



Full wwPDB EM Validation Report ⓘ

Jun 11, 2024 – 02:50 PM JST

PDB ID : 7VBC
EMDB ID : EMD-31878
Title : Back track state of human RNA Polymerase I Elongation Complex
Authors : Zhao, D.; Liu, W.; Chen, K.; Yang, H.; Xu, Y.
Deposited on : 2021-08-31
Resolution : 3.01 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:

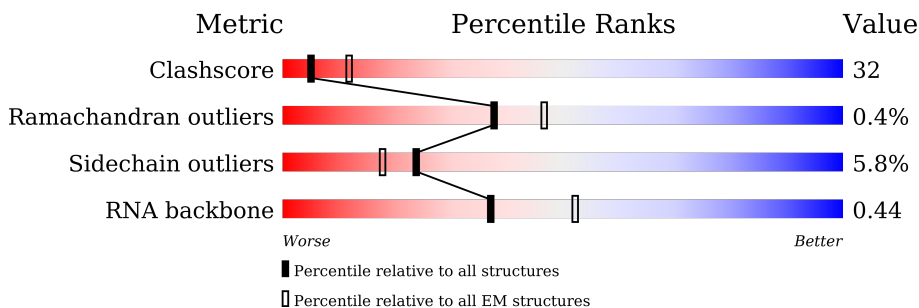
EMDB validation analysis : 0.0.1.dev92
MolProbity : 4.02b-467
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36.2

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 3.01 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
RNA backbone	4643	859

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 $\leq 5\%$. 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	A	1719	<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;"> <p>33%</p> </div> <div style="text-align: center;"> <p>43%</p> </div> <div style="text-align: center;"> <p>40%</p> </div> <div style="text-align: center;"> <p>14%</p> </div> </div>
2	B	1135	<div style="text-align: center;"> <p>16%</p> </div> <div style="text-align: center;"> <p>50%</p> </div> <div style="text-align: center;"> <p>45%</p> </div> <div style="text-align: center;"> <p>..</p> </div>
3	C	346	<div style="text-align: center;"> <p>21%</p> </div> <div style="text-align: center;"> <p>55%</p> </div> <div style="text-align: center;"> <p>40%</p> </div> <div style="text-align: center;"> <p>..</p> </div>
4	E	210	<div style="text-align: center;"> <p>47%</p> </div> <div style="text-align: center;"> <p>45%</p> </div> <div style="text-align: center;"> <p>49%</p> </div> <div style="text-align: center;"> <p>5%</p> </div>
5	F	127	<div style="text-align: center;"> <p>29%</p> </div> <div style="text-align: center;"> <p>35%</p> </div> <div style="text-align: center;"> <p>24%</p> </div> <div style="text-align: center;"> <p>40%</p> </div>
6	H	150	<div style="text-align: center;"> <p>21%</p> </div> <div style="text-align: center;"> <p>53%</p> </div> <div style="text-align: center;"> <p>43%</p> </div> <div style="text-align: center;"> <p>..</p> </div>
7	J	67	<div style="text-align: center;"> <p>..</p> </div> <div style="text-align: center;"> <p>57%</p> </div> <div style="text-align: center;"> <p>37%</p> </div> <div style="text-align: center;"> <p>..</p> </div>

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Mol	Chain	Length	Quality of chain
8	K	133	
9	L	58	
10	N	510	
11	G	338	
12	M	419	
13	I	126	
14	R	6	
15	T	20	
16	U	14	

2 Entry composition

There are 18 unique types of molecules in this entry. The entry contains 33414 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 DNA-directed RNA polymerase I subunit RPA1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	1477	11775	7488	2067	2142	78	0	0

- Molecule 2 is a protein called DNA-directed RNA polymerase I subunit RPA2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	B	1123	8912	5710	1517	1614	71	0	0

- Molecule 3 is a protein called DNA-directed RNA polymerases I and III subunit RPAC1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	C	337	2697	1701	480	505	11	0	0

- Molecule 4 is a protein called DNA-directed RNA polymerases I, II, and III subunit RPABC1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	E	199	1641	1042	286	305	8	0	0

- Molecule 5 is a protein called DNA-directed RNA polymerases I, II, and III subunit RPABC2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	F	76	610	392	103	110	5	0	0

- Molecule 6 is a protein called DNA-directed RNA polymerases I, II, and III subunit RPABC3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	H	146	1176	744	192	235	5	0	0

- Molecule 7 is a protein called DNA-directed RNA polymerases I, II, and III subunit RPABC5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
7	J	64	507	328	86	87	6	0	0

- Molecule 8 is a protein called DNA-directed RNA polymerases I and III subunit RPAC2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	K	108	863	535	156	165	7	0	0

- Molecule 9 is a protein called DNA-directed RNA polymerases I, II, and III subunit RPABC4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	L	45	379	236	73	64	6	0	0

- Molecule 10 is a protein called DNA-directed RNA polymerase I subunit RPA34.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
10	N	151	1105	698	198	204	5	0	0

- Molecule 11 is a protein called DNA-directed RNA polymerase I subunit RPA43.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
11	G	157	1229	775	215	232	7	0	0

- Molecule 12 is a protein called DNA-directed RNA polymerase I subunit RPA49.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
12	M	110	867	539	159	163	6	0	0

- Molecule 13 is a protein called DNA-directed RNA polymerase I subunit RPA12.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
13	I	107	822	501	148	162	11	0	0

- Molecule 14 is a RNA chain called RNA (5'-R(P*UP*GP*CP*UP*GP*A)-3').

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
14	R	6	128	57	22	43	6	0	0

- Molecule 15 is a DNA chain called DNA (5'-D(P*AP*GP*GP*AP*CP*AP*GP*CP*GP*TP*GP*TP*CP*AP*GP*CP*AP*AP*TP*A)-3').

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
15	T	20	415	196	83	116	20	0	0

- Molecule 16 is a DNA chain called DNA (5'-D(*GP*TP*AP*CP*TP*GP*TP*CP*CP*TP*CP*TP*GP*G)-3').

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
16	U	14	282	136	47	86	13	0	0

- Molecule 17 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
17	A	2	Total	Zn	0
			2	2	
17	B	1	Total	Zn	0
			1	1	
17	J	1	Total	Zn	0
			1	1	
17	L	1	Total	Zn	0
			1	1	

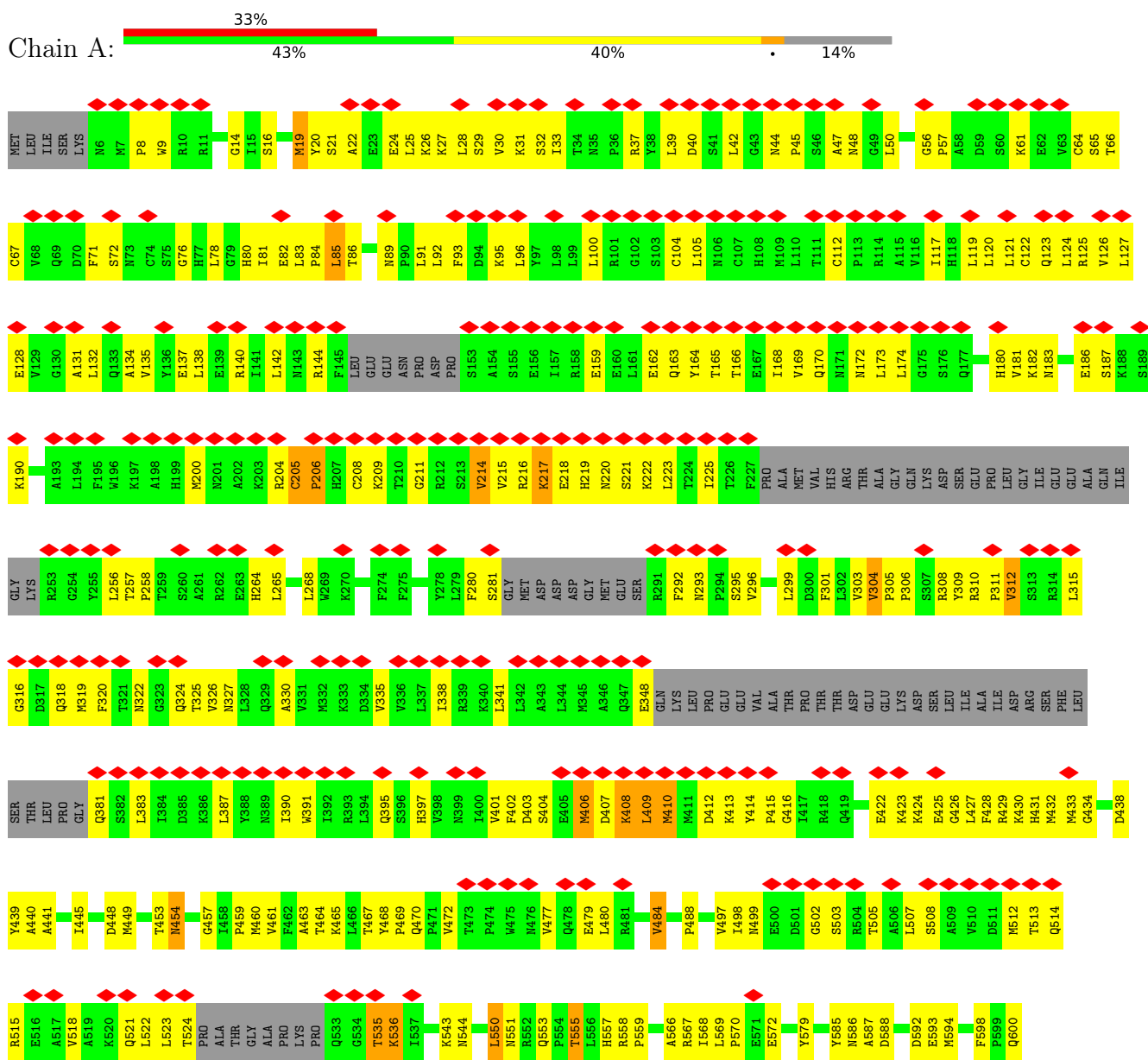
- Molecule 18 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
18	A	1	Total	Mg	0
			1	1	

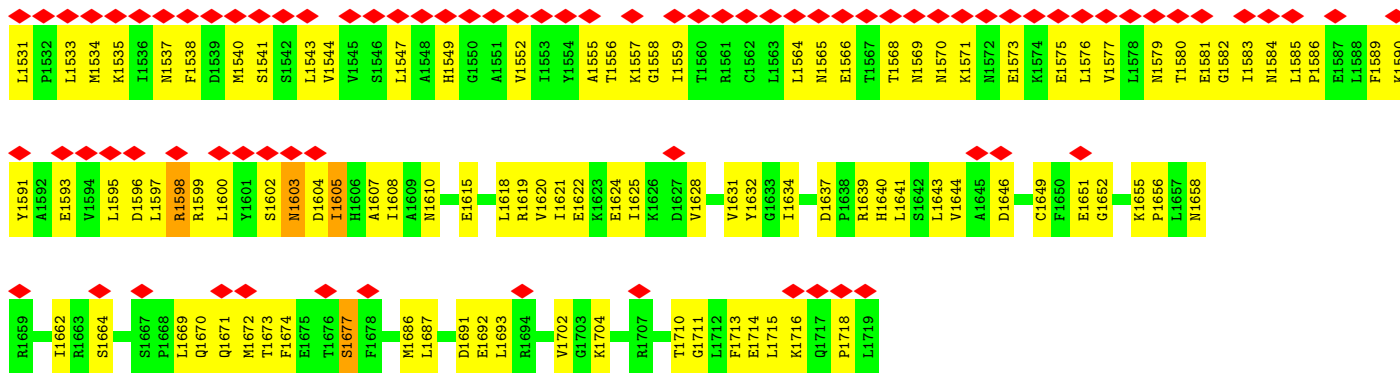
3 Residue-property plots [i](#)

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.

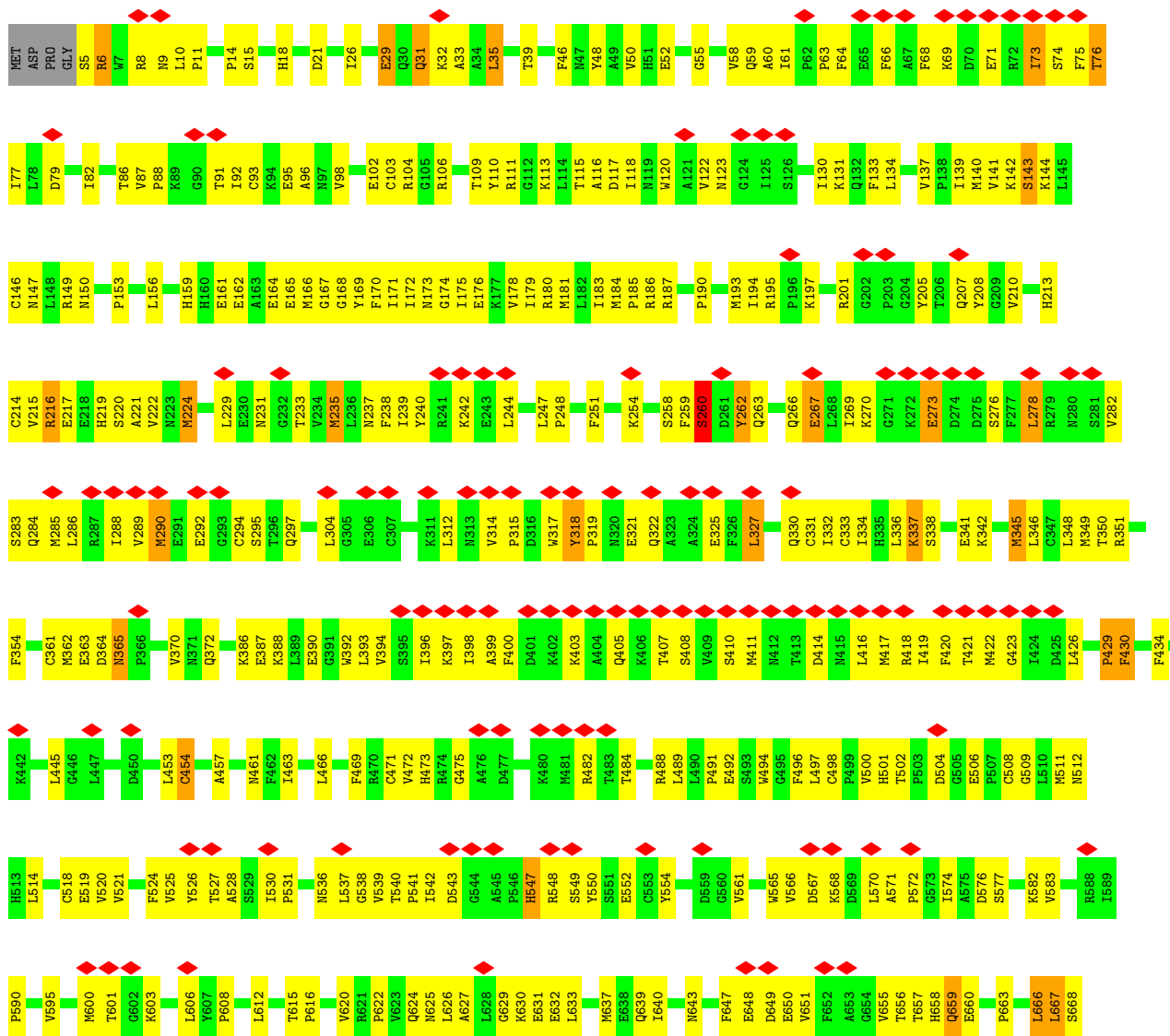
- Molecule 1: DNA-directed RNA polymerase I subunit RPA1

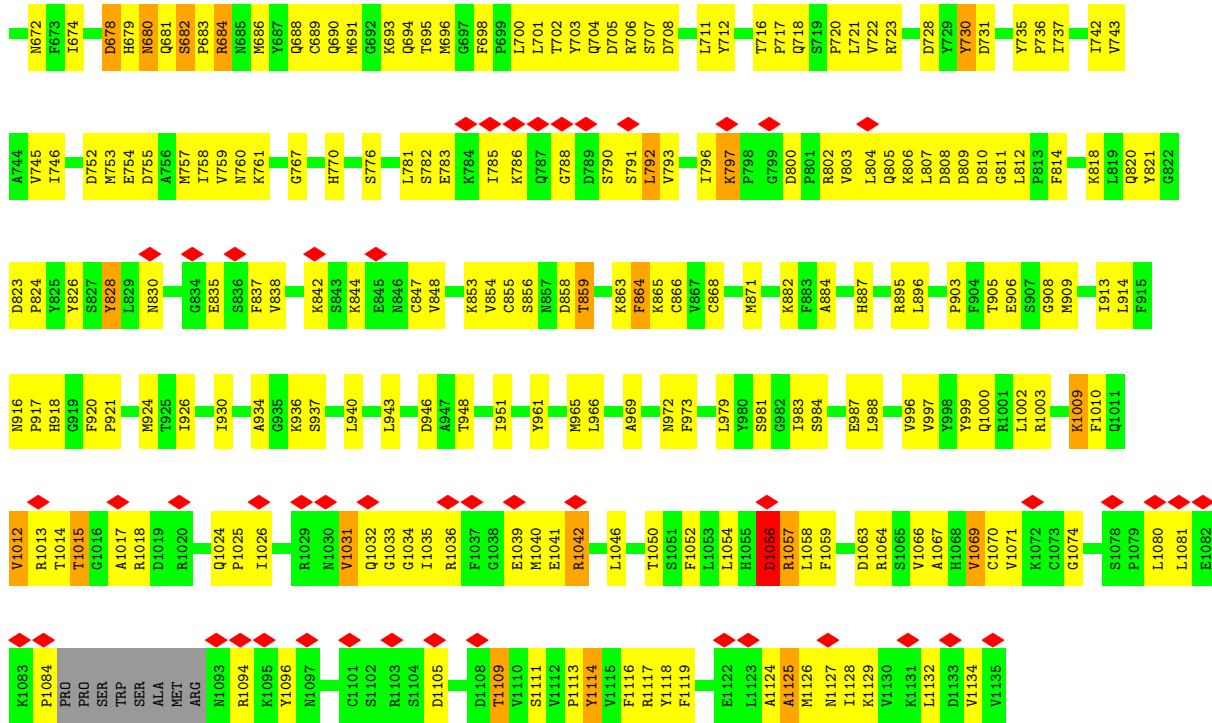


GLU	E1496	GLU	E1497	GLU	M1498	GLU	E1499	ASP	R1500	ASP	R1501	GLU	V1502	ASP	R1503	GLN	A1504	GLU	V1505	ARG	R1506	ASP	R1507	HIS	I1508	PRO	H1509	GLU	P1510	F1511	I1512	D1513	D1514	Y1515	GLU	Q1516	HIS	I1517	ASP	D1518	VAL	V1519	ALA	E1520	GLY	E1521	LEU	A1522	ALA	L1523	GLY	W1524	ASP	C1525	ASP	V1526	THR	T1527	T1528	V1529	K1530																		
ASP	E1351	ALA	E1352	ASP	S1353	ALA	I1354	ARG	K1355	GLY	K1356	K1357	N1358	N1359	K1360	A1361	S1362	ALA	PHE	P1363	TYR	T1364	GLY	M1365	ARG	P1366	ASN	V1367	VAL	V1368	ASN	L1369	THR	R1370	ARG	G1371	ALA	A1372	THR	R1373	GLN	A1374	GLY	L1375	HIS	I1376	ILE	I1377	VAL	V1378	ASP	D1379	ALA	L1380	ALA	L1381	GLY	L1382	GLY	L1383	R1384	P1385	E1386	D1387	ALA	L1388	ALA	L1389	GLY	L1390	F1391	M1392	E1393	R1394	R1395	F1396	F1397	K1398	L1399
THR	Q1136	K1137	K1138	D1144	P1145	L1146	L1147	R1151	P1152	D1153	I1154	F1155	F1156	T1162	K1166	V1167	D1168	D1169	Y1170	E1179	K1180	S1181	Y1182	E1183	K1184	S1185	E1186	D1189	R1191	L1192	L1195	S1203	L1204	C1205	E1206	P1207	A1210	L1213	L1214	Q1217	E1221	P1222	S1223	T1224	Q1225	M1226	THR	LEU	ASN																														
H1068	K1078	M1061	T1082	L1083	L1084	I988	K984	H985	G1067	A1068	F1069	S1091	Y1092	S1093	Q1094	K1095	L1096	D1098	D1099	S1100	S1013	V1014	V1015	Q1016	G1020	E1021	L1024	T1029	Q1033	P1034	K1035	Q1036	F1037	P1038	Y1044	E1045	K1049	S1050	Q1051	L1052	L1053	H1054	E1055	V1056	L1057	S1058	R1059	A1060	D1061	P1062																													
S983	R984	Y987	R990	C991	I992	I993	K994	H995	G996	A997	S998	G999	K993	S994	L995	P996	E999	P940	Y941	E942	P945	G948	G949	F950	V951	T952	G953	R954	F955	L956	P957	G958	P1034	K1035	Q1036	F1037	P1038	Y1044	E1045	K1049	S1050	Q1051	L1052	L1053	H1054	E1055	V1056	L1057	S1058	R1059	A1060	D1061	P1062																										
E920	L921	E922	G923	R924	R925	P926	P927	L928	M929	A930	S931	G932	K933	S934	L935	P936	E939	P940	Y941	E942	P945	G948	G949	F950	V951	T952	G953	R954	F955	L956	P957	G958	P1034	K1035	Q1036	F1037	P1038	Y1044	E1045	K1049	S1050	Q1051	L1052	L1053	H1054	E1055	V1056	L1057	S1058	R1059	A1060	D1061	P1062																										
K853	D854	Q855	R856	D857	F858	N859	M860	I861	D862	L863	K864	F865	K866	E867	E868	V869	N870	H871	Y872	S873	N874	E875	I876	N877	K878	M881	P882	F883	G884	L885	H886	Q888	F889	P890	E891	L894	Q895	M896	M897	V898	Q899	T906	V907	N908	Y839	D840	E841	R842	V843	G844	K845	W846	Q847	D848	A849	H850	G852																						
L784	A787	Q790	L791	Y792	R793	G794	F795	I796	L797	P798	N799	E800	D801	I802	L803	V804	K805	P806	K811	R812	Q813	R814	I815	I816	E817	C822	G823	A826	V827	R828	L831	N832	L833	P834	E835	A836	A837	S838	Y839	D840	E841	R842	V843	G844	K845	W846	Q847	D848	A849	H850	G852																												
S801	E802	L803	G804	R805	A806	A807	A808	Y809	V810	C813	T814	Q815	Y816	L817	L819	G824	Q825	Q826	Q832	M835	V836	T842	R850	E851	H852	F853	M854	E855	L856	V857	Y858	R859	G860	L861	T862	D863	K864	V868	S874	I875	L876	K877	P878	F879	P880	L881	W882	T883	G884	K885	Q886																												
T890	L891	N894	E898	D899	H700	I701	P702	L703	N704	T705	S706	I711	T712	G713	K714	Q825	P826	Q832	M835	V836	T842	R850	E851	H852	F853	M854	E855	L856	V857	Y858	R859	G860	L861	T862	D863	K864	V868	S874	I875	L876	K877	P878	F879	P880	L881	W882	T883	G884	K885	Q886																													

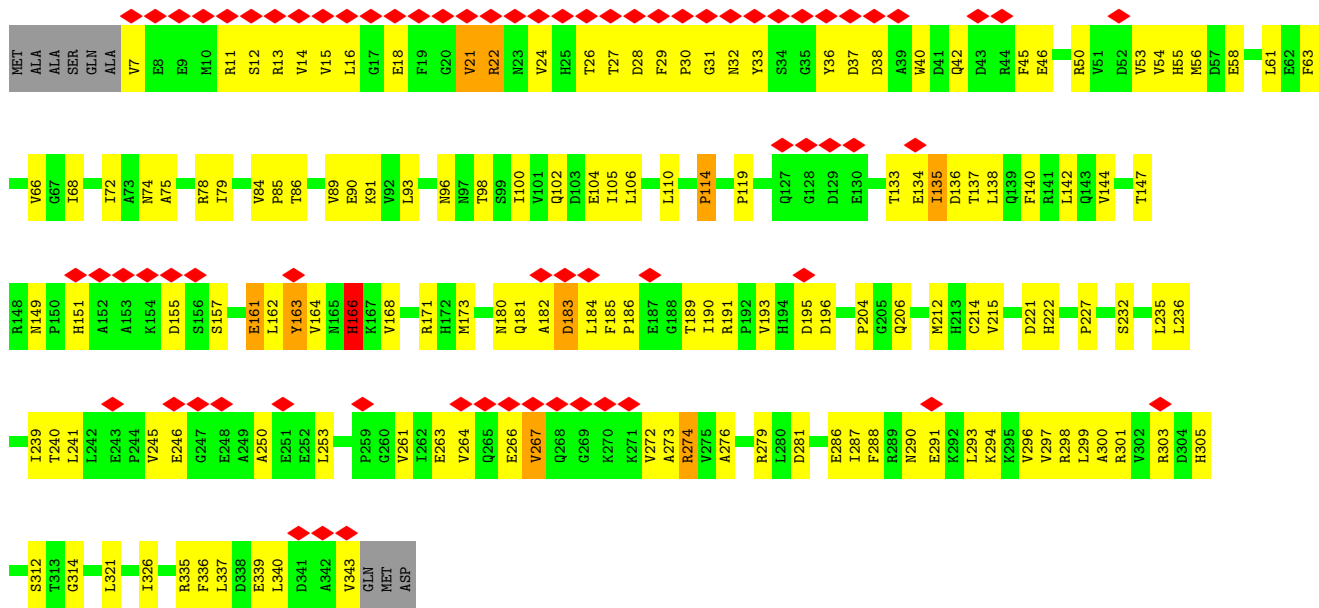


• Molecule 2: DNA-directed RNA polymerase I subunit RPA2

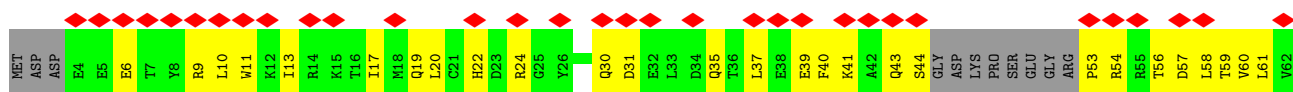
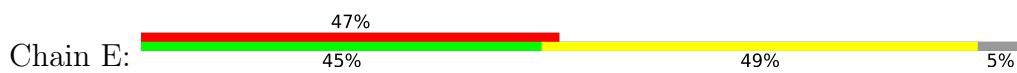


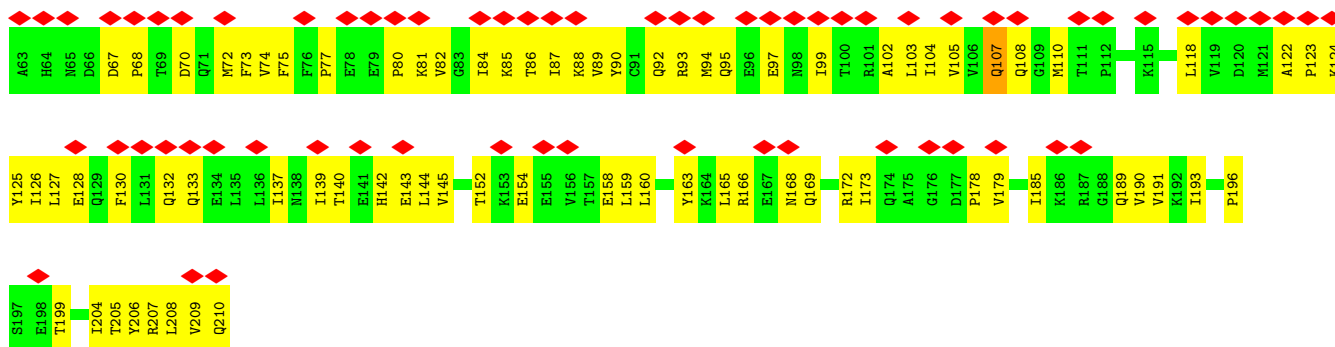


● Molecule 3: DNA-directed RNA polymerases I and III subunit RPAC1

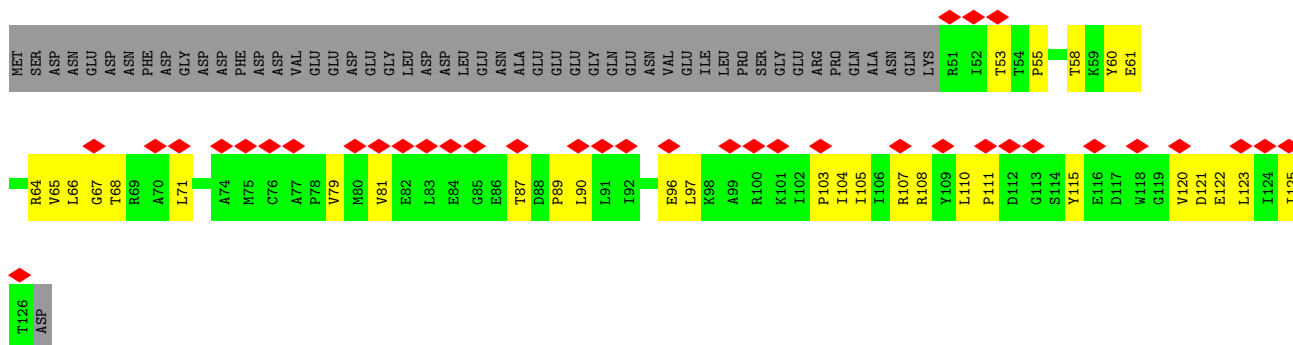


● Molecule 4: DNA-directed RNA polymerases I, II, and III subunit RPABC1

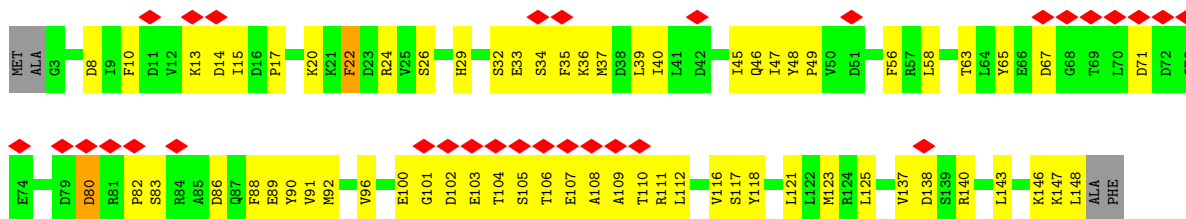




- Molecule 5: DNA-directed RNA polymerases I, II, and III subunit RPABC2



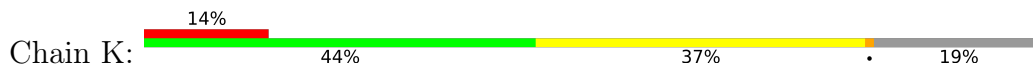
- Molecule 6: DNA-directed RNA polymerases I, II, and III subunit RPABC3

