



Full wwPDB EM Validation Report ⓘ

Feb 26, 2024 – 12:38 AM EST

PDB ID : 6WMU
EMDB ID : EMD-21853
Title : E. coli RNAPs70-SspA-gadA DNA complex
Authors : Travis, B.A.; Brennan, R.G.; Schumacher, M.A.
Deposited on : 2020-04-21
Resolution : 3.18 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.dev70
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

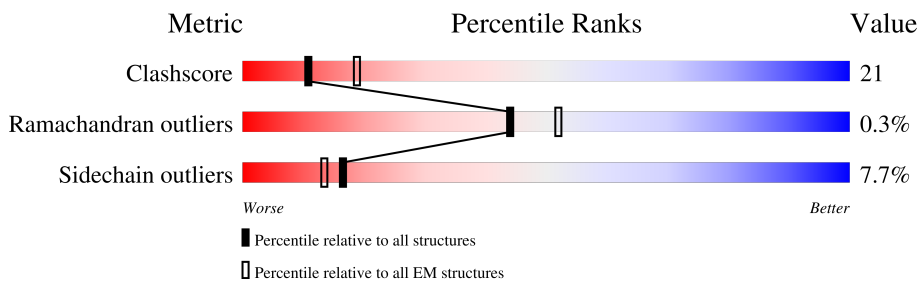
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.18 Å.

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






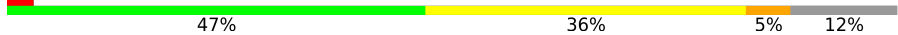
Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. 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	329	
1	B	329	
2	C	1342	
3	D	1430	
4	E	91	
5	F	613	
6	G	37	
7	H	27	

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Mol	Chain	Length	Quality of chain
8	I	11	 36% 64%
9	J	11	 27% 73%
10	K	232	 50% 34% 14% *
10	L	232	 47% 36% 5% 12% *

2 Entry composition i

There are 12 unique types of molecules in this entry. The entry contains 34094 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 subunit alpha.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	230	Total	C	N	O	S	0	0
			1787	1112	317	352	6		
1	B	228	Total	C	N	O	S	0	0
			1767	1100	312	349	6		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	C	1339	Total	C	N	O	S	0	0
			10556	6624	1840	2049	43		

- Molecule 3 is a protein called DNA-directed RNA polymerase subunit beta'.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	D	1363	Total	C	N	O	S	0	0
			10504	6594	1872	1988	50		

There are 23 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
D	1408	LEU	-	expression tag	UNP P0A8T7
D	1409	GLU	-	expression tag	UNP P0A8T7
D	1410	ARG	-	expression tag	UNP P0A8T7
D	1411	ARG	-	expression tag	UNP P0A8T7
D	1412	ALA	-	expression tag	UNP P0A8T7
D	1413	SER	-	expression tag	UNP P0A8T7
D	1414	GLU	-	expression tag	UNP P0A8T7
D	1415	ASN	-	expression tag	UNP P0A8T7
D	1416	LEU	-	expression tag	UNP P0A8T7
D	1417	TYR	-	expression tag	UNP P0A8T7
D	1418	PHE	-	expression tag	UNP P0A8T7
D	1419	GLN	-	expression tag	UNP P0A8T7
D	1420	GLY	-	expression tag	UNP P0A8T7

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Chain	Residue	Modelled	Actual	Comment	Reference
D	1421	HIS	-	expression tag	UNP P0A8T7
D	1422	HIS	-	expression tag	UNP P0A8T7
D	1423	HIS	-	expression tag	UNP P0A8T7
D	1424	HIS	-	expression tag	UNP P0A8T7
D	1425	HIS	-	expression tag	UNP P0A8T7
D	1426	HIS	-	expression tag	UNP P0A8T7
D	1427	HIS	-	expression tag	UNP P0A8T7
D	1428	HIS	-	expression tag	UNP P0A8T7
D	1429	HIS	-	expression tag	UNP P0A8T7
D	1430	HIS	-	expression tag	UNP P0A8T7

- Molecule 4 is a protein called DNA-directed RNA polymerase subunit omega.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	E	87	660	401	126	132	1	0	0

- Molecule 5 is a protein called RNA polymerase sigma factor RpoD.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	F	471	3836	2403	684	726	23	0	0

- Molecule 6 is a DNA chain called DNA NT-strand.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
6	G	37	746	361	116	232	37	0	0

- Molecule 7 is a DNA chain called DNA T-strand.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
7	H	27	561	266	109	159	27	0	0

- Molecule 8 is a DNA chain called DNA NT-strand downstream.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
8	I	11	225	106	41	67	11	0	0

- Molecule 9 is a DNA chain called DNA T-strand downstream.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
9	J	11	226	106	44	65	11	0	0

- Molecule 10 is a protein called Stringent starvation protein A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
10	K	199	1592	1024	262	298	8	0	0
10	L	204	1631	1049	274	300	8	0	0

There are 40 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
K	-19	MET	-	initiating methionine	UNP A0A1X3LEF3
K	-18	GLY	-	expression tag	UNP A0A1X3LEF3
K	-17	SER	-	expression tag	UNP A0A1X3LEF3
K	-16	SER	-	expression tag	UNP A0A1X3LEF3
K	-15	HIS	-	expression tag	UNP A0A1X3LEF3
K	-14	HIS	-	expression tag	UNP A0A1X3LEF3
K	-13	HIS	-	expression tag	UNP A0A1X3LEF3
K	-12	HIS	-	expression tag	UNP A0A1X3LEF3
K	-11	HIS	-	expression tag	UNP A0A1X3LEF3
K	-10	HIS	-	expression tag	UNP A0A1X3LEF3
K	-9	SER	-	expression tag	UNP A0A1X3LEF3
K	-8	SER	-	expression tag	UNP A0A1X3LEF3
K	-7	GLY	-	expression tag	UNP A0A1X3LEF3
K	-6	LEU	-	expression tag	UNP A0A1X3LEF3
K	-5	VAL	-	expression tag	UNP A0A1X3LEF3
K	-4	PRO	-	expression tag	UNP A0A1X3LEF3
K	-3	ARG	-	expression tag	UNP A0A1X3LEF3
K	-2	GLY	-	expression tag	UNP A0A1X3LEF3
K	-1	SER	-	expression tag	UNP A0A1X3LEF3
K	0	HIS	-	expression tag	UNP A0A1X3LEF3
L	-19	MET	-	initiating methionine	UNP A0A1X3LEF3
L	-18	GLY	-	expression tag	UNP A0A1X3LEF3
L	-17	SER	-	expression tag	UNP A0A1X3LEF3
L	-16	SER	-	expression tag	UNP A0A1X3LEF3
L	-15	HIS	-	expression tag	UNP A0A1X3LEF3
L	-14	HIS	-	expression tag	UNP A0A1X3LEF3
L	-13	HIS	-	expression tag	UNP A0A1X3LEF3
L	-12	HIS	-	expression tag	UNP A0A1X3LEF3
L	-11	HIS	-	expression tag	UNP A0A1X3LEF3

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Chain	Residue	Modelled	Actual	Comment	Reference
L	-10	HIS	-	expression tag	UNP A0A1X3LEF3
L	-9	SER	-	expression tag	UNP A0A1X3LEF3
L	-8	SER	-	expression tag	UNP A0A1X3LEF3
L	-7	GLY	-	expression tag	UNP A0A1X3LEF3
L	-6	LEU	-	expression tag	UNP A0A1X3LEF3
L	-5	VAL	-	expression tag	UNP A0A1X3LEF3
L	-4	PRO	-	expression tag	UNP A0A1X3LEF3
L	-3	ARG	-	expression tag	UNP A0A1X3LEF3
L	-2	GLY	-	expression tag	UNP A0A1X3LEF3
L	-1	SER	-	expression tag	UNP A0A1X3LEF3
L	0	HIS	-	expression tag	UNP A0A1X3LEF3

- Molecule 11 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms	AltConf
11	D	1	Total Mg 1 1	0

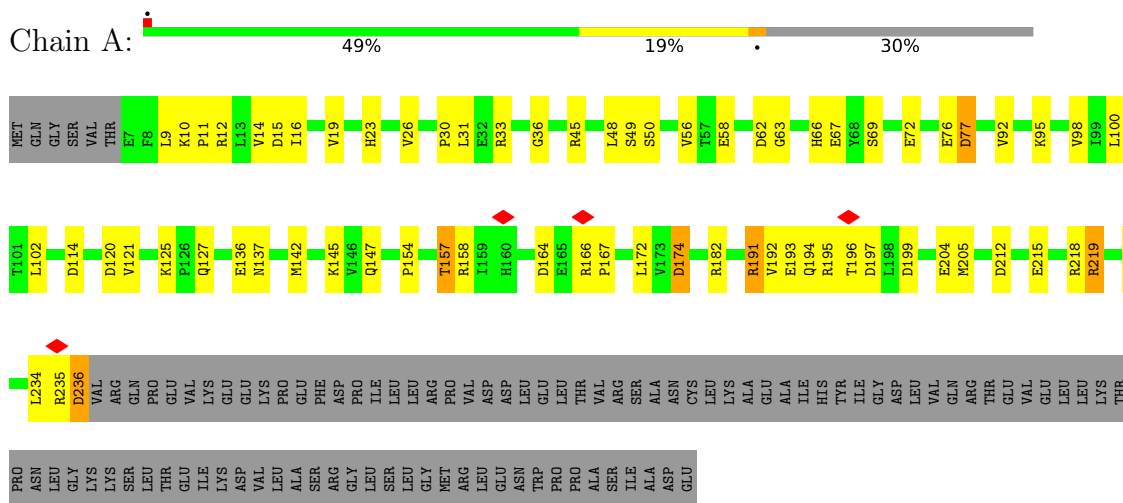
- Molecule 12 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms	AltConf
12	D	2	Total Zn 2 2	0

