q1:32:ARG:HB2	1.85	0.40
5:Q1:76:ILE:O	5:Q1:77:LYS:HE2	2.21	0.40
5:Q1:138:VAL:O	5:Q1:139:CYS:C	2.59	0.40
8:T1:27:LEU:O	8:T1:30:CYS:N	2.48	0.40
10:V1:23:THR:HG22	10:V1:24:ILE:N	2.36	0.40
12:22:76:ILE:HG21	12:22:91:ASN:HD22	1.86	0.40
19:A2:372:PHE:HB3	19:A2:532:PRO:HB2	2.02	0.40
20:B2:421:ARG:HH21	20:B2:423:LYS:HB2	1.86	0.40
21:C2:90:ILE:HD12	21:C2:145:VAL:HG13	2.03	0.40
26:H2:82:GLN:HE21	39:V2:98:MET:HB2	1.87	0.40
38:U2:115:PHE:HB3	38:U2:117:LEU:HG	2.02	0.40
42:Y2:91:ASP:O	42:Y2:93:SER:N	2.54	0.40
43:Z2:64:VAL:HA	43:Z2:67:LEU:HG	2.02	0.40
56:A3:440:TYR:CG	57:B3:205:SER:HB3	2.57	0.40
57:B3:145:PRO:HG2	57:B3:148:MET:HE2	2.03	0.40
62:G3:44:ARG:HA	62:G3:45:PRO:HD2	1.76	0.40
1:A1:53:ASN:O	1:A1:53:ASN:ND2	2.53	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A1:358:LYS:HD2	1:A1:402:VAL:HG12	2.03	0.40
1:A1:363:ASN:OD1	2:B1:112:LEU:HD23	2.21	0.40
2:B1:53:ALA:HB2	2:B1:198:HIS:HB3	2.03	0.40
2:B1:161:GLU:CD	2:B1:175:SER:HB2	2.40	0.40
2:B1:163:LEU:HA	2:B1:163:LEU:HD12	1.78	0.40
3:C1:34:GLY:O	3:C1:37:LEU:N	2.52	0.40
3:C1:133:LEU:HA	3:C1:175:LEU:HD11	2.04	0.40
3:C1:145:VAL:O	3:C1:145:VAL:HG12	2.20	0.40
3:C1:317:PHE:O	6:F1:24:ALA:CB	2.70	0.40
4:D1:241:LYS:OXT	4:D1:241:LYS:CG	2.62	0.40
7:G1:40:ARG:O	7:G1:43:ALA:N	2.52	0.40
9:I1:70:LEU:CG	9:I1:72:VAL:H	2.34	0.40
1:M1:4:TYR:HE2	1:M1:396:GLU:HG3	1.85	0.40
1:M1:17:SER:HB2	1:M1:25:VAL:HB	2.03	0.40
1:M1:146:ARG:CZ	1:M1:308:GLN:HE22	2.34	0.40
2:N1:38:LEU:O	2:N1:40:ASN:N	2.54	0.40
2:N1:57:TYR:O	2:N1:233:SER:HB2	2.21	0.40
2:N1:102:ARG:NH1	2:N1:175:SER:HA	2.37	0.40
2:N1:158:HIS:ND1	2:N1:246:GLU:OE1	2.54	0.40
4:P1:153:PHE:HA	4:P1:154:PRO:HD2	1.88	0.40
4:P1:206:LEU:O	4:P1:210:LEU:HD12	2.22	0.40
5:Q1:109:GLU:OE2	5:Q1:166:ASP:HB2	2.21	0.40
6:R1:43:VAL:O	6:R1:47:ILE:HG13	2.22	0.40
7:S1:50:PRO:O	7:S1:53:VAL:HB	2.21	0.40
14:42:285:LEU:O	14:42:406:TYR:OH	2.32	0.40
14:42:356:ALA:HA	14:42:359:TRP:HD1	1.87	0.40
19:A2:312:GLY:H	38:U2:144:TYR:N	2.19	0.40
20:B2:261:MET:HA	23:E2:70:LEU:HD21	2.03	0.40
21:C2:220:ARG:NH2	32:O2:104:MET:O	2.55	0.40
37:T2:124:LEU:O	37:T2:128:GLY:N	2.55	0.40
41:X2:13:HIS:O	41:X2:15:LEU:N	2.54	0.40
53:62:387:THR:HG22	53:62:462:LEU:HA	2.03	0.40
56:A3:34:SER:HB3	56:A3:61:HIS:CE1	2.57	0.40
56:A3:442:ASP:OD2	57:B3:134:ARG:NH2	2.54	0.40
57:B3:164:ALA:HB2	57:B3:171:LYS:HD3	2.03	0.40
58:C3:228:THR:O	58:C3:232:HIS:HD2	2.04	0.40
64:I3:29:LEU:HD23	64:I3:29:LEU:HA	1.85	0.40
68:M3:37:LEU:HD23	68:M3:37:LEU:HA	1.83	0.40
2:B1:303:VAL:HG12	2:B1:304:HIS:H	1.86	0.40
3:C1:48:GLY:HA3	69:C1:401:HEM:C3C	2.56	0.40
4:D1:27:ARG:CZ	10:J1:58:LYS:HE3	2.52	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D1:82:MET:SD	4:D1:86:LYS:CD	3.08	0.40
4:D1:99:GLU:H	4:D1:99:GLU:HG2	1.73	0.40
4:D1:220:TYR:HD2	7:G1:26:PHE:CZ	2.40	0.40
6:F1:93:TYR:O	6:F1:97:VAL:HG23	2.22	0.40
10:J1:34:ALA:O	10:J1:35:PHE:O	2.39	0.40
2:N1:282:GLY:HA2	2:N1:283:PRO:HD2	1.78	0.40
3:O1:75:TYR:CG	5:Q1:57:GLN:HG2	2.56	0.40
3:O1:121:LEU:HA	3:O1:124:MET:SD	2.62	0.40
3:O1:183:PHE:CD1	3:O1:183:PHE:C	2.94	0.40
3:O1:316:MET:CE	3:O1:317:PHE:CE1	3.04	0.40
4:P1:116:ILE:O	4:P1:117:VAL:C	2.60	0.40
4:P1:216:LEU:N	4:P1:217:PRO:CD	2.85	0.40
5:Q1:122:HIS:HE1	5:Q1:124:LEU:HD12	1.85	0.40
7:S1:44:CYS:O	7:S1:45:ILE:C	2.59	0.40
12:22:250:SER:HB2	12:22:257:LEU:HD13	2.03	0.40
14:42:274:SER:HA	14:42:277:LEU:HD13	2.03	0.40
17:82:198:VAL:HG11	17:82:216:ILE:HD11	2.03	0.40
18:92:42:ARG:HH12	19:A2:199:GLY:C	2.25	0.40
18:92:205:ILE:HG22	18:92:209:LYS:HE2	2.03	0.40
20:B2:164:PRO:HA	20:B2:165:PRO:HD3	1.93	0.40
37:T2:26:THR:O	37:T2:30:GLY:N	2.52	0.40
53:62:192:ASN:HB2	53:62:193:LEU:HD12	2.03	0.40
56:A3:69:MET:CE	56:A3:70:VAL:HG23	2.51	0.40
56:A3:398:PRO:HB3	56:A3:482:VAL:HG21	2.03	0.40
56:A3:498:CYS:HA	56:A3:499:PRO:HA	1.78	0.40
59:D3:137:LYS:O	59:D3:145:TRP:HE3	2.03	0.40
61:F3:49:VAL:O	61:F3:91:LEU:HD12	2.21	0.40
61:F3:77:GLY:O	61:F3:90:LYS:NZ	2.54	0.40
62:G3:42:ARG:NH1	62:G3:74:ARG:NH2	2.68	0.40
1:A1:8:LEU:HD11	1:A1:396:GLU:HG3	2.02	0.40
1:A1:24:ARG:HH11	1:A1:24:ARG:HD2	1.57	0.40
2:B1:141:GLN:CB	2:B1:142:PRO:HD3	2.41	0.40
2:B1:334:GLY:O	2:B1:335:ASP:C	2.59	0.40
2:B1:346:THR:HG23	2:B1:351:ASN:HB3	2.03	0.40
2:B1:408:ALA:O	2:B1:411:ILE:N	2.54	0.40
3:C1:170:VAL:O	3:C1:170:VAL:CG1	2.68	0.40
3:C1:341:GLN:OE1	3:C1:347:TYR:CZ	2.74	0.40
4:D1:35:GLN:HB2	4:D1:169:LEU:HD13	2.02	0.40
4:D1:95:TYR:CD1	4:D1:95:TYR:N	2.90	0.40
4:D1:146:GLY:O	4:D1:148:TYR:HD1	2.04	0.40
4:D1:165:TYR:HD1	4:D1:166:ASN:O	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H1:50:THR:CG2	8:H1:51:GLU:N	2.83	0.40
1:M1:85:HIS:CE1	2:N1:284:HIS:ND1	2.90	0.40
1:M1:349:ALA:O	1:M1:408:ARG:NE	2.54	0.40
2:N1:92:VAL:HG11	2:N1:115:ASP:CB	2.51	0.40
2:N1:257:LEU:HD13	2:N1:424:MET:CB	2.45	0.40
2:N1:261:SER:HB3	2:N1:321:LEU:C	2.42	0.40
2:N1:276:GLN:OE1	9:U1:59:ALA:HB1	2.21	0.40
3:O1:25:SER:HA	3:O1:218:ILE:HD12	2.02	0.40
3:O1:156:ILE:H	3:O1:156:ILE:HG12	1.63	0.40
4:P1:43:MET:HG2	4:P1:114:SER:N	2.37	0.40
10:V1:2:ALA:HB1	10:V1:3:PRO:HD2	2.03	0.40
14:42:457:PRO:HG2	14:42:458:LEU:HA	2.04	0.40
19:A2:170:LYS:HB3	19:A2:232:THR:HG23	2.02	0.40
19:A2:312:GLY:CA	38:U2:144:TYR:N	2.82	0.40
19:A2:445:LEU:HD21	19:A2:460:HIS:HD2	1.87	0.40
29:K2:31:GLN:HB3	29:K2:34:ARG:HH21	1.86	0.40
35:R2:322:ILE:H	35:R2:322:ILE:HG13	1.72	0.40
53:62:141:PHE:HB2	53:62:182:PHE:HE2	1.86	0.40
66:K3:24:PHE:CE1	66:K3:28:VAL:HG21	2.56	0.40
1:A1:50:GLU:O	1:A1:173:ASN:ND2	2.55	0.40
1:A1:184:GLU:O	1:A1:185:TYR:C	2.59	0.40
1:A1:213:GLN:CB	1:A1:215:HIS:CD2	3.05	0.40
2:B1:56:ARG:HH21	2:B1:103:GLU:CD	2.25	0.40
2:B1:213:HIS:O	2:B1:213:HIS:CD2	2.74	0.40
3:C1:68:HIS:NE2	5:E1:67:ASP:CB	2.85	0.40
4:D1:200:HIS:O	4:D1:203:ARG:HB3	2.20	0.40
11:K1:27:VAL:HG12	11:K1:28:GLY:N	2.37	0.40
1:M1:241:ILE:HD11	7:S1:16:TYR:CE2	2.55	0.40
2:N1:207:ILE:HD12	2:N1:382:VAL:HG12	2.04	0.40
3:O1:66:VAL:O	3:O1:69:ILE:HB	2.21	0.40
3:O1:227:LYS:HG3	4:P1:223:LYS:NZ	2.36	0.40
3:O1:297:SER:O	3:O1:300:ILE:CG2	2.62	0.40
4:P1:14:HIS:HA	4:P1:19:SER:CB	2.51	0.40
4:P1:175:THR:HA	4:P1:176:PRO:HD2	1.71	0.40
70:P1:301:HEC:HHD	70:P1:301:HEC:CBC	2.30	0.40
5:Q1:83:GLU:HA	5:Q1:100:HIS:CG	2.57	0.40
6:R1:91:GLU:O	6:R1:95:LYS:HG3	2.21	0.40
9:U1:70:LEU:HD11	9:U1:72:VAL:H	1.85	0.40
10:V1:23:THR:O	10:V1:24:ILE:C	2.58	0.40
10:V1:42:ILE:O	10:V1:46:ILE:HG12	2.22	0.40
14:42:35:SER:O	14:42:38:SER:OG	2.35	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:42:348:LEU:HG	14:42:349:GLN:H	1.87	0.40
15:52:26:LEU:HB3	15:52:88:ASP:HB2	2.04	0.40
17:82:270:ASN:HD21	17:82:338:ASP:HA	1.86	0.40
19:A2:413:LEU:HD23	19:A2:413:LEU:HA	1.92	0.40
21:C2:205:PRO:HA	25:G2:124:LEU:HD21	2.03	0.40
26:H2:15:ASP:OD1	26:H2:15:ASP:N	2.52	0.40
27:I2:87:CYS:HB3	76:I2:300:ZN:ZN	1.52	0.40
30:L2:80:TRP:O	30:L2:84:LEU:N	2.54	0.40
53:62:107:TYR:HE2	53:62:240:PRO:HB3	1.87	0.40
56:A3:373:VAL:O	56:A3:377:PHE:CD2	2.75	0.40
57:B3:215:PRO:HD3	64:I3:60:PHE:CD1	2.57	0.40
63:H3:17:ASP:OD1	63:H3:19:ARG:HG2	2.22	0.40
65:J3:5:VAL:O	65:J3:9:GLN:HG3	2.21	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A1	428/480 (89%)	348 (81%)	57 (13%)	23 (5%)	2	19
1	M1	428/480 (89%)	360 (84%)	50 (12%)	18 (4%)	3	22
2	B1	417/453 (92%)	341 (82%)	67 (16%)	9 (2%)	6	35
2	N1	417/453 (92%)	344 (82%)	62 (15%)	11 (3%)	5	31
3	C1	377/379 (100%)	303 (80%)	60 (16%)	14 (4%)	3	24
3	O1	377/379 (100%)	316 (84%)	50 (13%)	11 (3%)	4	29
4	D1	239/325 (74%)	188 (79%)	36 (15%)	15 (6%)	1	17
4	P1	239/325 (74%)	195 (82%)	32 (13%)	12 (5%)	2	20
5	E1	73/196 (37%)	57 (78%)	14 (19%)	2 (3%)	5	31
5	Q1	194/196 (99%)	149 (77%)	34 (18%)	11 (6%)	1	18

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
6	F1	104/111 (94%)	89 (86%)	12 (12%)	3 (3%)	4 29
6	R1	104/111 (94%)	86 (83%)	16 (15%)	2 (2%)	8 38
7	G1	79/82 (96%)	63 (80%)	13 (16%)	3 (4%)	3 24
7	S1	79/82 (96%)	60 (76%)	16 (20%)	3 (4%)	3 24
8	H1	62/91 (68%)	52 (84%)	10 (16%)	0	100 100
8	T1	62/91 (68%)	51 (82%)	10 (16%)	1 (2%)	9 44
9	I1	31/78 (40%)	19 (61%)	10 (32%)	2 (6%)	1 16
9	U1	31/78 (40%)	17 (55%)	11 (36%)	3 (10%)	0 10
10	J1	60/64 (94%)	41 (68%)	13 (22%)	6 (10%)	0 9
10	V1	60/64 (94%)	45 (75%)	11 (18%)	4 (7%)	1 15
11	K1	20/56 (36%)	17 (85%)	2 (10%)	1 (5%)	2 20
11	W1	20/56 (36%)	17 (85%)	3 (15%)	0	100 100
12	22	342/347 (99%)	295 (86%)	47 (14%)	0	100 100
13	32	89/115 (77%)	74 (83%)	14 (16%)	1 (1%)	14 52
14	42	457/459 (100%)	383 (84%)	70 (15%)	4 (1%)	17 57
15	52	94/98 (96%)	82 (87%)	12 (13%)	0	100 100
16	72	170/175 (97%)	140 (82%)	28 (16%)	2 (1%)	13 50
17	82	425/444 (96%)	346 (81%)	78 (18%)	1 (0%)	47 81
18	92	205/217 (94%)	169 (82%)	35 (17%)	1 (0%)	29 69
19	A2	686/704 (97%)	572 (83%)	107 (16%)	7 (1%)	15 55
20	B2	383/430 (89%)	334 (87%)	40 (10%)	9 (2%)	6 34
21	C2	206/228 (90%)	177 (86%)	29 (14%)	0	100 100
22	D2	150/179 (84%)	130 (87%)	19 (13%)	1 (1%)	22 63
23	E2	174/176 (99%)	158 (91%)	15 (9%)	1 (1%)	25 66
24	F2	26/75 (35%)	19 (73%)	7 (27%)	0	100 100
25	G2	121/133 (91%)	100 (83%)	20 (16%)	1 (1%)	19 60
26	H2	94/105 (90%)	73 (78%)	21 (22%)	0	100 100
27	I2	69/96 (72%)	53 (77%)	14 (20%)	2 (3%)	4 29
28	J2	67/70 (96%)	61 (91%)	6 (9%)	0	100 100
29	K2	82/98 (84%)	63 (77%)	19 (23%)	0	100 100
30	L2	78/83 (94%)	66 (85%)	12 (15%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
31	N2	109/115 (95%)	93 (85%)	16 (15%)	0	100	100
32	O2	112/127 (88%)	97 (87%)	15 (13%)	0	100	100
33	P2	86/112 (77%)	64 (74%)	22 (26%)	0	100	100
34	Q2	166/171 (97%)	126 (76%)	40 (24%)	0	100	100
35	R2	302/345 (88%)	241 (80%)	59 (20%)	2 (1%)	22	63
36	S2	317/320 (99%)	246 (78%)	69 (22%)	2 (1%)	25	66
37	T2	136/140 (97%)	116 (85%)	20 (15%)	0	100	100
38	U2	87/145 (60%)	63 (72%)	24 (28%)	0	100	100
39	V2	136/143 (95%)	121 (89%)	14 (10%)	1 (1%)	22	63
40	M2	78/88 (89%)	62 (80%)	16 (20%)	0	100	100
40	W2	79/88 (90%)	68 (86%)	11 (14%)	0	100	100
41	X2	47/57 (82%)	38 (81%)	8 (17%)	1 (2%)	7	36
42	Y2	55/72 (76%)	46 (84%)	9 (16%)	0	100	100
43	Z2	72/97 (74%)	57 (79%)	15 (21%)	0	100	100
44	a2	112/128 (88%)	95 (85%)	17 (15%)	0	100	100
45	b2	137/143 (96%)	113 (82%)	24 (18%)	0	100	100
46	c2	86/127 (68%)	68 (79%)	18 (21%)	0	100	100
47	d2	105/136 (77%)	82 (78%)	21 (20%)	2 (2%)	8	38
48	f2	165/178 (93%)	135 (82%)	30 (18%)	0	100	100
49	h2	89/125 (71%)	62 (70%)	25 (28%)	2 (2%)	6	35
50	i2	36/49 (74%)	35 (97%)	1 (3%)	0	100	100
51	j2	111/120 (92%)	92 (83%)	19 (17%)	0	100	100
52	12	305/318 (96%)	269 (88%)	34 (11%)	2 (1%)	22	63
53	62	604/606 (100%)	536 (89%)	67 (11%)	1 (0%)	47	81
54	g2	171/176 (97%)	139 (81%)	32 (19%)	0	100	100
55	e2	139/158 (88%)	82 (59%)	50 (36%)	7 (5%)	2	20
56	A3	512/514 (100%)	479 (94%)	29 (6%)	4 (1%)	19	60
57	B3	225/227 (99%)	203 (90%)	19 (8%)	3 (1%)	12	48
58	C3	259/261 (99%)	249 (96%)	10 (4%)	0	100	100
59	D3	142/169 (84%)	135 (95%)	7 (5%)	0	100	100
60	E3	107/152 (70%)	104 (97%)	3 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
61	F3	96/129 (74%)	86 (90%)	6 (6%)	4 (4%)	3 22
62	G3	82/97 (84%)	67 (82%)	10 (12%)	5 (6%)	1 17
63	H3	73/86 (85%)	64 (88%)	8 (11%)	1 (1%)	11 46
64	I3	71/74 (96%)	65 (92%)	6 (8%)	0	100 100
65	J3	54/80 (68%)	48 (89%)	4 (7%)	2 (4%)	3 24
66	K3	47/80 (59%)	41 (87%)	6 (13%)	0	100 100
67	L3	45/63 (71%)	42 (93%)	3 (7%)	0	100 100
68	M3	41/70 (59%)	39 (95%)	2 (5%)	0	100 100
All	All	13415/15148 (89%)	11221 (84%)	1971 (15%)	223 (2%)	13 42

All (223) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A1	327	ASP
1	A1	426	GLY
1	A1	427	PRO
2	B1	141	GLN
2	B1	183	ILE
2	B1	305	GLN
3	C1	8	HIS
3	C1	27	ILE
3	C1	109	PHE
4	D1	51	LEU
4	D1	73	GLY
4	D1	98	PRO
9	I1	72	VAL
1	M1	55	ALA
1	M1	427	PRO
2	N1	141	GLN
2	N1	183	ILE
2	N1	351	ASN
3	O1	8	HIS
3	O1	27	ILE
3	O1	157	GLY
4	P1	51	LEU
4	P1	73	GLY
5	Q1	114	VAL
5	Q1	141	HIS
9	U1	72	VAL