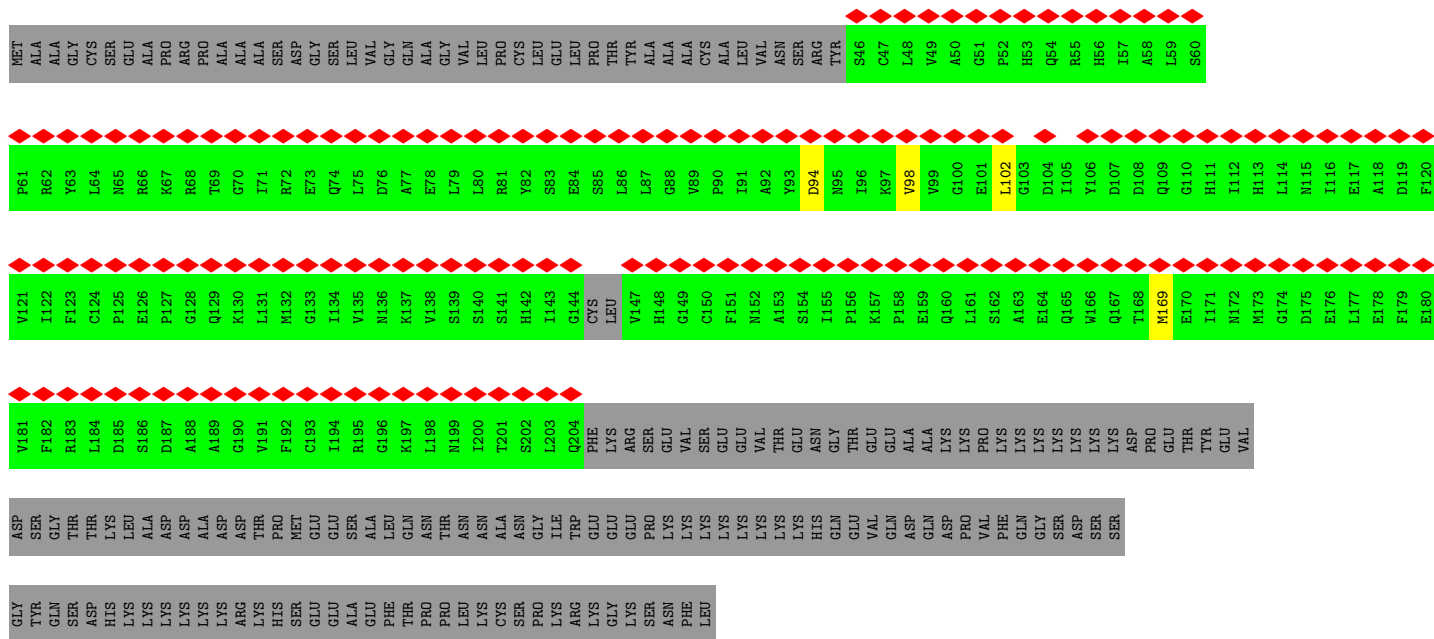


- Molecule 7: DNA-directed RNA polymerases I, II, and III subunit RPABC5

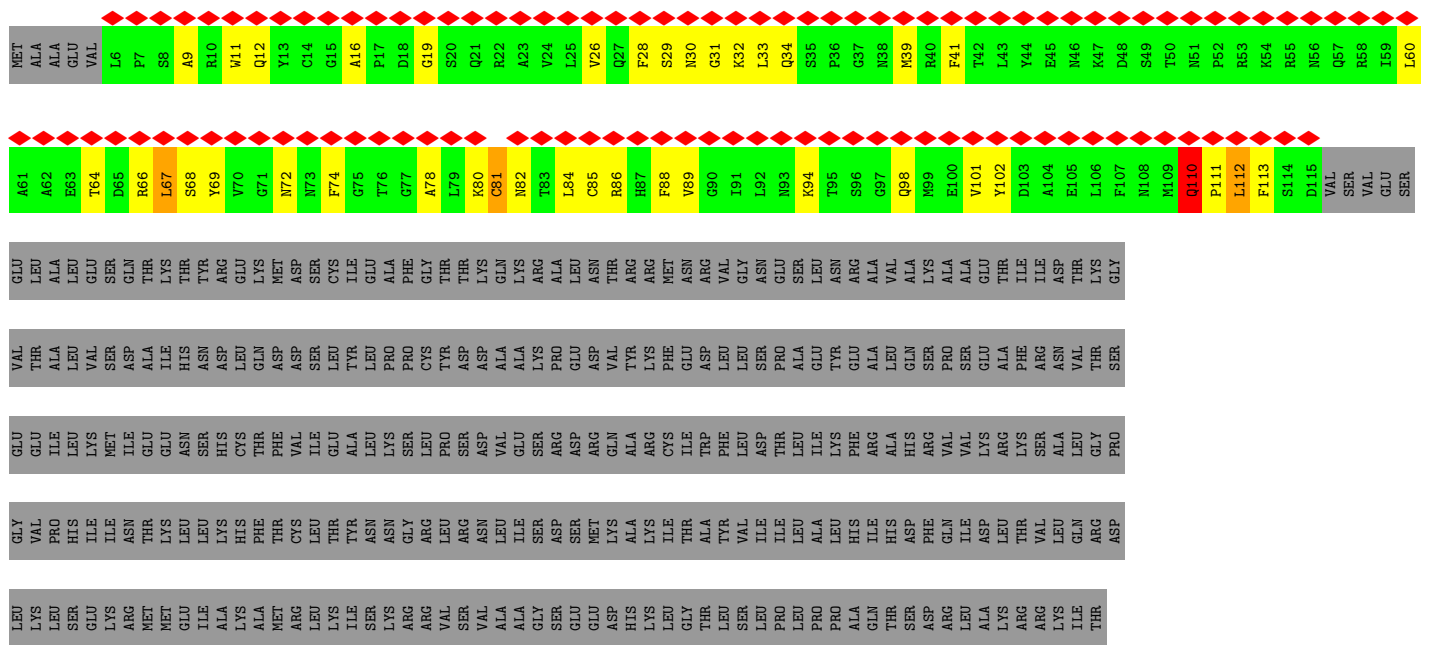


- Molecule 8: DNA-directed RNA polymerases I and III subunit RPAC2

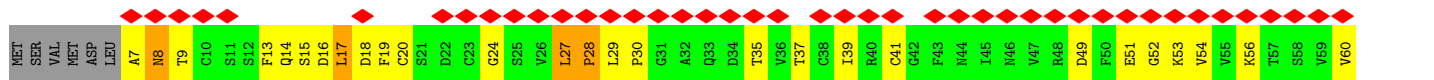


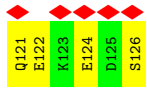
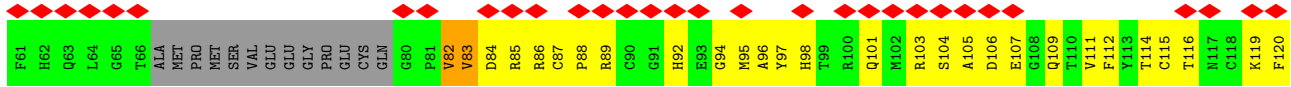


● Molecule 12: DNA-directed RNA polymerase I subunit RPA49

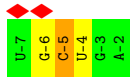


● Molecule 13: DNA-directed RNA polymerase I subunit RPA12

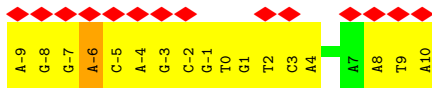




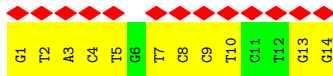
- Molecule 14: RNA (5'-R(P*UP*GP*CP*UP*GP*A)-3')



- Molecule 15: DNA (5'-D(P*AP*GP*GP*AP*CP*AP*GP*CP*GP*TP*GP*TP*CP*AP*GP*CP*AP*AP*TP*A)-3')



- Molecule 16: DNA (5'-D(*GP*TP*AP*CP*TP*GP*TP*CP*CP*TP*CP*TP*GP*G)-3')



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	152653	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 ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	3.977	Depositor
Minimum map value	-2.344	Depositor
Average map value	-0.001	Depositor
Map value standard deviation	0.112	Depositor
Recommended contour level	0.575	Depositor
Map size (\AA)	337.28, 337.28, 337.28	wwPDB
Map dimensions	320, 320, 320	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	1.054, 1.054, 1.054	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: ZN, MG

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	A	0.48	1/12014 (0.0%)	0.70	6/16219 (0.0%)
2	B	0.54	4/9127 (0.0%)	0.80	10/12350 (0.1%)
3	C	0.50	0/2751	0.79	3/3729 (0.1%)
4	E	0.32	0/1669	0.49	0/2254
5	F	0.32	0/620	0.48	0/839
6	H	0.38	0/1197	0.60	1/1614 (0.1%)
7	J	0.46	0/516	0.80	1/696 (0.1%)
8	K	0.34	0/878	0.61	0/1182
9	L	0.33	0/385	0.55	0/511
10	N	0.76	2/1140 (0.2%)	0.87	2/1560 (0.1%)
11	G	0.33	0/1252	0.55	0/1691
12	M	0.69	0/884	0.79	2/1192 (0.2%)
13	I	0.44	0/836	0.70	1/1126 (0.1%)
14	R	0.71	0/142	0.86	0/219
15	T	0.81	0/467	0.89	1/719 (0.1%)
16	U	0.67	0/314	1.07	0/483
All	All	0.50	7/34192 (0.0%)	0.73	27/46384 (0.1%)

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	A	0	1
2	B	0	4
All	All	0	5

All (7) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
10	N	57	ASN	C-N	6.47	1.44	1.33
10	N	38	PRO	N-CD	5.76	1.55	1.47
2	B	143	SER	CA-CB	-5.64	1.44	1.52
2	B	283	SER	CA-CB	-5.45	1.44	1.52
1	A	674	SER	CA-CB	-5.37	1.44	1.52
2	B	682	SER	CA-CB	-5.36	1.45	1.52
2	B	260	SER	CA-CB	-5.06	1.45	1.52

All (27) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
7	J	10	CYS	CB-CA-C	-9.88	90.65	110.40
10	N	121	PRO	CA-N-CD	-8.63	99.42	111.50
1	A	875	GLU	C-N-CA	-7.54	102.85	121.70
15	T	-6	DA	O4'-C4'-C3'	-6.10	102.06	104.50
2	B	1040	MET	O-C-N	-6.07	112.99	122.70
2	B	826	TYR	CB-CA-C	5.99	122.37	110.40
2	B	159	HIS	N-CA-C	-5.81	95.30	111.00
1	A	1598	ARG	N-CA-C	-5.79	95.36	111.00
2	B	1009	LYS	CB-CA-C	-5.78	98.84	110.40
2	B	1114	TYR	O-C-N	5.73	131.87	122.70
1	A	470	GLN	CB-CA-C	-5.61	99.18	110.40
6	H	22	PHE	CB-CA-C	5.58	121.56	110.40
2	B	730	TYR	CB-CA-C	-5.56	99.29	110.40
13	I	17	LEU	CA-CB-CG	-5.56	102.52	115.30
10	N	155	ASN	C-N-CD	-5.54	108.40	120.60
3	C	166	HIS	CB-CA-C	5.53	121.46	110.40
1	A	579	TYR	CB-CA-C	-5.44	99.52	110.40
2	B	266	GLN	CB-CA-C	5.38	121.15	110.40
1	A	1319	PHE	CB-CA-C	5.36	121.12	110.40
2	B	147	ASN	CB-CA-C	5.25	120.90	110.40
3	C	191	ARG	CB-CA-C	-5.22	99.96	110.40
12	M	82	ASN	CB-CA-C	5.14	120.68	110.40
2	B	216	ARG	CB-CA-C	-5.13	100.13	110.40
1	A	1182	TYR	CB-CA-C	5.12	120.63	110.40
3	C	163	TYR	CB-CA-C	-5.11	100.19	110.40
2	B	351	ARG	CB-CA-C	5.07	120.54	110.40
12	M	110	GLN	CB-CA-C	-5.05	100.30	110.40

There are no chirality outliers.

All (5) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	721	PRO	Mainchain
2	B	1056	ASP	Mainchain
2	B	1057	ARG	Mainchain
2	B	1058	LEU	Mainchain
2	B	684	ARG	Mainchain

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	A	11775	0	11912	949	0
2	B	8912	0	8896	748	0
3	C	2697	0	2676	162	0
4	E	1641	0	1671	133	0
5	F	610	0	642	55	0
6	H	1176	0	1137	66	0
7	J	507	0	523	26	0
8	K	863	0	850	60	0
9	L	379	0	387	25	0
10	N	1105	0	1098	89	0
11	G	1229	0	1212	0	0
12	M	867	0	844	150	0
13	I	822	0	774	169	0
14	R	128	0	64	2	0
15	T	415	0	224	39	0
16	U	282	0	161	12	0
17	A	2	0	0	0	0
17	B	1	0	0	0	0
17	J	1	0	0	0	0
17	L	1	0	0	0	0
18	A	1	0	0	0	0
All	All	33414	0	33071	2071	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 32.

All (2071) 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)
1:A:972:ARG:NH2	2:B:509:GLY:HA2	1.17	1.46
12:M:33:LEU:HD22	12:M:39:MET:CE	1.47	1.44
10:N:142:PRO:CG	10:N:145:LEU:HD21	1.50	1.42
1:A:975:LEU:CD2	13:I:104:SER:HA	1.49	1.41
10:N:142:PRO:HG2	10:N:145:LEU:CD2	1.54	1.35
1:A:408:LYS:NZ	1:A:409:LEU:HD22	1.46	1.30
12:M:33:LEU:CD2	12:M:39:MET:CE	2.10	1.28
2:B:570:LEU:CD2	10:N:81:ARG:NH1	1.98	1.27
2:B:570:LEU:HD23	10:N:81:ARG:NH1	1.47	1.27
2:B:260:SER:HB2	12:M:30:ASN:OD1	1.34	1.27
1:A:934:SER:O	2:B:491:PRO:CB	1.87	1.23
12:M:28:PHE:CZ	12:M:33:LEU:HD11	1.73	1.22
1:A:429:ARG:NH1	15:T:1:DG:OP1	1.73	1.22
2:B:260:SER:CB	12:M:30:ASN:OD1	1.87	1.20
1:A:972:ARG:NH2	2:B:509:GLY:CA	2.05	1.20
12:M:33:LEU:CD2	12:M:39:MET:HE1	1.71	1.18
1:A:408:LYS:NZ	1:A:409:LEU:CD2	2.06	1.18
1:A:408:LYS:HZ3	1:A:409:LEU:CD2	1.56	1.17
1:A:407:ASP:OD2	1:A:410:MET:HG3	1.40	1.17
2:B:792:LEU:HB2	2:B:865:LYS:HD3	1.24	1.16
12:M:66:ARG:HD3	13:I:37:THR:CB	1.74	1.16
2:B:540:THR:HG23	10:N:116:ARG:NH2	1.62	1.15
12:M:33:LEU:HD21	12:M:39:MET:HE1	1.29	1.15
2:B:785:ILE:HG21	2:B:792:LEU:HD21	1.27	1.14
1:A:936:PRO:HG2	2:B:494:TRP:CB	1.79	1.13
2:B:543:ASP:OD2	12:M:81:CYS:N	1.81	1.12
12:M:111:PRO:HG2	13:I:18:ASP:CG	1.68	1.12
1:A:975:LEU:HD23	13:I:104:SER:HA	1.15	1.11
12:M:67:LEU:HD21	12:M:69:TYR:CZ	1.84	1.11
12:M:33:LEU:CD2	12:M:39:MET:HE3	1.76	1.11
2:B:536:ASN:O	10:N:119:GLU:N	1.84	1.10
1:A:430:LYS:HA	2:B:1036:ARG:HH21	0.94	1.10
12:M:67:LEU:HB3	13:I:17:LEU:HD23	1.24	1.09
12:M:67:LEU:HB3	13:I:17:LEU:CD2	1.83	1.09
2:B:684:ARG:HH22	13:I:106:ASP:C	1.56	1.08
1:A:972:ARG:CZ	2:B:509:GLY:HA2	1.82	1.08
2:B:262:TYR:CE2	13:I:9:THR:OG1	2.06	1.07
12:M:33:LEU:HD13	12:M:39:MET:SD	1.94	1.07
12:M:67:LEU:HD22	13:I:17:LEU:HA	1.07	1.07
1:A:521:GLN:HA	1:A:524:THR:HB	1.36	1.06
1:A:975:LEU:CD2	13:I:104:SER:CA	2.33	1.06
12:M:69:TYR:OH	13:I:16:ASP:O	1.72	1.06