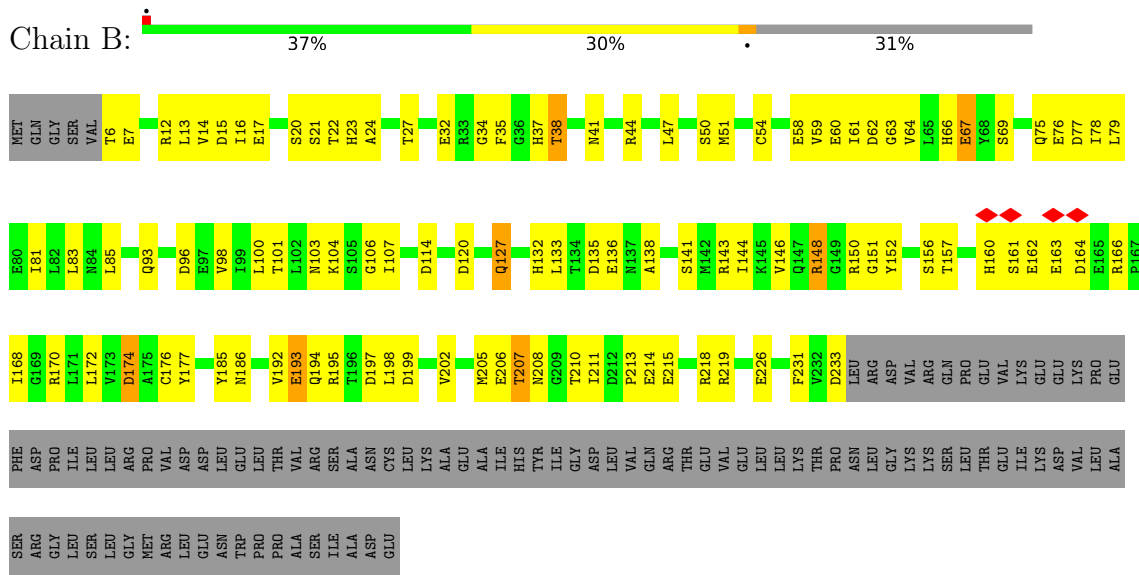
3 Residue-property plots [i](#)

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

- Molecule 1: DNA-directed RNA polymerase subunit alpha



- Molecule 1: DNA-directed RNA polymerase subunit alpha



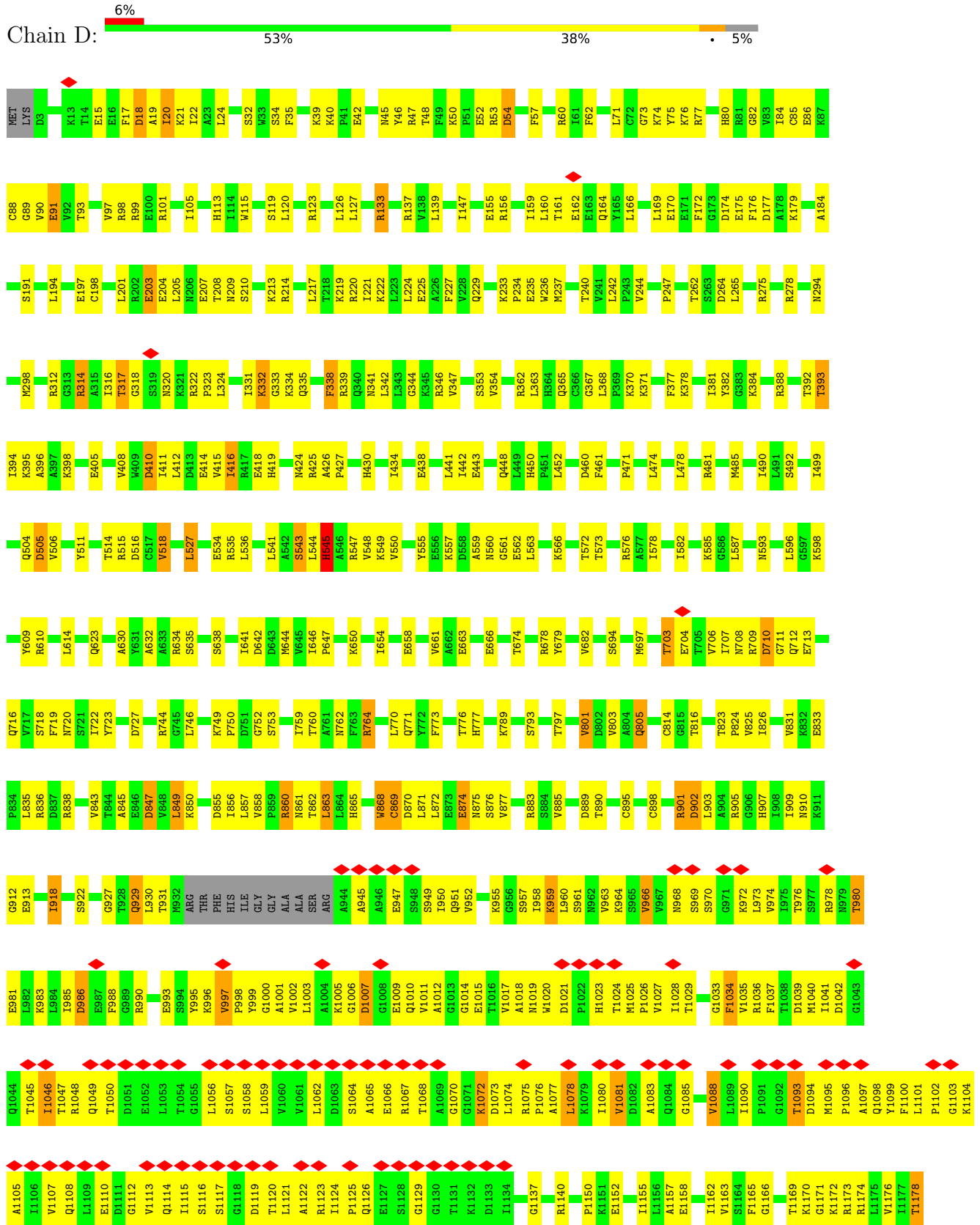
- Molecule 2: DNA-directed RNA polymerase subunit beta

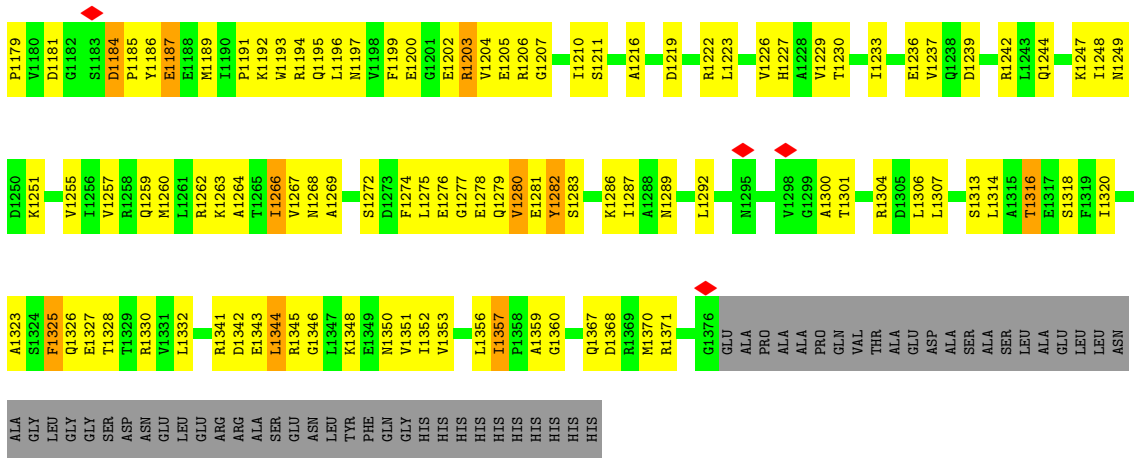
Chain C:



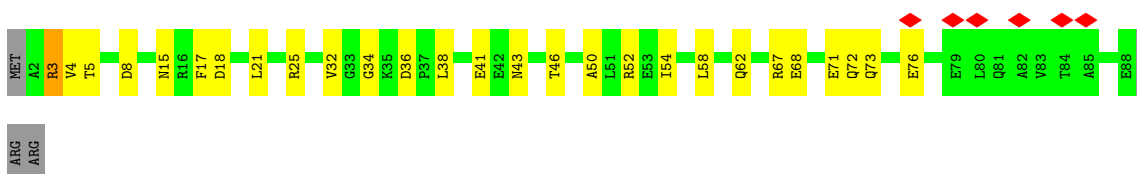
RET VAL	Y3	Y4	Y5	R10	D14	K17	R18	P19	D23	Y26	L27	K115	L28	S29	I30	Q31	L32	D33	F38	Y123	I39	D42	Q46	Y47	E50	R54	S55	V56	F57	P58	I59	O60	S61	S66	E67	L68	O69	Y70	R74	L75	D81	C85	Y90	D185	A94										
R97	Y98	K99	L100	L102	V103	E106	R107	E108	G112	T113	V114	D116	L117	K118	E119	L120	E121	V122	M124	I127	M130	G134	I138	M139	I145	V146	S147	Q148	L149	H150	R151	D158	S159	D160	K161	G162	T164	H165	Y172	Y179	D185	D189													
P190	K191	N192	N193	L194	R197	L198	D199	K203	L204	T207	I208	T209	R211	L221	D222	L223	K227	F230	E231	I232	R233	D294	N235	L236	L237	Q238	L241	V242	P243	E244	R245	L246	E249	T250	A251	L321	F253	D254	I255	E256	A257	N258	G289	K280	V261	Y262	K265	G266	R267						
R268	I269	T270	A271	R272	H273	L274	R275	Q276	L277	E278	D281	V282	K283	E286	V287	P288	V289	E290	Y291	I292	V297	A298	K299	O300	Y301	I302	D303	T306	G307	L308	L309	A313	M314	E316	L317	S318	L319	D320	L322	A323	K324	L325	S326	Q327	G329	H330	K331	R332	I333	E334	T335				
L336	F337	T338	N339	D340	L341	D342	H343	G344	P345	Y346	I347	S348	E349	T350	L351	D354	P355	T356	N357	D358	S361	Y367	P372	G373	E374	L479	L484	D485	T486	L487	L388	P489	Q490	D491	N492	I493	N494	A495	L498	F505	K404	R411	E412	E413	I414	E415	S421	K422	D423	D424	D427				
I485	R486	K439	D443	D444	R452	I453	I347	S348	E349	T350	L351	Q463	P464	R465	V466	Q467	L468	R470	V471	K476	L479	L484	D485	T486	L487	P489	Q490	D491	N492	I493	N494	A495	L498	F505	K404	R411	E412	E413	I414	E415	S421	K422	D423	D424	D427										
L533	T539	R540	E541	R542	R548	H551	P552	T553	R557	P564	P567	M568	L571	I572	S576	V577	T581	N582	O585	F586	T589	V594	D596	G597	V598	V599	I609	E610	E611	G612	M613	V615	M620	D624	E625	E626	F629	R528	R529	I530	L633	D632	L633	D427											
R637	V650	S656	T657	O658	P659	V661	S662	V663	E672	D675	A676	R678	R687	D688	R689	V690	R694	A695	D696	L699	R720	Y726	D728	A729	S730	R731	V732	V733	Y742	P743	G744	E745	A746	I750	K755	R758	E760	S759	H761	N762	T763	I765	D766	L765	L765										
N766	D781	V782	D785	L791	M805	F812	E813	D814	S815	V818	S819	E820	E825	D826	R827	T829	T830	H831	H832	T833	S840	R841	E848	E849	I850	T851	V857	G858	A861	T878	G879	G880	D881	K886	V887	T888	P889	K890	O891	E892	L898	Q894	L895	E898	D899	R994	R996								
L902	I905	L1000	G1001	L1002	T1003	D1004	E1005	P1006	K1007	G1008	N1009	Q1010	L1011	L1014	A1015	Q1016	Y1018	D1019	E1020	L1021	K1022	H1023	E1024	F1025	I1026	L967	E968	A969	G970	L971	P972	S973	R974	I975	G858	A861	T878	G879	G880	D881	K886	V887	T888	P889	K890	O891	E892	L898	Q894	L895	E898	D899	R994	R996	
W997	L998	E999	L1000	G1001	L1002	T1003	D1004	E1005	P1006	K1007	G1008	N1009	Q1010	L1011	L1014	A1015	Q1016	Y1018	D1019	E1020	L1021	K1022	H1023	E1024	F1025	I1026	L967	E968	A969	G970	L971	P972	S973	R974	I975	G858	A861	T878	G879	G880	D881	K886	V887	T888	P889	K890	O891	E892	L898	Q894	L895	E898	D899	R994	R996
M1080	D1084	M1085	N1086	D1088	P1093	M1099	P1100	L1101	G1102	V1103	R1106	Q1111	L1112	L1113	E1114	T1115	H1116	L1117	G1125	D1126	H1127	L1132	K1133	Q1134	Q1135	Q1136	E1137	L1138	A1139	K1140	L1141	L1142	E1143	R1147	L1151	D1154	V1155	R1156	Q1157	D1160	L1161	F1164	S1165	D1166	E1167	E1168	D1269	G1267	Q1268						
R1269	F1270	G1271	M1275	V1276	E1279	G1282	P1287	M1290	L1291	V1292	V1293	D1296	R1301	T1302	K1303	I1308	M1312	H1313	L1212	Q1220	F1221	E1222	Q1223	M1232	L1233	K1234	L1235	M1236	H1237	L1238	V1239	D1240	R1246	S1252	L1253	V1254	T1255	Q1256	L1259	K1262	A1263	G1267	Q1268												

- Molecule 3: DNA-directed RNA polymerase subunit beta'