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Mol	Chain	Res	Type
10	V1	58	LYS
19	A2	463	SER
20	B2	88	HIS
20	B2	294	ARG
27	I2	105	LYS
36	S2	200	PRO
36	S2	276	ASP
47	d2	40	VAL
49	h2	81	ALA
49	h2	82	VAL
52	12	126	LYS
55	e2	68	ASP
55	e2	71	GLY
55	e2	81	ARG
55	e2	82	SER
56	A3	328	HIS
56	A3	508	PRO
61	F3	2	SER
61	F3	87	THR
61	F3	95	GLN
62	G3	4	ALA
62	G3	9	GLY
63	H3	46	LYS
65	J3	2	GLU
1	A1	55	ALA
1	A1	56	GLY
1	A1	72	GLY
1	A1	80	GLU
1	A1	81	SER
1	A1	287	GLY
1	A1	288	ALA
1	A1	342	TRP
2	B1	236	LYS
2	B1	351	ASN
3	C1	28	SER
3	C1	137	GLN
3	C1	157	GLY
3	C1	313	ARG
4	D1	154	PRO
7	G1	68	LYS
9	I1	59	ALA
10	J1	58	LYS

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Mol	Chain	Res	Type
11	K1	33	VAL
1	M1	52	ASN
1	M1	72	GLY
1	M1	246	ASP
1	M1	282	CYS
1	M1	385	THR
2	N1	236	LYS
5	Q1	137	GLY
9	U1	59	ALA
10	V1	23	THR
10	V1	24	ILE
16	72	171	ILE
20	B2	84	PHE
20	B2	91	ALA
20	B2	93	GLY
20	B2	94	VAL
22	D2	113	PHE
27	I2	107	THR
41	X2	14	VAL
52	12	282	TYR
55	e2	74	ASP
55	e2	76	PRO
62	G3	5	LYS
1	A1	52	ASN
1	A1	352	SER
1	A1	385	THR
1	A1	395	TRP
2	B1	91	ALA
3	C1	283	SER
3	C1	319	PRO
4	D1	27	ARG
4	D1	119	ALA
4	D1	162	PRO
4	D1	218	LEU
5	E1	16	PRO
5	E1	72	SER
10	J1	23	THR
10	J1	35	PHE
1	M1	81	SER
1	M1	107	PRO
1	M1	426	GLY
2	N1	24	LEU

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Mol	Chain	Res	Type
2	N1	305	GLN
3	O1	28	SER
3	O1	62	ALA
3	O1	316	MET
3	O1	319	PRO
4	P1	80	MET
4	P1	162	PRO
5	Q1	64	ALA
5	Q1	177	PRO
7	S1	68	LYS
10	V1	57	HIS
14	42	20	ASN
14	42	21	ASN
14	42	419	TYR
16	72	149	TYR
19	A2	365	THR
19	A2	383	SER
20	B2	85	GLY
25	G2	122	SER
35	R2	134	TRP
35	R2	272	LEU
57	B3	104	TRP
62	G3	61	SER
1	A1	107	PRO
1	A1	246	ASP
1	A1	391	PRO
3	C1	236	ILE
3	C1	365	LEU
4	D1	80	MET
6	F1	95	LYS
10	J1	4	THR
10	J1	57	HIS
1	M1	6	GLN
1	M1	109	ALA
2	N1	269	ALA
2	N1	409	ASP
3	O1	24	PRO
3	O1	109	PHE
5	Q1	130	PRO
6	R1	95	LYS
17	82	227	PRO
18	92	76	ALA

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Mol	Chain	Res	Type
19	A2	563	ASP
39	V2	143	TYR
47	d2	19	PRO
56	A3	51	ASP
1	A1	6	GLN
1	A1	152	TYR
2	B1	39	GLU
3	C1	316	MET
4	D1	147	LEU
7	G1	72	LYS
1	M1	338	LEU
1	M1	391	PRO
3	O1	247	PRO
3	O1	255	ASN
4	P1	83	ARG
4	P1	98	PRO
4	P1	110	PRO
4	P1	147	LEU
4	P1	154	PRO
5	Q1	16	PRO
5	Q1	43	THR
5	Q1	69	LEU
5	Q1	188	THR
7	S1	50	PRO
14	42	112	ALA
19	A2	541	PRO
20	B2	291	VAL
23	E2	108	SER
57	B3	103	GLN
65	J3	3	ASN
1	A1	33	PRO
1	A1	109	ALA
2	B1	52	LYS
4	D1	110	PRO
4	D1	163	PRO
4	D1	176	PRO
7	G1	45	ILE
1	M1	185	TYR
2	N1	52	LYS
4	P1	176	PRO
53	62	31	ASN
56	A3	91	ASP

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Mol	Chain	Res	Type
57	B3	158	ASP
62	G3	49	PRO
2	B1	129	ALA
6	F1	51	PRO
1	M1	56	GLY
1	M1	293	PRO
20	B2	219	GLY
3	C1	339	GLY
4	D1	83	ARG
2	N1	85	ILE
2	N1	109	VAL
5	Q1	84	GLY
8	T1	69	VAL
10	J1	24	ILE
4	P1	123	GLY
6	R1	51	PRO
7	S1	45	ILE
13	32	24	LEU
61	F3	15	GLY
1	A1	260	PRO
4	D1	26	ILE
4	P1	163	PRO
9	U1	65	VAL
19	A2	461	PRO
3	C1	372	ILE
6	F1	47	ILE
19	A2	129	PRO
55	e2	78	LEU
1	M1	193	PRO

5.3.2 Protein sidechains (i)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A1	358/394 (91%)	280 (78%)	78 (22%)	1 6
1	M1	358/394 (91%)	278 (78%)	80 (22%)	1 5

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
2	B1	328/355 (92%)	259 (79%)	69 (21%)	1 6
2	N1	328/355 (92%)	262 (80%)	66 (20%)	1 7
3	C1	327/327 (100%)	269 (82%)	58 (18%)	2 10
3	O1	327/327 (100%)	276 (84%)	51 (16%)	2 14
4	D1	206/257 (80%)	179 (87%)	27 (13%)	4 18
4	P1	206/257 (80%)	179 (87%)	27 (13%)	4 18
5	E1	65/168 (39%)	51 (78%)	14 (22%)	1 6
5	Q1	167/168 (99%)	123 (74%)	44 (26%)	0 3
6	F1	96/99 (97%)	74 (77%)	22 (23%)	1 4
6	R1	96/99 (97%)	78 (81%)	18 (19%)	1 9
7	G1	71/72 (99%)	58 (82%)	13 (18%)	1 10
7	S1	71/72 (99%)	57 (80%)	14 (20%)	1 8
8	H1	61/85 (72%)	51 (84%)	10 (16%)	2 12
8	T1	61/85 (72%)	51 (84%)	10 (16%)	2 12
9	I1	27/60 (45%)	19 (70%)	8 (30%)	0 2
9	U1	27/60 (45%)	20 (74%)	7 (26%)	0 3
10	J1	52/54 (96%)	46 (88%)	6 (12%)	5 21
10	V1	52/54 (96%)	43 (83%)	9 (17%)	2 11
11	K1	15/46 (33%)	12 (80%)	3 (20%)	1 7
11	W1	15/46 (33%)	12 (80%)	3 (20%)	1 7
12	22	274/316 (87%)	274 (100%)	0	100 100
13	32	75/101 (74%)	75 (100%)	0	100 100
14	42	351/413 (85%)	351 (100%)	0	100 100
15	52	75/86 (87%)	75 (100%)	0	100 100
16	72	104/142 (73%)	104 (100%)	0	100 100
17	82	236/353 (67%)	236 (100%)	0	100 100
18	92	160/183 (87%)	160 (100%)	0	100 100
19	A2	551/588 (94%)	549 (100%)	2 (0%)	91 94
20	B2	330/371 (89%)	324 (98%)	6 (2%)	59 77
21	C2	183/204 (90%)	183 (100%)	0	100 100
22	D2	126/150 (84%)	124 (98%)	2 (2%)	62 79

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
23	E2	145/151 (96%)	145 (100%)	0	100	100
24	F2	13/69 (19%)	13 (100%)	0	100	100
25	G2	105/119 (88%)	105 (100%)	0	100	100
26	H2	80/95 (84%)	80 (100%)	0	100	100
27	I2	53/79 (67%)	51 (96%)	2 (4%)	33	57
28	J2	50/59 (85%)	50 (100%)	0	100	100
29	K2	66/81 (82%)	66 (100%)	0	100	100
30	L2	63/71 (89%)	63 (100%)	0	100	100
31	N2	88/101 (87%)	88 (100%)	0	100	100
32	O2	95/113 (84%)	95 (100%)	0	100	100
33	P2	72/96 (75%)	72 (100%)	0	100	100
34	Q2	142/154 (92%)	141 (99%)	1 (1%)	84	90
35	R2	230/298 (77%)	230 (100%)	0	100	100
36	S2	205/283 (72%)	204 (100%)	1 (0%)	88	93
37	T2	79/101 (78%)	79 (100%)	0	100	100
38	U2	71/131 (54%)	71 (100%)	0	100	100
39	V2	107/120 (89%)	107 (100%)	0	100	100
40	M2	73/81 (90%)	73 (100%)	0	100	100
40	W2	55/81 (68%)	55 (100%)	0	100	100
41	X2	32/54 (59%)	32 (100%)	0	100	100
42	Y2	29/62 (47%)	29 (100%)	0	100	100
43	Z2	28/75 (37%)	28 (100%)	0	100	100
44	a2	70/114 (61%)	70 (100%)	0	100	100
45	b2	85/124 (68%)	85 (100%)	0	100	100
46	c2	45/121 (37%)	45 (100%)	0	100	100
47	d2	42/119 (35%)	42 (100%)	0	100	100
48	f2	80/160 (50%)	80 (100%)	0	100	100
49	h2	70/112 (62%)	69 (99%)	1 (1%)	67	80
50	i2	23/45 (51%)	23 (100%)	0	100	100
51	j2	88/106 (83%)	88 (100%)	0	100	100
52	12	267/275 (97%)	260 (97%)	7 (3%)	46	66

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
53	62	523/534 (98%)	523 (100%)	0	100 100
54	g2	130/157 (83%)	130 (100%)	0	100 100
55	e2	44/141 (31%)	43 (98%)	1 (2%)	50 70
56	A3	427/427 (100%)	389 (91%)	38 (9%)	9 30
57	B3	211/211 (100%)	191 (90%)	20 (10%)	8 27
58	C3	226/226 (100%)	199 (88%)	27 (12%)	5 20
59	D3	128/148 (86%)	120 (94%)	8 (6%)	18 43
60	E3	95/123 (77%)	89 (94%)	6 (6%)	18 43
61	F3	81/103 (79%)	76 (94%)	5 (6%)	18 43
62	G3	68/79 (86%)	50 (74%)	18 (26%)	0 3
63	H3	67/76 (88%)	58 (87%)	9 (13%)	4 17
64	I3	58/59 (98%)	53 (91%)	5 (9%)	10 32
65	J3	47/68 (69%)	40 (85%)	7 (15%)	3 15
66	K3	39/66 (59%)	37 (95%)	2 (5%)	24 48
67	L3	40/55 (73%)	38 (95%)	2 (5%)	24 49
68	M3	37/57 (65%)	34 (92%)	3 (8%)	11 35
All	All	10651/12921 (82%)	9841 (92%)	810 (8%)	17 37

All (810) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A1	13	GLU
1	A1	24	ARG
1	A1	31	SER
1	A1	35	CYS
1	A1	37	VAL
1	A1	42	ASP
1	A1	46	ARG
1	A1	48	GLU
1	A1	49	SER
1	A1	53	ASN
1	A1	58	PHE
1	A1	68	LYS
1	A1	70	ARG
1	A1	79	VAL
1	A1	89	TYR

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Mol	Chain	Res	Type
1	A1	90	SER
1	A1	97	TYR
1	A1	99	ILE
1	A1	102	LEU
1	A1	108	LYS
1	A1	112	LEU
1	A1	120	CYS
1	A1	125	SER
1	A1	127	ILE
1	A1	130	GLU
1	A1	131	ARG
1	A1	133	VAL
1	A1	143	THR
1	A1	149	VAL
1	A1	163	LEU
1	A1	174	VAL
1	A1	175	ARG
1	A1	177	LEU
1	A1	178	SER
1	A1	179	ARG
1	A1	183	THR
1	A1	187	SER
1	A1	191	LYS
1	A1	195	MET
1	A1	197	LEU
1	A1	208	LEU
1	A1	211	LEU
1	A1	213	GLN
1	A1	216	PHE
1	A1	239	SER
1	A1	241	ILE
1	A1	243	HIS
1	A1	245	GLU
1	A1	246	ASP
1	A1	255	ILE
1	A1	266	ASP
1	A1	272	VAL
1	A1	277	ILE
1	A1	296	SER
1	A1	302	LYS
1	A1	307	PHE
1	A1	316	ASP

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Mol	Chain	Res	Type
1	A1	330	SER
1	A1	334	MET
1	A1	337	VAL
1	A1	341	GLN
1	A1	344	ARG
1	A1	346	CYS
1	A1	351	GLU
1	A1	352	SER
1	A1	353	GLU
1	A1	356	ARG
1	A1	358	LYS
1	A1	360	LEU
1	A1	367	SER
1	A1	370	ASP
1	A1	379	ILE
1	A1	384	LEU
1	A1	386	TYR
1	A1	398	ARG
1	A1	413	LYS
1	A1	428	ILE
1	A1	441	MET
2	B1	23	ASP
2	B1	24	LEU
2	B1	35	ILE
2	B1	37	SER
2	B1	38	LEU
2	B1	45	SER
2	B1	46	ARG
2	B1	51	ILE
2	B1	52	LYS
2	B1	56	ARG
2	B1	60	SER
2	B1	62	ASN
2	B1	74	SER
2	B1	77	THR
2	B1	81	SER
2	B1	85	ILE
2	B1	86	THR
2	B1	95	LYS
2	B1	96	LEU
2	B1	101	THR
2	B1	102	ARG

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Mol	Chain	Res	Type
2	B1	111	CYS
2	B1	112	LEU
2	B1	113	ARG
2	B1	117	ASP
2	B1	119	LEU
2	B1	131	GLU
2	B1	134	ARG
2	B1	140	LEU
2	B1	145	ARG
2	B1	159	VAL
2	B1	160	ILE
2	B1	175	SER
2	B1	182	ARG
2	B1	187	THR
2	B1	190	GLU
2	B1	196	GLN
2	B1	203	ARG
2	B1	215	VAL
2	B1	219	VAL
2	B1	238	LYS
2	B1	240	HIS
2	B1	245	ARG
2	B1	253	VAL
2	B1	283	PRO
2	B1	292	THR
2	B1	294	SER
2	B1	297	GLN
2	B1	310	SER
2	B1	318	ASP
2	B1	319	SER
2	B1	328	SER
2	B1	353	SER
2	B1	354	ASN
2	B1	374	SER
2	B1	391	SER
2	B1	396	SER
2	B1	402	ILE
2	B1	403	ASP
2	B1	409	ASP
2	B1	416	LYS
2	B1	418	VAL
2	B1	421	ARG

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Mol	Chain	Res	Type
2	B1	422	LYS
2	B1	423	SER
2	B1	429	ASN
2	B1	436	ILE
2	B1	437	ASP
2	B1	438	GLU
3	C1	1	MET
3	C1	5	ARG
3	C1	6	LYS
3	C1	7	SER
3	C1	11	MET
3	C1	25	SER
3	C1	26	ASN
3	C1	27	ILE
3	C1	29	SER
3	C1	32	ASN
3	C1	43	LEU
3	C1	60	THR
3	C1	61	THR
3	C1	65	SER
3	C1	67	THR
3	C1	80	ARG
3	C1	94	LEU
3	C1	119	LEU
3	C1	138	MET
3	C1	139	SER
3	C1	144	THR
3	C1	156	ILE
3	C1	158	THR
3	C1	169	SER
3	C1	174	THR
3	C1	176	THR
3	C1	177	ARG
3	C1	183	PHE
3	C1	192	ILE
3	C1	198	LEU
3	C1	205	SER
3	C1	212	SER
3	C1	217	LYS
3	C1	226	ILE
3	C1	229	ILE
3	C1	233	LEU

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Mol	Chain	Res	Type
3	C1	240	MET
3	C1	241	LEU
3	C1	244	LEU
3	C1	247	PRO
3	C1	262	LEU
3	C1	271	GLU
3	C1	273	TYR
3	C1	280	ILE
3	C1	282	ARG
3	C1	291	VAL
3	C1	299	LEU
3	C1	310	SER
3	C1	311	LYS
3	C1	312	GLN
3	C1	313	ARG
3	C1	314	SER
3	C1	318	ARG
3	C1	321	SER
3	C1	324	LEU
3	C1	353	LEU
3	C1	363	LEU
3	C1	377	LEU
4	D1	3	LEU
4	D1	9	SER
4	D1	10	TYR
4	D1	20	SER
4	D1	21	LEU
4	D1	27	ARG
4	D1	32	VAL
4	D1	40	CYS
4	D1	42	SER
4	D1	43	MET
4	D1	52	VAL
4	D1	55	CYS
4	D1	80	MET
4	D1	82	MET
4	D1	83	ARG
4	D1	87	LEU
4	D1	95	TYR
4	D1	106	ASN
4	D1	120	ARG
4	D1	124	GLU

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Mol	Chain	Res	Type
4	D1	179	MET
4	D1	201	ARG
4	D1	208	MET
4	D1	223	LYS
4	D1	224	ARG
4	D1	228	SER
4	D1	231	LYS
5	E1	1	SER
5	E1	5	ILE
5	E1	6	LYS
5	E1	14	ARG
5	E1	15	ARG
5	E1	17	GLU
5	E1	19	LEU
5	E1	28	SER
5	E1	32	ARG
5	E1	33	LYS
5	E1	52	LYS
5	E1	58	PHE
5	E1	63	SER
5	E1	67	ASP
6	F1	7	SER
6	F1	9	SER
6	F1	10	SER
6	F1	11	ARG
6	F1	13	LEU
6	F1	16	ILE
6	F1	18	LYS
6	F1	44	LYS
6	F1	48	ARG
6	F1	54	LEU
6	F1	58	ARG
6	F1	68	LEU
6	F1	69	SER
6	F1	70	MET
6	F1	77	LYS
6	F1	82	LYS
6	F1	88	SER
6	F1	90	LEU
6	F1	94	LEU
6	F1	100	GLU
6	F1	106	GLU

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Mol	Chain	Res	Type
6	F1	110	LYS
7	G1	4	PHE
7	G1	8	THR
7	G1	9	ARG
7	G1	19	SER
7	G1	23	GLN
7	G1	24	ARG
7	G1	39	ARG
7	G1	40	ARG
7	G1	42	ARG
7	G1	45	ILE
7	G1	46	LEU
7	G1	58	VAL
7	G1	69	SER
8	H1	20	VAL
8	H1	29	LYS
8	H1	30	CYS
8	H1	31	VAL
8	H1	45	SER
8	H1	54	CYS
8	H1	58	LEU
8	H1	59	LEU
8	H1	73	LEU
8	H1	74	PHE
9	I1	46	LYS
9	I1	49	VAL
9	I1	51	CYS
9	I1	54	SER
9	I1	69	SER
9	I1	70	LEU
9	I1	77	ARG
9	I1	78	TYR
10	J1	11	SER
10	J1	13	LEU
10	J1	17	THR
10	J1	18	SER
10	J1	46	ILE
10	J1	58	LYS
11	K1	20	THR
11	K1	23	LEU
11	K1	36	THR
1	M1	13	GLU

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Mol	Chain	Res	Type
1	M1	24	ARG
1	M1	31	SER
1	M1	37	VAL
1	M1	42	ASP
1	M1	45	SER
1	M1	46	ARG
1	M1	48	GLU
1	M1	51	LYS
1	M1	53	ASN
1	M1	58	PHE
1	M1	70	ARG
1	M1	82	MET
1	M1	86	LEU
1	M1	89	TYR
1	M1	91	THR
1	M1	92	ARG
1	M1	97	TYR
1	M1	99	ILE
1	M1	100	LYS
1	M1	108	LYS
1	M1	112	LEU
1	M1	125	SER
1	M1	127	ILE
1	M1	130	GLU
1	M1	131	ARG
1	M1	137	GLU
1	M1	138	LEU
1	M1	143	THR
1	M1	149	VAL
1	M1	156	THR
1	M1	159	GLN
1	M1	163	LEU
1	M1	175	ARG
1	M1	176	LYS
1	M1	177	LEU
1	M1	179	ARG
1	M1	186	LEU
1	M1	187	SER
1	M1	191	LYS
1	M1	195	MET
1	M1	197	LEU
1	M1	208	LEU

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Mol	Chain	Res	Type
1	M1	211	LEU
1	M1	213	GLN
1	M1	216	PHE
1	M1	243	HIS
1	M1	245	GLU
1	M1	246	ASP
1	M1	248	LEU
1	M1	257	VAL
1	M1	266	ASP
1	M1	277	ILE
1	M1	302	LYS
1	M1	307	PHE
1	M1	309	THR
1	M1	316	ASP
1	M1	319	LEU
1	M1	329	MET
1	M1	330	SER
1	M1	334	MET
1	M1	341	GLN
1	M1	344	ARG
1	M1	346	CYS
1	M1	347	THR
1	M1	351	GLU
1	M1	353	GLU
1	M1	356	ARG
1	M1	358	LYS
1	M1	360	LEU
1	M1	370	ASP
1	M1	379	ILE
1	M1	382	SER
1	M1	384	LEU
1	M1	386	TYR
1	M1	412	SER
1	M1	413	LYS
1	M1	419	CYS
1	M1	428	ILE
1	M1	441	MET
2	N1	23	ASP
2	N1	24	LEU
2	N1	33	LEU
2	N1	35	ILE
2	N1	37	SER