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1615:GLU:HG3	4:E:193:ILE:HD13	1.37	1.06
2:B:543:ASP:HB2	12:M:81:CYS:SG	1.95	1.06
2:B:259:PHE:HA	12:M:110:GLN:NE2	1.70	1.06
2:B:262:TYR:HB3	12:M:30:ASN:HA	1.30	1.06
1:A:1326:TYR:O	13:I:60:VAL:HG11	1.56	1.05
3:C:267:VAL:HG12	3:C:272:VAL:CG1	1.86	1.05
1:A:312:VAL:HG21	1:A:320:PHE:HB3	1.34	1.05
2:B:73:ILE:HB	2:B:75:PHE:CZ	1.91	1.05
2:B:14:PRO:HD3	2:B:946:ASP:HB3	1.36	1.04
12:M:67:LEU:CD2	13:I:17:LEU:HA	1.88	1.03
1:A:936:PRO:CG	2:B:494:TRP:HB3	1.89	1.03
1:A:881:MET:HG3	1:A:910:MET:HG2	1.39	1.02
3:C:291:GLU:HA	3:C:294:LYS:HE3	1.36	1.02
1:A:430:LYS:HA	2:B:1036:ARG:NH2	1.73	1.02
2:B:262:TYR:CD2	12:M:30:ASN:O	2.12	1.01
12:M:111:PRO:CG	13:I:18:ASP:OD2	2.09	1.01
1:A:1619:ARG:HH22	4:E:196:PRO:HD2	1.21	1.01
2:B:262:TYR:HE2	13:I:9:THR:OG1	1.43	1.01
1:A:181:VAL:HG11	4:E:166:ARG:NH2	1.75	1.01
1:A:754:TYR:CE1	1:A:781:LEU:HD13	1.95	1.01
1:A:934:SER:O	2:B:491:PRO:HB3	1.61	1.01
12:M:67:LEU:HD21	12:M:69:TYR:OH	1.59	1.00
3:C:267:VAL:HG12	3:C:272:VAL:HG12	1.36	1.00
12:M:111:PRO:HG2	13:I:18:ASP:OD2	1.60	1.00
12:M:66:ARG:HD3	13:I:37:THR:CG2	1.92	1.00
2:B:540:THR:HG22	10:N:116:ARG:NE	1.76	1.00
2:B:263:GLN:HB2	12:M:29:SER:O	1.60	0.99
2:B:570:LEU:HD11	10:N:83:LEU:HD11	1.41	0.99
12:M:28:PHE:CZ	12:M:33:LEU:CD1	2.44	0.99
1:A:316:GLY:N	15:T:10:DA:H2'	1.78	0.99
1:A:408:LYS:HZ3	1:A:409:LEU:HD22	0.91	0.99
2:B:110:TYR:CE2	2:B:146:CYS:SG	2.56	0.99
2:B:110:TYR:HE2	2:B:146:CYS:SG	1.86	0.99
1:A:658:TYR:HB2	8:K:67:PHE:HZ	1.27	0.98
12:M:111:PRO:HG2	13:I:18:ASP:CB	1.92	0.98
1:A:972:ARG:HH21	2:B:509:GLY:CA	1.70	0.98
1:A:1014:VAL:CG2	4:E:165:LEU:HD21	1.92	0.98
2:B:684:ARG:NH2	13:I:106:ASP:C	2.16	0.97
1:A:912:ILE:HD11	2:B:924:MET:HG2	1.43	0.97
4:E:72:MET:HE2	4:E:103:LEU:HB2	1.47	0.96
2:B:785:ILE:CG2	2:B:792:LEU:HD21	1.95	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:856:SER:HB3	9:L:42:ARG:HB3	1.46	0.95
1:A:912:ILE:CG1	2:B:924:MET:HG2	1.95	0.95
1:A:936:PRO:HD3	2:B:491:PRO:O	1.65	0.95
1:A:316:GLY:H	15:T:10:DA:H2'	1.28	0.95
1:A:1512:ILE:HG21	1:A:1515:TYR:HE1	1.28	0.94
12:M:34:GLN:HG3	13:I:7:ALA:C	1.87	0.94
1:A:1326:TYR:O	13:I:60:VAL:CG1	2.15	0.94
1:A:972:ARG:HH21	2:B:509:GLY:HA2	1.18	0.94
1:A:745:LEU:HD22	6:H:117:SER:OG	1.67	0.94
12:M:12:GLN:OE1	12:M:98:GLN:NE2	2.01	0.94
1:A:1282:LYS:HE3	1:A:1564:LEU:HD13	1.49	0.93
12:M:66:ARG:HD3	13:I:37:THR:HG21	1.50	0.93
1:A:931:SER:OG	2:B:640:ILE:CG2	2.16	0.93
2:B:10:LEU:HD12	2:B:11:PRO:HD2	1.48	0.93
1:A:299:LEU:HD21	2:B:1127:ASN:OD1	1.67	0.93
1:A:912:ILE:CD1	2:B:924:MET:HG2	1.98	0.93
12:M:66:ARG:HD3	13:I:37:THR:OG1	1.67	0.93
10:N:35:LEU:HD22	10:N:42:LEU:HD21	1.50	0.93
2:B:396:ILE:HG22	2:B:422:MET:HB2	1.48	0.93
1:A:1326:TYR:HB3	13:I:60:VAL:HG12	1.48	0.93
1:A:424:LYS:HZ3	15:T:1:DG:P	1.91	0.93
2:B:540:THR:HG23	10:N:116:ARG:HH21	1.24	0.92
2:B:88:PRO:HD2	2:B:92:ILE:HD12	1.51	0.92
1:A:424:LYS:NZ	15:T:1:DG:P	2.41	0.92
1:A:316:GLY:H	15:T:10:DA:C2'	1.81	0.92
1:A:430:LYS:CA	2:B:1036:ARG:HH21	1.80	0.92
1:A:936:PRO:HG2	2:B:494:TRP:HB3	0.94	0.92
1:A:754:TYR:HE1	1:A:781:LEU:HD13	1.32	0.92
2:B:540:THR:CG2	10:N:116:ARG:NE	2.33	0.92
1:A:678:PRO:HB2	6:H:47:ILE:HG23	1.52	0.91
1:A:882:PRO:HG3	13:I:85:ARG:HH12	1.35	0.91
1:A:934:SER:O	2:B:491:PRO:CG	2.18	0.91
10:N:146:ARG:HH12	10:N:148:ARG:HH22	1.17	0.91
1:A:939:GLU:HG2	1:A:940:PRO:HD2	1.49	0.91
1:A:964:PHE:HZ	2:B:500:VAL:HG21	1.35	0.91
1:A:316:GLY:CA	15:T:10:DA:H3'	2.00	0.91
13:I:27:LEU:HB3	13:I:28:PRO:HD3	1.53	0.90
1:A:423:LYS:NZ	15:T:0:DT:OP2	2.03	0.90
6:H:104:THR:HG22	6:H:107:GLU:HB3	1.54	0.90
2:B:570:LEU:CD2	10:N:81:ARG:CZ	2.49	0.90
2:B:259:PHE:HA	12:M:110:GLN:HE22	1.34	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1313:GLN:HE22	1:A:1535:LYS:HB2	1.37	0.89
2:B:540:THR:CG2	10:N:116:ARG:CZ	2.50	0.89
1:A:851:LEU:HD22	2:B:362:MET:HE2	1.54	0.89
1:A:882:PRO:HD3	13:I:85:ARG:HH22	1.37	0.89
2:B:600:MET:HB3	2:B:608:PRO:HB3	1.54	0.89
12:M:67:LEU:HD21	12:M:69:TYR:CE1	2.05	0.89
1:A:1714:GLU:HB2	5:F:107:ARG:HB3	1.53	0.89
1:A:122:CYS:HB3	1:A:165:THR:HG21	1.53	0.89
2:B:547:HIS:CE1	10:N:83:LEU:HD13	2.08	0.89
2:B:543:ASP:CB	12:M:81:CYS:HB2	2.03	0.89
1:A:1580:THR:HG22	1:A:1582:GLY:H	1.35	0.89
13:I:7:ALA:C	13:I:9:THR:H	1.74	0.88
2:B:73:ILE:HB	2:B:75:PHE:HZ	1.39	0.88
5:F:79:VAL:HG12	5:F:81:VAL:HG12	1.53	0.88
1:A:407:ASP:OD2	1:A:410:MET:CG	2.22	0.88
1:A:929:MET:HG2	2:B:492:GLU:OE2	1.74	0.88
2:B:792:LEU:HB2	2:B:865:LYS:CD	2.04	0.87
1:A:1326:TYR:HD2	13:I:60:VAL:CG1	1.86	0.87
2:B:408:SER:HA	2:B:411:MET:HB2	1.56	0.87
12:M:34:GLN:H	13:I:7:ALA:HB3	1.39	0.87
2:B:403:LYS:HB2	2:B:418:ARG:HH12	1.40	0.87
1:A:658:TYR:HB2	8:K:67:PHE:CZ	2.10	0.87
2:B:540:THR:HG23	10:N:116:ARG:CZ	2.05	0.87
1:A:969:MET:HG3	2:B:489:LEU:HD22	1.54	0.86
1:A:316:GLY:HA3	15:T:10:DA:H3'	1.55	0.86
1:A:929:MET:CE	2:B:492:GLU:HA	2.03	0.86
1:A:1296:LYS:NZ	13:I:52:GLY:HA3	1.89	0.86
1:A:1713:PHE:CZ	5:F:61:GLU:HA	2.11	0.86
1:A:1718:PRO:HD2	5:F:103:PRO:O	1.74	0.86
2:B:216:ARG:HB2	2:B:334:ILE:HG22	1.54	0.86
1:A:965:PHE:CE2	2:B:489:LEU:HD23	2.11	0.86
12:M:33:LEU:CD1	12:M:39:MET:SD	2.64	0.85
1:A:965:PHE:CE2	2:B:489:LEU:CD2	2.59	0.85
2:B:392:TRP:HE1	2:B:423:GLY:HA2	1.39	0.85
1:A:929:MET:HE1	2:B:492:GLU:HA	1.58	0.85
2:B:940:LEU:HD12	7:J:43:TYR:HB3	1.58	0.85
12:M:66:ARG:NH1	13:I:37:THR:OG1	2.08	0.85
1:A:1619:ARG:NH2	4:E:196:PRO:HD2	1.91	0.85
2:B:262:TYR:HB3	12:M:30:ASN:CA	2.07	0.85
1:A:877:ASN:ND2	13:I:83:VAL:HG21	1.92	0.85
1:A:929:MET:HE2	2:B:491:PRO:C	1.97	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:M:33:LEU:HD22	12:M:39:MET:HE3	0.87	0.85
2:B:117:ASP:HB3	2:B:131:LYS:HE2	1.56	0.84
1:A:1326:TYR:HD2	13:I:60:VAL:HG13	1.41	0.84
1:A:964:PHE:CE1	2:B:500:VAL:HG23	2.11	0.84
2:B:68:PHE:HA	2:B:405:GLN:HE22	1.42	0.84
2:B:538:GLY:HA2	10:N:118:LEU:HB3	1.59	0.84
1:A:929:MET:HG2	2:B:492:GLU:CD	1.98	0.84
1:A:308:ARG:NH1	2:B:1114:TYR:OH	2.10	0.84
1:A:433:MET:HB2	2:B:1039:GLU:HG2	1.57	0.84
12:M:34:GLN:HG3	13:I:8:ASN:N	1.92	0.84
2:B:178:VAL:HB	2:B:457:ALA:HB2	1.60	0.84
2:B:781:LEU:HD22	2:B:792:LEU:HB3	1.60	0.84
2:B:570:LEU:HD21	10:N:81:ARG:CZ	2.08	0.83
4:E:94:MET:HG2	4:E:99:ILE:HD11	1.58	0.83
1:A:975:LEU:HD22	13:I:104:SER:HA	1.56	0.83
2:B:570:LEU:CD2	10:N:81:ARG:HH11	1.88	0.83
2:B:810:ASP:OD2	9:L:17:TYR:OH	1.94	0.83
4:E:85:LYS:O	4:E:89:VAL:HG13	1.78	0.83
1:A:678:PRO:HB2	6:H:47:ILE:CG2	2.07	0.83
1:A:929:MET:HA	2:B:492:GLU:OE2	1.78	0.83
2:B:260:SER:HB3	12:M:30:ASN:HD21	1.44	0.82
2:B:538:GLY:HA2	10:N:118:LEU:CB	2.09	0.82
2:B:854:VAL:HG12	9:L:34:ILE:HG21	1.60	0.82
1:A:1334:ARG:HG3	1:A:1335:PRO:HD2	1.58	0.82
2:B:400:PHE:HA	2:B:418:ARG:CZ	2.09	0.82
2:B:792:LEU:HD12	2:B:865:LYS:HD2	1.61	0.82
1:A:1597:LEU:HD12	4:E:137:ILE:HG21	1.60	0.82
1:A:964:PHE:CZ	2:B:500:VAL:HG21	2.14	0.82
2:B:856:SER:CB	9:L:42:ARG:HB3	2.09	0.82
1:A:316:GLY:HA3	15:T:10:DA:C3'	2.10	0.82
1:A:312:VAL:CG2	1:A:320:PHE:HB3	2.10	0.82
3:C:91:LYS:HE2	9:L:54:VAL:HG11	1.62	0.81
1:A:1590:LYS:NZ	4:E:133:GLN:NE2	2.28	0.81
2:B:758:ILE:HB	2:B:914:LEU:HB2	1.62	0.81
1:A:975:LEU:HD23	13:I:104:SER:CA	2.04	0.81
2:B:482:ARG:HB2	16:U:1:DG:O5'	1.80	0.81
2:B:708:ASP:O	2:B:776:SER:HB3	1.80	0.81
2:B:796:ILE:HD11	2:B:807:LEU:HB2	1.61	0.81
1:A:929:MET:CE	2:B:491:PRO:O	2.28	0.81
2:B:631:GLU:HG3	2:B:631:GLU:O	1.80	0.81
4:E:110:MET:HE1	4:E:118:LEU:HD11	1.61	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:M:66:ARG:CD	13:I:37:THR:HG21	2.11	0.81
1:A:1097:GLN:O	1:A:1101:LYS:HG2	1.81	0.81
1:A:1153:ASP:OD1	1:A:1154:ILE:N	2.12	0.81
1:A:975:LEU:HD21	13:I:104:SER:C	2.01	0.80
3:C:104:GLU:HG2	3:C:105:ILE:HD12	1.61	0.80
12:M:66:ARG:CD	13:I:37:THR:CB	2.57	0.80
1:A:1145:PRO:HD2	4:E:204:ILE:HD11	1.63	0.80
1:A:1512:ILE:HG21	1:A:1515:TYR:CE1	2.15	0.80
8:K:22:GLU:HG3	8:K:25:THR:H	1.44	0.80
12:M:34:GLN:HG2	13:I:8:ASN:HA	1.62	0.80
2:B:700:LEU:HD11	2:B:706:ARG:HG3	1.63	0.80
1:A:911:GLN:CD	13:I:109:GLN:HE22	1.84	0.80
2:B:14:PRO:CD	2:B:946:ASP:HB3	2.10	0.80
2:B:540:THR:CG2	10:N:116:ARG:NH2	2.45	0.80
1:A:309:TYR:HE1	2:B:1114:TYR:CE1	2.00	0.80
2:B:73:ILE:CB	2:B:75:PHE:CZ	2.65	0.80
2:B:567:ASP:OD1	2:B:568:LYS:N	2.15	0.80
7:J:40:LEU:HD11	7:J:49:LEU:HD12	1.64	0.80
2:B:543:ASP:OD2	12:M:81:CYS:HB2	1.80	0.80
1:A:8:PRO:HB3	2:B:1109:THR:HB	1.62	0.79
2:B:783:GLU:OE1	2:B:783:GLU:N	2.15	0.79
1:A:935:LEU:HA	2:B:491:PRO:HB2	1.64	0.79
2:B:396:ILE:HA	2:B:422:MET:HG3	1.62	0.79
12:M:66:ARG:CG	13:I:37:THR:HG21	2.12	0.79
1:A:929:MET:HG2	2:B:492:GLU:HG3	1.63	0.79
3:C:33:TYR:HB3	3:C:36:TYR:HB3	1.63	0.79
3:C:102:GLN:HB2	3:C:105:ILE:HD13	1.65	0.79
1:A:403:ASP:HB3	1:A:406:MET:HE2	1.63	0.79
1:A:934:SER:O	2:B:491:PRO:HB2	1.83	0.79
1:A:1354:ILE:O	1:A:1357:LYS:HG2	1.81	0.79
2:B:259:PHE:CA	12:M:110:GLN:HE22	1.96	0.79
3:C:53:VAL:HG21	8:K:118:ILE:HD13	1.64	0.79
1:A:310:ARG:HE	1:A:325:THR:HG22	1.47	0.78
1:A:1531:LEU:HB3	1:A:1535:LYS:HE2	1.64	0.78
1:A:929:MET:HE2	2:B:492:GLU:N	1.98	0.78
1:A:1014:VAL:HG23	4:E:165:LEU:HD21	1.64	0.78
1:A:404:SER:HB2	1:A:415:PRO:HA	1.65	0.78
1:A:659:ARG:HH22	1:A:790:GLN:NE2	1.81	0.78
3:C:163:TYR:HD1	3:C:166:HIS:HB3	1.49	0.78
1:A:181:VAL:HG11	4:E:166:ARG:HH21	1.45	0.78
1:A:606:ALA:HB2	5:F:90:LEU:HD11	1.64	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:92:ILE:HD11	2:B:859:THR:HA	1.66	0.78
13:I:7:ALA:C	13:I:9:THR:N	2.37	0.78
1:A:914:CYS:H	1:A:954:ARG:HD3	1.48	0.78
2:B:536:ASN:HA	10:N:48:PRO:CG	2.13	0.78
1:A:1715:LEU:O	5:F:105:ILE:N	2.15	0.78
2:B:548:ARG:O	10:N:88:GLN:NE2	2.16	0.77
15:T:-2:DC:H42	16:U:3:DA:H61	1.32	0.77
1:A:964:PHE:CZ	2:B:500:VAL:CG2	2.66	0.77
1:A:425:GLU:HG3	1:A:426:GLY:H	1.48	0.77
1:A:929:MET:HG2	2:B:492:GLU:CG	2.13	0.77
1:A:429:ARG:HH12	15:T:1:DG:P	2.07	0.77
1:A:1531:LEU:HB3	1:A:1535:LYS:CE	2.15	0.77
5:F:81:VAL:HB	5:F:96:GLU:HG2	1.66	0.77
12:M:66:ARG:HB3	13:I:37:THR:HG21	1.64	0.77
1:A:1350:LEU:O	1:A:1354:ILE:HG12	1.83	0.77
2:B:758:ILE:CD1	2:B:895:ARG:HB2	2.13	0.77
13:I:82:VAL:HG23	13:I:96:ALA:HB1	1.67	0.77
1:A:860:MET:HE2	1:A:864:LYS:HE3	1.65	0.77
1:A:934:SER:O	2:B:491:PRO:HG3	1.82	0.77
8:K:90:LEU:HD23	8:K:90:LEU:H	1.50	0.77
1:A:1716:LYS:HB2	5:F:105:ILE:HB	1.67	0.77
4:E:86:THR:O	4:E:89:VAL:HG22	1.84	0.77
1:A:430:LYS:HE3	1:A:431:HIS:HE1	1.51	0.76
1:A:1515:TYR:O	1:A:1516:GLN:HG2	1.85	0.76
2:B:75:PHE:CD2	2:B:397:LYS:HE3	2.21	0.76
2:B:916:ASN:OD1	2:B:917:PRO:HD2	1.86	0.76
12:M:28:PHE:CE1	12:M:33:LEU:HD12	2.19	0.76
1:A:122:CYS:CB	1:A:165:THR:HG21	2.16	0.76
1:A:1111:ASN:ND2	4:E:61:LEU:HD23	2.00	0.76
2:B:651:VAL:HG21	10:N:130:LEU:HD23	1.67	0.76
4:E:168:ASN:O	4:E:169:GLN:HB3	1.84	0.76
1:A:874:ASN:HA	13:I:83:VAL:HG23	1.67	0.76
1:A:433:MET:CB	2:B:1039:GLU:HG2	2.14	0.76
1:A:1288:VAL:HG21	1:A:1333:LEU:HD22	1.67	0.76
3:C:147:THR:H	3:C:164:VAL:HG22	1.50	0.76
12:M:67:LEU:CB	13:I:17:LEU:HD23	2.10	0.76
1:A:316:GLY:N	15:T:10:DA:C2'	2.46	0.76
2:B:543:ASP:HB2	12:M:81:CYS:CB	2.16	0.76
2:B:68:PHE:HA	2:B:405:GLN:NE2	1.99	0.76
2:B:73:ILE:CB	2:B:75:PHE:HZ	1.99	0.76
12:M:67:LEU:HD12	12:M:68:SER:O	1.86	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:540:THR:HG22	10:N:116:ARG:HE	1.47	0.75
4:E:110:MET:CE	4:E:118:LEU:HD11	2.16	0.75
1:A:911:GLN:OE1	13:I:109:GLN:NE2	2.16	0.75
3:C:267:VAL:CG1	3:C:272:VAL:CG1	2.62	0.75
1:A:316:GLY:CA	15:T:10:DA:C3'	2.64	0.75
1:A:939:GLU:HG2	1:A:940:PRO:CD	2.17	0.75
1:A:1296:LYS:HE3	13:I:53:LYS:H	1.51	0.75
2:B:262:TYR:CZ	13:I:9:THR:OG1	2.38	0.75
1:A:793:ARG:HG3	1:A:794:GLY:N	2.02	0.75
3:C:186:PRO:HG2	3:C:189:THR:OG1	1.86	0.75
2:B:684:ARG:HH2	13:I:106:ASP:CA	1.99	0.74
1:A:429:ARG:O	2:B:1036:ARG:NH2	2.19	0.74
2:B:1003:ARG:HD2	2:B:1003:ARG:O	1.87	0.74
10:N:88:GLN:O	10:N:91:GLU:HG3	1.86	0.74
1:A:31:LYS:NZ	1:A:48:ASN:OD1	2.21	0.74
12:M:67:LEU:HD22	13:I:17:LEU:CA	2.03	0.74
15:T:-5:DC:H2''	15:T:-4:DA:N7	2.03	0.74
2:B:170:PHE:O	2:B:176:GLU:HA	1.87	0.74
2:B:88:PRO:HD2	2:B:92:ILE:CD1	2.17	0.74
1:A:877:ASN:ND2	13:I:97:TYR:OH	2.21	0.74
1:A:312:VAL:HG23	1:A:320:PHE:HA	1.70	0.73
3:C:267:VAL:HG12	3:C:272:VAL:HG11	1.69	0.73
2:B:743:VAL:HG21	2:B:999:TYR:HE2	1.53	0.73
1:A:1225:GLN:O	1:A:1226:MET:HB2	1.87	0.73
1:A:1013:SER:HA	4:E:169:GLN:HG3	1.71	0.73
1:A:1014:VAL:HG21	4:E:165:LEU:HD21	1.70	0.73
3:C:27:THR:HA	3:C:32:ASN:ND2	2.03	0.73
12:M:67:LEU:CD2	13:I:17:LEU:HD23	2.19	0.73
1:A:134:ALA:O	1:A:138:LEU:HD23	1.89	0.73
1:A:424:LYS:NZ	15:T:1:DG:O5'	2.21	0.73
1:A:1289:CYS:HA	1:A:1552:VAL:HA	1.71	0.73
2:B:260:SER:OG	12:M:30:ASN:OD1	2.05	0.73
12:M:28:PHE:CE1	12:M:33:LEU:CD1	2.71	0.73
1:A:125:ARG:O	1:A:128:GLU:HG2	1.88	0.73
1:A:677:LYS:HG2	6:H:89:GLU:O	1.88	0.73
2:B:64:PHE:HE2	2:B:397:LYS:HB2	1.54	0.73
1:A:911:GLN:HA	1:A:915:LEU:O	1.89	0.73
1:A:1334:ARG:CG	1:A:1335:PRO:HD2	2.19	0.72
1:A:1349:LEU:HD21	1:A:1547:LEU:HD11	1.71	0.72
2:B:92:ILE:HG22	2:B:93:CYS:H	1.52	0.72
1:A:1328:GLN:NE2	1:A:1333:LEU:O	2.22	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1590:LYS:NZ	4:E:133:GLN:HE22	1.87	0.72
2:B:403:LYS:HB3	2:B:418:ARG:HH22	1.53	0.72
1:A:967:HIS:CD2	2:B:682:SER:HB2	2.25	0.72
2:B:73:ILE:HB	2:B:75:PHE:CE2	2.23	0.72
2:B:396:ILE:HA	2:B:422:MET:CG	2.19	0.72
8:K:30:VAL:HG23	8:K:41:THR:HB	1.70	0.72
1:A:749:LEU:HB3	1:A:754:TYR:HE2	1.53	0.72
2:B:538:GLY:HA3	10:N:118:LEU:HD13	1.72	0.72
4:E:61:LEU:HD13	4:E:73:PHE:HD1	1.55	0.72
7:J:57:GLU:O	7:J:61:ASN:ND2	2.21	0.72
1:A:429:ARG:CZ	15:T:1:DG:OP1	2.36	0.72
1:A:929:MET:HE2	2:B:492:GLU:CA	2.19	0.72
2:B:262:TYR:CB	12:M:30:ASN:HA	2.15	0.72
1:A:1335:PRO:O	1:A:1338:ILE:HG22	1.90	0.72
2:B:193:MET:SD	2:B:195:ARG:NH2	2.63	0.71
2:B:110:TYR:OH	2:B:146:CYS:SG	2.48	0.71
1:A:927:PRO:HG3	2:B:488:ARG:NH2	2.05	0.71
1:A:1593:GLU:OE1	1:A:1593:GLU:N	2.21	0.71
2:B:73:ILE:CG2	2:B:75:PHE:CZ	2.74	0.71
1:A:749:LEU:HD23	1:A:754:TYR:OH	1.90	0.71
1:A:104:CYS:SG	1:A:211:GLY:HA3	2.30	0.71
1:A:138:LEU:HD11	1:A:165:THR:HG23	1.72	0.71
2:B:684:ARG:NH2	13:I:106:ASP:CA	2.53	0.71
1:A:882:PRO:CG	13:I:85:ARG:HH12	2.02	0.71
2:B:622:PRO:HB3	2:B:631:GLU:OE2	1.91	0.71
3:C:287:ILE:HD11	3:C:299:LEU:HD22	1.71	0.71
12:M:28:PHE:CE2	12:M:33:LEU:HD11	2.24	0.71
1:A:850:HIS:O	1:A:855:GLN:NE2	2.24	0.71
1:A:929:MET:SD	2:B:492:GLU:HG3	2.31	0.71
2:B:543:ASP:HB2	12:M:81:CYS:HB2	1.73	0.71
6:H:104:THR:CG2	6:H:107:GLU:HB3	2.21	0.71
1:A:929:MET:CG	2:B:492:GLU:HG3	2.21	0.70
1:A:851:LEU:CD2	2:B:362:MET:HE2	2.21	0.70
1:A:430:LYS:HE3	1:A:431:HIS:CE1	2.25	0.70
1:A:686:GLN:O	1:A:690:THR:HG22	1.92	0.70
1:A:1713:PHE:HZ	5:F:61:GLU:HA	1.52	0.70
1:A:512:MET:SD	1:A:515:ARG:NH2	2.65	0.70
1:A:1686:MET:HG3	1:A:1687:LEU:HD12	1.74	0.70
2:B:570:LEU:HD23	10:N:81:ARG:HH12	1.50	0.70
2:B:717:PRO:HB2	2:B:736:PRO:HB2	1.74	0.70
4:E:13:ILE:O	4:E:17:ILE:HG13	1.91	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:650:ARG:HG2	1:A:654:MET:HE2	1.72	0.70
2:B:576:ASP:OD1	2:B:577:SER:N	2.25	0.70
2:B:394:VAL:O	2:B:398:ILE:HG12	1.91	0.70
3:C:54:VAL:HG21	3:C:279:ARG:NH2	2.07	0.70
4:E:159:LEU:HD23	4:E:160:LEU:HD23	1.74	0.70
6:H:104:THR:HB	6:H:109:ALA:HB2	1.74	0.70
6:H:96:VAL:HG22	6:H:116:VAL:HG22	1.73	0.70
1:A:1024:LEU:HA	1:A:1203:SER:O	1.92	0.70
2:B:46:PHE:O	2:B:50:VAL:HG22	1.92	0.70
4:E:190:VAL:HG22	4:E:208:LEU:HD12	1.73	0.70
1:A:793:ARG:HG3	1:A:794:GLY:H	1.57	0.70
3:C:184:LEU:HD23	3:C:185:PHE:CE2	2.27	0.70
2:B:58:VAL:HA	2:B:61:ILE:HG13	1.71	0.69
1:A:258:PRO:HD2	1:A:391:TRP:CZ3	2.27	0.69
2:B:781:LEU:HD23	2:B:781:LEU:O	1.92	0.69
4:E:92:GLN:O	4:E:95:GLN:HG2	1.92	0.69
15:T:-1:DG:H2'	15:T:0:DT:C2	2.27	0.69
1:A:691:LEU:HD22	1:A:784:LEU:HD22	1.74	0.69
2:B:140:MET:CE	2:B:168:GLY:HA2	2.21	0.69
2:B:260:SER:CB	12:M:30:ASN:CG	2.60	0.69
2:B:909:MET:HG2	7:J:42:ARG:HD3	1.75	0.69
4:E:93:ARG:NH1	4:E:97:GLU:OE2	2.26	0.69
1:A:1715:LEU:HD22	5:F:104:ILE:HG21	1.73	0.69
2:B:392:TRP:O	2:B:396:ILE:HG23	1.93	0.69
2:B:541:PRO:HD2	10:N:46:GLN:NE2	2.07	0.69
2:B:570:LEU:HD22	10:N:81:ARG:HH11	1.57	0.69
6:H:101:GLY:HA2	6:H:112:LEU:HD23	1.74	0.69
1:A:1097:GLN:HA	1:A:1100:VAL:HG22	1.75	0.69
2:B:263:GLN:CB	12:M:29:SER:O	2.38	0.69
2:B:541:PRO:HG2	12:M:85:CYS:SG	2.33	0.69
1:A:312:VAL:HG23	1:A:320:PHE:CA	2.22	0.69
1:A:754:TYR:HE1	1:A:781:LEU:CD1	2.05	0.69
4:E:54:ARG:HD2	4:E:57:ASP:HB3	1.72	0.69
12:M:111:PRO:CB	13:I:18:ASP:OD2	2.40	0.69
1:A:965:PHE:CZ	2:B:489:LEU:CD2	2.76	0.69
1:A:1326:TYR:CD2	13:I:60:VAL:CG1	2.74	0.69
1:A:1296:LYS:CE	13:I:52:GLY:HA3	2.23	0.69
1:A:181:VAL:CG1	4:E:166:ARG:NH2	2.55	0.68
1:A:309:TYR:HE1	2:B:1114:TYR:HE1	1.40	0.68
1:A:964:PHE:HE1	2:B:500:VAL:HG23	1.53	0.68
1:A:1516:GLN:HG3	1:A:1526:GLN:HG3	1.76	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1715:LEU:O	5:F:104:ILE:HG23	1.94	0.68
2:B:651:VAL:HG13	2:B:656:THR:HG21	1.75	0.68
3:C:267:VAL:CG1	3:C:272:VAL:HG11	2.22	0.68
15:T:-9:DA:N6	16:U:10:DT:O2	2.27	0.68
1:A:908:ASN:ND2	13:I:126:SER:OG	2.26	0.68
1:A:1710:THR:HG23	5:F:64:ARG:HB2	1.73	0.68
12:M:66:ARG:CB	13:I:37:THR:HG21	2.22	0.68
1:A:20:TYR:CG	2:B:1129:LYS:HB2	2.29	0.68
1:A:1326:TYR:CB	13:I:60:VAL:HG12	2.22	0.68
1:A:1702:VAL:HG23	1:A:1704:LYS:HG3	1.76	0.68
3:C:138:LEU:HD12	3:C:181:GLN:HE22	1.58	0.68
2:B:400:PHE:CD1	2:B:418:ARG:HG2	2.29	0.68
7:J:1:MET:CE	7:J:56:ILE:HD13	2.24	0.68
1:A:316:GLY:HA3	15:T:10:DA:O3'	1.94	0.68
2:B:392:TRP:NE1	2:B:423:GLY:HA2	2.09	0.68
12:M:66:ARG:CZ	13:I:37:THR:HB	2.23	0.68
1:A:408:LYS:HZ2	1:A:409:LEU:HD22	1.54	0.68
1:A:797:LEU:HD12	1:A:897:MET:HE3	1.76	0.68
1:A:860:MET:CE	1:A:864:LYS:HE3	2.24	0.68
1:A:1262:PRO:HA	1:A:1603:ASN:HD21	1.58	0.68
3:C:291:GLU:CA	3:C:294:LYS:HE3	2.21	0.68
15:T:-2:DC:H42	16:U:3:DA:N6	1.92	0.68
1:A:713:GLY:O	6:H:20:LYS:HE3	1.93	0.67
12:M:111:PRO:CG	13:I:18:ASP:CB	2.72	0.67
2:B:75:PHE:CE1	2:B:120:TRP:HB2	2.29	0.67
10:N:48:PRO:HD3	10:N:117:ILE:O	1.95	0.67
1:A:140:ARG:HH11	1:A:144:ARG:HH12	1.42	0.67
1:A:690:THR:O	1:A:694:ASN:ND2	2.27	0.67
1:A:806:PRO:O	1:A:807:LYS:HB3	1.93	0.67
3:C:16:LEU:HD12	3:C:21:VAL:HG23	1.77	0.67
1:A:44:ASN:HB2	1:A:45:PRO:HD2	1.74	0.67
1:A:911:GLN:NE2	13:I:109:GLN:OE1	2.27	0.67
1:A:965:PHE:CZ	2:B:489:LEU:HD21	2.29	0.67
1:A:1515:TYR:CD1	1:A:1527:VAL:HG23	2.30	0.67
1:A:1590:LYS:HZ2	4:E:133:GLN:NE2	1.93	0.67
7:J:1:MET:HE2	7:J:56:ILE:HD13	1.74	0.67
7:J:3:ILE:HD12	7:J:4:PRO:HD2	1.75	0.67
10:N:70:LYS:HG2	10:N:79:ARG:HG2	1.74	0.67
1:A:1512:ILE:HD13	1:A:1529:VAL:HG22	1.77	0.67
1:A:166:THR:HA	1:A:169:VAL:HG22	1.77	0.67
1:A:843:ARG:NH1	1:A:939:GLU:OE2	2.27	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:910:MET:O	1:A:911:GLN:HB3	1.94	0.67
2:B:260:SER:HB3	12:M:30:ASN:ND2	2.10	0.67
2:B:690:GLN:OE1	2:B:694:GLN:NE2	2.27	0.67
2:B:187:ARG:HD2	2:B:615:THR:HB	1.77	0.67
1:A:338:ILE:HG12	1:A:390:ILE:HD12	1.77	0.66
2:B:110:TYR:CZ	2:B:146:CYS:SG	2.89	0.66
2:B:785:ILE:HG21	2:B:792:LEU:CD2	2.17	0.66
12:M:111:PRO:HB2	13:I:18:ASP:OD2	1.95	0.66
1:A:979:ALA:O	1:A:982:THR:HG22	1.95	0.66
1:A:1566:GLU:HA	1:A:1576:LEU:HD13	1.75	0.66
2:B:1013:ARG:HD2	2:B:1034:GLY:N	2.10	0.66
1:A:430:LYS:HG2	1:A:431:HIS:ND1	2.10	0.66
1:A:916:LEU:HB2	1:A:953:GLY:O	1.96	0.66
4:E:84:ILE:O	4:E:88:LYS:HG2	1.95	0.66
1:A:299:LEU:CD2	2:B:1127:ASN:OD1	2.42	0.66
1:A:929:MET:CG	2:B:492:GLU:OE2	2.43	0.66
2:B:536:ASN:HA	10:N:48:PRO:HG2	1.77	0.66
3:C:235:LEU:HB2	3:C:301:ARG:HD3	1.76	0.66
4:E:77:PRO:HD2	4:E:105:VAL:O	1.96	0.66
1:A:603:LEU:O	1:A:603:LEU:HD23	1.96	0.66
12:M:34:GLN:HG2	13:I:8:ASN:CA	2.25	0.66
1:A:181:VAL:HG11	4:E:166:ARG:HH22	1.58	0.65
1:A:874:ASN:CA	13:I:83:VAL:HG23	2.25	0.65
1:A:961:PRO:HB3	2:B:666:LEU:HD22	1.77	0.65
1:A:1034:PRO:HD3	1:A:1166:LYS:HD3	1.78	0.65
4:E:127:LEU:O	4:E:128:GLU:HG3	1.95	0.65
8:K:42:PHE:CE1	8:K:84:ILE:HD12	2.31	0.65
3:C:245:VAL:CG2	3:C:273:ALA:HB3	2.26	0.65
1:A:1296:LYS:HZ2	13:I:52:GLY:HA3	1.60	0.65
1:A:1566:GLU:HA	1:A:1576:LEU:CD1	2.26	0.65
2:B:194:ILE:HG23	2:B:207:GLN:OE1	1.97	0.65
2:B:233:THR:HG23	2:B:285:MET:HG2	1.78	0.65
2:B:566:VAL:HG21	2:B:574:ILE:HD12	1.78	0.65
4:E:94:MET:SD	4:E:102:ALA:HB2	2.37	0.65
6:H:102:ASP:OD2	6:H:111:ARG:HB2	1.96	0.65
1:A:1104:LYS:CB	1:A:1116:GLY:HA2	2.27	0.65
1:A:1349:LEU:CD2	1:A:1547:LEU:HD11	2.26	0.65
2:B:224:MET:HE1	2:B:346:LEU:HD21	1.78	0.65
2:B:403:LYS:HE2	2:B:418:ARG:NH2	2.11	0.65
5:F:79:VAL:CG1	5:F:81:VAL:HG12	2.25	0.65
10:N:112:GLN:OE1	10:N:112:GLN:N	2.30	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:173:LEU:O	1:A:174:LEU:HB3	1.96	0.65
1:A:651:GLU:HG2	3:C:29:PHE:HD2	1.61	0.65
1:A:851:LEU:CD2	2:B:362:MET:CE	2.75	0.65
2:B:806:LYS:HG2	2:B:824:PRO:HD2	1.78	0.65
6:H:48:TYR:OH	6:H:147:LYS:HG3	1.96	0.65
1:A:642:THR:O	1:A:685:LYS:HE2	1.96	0.65
2:B:540:THR:CG2	10:N:116:ARG:HE	2.04	0.65
1:A:1006:THR:HG21	1:A:1008:ARG:HE	1.62	0.65
2:B:543:ASP:CG	12:M:81:CYS:HB2	2.17	0.65
2:B:1013:ARG:NE	2:B:1025:PRO:HB3	2.12	0.65
1:A:137:GLU:HG2	1:A:164:TYR:OH	1.97	0.65
1:A:929:MET:HE2	2:B:492:GLU:HA	1.76	0.65
1:A:8:PRO:HG3	2:B:1066:VAL:HG13	1.77	0.65
1:A:1096:ILE:O	1:A:1100:VAL:HG13	1.97	0.65
1:A:1133:ARG:HG2	1:A:1133:ARG:O	1.97	0.65
1:A:1296:LYS:HE3	13:I:52:GLY:CA	2.27	0.65
1:A:1334:ARG:CD	1:A:1335:PRO:HD2	2.27	0.65
12:M:32:LYS:O	13:I:8:ASN:N	2.30	0.65
1:A:807:LYS:HG3	1:A:807:LYS:O	1.97	0.64
9:L:21:GLU:OE1	9:L:21:GLU:N	2.31	0.64
1:A:812:ARG:HD2	1:A:914:CYS:HA	1.77	0.64
1:A:1104:LYS:HB2	1:A:1116:GLY:HA2	1.78	0.64
1:A:1516:GLN:HG3	1:A:1526:GLN:H	1.62	0.64
2:B:504:ASP:OD2	13:I:105:ALA:HB2	1.97	0.64
2:B:936:LYS:HG2	2:B:966:LEU:HD21	1.79	0.64
4:E:110:MET:SD	4:E:118:LEU:HD11	2.37	0.64
2:B:346:LEU:O	2:B:350:THR:HG23	1.97	0.64
3:C:11:ARG:O	3:C:303:ARG:HD3	1.97	0.64
1:A:316:GLY:N	15:T:10:DA:C3'	2.61	0.64
1:A:440:ALA:HB1	2:B:1035:ILE:HD11	1.80	0.64
1:A:677:LYS:CG	6:H:89:GLU:O	2.44	0.64
1:A:1008:ARG:NH1	5:F:111:PRO:HG2	2.13	0.64
2:B:757:MET:HE3	2:B:759:VAL:CG2	2.27	0.64
2:B:856:SER:HB3	9:L:42:ARG:CB	2.26	0.64
12:M:111:PRO:CD	13:I:18:ASP:OD2	2.45	0.64
1:A:607:GLU:OE2	1:A:1710:THR:HG21	1.98	0.64
1:A:1313:GLN:HG2	1:A:1537:ASN:HD21	1.63	0.64
1:A:749:LEU:HD23	1:A:754:TYR:CZ	2.32	0.64
1:A:791:LEU:HD22	2:B:984:SER:HB3	1.79	0.64
1:A:877:ASN:HD21	13:I:83:VAL:HG21	1.62	0.64
1:A:882:PRO:HG3	13:I:85:ARG:NH1	2.09	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1718:PRO:CD	5:F:103:PRO:O	2.44	0.64
3:C:274:ARG:HB3	3:C:274:ARG:HH11	1.61	0.64
4:E:20:LEU:HD11	4:E:24:ARG:HE	1.61	0.64
1:A:1145:PRO:HD2	4:E:204:ILE:CD1	2.28	0.64
2:B:684:ARG:NH2	13:I:106:ASP:HA	2.12	0.64
1:A:408:LYS:HZ1	1:A:409:LEU:CD2	2.11	0.64
1:A:1296:LYS:HB2	13:I:53:LYS:H	1.62	0.64
9:L:34:ILE:O	9:L:34:ILE:HG22	1.98	0.64
1:A:85:LEU:HD22	1:A:391:TRP:HE1	1.63	0.64
1:A:606:ALA:CB	5:F:90:LEU:HD11	2.28	0.64
1:A:674:SER:HB2	6:H:118:TYR:O	1.97	0.64
1:A:929:MET:CE	2:B:491:PRO:C	2.66	0.64
4:E:90:TYR:OH	4:E:104:ILE:HD13	1.97	0.64
1:A:964:PHE:CE1	2:B:500:VAL:CG2	2.80	0.64
2:B:842:LYS:O	2:B:844:LYS:HE2	1.97	0.64
4:E:185:ILE:HD12	4:E:191:VAL:HG11	1.80	0.64
1:A:1090:LEU:HD12	4:E:22:HIS:NE2	2.13	0.63
2:B:75:PHE:CD1	2:B:120:TRP:HB2	2.33	0.63
2:B:216:ARG:HB2	2:B:334:ILE:CG2	2.26	0.63
1:A:430:LYS:HG2	1:A:431:HIS:CE1	2.34	0.63
1:A:936:PRO:CG	2:B:494:TRP:CB	2.63	0.63
2:B:73:ILE:CG2	2:B:75:PHE:HZ	2.09	0.63
2:B:146:CYS:O	2:B:149:ARG:HG2	1.97	0.63
2:B:566:VAL:CG2	2:B:574:ILE:HD12	2.28	0.63
4:E:9:ARG:HD2	4:E:132:GLN:HE21	1.64	0.63
1:A:1119:GLU:OE1	1:A:1122:ARG:NH1	2.22	0.63
1:A:1293:VAL:O	1:A:1294:LEU:HG	1.99	0.63
2:B:190:PRO:HB3	2:B:349:MET:HG2	1.79	0.63
1:A:460:MET:HG3	1:A:570:PRO:HA	1.81	0.63
2:B:400:PHE:HD1	2:B:418:ARG:HG2	1.61	0.63
6:H:39:LEU:HD13	6:H:125:LEU:HD13	1.80	0.63
3:C:7:VAL:N	6:H:49:PRO:HD2	2.13	0.63
13:I:87:CYS:O	13:I:95:MET:HG3	1.99	0.63
1:A:21:SER:HB3	1:A:24:GLU:HG2	1.81	0.63
1:A:679:PHE:CD1	6:H:47:ILE:HG12	2.33	0.63
1:A:823:GLY:HA2	1:A:865:PHE:HE1	1.64	0.63
1:A:1113:ARG:HD3	4:E:61:LEU:O	1.99	0.63
1:A:1338:ILE:HG23	1:A:1339:LEU:HD12	1.81	0.63
2:B:538:GLY:CA	10:N:118:LEU:HD13	2.27	0.63
1:A:897:MET:SD	2:B:918:HIS:ND1	2.72	0.63
1:A:929:MET:HE3	2:B:491:PRO:O	1.97	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:N:146:ARG:HH12	10:N:148:ARG:NH2	1.92	0.63
1:A:414:TYR:HB3	1:A:415:PRO:HD2	1.81	0.63
2:B:171:ILE:HG23	2:B:174:GLY:HA2	1.81	0.63
12:M:32:LYS:O	13:I:7:ALA:N	2.32	0.63
1:A:1282:LYS:CE	1:A:1564:LEU:HD13	2.27	0.62
2:B:721:LEU:CD2	7:J:50:LEU:HD23	2.29	0.62
1:A:1534:MET:C	1:A:1535:LYS:HD2	2.19	0.62
3:C:15:VAL:HA	3:C:300:ALA:HB2	1.81	0.62
12:M:66:ARG:CD	13:I:37:THR:OG1	2.45	0.62
1:A:20:TYR:HB2	2:B:1127:ASN:O	1.99	0.62
1:A:975:LEU:HD21	13:I:104:SER:CA	2.25	0.62
1:A:1223:SER:HB2	1:A:1245:ILE:CD1	2.29	0.62
1:A:1289:CYS:N	1:A:1292:GLU:OE2	2.31	0.62
2:B:791:SER:HB3	2:B:792:LEU:HD23	1.81	0.62
2:B:936:LYS:HE3	2:B:966:LEU:CD2	2.29	0.62
4:E:59:THR:HG23	4:E:74:VAL:O	1.99	0.62
1:A:1619:ARG:HH12	4:E:196:PRO:HG2	1.63	0.62
2:B:791:SER:HA	2:B:830:ASN:HA	1.81	0.62
1:A:632:GLN:HE22	2:B:754:GLU:H	1.46	0.62
1:A:1090:LEU:HD22	4:E:30:GLN:HG2	1.80	0.62
2:B:743:VAL:HG22	2:B:913:ILE:HB	1.81	0.62
8:K:55:LEU:HD21	8:K:96:PHE:CE1	2.34	0.62
1:A:423:LYS:HG3	1:A:424:LYS:H	1.63	0.62
1:A:1569:ASN:O	1:A:1573:GLU:HA	2.00	0.62
2:B:568:LYS:HE2	2:B:600:MET:CE	2.29	0.62
12:M:66:ARG:NE	13:I:37:THR:HB	2.14	0.62
12:M:67:LEU:CD2	12:M:69:TYR:CE1	2.81	0.62
13:I:54:VAL:HG22	13:I:56:LYS:H	1.64	0.62
1:A:122:CYS:SG	1:A:165:THR:HG21	2.40	0.62
1:A:127:LEU:HD21	1:A:135:VAL:CG2	2.30	0.62
1:A:846:TRP:HE1	1:A:858:PHE:HE1	1.48	0.62
2:B:1013:ARG:HG3	2:B:1032:GLN:HB3	1.81	0.62
6:H:39:LEU:CD1	6:H:125:LEU:HD13	2.28	0.62
15:T:3:DC:H2'	15:T:4:DA:C8	2.34	0.62
1:A:1326:TYR:CD2	13:I:60:VAL:HG12	2.35	0.62
1:A:1670:GLN:O	1:A:1671:GLN:HB3	2.00	0.62
2:B:113:LYS:HG3	2:B:133:PHE:HE1	1.65	0.62
2:B:647:PHE:O	2:B:650:GLU:HB2	1.99	0.62
2:B:742:ILE:HD13	2:B:996:VAL:HG22	1.81	0.62
2:B:791:SER:HA	2:B:830:ASN:OD1	2.00	0.62
3:C:241:LEU:HD23	3:C:297:VAL:HG22	1.80	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:326:ILE:HG21	8:K:111:LEU:HB2	1.82	0.62
1:A:225:ILE:HG23	1:A:256:LEU:CD1	2.30	0.62
1:A:677:LYS:HB3	6:H:91:VAL:H	1.65	0.62
2:B:583:VAL:HG13	2:B:630:LYS:HB3	1.81	0.62
1:A:911:GLN:CD	13:I:109:GLN:NE2	2.53	0.61
1:A:974:GLY:HA3	13:I:101:GLN:O	1.99	0.61
2:B:237:ASN:HD21	2:B:244:LEU:HD22	1.65	0.61
4:E:173:ILE:HG23	4:E:209:VAL:HA	1.81	0.61
1:A:668:VAL:H	8:K:85:GLN:HE22	1.49	0.61
1:A:1008:ARG:CZ	5:F:111:PRO:HG2	2.31	0.61
1:A:1583:ILE:HD11	1:A:1607:ALA:CB	2.30	0.61
1:A:1619:ARG:HH22	4:E:196:PRO:CD	2.04	0.61
2:B:64:PHE:CE2	2:B:397:LYS:HB2	2.35	0.61
2:B:312:LEU:HD21	2:B:327:LEU:HD12	1.82	0.61
2:B:392:TRP:HE1	2:B:423:GLY:CA	2.13	0.61
2:B:936:LYS:HE3	2:B:966:LEU:HD22	1.80	0.61
8:K:25:THR:HB	8:K:46:GLU:OE1	2.00	0.61
1:A:433:MET:HB2	2:B:1039:GLU:CG	2.29	0.61
1:A:1024:LEU:HD12	1:A:1204:LEU:HD12	1.81	0.61
1:A:1615:GLU:OE2	4:E:207:ARG:NE	2.31	0.61
3:C:33:TYR:CB	3:C:36:TYR:HB3	2.29	0.61
1:A:975:LEU:HD21	13:I:105:ALA:N	2.15	0.61
2:B:695:THR:HG21	2:B:737:ILE:HG12	1.81	0.61
1:A:1004:ASP:OD1	1:A:1006:THR:HG22	2.00	0.61
2:B:262:TYR:OH	13:I:9:THR:OG1	2.18	0.61
1:A:223:LEU:O	1:A:256:LEU:HB2	2.00	0.61
1:A:895:GLN:O	1:A:896:MET:HB3	2.01	0.61
1:A:967:HIS:CD2	2:B:682:SER:H	2.18	0.61
1:A:970:ALA:O	1:A:973:GLU:HG2	2.00	0.61
1:A:424:LYS:NZ	15:T:1:DG:OP2	2.28	0.61
1:A:926:PRO:HD2	1:A:948:GLY:O	2.01	0.61
1:A:939:GLU:CG	1:A:940:PRO:HD2	2.26	0.61
3:C:53:VAL:O	10:N:157:PRO:HD3	2.01	0.61
2:B:1069:VAL:HG21	2:B:1134:VAL:HG21	1.83	0.61
9:L:16:ILE:HG23	9:L:25:GLU:HB3	1.81	0.61
10:N:142:PRO:HG2	10:N:145:LEU:HD21	0.70	0.61
1:A:438:ASP:HB3	2:B:1014:THR:O	2.00	0.61
1:A:812:ARG:HG3	1:A:876:ILE:HG23	1.81	0.61
1:A:1111:ASN:ND2	4:E:61:LEU:CD2	2.64	0.61
1:A:1335:PRO:HA	1:A:1338:ILE:HG22	1.82	0.61
1:A:1498:MET:HA	1:A:1501:ARG:HH12	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:752:ASP:O	2:B:916:ASN:HB2	2.00	0.61
12:M:34:GLN:CG	13:I:8:ASN:N	2.63	0.61
3:C:264:VAL:HG13	3:C:264:VAL:O	2.00	0.61
4:E:126:ILE:O	4:E:126:ILE:HG13	1.99	0.61
1:A:919:ILE:HG12	1:A:949:GLY:O	2.01	0.60
2:B:92:ILE:HG22	2:B:93:CYS:N	2.15	0.60
3:C:12:SER:O	3:C:303:ARG:N	2.34	0.60
6:H:63:THR:HA	6:H:71:ASP:OD1	2.01	0.60
7:J:40:LEU:CD1	7:J:49:LEU:HD12	2.31	0.60
1:A:408:LYS:NZ	1:A:409:LEU:HD21	2.12	0.60
1:A:651:GLU:HG2	3:C:29:PHE:CD2	2.37	0.60
1:A:790:GLN:NE2	2:B:983:ILE:HD13	2.16	0.60
3:C:18:GLU:HB2	3:C:288:PHE:CD2	2.37	0.60
13:I:29:LEU:HD21	13:I:39:ILE:H	1.65	0.60
1:A:555:THR:HG21	2:B:1041:GLU:HG3	1.81	0.60
1:A:976:VAL:CG1	2:B:484:THR:HG21	2.31	0.60
2:B:680:ASN:HD21	2:B:887:HIS:HD2	1.46	0.60
3:C:30:PRO:CG	8:K:61:LYS:HA	2.31	0.60
10:N:61:VAL:HG11	12:M:11:TRP:CE3	2.35	0.60
1:A:137:GLU:OE1	1:A:140:ARG:NH2	2.34	0.60
2:B:648:GLU:HG3	10:N:130:LEU:HD22	1.83	0.60
2:B:185:PRO:O	2:B:372:GLN:HA	2.02	0.60
2:B:536:ASN:HA	10:N:48:PRO:HG3	1.83	0.60
1:A:975:LEU:HD23	13:I:103:ARG:O	2.02	0.60
2:B:547:HIS:NE2	10:N:83:LEU:HD13	2.17	0.60
13:I:14:GLN:NE2	13:I:35:THR:O	2.34	0.60
1:A:37:ARG:HH11	1:A:40:ASP:HA	1.67	0.60
1:A:1170:TYR:HE2	1:A:1192:LEU:HD21	1.67	0.60
1:A:1541:SER:HA	1:A:1544:VAL:HG22	1.83	0.60
2:B:201:ARG:HB2	2:B:205:TYR:HD2	1.67	0.60
2:B:526:TYR:CE2	2:B:528:ALA:HB3	2.37	0.60
1:A:898:VAL:HG21	1:A:909:THR:HG21	1.83	0.60
1:A:967:HIS:CD2	2:B:682:SER:CB	2.84	0.60
2:B:498:CYS:HB2	2:B:668:SER:HB2	1.84	0.60
2:B:943:LEU:HD11	10:N:142:PRO:HG3	1.84	0.60
8:K:83:ARG:HH11	8:K:85:GLN:HE21	1.48	0.60
1:A:468:TYR:CE2	1:A:605:ARG:HD2	2.37	0.60
1:A:877:ASN:ND2	13:I:83:VAL:CG2	2.64	0.60
1:A:309:TYR:CE1	2:B:1114:TYR:HE1	2.20	0.59
1:A:951:VAL:HG22	1:A:963:GLU:OE1	2.02	0.59
1:A:1037:PHE:N	1:A:1038:PRO:HD2	2.16	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:543:ASP:OD2	12:M:81:CYS:CB	2.49	0.59
3:C:337:LEU:HD12	8:K:104:MET:CE	2.32	0.59
8:K:22:GLU:HG2	8:K:25:THR:OG1	2.02	0.59
1:A:873:SER:HB2	13:I:83:VAL:HB	1.82	0.59
1:A:1318:ARG:HD2	1:A:1524:TRP:HE3	1.67	0.59
2:B:758:ILE:HD13	2:B:895:ARG:HB2	1.84	0.59
2:B:703:TYR:HE1	2:B:711:LEU:HD22	1.67	0.59
4:E:37:LEU:O	4:E:41:LYS:HG2	2.01	0.59
8:K:66:GLU:HB3	8:K:87:ARG:HE	1.67	0.59
1:A:316:GLY:H	15:T:10:DA:C3'	2.16	0.59
1:A:968:CYS:CB	2:B:686:MET:CE	2.80	0.59
3:C:245:VAL:HG21	3:C:253:LEU:CD2	2.32	0.59
1:A:1565:ASN:HD22	1:A:1579:ASN:ND2	2.01	0.59
6:H:24:ARG:HG2	6:H:46:GLN:OE1	2.02	0.59
1:A:873:SER:C	1:A:876:ILE:H	2.06	0.59
6:H:14:ASP:HB2	6:H:29:HIS:HB2	1.84	0.59
7:J:10:CYS:SG	7:J:42:ARG:HD2	2.42	0.59
1:A:868:GLU:H	1:A:868:GLU:CD	2.06	0.59
1:A:1523:LEU:HD12	1:A:1524:TRP:N	2.17	0.59
4:E:60:VAL:HG22	4:E:74:VAL:HB	1.84	0.59
1:A:865:PHE:O	1:A:867:GLU:N	2.36	0.59
1:A:1006:THR:HG23	1:A:1008:ARG:HG3	1.83	0.59
2:B:549:SER:O	2:B:550:TYR:HB2	2.02	0.59
10:N:142:PRO:HG2	10:N:145:LEU:CG	2.27	0.59
2:B:139:ILE:HG22	2:B:140:MET:O	2.03	0.59
2:B:500:VAL:HA	2:B:686:MET:HG2	1.85	0.59
4:E:35:GLN:HA	4:E:39:GLU:OE2	2.03	0.59
12:M:68:SER:O	12:M:111:PRO:HA	2.02	0.59
1:A:39:LEU:HD12	1:A:39:LEU:O	2.03	0.59
1:A:404:SER:O	1:A:413:LYS:HD2	2.03	0.59
2:B:75:PHE:CE2	2:B:397:LYS:HE3	2.37	0.59
2:B:500:VAL:HG13	2:B:686:MET:HA	1.84	0.59
6:H:100:GLU:HG3	6:H:100:GLU:O	2.02	0.59
1:A:754:TYR:CD1	1:A:781:LEU:HD13	2.37	0.58
1:A:1505:VAL:HG22	1:A:1509:HIS:CE1	2.38	0.58
2:B:39:THR:HG22	2:B:469:PHE:CG	2.38	0.58
2:B:229:LEU:HD21	2:B:235:MET:HB2	1.85	0.58
2:B:882:LYS:HD2	2:B:1002:LEU:HD23	1.85	0.58
1:A:1590:LYS:HZ1	4:E:133:GLN:HE22	1.49	0.58
1:A:1669:LEU:HB2	1:A:1691:ASP:OD2	2.03	0.58
2:B:92:ILE:HD11	2:B:858:ASP:O	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:239:ILE:HD11	2:B:242:LYS:HA	1.85	0.58
2:B:781:LEU:CD2	2:B:792:LEU:HB3	2.31	0.58
3:C:42:GLN:O	3:C:46:GLU:HG3	2.03	0.58
3:C:245:VAL:HG23	3:C:273:ALA:HB3	1.85	0.58
1:A:122:CYS:HB3	1:A:165:THR:CG2	2.31	0.58
1:A:521:GLN:HA	1:A:524:THR:CB	2.23	0.58
1:A:959:ILE:O	2:B:678:ASP:OD1	2.20	0.58
1:A:1117:THR:O	1:A:1121:LEU:HD23	2.03	0.58
2:B:403:LYS:HB2	2:B:418:ARG:NH1	2.14	0.58
2:B:753:MET:HA	2:B:916:ASN:HD22	1.68	0.58
1:A:91:LEU:H	1:A:91:LEU:HD23	1.68	0.58
1:A:929:MET:CA	2:B:492:GLU:OE2	2.51	0.58
1:A:1296:LYS:CE	13:I:52:GLY:CA	2.82	0.58
3:C:290:ASN:ND2	3:C:293:LEU:HD12	2.18	0.58
8:K:44:LEU:HD12	8:K:80:ILE:HD11	1.84	0.58
2:B:68:PHE:HB3	2:B:73:ILE:HD11	1.83	0.58
2:B:106:ARG:HG2	2:B:855:CYS:HB3	1.84	0.58
2:B:568:LYS:HE2	2:B:600:MET:HE2	1.85	0.58
12:M:11:TRP:CE2	12:M:101:VAL:HG21	2.39	0.58
1:A:33:ILE:CD1	1:A:50:LEU:HD13	2.34	0.58
1:A:912:ILE:HG12	2:B:924:MET:HG2	1.83	0.58
2:B:66:PHE:HZ	2:B:400:PHE:CD2	2.21	0.58
2:B:648:GLU:O	2:B:649:ASP:HB2	2.03	0.58
2:B:703:TYR:HE1	2:B:711:LEU:CD2	2.17	0.58
1:A:678:PRO:CB	6:H:47:ILE:CG2	2.81	0.58
1:A:678:PRO:CB	6:H:47:ILE:HG23	2.30	0.58
1:A:1296:LYS:HE3	13:I:53:LYS:N	2.17	0.58
3:C:30:PRO:HG2	8:K:60:MET:O	2.03	0.58
1:A:112:CYS:HB2	1:A:117:ILE:HD11	1.85	0.58
4:E:73:PHE:HB2	4:E:99:ILE:CD1	2.34	0.58
12:M:72:ASN:ND2	12:M:74:PHE:O	2.36	0.58
1:A:71:PHE:O	1:A:72:SER:OG	2.21	0.58
1:A:968:CYS:SG	2:B:686:MET:HE2	2.43	0.58
3:C:91:LYS:HE2	9:L:54:VAL:CG1	2.32	0.58
3:C:93:LEU:HD22	9:L:54:VAL:HG22	1.84	0.58
1:A:42:LEU:O	1:A:42:LEU:HD23	2.03	0.58
1:A:225:ILE:HG23	1:A:256:LEU:HG	1.85	0.58
1:A:912:ILE:HD11	2:B:924:MET:CG	2.26	0.58
1:A:929:MET:CE	2:B:492:GLU:HG3	2.34	0.58
1:A:1318:ARG:HA	1:A:1526:GLN:HA	1.85	0.58
2:B:568:LYS:HG3	2:B:600:MET:HE2	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:N:142:PRO:HG3	10:N:145:LEU:HD21	1.72	0.58
1:A:76:GLY:HA3	1:A:306:PRO:HB3	1.86	0.57
1:A:652:HIS:HE1	3:C:24:VAL:O	1.87	0.57
1:A:797:LEU:HD12	1:A:897:MET:CE	2.34	0.57
1:A:1110:ARG:HB3	1:A:1118:GLN:HE22	1.69	0.57
2:B:416:LEU:HA	2:B:419:ILE:HG12	1.85	0.57
6:H:147:LYS:O	6:H:148:LEU:HD23	2.04	0.57
1:A:969:MET:CG	2:B:489:LEU:HB3	2.34	0.57
1:A:972:ARG:HG3	2:B:508:CYS:SG	2.43	0.57
1:A:1710:THR:HA	5:F:60:TYR:HB3	1.86	0.57
2:B:130:ILE:HG21	2:B:419:ILE:HD13	1.86	0.57
2:B:543:ASP:OD2	12:M:81:CYS:CA	2.52	0.57
2:B:684:ARG:HH22	13:I:106:ASP:HA	1.67	0.57
3:C:245:VAL:CG1	3:C:296:VAL:HG11	2.35	0.57
12:M:66:ARG:NH1	13:I:37:THR:CB	2.67	0.57
13:I:7:ALA:HA	13:I:15:SER:HB2	1.85	0.57
1:A:488:PRO:HG3	1:A:508:SER:HA	1.86	0.57
3:C:54:VAL:HA	10:N:157:PRO:HD3	1.86	0.57
3:C:86:THR:CG2	3:C:227:PRO:HB3	2.34	0.57
1:A:137:GLU:HG2	1:A:164:TYR:CZ	2.39	0.57
1:A:965:PHE:CZ	2:B:489:LEU:HD23	2.39	0.57
1:A:1008:ARG:CZ	5:F:111:PRO:CG	2.81	0.57
1:A:1110:ARG:HB3	1:A:1118:GLN:NE2	2.19	0.57
1:A:1117:THR:HG22	1:A:1121:LEU:HD23	1.86	0.57
2:B:821:TYR:HB2	2:B:844:LYS:NZ	2.18	0.57
1:A:602:GLU:OE1	5:F:89:PRO:HG2	2.05	0.57
1:A:654:MET:O	1:A:655:GLU:HB3	2.05	0.57
1:A:677:LYS:O	1:A:678:PRO:C	2.42	0.57
1:A:975:LEU:CD2	13:I:104:SER:C	2.67	0.57
1:A:1585:LEU:HB2	1:A:1586:PRO:HD3	1.87	0.57
1:A:1585:LEU:HD12	1:A:1600:LEU:HD21	1.87	0.57
2:B:554:TYR:O	2:B:565:TRP:HA	2.05	0.57
2:B:700:LEU:HD21	2:B:711:LEU:HD11	1.86	0.57
4:E:142:HIS:HB3	4:E:145:VAL:HG23	1.85	0.57
13:I:86:ARG:HA	13:I:94:GLY:HA2	1.86	0.57
1:A:651:GLU:CG	3:C:29:PHE:HD2	2.16	0.57
1:A:1631:VAL:HG23	1:A:1632:TYR:CD2	2.39	0.57
2:B:201:ARG:HB2	2:B:205:TYR:CD2	2.40	0.57
2:B:743:VAL:CG2	2:B:999:TYR:HE2	2.16	0.57
2:B:854:VAL:CG1	9:L:34:ILE:HG21	2.33	0.57
1:A:84:PRO:HD3	1:A:335:VAL:HG22	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:524:PHE:CE2	2:B:616:PRO:HG3	2.39	0.57
4:E:122:ALA:HB1	4:E:123:PRO:HD2	1.85	0.57
1:A:93:PHE:CZ	1:A:223:LEU:HD11	2.39	0.57
1:A:652:HIS:O	1:A:656:LEU:HB2	2.04	0.57
1:A:749:LEU:HD23	1:A:754:TYR:CE2	2.39	0.57
1:A:1533:LEU:H	1:A:1535:LYS:HZ2	1.51	0.57
3:C:138:LEU:HD21	3:C:190:ILE:HD13	1.86	0.57
1:A:739:ILE:HD13	1:A:761:LEU:HD13	1.87	0.57
2:B:781:LEU:HD23	2:B:792:LEU:HD22	1.85	0.57
3:C:267:VAL:CG1	3:C:272:VAL:HG12	2.24	0.57
10:N:49:ALA:HA	12:M:86:ARG:HG3	1.87	0.57
2:B:696:MET:HG3	2:B:712:TYR:HB3	1.87	0.57
12:M:33:LEU:CD1	12:M:39:MET:CE	2.83	0.57
12:M:111:PRO:HD2	13:I:18:ASP:OD2	2.04	0.57
1:A:743:GLU:CD	6:H:140:ARG:HH22	2.09	0.56
2:B:414:ASP:HA	2:B:417:MET:HE2	1.87	0.56
2:B:742:ILE:CD1	2:B:996:VAL:HG22	2.34	0.56
10:N:45:ILE:HB	12:M:88:PHE:HB2	1.87	0.56
1:A:1003:TYR:CE2	5:F:108:ARG:HB3	2.39	0.56
1:A:1326:TYR:HB3	13:I:60:VAL:O	2.04	0.56
10:N:146:ARG:NH1	10:N:148:ARG:HH22	1.96	0.56
1:A:309:TYR:CE1	2:B:1114:TYR:CE1	2.88	0.56
1:A:431:HIS:HA	2:B:1024:GLN:HE22	1.69	0.56
1:A:1531:LEU:HB3	1:A:1535:LYS:CD	2.36	0.56
1:A:1715:LEU:HD22	5:F:104:ILE:CG2	2.35	0.56
2:B:103:CYS:SG	2:B:171:ILE:HG21	2.46	0.56
2:B:141:VAL:HG12	2:B:142:LYS:HG2	1.87	0.56
2:B:186:ARG:HG3	2:B:187:ARG:H	1.69	0.56
2:B:527:THR:OG1	2:B:530:ILE:HD12	2.05	0.56
2:B:530:ILE:HB	2:B:531:PRO:HD3	1.87	0.56
3:C:98:THR:O	3:C:206:GLN:HG2	2.05	0.56
4:E:80:PRO:O	4:E:108:GLN:HB2	2.05	0.56
4:E:165:LEU:HD23	4:E:169:GLN:HE21	1.68	0.56
6:H:36:LYS:HA	6:H:36:LYS:HE3	1.87	0.56
12:M:66:ARG:CD	13:I:37:THR:HB	2.31	0.56
12:M:67:LEU:HD21	12:M:69:TYR:HH	1.68	0.56
2:B:262:TYR:CD2	12:M:30:ASN:C	2.77	0.56
1:A:123:GLN:O	1:A:127:LEU:HD23	2.06	0.56
1:A:619:LEU:HD22	1:A:624:GLY:O	2.06	0.56
1:A:969:MET:HG2	2:B:489:LEU:HB3	1.88	0.56
1:A:1512:ILE:HD12	1:A:1527:VAL:HG21	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:M:11:TRP:CZ2	12:M:101:VAL:HG21	2.40	0.56
1:A:507:LEU:CD2	1:A:518:VAL:HG11	2.35	0.56
1:A:1083:LEU:HD12	1:A:1083:LEU:O	2.06	0.56
1:A:1318:ARG:CD	1:A:1524:TRP:HE3	2.19	0.56
1:A:1605:ILE:HG21	1:A:1621:ILE:CG1	2.36	0.56
7:J:63:ALA:HB1	9:L:23:HIS:NE2	2.20	0.56
1:A:14:GLY:HA2	1:A:1691:ASP:O	2.06	0.56
1:A:827:VAL:HG22	1:A:861:ILE:CG2	2.35	0.56
1:A:1239:MET:HG3	1:A:1239:MET:O	2.05	0.56
2:B:333:CYS:HB3	2:B:342:LYS:HG3	1.88	0.56
2:B:745:VAL:HG12	2:B:917:PRO:HB3	1.86	0.56
3:C:75:ALA:HA	8:K:50:THR:HG23	1.86	0.56
10:N:70:LYS:HE2	10:N:79:ARG:CZ	2.34	0.56
1:A:8:PRO:O	1:A:9:TRP:HB3	2.05	0.56
1:A:603:LEU:HG	5:F:67:GLY:HA3	1.88	0.56
1:A:914:CYS:O	1:A:915:LEU:HB2	2.05	0.56
2:B:600:MET:HB3	2:B:608:PRO:CB	2.32	0.56
2:B:785:ILE:HD12	2:B:791:SER:HB2	1.88	0.56
12:M:111:PRO:CB	13:I:18:ASP:HB2	2.36	0.56
1:A:711:ILE:N	1:A:750:ASP:OD2	2.35	0.56
1:A:907:VAL:HB	13:I:111:VAL:HG21	1.86	0.56
1:A:1003:TYR:CD2	5:F:108:ARG:HB3	2.41	0.56
2:B:547:HIS:CE1	10:N:83:LEU:CD1	2.84	0.56
6:H:103:GLU:OE1	6:H:103:GLU:N	2.28	0.56
1:A:674:SER:HB3	1:A:686:GLN:OE1	2.05	0.56
1:A:865:PHE:C	1:A:867:GLU:H	2.09	0.56
1:A:1618:LEU:HD11	1:A:1649:CYS:HB2	1.87	0.56
2:B:651:VAL:HG21	10:N:130:LEU:CD2	2.36	0.56
3:C:28:ASP:O	3:C:29:PHE:HD1	1.89	0.56
15:T:8:DA:H2''	15:T:9:DT:C5	2.41	0.56
1:A:225:ILE:HG23	1:A:256:LEU:HD11	1.88	0.55
1:A:429:ARG:NH2	15:T:1:DG:OP1	2.38	0.55
1:A:1213:LEU:O	1:A:1217:GLN:HG3	2.07	0.55
1:A:1637:ASP:OD2	1:A:1639:ARG:HD3	2.06	0.55
12:M:66:ARG:CD	13:I:37:THR:CG2	2.73	0.55
1:A:19:MET:HG2	1:A:296:VAL:CG1	2.37	0.55
1:A:505:THR:HG23	1:A:505:THR:O	2.06	0.55
2:B:263:GLN:HB2	12:M:29:SER:C	2.26	0.55
2:B:399:ALA:O	2:B:418:ARG:NH1	2.40	0.55
8:K:89:THR:HG23	8:K:90:LEU:N	2.21	0.55
1:A:310:ARG:HB3	1:A:322:ASN:HD22	1.72	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:459:PRO:HB2	1:A:572:GLU:O	2.06	0.55
1:A:606:ALA:O	1:A:610:VAL:HG23	2.06	0.55
1:A:678:PRO:HG2	6:H:90:TYR:HD1	1.71	0.55
1:A:1502:VAL:O	1:A:1505:VAL:HG12	2.06	0.55
1:A:1583:ILE:HD12	1:A:1604:ASP:HB2	1.88	0.55
2:B:86:THR:HG23	2:B:96:ALA:O	2.05	0.55
3:C:74:ASN:O	3:C:78:ARG:HG3	2.06	0.55
3:C:183:ASP:O	3:C:184:LEU:HB3	2.06	0.55
9:L:19:CYS:HB3	9:L:23:HIS:H	1.71	0.55
12:M:68:SER:HB2	12:M:112:LEU:CB	2.36	0.55
15:T:-6:DA:H5'	15:T:-6:DA:C8	2.42	0.55
1:A:661:LEU:HG	1:A:691:LEU:HD12	1.89	0.55
1:A:1693:LEU:HD13	1:A:1702:VAL:HG21	1.88	0.55
1:A:929:MET:CB	2:B:492:GLU:OE2	2.54	0.55
1:A:1008:ARG:NH2	4:E:163:TYR:O	2.39	0.55
2:B:721:LEU:HD21	7:J:50:LEU:HD23	1.87	0.55
2:B:61:ILE:HG22	2:B:61:ILE:O	2.05	0.55
1:A:961:PRO:HD2	1:A:962:PRO:HD2	1.88	0.55
1:A:1128:ASP:HB3	1:A:1133:ARG:HD3	1.88	0.55
2:B:568:LYS:HG3	2:B:600:MET:CE	2.37	0.55
2:B:651:VAL:HG13	2:B:656:THR:CG2	2.36	0.55
2:B:702:THR:HG22	7:J:62:TYR:CE2	2.41	0.55
2:B:808:ASP:HB3	2:B:814:PHE:CE2	2.42	0.55
2:B:1067:ALA:HB2	2:B:1117:ARG:HD3	1.88	0.55
4:E:152:THR:HG23	4:E:154:GLU:HG2	1.89	0.55
6:H:110:THR:HG23	6:H:110:THR:O	2.06	0.55
1:A:826:ALA:HB2	1:A:868:GLU:CD	2.26	0.55
1:A:921:LEU:HA	1:A:973:GLU:OE2	2.06	0.55
1:A:1516:GLN:CG	1:A:1526:GLN:HG3	2.36	0.55
2:B:903:PRO:HB2	2:B:979:LEU:HD23	1.89	0.55
3:C:288:PHE:CZ	3:C:299:LEU:HD21	2.42	0.55
1:A:220:ASN:O	1:A:221:SER:HB2	2.07	0.55
10:N:83:LEU:HD12	10:N:116:ARG:NH1	2.22	0.55
12:M:111:PRO:CG	13:I:18:ASP:HB2	2.37	0.55
15:T:2:DT:H2'	15:T:3:DC:C6	2.42	0.55
1:A:121:LEU:O	1:A:125:ARG:HG3	2.07	0.54
5:F:61:GLU:O	5:F:65:VAL:HG23	2.07	0.54
6:H:104:THR:HB	6:H:109:ALA:CB	2.37	0.54
1:A:1108:GLU:N	1:A:1108:GLU:OE1	2.40	0.54
3:C:30:PRO:HA	3:C:38:ASP:H	1.72	0.54
4:E:122:ALA:HB1	4:E:123:PRO:CD	2.37	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:F:125:ILE:HG13	5:F:125:ILE:O	2.07	0.54
1:A:430:LYS:CA	2:B:1036:ARG:NH2	2.54	0.54
1:A:741:GLU:OE2	6:H:138:ASP:OD2	2.25	0.54
2:B:536:ASN:OD1	10:N:48:PRO:HB3	2.06	0.54
2:B:736:PRO:HG2	7:J:53:VAL:HG11	1.87	0.54
4:E:54:ARG:HD2	4:E:57:ASP:CB	2.36	0.54
1:A:402:PHE:CE2	2:B:1126:MET:HG2	2.42	0.54
1:A:422:GLU:O	1:A:423:LYS:HB2	2.08	0.54
1:A:522:LEU:O	1:A:523:LEU:HB2	2.08	0.54
1:A:799:VAL:O	1:A:803:LEU:HG	2.07	0.54
1:A:873:SER:HB3	1:A:915:LEU:CD2	2.38	0.54
1:A:1034:PRO:O	1:A:1035:LYS:HB3	2.06	0.54
4:E:61:LEU:HD12	4:E:72:MET:O	2.07	0.54
1:A:1598:ARG:HA	4:E:142:HIS:HD2	1.73	0.54
2:B:757:MET:HE3	2:B:759:VAL:HG23	1.89	0.54
8:K:86:THR:HG22	8:K:92:ALA:HB2	1.89	0.54
1:A:1293:VAL:HA	1:A:1322:LEU:HD12	1.88	0.54
2:B:66:PHE:HE1	2:B:75:PHE:CE2	2.24	0.54
2:B:194:ILE:HG12	2:B:208:TYR:CD1	2.42	0.54
1:A:1529:VAL:HG12	1:A:1530:LYS:N	2.22	0.54
2:B:319:PRO:HB2	2:B:321:GLU:HG2	1.89	0.54
2:B:951:ILE:HD12	10:N:139:PRO:CG	2.38	0.54
3:C:53:VAL:HG13	3:C:61:LEU:HD11	1.89	0.54
3:C:173:MET:HG2	3:C:212:MET:HE1	1.89	0.54
1:A:972:ARG:HH21	2:B:509:GLY:HA3	1.64	0.54
1:A:1605:ILE:HG12	1:A:1620:VAL:HG12	1.89	0.54
2:B:10:LEU:CD1	2:B:11:PRO:HD2	2.30	0.54
12:M:68:SER:HB2	12:M:112:LEU:HB3	1.90	0.54
1:A:968:CYS:HA	2:B:686:MET:CE	2.38	0.54
1:A:1170:TYR:CE2	1:A:1192:LEU:HD21	2.42	0.54
2:B:141:VAL:O	2:B:146:CYS:SG	2.66	0.54
2:B:703:TYR:O	2:B:704:GLN:HB3	2.08	0.54
2:B:940:LEU:HD23	2:B:969:ALA:CB	2.37	0.54
8:K:55:LEU:HD23	8:K:82:LEU:HD11	1.90	0.54
1:A:180:HIS:HB3	1:A:1692:GLU:OE2	2.08	0.54
2:B:162:GLU:C	2:B:164:GLU:H	2.11	0.54
3:C:184:LEU:CD2	3:C:185:PHE:CE2	2.91	0.54
3:C:239:ILE:HD13	3:C:261:VAL:HG11	1.90	0.54
3:C:340:LEU:HD23	8:K:97:GLN:HB2	1.90	0.54
16:U:7:DT:H2''	16:U:8:DC:O4'	2.08	0.54
1:A:739:ILE:CD1	1:A:761:LEU:HD13	2.37	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:931:SER:OG	2:B:640:ILE:HG21	2.03	0.53
1:A:1068:HIS:CE1	1:A:1144:ASP:O	2.61	0.53
1:A:1245:ILE:N	1:A:1246:PRO:HD2	2.24	0.53
1:A:1324:HIS:HA	1:A:1327:TYR:CE1	2.43	0.53
1:A:1640:HIS:O	1:A:1644:VAL:HG23	2.07	0.53
2:B:178:VAL:O	2:B:178:VAL:HG13	2.07	0.53
2:B:835:GLU:HG3	2:B:837:PHE:CZ	2.43	0.53
1:A:91:LEU:CD1	2:B:1128:ILE:HD11	2.38	0.53
3:C:13:ARG:HA	3:C:301:ARG:O	2.08	0.53
3:C:15:VAL:HG23	3:C:22:ARG:HB2	1.89	0.53
12:M:67:LEU:HD23	13:I:17:LEU:HD23	1.89	0.53
1:A:20:TYR:CE1	2:B:1129:LYS:HD3	2.43	0.53
1:A:308:ARG:HD3	2:B:1114:TYR:OH	2.08	0.53
1:A:914:CYS:H	1:A:954:ARG:CD	2.20	0.53
1:A:1221:GLU:HB3	1:A:1222:PRO:HD3	1.89	0.53
2:B:1013:ARG:HD2	2:B:1034:GLY:CA	2.38	0.53
6:H:8:ASP:HB3	6:H:10:PHE:CE1	2.44	0.53
1:A:438:ASP:CB	2:B:1014:THR:O	2.56	0.53
1:A:960:LYS:HB3	1:A:961:PRO:CD	2.39	0.53
1:A:972:ARG:HD2	2:B:502:THR:HG21	1.89	0.53
2:B:104:ARG:O	2:B:707:SER:OG	2.22	0.53
3:C:14:VAL:O	3:C:300:ALA:HB1	2.07	0.53
1:A:105:LEU:HD12	1:A:264:HIS:ND1	2.24	0.53
1:A:312:VAL:CG2	1:A:320:PHE:CB	2.85	0.53
3:C:12:SER:O	3:C:303:ARG:HB2	2.08	0.53
4:E:13:ILE:HD11	4:E:132:GLN:HG3	1.91	0.53
10:N:95:LEU:HD11	12:M:26:VAL:HG11	1.89	0.53
1:A:931:SER:OG	2:B:640:ILE:HG23	2.06	0.53
1:A:969:MET:CG	2:B:489:LEU:HD22	2.33	0.53
1:A:1044:TYR:HD1	1:A:1195:LEU:HD22	1.72	0.53
2:B:270:LYS:HG3	2:B:550:TYR:CD2	2.44	0.53
2:B:1014:THR:HG23	2:B:1015:THR:H	1.73	0.53
1:A:120:LEU:O	1:A:124:LEU:HD23	2.08	0.53
1:A:1618:LEU:O	1:A:1622:GLU:HG3	2.08	0.53
2:B:75:PHE:CG	2:B:397:LYS:HE3	2.43	0.53
12:M:66:ARG:CB	13:I:17:LEU:HD21	2.39	0.53
1:A:312:VAL:CG2	1:A:320:PHE:HA	2.39	0.53
1:A:682:TRP:N	1:A:682:TRP:CD1	2.76	0.53
1:A:1610:ASN:O	4:E:178:PRO:CG	2.57	0.53
2:B:514:LEU:HD22	2:B:518:CYS:SG	2.48	0.53
2:B:643:ASN:ND2	2:B:655:VAL:HG13	2.24	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:339:GLU:HG2	8:K:26:ALA:CB	2.39	0.53
8:K:25:THR:HB	8:K:46:GLU:CD	2.29	0.53
1:A:30:VAL:HB	1:A:66:THR:HG21	1.90	0.53
1:A:182:LYS:O	1:A:183:ASN:HB2	2.09	0.53
2:B:262:TYR:HE2	13:I:9:THR:HG1	0.61	0.53
2:B:695:THR:CG2	2:B:1000:GLN:HB3	2.39	0.53
3:C:140:PHE:HE2	3:C:214:CYS:HG	1.57	0.53
4:E:205:THR:HG22	4:E:206:TYR:H	1.74	0.53
2:B:217:GLU:HB2	2:B:219:HIS:CE1	2.43	0.53
15:T:-8:DG:H2'	15:T:-7:DG:O4'	2.08	0.53
1:A:609:TYR:CD2	5:F:90:LEU:CD2	2.92	0.52
1:A:652:HIS:CE1	3:C:24:VAL:HG13	2.44	0.52
1:A:1518:ASP:OD2	1:A:1525:CYS:HB3	2.10	0.52
1:A:1518:ASP:HB3	1:A:1523:LEU:H	1.73	0.52
2:B:48:TYR:CE1	2:B:52:GLU:HG2	2.45	0.52
2:B:396:ILE:HG13	2:B:397:LYS:N	2.23	0.52
2:B:656:THR:HG22	2:B:656:THR:O	2.09	0.52
2:B:716:THR:O	2:B:716:THR:HG23	2.09	0.52
2:B:808:ASP:HB3	2:B:814:PHE:CZ	2.44	0.52
4:E:20:LEU:HD12	4:E:20:LEU:O	2.08	0.52
8:K:58:MET:HG3	8:K:103:LEU:HB2	1.90	0.52
1:A:404:SER:HB2	1:A:416:GLY:H	1.73	0.52
1:A:1519:THR:HG23	1:A:1520:GLU:CD	2.29	0.52
2:B:1013:ARG:NH2	2:B:1025:PRO:HA	2.25	0.52
3:C:18:GLU:OE1	3:C:18:GLU:HA	2.08	0.52
6:H:29:HIS:CE1	6:H:40:ILE:HD12	2.44	0.52
7:J:53:VAL:HG13	7:J:53:VAL:O	2.09	0.52
12:M:67:LEU:CD2	12:M:69:TYR:OH	2.45	0.52
2:B:113:LYS:HG3	2:B:133:PHE:CE1	2.42	0.52
4:E:173:ILE:CG2	4:E:209:VAL:HA	2.38	0.52
1:A:972:ARG:CZ	2:B:509:GLY:CA	2.68	0.52
1:A:1154:ILE:HG23	1:A:1154:ILE:O	2.10	0.52
1:A:1349:LEU:HG	1:A:1547:LEU:HD21	1.91	0.52
1:A:1349:LEU:HA	1:A:1352:GLU:CD	2.30	0.52
10:N:121:PRO:HD2	10:N:121:PRO:O	2.10	0.52
1:A:85:LEU:CD2	1:A:391:TRP:HE1	2.23	0.52