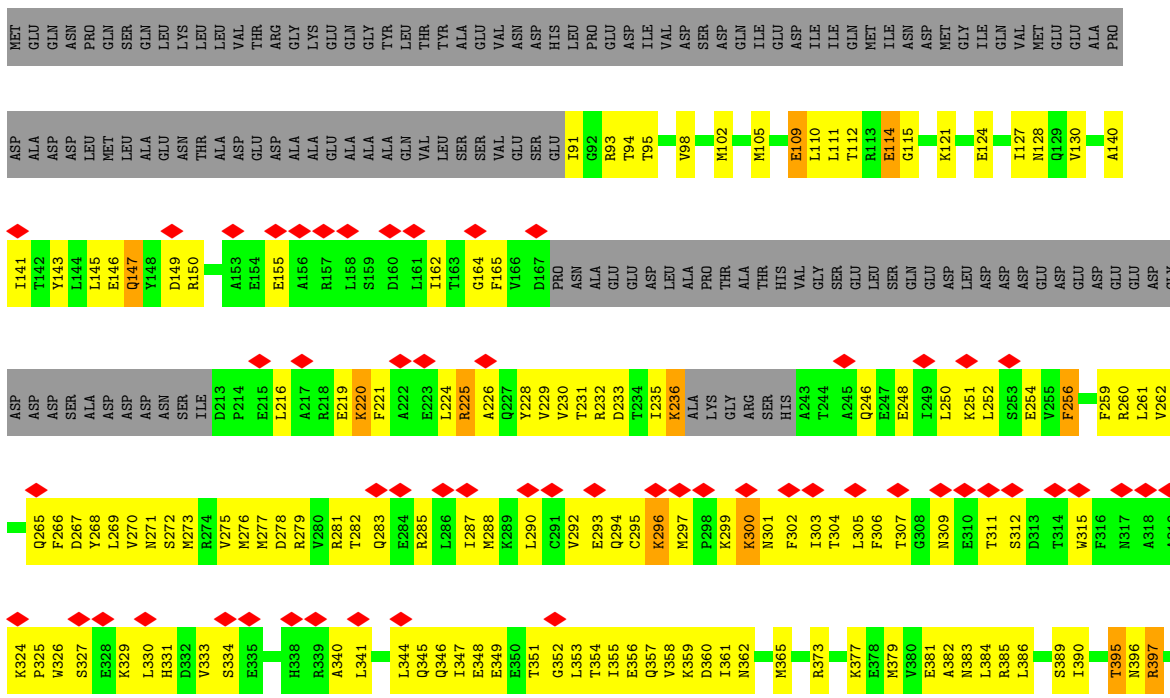


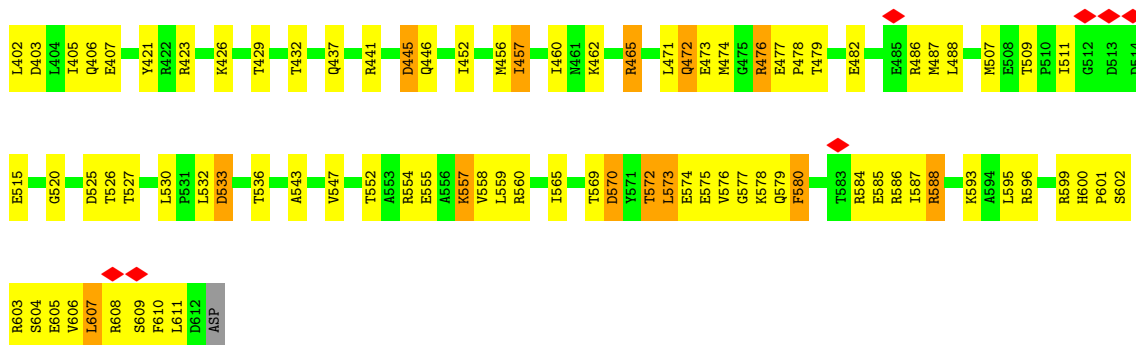


● Molecule 4: DNA-directed RNA polymerase subunit omega

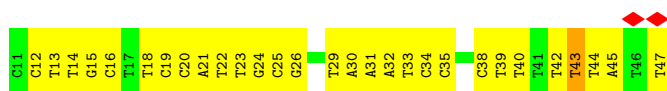


● Molecule 5: RNA polymerase sigma factor RpoD

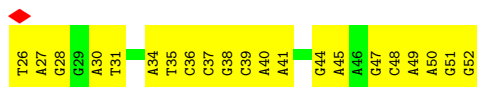




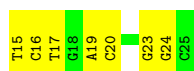
• Molecule 6: DNA NT-strand



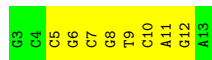
• Molecule 7: DNA T-strand



• Molecule 8: DNA NT-strand downstream

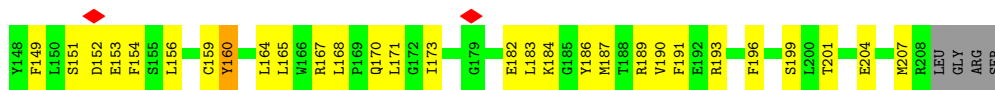


• Molecule 9: DNA T-strand downstream



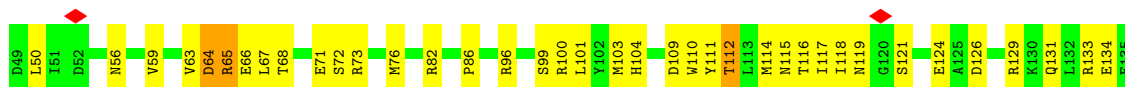
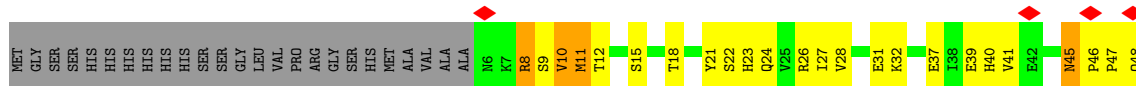
• Molecule 10: Stringent starvation protein A





• Molecule 10: Stringent starvation protein A

Chain L: 47% 36% 5% 12%



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	49560	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	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 K3 (6k x 4k)	Depositor
Maximum map value	0.151	Depositor
Minimum map value	-0.089	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.006	Depositor
Recommended contour level	0.015	Depositor
Map size (Å)	317.99997, 317.99997, 317.99997	wwPDB
Map dimensions	300, 300, 300	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.06, 1.06, 1.06	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: MG, ZN

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	0.79	1/1809 (0.1%)	0.63	0/2451
1	B	0.64	0/1789	0.60	0/2425
2	C	0.83	1/10725 (0.0%)	0.60	0/14472
3	D	0.77	1/10662 (0.0%)	0.62	0/14404
4	E	0.57	0/662	0.53	0/894
5	F	0.53	0/3887	0.51	0/5224
6	G	1.10	0/830	1.13	1/1277 (0.1%)
7	H	0.99	0/631	0.96	0/973
8	I	1.44	0/251	0.99	0/385
9	J	1.23	0/253	0.88	0/388
10	K	0.54	0/1633	0.50	0/2222
10	L	0.58	0/1672	0.53	0/2272
All	All	0.77	3/34804 (0.0%)	0.63	1/47387 (0.0%)

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
2	C	0	1
3	D	0	4
10	L	0	1
All	All	0	6

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	50	SER	C-N	-5.80	1.20	1.34
3	D	545	HIS	CA-CB	-5.61	1.41	1.53
2	C	517	GLN	CA-CB	-5.03	1.42	1.53

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	G	43	DT	O4'-C4'-C3'	-5.00	102.50	104.50

There are no chirality outliers.

All (6) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	C	198	ILE	Peptide
3	D	1184	ASP	Peptide
3	D	119	SER	Peptide
3	D	1344	LEU	Peptide
3	D	860	ARG	Peptide
10	L	8	ARG	Peptide

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1787	0	1810	52	0
1	B	1767	0	1789	85	0
2	C	10556	0	10572	382	0
3	D	10504	0	10644	481	0
4	E	660	0	646	15	0
5	F	3836	0	3907	226	0
6	G	746	0	425	51	0
7	H	561	0	304	28	0
8	I	225	0	124	11	0
9	J	226	0	123	13	0
10	K	1592	0	1550	60	0
10	L	1631	0	1601	74	0
11	D	1	0	0	0	0
12	D	2	0	0	0	0
All	All	34094	0	33495	1393	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 21.