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Mol	Chain	Res	Type
2	N1	38	LEU
2	N1	45	SER
2	N1	46	ARG
2	N1	56	ARG
2	N1	58	GLU
2	N1	60	SER
2	N1	62	ASN
2	N1	73	SER
2	N1	78	LYS
2	N1	81	SER
2	N1	84	LYS
2	N1	85	ILE
2	N1	86	THR
2	N1	96	LEU
2	N1	99	THR
2	N1	100	SER
2	N1	101	THR
2	N1	102	ARG
2	N1	108	THR
2	N1	111	CYS
2	N1	112	LEU
2	N1	113	ARG
2	N1	117	ASP
2	N1	134	ARG
2	N1	145	ARG
2	N1	148	LYS
2	N1	159	VAL
2	N1	160	ILE
2	N1	175	SER
2	N1	182	ARG
2	N1	190	GLU
2	N1	196	GLN
2	N1	201	SER
2	N1	215	VAL
2	N1	219	VAL
2	N1	238	LYS
2	N1	240	HIS
2	N1	253	VAL
2	N1	261	SER
2	N1	264	ILE
2	N1	266	SER
2	N1	292	THR

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Mol	Chain	Res	Type
2	N1	295	LEU
2	N1	297	GLN
2	N1	315	SER
2	N1	317	SER
2	N1	318	ASP
2	N1	328	SER
2	N1	329	GLN
2	N1	346	THR
2	N1	384	SER
2	N1	402	ILE
2	N1	403	ASP
2	N1	416	LYS
2	N1	418	VAL
2	N1	421	ARG
2	N1	424	MET
2	N1	429	ASN
2	N1	436	ILE
2	N1	437	ASP
2	N1	438	GLU
3	O1	1	MET
3	O1	5	ARG
3	O1	6	LYS
3	O1	7	SER
3	O1	11	MET
3	O1	27	ILE
3	O1	32	ASN
3	O1	35	SER
3	O1	39	ILE
3	O1	44	GLN
3	O1	60	THR
3	O1	67	THR
3	O1	80	ARG
3	O1	94	LEU
3	O1	100	ARG
3	O1	115	ILE
3	O1	118	ILE
3	O1	119	LEU
3	O1	138	MET
3	O1	139	SER
3	O1	144	THR
3	O1	158	THR
3	O1	169	SER

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Mol	Chain	Res	Type
3	O1	174	THR
3	O1	189	ILE
3	O1	192	ILE
3	O1	197	LEU
3	O1	212	SER
3	O1	226	ILE
3	O1	233	LEU
3	O1	241	LEU
3	O1	243	VAL
3	O1	244	LEU
3	O1	257	THR
3	O1	262	LEU
3	O1	271	GLU
3	O1	282	ARG
3	O1	287	LYS
3	O1	297	SER
3	O1	299	LEU
3	O1	313	ARG
3	O1	318	ARG
3	O1	324	LEU
3	O1	338	ILE
3	O1	356	VAL
3	O1	362	ILE
3	O1	363	LEU
3	O1	367	PRO
3	O1	375	LYS
3	O1	377	LEU
3	O1	378	LYS
4	P1	3	LEU
4	P1	10	TYR
4	P1	13	SER
4	P1	17	LEU
4	P1	20	SER
4	P1	21	LEU
4	P1	38	SER
4	P1	39	SER
4	P1	40	CYS
4	P1	55	CYS
4	P1	80	MET
4	P1	82	MET
4	P1	83	ARG
4	P1	88	SER

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Mol	Chain	Res	Type
4	P1	106	ASN
4	P1	120	ARG
4	P1	124	GLU
4	P1	127	VAL
4	P1	139	THR
4	P1	141	VAL
4	P1	158	ILE
4	P1	179	MET
4	P1	180	SER
4	P1	186	VAL
4	P1	201	ARG
4	P1	223	LYS
4	P1	226	LYS
5	Q1	5	ILE
5	Q1	6	LYS
5	Q1	11	SER
5	Q1	14	ARG
5	Q1	17	GLU
5	Q1	19	LEU
5	Q1	22	THR
5	Q1	23	LYS
5	Q1	28	SER
5	Q1	32	ARG
5	Q1	36	SER
5	Q1	42	THR
5	Q1	43	THR
5	Q1	44	THR
5	Q1	58	PHE
5	Q1	60	SER
5	Q1	61	SER
5	Q1	63	SER
5	Q1	65	SER
5	Q1	73	LYS
5	Q1	74	ILE
5	Q1	78	LEU
5	Q1	81	ILE
5	Q1	87	MET
5	Q1	98	VAL
5	Q1	102	THR
5	Q1	103	LYS
5	Q1	106	ILE
5	Q1	109	GLU

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Mol	Chain	Res	Type
5	Q1	113	GLU
5	Q1	120	PRO
5	Q1	125	GLU
5	Q1	136	ILE
5	Q1	139	CYS
5	Q1	140	THR
5	Q1	144	CYS
5	Q1	152	ASP
5	Q1	158	CYS
5	Q1	168	SER
5	Q1	171	ILE
5	Q1	172	ARG
5	Q1	173	LYS
5	Q1	178	LEU
5	Q1	195	VAL
6	R1	7	SER
6	R1	11	ARG
6	R1	16	ILE
6	R1	48	ARG
6	R1	54	LEU
6	R1	64	ARG
6	R1	68	LEU
6	R1	75	LEU
6	R1	77	LYS
6	R1	88	SER
6	R1	90	LEU
6	R1	94	LEU
6	R1	98	ILE
6	R1	100	GLU
6	R1	103	GLU
6	R1	106	GLU
6	R1	107	TRP
6	R1	110	LYS
7	S1	4	PHE
7	S1	8	THR
7	S1	9	ARG
7	S1	18	LEU
7	S1	19	SER
7	S1	23	GLN
7	S1	24	ARG
7	S1	31	SER
7	S1	39	ARG

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Mol	Chain	Res	Type
7	S1	40	ARG
7	S1	41	THR
7	S1	42	ARG
7	S1	46	LEU
7	S1	69	SER
8	T1	20	VAL
8	T1	29	LYS
8	T1	30	CYS
8	T1	31	VAL
8	T1	46	SER
8	T1	48	SER
8	T1	54	CYS
8	T1	58	LEU
8	T1	73	LEU
8	T1	74	PHE
9	U1	46	LYS
9	U1	49	VAL
9	U1	67	SER
9	U1	70	LEU
9	U1	72	VAL
9	U1	77	ARG
9	U1	78	TYR
10	V1	9	LEU
10	V1	12	LEU
10	V1	13	LEU
10	V1	15	ARG
10	V1	16	ARG
10	V1	18	SER
10	V1	46	ILE
10	V1	53	LYS
10	V1	58	LYS
11	W1	20	THR
11	W1	23	LEU
11	W1	36	THR
19	A2	253	VAL
19	A2	538	GLN
20	B2	92	HIS
20	B2	94	VAL
20	B2	95	LEU
20	B2	96	ARG
20	B2	97	LEU
20	B2	105	MET

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Mol	Chain	Res	Type
22	D2	113	PHE
22	D2	114	ARG
27	I2	105	LYS
27	I2	106	GLU
34	Q2	115	LEU
36	S2	200	PRO
49	h2	70	ASN
52	12	126	LYS
52	12	127	TYR
52	12	134	ARG
52	12	224	PHE
52	12	225	MET
52	12	228	TYR
52	12	310	LEU
55	e2	75	TYR
56	A3	18	LEU
56	A3	35	LEU
56	A3	92	MET
56	A3	96	ARG
56	A3	105	LEU
56	A3	109	PHE
56	A3	115	SER
56	A3	138	HIS
56	A3	150	LEU
56	A3	159	LEU
56	A3	187	SER
56	A3	188	VAL
56	A3	199	LEU
56	A3	213	ARG
56	A3	238	PHE
56	A3	241	PRO
56	A3	273	MET
56	A3	295	VAL
56	A3	301	THR
56	A3	306	THR
56	A3	318	VAL
56	A3	324	LEU
56	A3	347	LEU
56	A3	353	LEU
56	A3	354	THR
56	A3	365	ILE
56	A3	369	ASP

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Mol	Chain	Res	Type
56	A3	373	VAL
56	A3	383	MET
56	A3	417	MET
56	A3	465	VAL
56	A3	467	LEU
56	A3	474	GLU
56	A3	486	ASP
56	A3	492	LEU
56	A3	508	PRO
56	A3	509	THR
56	A3	512	ASN
57	B3	7	LEU
57	B3	31	VAL
57	B3	52	HIS
57	B3	60	GLU
57	B3	63	THR
57	B3	65	TRP
57	B3	88	ASP
57	B3	92	ASN
57	B3	113	TYR
57	B3	125	THR
57	B3	130	PRO
57	B3	134	ARG
57	B3	142	VAL
57	B3	147	GLU
57	B3	148	MET
57	B3	170	LEU
57	B3	171	LYS
57	B3	185	MET
57	B3	205	SER
57	B3	216	LEU
58	C3	1	MET
58	C3	11	VAL
58	C3	13	PRO
58	C3	14	SER
58	C3	18	LEU
58	C3	19	THR
58	C3	22	LEU
58	C3	38	ASN
58	C3	39	SER
58	C3	85	LEU
58	C3	92	LEU

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Mol	Chain	Res	Type
58	C3	112	LEU
58	C3	127	LEU
58	C3	128	GLU
58	C3	131	LEU
58	C3	132	LEU
58	C3	137	LEU
58	C3	142	VAL
58	C3	159	MET
58	C3	160	LEU
58	C3	163	LEU
58	C3	188	ILE
58	C3	196	THR
58	C3	199	VAL
58	C3	214	PHE
58	C3	222	GLN
58	C3	258	TRP
59	D3	31	LYS
59	D3	36	SER
59	D3	40	LEU
59	D3	59	LEU
59	D3	62	LEU
59	D3	107	ILE
59	D3	143	ASN
59	D3	147	LYS
60	E3	7	THR
60	E3	29	LEU
60	E3	70	VAL
60	E3	79	LYS
60	E3	80	GLU
60	E3	90	ARG
61	F3	37	LYS
61	F3	53	THR
61	F3	74	LEU
61	F3	95	GLN
61	F3	98	HIS
62	G3	5	LYS
62	G3	7	ASP
62	G3	8	HIS
62	G3	14	ARG
62	G3	17	ARG
62	G3	33	LEU
62	G3	34	ASN

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Mol	Chain	Res	Type
62	G3	37	LEU
62	G3	38	HIS
62	G3	41	HIS
62	G3	42	ARG
62	G3	43	GLU
62	G3	48	ILE
62	G3	54	ARG
62	G3	56	ARG
62	G3	68	THR
62	G3	69	PHE
62	G3	78	LEU
63	H3	19	ARG
63	H3	24	ASN
63	H3	28	ASN
63	H3	29	CYS
63	H3	51	SER
63	H3	53	CYS
63	H3	57	ARG
63	H3	60	TYR
63	H3	75	ARG
64	I3	2	THR
64	I3	8	GLN
64	I3	26	MET
64	I3	44	LYS
64	I3	64	ARG
65	J3	1	PHE
65	J3	2	GLU
65	J3	3	ASN
65	J3	8	LYS
65	J3	16	ASN
65	J3	23	LYS
65	J3	27	THR
66	K3	48	VAL
66	K3	49	THR
67	L3	15	VAL
67	L3	22	LEU
68	M3	13	LYS
68	M3	42	LYS
68	M3	43	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (175) such sidechains are listed below:

Mol	Chain	Res	Type
1	A1	18	GLN
1	A1	32	GLN
1	A1	73	ASN
1	A1	85	HIS
1	A1	136	GLN
1	A1	151	ASN
1	A1	154	HIS
1	A1	189	HIS
1	A1	213	GLN
1	A1	240	GLN
1	A1	243	HIS
1	A1	252	HIS
1	A1	308	GLN
1	A1	323	HIS
1	A1	435	ASN
2	B1	62	ASN
2	B1	67	HIS
2	B1	125	ASN
2	B1	162	ASN
2	B1	164	HIS
2	B1	198	HIS
2	B1	247	GLN
2	B1	304	HIS
2	B1	429	ASN
3	C1	15	ASN
3	C1	26	ASN
3	C1	32	ASN
3	C1	114	ASN
3	C1	206	ASN
3	C1	312	GLN
3	C1	374	ASN
4	D1	6	HIS
4	D1	50	HIS
4	D1	75	ASN
4	D1	106	ASN
4	D1	181	GLN
4	D1	200	HIS
4	D1	225	HIS
6	F1	22	ASN
6	F1	27	ASN
6	F1	38	HIS
7	G1	6	HIS
7	G1	73	ASN

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Mol	Chain	Res	Type
9	I1	71	ASN
10	J1	54	HIS
1	M1	18	GLN
1	M1	32	GLN
1	M1	85	HIS
1	M1	136	GLN
1	M1	151	ASN
1	M1	154	HIS
1	M1	159	GLN
1	M1	173	ASN
1	M1	189	HIS
1	M1	213	GLN
1	M1	240	GLN
1	M1	243	HIS
1	M1	308	GLN
1	M1	323	HIS
1	M1	435	ASN
2	N1	62	ASN
2	N1	67	HIS
2	N1	125	ASN
2	N1	141	GLN
2	N1	164	HIS
2	N1	198	HIS
2	N1	247	GLN
2	N1	304	HIS
2	N1	429	ASN
3	O1	15	ASN
3	O1	26	ASN
3	O1	32	ASN
3	O1	114	ASN
3	O1	206	ASN
3	O1	374	ASN
4	P1	6	HIS
4	P1	50	HIS
4	P1	75	ASN
4	P1	106	ASN
4	P1	181	GLN
4	P1	225	HIS
5	Q1	121	GLN
6	R1	38	HIS
6	R1	73	GLN
7	S1	6	HIS

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Mol	Chain	Res	Type
10	V1	54	HIS
12	22	48	HIS
12	22	63	GLN
13	32	80	GLN
14	42	138	ASN
14	42	374	ASN
14	42	440	HIS
17	82	220	GLN
17	82	393	ASN
17	82	418	GLN
19	A2	140	GLN
19	A2	142	GLN
19	A2	309	ASN
19	A2	359	ASN
19	A2	571	HIS
19	A2	572	HIS
19	A2	666	GLN
20	B2	92	HIS
20	B2	131	GLN
20	B2	168	GLN
20	B2	182	ASN
20	B2	250	ASN
21	C2	140	ASN
21	C2	230	GLN
22	D2	98	HIS
23	E2	204	ASN
26	H2	21	GLN
26	H2	27	HIS
26	H2	45	HIS
27	I2	102	ASN
29	K2	22	HIS
31	N2	83	GLN
34	Q2	35	GLN
35	R2	43	HIS
35	R2	84	HIS
35	R2	169	HIS
35	R2	171	ASN
35	R2	331	HIS
36	S2	223	GLN
36	S2	278	ASN
41	X2	13	HIS
44	a2	33	GLN

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Mol	Chain	Res	Type
44	a2	79	ASN
46	c2	14	GLN
48	f2	12	HIS
48	f2	14	GLN
49	h2	70	ASN
52	12	235	ASN
52	12	292	ASN
52	12	317	GLN
53	62	175	ASN
53	62	226	GLN
53	62	270	ASN
53	62	332	HIS
53	62	446	ASN
53	62	471	ASN
53	62	546	GLN
56	A3	11	ASN
56	A3	12	HIS
56	A3	43	GLN
56	A3	99	ASN
56	A3	170	ASN
56	A3	256	HIS
56	A3	360	ASN
56	A3	413	HIS
56	A3	512	ASN
57	B3	103	GLN
57	B3	203	ASN
58	C3	6	HIS
58	C3	12	ASN
58	C3	133	ASN
58	C3	148	HIS
58	C3	207	HIS
58	C3	222	GLN
58	C3	232	HIS
59	D3	109	HIS
60	E3	34	ASN
61	F3	66	ASN
62	G3	52	HIS
63	H3	23	GLN
63	H3	24	ASN
63	H3	25	GLN
63	H3	28	ASN
63	H3	37	HIS

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Mol	Chain	Res	Type
65	J3	3	ASN
65	J3	16	ASN
66	K3	10	HIS
66	K3	15	ASN
66	K3	41	ASN
68	M3	39	ASN

5.3.3 RNA

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates

There are no monosaccharides in this entry.

5.6 Ligand geometry

Of 31 ligands modelled in this entry, 6 are monoatomic - leaving 25 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
75	SF4	E2	301	23	0,12,12	-	-	-		
74	FMN	82	501	-	33,33,33	1.05	2 (6%)	48,50,50	1.42	10 (20%)
71	FES	Q1	201	5	0,4,4	-	-	-		
72	3PE	B2	501	20	50,50,50	0.87	4 (8%)	53,55,55	1.11	2 (3%)
75	SF4	D2	301	-	0,12,12	-	-	-		
70	HEC	D1	301	4	32,50,50	2.20	4 (12%)	24,82,82	2.11	12 (50%)
75	SF4	A2	802	19	0,12,12	-	-	-		

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
69	HEM	O1	401	3	41,50,50	1.58	5 (12%)	45,82,82	2.54	19 (42%)
69	HEM	C1	402	3	41,50,50	1.38	4 (9%)	45,82,82	2.16	13 (28%)
71	FES	92	301	18	0,4,4	-	-	-		
79	HEA	A3	602	56	57,67,67	1.47	6 (10%)	61,103,103	1.46	11 (18%)
77	NAP	R2	601	-	45,52,52	4.68	20 (44%)	56,80,80	1.84	9 (16%)
73	CDL	42	501	-	81,81,99	0.96	6 (7%)	87,93,111	1.10	5 (5%)
69	HEM	C1	401	3	41,50,50	1.48	4 (9%)	45,82,82	1.87	10 (22%)
78	PC1	j2	201	-	38,38,53	1.08	4 (10%)	44,46,61	1.03	2 (4%)
75	SF4	82	502	-	0,12,12	-	-	-		
72	3PE	22	401	-	40,40,50	0.94	3 (7%)	43,45,55	1.13	2 (4%)
79	HEA	A3	601	56	57,67,67	1.24	6 (10%)	61,103,103	1.47	11 (18%)
71	FES	A2	803	19	0,4,4	-	-	-		
69	HEM	O1	402	3	41,50,50	1.56	4 (9%)	45,82,82	1.95	14 (31%)
75	SF4	E2	302	23	0,12,12	-	-	-		
70	HEC	P1	301	4	32,50,50	2.25	5 (15%)	24,82,82	1.91	9 (37%)
75	SF4	A2	801	19	0,12,12	-	-	-		
78	PC1	S2	401	-	46,46,53	0.99	4 (8%)	52,54,61	1.03	2 (3%)
72	3PE	42	502	-	40,40,50	0.94	3 (7%)	43,45,55	1.20	2 (4%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
75	SF4	E2	301	23	-	-	0/6/5/5
74	FMN	82	501	-	-	7/18/18/18	0/3/3/3
71	FES	Q1	201	5	-	-	0/1/1/1
72	3PE	B2	501	20	-	26/54/54/54	-
75	SF4	D2	301	-	-	-	0/6/5/5
70	HEC	D1	301	4	-	3/10/54/54	-
75	SF4	A2	802	19	-	-	0/6/5/5
69	HEM	O1	401	3	-	6/12/54/54	-
69	HEM	C1	402	3	-	6/12/54/54	-
71	FES	92	301	18	-	-	0/1/1/1
79	HEA	A3	602	56	3/3/7/16	5/32/76/76	-
77	NAP	R2	601	-	-	17/31/67/67	0/5/5/5
73	CDL	42	501	-	-	42/92/92/110	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
69	HEM	C1	401	3	-	4/12/54/54	-
78	PC1	j2	201	-	-	21/42/42/57	-
75	SF4	82	502	-	-	-	0/6/5/5
72	3PE	22	401	-	-	20/44/44/54	-
79	HEA	A3	601	56	3/3/7/16	7/32/76/76	-
71	FES	A2	803	19	-	-	0/1/1/1
69	HEM	O1	402	3	-	4/12/54/54	-
75	SF4	E2	302	23	-	-	0/6/5/5
70	HEC	P1	301	4	-	6/10/54/54	-
75	SF4	A2	801	19	-	-	0/6/5/5
78	PC1	S2	401	-	-	20/50/50/57	-
72	3PE	42	502	-	-	25/44/44/54	-