1:A:457:GLY:HA2	1:A:567:ARG:O	2.09	0.52
1:A:613:CYS:O	1:A:617:GLN:HG2	2.09	0.52
2:B:595:VAL:HA	2:B:612:LEU:HD23	1.91	0.52
3:C:337:LEU:HD12	8:K:104:MET:HE3	1.90	0.52
6:H:65:TYR:HB3	6:H:67:ASP:OD2	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:I:7:ALA:O	13:I:9:THR:N	2.28	0.52
1:A:1624:GLU:O	1:A:1628:VAL:HG23	2.09	0.52
2:B:69:LYS:HD3	2:B:407:THR:H	1.73	0.52
3:C:68:ILE:HD11	3:C:72:ILE:HG21	1.91	0.52
3:C:312:SER:HB3	3:C:321:LEU:CD1	2.39	0.52
15:T:-7:DG:H2"	15:T:-6:DA:C8	2.45	0.52
1:A:166:THR:O	1:A:170:GLN:HG2	2.09	0.52
1:A:1293:VAL:O	1:A:1293:VAL:HG13	2.09	0.52
1:A:1359:ASN:O	1:A:1360:LYS:HD2	2.10	0.52
3:C:66:VAL:HG22	3:C:305:HIS:CE1	2.44	0.52
6:H:137:VAL:O	6:H:138:ASP:HB2	2.09	0.52
1:A:521:GLN:CA	1:A:524:THR:HB	2.25	0.52
1:A:618:TYR:CE2	1:A:626:PRO:HB3	2.44	0.52
1:A:712:THR:HG22	1:A:714:LYS:H	1.74	0.52
2:B:77:ILE:HG12	2:B:118:ILE:HG22	1.91	0.52
2:B:260:SER:CB	12:M:30:ASN:ND2	2.72	0.52
2:B:295:SER:O	13:I:19:PHE:CZ	2.63	0.52
2:B:659:GLN:HG3	2:B:660:GLU:N	2.23	0.52
8:K:124:GLN:O	8:K:128:ARG:HG2	2.09	0.52
1:A:33:ILE:HD11	1:A:81:ILE:HG13	1.92	0.52
1:A:550:LEU:HD23	1:A:594:MET:SD	2.49	0.52
1:A:929:MET:HG3	2:B:491:PRO:HG2	1.91	0.52
3:C:15:VAL:HA	3:C:300:ALA:CB	2.40	0.52
4:E:190:VAL:HG22	4:E:208:LEU:CD1	2.38	0.52
13:I:24:GLY:HA2	13:I:30:PRO:HD3	1.91	0.52
1:A:215:VAL:HG22	1:A:225:ILE:HG22	1.92	0.52
1:A:305:PRO:HG3	2:B:1125:ALA:HB2	1.92	0.52
1:A:713:GLY:O	6:H:20:LYS:CE	2.58	0.52
1:A:1589:PHE:HA	1:A:1597:LEU:HD13	1.91	0.52
2:B:648:GLU:HG2	2:B:649:ASP:N	2.25	0.52
3:C:221:ASP:OD2	9:L:58:ARG:NH2	2.40	0.52
5:F:121:ASP:OD1	5:F:122:GLU:N	2.43	0.52
1:A:1003:TYR:OH	5:F:61:GLU:OE2	2.10	0.51
1:A:1029:THR:O	1:A:1033:GLN:NE2	2.41	0.51
2:B:169:TYR:CE1	2:B:176:GLU:HG2	2.44	0.51
1:A:1096:ILE:HA	1:A:1120:MET:CE	2.40	0.51
2:B:194:ILE:HG12	2:B:208:TYR:CE1	2.45	0.51
2:B:473:HIS:HD2	2:B:475:GLY:H	1.58	0.51
1:A:181:VAL:CG1	4:E:166:ARG:HH22	2.20	0.51
1:A:677:LYS:HE2	6:H:88:PHE:O	2.11	0.51
1:A:1318:ARG:HH21	1:A:1526:GLN:HG2	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1497:ALA:O	1:A:1498:MET:C	2.47	0.51
2:B:742:ILE:HD12	7:J:43:TYR:HE1	1.75	0.51
1:A:912:ILE:CG1	2:B:924:MET:CG	2.81	0.51
2:B:639:GLN:O	2:B:639:GLN:HG2	2.09	0.51
2:B:1113:PRO:HD2	2:B:1116:PHE:HB2	1.93	0.51
5:F:104:ILE:O	5:F:120:VAL:HG23	2.10	0.51
1:A:312:VAL:CG2	1:A:320:PHE:CA	2.88	0.51
1:A:1348:LYS:CE	1:A:1508:ILE:HB	2.40	0.51
1:A:1512:ILE:HD12	1:A:1527:VAL:CG2	2.39	0.51
2:B:140:MET:HE2	2:B:168:GLY:HA2	1.92	0.51
2:B:691:MET:CE	2:B:884:ALA:HB1	2.41	0.51
13:I:7:ALA:N	13:I:15:SER:O	2.43	0.51
1:A:607:GLU:HB3	2:B:1050:THR:HG22	1.92	0.51
1:A:543:LYS:HG3	1:A:543:LYS:O	2.09	0.51
1:A:927:PRO:HG3	2:B:488:ARG:CZ	2.41	0.51
1:A:965:PHE:CE2	2:B:489:LEU:HD21	2.40	0.51
1:A:1610:ASN:O	4:E:178:PRO:HG3	2.11	0.51
1:A:1114:SER:OG	1:A:1115:PRO:HD2	2.11	0.51
1:A:1353:SER:OG	1:A:1543:LEU:HD11	2.11	0.51
2:B:102:GLU:O	2:B:103:CYS:SG	2.68	0.51
2:B:785:ILE:HG12	2:B:786:LYS:O	2.11	0.51
3:C:29:PHE:HB3	3:C:30:PRO:CD	2.41	0.51
12:M:34:GLN:HA	13:I:8:ASN:HB2	1.93	0.51
1:A:123:GLN:O	1:A:126:VAL:HG22	2.10	0.51
1:A:166:THR:HA	1:A:169:VAL:CG2	2.41	0.51
1:A:802:ILE:HG22	1:A:894:LEU:HD22	1.92	0.51
1:A:1147:LEU:HD22	1:A:1152:PRO:HB3	1.93	0.51
1:A:1583:ILE:HD11	1:A:1607:ALA:HB3	1.93	0.51
2:B:187:ARG:HD2	2:B:615:THR:CB	2.40	0.51
2:B:961:TYR:CZ	2:B:965:MET:HE2	2.46	0.51
3:C:335:ARG:NH2	8:K:25:THR:O	2.43	0.51
12:M:34:GLN:CG	13:I:8:ASN:CA	2.88	0.51
13:I:84:ASP:HA	13:I:96:ALA:HA	1.92	0.51
1:A:441:ALA:HB2	2:B:1012:VAL:HG13	1.93	0.51
1:A:499:ASN:HD22	1:A:536:LYS:HD2	1.76	0.51
1:A:841:GLU:O	1:A:845:LYS:HG2	2.11	0.51
1:A:1068:HIS:HE1	1:A:1144:ASP:O	1.93	0.51
1:A:1134:LYS:HA	1:A:1134:LYS:HE2	1.92	0.51
1:A:1279:LYS:O	1:A:1283:LYS:HD3	2.11	0.51
2:B:624:GLN:NE2	2:B:629:GLY:HA2	2.26	0.51
12:M:111:PRO:HG2	13:I:18:ASP:CA	2.39	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:428:PHE:O	1:A:432:MET:HB3	2.11	0.50
1:A:766:TYR:HD1	1:A:771:GLY:HA2	1.75	0.50
1:A:968:CYS:CB	2:B:686:MET:HE2	2.41	0.50
1:A:1625:ILE:HG21	1:A:1641:LEU:HD22	1.93	0.50
2:B:172:ILE:HG12	2:B:434:PHE:HB3	1.93	0.50
4:E:10:LEU:CD2	4:E:58:LEU:HD11	2.41	0.50
13:I:88:PRO:HG3	13:I:92:HIS:CD2	2.47	0.50
1:A:57:PRO:HD3	1:A:64:CYS:HB3	1.93	0.50
1:A:1125:TYR:HE1	4:E:68:PRO:HB3	1.76	0.50
2:B:396:ILE:CG2	2:B:422:MET:HB2	2.33	0.50
2:B:410:SER:HB3	2:B:411:MET:HE2	1.93	0.50
4:E:154:GLU:O	4:E:158:GLU:HG3	2.11	0.50
1:A:163:GLN:O	1:A:166:THR:HG22	2.11	0.50
1:A:465:LYS:O	1:A:467:THR:HG23	2.12	0.50
1:A:869:VAL:HG21	1:A:918:GLN:HE21	1.76	0.50
2:B:87:VAL:HB	2:B:92:ILE:HD12	1.93	0.50
2:B:948:THR:O	2:B:951:ILE:HG12	2.11	0.50
12:M:34:GLN:H	13:I:7:ALA:CB	2.19	0.50
1:A:163:GLN:HG3	1:A:164:TYR:N	2.26	0.50
1:A:601:SER:O	1:A:602:GLU:HB3	2.10	0.50
2:B:419:ILE:HG13	2:B:420:PHE:N	2.27	0.50
2:B:570:LEU:HD21	10:N:81:ARG:NE	2.26	0.50
2:B:657:THR:HG22	2:B:658:HIS:ND1	2.27	0.50
2:B:743:VAL:CG2	2:B:997:VAL:HG22	2.41	0.50
2:B:920:PHE:N	2:B:921:PRO:HD2	2.26	0.50
1:A:19:MET:HG2	1:A:296:VAL:HG11	1.93	0.50
1:A:1300:GLN:HB2	1:A:1316:GLN:HG2	1.94	0.50
2:B:552:GLU:O	2:B:568:LYS:HB2	2.11	0.50
2:B:1080:LEU:O	2:B:1096:TYR:HA	2.11	0.50
13:I:119:LYS:NZ	13:I:121:GLN:OE1	2.44	0.50
2:B:91:THR:HG22	2:B:91:THR:O	2.12	0.50
2:B:262:TYR:HB3	12:M:30:ASN:CB	2.42	0.50
2:B:341:GLU:OE1	12:M:80:LYS:HE3	2.12	0.50
2:B:655:VAL:HG12	2:B:656:THR:H	1.76	0.50
2:B:684:ARG:NH2	13:I:107:GLU:N	2.59	0.50
3:C:15:VAL:HG12	3:C:298:ARG:HH21	1.77	0.50
8:K:42:PHE:HE1	8:K:84:ILE:HD12	1.73	0.50
8:K:86:THR:OG1	8:K:90:LEU:HD21	2.11	0.50
13:I:82:VAL:HG13	13:I:98:HIS:CE1	2.47	0.50
1:A:1151:ARG:HG3	1:A:1153:ASP:OD1	2.11	0.50
2:B:615:THR:HB	2:B:616:PRO:HD2	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:695:THR:HG21	2:B:1000:GLN:HB3	1.94	0.50
5:F:107:ARG:HD2	5:F:115:TYR:CG	2.46	0.50
12:M:33:LEU:HD13	12:M:39:MET:CE	2.41	0.50
1:A:225:ILE:HG23	1:A:256:LEU:CG	2.40	0.50
1:A:636:VAL:HG11	1:A:795:PHE:CZ	2.47	0.50
1:A:815:ILE:HD13	1:A:875:GLU:HG3	1.93	0.50
1:A:1147:LEU:CD2	1:A:1152:PRO:HB3	2.42	0.50
1:A:1632:TYR:HB2	1:A:1634:ILE:HD12	1.94	0.50
2:B:6:ARG:O	2:B:6:ARG:HD3	2.12	0.50
2:B:417:MET:O	2:B:421:THR:OG1	2.30	0.50
1:A:425:GLU:CG	1:A:426:GLY:H	2.24	0.50
2:B:118:ILE:HD11	2:B:419:ILE:HG21	1.93	0.50
2:B:721:LEU:HD22	7:J:50:LEU:HD23	1.94	0.50
2:B:882:LYS:HD2	2:B:1002:LEU:CD2	2.41	0.50
2:B:1126:MET:O	2:B:1127:ASN:HB2	2.12	0.50
16:U:4:DC:H2'	16:U:5:DT:C6	2.47	0.50
1:A:897:MET:HG3	2:B:918:HIS:CE1	2.47	0.49
1:A:1086:ARG:CZ	1:A:1086:ARG:HB2	2.42	0.49
2:B:743:VAL:HG21	2:B:999:TYR:CE2	2.42	0.49
12:M:74:PHE:N	12:M:78:ALA:HB2	2.27	0.49
1:A:425:GLU:HG3	1:A:426:GLY:N	2.24	0.49
1:A:1222:PRO:O	1:A:1226:MET:N	2.44	0.49
2:B:262:TYR:O	2:B:262:TYR:HD1	1.95	0.49
2:B:547:HIS:CE1	10:N:116:ARG:HH12	2.30	0.49
2:B:802:ARG:HB3	2:B:838:VAL:HG21	1.94	0.49
3:C:163:TYR:CD1	3:C:166:HIS:HB3	2.39	0.49
13:I:28:PRO:O	13:I:41:CYS:HA	2.12	0.49
1:A:20:TYR:CD2	2:B:1129:LYS:HB2	2.47	0.49
1:A:257:THR:HB	1:A:391:TRP:HZ3	1.77	0.49
2:B:187:ARG:NH1	2:B:616:PRO:HD2	2.27	0.49
2:B:387:GLU:OE1	2:B:445:LEU:HD11	2.13	0.49
3:C:56:MET:HE2	8:K:121:TYR:CD2	2.47	0.49
3:C:114:PRO:HG3	7:J:13:ILE:CD1	2.42	0.49
16:U:13:DG:H1'	16:U:14:DG:H5'	1.94	0.49
1:A:423:LYS:HG3	1:A:424:LYS:N	2.27	0.49
1:A:912:ILE:HG13	2:B:924:MET:HG2	1.88	0.49
1:A:961:PRO:CD	1:A:962:PRO:HD2	2.41	0.49
1:A:1255:ALA:HB3	1:A:1656:PRO:HB3	1.94	0.49
1:A:1662:ILE:HD13	1:A:1674:PHE:HD2	1.78	0.49
2:B:319:PRO:HG2	2:B:322:GLN:HB2	1.93	0.49
2:B:781:LEU:O	2:B:792:LEU:HD22	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:29:PHE:HB3	3:C:30:PRO:HD2	1.94	0.49
3:C:93:LEU:HB3	9:L:52:LEU:HD11	1.94	0.49
13:I:14:GLN:HG2	13:I:17:LEU:HD12	1.95	0.49
1:A:322:ASN:HB3	1:A:325:THR:HG23	1.94	0.49
2:B:315:PRO:O	2:B:318:TYR:HB2	2.12	0.49
6:H:39:LEU:HD11	6:H:123:MET:SD	2.52	0.49
1:A:25:LEU:O	1:A:28:LEU:HB2	2.13	0.49
1:A:656:LEU:HD13	1:A:792:TYR:HE2	1.77	0.49
1:A:931:SER:OG	2:B:640:ILE:HG22	2.08	0.49
1:A:1504:ALA:O	1:A:1507:GLU:HB3	2.12	0.49
2:B:426:LEU:HD23	2:B:426:LEU:O	2.13	0.49
2:B:626:LEU:O	2:B:627:ALA:HB3	2.12	0.49
2:B:785:ILE:CG2	2:B:792:LEU:CD2	2.81	0.49
3:C:340:LEU:O	3:C:343:VAL:HG22	2.12	0.49
10:N:30:PHE:HZ	12:M:102:TYR:CG	2.31	0.49
1:A:480:LEU:O	1:A:484:VAL:HG12	2.11	0.49
1:A:588:ASP:OD1	2:B:754:GLU:HG3	2.12	0.49
1:A:677:LYS:CB	6:H:91:VAL:H	2.25	0.49
1:A:851:LEU:HD21	2:B:362:MET:HE1	1.95	0.49
2:B:497:LEU:HD23	2:B:512:ASN:CB	2.43	0.49
2:B:648:GLU:HG2	2:B:649:ASP:H	1.77	0.49
4:E:123:PRO:HA	4:E:126:ILE:CG2	2.42	0.49
8:K:31:GLN:OE1	8:K:37:ARG:HA	2.12	0.49
1:A:47:ALA:O	1:A:48:ASN:HB2	2.12	0.49
7:J:3:ILE:HD11	7:J:49:LEU:HD23	1.95	0.49
2:B:408:SER:HA	2:B:411:MET:CB	2.38	0.49
2:B:571:ALA:HB3	2:B:572:PRO:HD3	1.94	0.49
2:B:752:ASP:HB3	2:B:758:ILE:HG12	1.95	0.49
2:B:854:VAL:O	9:L:43:ILE:HA	2.13	0.49
3:C:33:TYR:HB3	3:C:36:TYR:CB	2.39	0.49
10:N:41:GLU:OE1	12:M:94:LYS:HD3	2.12	0.49
1:A:137:GLU:OE1	1:A:137:GLU:HA	2.12	0.49
1:A:465:LYS:HZ2	2:B:1014:THR:HG22	1.78	0.49
1:A:915:LEU:HD12	1:A:952:THR:HA	1.95	0.49
1:A:1016:GLN:NE2	1:A:1646:ASP:OD2	2.46	0.49
1:A:1281:LEU:HD21	1:A:1595:LEU:HD11	1.94	0.49
2:B:548:ARG:C	10:N:88:GLN:HE22	2.10	0.49
2:B:796:ILE:HD12	2:B:809:ASP:H	1.77	0.49
1:A:968:CYS:CA	2:B:686:MET:CE	2.91	0.48
1:A:1085:ARG:NH2	4:E:19:GLN:HG2	2.29	0.48
1:A:1133:ARG:C	1:A:1134:LYS:HE2	2.33	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1223:SER:HB2	1:A:1245:ILE:HD11	1.94	0.48
1:A:1505:VAL:HG11	1:A:1515:TYR:CZ	2.48	0.48
2:B:92:ILE:CD1	2:B:859:THR:HA	2.40	0.48
2:B:583:VAL:CG1	2:B:630:LYS:HB3	2.43	0.48
2:B:926:ILE:O	2:B:930:ILE:HG13	2.13	0.48
2:B:262:TYR:HE2	13:I:9:THR:CB	2.24	0.48
3:C:110:LEU:HD13	3:C:212:MET:SD	2.53	0.48
1:A:402:PHE:CD2	2:B:1126:MET:HG2	2.48	0.48
1:A:1281:LEU:HD11	1:A:1591:TYR:CE2	2.48	0.48
1:A:1566:GLU:H	1:A:1566:GLU:CD	2.16	0.48
2:B:58:VAL:O	2:B:61:ILE:HB	2.13	0.48
3:C:56:MET:HE1	8:K:122:LYS:HG3	1.95	0.48
4:E:189:GLN:O	4:E:209:VAL:HG23	2.13	0.48
4:E:205:THR:HG22	4:E:206:TYR:N	2.27	0.48
10:N:11:ARG:O	10:N:12:PHE:C	2.49	0.48
1:A:89:ASN:HD21	1:A:92:LEU:HD12	1.78	0.48
1:A:127:LEU:HD11	1:A:187:SER:OG	2.13	0.48
1:A:164:TYR:O	1:A:168:ILE:HG12	2.14	0.48
1:A:497:VAL:O	1:A:505:THR:HG22	2.13	0.48
1:A:602:GLU:CD	5:F:89:PRO:HG2	2.34	0.48
1:A:908:ASN:HD21	13:I:126:SER:HG	1.56	0.48
1:A:990:ARG:O	1:A:994:LYS:HG2	2.13	0.48
2:B:539:VAL:HG22	2:B:566:VAL:HB	1.95	0.48
2:B:1070:CYS:O	2:B:1074:GLY:N	2.45	0.48
3:C:30:PRO:HG2	8:K:61:LYS:HA	1.95	0.48
3:C:90:GLU:HB2	3:C:215:VAL:HG22	1.94	0.48
4:E:17:ILE:HD11	4:E:105:VAL:HG21	1.95	0.48
4:E:80:PRO:HA	4:E:107:GLN:HG3	1.95	0.48
8:K:55:LEU:HD21	8:K:96:PHE:HE1	1.76	0.48
2:B:785:ILE:HD12	2:B:791:SER:CB	2.43	0.48
2:B:1114:TYR:O	2:B:1118:TYR:N	2.45	0.48
6:H:106:THR:O	6:H:106:THR:HG22	2.13	0.48
9:L:19:CYS:SG	9:L:20:GLY:N	2.86	0.48
1:A:163:GLN:HG3	1:A:164:TYR:H	1.79	0.48
1:A:1024:LEU:HD23	1:A:1029:THR:HG22	1.95	0.48
1:A:1590:LYS:CE	4:E:133:GLN:NE2	2.76	0.48
2:B:166:MET:O	2:B:166:MET:HG2	2.14	0.48
2:B:745:VAL:CG1	2:B:917:PRO:HB3	2.43	0.48
2:B:1056:ASP:O	2:B:1057:ARG:C	2.50	0.48
12:M:81:CYS:SG	12:M:85:CYS:SG	3.05	0.48
1:A:874:ASN:N	13:I:83:VAL:HG23	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:960:LYS:HB3	1:A:961:PRO:HD2	1.96	0.48
1:A:968:CYS:HB3	2:B:686:MET:CE	2.42	0.48
2:B:981:SER:HB2	2:B:988:LEU:HD21	1.96	0.48
6:H:13:LYS:HE2	6:H:13:LYS:HA	1.95	0.48
1:A:968:CYS:SG	2:B:686:MET:CE	3.01	0.48
1:A:1597:LEU:CD1	4:E:137:ILE:HG21	2.38	0.48
2:B:411:MET:HE2	2:B:411:MET:N	2.28	0.48
2:B:905:THR:CG2	2:B:909:MET:HB2	2.43	0.48
2:B:1017:ALA:HB3	2:B:1026:ILE:CG2	2.44	0.48
3:C:171:ARG:HG3	3:C:195:ASP:HB2	1.94	0.48
3:C:222:HIS:CD2	9:L:58:ARG:HD3	2.49	0.48
1:A:632:GLN:HB2	2:B:753:MET:HE3	1.95	0.48
1:A:860:MET:HE2	1:A:864:LYS:HG3	1.95	0.48
1:A:961:PRO:HB3	2:B:666:LEU:CD2	2.43	0.48
1:A:1605:ILE:HG21	1:A:1621:ILE:HG12	1.96	0.48
2:B:8:ARG:O	2:B:9:ASN:ND2	2.47	0.48
2:B:648:GLU:OE1	10:N:134:PRO:HB2	2.13	0.48
2:B:951:ILE:HD12	10:N:139:PRO:HG2	1.95	0.48
12:M:34:GLN:N	13:I:7:ALA:HB3	2.19	0.48
1:A:9:TRP:CG	1:A:9:TRP:O	2.66	0.48
1:A:221:SER:HB3	1:A:395:GLN:HB3	1.95	0.48
1:A:1122:ARG:O	1:A:1127:LEU:HD13	2.14	0.48
1:A:1558:GLY:O	1:A:1582:GLY:HA3	2.14	0.48
2:B:178:VAL:O	2:B:178:VAL:HG22	2.14	0.48
3:C:250:ALA:HB1	3:C:273:ALA:HB2	1.96	0.48
6:H:105:SER:O	6:H:106:THR:HB	2.14	0.48
1:A:677:LYS:HB3	1:A:678:PRO:HD3	1.94	0.47
1:A:683:THR:HG22	1:A:683:THR:O	2.12	0.47
1:A:1702:VAL:CG2	1:A:1704:LYS:HG3	2.43	0.47
2:B:527:THR:HG23	2:B:527:THR:O	2.14	0.47
2:B:1081:LEU:HD22	2:B:1094:ARG:HB3	1.95	0.47
8:K:47:GLU:OE1	8:K:47:GLU:HA	2.14	0.47
1:A:603:LEU:HD22	2:B:1052:PHE:CB	2.44	0.47
1:A:609:TYR:CD2	5:F:90:LEU:HD22	2.49	0.47
1:A:968:CYS:HB3	2:B:686:MET:HE2	1.95	0.47
1:A:1037:PHE:H	1:A:1038:PRO:HD2	1.78	0.47
1:A:1580:THR:HG22	1:A:1581:GLU:N	2.29	0.47
2:B:746:ILE:HG22	2:B:914:LEU:HD22	1.95	0.47
2:B:973:PHE:N	3:C:286:GLU:OE2	2.43	0.47
1:A:162:GLU:HA	1:A:165:THR:OG1	2.13	0.47
1:A:1253:MET:O	1:A:1658:ASN:HB3	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1615:GLU:HG3	4:E:193:ILE:CD1	2.26	0.47
2:B:286:LEU:O	2:B:290:MET:HB2	2.13	0.47
3:C:147:THR:N	3:C:164:VAL:HG22	2.26	0.47
3:C:182:ALA:O	3:C:185:PHE:O	2.32	0.47
1:A:119:LEU:HB2	1:A:142:LEU:HD22	1.96	0.47
1:A:441:ALA:CB	2:B:1012:VAL:HG13	2.45	0.47
1:A:958:GLY:CA	2:B:678:ASP:O	2.62	0.47
1:A:1106:GLU:N	1:A:1106:GLU:OE2	2.48	0.47
1:A:1287:ARG:HG2	1:A:1555:ALA:HB1	1.96	0.47
1:A:1332:CYS:O	1:A:1332:CYS:SG	2.73	0.47
2:B:179:ILE:HG12	2:B:454:CYS:HB2	1.96	0.47
2:B:504:ASP:OD2	13:I:105:ALA:CB	2.62	0.47
3:C:86:THR:HG21	3:C:227:PRO:HB3	1.96	0.47
4:E:139:ILE:HG13	4:E:140:THR:N	2.28	0.47
6:H:92:MET:HE1	6:H:121:LEU:CD1	2.45	0.47
12:M:26:VAL:HG12	12:M:60:LEU:CD2	2.44	0.47
13:I:28:PRO:HD2	13:I:30:PRO:HA	1.96	0.47
1:A:308:ARG:CZ	2:B:1114:TYR:OH	2.63	0.47
1:A:1716:LYS:CB	5:F:105:ILE:HB	2.42	0.47
2:B:122:VAL:O	2:B:123:ASN:HB2	2.14	0.47
2:B:392:TRP:CE3	2:B:393:LEU:HD23	2.49	0.47
2:B:498:CYS:CB	2:B:668:SER:HB2	2.43	0.47
2:B:743:VAL:HG21	2:B:997:VAL:HG22	1.97	0.47
2:B:1071:VAL:HG22	2:B:1134:VAL:HG11	1.96	0.47
3:C:162:LEU:HG	3:C:204:PRO:HD3	1.95	0.47
3:C:337:LEU:HD12	8:K:104:MET:HE1	1.96	0.47
1:A:464:THR:HG22	1:A:464:THR:O	2.14	0.47
1:A:651:GLU:CD	3:C:29:PHE:HD2	2.17	0.47
1:A:872:TYR:O	1:A:876:ILE:HG13	2.14	0.47
2:B:570:LEU:CD2	10:N:81:ARG:HD3	2.44	0.47
2:B:742:ILE:HD12	7:J:43:TYR:CE1	2.49	0.47
2:B:1124:ALA:C	2:B:1126:MET:H	2.18	0.47
3:C:53:VAL:HG21	8:K:118:ILE:CD1	2.37	0.47
1:A:89:ASN:OD1	1:A:92:LEU:HB2	2.14	0.47
1:A:173:LEU:O	1:A:174:LEU:CB	2.63	0.47
1:A:257:THR:HB	1:A:391:TRP:CZ3	2.50	0.47
1:A:433:MET:HB3	2:B:1039:GLU:HG2	1.95	0.47
1:A:753:HIS:O	1:A:754:TYR:HB2	2.14	0.47
1:A:791:LEU:CD2	2:B:984:SER:HB3	2.44	0.47
1:A:845:LYS:HA	1:A:845:LYS:HE2	1.97	0.47
1:A:968:CYS:HA	2:B:686:MET:HE3	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1518:ASP:CB	1:A:1522:SER:HA	2.45	0.47
1:A:1527:VAL:HG22	1:A:1528:THR:N	2.30	0.47
1:A:1655:LYS:HB3	1:A:1655:LYS:HE3	1.69	0.47
1:A:1711:GLY:HA2	5:F:64:ARG:NH1	2.29	0.47
2:B:178:VAL:O	2:B:179:ILE:C	2.53	0.47
2:B:181:MET:SD	2:B:520:VAL:HG21	2.55	0.47
2:B:278:LEU:HD11	2:B:354:PHE:HB3	1.95	0.47
2:B:625:ASN:O	2:B:629:GLY:N	2.48	0.47
3:C:240:THR:CG2	3:C:298:ARG:HB3	2.44	0.47
3:C:245:VAL:HG21	3:C:253:LEU:HD23	1.97	0.47
4:E:72:MET:CE	4:E:103:LEU:HD12	2.45	0.47
5:F:66:LEU:HD21	5:F:97:LEU:HD22	1.96	0.47
12:M:67:LEU:CG	12:M:69:TYR:CE1	2.98	0.47
13:I:27:LEU:HB3	13:I:28:PRO:CD	2.34	0.47
1:A:1565:ASN:HD22	1:A:1579:ASN:HD22	1.63	0.47
1:A:1651:GLU:C	4:E:172:ARG:HB2	2.35	0.47
4:E:159:LEU:HD11	4:E:206:TYR:CD2	2.50	0.47
1:A:1326:TYR:CD2	13:I:60:VAL:HG13	2.34	0.47
1:A:1498:MET:HA	1:A:1501:ARG:NH1	2.29	0.47
1:A:1575:GLU:O	1:A:1576:LEU:HD22	2.15	0.47
1:A:1669:LEU:O	1:A:1673:THR:HG23	2.15	0.47
2:B:259:PHE:CA	12:M:110:GLN:NE2	2.55	0.47
2:B:332:ILE:HG13	2:B:332:ILE:O	2.14	0.47
2:B:853:LYS:HG2	9:L:45:TYR:CE2	2.49	0.47
3:C:31:GLY:HA2	3:C:37:ASP:OD1	2.15	0.47
3:C:337:LEU:HD21	8:K:100:LEU:HB2	1.97	0.47
4:E:53:PRO:HB2	4:E:54:ARG:CZ	2.45	0.47
10:N:105:LEU:HB2	12:M:41:PHE:HB2	1.95	0.47
13:I:97:TYR:HA	13:I:112:PHE:O	2.14	0.47
2:B:141:VAL:O	2:B:146:CYS:CB	2.63	0.47
5:F:81:VAL:O	5:F:81:VAL:HG22	2.14	0.47
1:A:469:PRO:HD3	1:A:600:GLN:NE2	2.30	0.46
1:A:497:VAL:HG13	1:A:505:THR:CG2	2.45	0.46
1:A:652:HIS:ND1	3:C:24:VAL:HG13	2.31	0.46
2:B:626:LEU:HD13	2:B:659:GLN:HB3	1.97	0.46
2:B:926:ILE:O	2:B:926:ILE:HG22	2.15	0.46
3:C:299:LEU:HD23	3:C:299:LEU:H	1.79	0.46
3:C:339:GLU:HG2	8:K:26:ALA:HB3	1.97	0.46
6:H:35:PHE:HB3	6:H:37:MET:HG3	1.96	0.46
8:K:83:ARG:HH11	8:K:85:GLN:NE2	2.11	0.46
1:A:1084:LEU:HG	1:A:1084:LEU:O	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:263:GLN:CA	12:M:29:SER:O	2.63	0.46
2:B:333:CYS:SG	2:B:345:MET:SD	3.13	0.46
5:F:71:LEU:HD12	5:F:71:LEU:O	2.15	0.46
12:M:66:ARG:CZ	13:I:37:THR:CB	2.92	0.46
15:T:9:DT:H2"	15:T:10:DA:N7	2.30	0.46
1:A:969:MET:HG3	2:B:489:LEU:HB3	1.97	0.46
1:A:1715:LEU:HD13	5:F:104:ILE:HD13	1.98	0.46
2:B:269:ILE:HD11	2:B:282:VAL:HG21	1.97	0.46
2:B:269:ILE:HD13	2:B:278:LEU:HD23	1.98	0.46
3:C:15:VAL:HG12	3:C:298:ARG:NH2	2.30	0.46
3:C:27:THR:O	3:C:27:THR:HG22	2.14	0.46
3:C:161:GLU:H	3:C:161:GLU:HG3	1.67	0.46
8:K:62:ASN:O	8:K:65:VAL:HG22	2.15	0.46
12:M:32:LYS:HB3	13:I:8:ASN:HB3	1.98	0.46
1:A:127:LEU:HD21	1:A:135:VAL:HG21	1.98	0.46
1:A:512:MET:HG3	1:A:512:MET:O	2.15	0.46
1:A:804:VAL:HG13	1:A:884:GLY:O	2.14	0.46
1:A:1000:VAL:HG12	1:A:1210:ALA:HA	1.96	0.46
1:A:1110:ARG:HD3	1:A:1110:ARG:C	2.35	0.46
1:A:1354:ILE:HD12	1:A:1540:MET:CE	2.45	0.46
2:B:66:PHE:CE1	2:B:75:PHE:CE2	3.02	0.46
2:B:175:ILE:CG2	2:B:175:ILE:O	2.64	0.46
2:B:262:TYR:CE2	12:M:30:ASN:O	2.65	0.46
2:B:399:ALA:HB2	2:B:422:MET:HE2	1.97	0.46
2:B:791:SER:C	2:B:792:LEU:HD23	2.36	0.46
3:C:61:LEU:HG	3:C:63:PHE:HD1	1.80	0.46
1:A:100:LEU:HD21	1:A:265:LEU:HD22	1.96	0.46
1:A:434:GLY:O	2:B:1036:ARG:HG3	2.16	0.46
1:A:811:LYS:O	1:A:814:ARG:HG2	2.15	0.46
1:A:897:MET:SD	2:B:921:PRO:HG3	2.56	0.46
1:A:1088:ALA:O	1:A:1091:SER:OG	2.20	0.46
1:A:1180:LYS:HD3	1:A:1180:LYS:HA	1.83	0.46
2:B:39:THR:HG21	2:B:166:MET:HG2	1.98	0.46
2:B:262:TYR:HD1	2:B:262:TYR:C	2.19	0.46
2:B:403:LYS:HB3	2:B:418:ARG:NH2	2.26	0.46
2:B:821:TYR:HB2	2:B:844:LYS:HZ2	1.80	0.46
1:A:89:ASN:HB3	1:A:299:LEU:HG	1.97	0.46
1:A:258:PRO:HD2	1:A:391:TRP:CE3	2.50	0.46
1:A:498:ILE:O	1:A:536:LYS:HA	2.16	0.46
1:A:551:ASN:O	1:A:594:MET:HG3	2.15	0.46
1:A:812:ARG:HD2	1:A:914:CYS:CA	2.46	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1014:VAL:HG23	4:E:165:LEU:CD2	2.42	0.46
1:A:1269:LEU:HD22	1:A:1269:LEU:HA	1.81	0.46
2:B:262:TYR:HE2	13:I:9:THR:CG2	2.28	0.46
2:B:386:LYS:O	2:B:390:GLU:HG3	2.16	0.46
2:B:570:LEU:HD23	10:N:81:ARG:CZ	2.24	0.46
2:B:632:GLU:HG2	2:B:633:LEU:N	2.31	0.46
2:B:722:VAL:HG21	2:B:934:ALA:CB	2.44	0.46
2:B:864:PHE:H	9:L:34:ILE:HG13	1.80	0.46
13:I:7:ALA:HB2	13:I:16:ASP:HA	1.98	0.46
1:A:558:ARG:HB3	1:A:559:PRO:HD3	1.96	0.46
1:A:1288:VAL:HB	1:A:1331:LYS:HE3	1.98	0.46
2:B:471:CYS:SG	2:B:511:MET:HG2	2.56	0.46
2:B:700:LEU:HD11	2:B:706:ARG:CG	2.39	0.46
10:N:24:ALA:HB3	10:N:27:SER:HB3	1.98	0.46
1:A:33:ILE:HD13	1:A:304:VAL:HG11	1.98	0.46
1:A:606:ALA:HA	5:F:90:LEU:HD21	1.98	0.46
1:A:1106:GLU:O	1:A:1106:GLU:HG2	2.14	0.46
1:A:1207:PRO:HD2	5:F:58:THR:CG2	2.46	0.46
2:B:141:VAL:HB	2:B:167:GLY:HA3	1.97	0.46
2:B:393:LEU:O	2:B:396:ILE:HG12	2.16	0.46
3:C:138:LEU:HD21	3:C:190:ILE:HG21	1.98	0.46
1:A:138:LEU:HD11	1:A:165:THR:CG2	2.42	0.46
1:A:214:VAL:HG21	1:A:216:ARG:NH2	2.31	0.46
1:A:1343:GLU:HG3	1:A:1505:VAL:CG2	2.46	0.46
1:A:1348:LYS:HZ3	1:A:1509:HIS:HB3	1.81	0.46
1:A:1511:PHE:HB3	1:A:1529:VAL:HG13	1.97	0.46
2:B:69:LYS:HE2	2:B:69:LYS:HB3	1.57	0.46
2:B:183:ILE:HG13	2:B:472:VAL:HG12	1.98	0.46
2:B:707:SER:HB2	2:B:868:CYS:SG	2.56	0.46
1:A:872:TYR:O	1:A:876:ILE:N	2.49	0.46
1:A:1045:GLU:H	1:A:1045:GLU:HG2	1.43	0.46
1:A:1247:ARG:HG2	1:A:1628:VAL:HG22	1.97	0.46
2:B:847:CYS:SG	2:B:871:MET:HG2	2.56	0.46
3:C:53:VAL:HA	3:C:63:PHE:HA	1.97	0.46
3:C:290:ASN:HD22	3:C:293:LEU:HB2	1.81	0.46
4:E:125:TYR:O	4:E:127:LEU:HD12	2.16	0.46
12:M:16:ALA:HB3	12:M:19:GLY:HA2	1.98	0.46
12:M:66:ARG:HB2	13:I:17:LEU:HD21	1.98	0.46
13:I:49:ASP:HB3	13:I:51:GLU:OE1	2.16	0.46
1:A:865:PHE:HA	1:A:868:GLU:OE2	2.16	0.45
1:A:881:MET:HB2	13:I:85:ARG:NH2	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:167:GLY:O	2:B:169:TYR:CD2	2.68	0.45
2:B:184:MET:HB3	2:B:185:PRO:HD2	1.98	0.45
3:C:245:VAL:HG21	3:C:253:LEU:HD22	1.98	0.45
1:A:140:ARG:NH1	1:A:144:ARG:HH12	2.09	0.45
2:B:39:THR:CG2	2:B:166:MET:HG2	2.45	0.45
2:B:64:PHE:HE2	2:B:397:LYS:CB	2.25	0.45
2:B:75:PHE:CD2	2:B:75:PHE:N	2.82	0.45
2:B:262:TYR:C	2:B:262:TYR:CD1	2.89	0.45
2:B:722:VAL:HG21	2:B:934:ALA:HB3	1.98	0.45
1:A:716:TRP:HZ2	1:A:748:VAL:HG11	1.80	0.45
1:A:1128:ASP:CB	1:A:1133:ARG:HD3	2.46	0.45
1:A:1162:THR:HG21	4:E:199:THR:O	2.17	0.45
2:B:336:LEU:CD2	2:B:561:VAL:HG22	2.46	0.45
2:B:538:GLY:O	10:N:116:ARG:NH2	2.49	0.45
2:B:674:ILE:HG12	2:B:688:GLN:HG3	1.98	0.45
2:B:800:ASP:HB3	2:B:803:VAL:HG22	1.99	0.45
2:B:905:THR:HG21	2:B:909:MET:HB2	1.99	0.45
2:B:1084:PRO:HD3	2:B:1094:ARG:NH1	2.31	0.45
3:C:236:LEU:HD22	3:C:305:HIS:CD2	2.51	0.45
8:K:90:LEU:HD12	8:K:95:PRO:HD3	1.98	0.45
1:A:387:LEU:HD12	1:A:390:ILE:HD11	1.97	0.45
1:A:865:PHE:C	1:A:867:GLU:N	2.70	0.45
1:A:1605:ILE:HG21	1:A:1621:ILE:HG13	1.98	0.45
2:B:797:LYS:HE2	2:B:797:LYS:HB3	1.81	0.45
2:B:951:ILE:HD12	10:N:139:PRO:HG3	1.98	0.45
2:B:972:ASN:HA	3:C:286:GLU:OE2	2.17	0.45
5:F:53:THR:OG1	5:F:108:ARG:NH1	2.48	0.45
5:F:55:PRO:O	5:F:123:LEU:HD12	2.16	0.45
1:A:105:LEU:HD12	1:A:264:HIS:CE1	2.52	0.45
1:A:430:LYS:O	1:A:431:HIS:HB2	2.16	0.45
1:A:518:VAL:HG22	1:A:518:VAL:O	2.17	0.45
1:A:1326:TYR:C	13:I:60:VAL:HG11	2.33	0.45
1:A:1533:LEU:H	1:A:1535:LYS:NZ	2.14	0.45
2:B:238:PHE:CE1	2:B:327:LEU:HD11	2.52	0.45
2:B:336:LEU:HD22	2:B:561:VAL:HG22	1.99	0.45
2:B:818:LYS:HG2	2:B:848:VAL:HG12	1.99	0.45
3:C:236:LEU:HB2	3:C:305:HIS:HD2	1.82	0.45
3:C:261:VAL:HG21	3:C:281:ASP:HB2	1.97	0.45
5:F:122:GLU:O	5:F:122:GLU:HG3	2.15	0.45
13:I:85:ARG:HG3	13:I:86:ARG:N	2.32	0.45
1:A:1348:LYS:NZ	1:A:1509:HIS:HB3	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:29:GLU:H	2:B:29:GLU:CD	2.20	0.45
2:B:269:ILE:HG22	2:B:273:GLU:HA	1.98	0.45
2:B:482:ARG:CB	16:U:1:DG:O5'	2.60	0.45
2:B:698:PHE:HE2	2:B:701:LEU:HD23	1.80	0.45
6:H:63:THR:HG22	6:H:71:ASP:OD1	2.17	0.45
14:R:-5:C:H2'	14:R:-4:U:O4'	2.17	0.45
15:T:-1:DG:H22	16:U:2:DT:H3	1.65	0.45
1:A:465:LYS:HZ2	2:B:1014:THR:CG2	2.28	0.45
2:B:106:ARG:HG3	9:L:43:ILE:HD11	1.99	0.45
2:B:543:ASP:CB	12:M:81:CYS:CB	2.77	0.45
2:B:781:LEU:HD22	2:B:792:LEU:CB	2.37	0.45
10:N:81:ARG:HB3	10:N:118:LEU:HG	1.98	0.45
12:M:67:LEU:HD11	12:M:69:TYR:CE1	2.52	0.45
15:T:-7:DG:C2	15:T:-6:DA:C6	3.05	0.45
1:A:1275:LEU:O	1:A:1278:VAL:HG12	2.15	0.45
2:B:143:SER:O	2:B:144:LYS:HB2	2.17	0.45
2:B:400:PHE:HA	2:B:418:ARG:NH1	2.30	0.45
2:B:808:ASP:O	2:B:809:ASP:HB2	2.15	0.45
3:C:193:VAL:HG11	3:C:314:GLY:HA3	1.99	0.45
8:K:22:GLU:HG2	8:K:25:THR:CB	2.46	0.45
9:L:37:ARG:O	9:L:38:GLU:HB3	2.15	0.45
12:M:39:MET:HG2	12:M:64:THR:HG22	1.99	0.45
1:A:619:LEU:HD23	1:A:626:PRO:HA	1.99	0.45
2:B:149:ARG:O	2:B:150:ASN:HB2	2.17	0.45
2:B:655:VAL:HG12	2:B:656:THR:N	2.32	0.45
2:B:760:ASN:OD1	2:B:761:LYS:N	2.50	0.45
6:H:14:ASP:HB3	6:H:17:PRO:HG3	1.99	0.45
13:I:14:GLN:O	13:I:17:LEU:N	2.50	0.45
16:U:9:DC:H3'	16:U:9:DC:OP2	2.17	0.45
1:A:91:LEU:HD13	2:B:1128:ILE:HD11	2.00	0.45
1:A:472:VAL:CG2	1:A:477:VAL:HG23	2.47	0.45
1:A:716:TRP:CZ2	1:A:748:VAL:HG11	2.53	0.45
7:J:24:LEU:O	7:J:29:TYR:HB2	2.17	0.45
1:A:174:LEU:HG	1:A:174:LEU:O	2.17	0.44
1:A:429:ARG:HG2	2:B:1039:GLU:OE2	2.17	0.44
1:A:544:ASN:HA	1:A:566:ALA:O	2.17	0.44
1:A:1531:LEU:CB	1:A:1535:LYS:HD3	2.47	0.44
2:B:5:SER:O	2:B:6:ARG:HB3	2.17	0.44
2:B:98:VAL:O	2:B:110:TYR:HE1	2.00	0.44
2:B:205:TYR:CD1	2:B:229:LEU:HD22	2.52	0.44
2:B:651:VAL:HG22	2:B:656:THR:HG21	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:241:LEU:HD23	3:C:297:VAL:CG2	2.47	0.44
4:E:13:ILE:CD1	4:E:132:GLN:HG3	2.47	0.44
4:E:87:ILE:HD11	4:E:110:MET:HE1	1.99	0.44
10:N:38:PRO:O	12:M:94:LYS:NZ	2.47	0.44
1:A:95:LYS:HD3	1:A:95:LYS:HA	1.74	0.44
1:A:822:CYS:SG	1:A:868:GLU:HB2	2.57	0.44
1:A:1512:ILE:HG22	1:A:1513:ASP:N	2.31	0.44
2:B:290:MET:HE2	2:B:294:CYS:HB2	1.98	0.44
1:A:715:ALA:HB2	1:A:899:GLN:NE2	2.33	0.44
1:A:1589:PHE:HA	1:A:1597:LEU:CD1	2.47	0.44
1:A:1598:ARG:O	1:A:1599:ARG:HB2	2.17	0.44
2:B:92:ILE:CG2	2:B:93:CYS:H	2.24	0.44
2:B:186:ARG:O	2:B:213:HIS:HB3	2.18	0.44
2:B:239:ILE:HB	2:B:244:LEU:HD23	1.99	0.44
2:B:337:LYS:HB2	2:B:337:LYS:HE2	1.66	0.44
3:C:241:LEU:HD21	3:C:253:LEU:HD21	1.99	0.44
4:E:11:TRP:HB2	4:E:40:PHE:CD2	2.52	0.44
4:E:87:ILE:HD11	4:E:110:MET:CE	2.48	0.44
4:E:92:GLN:HA	4:E:95:GLN:CD	2.37	0.44
13:I:122:GLU:HG2	13:I:124:GLU:OE2	2.18	0.44
1:A:29:SER:HB3	1:A:80:HIS:HD2	1.82	0.44
1:A:132:LEU:HG	4:E:210:GLN:HE22	1.82	0.44
1:A:222:LYS:C	1:A:223:LEU:HD12	2.38	0.44
1:A:422:GLU:HG2	1:A:1677:SER:HB3	1.99	0.44
1:A:464:THR:O	1:A:464:THR:CG2	2.66	0.44
1:A:908:ASN:HB3	2:B:921:PRO:O	2.17	0.44
2:B:197:LYS:HG2	2:B:197:LYS:O	2.18	0.44
2:B:247:LEU:HD12	2:B:248:PRO:HD2	1.98	0.44
2:B:987:GLU:CD	3:C:301:ARG:HE	2.20	0.44
1:A:44:ASN:HB2	1:A:45:PRO:CD	2.47	0.44
1:A:854:ASP:O	1:A:855:GLN:HB2	2.17	0.44
1:A:1531:LEU:HB3	1:A:1535:LYS:HD3	1.98	0.44
1:A:1628:VAL:O	1:A:1631:VAL:HG22	2.17	0.44
2:B:647:PHE:CE1	2:B:663:PRO:HB3	2.53	0.44
3:C:14:VAL:C	3:C:300:ALA:HB1	2.38	0.44
3:C:149:ASN:OD1	3:C:161:GLU:HA	2.17	0.44
4:E:168:ASN:HA	4:E:172:ARG:HH12	1.82	0.44
6:H:40:ILE:O	6:H:123:MET:HA	2.17	0.44
12:M:69:TYR:HA	12:M:110:GLN:O	2.18	0.44
15:T:-9:DA:H61	16:U:10:DT:H1'	1.83	0.44
1:A:268:LEU:HD23	1:A:268:LEU:O	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:568:LYS:HE2	2:B:600:MET:HE3	1.98	0.44
3:C:75:ALA:O	3:C:79:ILE:HG12	2.18	0.44
3:C:142:LEU:HD21	3:C:168:VAL:HG11	1.99	0.44
4:E:168:ASN:HA	4:E:172:ARG:HH22	1.83	0.44
1:A:26:LYS:O	1:A:27:LYS:HB2	2.18	0.44
1:A:1009:ASP:OD1	1:A:1010:SER:N	2.47	0.44
1:A:1326:TYR:C	13:I:60:VAL:CG1	2.86	0.44
2:B:525:VAL:HG21	2:B:590:PRO:HG3	2.00	0.44
8:K:89:THR:HG23	8:K:90:LEU:H	1.81	0.44
1:A:186:GLU:HB2	1:A:1664:SER:HB2	2.00	0.44
1:A:766:TYR:CD1	1:A:771:GLY:HA2	2.52	0.44
1:A:851:LEU:CD2	2:B:362:MET:HE1	2.46	0.44
2:B:55:GLY:O	2:B:59:GLN:HG2	2.18	0.44
2:B:156:LEU:HG	2:B:161:GLU:HB2	2.00	0.44
2:B:570:LEU:HD22	10:N:81:ARG:HD3	2.00	0.44
2:B:705:ASP:HA	2:B:853:LYS:HZ3	1.82	0.44
2:B:782:SER:HA	2:B:792:LEU:HD13	2.00	0.44
2:B:804:LEU:HG	2:B:805:GLN:OE1	2.18	0.44
2:B:855:CYS:HA	9:L:42:ARG:O	2.17	0.44
10:N:146:ARG:NH1	10:N:148:ARG:NH2	2.63	0.44
1:A:976:VAL:O	1:A:980:VAL:HG13	2.18	0.44
1:A:1090:LEU:CD1	4:E:22:HIS:NE2	2.80	0.44
1:A:1583:ILE:CD1	1:A:1604:ASP:HB2	2.48	0.44
2:B:109:THR:HA	2:B:171:ILE:O	2.18	0.44
2:B:526:TYR:O	2:B:527:THR:HG22	2.17	0.44
2:B:674:ILE:HG12	2:B:688:GLN:CG	2.48	0.44
2:B:792:LEU:CD1	2:B:865:LYS:HD2	2.41	0.44
2:B:811:GLY:O	2:B:812:LEU:HD23	2.18	0.44
3:C:30:PRO:HG3	8:K:61:LYS:HA	1.99	0.44
4:E:179:VAL:O	4:E:179:VAL:HG12	2.18	0.44
6:H:56:PHE:HE1	6:H:58:LEU:HD12	1.83	0.44
10:N:30:PHE:O	10:N:96:ALA:HB1	2.18	0.44
10:N:84:SER:OG	10:N:115:LEU:CD2	2.66	0.44
12:M:11:TRP:CZ2	12:M:101:VAL:HG11	2.53	0.44
13:I:89:ARG:HG2	13:I:120:PHE:CE2	2.53	0.44
13:I:115:CYS:SG	13:I:116:THR:N	2.91	0.44
1:A:132:LEU:HD23	4:E:172:ARG:HH21	1.83	0.43
1:A:811:LYS:O	1:A:815:ILE:HG13	2.18	0.43
1:A:929:MET:HE2	2:B:492:GLU:HG3	1.99	0.43
1:A:987:TYR:CE2	1:A:1253:MET:HE1	2.53	0.43
1:A:1113:ARG:O	1:A:1114:SER:HB2	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:115:THR:HG22	2:B:133:PHE:HA	1.99	0.43
2:B:538:GLY:CA	10:N:118:LEU:CB	2.89	0.43
3:C:26:THR:OG1	3:C:303:ARG:NE	2.45	0.43
4:E:122:ALA:O	4:E:124:LYS:N	2.50	0.43
6:H:118:TYR:OH	6:H:143:LEU:HB2	2.18	0.43
12:M:34:GLN:CG	13:I:8:ASN:HA	2.43	0.43
1:A:30:VAL:CG1	1:A:66:THR:HG21	2.48	0.43
1:A:93:PHE:O	1:A:96:LEU:HB3	2.18	0.43
1:A:472:VAL:O	1:A:535:THR:HG21	2.19	0.43
1:A:606:ALA:HB2	5:F:90:LEU:CD1	2.41	0.43
1:A:955:PHE:CD2	2:B:924:MET:HB3	2.53	0.43
1:A:56:GLY:HA2	1:A:64:CYS:HB3	2.00	0.43
1:A:812:ARG:HH11	1:A:914:CYS:C	2.21	0.43
1:A:833:LEU:HD13	1:A:834:PRO:HD2	2.00	0.43
1:A:865:PHE:CZ	1:A:945:PRO:HA	2.53	0.43
1:A:1348:LYS:O	1:A:1352:GLU:HG3	2.18	0.43
2:B:162:GLU:C	2:B:164:GLU:N	2.72	0.43
2:B:240:TYR:HB2	2:B:331:CYS:SG	2.58	0.43
2:B:248:PRO:HB2	2:B:251:PHE:HD2	1.82	0.43
2:B:667:LEU:HD12	2:B:667:LEU:HA	1.86	0.43
2:B:689:CYS:O	2:B:693:LYS:HD3	2.18	0.43
2:B:743:VAL:HG21	2:B:997:VAL:CG2	2.47	0.43
2:B:1132:LEU:HD12	2:B:1132:LEU:O	2.18	0.43
10:N:39:ASP:HA	12:M:94:LYS:HE3	1.99	0.43
1:A:64:CYS:SG	1:A:67:CYS:O	2.75	0.43
1:A:598:PHE:O	1:A:600:GLN:HG2	2.18	0.43
1:A:654:MET:C	1:A:656:LEU:H	2.22	0.43
1:A:846:TRP:NE1	1:A:858:PHE:HE1	2.13	0.43
1:A:1095:LYS:O	1:A:1098:GLU:HB3	2.19	0.43
1:A:1134:LYS:HE2	1:A:1134:LYS:CA	2.49	0.43
1:A:1207:PRO:HD2	5:F:58:THR:HG22	2.00	0.43
1:A:1318:ARG:HB2	1:A:1526:GLN:HB3	1.99	0.43
2:B:18:HIS:HE1	2:B:723:ARG:HH22	1.66	0.43
2:B:116:ALA:H	2:B:134:LEU:HD23	1.83	0.43
2:B:403:LYS:CB	2:B:418:ARG:HH12	2.20	0.43
2:B:767:GLY:HA2	2:B:770:HIS:CE1	2.53	0.43
4:E:143:GLU:HG3	4:E:144:LEU:HG	2.00	0.43
1:A:100:LEU:HD21	1:A:265:LEU:CD2	2.48	0.43
1:A:131:ALA:HB2	1:A:172:ASN:HD22	1.83	0.43
1:A:221:SER:CB	1:A:395:GLN:HB3	2.49	0.43
1:A:743:GLU:OE2	6:H:140:ARG:NH2	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:801:ASP:HB3	1:A:887:ARG:HD2	2.00	0.43
1:A:1008:ARG:CZ	5:F:111:PRO:HG3	2.48	0.43
1:A:1062:PRO:HB3	1:A:1156:PHE:HD2	1.83	0.43
1:A:1206:GLU:OE1	5:F:58:THR:HA	2.19	0.43
1:A:1631:VAL:HG23	1:A:1632:TYR:CE2	2.54	0.43
1:A:1715:LEU:HD12	5:F:68:THR:HG21	2.01	0.43
2:B:704:GLN:HG3	2:B:704:GLN:O	2.18	0.43
4:E:67:ASP:CG	4:E:70:ASP:HB2	2.39	0.43
4:E:82:VAL:HG13	4:E:86:THR:HB	1.99	0.43
7:J:1:MET:HE3	7:J:56:ILE:HD13	1.98	0.43
15:T:9:DT:H2''	15:T:10:DA:C8	2.53	0.43
1:A:217:LYS:HD2	1:A:218:GLU:O	2.19	0.43
1:A:889:PHE:O	1:A:890:PRO:C	2.56	0.43
1:A:1114:SER:HB3	1:A:1117:THR:H	1.84	0.43
1:A:1515:TYR:O	1:A:1526:GLN:NE2	2.52	0.43
1:A:1590:LYS:HE3	4:E:133:GLN:NE2	2.33	0.43
2:B:35:LEU:HD13	2:B:35:LEU:HA	1.87	0.43
2:B:758:ILE:HD12	2:B:895:ARG:HB2	1.95	0.43
2:B:796:ILE:HD11	2:B:807:LEU:CB	2.41	0.43
2:B:828:TYR:CD1	2:B:828:TYR:N	2.86	0.43
4:E:73:PHE:HB2	4:E:99:ILE:HD13	2.00	0.43
12:M:66:ARG:HB3	13:I:17:LEU:HD21	2.01	0.43
1:A:404:SER:CB	1:A:415:PRO:HA	2.42	0.43
1:A:1670:GLN:C	1:A:1672:MET:H	2.22	0.43
2:B:18:HIS:O	2:B:21:ASP:HB2	2.19	0.43
2:B:172:ILE:O	2:B:173:ASN:HB2	2.17	0.43
2:B:691:MET:HE1	2:B:884:ALA:HB1	2.01	0.43
2:B:863:LYS:O	2:B:865:LYS:HG2	2.19	0.43
2:B:1003:ARG:O	2:B:1003:ARG:CD	2.64	0.43
3:C:246:GLU:HG2	3:C:272:VAL:HA	2.01	0.43
4:E:85:LYS:HE2	4:E:85:LYS:HB3	1.87	0.43
10:N:29:ARG:C	10:N:31:SER:H	2.22	0.43
1:A:40:ASP:HB2	1:A:44:ASN:O	2.18	0.43
1:A:472:VAL:HG12	1:A:536:LYS:O	2.19	0.43
1:A:1085:ARG:HD3	4:E:22:HIS:ND1	2.34	0.43
2:B:73:ILE:HG22	2:B:75:PHE:CZ	2.51	0.43
2:B:175:ILE:O	2:B:175:ILE:HG22	2.19	0.43
4:E:169:GLN:CG	4:E:169:GLN:O	2.67	0.43
15:T:-6:DA:H1'	15:T:-5:DC:O4'	2.19	0.43
1:A:186:GLU:HG2	1:A:190:LYS:HE3	2.01	0.43
1:A:280:PHE:O	1:A:281:SER:OG	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:465:LYS:HZ1	2:B:1032:GLN:HE22	1.66	0.43
1:A:754:TYR:CE1	1:A:781:LEU:HD22	2.54	0.43
2:B:32:LYS:O	2:B:33:ALA:HB3	2.19	0.43
2:B:258:SER:HB3	2:B:297:GLN:OE1	2.19	0.43
8:K:65:VAL:HA	8:K:86:THR:HA	2.00	0.43
12:M:113:PHE:HE1	13:I:35:THR:HG23	1.84	0.43
1:A:406:MET:HE2	1:A:406:MET:HB2	1.86	0.43
1:A:1243:LEU:O	1:A:1246:PRO:HG2	2.19	0.43
1:A:1652:GLY:HA2	4:E:172:ARG:O	2.19	0.43
2:B:388:LYS:HE3	2:B:429:PRO:HB3	2.01	0.43
2:B:576:ASP:OD1	2:B:576:ASP:C	2.57	0.43
3:C:30:PRO:HB3	3:C:38:ASP:O	2.19	0.43
3:C:100:ILE:HG13	7:J:60:LEU:HD23	2.00	0.43
6:H:32:SER:HB3	6:H:37:MET:H	1.83	0.43
1:A:121:LEU:HD23	1:A:125:ARG:HG3	2.01	0.42
1:A:205:CYS:HB3	1:A:208:CYS:O	2.18	0.42
1:A:427:LEU:HG	1:A:427:LEU:O	2.19	0.42
1:A:440:ALA:CB	2:B:1035:ILE:HD11	2.47	0.42
1:A:479:GLU:CD	5:F:87:THR:HG21	2.39	0.42
1:A:927:PRO:CG	2:B:488:ARG:HH22	2.32	0.42
1:A:1590:LYS:HZ1	4:E:133:GLN:NE2	2.08	0.42
2:B:519:GLU:HG3	2:B:620:VAL:HG23	2.01	0.42
2:B:718:GLN:HB3	7:J:51:ALA:O	2.19	0.42
2:B:804:LEU:N	2:B:804:LEU:HD23	2.34	0.42
3:C:102:GLN:O	3:C:106:LEU:HB2	2.19	0.42
4:E:43:GLN:O	4:E:44:SER:HB3	2.18	0.42
1:A:218:GLU:HG2	1:A:219:HIS:H	1.82	0.42
1:A:1008:ARG:NH1	5:F:111:PRO:CG	2.79	0.42
1:A:1129:GLU:OE1	1:A:1132:ARG:CB	2.67	0.42
1:A:1523:LEU:HD12	1:A:1524:TRP:HB2	2.01	0.42
1:A:1531:LEU:O	1:A:1535:LYS:HD3	2.19	0.42
1:A:1559:ILE:HG23	1:A:1580:THR:HG23	2.01	0.42
1:A:1566:GLU:O	1:A:1576:LEU:HD22	2.19	0.42
1:A:1713:PHE:CZ	5:F:61:GLU:HG2	2.54	0.42
2:B:430:PHE:O	2:B:434:PHE:HD1	2.02	0.42
13:I:13:PHE:HD1	13:I:20:CYS:CB	2.32	0.42
1:A:459:PRO:O	1:A:461:VAL:N	2.52	0.42
1:A:727:PHE:HE1	6:H:40:ILE:HG13	1.84	0.42
1:A:936:PRO:CD	2:B:494:TRP:CB	2.96	0.42
1:A:961:PRO:N	1:A:962:PRO:HD2	2.33	0.42
1:A:1268:VAL:HG23	1:A:1576:LEU:O	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:224:MET:HE2	2:B:224:MET:HB2	1.83	0.42
2:B:263:GLN:N	12:M:29:SER:O	2.51	0.42
2:B:269:ILE:HG22	2:B:269:ILE:O	2.19	0.42
2:B:908:GLY:HA2	3:C:232:SER:OG	2.19	0.42
4:E:56:THR:O	4:E:56:THR:HG22	2.18	0.42
4:E:72:MET:HE1	4:E:103:LEU:HD12	2.02	0.42
12:M:30:ASN:ND2	13:I:18:ASP:O	2.53	0.42
12:M:34:GLN:CG	13:I:7:ALA:C	2.75	0.42
1:A:61:LYS:HE3	1:A:61:LYS:HB2	1.86	0.42
1:A:225:ILE:CG2	1:A:256:LEU:HD11	2.49	0.42
1:A:330:ALA:HB1	1:A:397:HIS:CE1	2.54	0.42
1:A:463:ALA:CB	1:A:568:ILE:HD12	2.49	0.42
1:A:705:LEU:CD1	1:A:761:LEU:HA	2.50	0.42
1:A:1006:THR:CG2	1:A:1008:ARG:HE	2.29	0.42
1:A:1078:LYS:HB2	1:A:1078:LYS:HE3	1.82	0.42
1:A:1357:LYS:HZ1	1:A:1538:PHE:HE1	1.67	0.42
1:A:1535:LYS:HD2	1:A:1535:LYS:N	2.34	0.42
2:B:63:PRO:HB3	2:B:76:THR:HG22	2.00	0.42
2:B:116:ALA:N	2:B:134:LEU:HD23	2.34	0.42
2:B:194:ILE:HD12	2:B:363:GLU:HB2	2.01	0.42
2:B:214:CYS:O	2:B:221:ALA:HA	2.19	0.42
2:B:681:GLN:O	2:B:684:ARG:HB2	2.19	0.42
2:B:720:PRO:O	2:B:723:ARG:HD3	2.19	0.42
4:E:159:LEU:CD2	4:E:160:LEU:HD23	2.45	0.42
6:H:107:GLU:HG3	6:H:108:ALA:N	2.34	0.42
8:K:45:HIS:O	8:K:46:GLU:HB2	2.19	0.42
10:N:61:VAL:HG21	12:M:11:TRP:HE3	1.84	0.42
1:A:85:LEU:HD22	1:A:391:TRP:NE1	2.33	0.42
1:A:543:LYS:O	1:A:543:LYS:CG	2.68	0.42
1:A:636:VAL:HG11	1:A:795:PHE:CE1	2.54	0.42
1:A:927:PRO:HG3	2:B:488:ARG:HH22	1.80	0.42
1:A:1016:GLN:OE1	1:A:1643:LEU:HD13	2.19	0.42
2:B:920:PHE:N	2:B:921:PRO:CD	2.82	0.42
2:B:997:VAL:CG2	2:B:999:TYR:CE2	3.02	0.42
1:A:602:GLU:O	1:A:602:GLU:HG3	2.19	0.42
1:A:703:LEU:HD23	1:A:703:LEU:H	1.84	0.42
1:A:727:PHE:O	1:A:729:PRO:HD3	2.18	0.42
1:A:912:ILE:HG13	2:B:924:MET:SD	2.59	0.42
1:A:1247:ARG:HG2	1:A:1628:VAL:CG2	2.50	0.42
1:A:1672:MET:O	1:A:1677:SER:HB2	2.19	0.42
2:B:75:PHE:CD1	2:B:120:TRP:CB	3.03	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:746:ILE:CG2	2:B:914:LEU:HD22	2.50	0.42
2:B:854:VAL:HG12	9:L:34:ILE:CG2	2.41	0.42
3:C:86:THR:HA	3:C:119:PRO:CG	2.49	0.42
3:C:312:SER:HB3	3:C:321:LEU:HD11	2.01	0.42
4:E:6:GLU:O	4:E:10:LEU:HD13	2.19	0.42
1:A:454:ASN:HA	1:A:614:THR:HG21	2.00	0.42
1:A:1713:PHE:CE1	5:F:61:GLU:HG2	2.55	0.42
2:B:60:ALA:O	2:B:61:ILE:C	2.58	0.42
2:B:370:VAL:HG13	2:B:637:MET:HA	2.01	0.42
4:E:103:LEU:HD21	4:E:130:PHE:CD2	2.55	0.42
1:A:677:LYS:HG2	6:H:89:GLU:C	2.40	0.42
1:A:1086:ARG:HB2	1:A:1086:ARG:NH1	2.35	0.42
1:A:1639:ARG:HE	4:E:199:THR:HG21	1.85	0.42
1:A:1715:LEU:HD23	1:A:1715:LEU:HA	1.85	0.42
2:B:489:LEU:HD23	2:B:489:LEU:O	2.19	0.42
2:B:541:PRO:HD2	10:N:46:GLN:HE22	1.82	0.42
3:C:236:LEU:HB2	3:C:305:HIS:CD2	2.55	0.42
3:C:337:LEU:HD21	8:K:100:LEU:CB	2.49	0.42
4:E:110:MET:SD	4:E:118:LEU:CD1	3.06	0.42
6:H:86:ASP:C	6:H:88:PHE:H	2.23	0.42
10:N:56:PHE:HZ	10:N:80:TYR:HB2	1.83	0.42
13:I:85:ARG:HG3	13:I:86:ARG:H	1.85	0.42
1:A:502:GLY:O	1:A:503:SER:OG	2.18	0.42
1:A:992:ILE:HD11	1:A:1252:LEU:HD13	2.01	0.42
1:A:1266:VAL:HG12	1:A:1596:ASP:O	2.19	0.42
1:A:1268:VAL:O	1:A:1268:VAL:HG12	2.19	0.42
1:A:1268:VAL:HG13	1:A:1595:LEU:HD23	2.01	0.42
1:A:1280:SER:O	1:A:1284:GLN:HB2	2.19	0.42
1:A:1711:GLY:HA2	5:F:64:ARG:HH11	1.84	0.42
2:B:167:GLY:O	2:B:169:TYR:HD2	2.02	0.42
2:B:668:SER:O	2:B:672:ASN:ND2	2.53	0.42
2:B:804:LEU:HD23	2:B:804:LEU:H	1.85	0.42
3:C:40:TRP:HZ2	8:K:106:VAL:CG2	2.33	0.42
3:C:56:MET:HE2	8:K:121:TYR:HD2	1.83	0.42
3:C:240:THR:HG23	3:C:240:THR:O	2.20	0.42
4:E:73:PHE:HD2	4:E:75:PHE:CZ	2.38	0.42
1:A:402:PHE:CZ	2:B:1126:MET:HA	2.54	0.42
1:A:642:THR:HB	1:A:748:VAL:O	2.19	0.42
1:A:659:ARG:HD3	1:A:787:ALA:HB1	2.02	0.42
1:A:711:ILE:HG13	1:A:750:ASP:OD2	2.19	0.42
1:A:896:MET:HG3	1:A:896:MET:O	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1020:GLY:O	1:A:1021:GLU:HB2	2.20	0.42
1:A:1324:HIS:HD2	1:A:1328:GLN:HG3	1.84	0.42
1:A:1334:ARG:HG3	1:A:1335:PRO:CD	2.40	0.42
2:B:210:VAL:HG21	2:B:349:MET:HB3	2.01	0.42
2:B:284:GLN:O	2:B:288:ILE:HB	2.19	0.42
2:B:790:SER:C	2:B:792:LEU:H	2.22	0.42
3:C:50:ARG:HG3	3:C:66:VAL:HB	2.02	0.42
6:H:26:SER:HB3	6:H:45:ILE:HG21	2.02	0.42
7:J:17:LYS:HE3	7:J:38:LEU:O	2.20	0.42
12:M:30:ASN:ND2	13:I:18:ASP:HA	2.35	0.42
1:A:78:LEU:HD12	1:A:306:PRO:HD3	2.01	0.41
1:A:513:THR:HG23	1:A:514:GLN:N	2.34	0.41
1:A:1092:TYR:CZ	1:A:1095:LYS:HD2	2.55	0.41
1:A:1133:ARG:O	1:A:1133:ARG:CG	2.66	0.41
1:A:1570:ASN:OD1	1:A:1571:LYS:N	2.53	0.41
2:B:171:ILE:CG2	2:B:174:GLY:HA2	2.47	0.41
2:B:521:VAL:O	2:B:616:PRO:O	2.38	0.41
3:C:263:GLU:CB	3:C:276:ALA:HB2	2.50	0.41
13:I:83:VAL:H	13:I:83:VAL:HG12	1.59	0.41
13:I:103:ARG:NH2	13:I:107:GLU:HG3	2.35	0.41
15:T:-8:DG:H8	15:T:-8:DG:O5'	2.03	0.41
1:A:408:LYS:H	1:A:408:LYS:HD3	1.84	0.41
1:A:679:PHE:CE1	6:H:47:ILE:HG12	2.55	0.41
1:A:754:TYR:HE1	1:A:781:LEU:HD22	1.85	0.41
1:A:896:MET:O	1:A:896:MET:CG	2.67	0.41
1:A:968:CYS:O	2:B:686:MET:HE1	2.20	0.41
2:B:162:GLU:HB2	2:B:165:GLU:HB3	2.01	0.41
3:C:135:ILE:H	3:C:135:ILE:HG12	1.48	0.41
13:I:87:CYS:HA	13:I:88:PRO:HD3	1.92	0.41
1:A:326:VAL:HG11	1:A:414:TYR:CE1	2.55	0.41
1:A:613:CYS:SG	1:A:614:THR:N	2.93	0.41
1:A:1037:PHE:N	1:A:1038:PRO:CD	2.82	0.41
1:A:1580:THR:CG2	1:A:1581:GLU:N	2.84	0.41
2:B:179:ILE:HD11	2:B:434:PHE:CE2	2.55	0.41
3:C:336:PHE:CZ	8:K:44:LEU:HB3	2.55	0.41
15:T:-4:DA:H1'	15:T:-3:DG:H5'	2.03	0.41
1:A:661:LEU:HG	1:A:691:LEU:CD1	2.51	0.41
2:B:346:LEU:HD23	2:B:346:LEU:HA	1.93	0.41
2:B:566:VAL:HG23	2:B:574:ILE:HD12	2.02	0.41
2:B:906:GLU:CD	3:C:301:ARG:HH22	2.24	0.41
3:C:267:VAL:HG11	3:C:272:VAL:HG11	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:337:LEU:CD1	8:K:104:MET:HE3	2.50	0.41
4:E:67:ASP:O	4:E:70:ASP:N	2.53	0.41
6:H:39:LEU:HD12	6:H:125:LEU:HD13	2.00	0.41
13:I:17:LEU:HD13	13:I:35:THR:O	2.20	0.41
1:A:927:PRO:CG	2:B:488:ARG:NH2	2.79	0.41
1:A:1618:LEU:HD11	1:A:1649:CYS:CB	2.49	0.41
2:B:35:LEU:HD13	2:B:730:TYR:HD2	1.85	0.41
2:B:804:LEU:HG	2:B:805:GLN:N	2.36	0.41
1:A:569:LEU:HA	1:A:570:PRO:HD3	1.95	0.41
1:A:1162:THR:O	1:A:1166:LYS:HG3	2.20	0.41
1:A:1324:HIS:CD2	1:A:1328:GLN:HG3	2.56	0.41
1:A:1518:ASP:CG	1:A:1524:TRP:H	2.23	0.41
1:A:1704:LYS:HE2	1:A:1704:LYS:HB3	1.74	0.41
2:B:66:PHE:CZ	2:B:400:PHE:CD2	3.06	0.41
2:B:86:THR:HG22	2:B:87:VAL:N	2.35	0.41
2:B:104:ARG:NH2	2:B:169:TYR:OH	2.52	0.41
2:B:185:PRO:O	2:B:186:ARG:HB2	2.21	0.41
3:C:29:PHE:CE1	8:K:57:TYR:HE1	2.39	0.41
3:C:40:TRP:HB2	8:K:61:LYS:HB3	2.02	0.41
5:F:110:LEU:HB3	5:F:111:PRO:HD2	2.01	0.41
6:H:33:GLU:O	6:H:34:SER:OG	2.30	0.41
8:K:60:MET:SD	8:K:68:CYS:HB3	2.60	0.41
16:U:7:DT:H6	16:U:7:DT:H2'	1.58	0.41
1:A:33:ILE:HD11	1:A:81:ILE:CG1	2.51	0.41
1:A:593:GLU:OE2	2:B:1009:LYS:O	2.39	0.41
1:A:897:MET:HG3	2:B:918:HIS:HE1	1.85	0.41
1:A:939:GLU:HG2	1:A:940:PRO:N	2.34	0.41
1:A:1504:ALA:O	1:A:1508:ILE:HG13	2.21	0.41
2:B:215:VAL:HA	2:B:220:SER:O	2.20	0.41
2:B:247:LEU:HD11	2:B:304:LEU:HD21	2.03	0.41
2:B:1042:ARG:HG2	2:B:1054:LEU:HD21	2.03	0.41
12:M:68:SER:HB2	12:M:112:LEU:HB2	2.02	0.41
1:A:874:ASN:HB2	13:I:83:VAL:O	2.20	0.41
1:A:975:LEU:HD22	13:I:104:SER:CA	2.33	0.41
1:A:1104:LYS:HD2	1:A:1104:LYS:O	2.20	0.41
2:B:267:GLU:HA	2:B:270:LYS:HD3	2.02	0.41
2:B:396:ILE:HA	2:B:422:MET:CB	2.51	0.41
2:B:416:LEU:HD12	2:B:419:ILE:HD11	2.02	0.41
2:B:786:LYS:O	2:B:788:GLY:N	2.52	0.41
3:C:84:VAL:HA	3:C:85:PRO:HD3	1.94	0.41
3:C:312:SER:HB3	3:C:321:LEU:HD12	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:10:LEU:HD21	4:E:58:LEU:HD11	2.02	0.41
12:M:67:LEU:HD12	12:M:68:SER:N	2.36	0.41
1:A:20:TYR:CD1	2:B:1129:LYS:HD3	2.55	0.41
1:A:26:LYS:HE3	1:A:301:PHE:CE2	2.55	0.41
1:A:468:TYR:HB2	1:A:598:PHE:CE2	2.56	0.41
1:A:585:TYR:O	1:A:586:ASN:HB3	2.21	0.41
1:A:678:PRO:HB2	6:H:47:ILE:HG21	1.96	0.41
1:A:705:LEU:HD23	1:A:706:SER:N	2.36	0.41
1:A:734:GLU:HG3	6:H:22:PHE:CZ	2.55	0.41
1:A:792:TYR:HB3	3:C:24:VAL:HG11	2.03	0.41
1:A:850:HIS:HD2	1:A:941:TYR:OH	2.04	0.41
1:A:1034:PRO:O	1:A:1035:LYS:CB	2.69	0.41
1:A:1184:LYS:HE3	1:A:1184:LYS:HB3	1.84	0.41
1:A:1341:PHE:CE1	1:A:1345:ARG:HD2	2.56	0.41
1:A:1348:LYS:HE3	1:A:1508:ILE:HB	2.02	0.41
1:A:1568:THR:HG21	1:A:1577:VAL:HG11	2.01	0.41
2:B:92:ILE:CG2	2:B:93:CYS:N	2.82	0.41
2:B:180:ARG:NH1	14:R:-5:C:OP1	2.44	0.41
2:B:399:ALA:HB2	2:B:422:MET:SD	2.61	0.41
4:E:17:ILE:HG21	4:E:74:VAL:HG11	2.03	0.41
8:K:93:VAL:O	8:K:93:VAL:HG12	2.21	0.41
10:N:61:VAL:N	12:M:9:ALA:O	2.54	0.41
1:A:127:LEU:HD21	1:A:135:VAL:HG22	2.01	0.41
1:A:445:ILE:HD11	1:A:587:ALA:HB1	2.03	0.41
1:A:811:LYS:HA	1:A:814:ARG:HG2	2.03	0.41
1:A:967:HIS:CD2	2:B:682:SER:OG	2.74	0.41
1:A:1300:GLN:O	1:A:1315:TYR:HA	2.20	0.41
1:A:1557:LYS:O	1:A:1584:ASN:ND2	2.53	0.41
1:A:1583:ILE:HG23	1:A:1583:ILE:O	2.21	0.41
1:A:1598:ARG:HA	4:E:142:HIS:CD2	2.55	0.41
2:B:46:PHE:CE1	2:B:50:VAL:HG11	2.56	0.41
2:B:364:ASP:OD1	2:B:606:LEU:HD22	2.21	0.41
2:B:399:ALA:HB2	2:B:422:MET:CE	2.51	0.41
2:B:681:GLN:HG3	2:B:683:PRO:HD2	2.03	0.41
2:B:700:LEU:HA	2:B:735:TYR:HE1	1.85	0.41
2:B:987:GLU:OE1	3:C:301:ARG:NH2	2.54	0.41
3:C:89:VAL:HG22	3:C:214:CYS:SG	2.61	0.41
3:C:245:VAL:O	3:C:246:GLU:HG3	2.21	0.41
6:H:80:ASP:O	6:H:82:PRO:HD3	2.21	0.41
12:M:28:PHE:HB2	12:M:31:GLY:O	2.21	0.41
1:A:215:VAL:HG22	1:A:225:ILE:CG2	2.50	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:439:TYR:H	2:B:1014:THR:HA	1.86	0.40
1:A:737:VAL:HA	1:A:746:CYS:O	2.20	0.40
1:A:847:GLN:NE2	2:B:603:LYS:HD2	2.35	0.40
1:A:1602:SER:HB3	1:A:1608:ILE:HD11	2.02	0.40
2:B:82:ILE:HD13	2:B:137:VAL:HG21	2.02	0.40
2:B:262:TYR:CG	12:M:30:ASN:HA	2.54	0.40
2:B:333:CYS:SG	2:B:333:CYS:O	2.79	0.40
2:B:1056:ASP:O	2:B:1057:ARG:O	2.39	0.40
3:C:45:PHE:CZ	8:K:106:VAL:HG13	2.56	0.40
3:C:180:ASN:HD22	3:C:180:ASN:HA	1.77	0.40
7:J:63:ALA:HB1	7:J:64:PRO:HD2	2.03	0.40
10:N:70:LYS:HE2	10:N:79:ARG:NH1	2.36	0.40
10:N:94:LEU:HD13	12:M:89:VAL:HG21	2.03	0.40
10:N:131:GLN:HB2	10:N:134:PRO:HB3	2.02	0.40
13:I:28:PRO:HA	13:I:41:CYS:HA	2.02	0.40
13:I:88:PRO:HB3	13:I:92:HIS:CD2	2.56	0.40
1:A:8:PRO:HB3	2:B:1109:THR:C	2.42	0.40
1:A:592:ASP:O	1:A:593:GLU:C	2.60	0.40
1:A:681:LEU:CD1	6:H:47:ILE:HD11	2.52	0.40
1:A:956:LEU:O	2:B:679:HIS:HD2	2.04	0.40
1:A:976:VAL:HG13	2:B:484:THR:HG21	2.03	0.40
1:A:1104:LYS:HD3	1:A:1116:GLY:CA	2.52	0.40
1:A:1590:LYS:CE	4:E:133:GLN:HE21	2.35	0.40
2:B:179:ILE:HG23	2:B:453:LEU:O	2.21	0.40
2:B:284:GLN:HG3	2:B:288:ILE:HG13	2.04	0.40
2:B:365:ASN:OD1	2:B:365:ASN:N	2.52	0.40
2:B:730:TYR:O	2:B:731:ASP:C	2.57	0.40
6:H:88:PHE:HA	6:H:146:LYS:HB2	2.04	0.40
10:N:49:ALA:HB2	12:M:84:LEU:O	2.21	0.40
1:A:327:ASN:HB3	1:A:401:VAL:HG22	2.02	0.40
1:A:448:ASP:O	1:A:449:MET:CB	2.69	0.40
1:A:1267:PRO:HG2	1:A:1596:ASP:HB3	2.03	0.40
1:A:1281:LEU:CD2	1:A:1595:LEU:HD11	2.51	0.40
1:A:1289:CYS:SG	1:A:1549:HIS:O	2.80	0.40
1:A:1610:ASN:O	4:E:178:PRO:HG2	2.20	0.40
2:B:15:SER:O	2:B:723:ARG:NH2	2.55	0.40
2:B:263:GLN:HB2	12:M:29:SER:CA	2.52	0.40
2:B:759:VAL:O	2:B:896:LEU:HA	2.21	0.40
2:B:820:GLN:O	2:B:823:ASP:HB2	2.21	0.40
2:B:1069:VAL:CG2	2:B:1134:VAL:HG21	2.50	0.40
4:E:81:LYS:HB2	4:E:81:LYS:HE3	1.84	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:K:90:LEU:HA	8:K:91:PRO:HD3	1.91	0.40
1:A:975:LEU:CD2	13:I:105:ALA:N	2.84	0.40
1:A:1318:ARG:HD2	1:A:1524:TRP:CE3	2.50	0.40
2:B:791:SER:HB3	2:B:792:LEU:CD2	2.48	0.40
2:B:937:SER:OG	2:B:965:MET:HB3	2.22	0.40
4:E:169:GLN:O	4:E:169:GLN:HG2	2.21	0.40
1:A:32:SER:HB2	1:A:80:HIS:CE1	2.57	0.40
1:A:293:ASN:O	1:A:296:VAL:HG23	2.22	0.40
1:A:603:LEU:HD22	2:B:1052:PHE:HB3	2.04	0.40
1:A:642:THR:CG2	1:A:744:LEU:HD21	2.52	0.40
1:A:740:ARG:O	1:A:741:GLU:HB2	2.22	0.40
1:A:866:LYS:HD3	1:A:925:ARG:HG3	2.03	0.40
1:A:955:PHE:CE1	2:B:681:GLN:HA	2.56	0.40
2:B:31:GLN:HG3	2:B:153:PRO:HG3	2.02	0.40
2:B:95:GLU:HA	2:B:95:GLU:OE1	2.21	0.40
2:B:496:PHE:C	2:B:497:LEU:HD12	2.41	0.40
2:B:1017:ALA:HB3	2:B:1026:ILE:HG21	2.04	0.40
3:C:157:SER:O	3:C:161:GLU:HG3	2.21	0.40
13:I:7:ALA:HA	13:I:15:SER:C	2.42	0.40
13:I:96:ALA:O	13:I:114:THR:N	2.52	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	A	1459/1719 (85%)	1310 (90%)	141 (10%)	8 (0%)	29	66
2	B	1119/1135 (99%)	1017 (91%)	99 (9%)	3 (0%)	41	75
3	C	335/346 (97%)	312 (93%)	23 (7%)	0	100	100
4	E	195/210 (93%)	185 (95%)	10 (5%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
5	F	74/127 (58%)	70 (95%)	4 (5%)	0	100	100
6	H	144/150 (96%)	130 (90%)	14 (10%)	0	100	100
7	J	62/67 (92%)	59 (95%)	3 (5%)	0	100	100
8	K	106/133 (80%)	96 (91%)	9 (8%)	1 (1%)	17	53
9	L	43/58 (74%)	37 (86%)	6 (14%)	0	100	100
10	N	149/510 (29%)	134 (90%)	13 (9%)	2 (1%)	12	43
11	G	153/338 (45%)	138 (90%)	14 (9%)	1 (1%)	22	59
12	M	108/419 (26%)	107 (99%)	1 (1%)	0	100	100
13	I	103/126 (82%)	68 (66%)	32 (31%)	3 (3%)	4	23
All	All	4050/5338 (76%)	3663 (90%)	369 (9%)	18 (0%)	38	71