All (1393) 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)
5:F:607:LEU:HA	5:F:610:PHE:HB2	1.51	0.89
8:I:23:DG:N1	9:J:5:DC:N3	2.21	0.89
6:G:12:DC:H2''	6:G:13:DT:H5'	1.55	0.89
5:F:604:SER:O	5:F:607:LEU:N	2.07	0.87
10:L:41:VAL:HG11	10:L:59:VAL:HG11	1.58	0.86
3:D:998:PRO:HG2	3:D:1001:ALA:HB2	1.56	0.85
3:D:1027:VAL:HG21	3:D:1102:PRO:HD2	1.60	0.84
8:I:20:DC:O2	9:J:8:DG:N2	2.08	0.83
10:K:113:LEU:HD23	10:K:132:LEU:HB2	1.59	0.83
8:I:23:DG:N2	9:J:5:DC:O2	2.11	0.82
2:C:241:LEU:HD21	2:C:246:LEU:HD11	1.62	0.81
3:D:42:GLU:HB3	3:D:52:GLU:HG3	1.62	0.81
2:C:1254:VAL:O	3:D:99:ARG:NH2	2.12	0.81
4:E:4:VAL:HG23	4:E:5:THR:HG23	1.61	0.81
3:D:1039:ASP:HA	3:D:1074:LEU:HG	1.64	0.80
10:L:187:MET:O	10:L:191:PHE:HB2	1.82	0.79
6:G:44:DT:H2''	6:G:45:DA:C8	2.18	0.79
2:C:528:ARG:NH2	2:C:576:SER:O	2.16	0.78
5:F:402:LEU:HD23	5:F:405:ILE:HD11	1.65	0.78
5:F:476:ARG:NH1	5:F:477:GLU:O	2.16	0.78
3:D:749:LYS:HG3	3:D:750:PRO:HD2	1.63	0.78
5:F:576:VAL:O	5:F:580:PHE:HB2	1.83	0.78
3:D:845:ALA:O	3:D:860:ARG:NH1	2.17	0.78
5:F:304:THR:HG23	5:F:305:LEU:HD22	1.65	0.78
3:D:334:LYS:HA	3:D:339:ARG:HD2	1.66	0.78
3:D:863:LEU:HD11	3:D:901:ARG:HB3	1.65	0.78
3:D:950:ILE:HG12	3:D:1020:TRP:HH2	1.50	0.77
5:F:602:SER:H	5:F:605:GLU:HG2	1.50	0.77
2:C:519:ASN:HB2	2:C:522:SER:H	1.50	0.77
5:F:584:ARG:NH1	6:G:15:DG:OP2	2.19	0.76
2:C:1005:GLU:OE1	2:C:1007:LYS:NZ	2.17	0.76
2:C:1161:LEU:HD23	2:C:1161:LEU:O	1.86	0.75
3:D:1314:LEU:HB2	3:D:1326:GLN:HE22	1.51	0.75
10:L:133:ARG:NH2	10:L:174:GLU:O	2.19	0.75
5:F:162:ILE:HA	5:F:261:LEU:HA	1.69	0.74
10:L:194:ASP:OD1	10:L:194:ASP:N	2.20	0.74
3:D:903:LEU:HD11	3:D:909:ILE:HD12	1.70	0.74
10:K:24:GLN:NE2	10:K:111:TYR:OH	2.21	0.74
8:I:20:DC:N3	9:J:8:DG:N1	2.32	0.73
10:L:133:ARG:HH22	10:L:176:SER:H	1.35	0.73
2:C:548:ARG:NH2	2:C:567:PRO:O	2.22	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:F:552:THR:N	5:F:555:GLU:OE1	2.21	0.73
6:G:47:DT:H5"	6:G:47:DT:H6	1.54	0.73
8:I:23:DG:O6	9:J:5:DC:N4	2.20	0.73
1:B:78:ILE:HA	1:B:81:ILE:HD12	1.70	0.73
2:C:813:GLU:HB2	3:D:461:PHE:HD2	1.54	0.73
3:D:1157:ALA:O	3:D:1207:GLY:N	2.21	0.73
3:D:1158:GLU:N	3:D:1158:GLU:OE2	2.21	0.73
10:L:166:TRP:NE1	10:L:204:GLU:O	2.21	0.73
2:C:251:ALA:HB3	2:C:266:GLY:H	1.53	0.73
3:D:197:GLU:OE1	3:D:220:ARG:NH2	2.22	0.73
3:D:294:ASN:OD1	5:F:406:GLN:NE2	2.22	0.73
5:F:311:THR:HB	5:F:345:GLN:HG2	1.71	0.73
3:D:1024:THR:HG23	3:D:1123:ARG:HB3	1.70	0.73
1:B:41:ASN:OD1	1:B:44:ARG:NH1	2.21	0.72
2:C:1240:ASP:N	2:C:1240:ASP:OD1	2.22	0.72
2:C:675:ASP:OD2	2:C:677:ASN:ND2	2.22	0.72
5:F:586:ARG:NH1	6:G:14:DT:OP2	2.23	0.72
2:C:69:GLN:OE1	2:C:101:ARG:NH2	2.22	0.72
5:F:348:GLU:OE2	5:F:355:ILE:N	2.16	0.72
3:D:661:VAL:HG23	3:D:682:VAL:HG22	1.71	0.72
5:F:601:PRO:HA	5:F:605:GLU:HG2	1.72	0.71
3:D:1025:MET:N	3:D:1124:ILE:O	2.20	0.71
3:D:836:ARG:NE	3:D:869:CYS:SG	2.63	0.71
1:B:106:GLY:H	1:B:138:ALA:HB1	1.54	0.71
2:C:1151:LEU:HD11	2:C:1197:GLU:HB3	1.73	0.71
1:A:158:ARG:HH12	1:A:172:LEU:HD22	1.54	0.71
1:B:156:SER:O	1:B:160:HIS:ND1	2.21	0.71
2:C:421:SER:OG	2:C:423:ASP:OD1	2.09	0.71
3:D:1287:ILE:HD11	3:D:1300:ALA:HB1	1.72	0.71
3:D:209:ASN:HA	3:D:214:ARG:HD2	1.73	0.71
3:D:77:ARG:NH2	5:F:570:ASP:OD2	2.24	0.70
5:F:572:THR:OG1	5:F:575:GLU:OE1	2.08	0.70
2:C:1069:ARG:NH2	2:C:1114:GLU:OE2	2.19	0.70
3:D:1023:HIS:HA	3:D:1126:GLN:H	1.55	0.70
1:B:61:ILE:HB	1:B:64:VAL:HG12	1.74	0.70
3:D:978:ARG:HB2	3:D:1197:ASN:HD21	1.56	0.70
2:C:119:GLU:OE2	2:C:490:GLN:NE2	2.24	0.70
3:D:1036:ARG:CZ	3:D:1081:VAL:HG11	2.22	0.70
2:C:1151:LEU:O	2:C:1151:LEU:HG	1.91	0.70
10:K:187:MET:O	10:K:191:PHE:N	2.15	0.70
3:D:1046:ILE:HD12	3:D:1059:LEU:HD23	1.74	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:F:599:ARG:HA	5:F:604:SER:HB3	1.74	0.69
2:C:413:GLU:OE2	2:C:413:GLU:N	2.23	0.69
3:D:1081:VAL:HA	3:D:1088:VAL:H	1.56	0.69
3:D:1002:VAL:HB	3:D:1019:ASN:HB2	1.74	0.69
5:F:145:LEU:HD23	5:F:221:PHE:HD1	1.56	0.69
5:F:600:HIS:ND1	5:F:601:PRO:O	2.25	0.69
1:B:166:ARG:HB3	1:B:170:ARG:HG3	1.73	0.69
2:C:235:ASN:ND2	2:C:286:GLU:OE2	2.25	0.69
3:D:514:THR:HG21	3:D:596:LEU:HB3	1.72	0.69
3:D:1344:LEU:O	3:D:1346:GLY:N	2.26	0.69
5:F:354:THR:HG22	5:F:356:GLU:H	1.57	0.69
3:D:909:ILE:HD11	3:D:913:GLU:HG2	1.73	0.69
5:F:593:LYS:HA	5:F:596:ARG:HD3	1.73	0.69
1:A:136:GLU:OE1	1:A:137:ASN:ND2	2.24	0.69
2:C:303:ASP:O	2:C:307:GLY:N	2.20	0.69
2:C:998:LEU:HD11	2:C:1018:TYR:HD2	1.57	0.69
2:C:1174:GLU:OE2	2:C:1177:ARG:NH1	2.24	0.69
3:D:527:LEU:HB2	3:D:550:VAL:HG12	1.73	0.69
6:G:44:DT:H2''	6:G:45:DA:N7	2.08	0.69
3:D:1341:ARG:NH1	3:D:1343:GLU:OE2	2.25	0.68
1:B:107:ILE:HD11	1:B:136:GLU:H	1.59	0.68
2:C:533:LEU:HD21	2:C:571:LEU:HD13	1.75	0.68
1:A:234:LEU:H	1:B:218:ARG:HD3	1.58	0.68
3:D:1035:VAL:HG23	3:D:1078:LEU:HD21	1.75	0.68
3:D:1280:VAL:HG21	3:D:1304:ARG:HE	1.59	0.68
5:F:348:GLU:O	5:F:352:GLY:N	2.27	0.68
5:F:574:GLU:HB3	5:F:578:LYS:HE2	1.74	0.68
10:L:47:PRO:HD2	10:L:50:LEU:HD23	1.76	0.68
5:F:607:LEU:O	5:F:611:LEU:N	2.27	0.68
2:C:961:SER:O	2:C:965:GLN:HB2	1.92	0.68
3:D:959:LYS:O	3:D:959:LYS:NZ	2.24	0.68
2:C:23:ASP:N	2:C:23:ASP:OD1	2.22	0.67