All (84) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
77	R2	601	NAP	O4D-C1D	16.06	1.63	1.41
77	R2	601	NAP	O4B-C1B	14.97	1.62	1.41
77	R2	601	NAP	C2D-C1D	-14.73	1.31	1.53
70	P1	301	HEC	C3C-C2C	-7.24	1.33	1.40
77	R2	601	NAP	C7N-N7N	7.23	1.46	1.33
70	D1	301	HEC	C2B-C3B	-6.99	1.33	1.40
70	P1	301	HEC	C2B-C3B	-6.84	1.33	1.40
77	R2	601	NAP	O4D-C4D	-6.60	1.30	1.45
70	D1	301	HEC	C3C-C2C	-6.57	1.33	1.40
79	A3	602	HEA	C3A-C2A	-6.50	1.31	1.40
77	R2	601	NAP	O4B-C4B	-5.76	1.32	1.45
77	R2	601	NAP	C3N-C7N	5.38	1.58	1.50
69	O1	402	HEM	C3C-C2C	-5.08	1.33	1.40
69	O1	401	HEM	C3C-C2C	-4.84	1.33	1.40
77	R2	601	NAP	O3D-C3D	-4.20	1.33	1.43
69	C1	401	HEM	C3C-C2C	-4.13	1.34	1.40
69	O1	402	HEM	C1A-NA	3.95	1.44	1.36
79	A3	602	HEA	C3A-CMA	-3.91	1.37	1.46
70	D1	301	HEC	CBB-CAB	-3.67	1.35	1.49
70	P1	301	HEC	CBC-CAC	-3.63	1.35	1.49
77	R2	601	NAP	O2D-C2D	3.52	1.51	1.43
70	D1	301	HEC	CBC-CAC	-3.50	1.36	1.49
70	P1	301	HEC	CBB-CAB	-3.44	1.36	1.49
77	R2	601	NAP	O7N-C7N	-3.38	1.17	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
69	C1	401	HEM	CAB-C3B	3.37	1.56	1.47
69	O1	402	HEM	C3C-CAC	3.32	1.54	1.47
69	O1	401	HEM	CAB-C3B	3.29	1.56	1.47
74	82	501	FMN	C4A-N5	3.27	1.37	1.30
79	A3	601	HEA	C3C-C2C	-3.26	1.35	1.40
69	O1	401	HEM	C3C-CAC	3.18	1.54	1.47
69	C1	401	HEM	C3B-C2B	-3.09	1.31	1.37
69	C1	402	HEM	C4A-CHB	-3.06	1.32	1.41
77	R2	601	NAP	C6A-N6A	2.99	1.44	1.34
69	C1	402	HEM	C2C-C1C	2.99	1.49	1.42
79	A3	601	HEA	C3A-CMA	-2.96	1.39	1.46
69	C1	401	HEM	C3C-CAC	2.95	1.53	1.47
69	C1	402	HEM	C3C-C2C	-2.95	1.36	1.40
69	O1	401	HEM	C1B-C2B	2.83	1.50	1.44
77	R2	601	NAP	O3B-C3B	-2.76	1.36	1.43
72	B2	501	3PE	O21-C2	-2.72	1.39	1.46
79	A3	602	HEA	C1D-C2D	2.68	1.49	1.44
79	A3	601	HEA	C4C-NC	2.68	1.41	1.36
73	42	501	CDL	OA6-CA4	-2.65	1.40	1.46
77	R2	601	NAP	PA-O5B	2.64	1.70	1.59
79	A3	602	HEA	C1D-ND	-2.62	1.35	1.40
79	A3	602	HEA	C3C-C2C	-2.62	1.36	1.40
78	j2	201	PC1	O21-C2	-2.57	1.40	1.46
73	42	501	CDL	OB6-CB5	2.57	1.41	1.34
77	R2	601	NAP	C2A-N3A	2.56	1.36	1.32
77	R2	601	NAP	P2B-O2B	2.55	1.64	1.59
78	S2	401	PC1	O21-C2	-2.49	1.40	1.46
72	42	502	3PE	O21-C21	2.46	1.41	1.34
73	42	501	CDL	OA8-CA7	2.44	1.40	1.33
72	22	401	3PE	O31-C31	2.44	1.40	1.33
72	22	401	3PE	O21-C21	2.44	1.41	1.34
78	S2	401	PC1	O31-C31	2.42	1.40	1.33
77	R2	601	NAP	C5A-N7A	-2.40	1.31	1.39
73	42	501	CDL	OB8-CB7	2.36	1.40	1.33
77	R2	601	NAP	C5A-C4A	-2.31	1.34	1.40
72	B2	501	3PE	O31-C3	-2.29	1.39	1.45
79	A3	602	HEA	CMD-C2D	2.29	1.55	1.50
72	42	502	3PE	O31-C3	-2.28	1.40	1.45
69	O1	401	HEM	C3D-C2D	-2.28	1.31	1.36
72	B2	501	3PE	O31-C31	2.27	1.40	1.33
72	B2	501	3PE	O21-C21	2.26	1.40	1.34
72	42	502	3PE	O31-C31	2.26	1.39	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
77	R2	601	NAP	PN-O5D	2.26	1.68	1.59
78	j2	201	PC1	O31-C31	2.25	1.39	1.33
73	42	501	CDL	OB8-CB6	-2.23	1.40	1.45
74	82	501	FMN	C10-N1	2.22	1.37	1.33
69	O1	402	HEM	CAB-C3B	2.20	1.53	1.47
78	j2	201	PC1	O31-C3	-2.17	1.40	1.45
79	A3	601	HEA	C3A-C2A	-2.16	1.37	1.40
70	P1	301	HEC	CAD-C3D	2.12	1.55	1.52
79	A3	601	HEA	C1C-NC	2.11	1.40	1.36
77	R2	601	NAP	C4N-C3N	-2.10	1.35	1.39
78	j2	201	PC1	O21-C21	2.09	1.40	1.34
78	S2	401	PC1	O21-C21	2.09	1.40	1.34
79	A3	601	HEA	CHD-C1D	2.09	1.40	1.35
69	C1	402	HEM	CAB-C3B	2.08	1.53	1.47
73	42	501	CDL	OA8-CA6	-2.02	1.40	1.45
78	S2	401	PC1	O31-C3	-2.02	1.40	1.45
77	R2	601	NAP	O2B-C2B	2.01	1.51	1.44
72	22	401	3PE	O31-C3	-2.01	1.40	1.45

All (133) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
77	R2	601	NAP	C5A-C6A-N6A	7.57	131.86	120.35
69	O1	401	HEM	CMA-C3A-C4A	-6.88	117.90	128.46
77	R2	601	NAP	N3A-C2A-N1A	-5.81	119.60	128.68
69	O1	401	HEM	C3B-C2B-C1B	-5.51	102.40	106.49
69	C1	402	HEM	CMA-C3A-C4A	-5.40	120.16	128.46
77	R2	601	NAP	N6A-C6A-N1A	-5.18	107.81	118.57
69	C1	402	HEM	C4B-CHC-C1C	4.99	129.15	122.56
69	O1	402	HEM	C3B-C2B-C1B	4.94	110.15	106.49
69	C1	401	HEM	CBD-CAD-C3D	4.74	125.78	112.63
69	C1	401	HEM	CMA-C3A-C4A	-4.37	121.74	128.46
69	O1	401	HEM	C4B-C3B-C2B	4.36	110.57	107.11
72	22	401	3PE	O21-C21-C22	4.35	120.88	111.50
69	O1	402	HEM	CMC-C2C-C3C	4.25	132.63	124.68
72	42	502	3PE	O21-C21-C22	4.23	120.63	111.50
78	S2	401	PC1	O21-C21-C22	4.18	120.51	111.50
73	42	501	CDL	OA6-CA5-C11	4.17	120.50	111.50
69	O1	401	HEM	C4C-CHD-C1D	4.12	127.99	122.56
69	O1	401	HEM	CMA-C3A-C2A	4.08	132.64	124.94
69	O1	402	HEM	CHC-C4B-NB	4.08	128.86	124.43
69	C1	402	HEM	CMC-C2C-C3C	4.05	132.25	124.68

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
69	C1	401	HEM	O1D-CGD-CBD	-3.99	110.25	123.08
79	A3	601	HEA	C17-C18-C19	-3.97	118.10	127.66
70	D1	301	HEC	CMD-C2D-C1D	-3.96	122.37	128.46
72	B2	501	3PE	O21-C21-C22	3.92	119.95	111.50
69	C1	401	HEM	CBB-CAB-C3B	-3.90	108.20	127.62
69	O1	402	HEM	CHB-C1B-NB	-3.78	119.71	124.38
73	42	501	CDL	OB6-CB5-C51	3.75	119.58	111.50
69	C1	402	HEM	C4D-ND-C1D	3.70	108.89	105.07
79	A3	602	HEA	C4A-CHB-C1B	3.66	127.38	122.56
69	O1	401	HEM	C2B-C1B-NB	3.61	114.12	109.84
74	82	501	FMN	C4-N3-C2	-3.58	119.04	125.64
69	O1	401	HEM	O1D-CGD-CBD	-3.57	111.60	123.08
69	C1	402	HEM	CAA-CBA-CGA	3.57	123.78	113.76
69	O1	401	HEM	O2D-CGD-O1D	3.57	132.19	123.30
69	C1	402	HEM	CMA-C3A-C2A	3.55	131.63	124.94
69	O1	401	HEM	CHB-C1B-NB	-3.51	120.04	124.38
77	R2	601	NAP	C1B-N9A-C4A	-3.49	120.51	126.64
70	P1	301	HEC	CMD-C2D-C1D	-3.46	123.14	128.46
69	O1	401	HEM	C4A-C3A-C2A	3.45	109.40	107.00
78	j2	201	PC1	O21-C21-C22	3.45	120.41	110.80
70	D1	301	HEC	CMB-C2B-C1B	-3.44	123.18	128.46
69	O1	401	HEM	C4B-CHC-C1C	3.34	126.96	122.56
69	C1	402	HEM	CHD-C1D-ND	3.33	128.05	124.43
77	R2	601	NAP	PN-O3-PA	-3.31	121.46	132.83
69	C1	402	HEM	CAD-CBD-CGD	3.31	120.72	113.60
79	A3	601	HEA	C13-C14-C15	-3.18	120.00	127.66
70	D1	301	HEC	CBD-CAD-C3D	3.18	118.04	112.62
69	O1	402	HEM	CMA-C3A-C4A	-3.13	123.66	128.46
74	82	501	FMN	O4-C4-C4A	-3.11	118.35	126.60
69	O1	402	HEM	O1D-CGD-CBD	-3.04	113.31	123.08
69	C1	402	HEM	O2A-CGA-CBA	3.01	123.70	114.03
70	P1	301	HEC	CBD-CAD-C3D	3.00	117.74	112.62
74	82	501	FMN	C4A-C10-N1	-2.99	117.79	124.73
70	P1	301	HEC	CMA-C3A-C2A	2.98	130.56	124.94
69	C1	401	HEM	O2A-CGA-O1A	2.91	130.56	123.30
69	C1	402	HEM	O2A-CGA-O1A	-2.91	116.06	123.30
74	82	501	FMN	C4A-C4-N3	2.90	120.54	113.19
79	A3	602	HEA	CBA-CAA-C2A	2.86	117.42	112.60
69	O1	401	HEM	C1B-NB-C4B	-2.84	102.14	105.07
79	A3	601	HEA	C1B-C2B-C3B	2.83	110.18	106.80
69	C1	402	HEM	CHB-C1B-NB	-2.82	120.90	124.38
69	O1	401	HEM	CMD-C2D-C1D	-2.80	120.77	125.04

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
69	C1	401	HEM	CMB-C2B-C1B	-2.80	120.77	125.04
69	O1	402	HEM	C4A-C3A-C2A	2.73	108.89	107.00
74	82	501	FMN	C5'-C4'-C3'	-2.68	107.02	112.20
69	C1	401	HEM	CMA-C3A-C2A	2.66	129.96	124.94
70	P1	301	HEC	CBA-CAA-C2A	2.66	117.08	112.60
70	P1	301	HEC	O1D-CGD-CBD	-2.65	114.58	123.08
70	P1	301	HEC	CMB-C2B-C1B	-2.64	124.41	128.46
70	D1	301	HEC	CMB-C2B-C3B	2.63	128.91	125.82
69	O1	401	HEM	CBA-CAA-C2A	2.61	117.07	112.62
79	A3	602	HEA	C4D-CHA-C1A	2.61	126.00	122.56
69	O1	401	HEM	CAB-C3B-C2B	-2.61	120.02	128.60
79	A3	602	HEA	CMD-C2D-C1D	2.60	129.00	125.04
70	D1	301	HEC	C4C-C3C-C2C	2.60	109.16	106.35
73	42	501	CDL	OA8-CA7-C31	2.59	120.02	111.91
73	42	501	CDL	OB8-CB7-C71	2.58	119.99	111.91
69	C1	402	HEM	CBD-CAD-C3D	2.57	119.77	112.63
72	B2	501	3PE	O31-C31-C32	2.55	119.92	111.91
72	22	401	3PE	O31-C31-C32	2.53	119.84	111.91
70	D1	301	HEC	O1A-CGA-CBA	-2.53	114.97	123.08
78	S2	401	PC1	O31-C31-C32	2.52	119.81	111.91
70	D1	301	HEC	O2D-CGD-O1D	2.51	129.55	123.30
74	82	501	FMN	C5A-C9A-N10	2.49	120.53	117.95
78	j2	201	PC1	O31-C31-C32	2.48	119.68	111.91
69	O1	402	HEM	C4B-C3B-C2B	-2.47	105.15	107.11
69	O1	401	HEM	CBD-CAD-C3D	2.46	119.47	112.63
69	C1	401	HEM	O2D-CGD-CBD	2.46	121.92	114.03
69	O1	401	HEM	CMB-C2B-C3B	2.45	134.29	128.30
79	A3	602	HEA	C1D-C2D-C3D	-2.44	104.39	106.96
69	O1	401	HEM	CHA-C4D-ND	-2.44	121.37	124.38
79	A3	602	HEA	CMC-C2C-C3C	2.42	129.21	124.68
69	C1	401	HEM	C4B-C3B-C2B	2.41	109.03	107.11
74	82	501	FMN	C10-N1-C2	2.41	121.73	116.90
79	A3	601	HEA	C17-C16-C15	-2.41	105.05	112.98
72	42	502	3PE	O31-C31-C32	2.41	119.47	111.91
69	O1	402	HEM	C4C-CHD-C1D	2.40	125.73	122.56
77	R2	601	NAP	C6N-N1N-C2N	-2.38	119.80	121.97
69	O1	402	HEM	CMB-C2B-C3B	-2.38	122.47	128.30
69	O1	402	HEM	CHC-C4B-C3B	-2.37	120.95	124.57
79	A3	601	HEA	C20-C19-C18	2.37	125.91	121.12
77	R2	601	NAP	C3D-C2D-C1D	2.36	104.53	100.98
74	82	501	FMN	C4-C4A-C10	2.36	120.75	116.79
79	A3	601	HEA	CAD-C3D-C4D	2.35	128.76	124.66

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
79	A3	602	HEA	C25-C23-C24	2.34	119.78	114.60
79	A3	602	HEA	CMB-C2B-C3B	-2.33	125.91	130.34
79	A3	601	HEA	C16-C17-C18	-2.32	104.24	111.88
69	C1	402	HEM	C3D-C4D-ND	-2.32	107.58	110.17
79	A3	602	HEA	C13-C14-C15	-2.31	122.10	127.66
70	D1	301	HEC	CMA-C3A-C2A	2.27	129.22	124.94
70	D1	301	HEC	CMD-C2D-C3D	2.27	129.22	124.94
70	D1	301	HEC	O1D-CGD-CBD	-2.26	115.81	123.08
69	O1	402	HEM	CBA-CAA-C2A	2.26	116.48	112.62
69	O1	402	HEM	CMD-C2D-C1D	-2.23	121.65	125.04
69	O1	402	HEM	O2D-CGD-CBD	2.21	121.13	114.03
79	A3	602	HEA	C26-C15-C16	2.21	118.99	115.27
70	P1	301	HEC	CMD-C2D-C3D	2.20	129.09	124.94
77	R2	601	NAP	C3N-C7N-N7N	2.19	120.38	117.75
79	A3	601	HEA	C12-C13-C14	-2.17	106.51	112.23
74	82	501	FMN	C4A-C10-N10	2.14	119.61	116.48
79	A3	601	HEA	C4B-C3B-C2B	-2.14	103.75	107.41
70	P1	301	HEC	C4C-C3C-C2C	2.12	108.65	106.35
74	82	501	FMN	C9A-C5A-N5	-2.09	120.16	122.43
79	A3	601	HEA	C4A-CHB-C1B	2.09	125.32	122.56
70	D1	301	HEC	CMC-C2C-C1C	-2.07	125.28	128.46
79	A3	601	HEA	C27-C19-C18	-2.06	118.40	123.68
79	A3	602	HEA	CBD-CAD-C3D	2.06	118.34	112.63
69	O1	401	HEM	O1A-CGA-CBA	-2.06	116.48	123.08
69	C1	401	HEM	C4C-CHD-C1D	2.03	125.24	122.56
70	D1	301	HEC	C1D-C2D-C3D	2.03	108.41	107.00
73	42	501	CDL	CA4-OA6-CA5	-2.02	112.82	117.79
77	R2	601	NAP	C2N-C3N-C4N	2.01	120.54	118.26
70	P1	301	HEC	O1A-CGA-CBA	-2.00	116.64	123.08

All (6) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
79	A3	601	HEA	NA
79	A3	601	HEA	NB
79	A3	601	HEA	ND
79	A3	602	HEA	NA
79	A3	602	HEA	NB
79	A3	602	HEA	ND

All (219) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
69	O1	401	HEM	C2B-C3B-CAB-CBB
72	22	401	3PE	C1-O11-P-O14
72	22	401	3PE	C22-C21-O21-C2
72	42	502	3PE	C11-O13-P-O12
72	42	502	3PE	C11-O13-P-O14
72	42	502	3PE	C2-C1-O11-P
72	42	502	3PE	O13-C11-C12-N
72	42	502	3PE	C22-C21-O21-C2
72	B2	501	3PE	C1-O11-P-O13
72	B2	501	3PE	O11-C1-C2-O21
72	B2	501	3PE	O22-C21-O21-C2
72	B2	501	3PE	C22-C21-O21-C2
73	42	501	CDL	CA2-OA2-PA1-OA4
73	42	501	CDL	OA6-CA4-CA6-OA8
73	42	501	CDL	OA7-CA5-OA6-CA4
73	42	501	CDL	C11-CA5-OA6-CA4
74	82	501	FMN	N10-C1'-C2'-O2'
74	82	501	FMN	N10-C1'-C2'-C3'
74	82	501	FMN	C5'-O5'-P-O2P
74	82	501	FMN	C5'-O5'-P-O3P
77	R2	601	NAP	C5B-O5B-PA-O1A
77	R2	601	NAP	C5B-O5B-PA-O2A
77	R2	601	NAP	C1B-C2B-O2B-P2B
77	R2	601	NAP	C2B-O2B-P2B-O3X
77	R2	601	NAP	PA-O3-PN-O5D
77	R2	601	NAP	C5D-O5D-PN-O3
77	R2	601	NAP	C5D-O5D-PN-O2N
77	R2	601	NAP	C2D-C1D-N1N-C2N
77	R2	601	NAP	C2D-C1D-N1N-C6N
78	j2	201	PC1	C11-O13-P-O12
78	j2	201	PC1	C11-O13-P-O14
78	j2	201	PC1	C11-O13-P-O11
78	j2	201	PC1	O22-C21-O21-C2
79	A3	601	HEA	C12-C11-C3B-C2B
72	42	502	3PE	O32-C31-O31-C3
72	22	401	3PE	O22-C21-O21-C2
72	42	502	3PE	O22-C21-O21-C2
72	42	502	3PE	C32-C31-O31-C3
78	j2	201	PC1	C22-C21-O21-C2
73	42	501	CDL	C71-CB7-OB8-CB6
78	S2	401	PC1	O22-C21-O21-C2
73	42	501	CDL	OB9-CB7-OB8-CB6
78	S2	401	PC1	C22-C21-O21-C2

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Mol	Chain	Res	Type	Atoms
77	R2	601	NAP	O4B-C4B-C5B-O5B
77	R2	601	NAP	O4D-C4D-C5D-O5D
79	A3	601	HEA	C15-C16-C17-C18
73	42	501	CDL	C31-CA7-OA8-CA6
73	42	501	CDL	CB5-C51-C52-C53
72	B2	501	3PE	C21-C22-C23-C24
73	42	501	CDL	CA5-C11-C12-C13
73	42	501	CDL	OA9-CA7-OA8-CA6
72	42	502	3PE	C1-O11-P-O13
72	42	502	3PE	C11-O13-P-O11
73	42	501	CDL	CA2-OA2-PA1-OA5
73	42	501	CDL	CB2-OB2-PB2-OB5
78	S2	401	PC1	C11-O13-P-O11
73	42	501	CDL	C51-CB5-OB6-CB4
72	22	401	3PE	C2C-C2D-C2E-C2F
73	42	501	CDL	C78-C79-C80-C81
73	42	501	CDL	OB7-CB5-OB6-CB4
72	22	401	3PE	C21-C22-C23-C24
72	B2	501	3PE	C23-C24-C25-C26
73	42	501	CDL	C1-CA2-OA2-PA1
73	42	501	CDL	C13-C14-C15-C16
73	42	501	CDL	CA7-C31-C32-C33
78	S2	401	PC1	C25-C26-C27-C28
72	42	502	3PE	C28-C29-C2A-C2B
72	B2	501	3PE	C37-C38-C39-C3A
73	42	501	CDL	C73-C74-C75-C76
78	S2	401	PC1	C33-C34-C35-C36
73	42	501	CDL	C72-C73-C74-C75
72	22	401	3PE	C32-C33-C34-C35
73	42	501	CDL	C77-C78-C79-C80
73	42	501	CDL	C74-C75-C76-C77
72	22	401	3PE	C32-C31-O31-C3
72	B2	501	3PE	C31-C32-C33-C34
72	42	502	3PE	C34-C35-C36-C37
72	B2	501	3PE	C2E-C2F-C2G-C2H
73	42	501	CDL	C75-C76-C77-C78
69	O1	401	HEM	C4B-C3B-CAB-CBB
72	22	401	3PE	O32-C31-O31-C3
73	42	501	CDL	C83-C84-C85-C86
78	S2	401	PC1	O11-C1-C2-C3
72	42	502	3PE	C23-C24-C25-C26
72	B2	501	3PE	C35-C36-C37-C38