All (18) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	214	VAL
1	A	1605	ILE
2	B	1125	ALA
10	N	156	PRO
13	I	28	PRO
2	B	1033	GLY
11	G	102	LEU
1	A	677	LYS
10	N	132	PRO
13	I	8	ASN
13	I	27	LEU
1	A	719	GLU
1	A	866	LYS
1	A	22	ALA
1	A	206	PRO
8	K	24	LYS
2	B	1031	VAL
1	A	311	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	A	1298/1503 (86%)	1215 (94%)	83 (6%)	17	49
2	B	982/992 (99%)	902 (92%)	80 (8%)	11	38
3	C	296/302 (98%)	275 (93%)	21 (7%)	14	44
4	E	183/192 (95%)	181 (99%)	2 (1%)	73	90
5	F	66/111 (60%)	66 (100%)	0	100	100
6	H	129/131 (98%)	126 (98%)	3 (2%)	50	79
7	J	53/56 (95%)	50 (94%)	3 (6%)	20	54
8	K	96/119 (81%)	94 (98%)	2 (2%)	53	81
9	L	42/55 (76%)	41 (98%)	1 (2%)	49	79
10	N	119/427 (28%)	114 (96%)	5 (4%)	30	65
11	G	135/288 (47%)	132 (98%)	3 (2%)	52	80
12	M	94/366 (26%)	90 (96%)	4 (4%)	29	64
13	I	94/111 (85%)	92 (98%)	2 (2%)	53	81
All	All	3587/4653 (77%)	3378 (94%)	209 (6%)	24	53