2:C:398:SER:HB2	2:C:401:GLY:H	1.59	0.67
3:D:959:LYS:HZ1	3:D:983:LYS:HD2	1.58	0.67
3:D:966:VAL:H	3:D:974:VAL:HG22	1.60	0.67
5:F:130:VAL:HG23	5:F:365:MET:HG2	1.76	0.67
5:F:288:MET:O	5:F:292:VAL:HG22	1.94	0.67
2:C:963:GLU:O	2:C:967:LEU:HB2	1.93	0.67
5:F:145:LEU:HD22	5:F:225:ARG:HE	1.59	0.67
10:L:22:SER:HG	10:L:26:ARG:HH21	1.43	0.67
1:B:176:CYS:SG	3:D:535:ARG:NH2	2.68	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:18:ASP:N	3:D:18:ASP:OD1	2.28	0.67
3:D:1029:THR:OG1	3:D:1119:ASP:O	2.13	0.67
3:D:1166:GLY:HA3	3:D:1174:ARG:HE	1.59	0.67
5:F:437:GLN:OE1	6:G:35:DC:N4	2.28	0.67
2:C:340:ASP:OD1	2:C:340:ASP:N	2.27	0.66
2:C:840:SER:HB2	2:C:850:ILE:HD11	1.75	0.66
2:C:993:PRO:HG2	2:C:996:ARG:HG2	1.77	0.66
3:D:370:LYS:HG3	3:D:441:LEU:HD12	1.77	0.66
2:C:106:GLU:N	2:C:112:GLY:O	2.25	0.66
3:D:1002:VAL:O	3:D:1019:ASN:N	2.26	0.66
3:D:1239:ASP:OD1	3:D:1242:ARG:NH1	2.27	0.66
3:D:74:LYS:NZ	3:D:86:GLU:OE2	2.27	0.66
4:E:32:VAL:O	4:E:34:GLY:N	2.29	0.66
5:F:150:ARG:HB3	5:F:155:GLU:HB2	1.77	0.66
5:F:532:LEU:O	5:F:536:THR:HG23	1.95	0.66
1:A:191:ARG:NH2	1:A:196:THR:O	2.29	0.66
3:D:71:LEU:HB2	3:D:90:VAL:HG21	1.77	0.65
1:B:77:ASP:OD1	1:B:78:ILE:N	2.29	0.65
5:F:584:ARG:O	5:F:588:ARG:NH2	2.30	0.65
10:L:45:ASN:OD1	10:L:45:ASN:N	2.30	0.65
3:D:993:GLU:OE1	3:D:995:TYR:OH	2.09	0.65
3:D:1219:ASP:OD2	3:D:1222:ARG:NH2	2.29	0.65
2:C:746:ALA:HB2	2:C:974:ARG:HD2	1.77	0.65
3:D:1042:ASP:HA	3:D:1046:ILE:HG13	1.79	0.65
3:D:1098:GLN:NE2	3:D:1200:GLU:OE1	2.30	0.65
10:K:201:THR:N	10:K:204:GLU:OE1	2.26	0.65
3:D:91:GLU:OE1	10:L:82:ARG:NH2	2.30	0.65
5:F:507:MET:HG2	5:F:520:GLY:HA2	1.78	0.65
3:D:978:ARG:HE	3:D:999:TYR:HB3	1.61	0.64
2:C:672:GLU:OE1	2:C:672:GLU:N	2.27	0.64
2:C:1321:GLU:OE2	3:D:99:ARG:NE	2.26	0.64
3:D:872:LEU:HB3	3:D:877:VAL:HG21	1.78	0.64
3:D:930:LEU:HD13	3:D:1244:GLN:HB3	1.80	0.64
3:D:1327:GLU:OE1	3:D:1330:ARG:NH1	2.31	0.64
3:D:156:ARG:NH2	3:D:191:SER:OG	2.27	0.64
3:D:895:CYS:SG	3:D:898:CYS:N	2.65	0.64
10:K:48:GLN:O	10:K:48:GLN:NE2	2.31	0.64
2:C:745:GLU:OE1	2:C:1017:GLN:NE2	2.31	0.64
3:D:950:ILE:HG12	3:D:1020:TRP:CH2	2.33	0.64
5:F:554:ARG:HD2	5:F:580:PHE:HE1	1.63	0.64
3:D:644:MET:O	3:D:764:ARG:NH1	2.31	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:F:121:LYS:NZ	5:F:421:TYR:OH	2.23	0.63
2:C:576:SER:OG	2:C:577:VAL:N	2.31	0.63
2:C:10:ARG:HD3	2:C:1181:PRO:HG2	1.81	0.63
3:D:1357:ILE:HG22	3:D:1359:ALA:H	1.62	0.63
5:F:585:GLU:OE2	5:F:588:ARG:NH1	2.31	0.63
10:K:170:GLN:HB2	10:K:207:MET:HB3	1.79	0.63
2:C:960:LEU:HB3	2:C:1025:PHE:CE1	2.33	0.63
3:D:709:ARG:O	3:D:711:GLY:N	2.31	0.63
3:D:1036:ARG:NH2	3:D:1085:GLY:O	2.31	0.63
2:C:199:ASP:N	2:C:199:ASP:OD1	2.29	0.63
3:D:847:ASP:N	3:D:847:ASP:OD1	2.30	0.63
5:F:91:ILE:HG22	5:F:93:ARG:H	1.63	0.63
2:C:297:VAL:HB	2:C:317:LEU:HD21	1.80	0.63
2:C:841:ARG:N	2:C:848:GLU:OE1	2.32	0.63
2:C:1143:GLU:OE2	2:C:1147:ARG:NH1	2.22	0.63
3:D:1034:PHE:HB2	3:D:1081:VAL:HG22	1.81	0.63
5:F:283:GLN:NE2	5:F:340:ALA:O	2.25	0.63
3:D:814:CYS:SG	3:D:883:ARG:NH2	2.72	0.63
2:C:138:ILE:O	2:C:139:ASN:ND2	2.31	0.63
5:F:147:GLN:OE1	5:F:150:ARG:NH1	2.31	0.63
5:F:585:GLU:HA	5:F:588:ARG:NE	2.13	0.63
1:B:98:VAL:HG12	1:B:146:VAL:HG22	1.81	0.63
5:F:605:GLU:O	5:F:609:SER:OG	2.08	0.63
2:C:231:GLU:OE1	2:C:332:ARG:NH2	2.31	0.62
2:C:1006:GLU:HA	2:C:1009:ASN:HB2	1.81	0.62
3:D:426:ALA:HB3	3:D:427:PRO:HD3	1.82	0.62
3:D:1115:ILE:HD12	3:D:1119:ASP:HB2	1.81	0.62
5:F:124:GLU:O	5:F:128:ASN:ND2	2.32	0.62
5:F:348:GLU:HG3	5:F:355:ILE:HG12	1.81	0.62
1:A:67:GLU:OE1	1:A:67:GLU:N	2.26	0.62
3:D:872:LEU:HD22	3:D:877:VAL:HG11	1.82	0.62
3:D:969:SER:H	3:D:1117:SER:HB2	1.63	0.62
1:B:20:SER:O	1:B:20:SER:OG	2.15	0.62
3:D:1274:PHE:HB3	3:D:1275:LEU:HD12	1.82	0.62
1:B:66:HIS:O	1:B:69:SER:OG	2.16	0.62
3:D:1314:LEU:HB2	3:D:1326:GLN:NE2	2.15	0.62
3:D:762:ASN:OD1	3:D:762:ASN:N	2.29	0.62
2:C:300:ASP:OD1	2:C:313:ALA:N	2.32	0.62
2:C:620:ASN:O	2:C:620:ASN:ND2	2.32	0.62
5:F:141:ILE:HD11	5:F:224:LEU:HD11	1.82	0.62
5:F:145:LEU:HD13	5:F:225:ARG:HD3	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:F:251:LYS:HA	5:F:254:GLU:HG3	1.80	0.62
2:C:981:ALA:HB1	2:C:1007:LYS:HE2	1.82	0.62
5:F:602:SER:OG	5:F:603:ARG:NH1	2.32	0.62
10:K:46:PRO:HG2	10:K:51:ILE:HD11	1.80	0.62
1:A:154:PRO:HG2	1:A:157:THR:HG23	1.81	0.62
5:F:145:LEU:HD21	5:F:224:LEU:HB3	1.81	0.62
2:C:148:GLN:OE1	2:C:454:ARG:NH2	2.33	0.62
5:F:606:VAL:O	5:F:610:PHE:N	2.31	0.62
3:D:905:ARG:HH12	3:D:907:HIS:HB2	1.65	0.61
2:C:165:HIS:CE1	2:C:190:PRO:HG3	2.35	0.61
2:C:568:ASN:N	2:C:568:ASN:OD1	2.32	0.61
3:D:73:GLY:O	3:D:76:LYS:NZ	2.30	0.61
3:D:709:ARG:C	3:D:711:GLY:H	2.04	0.61
5:F:295:CYS:HA	5:F:329:LYS:HB3	1.81	0.61
2:C:238:GLN:HG3	2:C:286:GLU:HG3	1.83	0.61
2:C:324:LYS:O	2:C:327:GLN:NE2	2.30	0.61
3:D:885:VAL:HG21	3:D:1255:VAL:HG12	1.82	0.61
5:F:525:ASP:OD1	5:F:526:THR:N	2.32	0.61
6:G:43:DT:H2''	6:G:44:DT:O5'	1.99	0.61
10:L:111:TYR:OH	10:L:160:TYR:O	2.18	0.61
5:F:268:TYR:HD2	5:F:269:LEU:HD22	1.65	0.61
10:K:32:LYS:NZ	10:K:86:PRO:O	2.28	0.61
2:C:179:TYR:HB2	2:C:397:LEU:O	2.01	0.61