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Mol	Chain	Res	Type	Atoms
72	22	401	3PE	C1-C2-C3-O31
78	j2	201	PC1	C1-C2-C3-O31
73	42	501	CDL	C80-C81-C82-C83
72	B2	501	3PE	C2F-C2G-C2H-C2I
72	B2	501	3PE	C3C-C3D-C3E-C3F
72	22	401	3PE	C28-C29-C2A-C2B
72	B2	501	3PE	C27-C28-C29-C2A
72	22	401	3PE	C3-C2-O21-C21
73	42	501	CDL	C51-C52-C53-C54
78	j2	201	PC1	C34-C35-C36-C37
74	82	501	FMN	C5'-O5'-P-O1P
73	42	501	CDL	OA5-CA3-CA4-OA6
77	R2	601	NAP	PN-O3-PA-O1A
78	j2	201	PC1	C32-C31-O31-C3
72	42	502	3PE	C24-C25-C26-C27
72	42	502	3PE	C26-C27-C28-C29
72	22	401	3PE	O11-C1-C2-C3
72	B2	501	3PE	O11-C1-C2-C3
73	42	501	CDL	OB5-CB3-CB4-CB6
72	42	502	3PE	C29-C2A-C2B-C2C
78	S2	401	PC1	C21-C22-C23-C24
78	S2	401	PC1	C32-C31-O31-C3
72	22	401	3PE	C22-C23-C24-C25
73	42	501	CDL	CA3-CA4-CA6-OA8
72	22	401	3PE	C2A-C2B-C2C-C2D
72	22	401	3PE	C25-C26-C27-C28
78	S2	401	PC1	C3B-C3C-C3D-C3E
78	S2	401	PC1	C32-C33-C34-C35
72	B2	501	3PE	C2-C1-O11-P
73	42	501	CDL	CA4-CA3-OA5-PA1
77	R2	601	NAP	PN-O3-PA-O5B
77	R2	601	NAP	C3B-C4B-C5B-O5B
69	C1	402	HEM	C2B-C3B-CAB-CBB
72	42	502	3PE	C3-C2-O21-C21
73	42	501	CDL	CB3-CB4-OB6-CB5
73	42	501	CDL	OB5-CB3-CB4-OB6
78	S2	401	PC1	O11-C1-C2-O21
78	S2	401	PC1	O32-C31-O31-C3
78	j2	201	PC1	O32-C31-O31-C3
78	j2	201	PC1	O21-C2-C3-O31
72	B2	501	3PE	C32-C31-O31-C3
72	22	401	3PE	C1-O11-P-O13

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Mol	Chain	Res	Type	Atoms
72	22	401	3PE	C1-O11-P-O12
72	42	502	3PE	C1-O11-P-O12
72	42	502	3PE	C1-O11-P-O14
73	42	501	CDL	CB2-OB2-PB2-OB4
78	S2	401	PC1	C11-O13-P-O12
78	S2	401	PC1	C1-O11-P-O12
73	42	501	CDL	OA5-CA3-CA4-CA6
72	42	502	3PE	C12-C11-O13-P
74	82	501	FMN	C1'-C2'-C3'-O3'
70	P1	301	HEC	C2A-CAA-CBA-CGA
72	22	401	3PE	O11-C1-C2-O21
70	P1	301	HEC	C1A-C2A-CAA-CBA
70	P1	301	HEC	C3A-C2A-CAA-CBA
72	42	502	3PE	C27-C28-C29-C2A
78	S2	401	PC1	O13-C11-C12-N
78	j2	201	PC1	O13-C11-C12-N
72	22	401	3PE	O21-C2-C3-O31
72	42	502	3PE	O21-C2-C3-O31
74	82	501	FMN	O2'-C2'-C3'-C4'
72	B2	501	3PE	O32-C31-O31-C3
73	42	501	CDL	C52-C53-C54-C55
72	B2	501	3PE	C24-C25-C26-C27
78	j2	201	PC1	O11-C1-C2-O21
78	j2	201	PC1	C1-O11-P-O13
73	42	501	CDL	CB4-CB3-OB5-PB2
77	R2	601	NAP	C4B-C5B-O5B-PA
73	42	501	CDL	C14-C15-C16-C17
72	22	401	3PE	C26-C27-C28-C29
78	S2	401	PC1	C2-C1-O11-P
69	O1	401	HEM	CAD-CBD-CGD-O2D
69	O1	402	HEM	CAA-CBA-CGA-O1A
77	R2	601	NAP	C3D-C4D-C5D-O5D
69	C1	402	HEM	CAA-CBA-CGA-O2A
69	O1	401	HEM	CAD-CBD-CGD-O1D
79	A3	601	HEA	CAD-CBD-CGD-O1D
69	C1	401	HEM	CAD-CBD-CGD-O2D
69	C1	402	HEM	CAA-CBA-CGA-O1A
70	D1	301	HEC	CAA-CBA-CGA-O1A
70	P1	301	HEC	CAA-CBA-CGA-O1A
69	C1	401	HEM	CAD-CBD-CGD-O1D
72	B2	501	3PE	C2D-C2E-C2F-C2G
79	A3	602	HEA	CAD-CBD-CGD-O1D

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Mol	Chain	Res	Type	Atoms
73	42	501	CDL	C58-C59-C60-C61
69	C1	402	HEM	CAD-CBD-CGD-O1D
70	D1	301	HEC	CAA-CBA-CGA-O2A
79	A3	602	HEA	CAD-CBD-CGD-O2D
72	B2	501	3PE	C32-C33-C34-C35
69	O1	402	HEM	CAA-CBA-CGA-O2A
72	42	502	3PE	C2E-C2F-C2G-C2H
73	42	501	CDL	CA2-C1-CB2-OB2
70	P1	301	HEC	CAA-CBA-CGA-O2A
79	A3	601	HEA	CAA-CBA-CGA-O1A
69	O1	401	HEM	CAA-CBA-CGA-O2A
69	O1	402	HEM	CAD-CBD-CGD-O2D
72	42	502	3PE	C1-C2-C3-O31
79	A3	601	HEA	CAD-CBD-CGD-O2D
69	C1	402	HEM	CAD-CBD-CGD-O2D
72	B2	501	3PE	C38-C39-C3A-C3B
72	B2	501	3PE	C26-C27-C28-C29
78	j2	201	PC1	O21-C21-C22-C23
72	B2	501	3PE	C25-C26-C27-C28
69	O1	402	HEM	CAD-CBD-CGD-O1D
69	C1	401	HEM	CAA-CBA-CGA-O2A
69	O1	401	HEM	CAA-CBA-CGA-O1A
73	42	501	CDL	C71-C72-C73-C74
72	B2	501	3PE	C1-C2-C3-O31
69	C1	402	HEM	C4B-C3B-CAB-CBB
79	A3	602	HEA	CAA-CBA-CGA-O2A
69	C1	401	HEM	CAA-CBA-CGA-O1A
72	B2	501	3PE	O21-C2-C3-O31
78	j2	201	PC1	O22-C21-C22-C23
78	S2	401	PC1	C23-C24-C25-C26
78	S2	401	PC1	C26-C27-C28-C29
79	A3	602	HEA	CAA-CBA-CGA-O1A
77	R2	601	NAP	C5B-O5B-PA-O3
72	B2	501	3PE	C3B-C3C-C3D-C3E
72	42	502	3PE	C2B-C2C-C2D-C2E
79	A3	601	HEA	CAA-CBA-CGA-O2A
73	42	501	CDL	C76-C77-C78-C79
70	P1	301	HEC	CAD-CBD-CGD-O2D
73	42	501	CDL	CB2-OB2-PB2-OB3
78	S2	401	PC1	C11-O13-P-O14
78	j2	201	PC1	C1-O11-P-O14
78	j2	201	PC1	O11-C1-C2-C3

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Mol	Chain	Res	Type	Atoms
78	S2	401	PC1	O21-C21-C22-C23
78	j2	201	PC1	O31-C31-C32-C33
78	j2	201	PC1	C12-C11-O13-P
79	A3	602	HEA	C26-C15-C16-C17
70	D1	301	HEC	C2A-CAA-CBA-CGA
79	A3	601	HEA	O11-C11-C3B-C2B
78	j2	201	PC1	O32-C31-C32-C33
78	j2	201	PC1	C3A-C3B-C3C-C3D

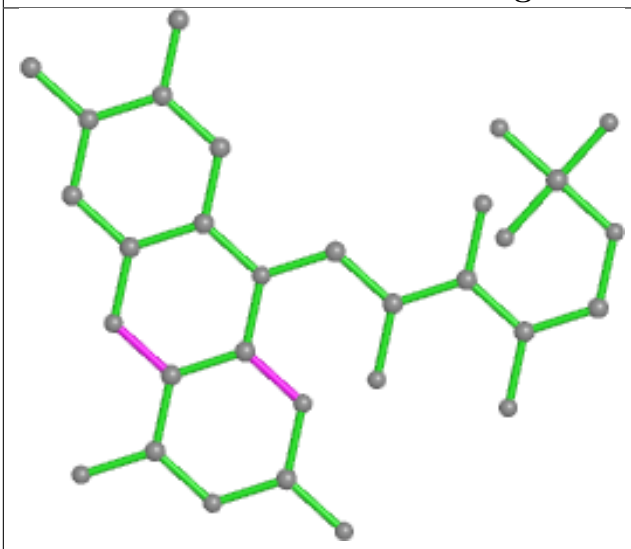
There are no ring outliers.

16 monomers are involved in 84 short contacts:

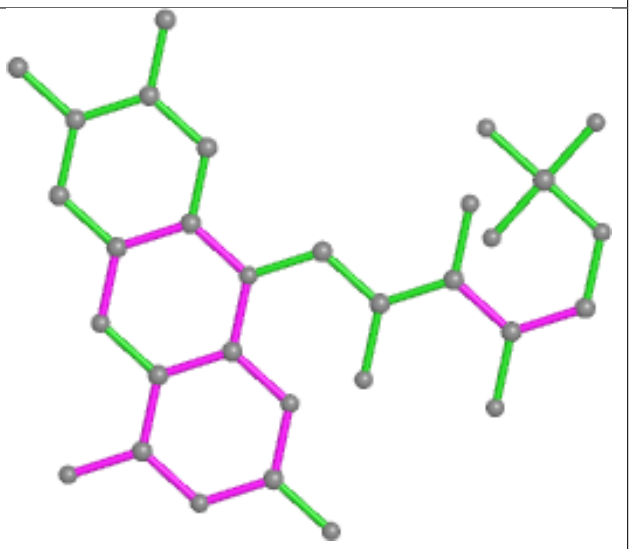
Mol	Chain	Res	Type	Clashes	Symm-Clashes
74	82	501	FMN	2	0
72	B2	501	3PE	1	0
70	D1	301	HEC	7	0
75	A2	802	SF4	8	0
69	O1	401	HEM	11	0
69	C1	402	HEM	13	0
79	A3	602	HEA	4	0
77	R2	601	NAP	3	0
73	42	501	CDL	1	0
69	C1	401	HEM	5	0
72	22	401	3PE	2	0
79	A3	601	HEA	3	0
69	O1	402	HEM	14	0
70	P1	301	HEC	5	0
75	A2	801	SF4	4	0
72	42	502	3PE	1	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

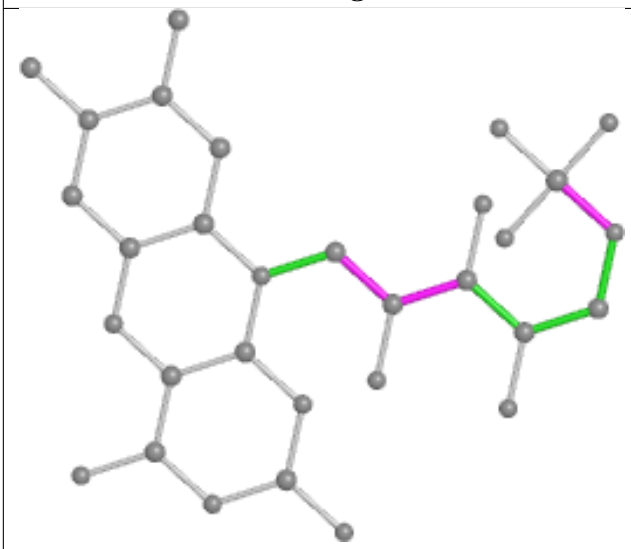
Ligand FMN 82 501



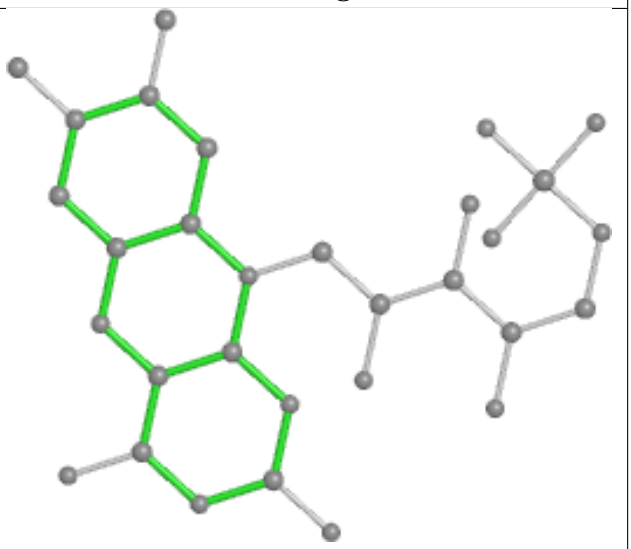
Bond lengths



Bond angles

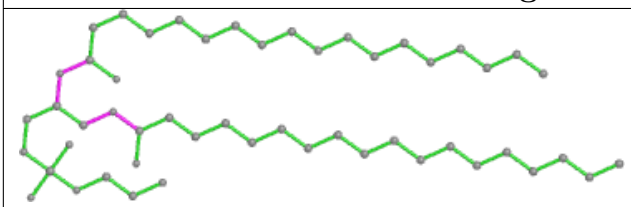


Torsions

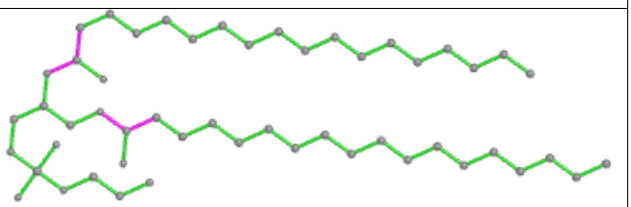


Rings

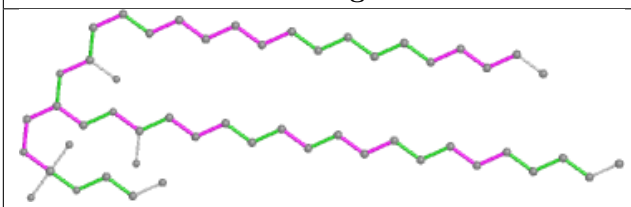
Ligand 3PE B2 501



Bond lengths



Bond angles



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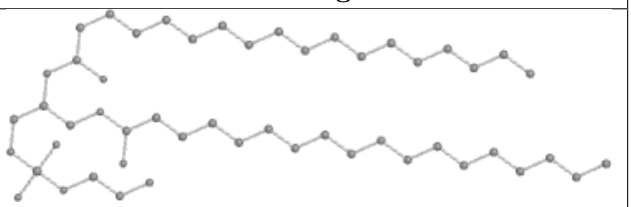
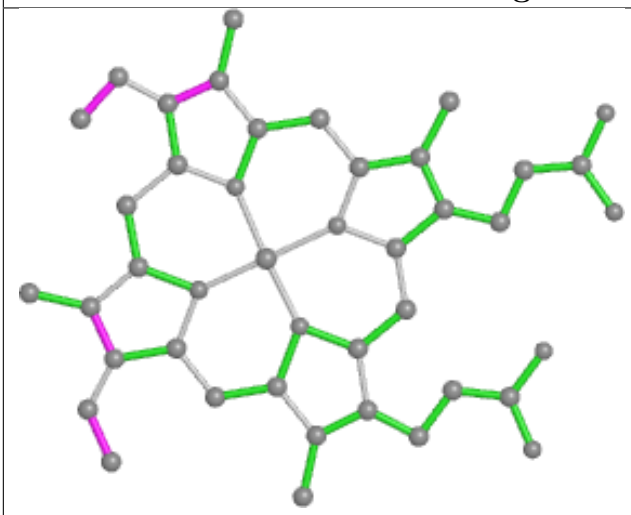
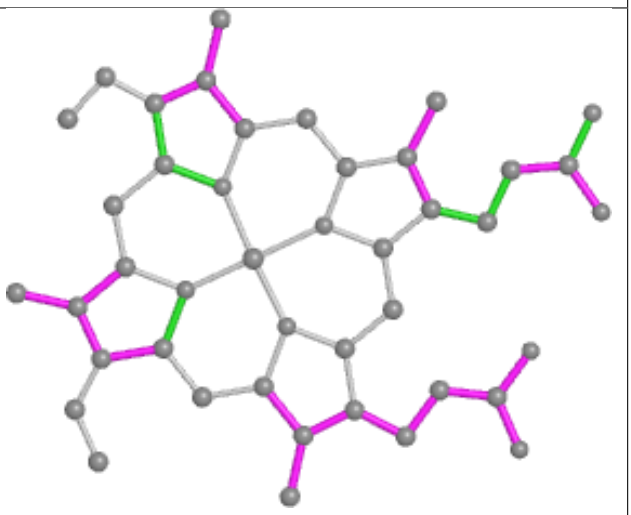


Rings

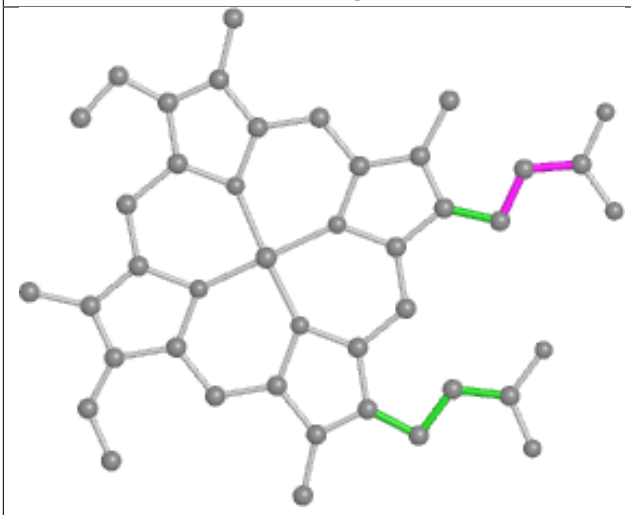
Ligand HEC D1 301



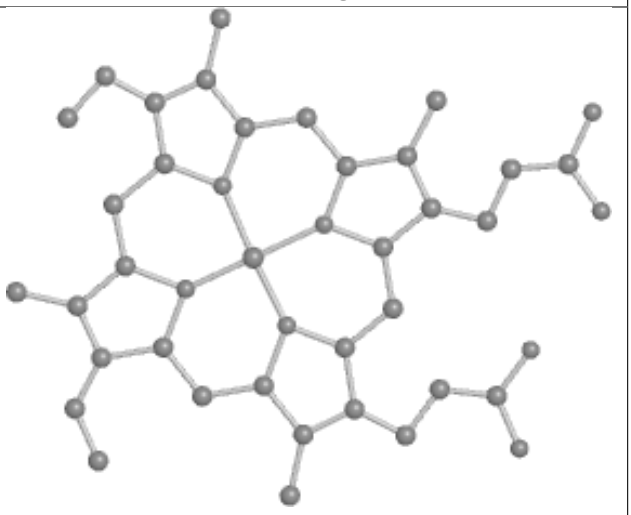
Bond lengths



Bond angles

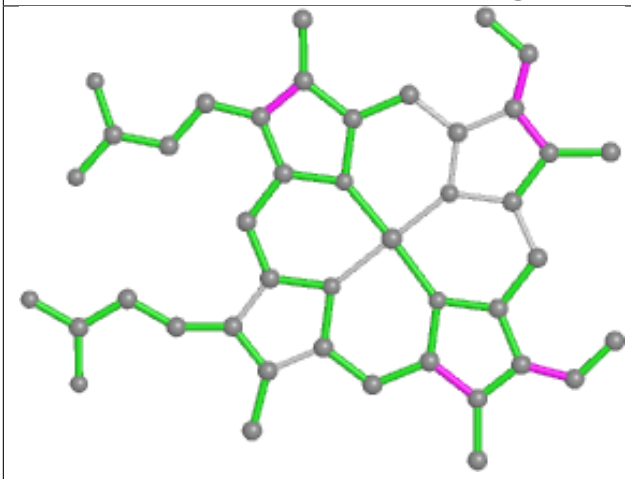


Torsions



Rings

Ligand HEM O1 401



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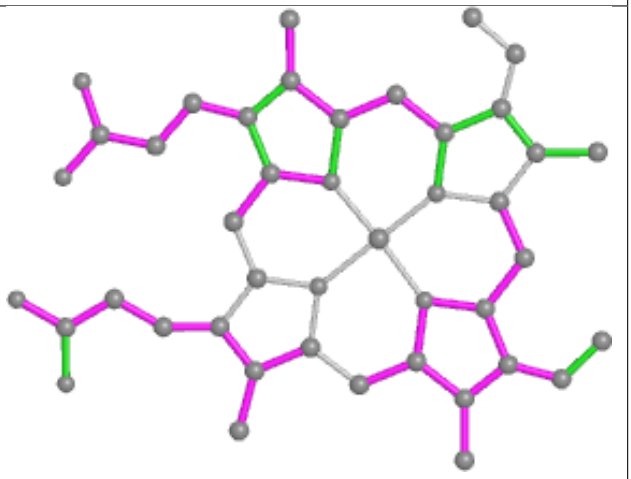