All (209) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	16	SER
1	A	19	MET
1	A	65	SER
1	A	82	GLU
1	A	83	LEU
1	A	85	LEU
1	A	86	THR
1	A	159	GLU
1	A	200	MET
1	A	204	ARG
1	A	205	CYS
1	A	206	PRO
1	A	209	LYS
1	A	217	LYS
1	A	292	PHE
1	A	295	SER
1	A	303	VAL
1	A	304	VAL

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Mol	Chain	Res	Type
1	A	312	VAL
1	A	315	LEU
1	A	318	GLN
1	A	319	MET
1	A	324	GLN
1	A	341	LEU
1	A	348	GLU
1	A	381	GLN
1	A	383	LEU
1	A	406	MET
1	A	408	LYS
1	A	409	LEU
1	A	410	MET
1	A	412	ASP
1	A	453	THR
1	A	454	ASN
1	A	484	VAL
1	A	535	THR
1	A	536	LYS
1	A	550	LEU
1	A	553	GLN
1	A	555	THR
1	A	557	HIS
1	A	635	MET
1	A	664	LYS
1	A	676	LEU
1	A	680	PRO
1	A	701	ILE
1	A	718	LYS
1	A	833	LEU
1	A	839	TYR
1	A	868	GLU
1	A	869	VAL
1	A	870	ASN
1	A	878	LYS
1	A	885	LEU
1	A	888	GLN
1	A	891	GLU
1	A	906	THR
1	A	981	LYS
1	A	1045	GLU
1	A	1051	GLN