6:G:43:DT:C6	6:G:44:DT:H72	2.36	0.61
3:D:557:LYS:HB3	3:D:563:LEU:HD23	1.82	0.61
3:D:850:LYS:NZ	3:D:855:ASP:O	2.33	0.61
10:L:47:PRO:HD2	10:L:50:LEU:CD2	2.31	0.61
5:F:607:LEU:HD13	5:F:610:PHE:HB2	1.83	0.61
1:B:60:GLU:OE1	1:B:143:ARG:NH1	2.33	0.61
2:C:758:ARG:NH1	2:C:762:ASN:OD1	2.34	0.61
3:D:901:ARG:HG3	3:D:902:ASP:N	2.16	0.61
3:D:1029:THR:HG23	3:D:1121:LEU:HG	1.83	0.61
10:K:44:ASP:OD1	10:K:45:ASN:N	2.33	0.61
10:K:151:SER:OG	10:K:152:ASP:N	2.34	0.61
1:B:62:ASP:OD1	1:B:63:GLY:N	2.33	0.60
2:C:785:ASP:OD2	2:C:791:LEU:N	2.29	0.60
3:D:1027:VAL:CG2	3:D:1102:PRO:HD2	2.31	0.60
1:A:14:VAL:HG22	1:A:15:ASP:H	1.66	0.60
1:B:135:ASP:N	1:B:135:ASP:OD1	2.35	0.60
1:B:148:ARG:HH11	1:B:148:ARG:HB3	1.66	0.60
2:C:1267:GLY:HA3	3:D:347:VAL:O	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:205:LEU:HD23	3:D:217:LEU:HB3	1.83	0.60
3:D:1026:PRO:HG2	3:D:1028:ILE:HD11	1.82	0.60
1:A:174:ASP:OD1	1:A:174:ASP:N	2.34	0.60
2:C:979:LEU:HD22	2:C:989:LEU:HD21	1.82	0.60
3:D:518:VAL:HG12	3:D:707:ILE:HD11	1.83	0.60
2:C:1160:ASP:O	2:C:1161:LEU:HB3	2.01	0.60
3:D:902:ASP:H	3:D:1251:LYS:NZ	1.99	0.60
2:C:974:ARG:HH11	2:C:974:ARG:HB2	1.65	0.60
3:D:45:ASN:ND2	3:D:45:ASN:O	2.35	0.60
3:D:1057:SER:HB2	3:D:1059:LEU:HD13	1.83	0.60
3:D:1116:SER:OG	3:D:1117:SER:N	2.34	0.60
2:C:75:LEU:HD11	2:C:127:ILE:HD11	1.83	0.60
3:D:74:LYS:NZ	3:D:75:TYR:OH	2.31	0.60
3:D:1041:ILE:HB	3:D:1074:LEU:HD21	1.84	0.60
5:F:141:ILE:HG21	5:F:252:LEU:HD21	1.83	0.60
10:K:17:PRO:HA	10:K:40:HIS:CE1	2.37	0.60
2:C:379:GLU:OE1	2:C:379:GLU:N	2.34	0.60
2:C:1142:ARG:NH2	2:C:1165:SER:O	2.31	0.60
3:D:720:ASN:HD22	3:D:723:TYR:H	1.48	0.60
1:A:66:HIS:O	1:A:69:SER:OG	2.18	0.59
5:F:472:GLN:NE2	5:F:473:GLU:OE2	2.35	0.59
1:B:58:GLU:HG2	1:B:172:LEU:HD12	1.83	0.59
2:C:1023:HIS:CD2	2:C:1027:LYS:HE2	2.37	0.59
5:F:426:LYS:NZ	6:G:40:DT:OP1	2.34	0.59
3:D:559:ALA:HB3	3:D:562:GLU:HB2	1.85	0.59
10:K:64:ASP:O	10:K:66:GLU:N	2.33	0.59
2:C:50:GLU:OE2	2:C:54:ARG:NE	2.35	0.59
3:D:1078:LEU:HD13	3:D:1121:LEU:HD22	1.85	0.59
8:I:16:DC:H2 [?]	8:I:17:DT:H71	1.83	0.59
2:C:998:LEU:HD11	2:C:1018:TYR:CD2	2.37	0.59
3:D:1090:ILE:HD11	3:D:1099:TYR:HE1	1.67	0.59
3:D:405:GLU:O	3:D:408:VAL:HG22	2.03	0.59
10:L:112:THR:O	10:L:116:THR:HG23	2.03	0.59
1:B:75:GLN:HG2	1:B:132:HIS:HB2	1.84	0.59
2:C:826:ASP:OD1	2:C:829:THR:OG1	2.16	0.59
2:C:898:GLU:OE1	2:C:898:GLU:N	2.34	0.59
2:C:992:LEU:HD11	2:C:997:TRP:CE2	2.36	0.59
5:F:297:MET:HG3	5:F:326:TRP:CD2	2.37	0.59
2:C:204:LEU:HB3	2:C:208:ILE:HD12	1.84	0.59
3:D:1062:LEU:HD23	3:D:1066:GLU:HB3	1.85	0.59
5:F:281:ARG:O	5:F:285:ARG:HG2	2.03	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:F:441:ARG:NH1	5:F:445:ASP:OD1	2.36	0.59
2:C:59:ILE:HG23	2:C:476:LYS:HE3	1.83	0.58
2:C:624:ASP:O	2:C:626:GLU:N	2.36	0.58
4:E:67:ARG:NH2	4:E:71:GLU:OE2	2.35	0.58
5:F:465:ARG:HH12	7:H:26:DT:H3'	1.68	0.58
5:F:557:LYS:HG2	5:F:580:PHE:HE2	1.67	0.58
10:K:77:GLU:OE1	10:L:100:ARG:NE	2.35	0.58
2:C:316:GLU:CD	2:C:316:GLU:H	2.06	0.58
3:D:1162:ILE:O	3:D:1178:THR:N	2.29	0.58
10:L:121:SER:N	10:L:124:GLU:OE1	2.36	0.58
3:D:1034:PHE:N	3:D:1081:VAL:O	2.34	0.58
3:D:1165:PHE:HB3	3:D:1173:ARG:HD2	1.85	0.58
1:B:106:GLY:N	1:B:138:ALA:HB1	2.18	0.58
3:D:353:SER:OG	3:D:354:VAL:N	2.36	0.58
3:D:1269:ALA:HB3	3:D:1274:PHE:HD1	1.68	0.58
5:F:327:SER:HA	5:F:330:LEU:HD12	1.86	0.58
1:A:33:ARG:NH2	1:A:199:ASP:OD1	2.36	0.58
2:C:1164:PHE:HB3	2:C:1168:GLU:HB2	1.86	0.58
3:D:381:ILE:HD11	3:D:412:LEU:HD13	1.85	0.58
3:D:424:ASN:HB2	3:D:434:ILE:HG12	1.85	0.58
2:C:1014:LEU:HD12	2:C:1017:GLN:HG3	1.86	0.58
3:D:278:ARG:NH1	5:F:407:GLU:OE2	2.37	0.58
3:D:555:TYR:HB3	3:D:563:LEU:HB3	1.86	0.57
3:D:1093:THR:OG1	3:D:1094:ASP:N	2.37	0.57
1:B:101:THR:HG22	1:B:143:ARG:HG2	1.87	0.57
2:C:858:GLY:O	2:C:861:ALA:N	2.32	0.57
3:D:194:LEU:O	3:D:198:CYS:HB2	2.05	0.57
5:F:355:ILE:HA	5:F:358:VAL:HG12	1.86	0.57
10:L:136:LEU:HB3	10:L:175:PHE:HZ	1.69	0.57
2:C:979:LEU:HB3	2:C:989:LEU:HD21	1.86	0.57
1:A:16:ILE:HG23	1:A:26:VAL:HG12	1.84	0.57
2:C:411:ARG:NH2	2:C:427:ASP:OD2	2.31	0.57
3:D:48:THR:O	3:D:50:LYS:N	2.38	0.57
3:D:1080:ILE:HD11	3:D:1121:LEU:HD11	1.84	0.57
5:F:386:LEU:O	5:F:389:SER:OG	2.19	0.57
3:D:952:VAL:O	3:D:1014:GLY:N	2.37	0.57
3:D:1021:ASP:HB2	3:D:1024:THR:HB	1.85	0.57
3:D:1068:THR:HG23	3:D:1070:GLY:H	1.70	0.57
5:F:557:LYS:HD3	10:K:85:HIS:CD2	2.39	0.57
2:C:830:THR:OG1	2:C:832:HIS:NE2	2.34	0.57
5:F:262:VAL:HG23	5:F:265:GLN:H	1.70	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:L:10:VAL:O	10:L:11:MET:HB3	2.05	0.57
2:C:960:LEU:HB3	2:C:1025:PHE:HE1	1.70	0.57
3:D:342:LEU:HB3	3:D:1352:ILE:HG23	1.87	0.57
2:C:1211:ARG:HD3	2:C:1220:GLN:OE1	2.05	0.56
2:C:1254:VAL:HG13	2:C:1255:THR:H	1.70	0.56
10:L:196:PHE:O	10:L:199:SER:OG	2.16	0.56
3:D:384:LYS:HG3	3:D:415:VAL:HG12	1.87	0.56
3:D:874:GLU:OE1	3:D:875:ASN:ND2	2.39	0.56
5:F:347:ILE:O	5:F:351:THR:HG23	2.04	0.56
1:A:92:VAL:HG12	1:A:121:VAL:HG22	1.88	0.56
2:C:198:ILE:HG21	2:C:388:LEU:HD21	1.87	0.56
2:C:615:VAL:HG13	2:C:650:VAL:HA	1.85	0.56
2:C:970:GLY:O	2:C:973:SER:OG	2.18	0.56
3:D:1083:ALA:N	3:D:1114:GLN:HE22	2.03	0.56