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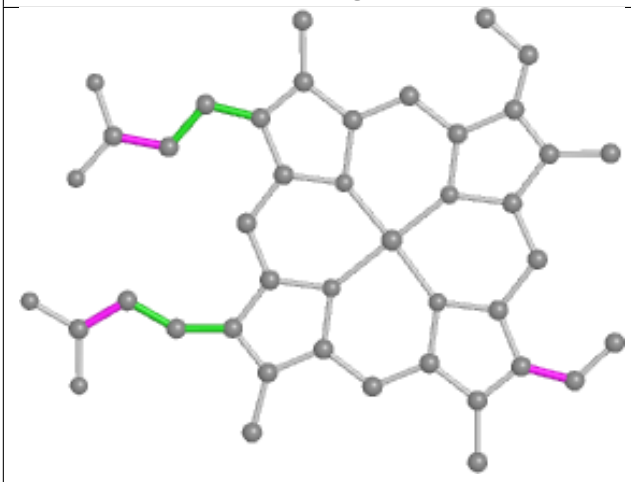
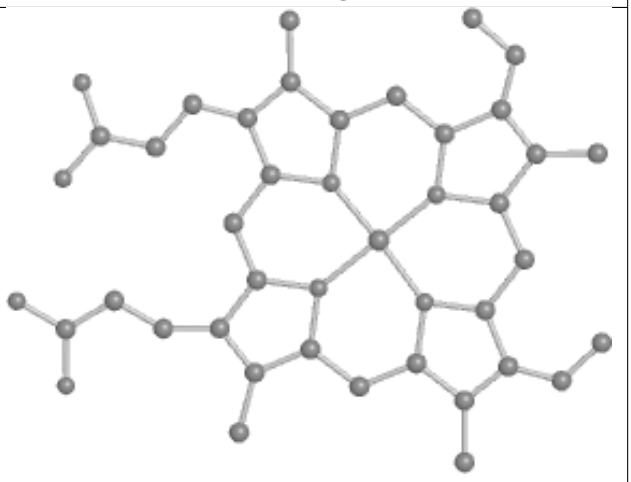
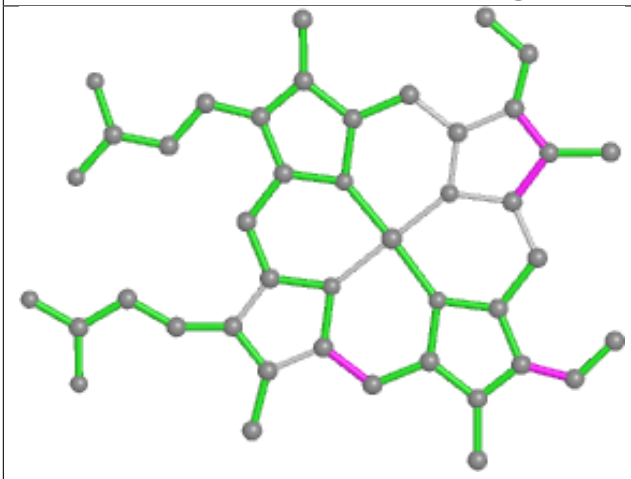


Torsions



Rings

Ligand HEM C1 402



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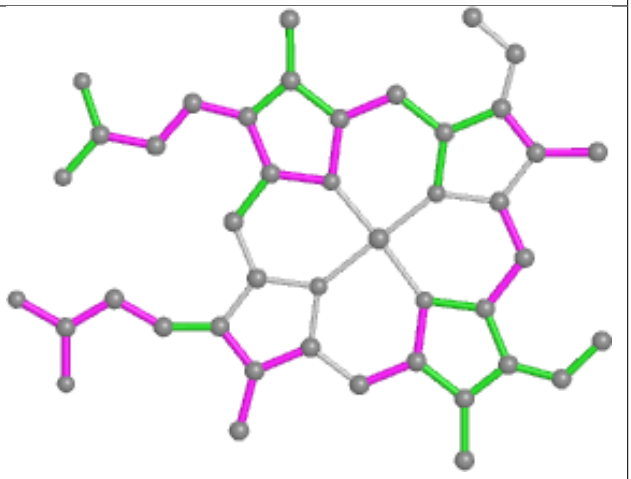
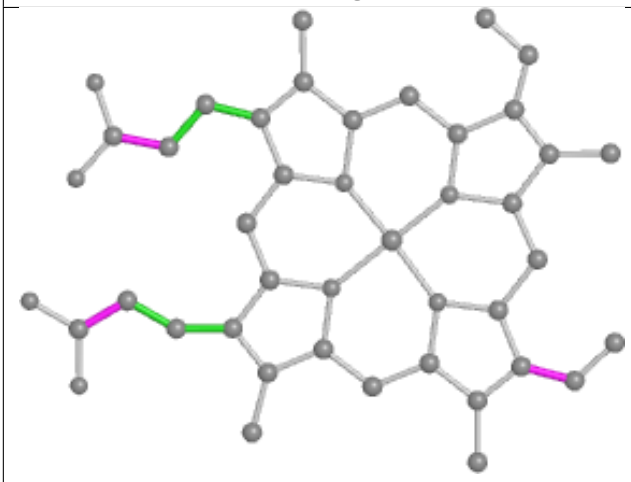


Bond angles



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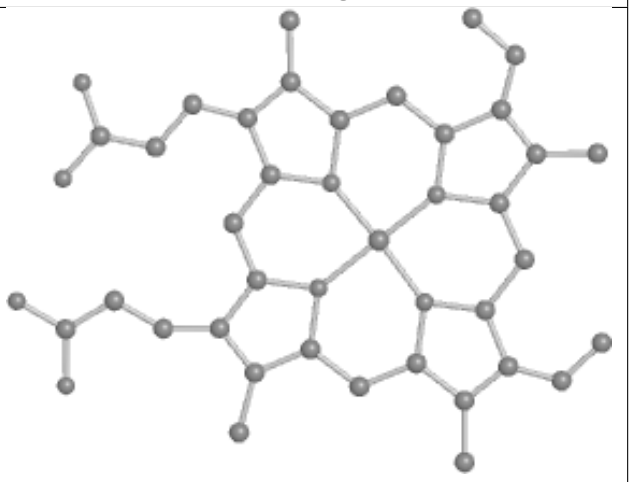
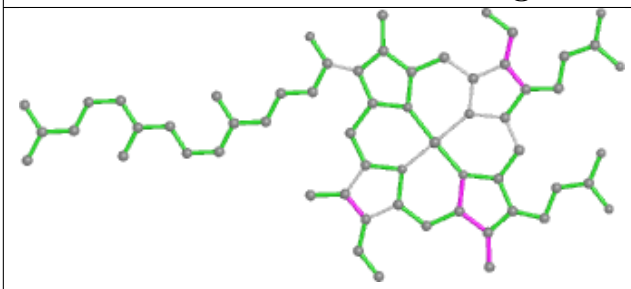


Rings

Ligand HEA A3 602



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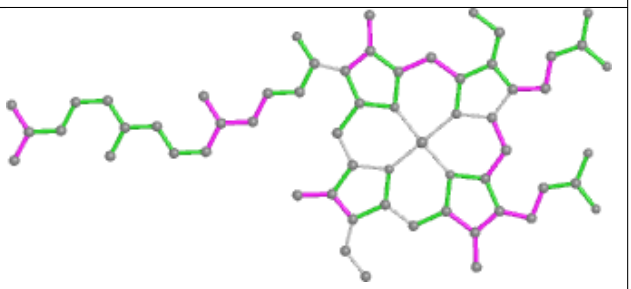

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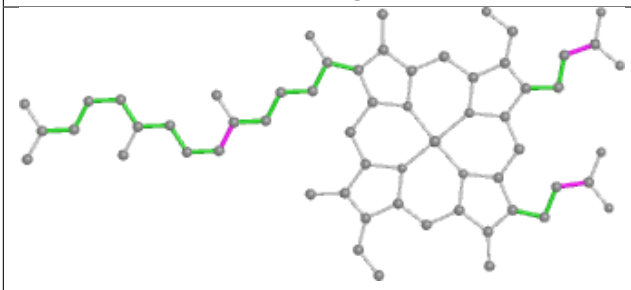

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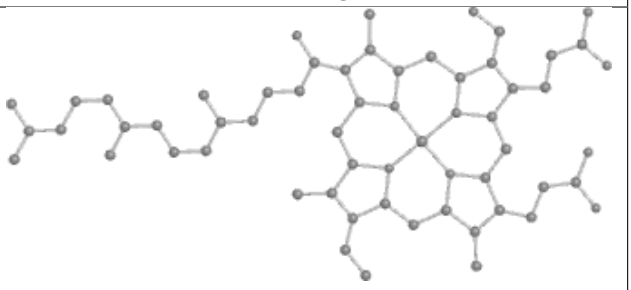
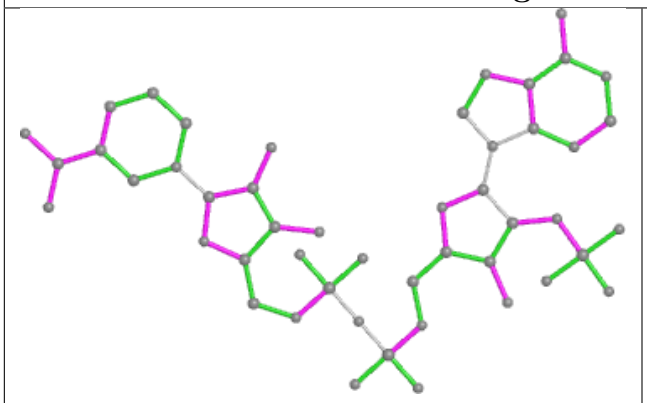


Rings

Ligand NAP R2 601



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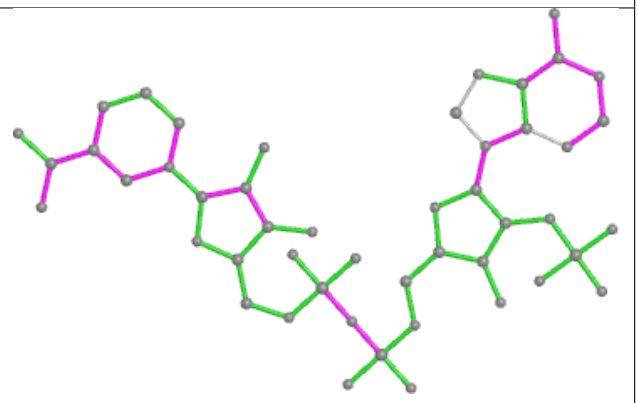
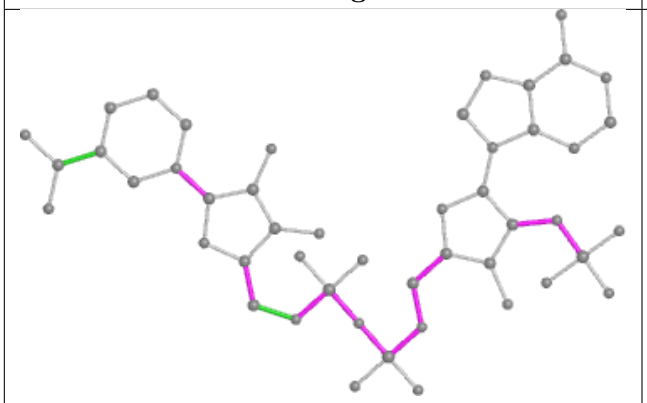


Bond angles



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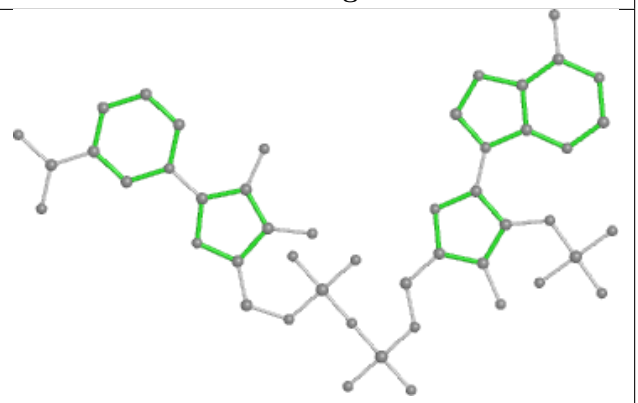
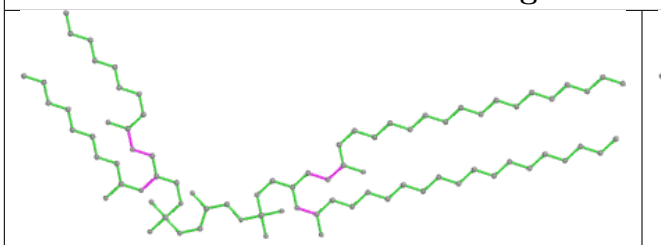


Rings

Ligand CDL 42 501



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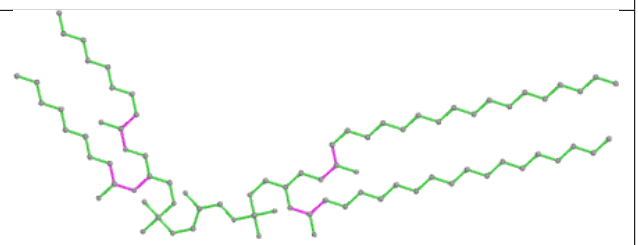

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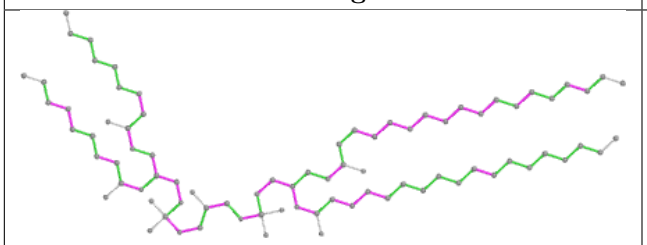

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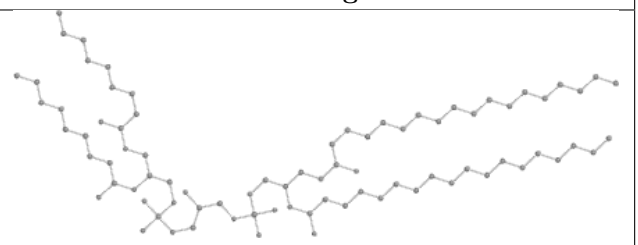
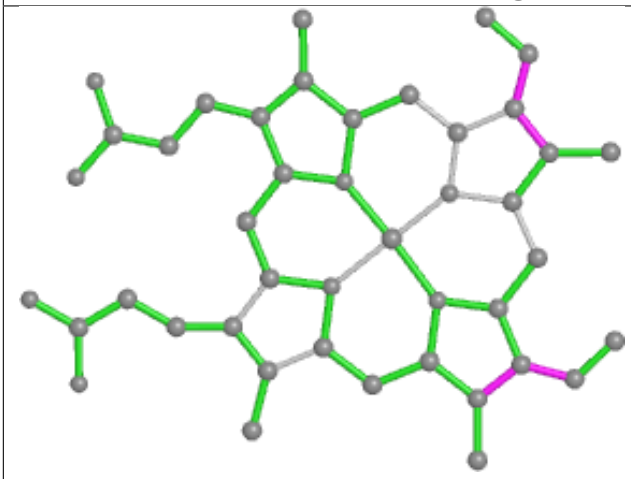
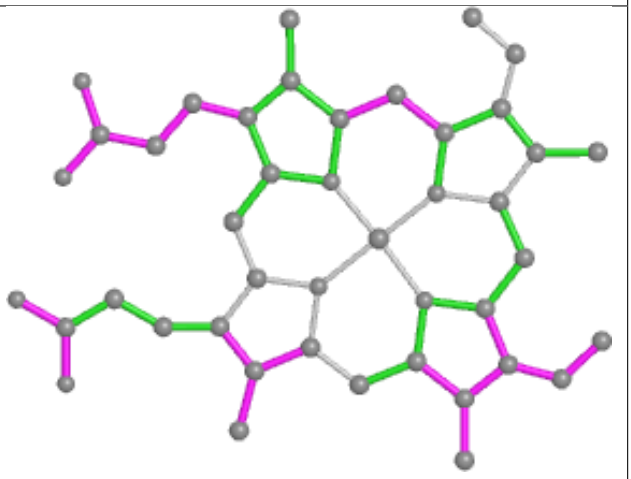