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Mol	Chain	Res	Type
1	A	1057	LEU
1	A	1104	LYS
1	A	1110	ARG
1	A	1145	PRO
1	A	1184	LYS
1	A	1186	GLU
1	A	1263	MET
1	A	1266	VAL
1	A	1269	LEU
1	A	1272	LYS
1	A	1288	VAL
1	A	1289	CYS
1	A	1313	GLN
1	A	1316	GLN
1	A	1317	LEU
1	A	1340	ARG
1	A	1505	VAL
1	A	1507	GLU
1	A	1508	ILE
1	A	1509	HIS
1	A	1556	THR
1	A	1603	ASN
1	A	1677	SER
2	B	6	ARG
2	B	26	ILE
2	B	29	GLU
2	B	31	GLN
2	B	35	LEU
2	B	71	GLU
2	B	73	ILE
2	B	74	SER
2	B	76	THR
2	B	79	ASP
2	B	111	ARG
2	B	222	VAL
2	B	224	MET
2	B	231	ASN
2	B	235	MET
2	B	254	LYS
2	B	260	SER
2	B	262	TYR
2	B	267	GLU

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Mol	Chain	Res	Type
2	B	273	GLU
2	B	276	SER
2	B	278	LEU
2	B	289	VAL
2	B	290	MET
2	B	292	GLU
2	B	314	VAL
2	B	317	TRP
2	B	318	TYR
2	B	325	GLU
2	B	327	LEU
2	B	330	GLN
2	B	337	LYS
2	B	338	SER
2	B	345	MET
2	B	348	LEU
2	B	361	CYS
2	B	365	ASN
2	B	429	PRO
2	B	430	PHE
2	B	454	CYS
2	B	461	ASN
2	B	463	ILE
2	B	466	LEU
2	B	501	HIS
2	B	506	GLU
2	B	537	LEU
2	B	542	ILE
2	B	547	HIS
2	B	582	LYS
2	B	601	THR
2	B	659	GLN
2	B	666	LEU
2	B	667	LEU
2	B	678	ASP
2	B	680	ASN
2	B	728	ASP
2	B	755	ASP
2	B	792	LEU
2	B	793	VAL
2	B	797	LYS
2	B	828	TYR

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Mol	Chain	Res	Type
2	B	859	THR
2	B	864	PHE
2	B	866	CYS
2	B	1010	PHE
2	B	1012	VAL
2	B	1015	THR
2	B	1018	ARG
2	B	1031	VAL
2	B	1042	ARG
2	B	1046	LEU
2	B	1056	ASP
2	B	1059	PHE
2	B	1063	ASP
2	B	1064	ARG
2	B	1069	VAL
2	B	1105	ASP
2	B	1109	THR
2	B	1111	SER
2	B	1119	PHE
3	C	21	VAL
3	C	22	ARG
3	C	55	HIS
3	C	58	GLU
3	C	96	ASN
3	C	114	PRO
3	C	133	THR
3	C	134	GLU
3	C	135	ILE
3	C	136	ASP
3	C	137	THR
3	C	144	VAL
3	C	151	HIS
3	C	155	ASP
3	C	161	GLU
3	C	166	HIS
3	C	183	ASP
3	C	196	ASP
3	C	266	GLU
3	C	267	VAL
3	C	274	ARG
4	E	31	ASP
4	E	107	GLN

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Mol	Chain	Res	Type
6	H	15	ILE
6	H	80	ASP
6	H	83	SER
7	J	5	VAL
7	J	9	THR
7	J	28	GLU
8	K	27	LEU
8	K	30	VAL
9	L	52	LEU
10	N	25	SER
10	N	60	HIS
10	N	116	ARG
10	N	118	LEU
10	N	130	LEU
11	G	94	ASP
11	G	98	VAL
11	G	169	MET
12	M	67	LEU
12	M	81	CYS
12	M	110	GLN
12	M	112	LEU
13	I	82	VAL
13	I	83	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (82) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	44	ASN
1	A	80	HIS
1	A	171	ASN
1	A	322	ASN
1	A	347	GLN
1	A	397	HIS
1	A	431	HIS
1	A	478	GLN
1	A	482	GLN
1	A	486	ASN
1	A	499	ASN
1	A	564	HIS
1	A	578	HIS
1	A	600	GLN
1	A	632	GLN

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Mol	Chain	Res	Type
1	A	652	HIS
1	A	728	ASN
1	A	753	HIS
1	A	790	GLN
1	A	847	GLN
1	A	850	HIS
1	A	859	ASN
1	A	877	ASN
1	A	908	ASN
1	A	918	GLN
1	A	967	HIS
1	A	1051	GLN
1	A	1068	HIS
1	A	1076	GLN
1	A	1094	GLN
1	A	1109	ASN
1	A	1111	ASN
1	A	1118	GLN
1	A	1136	GLN
1	A	1177	GLN
1	A	1313	GLN
1	A	1329	GLN
1	A	1579	ASN
1	A	1603	ASN
2	B	9	ASN
2	B	18	HIS
2	B	30	GLN
2	B	31	GLN
2	B	97	ASN
2	B	147	ASN
2	B	150	ASN
2	B	219	HIS
2	B	223	ASN
2	B	313	ASN
2	B	415	ASN
2	B	473	HIS
2	B	501	HIS
2	B	523	GLN
2	B	643	ASN
2	B	679	HIS
2	B	690	GLN
2	B	694	GLN

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Mol	Chain	Res	Type
2	B	734	ASN
2	B	846	ASN
2	B	887	HIS
2	B	941	HIS
2	B	1000	GLN
2	B	1032	GLN
3	C	32	ASN
3	C	59	ASN
3	C	102	GLN
3	C	127	GLN
3	C	166	HIS
3	C	180	ASN
3	C	181	GLN
3	C	290	ASN
3	C	305	HIS
4	E	132	GLN
4	E	133	GLN
4	E	169	GLN
7	J	61	ASN
8	K	85	GLN
10	N	46	GLN
10	N	60	HIS
12	M	98	GLN
12	M	110	GLN
13	I	92	HIS

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
14	R	5/6 (83%)	2 (40%)	0

All (2) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
14	R	-6	G
14	R	-5	C

There are no RNA pucker outliers to report.