Rings

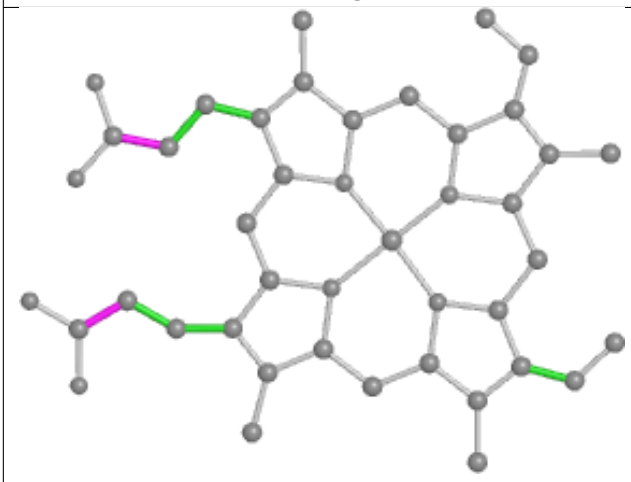
Ligand HEM C1 401



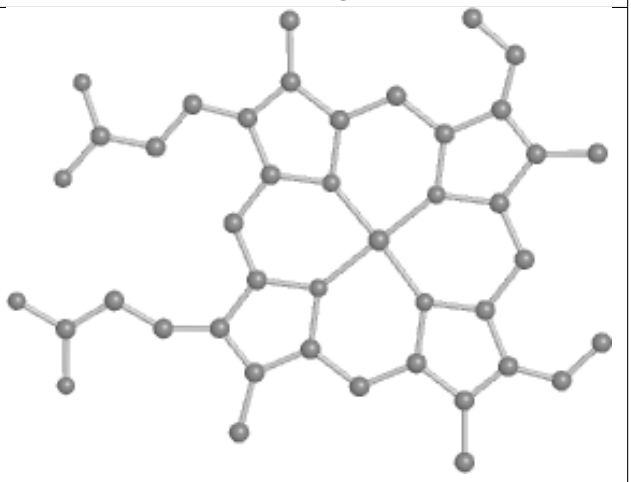
Bond lengths



Bond angles

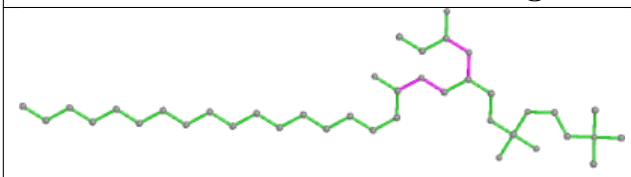


Torsions

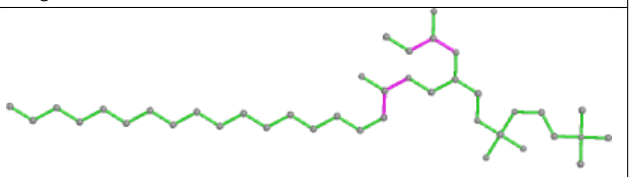


Rings

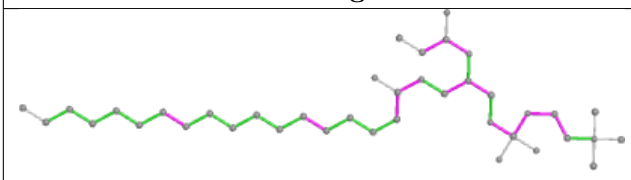
Ligand PC1 j2 201



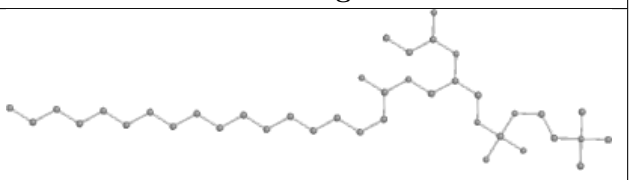
Bond lengths



Bond angles

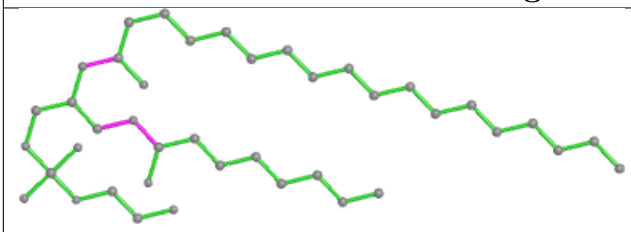


Torsions

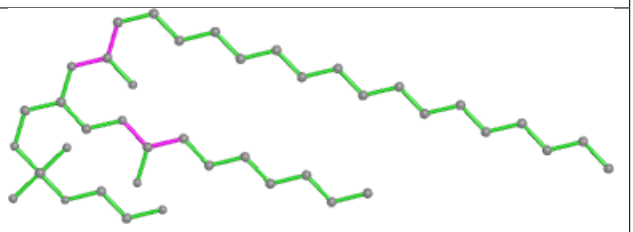


Rings

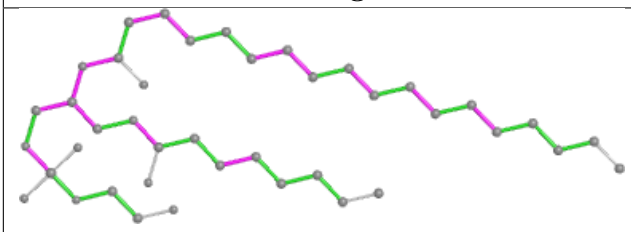
Ligand 3PE 22 401



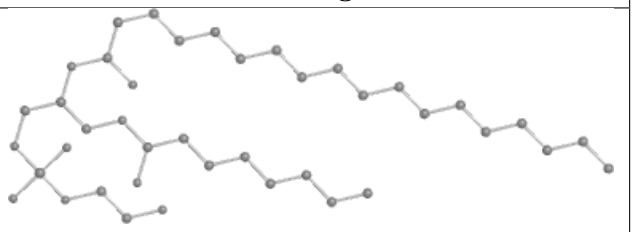
Bond lengths



Bond angles

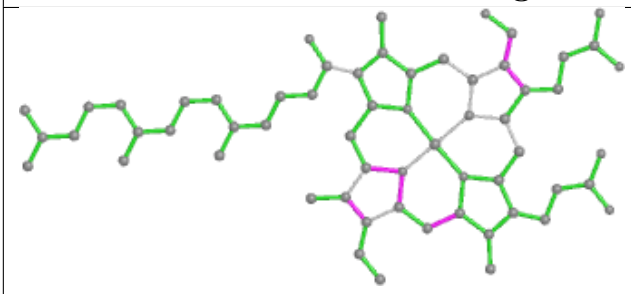


Torsions

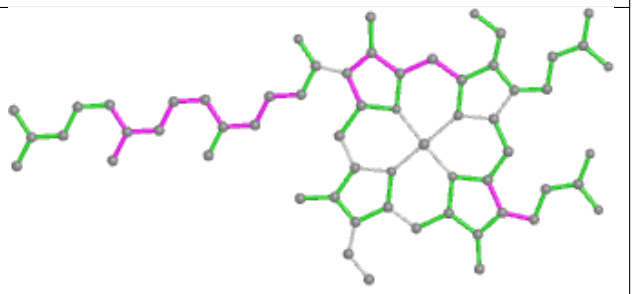


Rings

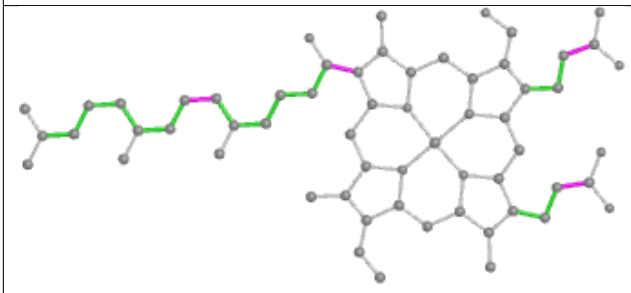
Ligand HEA A3 601



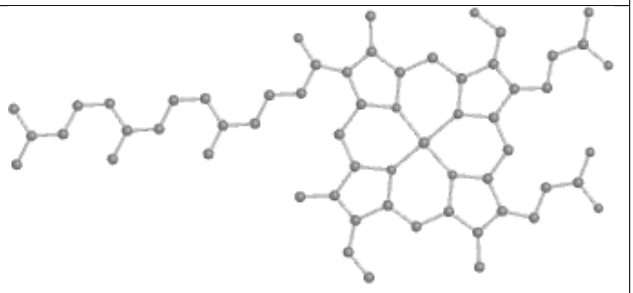
Bond lengths



Bond angles

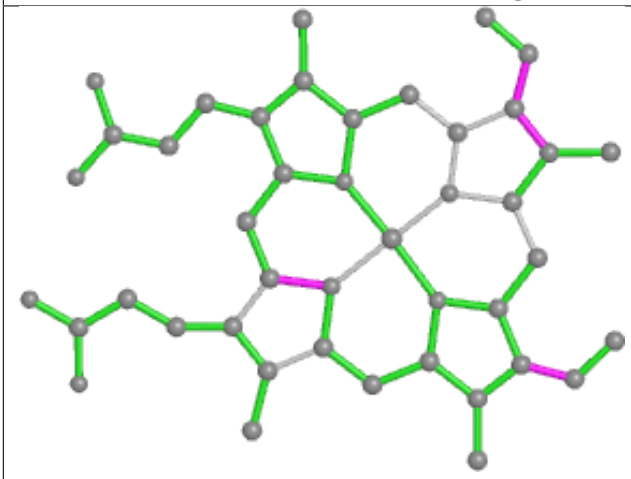


Torsions

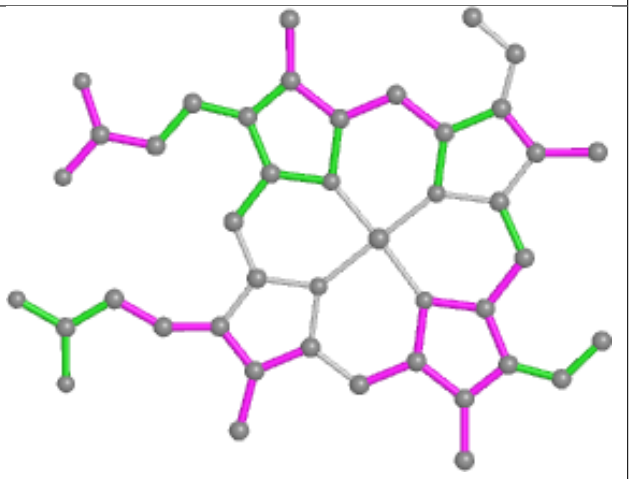


Rings

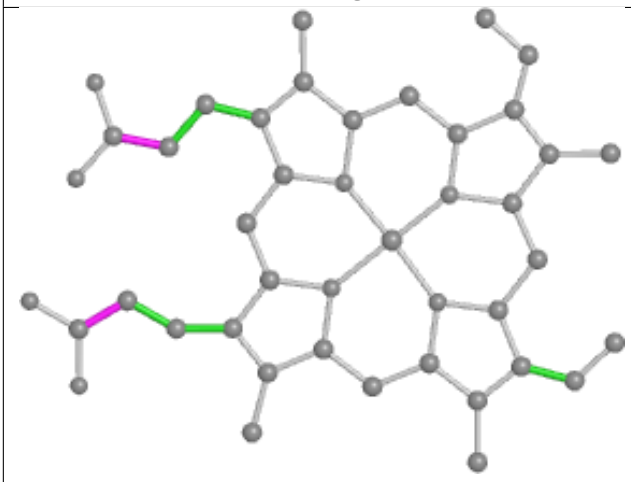
Ligand HEM O1 402



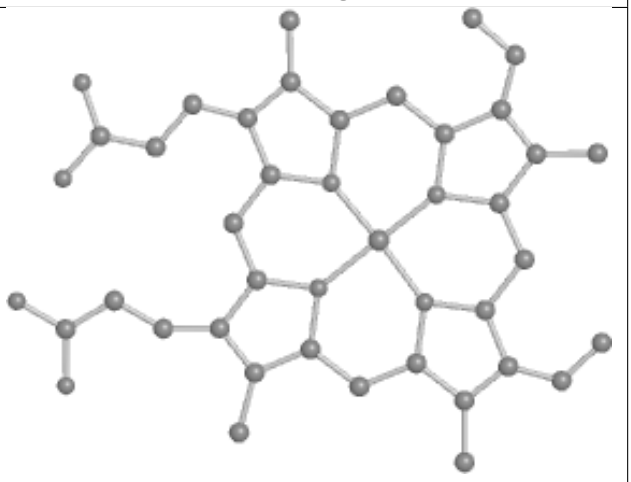
Bond lengths



Bond angles

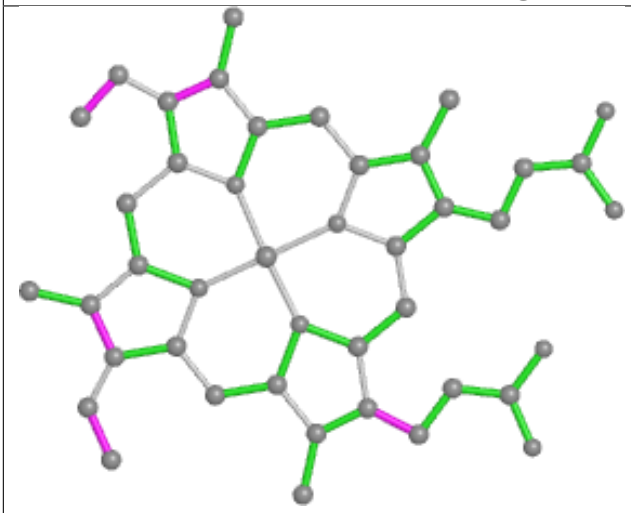


Torsions

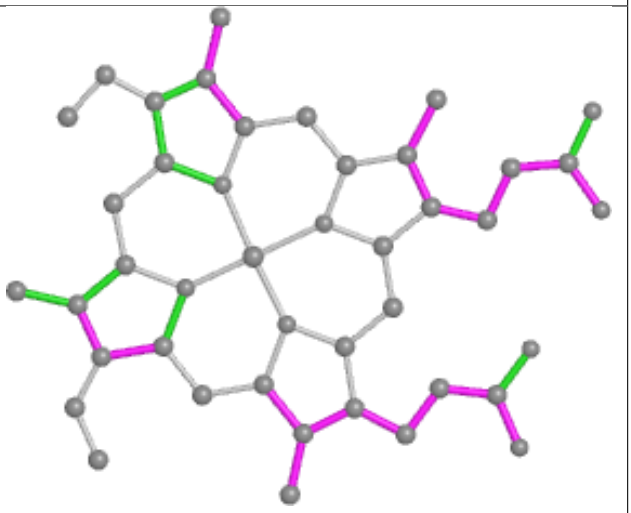


Rings

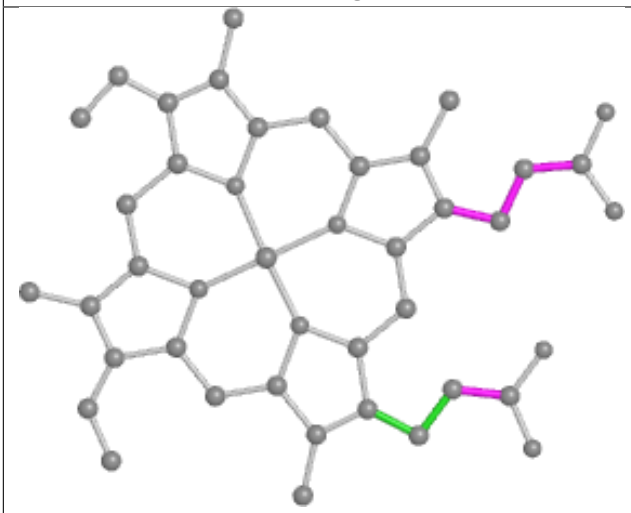
Ligand HEC P1 301



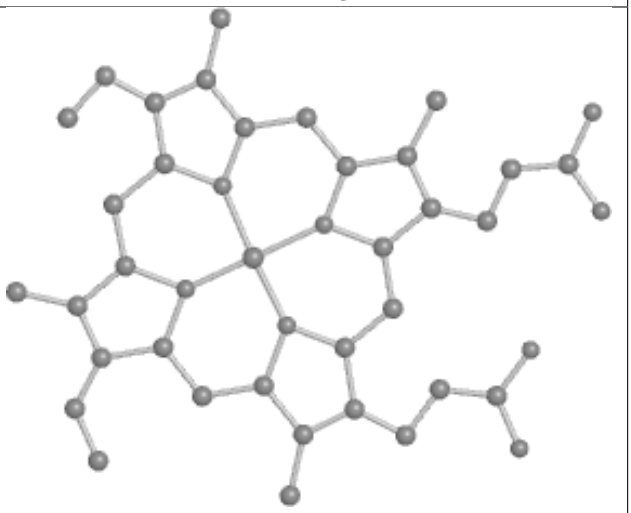
Bond lengths



Bond angles

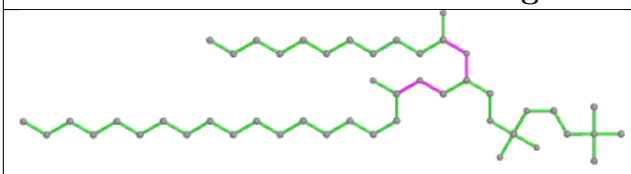


Torsions

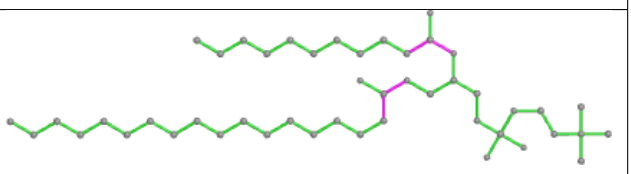


Rings

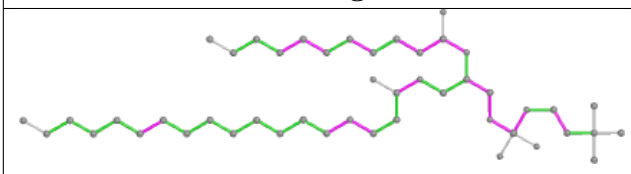
Ligand PC1 S2 401



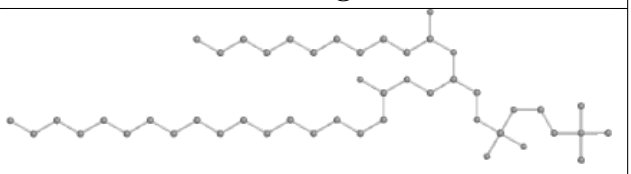
Bond lengths



Bond angles

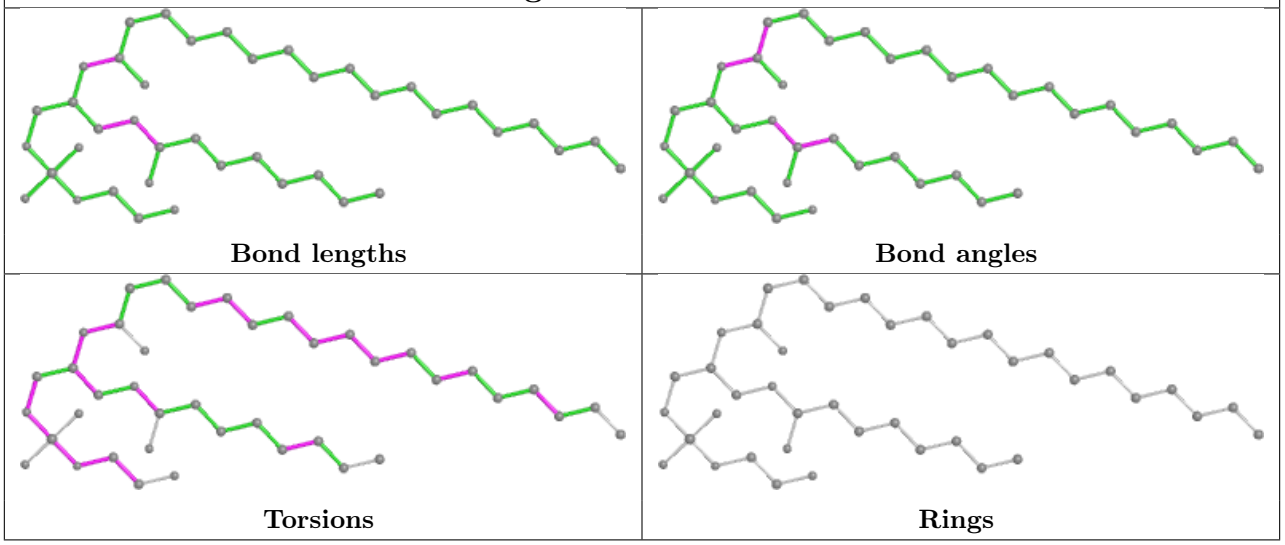


Torsions



Rings

Ligand 3PE 42 502



5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

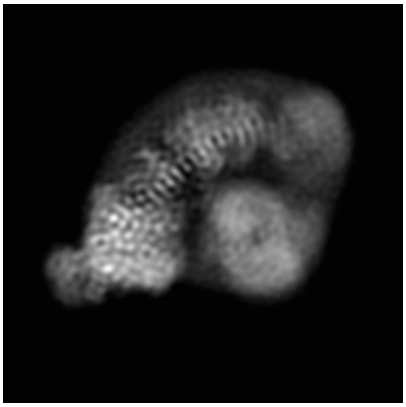
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-30706. These allow visual inspection of the internal detail of the map and identification of artifacts.

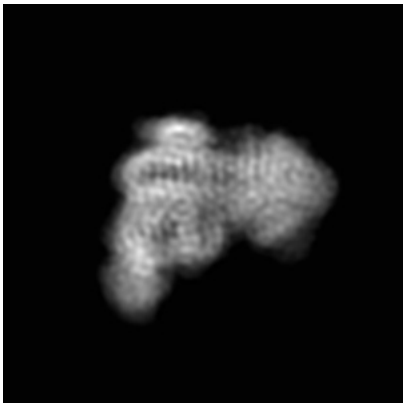
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

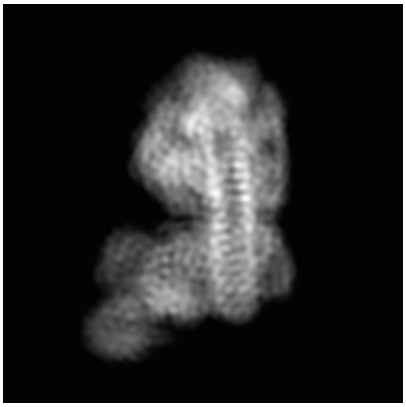
6.1.1 Primary map



X



Y



Z

The images above show the map projected in three orthogonal directions.

6.2 Central slices

6.2.1 Primary map

X Index: 140

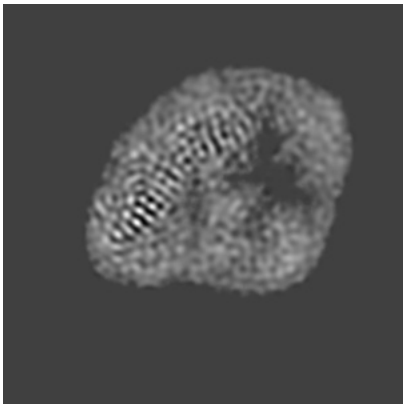
Y Index: 140

Z Index: 140

The images above show central slices of the map in three orthogonal directions.

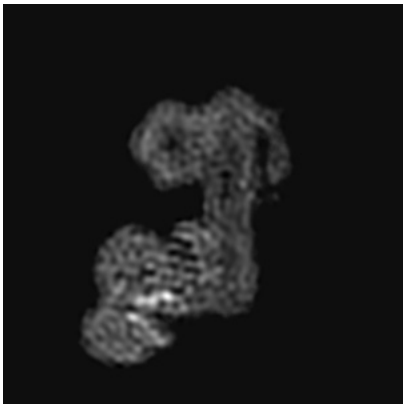
6.3 Largest variance slices (i)

6.3.1 Primary map



X Index: 149

Y Index: 79

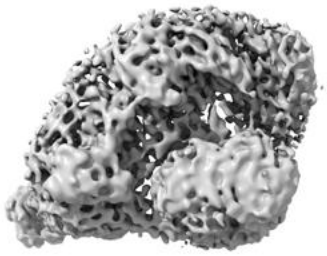


Z Index: 95

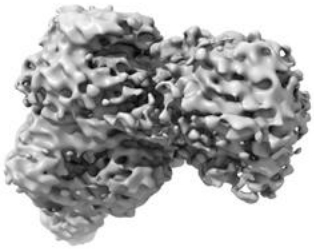
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal surface views (i)

6.4.1 Primary map



X



Y

Z

The images above show the 3D surface view of the map at the recommended contour level 0.07. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

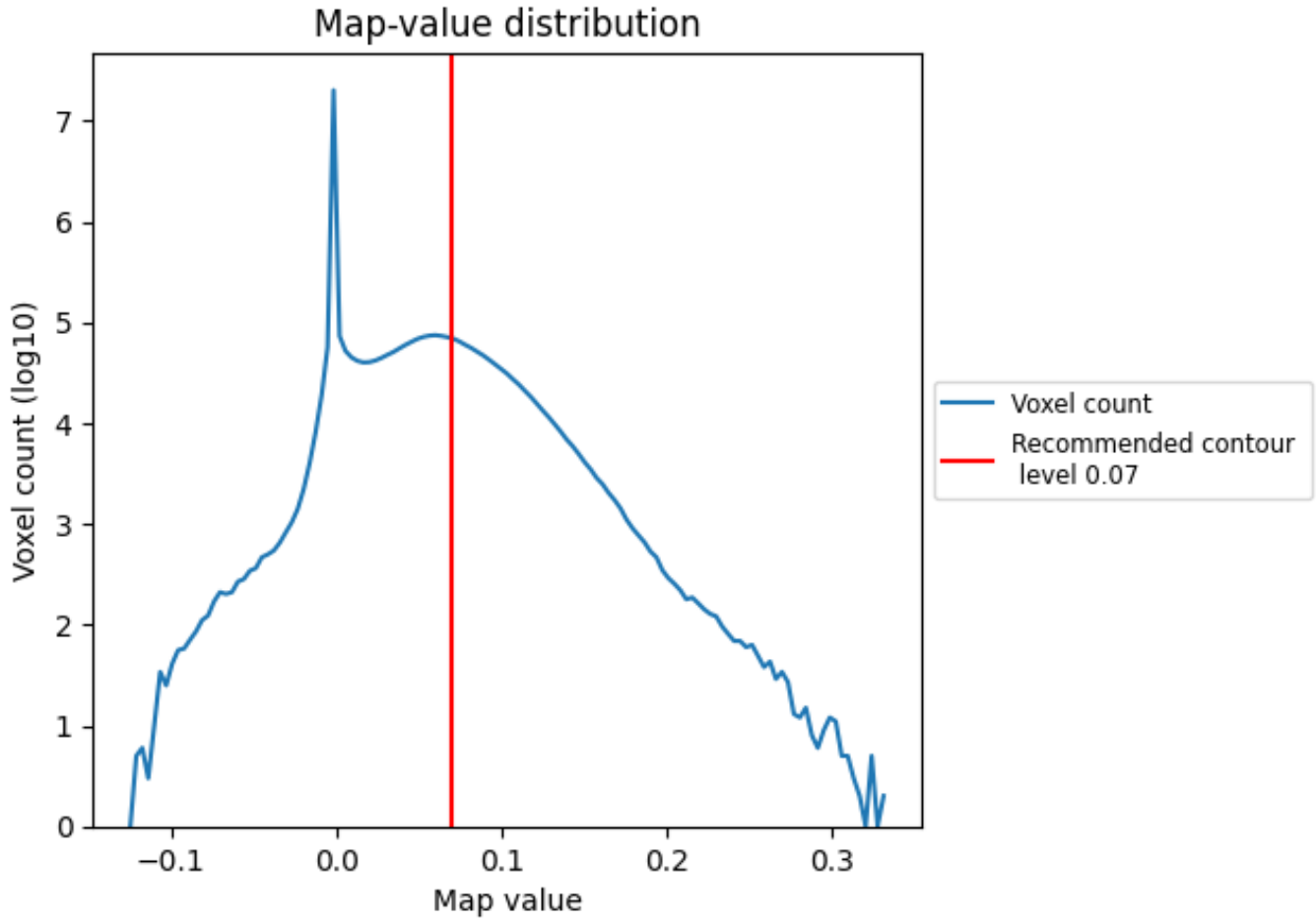
6.5 Mask visualisation (i)

This section was not generated. No masks/segmentation were deposited.

7 Map analysis

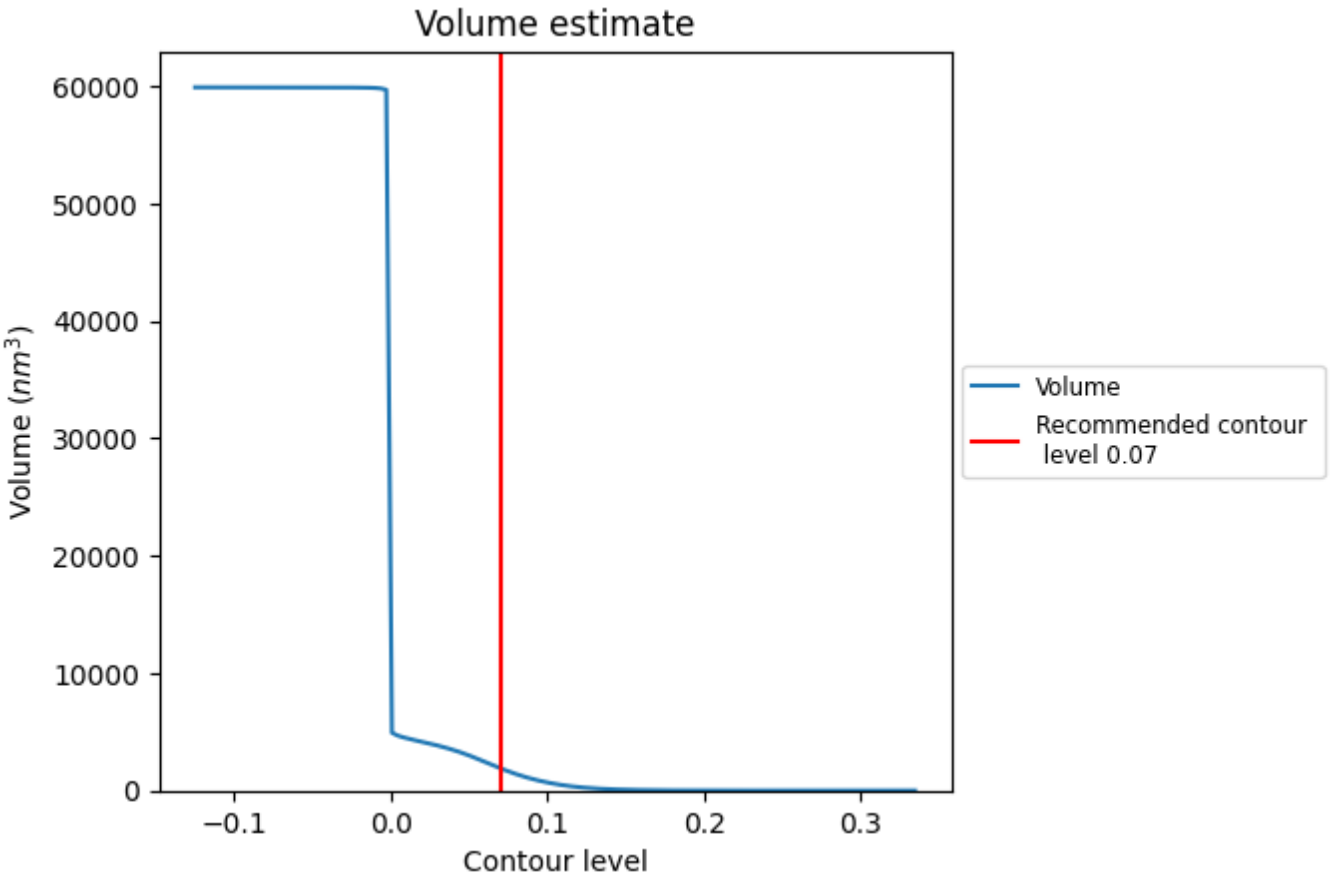
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

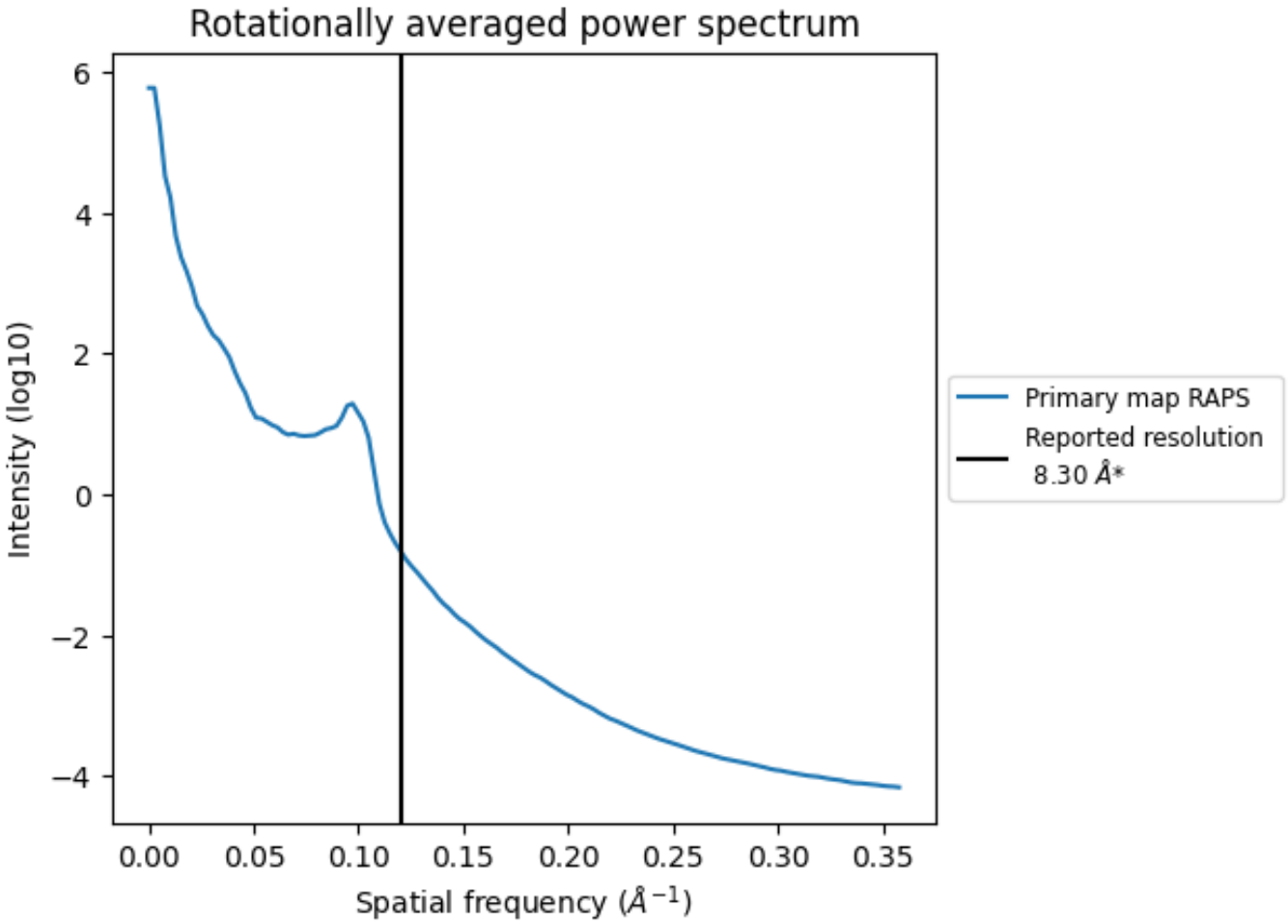
7.2 Volume estimate



The volume at the recommended contour level is 1904 nm^3; this corresponds to an approximate mass of 1720 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum (i)



*Reported resolution corresponds to spatial frequency of 0.120 Å^{-1}

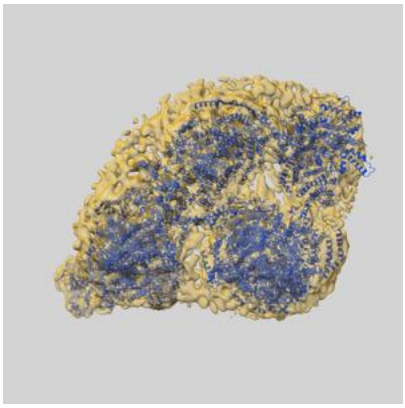
8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

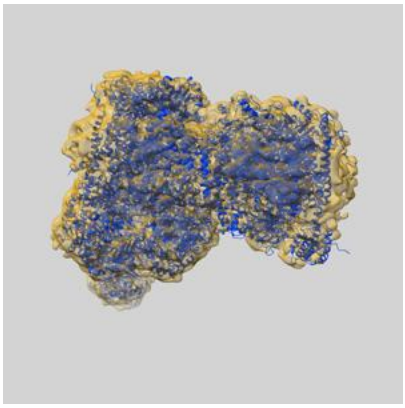
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-30706 and PDB model 7DKF. Per-residue inclusion information can be found in section 3 on page 25.

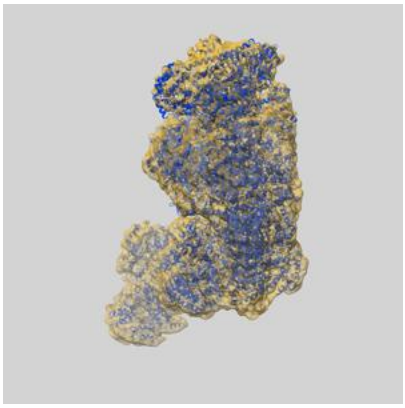
9.1 Map-model overlay



X



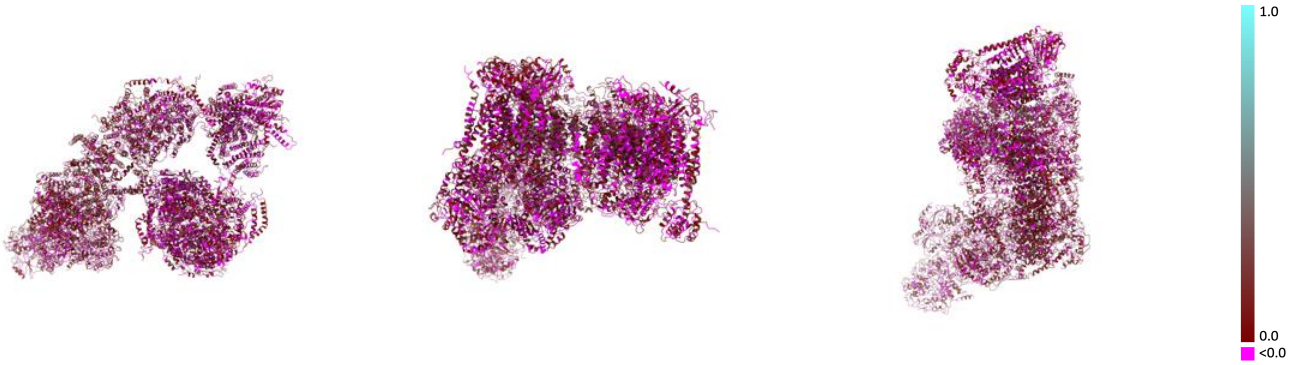
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.07 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

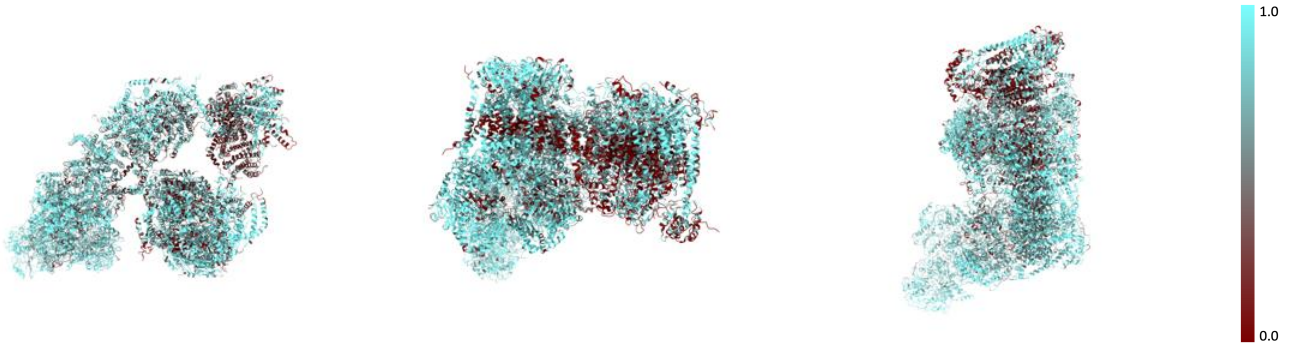
9.2 Q-score mapped to coordinate model



X Y Z

The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

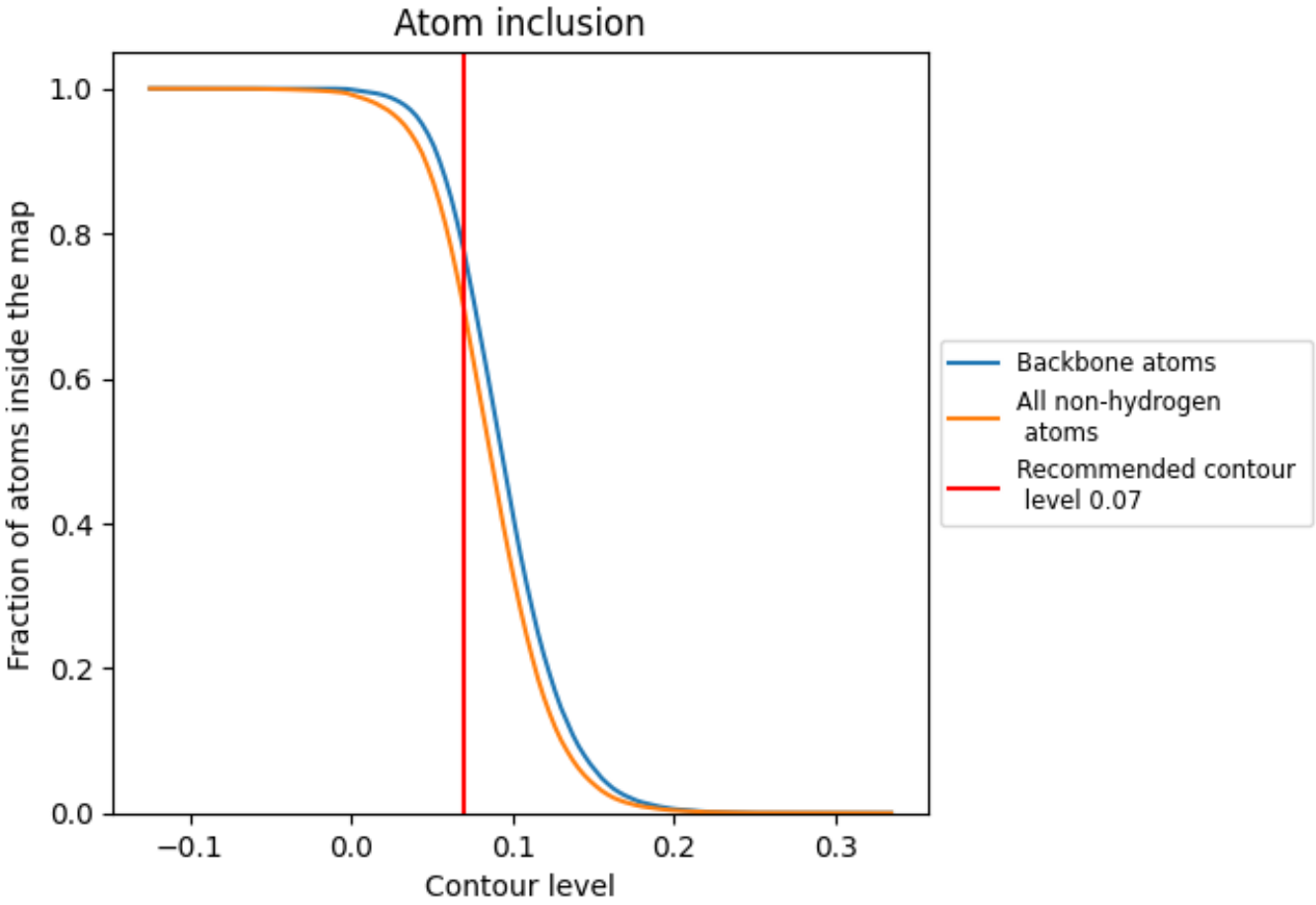
9.3 Atom inclusion mapped to coordinate model



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.07).

9.4 Atom inclusion (i)



At the recommended contour level, 77% of all backbone atoms, 69% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.07) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6944	0.0740
12	0.6858	0.0940
22	0.6826	0.1120
32	0.6531	0.1220
42	0.6356	0.0960
52	0.7225	0.1370
62	0.5782	0.0660
72	0.6175	0.1000
82	0.9017	0.0870
92	0.8570	0.0660
A1	0.8307	0.0620
A2	0.8731	0.0890
A3	0.4945	0.0340
B1	0.8393	0.0590
B2	0.7920	0.0930
B3	0.6754	0.0240
C1	0.6437	0.0780
C2	0.7837	0.0880
C3	0.3644	0.0330
D1	0.8387	0.0660
D2	0.7752	0.0850
D3	0.4078	0.0180
E1	0.6032	0.0280
E2	0.8566	0.0840
E3	0.4266	0.0480
F1	0.7562	0.0750
F2	0.8603	0.1250
F3	0.3474	0.0430
G1	0.6280	0.0510
G2	0.7495	0.0850
G3	0.2607	0.0210
H1	0.8145	0.0760
H2	0.8524	0.1200
H3	0.4571	0.0170
I1	0.3713	-0.0560

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Chain	Atom inclusion	Q-score
I2	0.6500	0.0530
I3	0.6621	0.0800
J1	0.6192	0.0260
J2	0.8405	0.1030
J3	0.2494	0.0540
K1	0.6164	0.0770
K2	0.9021	0.1150
K3	0.5653	0.0470
L2	0.7601	0.1050
L3	0.4184	0.0440
M1	0.6886	0.0380
M2	0.6578	0.1210
M3	0.4819	0.1140
N1	0.7875	0.0460
N2	0.8973	0.1390
O1	0.5688	0.0530
O2	0.7556	0.1220
P1	0.7398	0.0410
P2	0.7504	0.1080
Q1	0.6350	0.0400
Q2	0.8644	0.1250
R1	0.5964	0.0680
R2	0.7926	0.0950
S1	0.4543	0.0610
S2	0.5562	0.1020
T1	0.6367	0.0660
T2	0.5779	0.1090
U1	0.3418	-0.0100
U2	0.5782	0.0750
V1	0.4770	0.0600
V2	0.8735	0.1340
W1	0.3019	0.0720
W2	0.6503	0.0430
X2	0.8470	0.1100
Y2	0.7370	0.0930
Z2	0.6529	0.0540
a2	0.5460	0.0940
b2	0.8983	0.1150
c2	0.8808	0.1120
d2	0.7522	0.0280
e2	0.6237	0.0750
f2	0.6411	0.0690

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Continued from previous page...

Chain	Atom inclusion	Q-score
g2	0.8342	0.0960
h2	0.7422	0.1060
i2	0.8425	0.1620
j2	0.8469	0.1310