5.4 Non-standard residues in protein, DNA, RNA chains [i](#)

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 6 ligands modelled in this entry, 6 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

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.

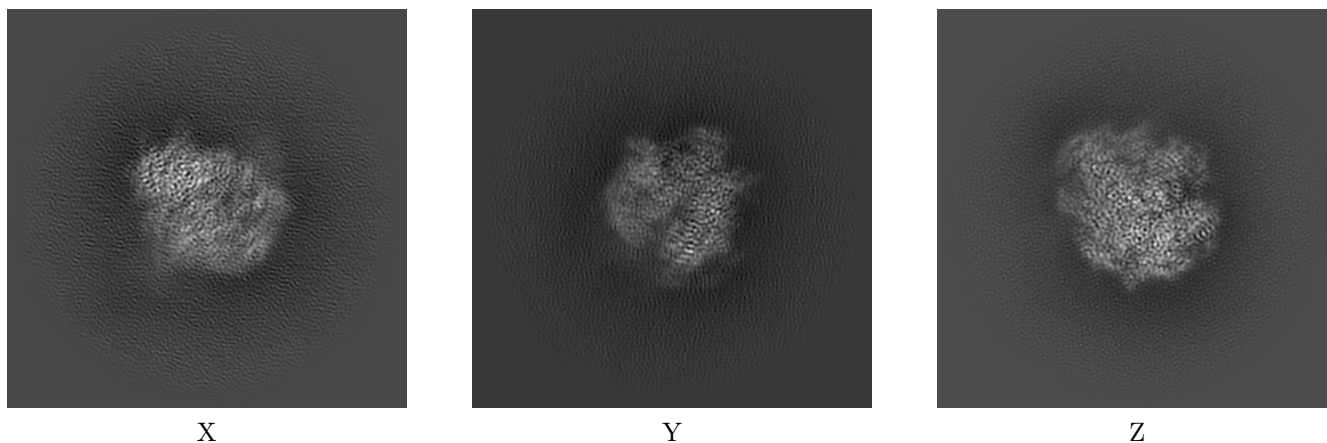
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-31878. 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 [i](#)

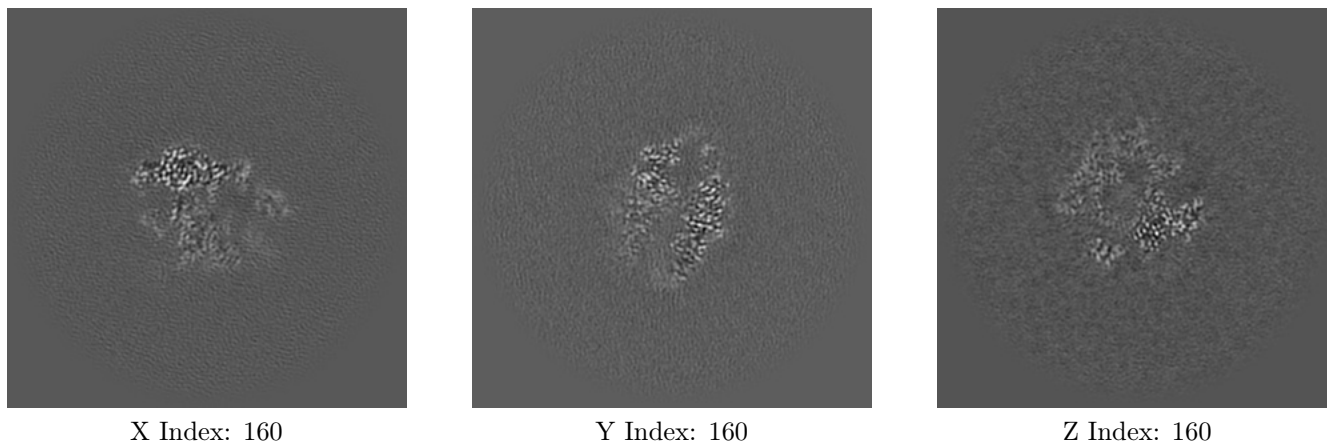
6.1.1 Primary map



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

6.2 Central slices [i](#)

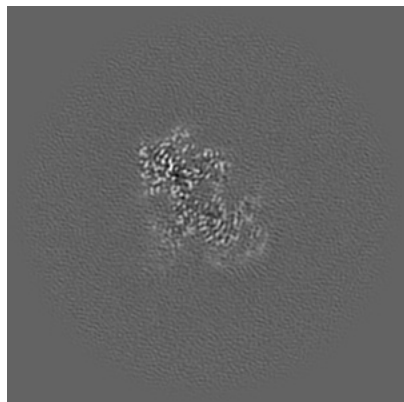
6.2.1 Primary map



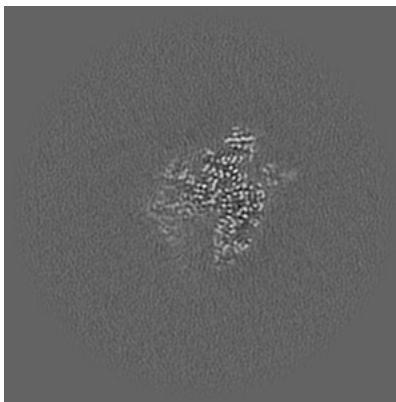
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

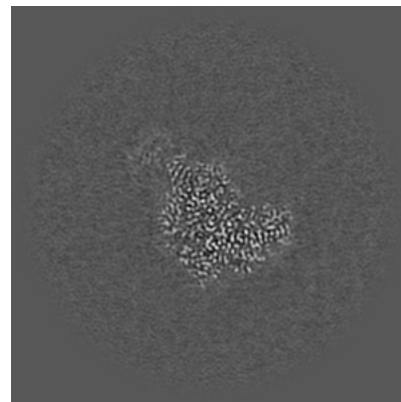
6.3.1 Primary map



X Index: 179



Y Index: 139

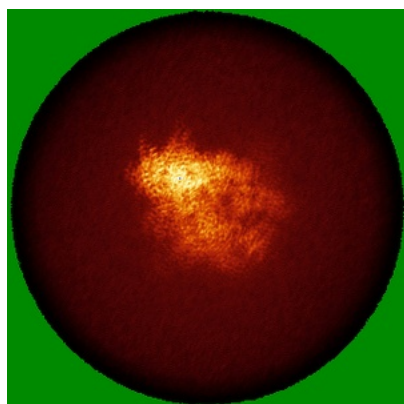


Z Index: 185

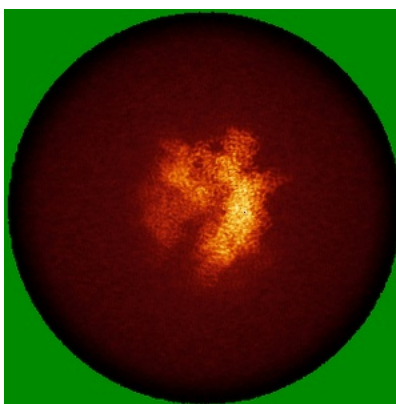
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) [i](#)

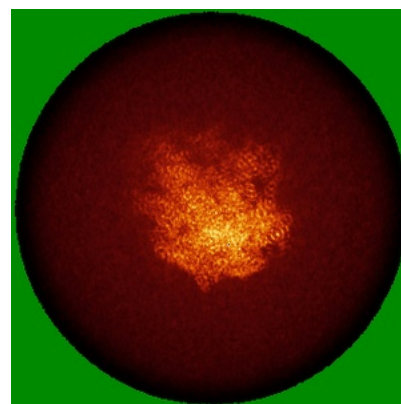
6.4.1 Primary map



X



Y

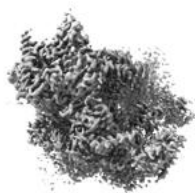


Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.575. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

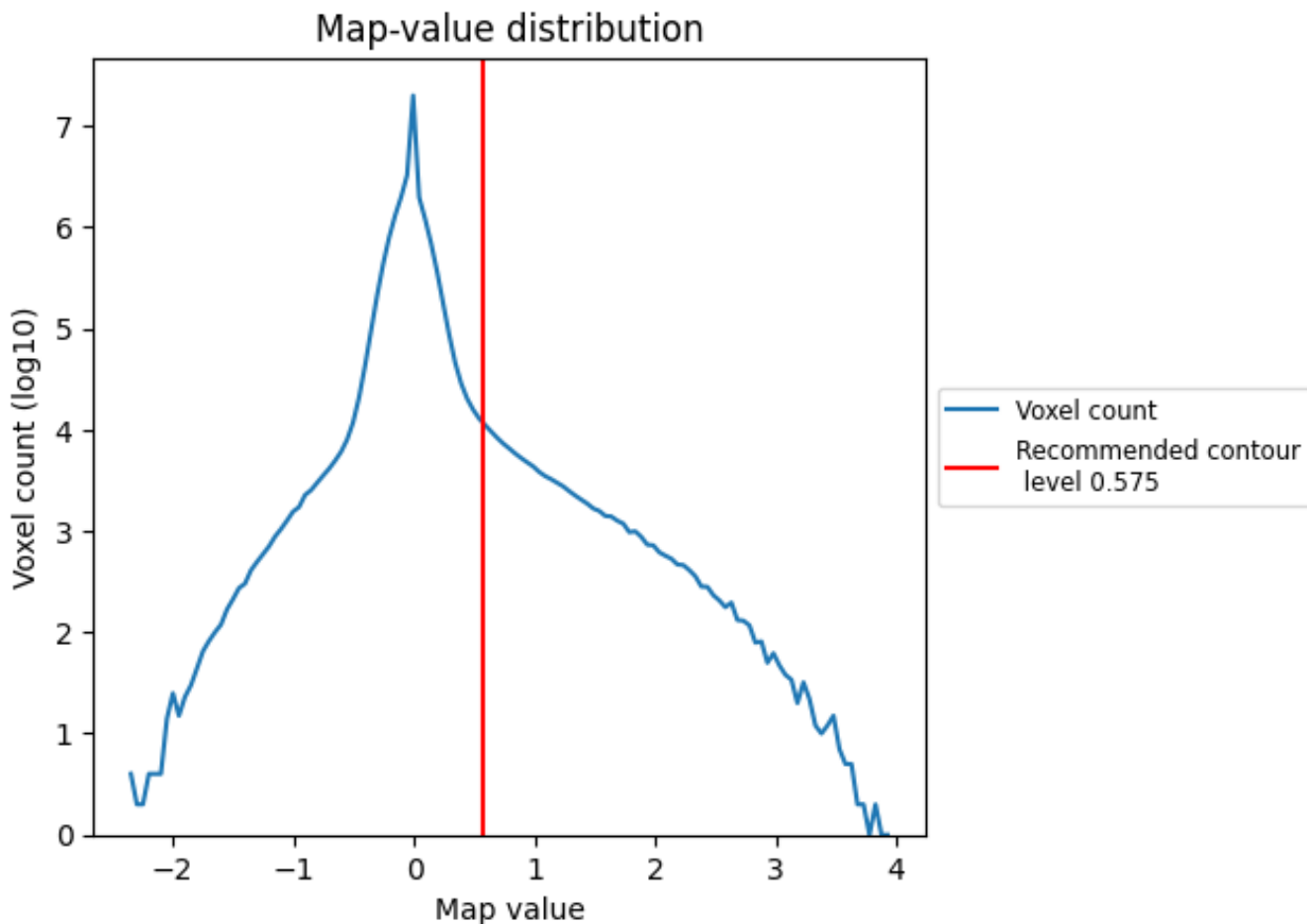
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

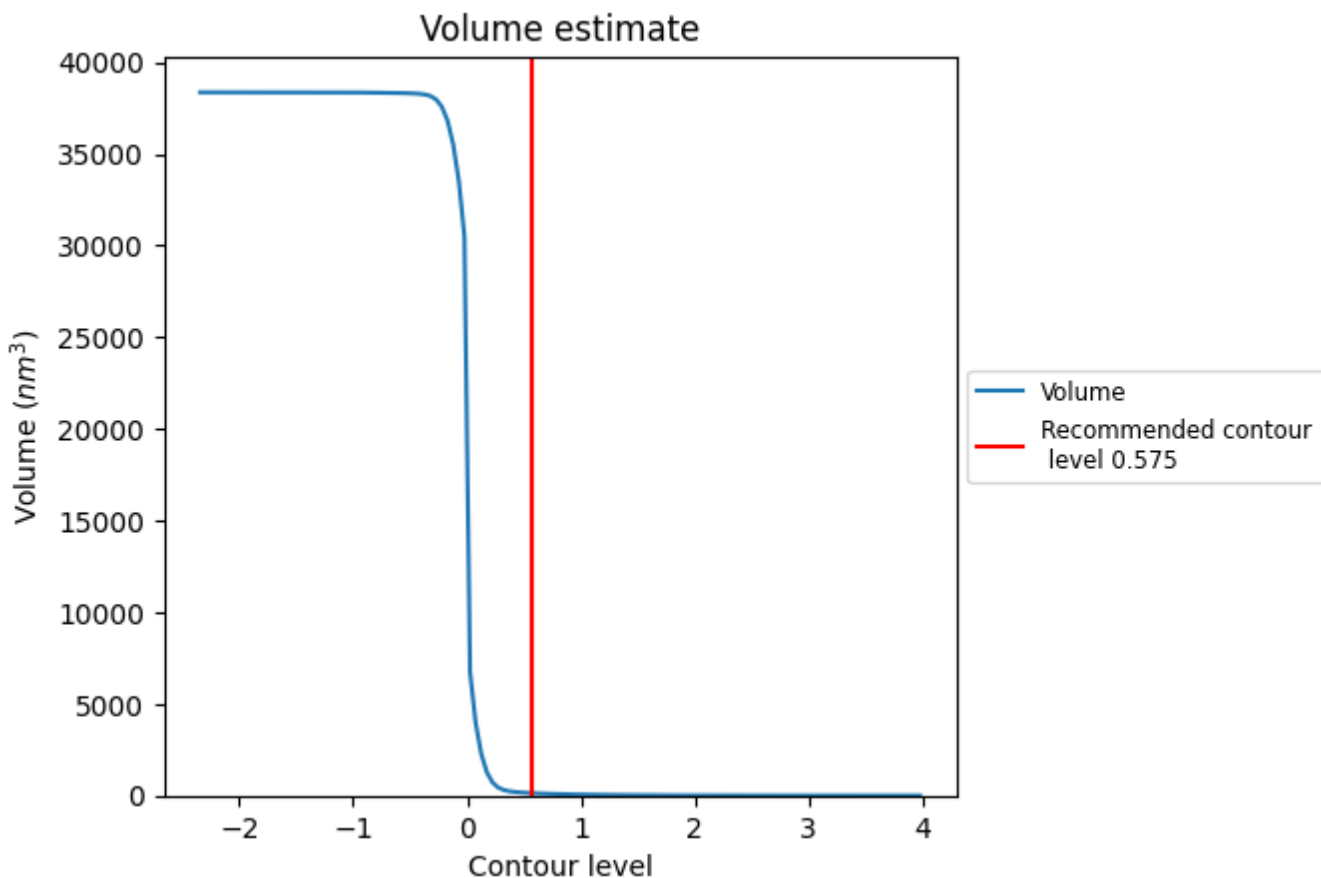
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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.

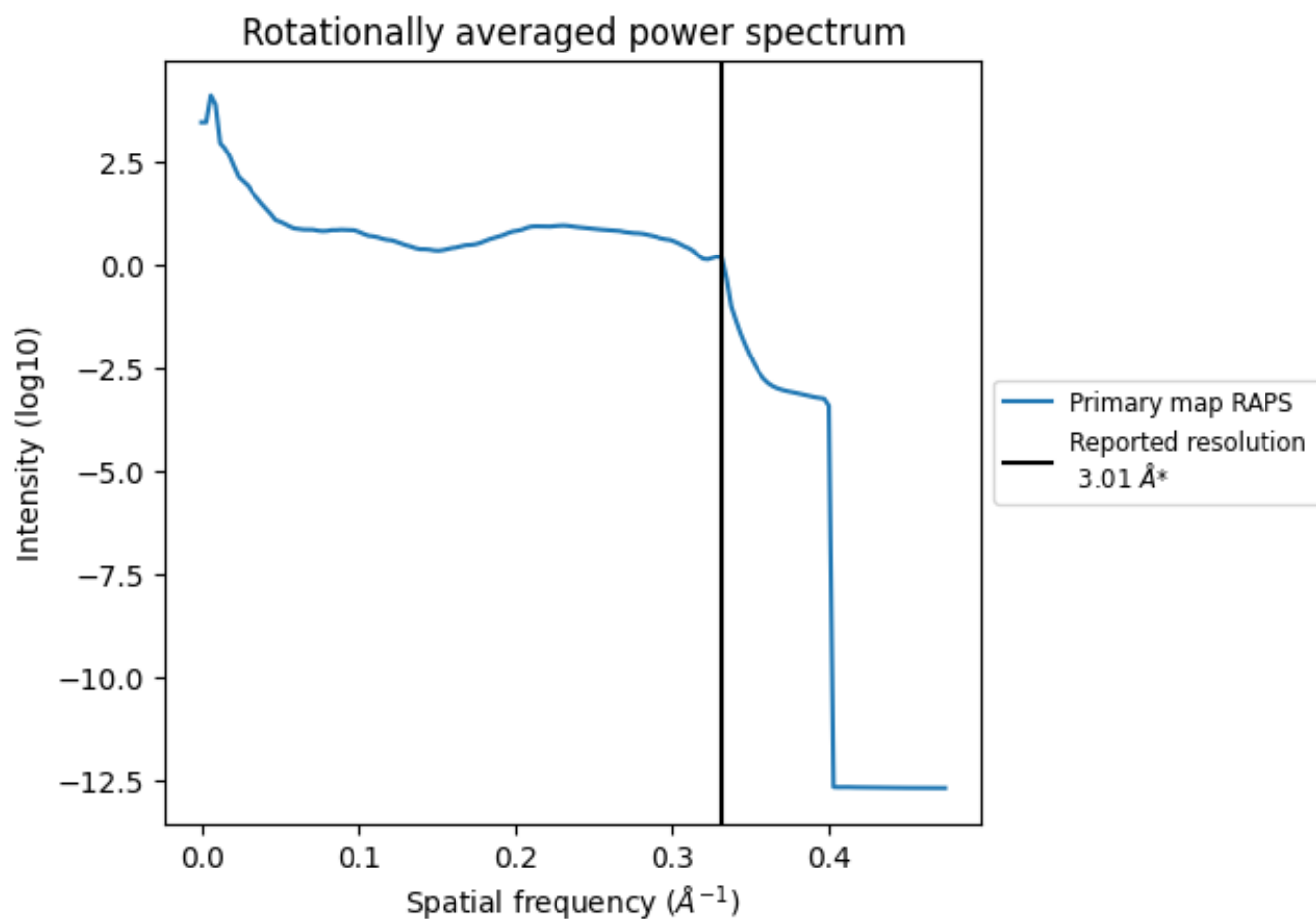
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 129 nm³; this corresponds to an approximate mass of 117 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 0.332 Å⁻¹

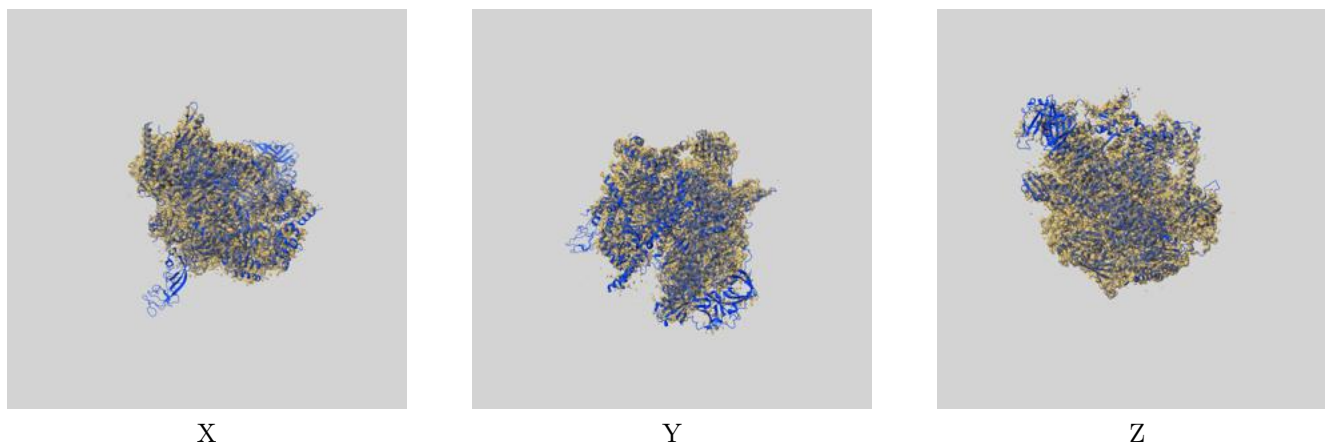
8 Fourier-Shell correlation

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

9 Map-model fit [i](#)

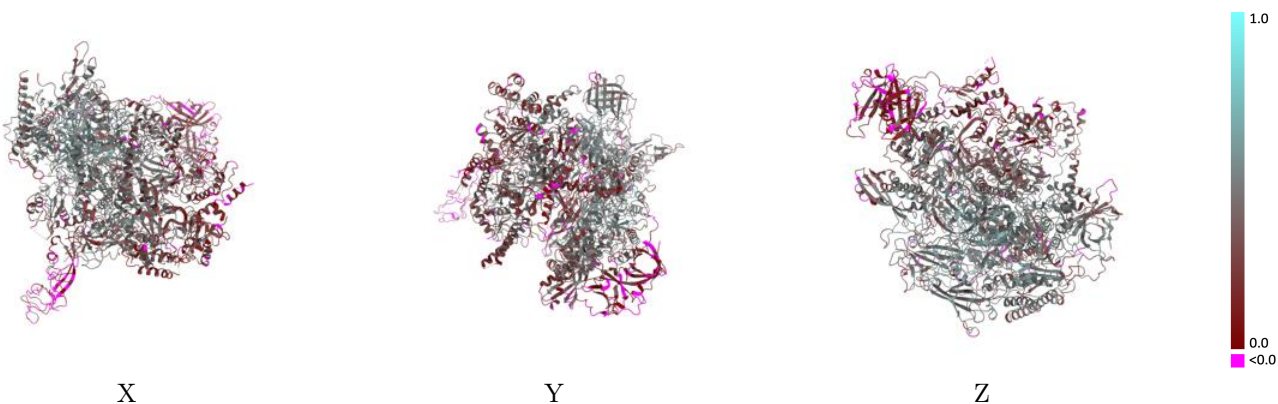
This section contains information regarding the fit between EMDB map EMD-31878 and PDB model 7VBC. Per-residue inclusion information can be found in section 3 on page 7.

9.1 Map-model overlay [i](#)



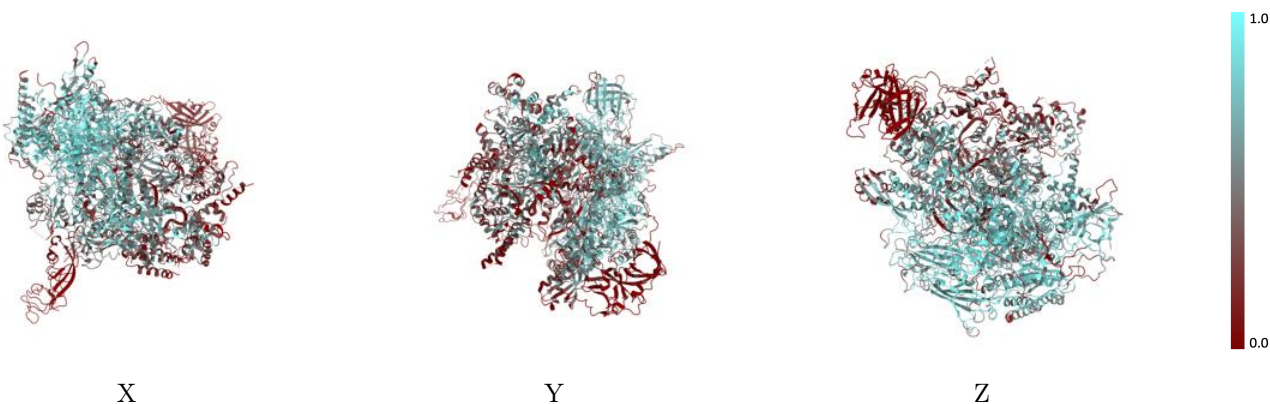
The images above show the 3D surface view of the map at the recommended contour level 0.575 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [i](#)



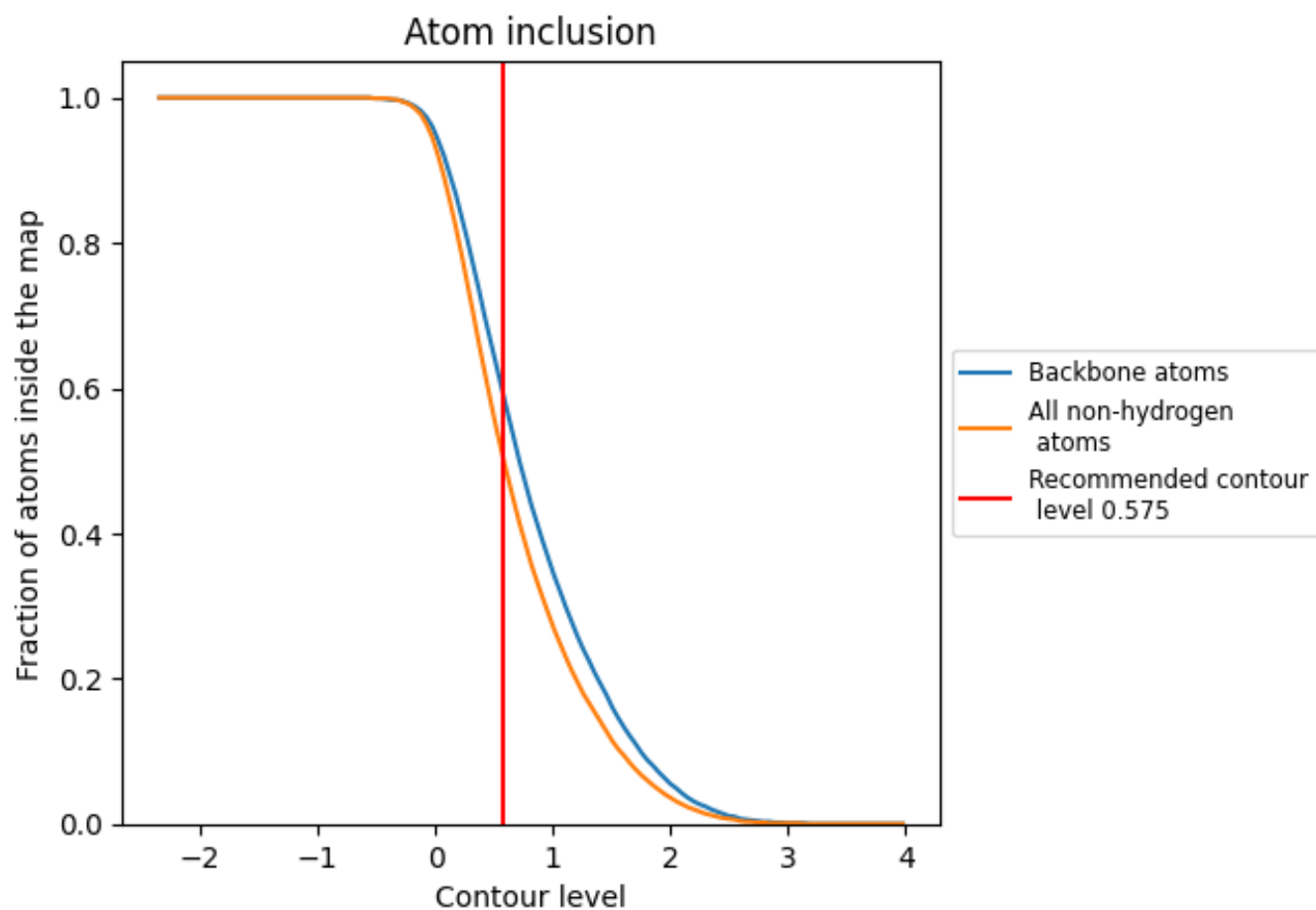
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 [i](#)



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 (0.575).



































9.4 Atom inclusion [i](#)



At the recommended contour level, 59% of all backbone atoms, 51% 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 (0.575) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.5060	 0.3730
A	 0.5020	 0.3710
B	 0.6550	 0.4570
C	 0.6220	 0.4270
E	 0.4240	 0.2760
F	 0.4380	 0.3070
G	 0.0260	 0.0550
H	 0.6330	 0.4230
I	 0.2490	 0.3950
J	 0.8360	 0.5340
K	 0.6630	 0.4370
L	 0.6970	 0.4290
M	 0.0490	 0.1320
N	 0.0330	 0.0980
R	 0.4220	 0.5210
T	 0.2820	 0.3820
U	 0.1170	 0.3040