5:F:279:ARG:CZ	5:F:347:ILE:HG12	2.36	0.56
5:F:344:LEU:HD21	5:F:355:ILE:HG13	1.87	0.56
5:F:385:ARG:HE	6:G:42:DT:H5'	1.70	0.56
6:G:20:DC:O2	7:H:44:DG:N2	2.38	0.56
10:L:63:VAL:HG12	10:L:68:THR:HG22	1.87	0.56
1:B:174:ASP:OD1	1:B:174:ASP:N	2.38	0.56
6:G:25:DC:H2''	6:G:26:DG:H8	1.70	0.56
5:F:543:ALA:O	5:F:547:VAL:HG23	2.04	0.56
10:K:182:GLU:H	10:K:182:GLU:CD	2.09	0.56
2:C:161:LYS:HD2	2:C:161:LYS:H	1.71	0.56
2:C:270:THR:HG23	2:C:273:HIS:CE1	2.41	0.56
2:C:1223:ARG:NH2	3:D:719:PHE:O	2.39	0.56
3:D:1037:PHE:HB3	3:D:1041:ILE:HD13	1.88	0.56
3:D:516:ASP:HB3	3:D:573:THR:HG21	1.86	0.56
3:D:1263:LYS:HE2	3:D:1279:GLN:NE2	2.20	0.56
3:D:53:ARG:HH22	3:D:89:GLY:H	1.54	0.56
3:D:516:ASP:HA	3:D:545:HIS:HB3	1.87	0.56
5:F:287:ILE:HG22	5:F:302:PHE:HZ	1.69	0.56
10:K:151:SER:OG	10:K:153:GLU:N	2.38	0.56
10:L:64:ASP:N	10:L:64:ASP:OD1	2.38	0.56
2:C:273:HIS:O	2:C:277:LEU:HG	2.06	0.56
2:C:581:THR:HG23	2:C:585:GLY:HA2	1.88	0.56
2:C:1337:ILE:HD11	3:D:20:ILE:HD11	1.86	0.56
3:D:17:PHE:HZ	3:D:1353:VAL:HG21	1.70	0.56
2:C:485:ASP:OD1	2:C:486:THR:N	2.39	0.55
3:D:709:ARG:C	3:D:711:GLY:N	2.60	0.55
2:C:114:VAL:HG22	2:C:115:LYS:HG3	1.87	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:594:VAL:HG22	2:C:599:VAL:HG22	1.88	0.55
3:D:341:ASN:O	3:D:342:LEU:HB2	2.04	0.55
2:C:323:ALA:O	2:C:326:SER:OG	2.20	0.55
2:C:1116:HIS:HE1	3:D:641:ILE:H	1.53	0.55
10:L:131:GLN:O	10:L:134:GLU:HG2	2.06	0.55
2:C:211:ARG:NH1	2:C:357:ASN:O	2.39	0.55
3:D:833:GLU:OE1	3:D:1247:LYS:NZ	2.39	0.55
3:D:1158:GLU:OE1	3:D:1186:TYR:OH	2.21	0.55
3:D:19:ALA:HA	3:D:1342:ASP:O	2.06	0.55
5:F:140:ALA:HA	5:F:269:LEU:HD11	1.89	0.55
7:H:51:DG:N3	7:H:52:DG:H5''	2.21	0.55
10:L:64:ASP:O	10:L:66:GLU:N	2.36	0.55
3:D:505:ASP:OD2	3:D:505:ASP:N	2.36	0.55
10:L:46:PRO:HB2	10:L:50:LEU:HD21	1.89	0.55
2:C:319:LEU:HA	2:C:322:LEU:HD12	1.88	0.55
3:D:789:LYS:HZ3	3:D:931:THR:HG21	1.72	0.55
5:F:267:ASP:O	5:F:271:ASN:ND2	2.39	0.55
5:F:256:PHE:HA	5:F:259:PHE:CE2	2.41	0.55
5:F:486:ARG:HA	5:F:486:ARG:NE	2.22	0.55
5:F:607:LEU:HD22	5:F:610:PHE:HD2	1.72	0.55
10:L:26:ARG:NH1	10:L:204:GLU:OE2	2.37	0.55
3:D:342:LEU:HD23	3:D:1352:ILE:CG2	2.37	0.55
4:E:41:GLU:OE1	4:E:43:ASN:N	2.38	0.55
2:C:102:LEU:HB3	2:C:489:PRO:HG3	1.88	0.54
2:C:972:PHE:HA	2:C:975:ILE:HB	1.89	0.54
2:C:1156:ARG:HG3	2:C:1156:ARG:O	2.06	0.54
3:D:84:ILE:HG12	3:D:91:GLU:HB2	1.87	0.54
7:H:50:DA:H2''	7:H:51:DG:H8	1.72	0.54
3:D:316:ILE:HA	3:D:323:PRO:HA	1.88	0.54
3:D:1007:ASP:N	3:D:1009:GLU:OE2	2.39	0.54
3:D:1102:PRO:HG2	3:D:1124:ILE:HD11	1.88	0.54
3:D:1268:ASN:HA	3:D:1274:PHE:CE1	2.42	0.54
5:F:290:LEU:HB3	5:F:333:VAL:HG21	1.89	0.54
5:F:353:LEU:HD23	5:F:357:GLN:HB3	1.89	0.54
8:I:19:DA:H1'	8:I:20:DC:H5'	1.90	0.54
1:A:76:GLU:N	1:A:76:GLU:OE1	2.41	0.54
1:B:22:THR:OG1	1:B:207:THR:O	2.25	0.54
5:F:102:MET:HG3	6:G:43:DT:N3	2.21	0.54
5:F:452:ILE:HG13	5:F:457:ILE:HG13	1.89	0.54
6:G:25:DC:H2''	6:G:26:DG:C8	2.42	0.54
10:L:147:PRO:O	10:L:189:ARG:NE	2.39	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:299:LYS:NZ	2:C:334:GLU:OE1	2.36	0.54
2:C:551:HIS:ND1	2:C:552:PRO:HD2	2.22	0.54
3:D:559:ALA:O	3:D:561:GLY:N	2.40	0.54
3:D:1179:PRO:HD2	3:D:1184:ASP:HA	1.89	0.54
3:D:516:ASP:OD1	3:D:516:ASP:N	2.36	0.54
5:F:162:ILE:HD11	5:F:259:PHE:HB3	1.89	0.54
1:B:20:SER:O	1:B:22:THR:N	2.41	0.54
2:C:303:ASP:N	2:C:308:GLU:O	2.26	0.54
3:D:438:GLU:OE2	3:D:481:ARG:NH2	2.37	0.54
3:D:1346:GLY:O	3:D:1350:ASN:ND2	2.29	0.54
6:G:47:DT:H5''	6:G:47:DT:C6	2.40	0.54
5:F:303:ILE:O	5:F:307:THR:OG1	2.12	0.54
3:D:1327:GLU:HA	9:J:12:DG:OP1	2.07	0.54
5:F:145:LEU:HD22	5:F:225:ARG:NE	2.22	0.54
10:K:54:ASN:ND2	10:K:58:SER:H	2.05	0.54
2:C:318:SER:O	2:C:322:LEU:HG	2.07	0.54
3:D:62:PHE:CD1	3:D:247:PRO:HD3	2.43	0.54
10:L:11:MET:HG3	10:L:64:ASP:OD1	2.07	0.54
2:C:103:VAL:HG12	2:C:116:ASP:HB3	1.89	0.53
2:C:253:PHE:N	2:C:265:LYS:HG3	2.23	0.53
3:D:1280:VAL:HG11	3:D:1304:ARG:HH21	1.73	0.53
3:D:947:GLU:O	3:D:1020:TRP:NE1	2.41	0.53
5:F:309:ASN:HD21	5:F:315:TRP:HD1	1.57	0.53
5:F:558:VAL:HG23	5:F:576:VAL:HG11	1.89	0.53
1:B:93:GLN:HB2	1:B:120:ASP:OD1	2.07	0.53
2:C:415:GLU:N	2:C:415:GLU:OE1	2.42	0.53
2:C:452:ARG:HH22	2:C:458:GLU:CD	2.11	0.53
3:D:1325:PHE:CE1	3:D:1326:GLN:HG3	2.43	0.53
10:L:9:SER:HA	10:L:65:ARG:HH12	1.73	0.53
2:C:192:ASP:OD1	2:C:436:ARG:NH2	2.42	0.53
2:C:905:ILE:HG22	5:F:595:LEU:HD22	1.90	0.53
2:C:937:ASP:HB3	2:C:1039:GLY:HA3	1.91	0.53
2:C:985:GLU:HG2	2:C:988:LYS:HE2	1.91	0.53
3:D:978:ARG:HB2	3:D:1197:ASN:ND2	2.23	0.53
5:F:267:ASP:HA	5:F:270:VAL:HG12	1.91	0.53
2:C:373:GLY:HA3	5:F:94:THR:HG21	1.90	0.53
2:C:727:VAL:HG23	2:C:732:ILE:HG12	1.89	0.53
3:D:980:THR:O	3:D:980:THR:OG1	2.27	0.53
3:D:1033:GLY:HA3	3:D:1080:ILE:HG22	1.90	0.53
4:E:8:ASP:N	4:E:8:ASP:OD1	2.40	0.53
3:D:1233:ILE:O	3:D:1237:VAL:HG12	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:1368:ASP:OD1	3:D:1371:ARG:NH2	2.42	0.53
5:F:530:LEU:O	5:F:533:ASP:N	2.42	0.53
6:G:44:DT:H1'	6:G:45:DA:O4'	2.09	0.53
9:J:11:DA:H2''	9:J:12:DG:C8	2.44	0.53
1:A:62:ASP:OD1	1:A:63:GLY:N	2.39	0.53
1:B:93:GLN:H	1:B:120:ASP:HB3	1.73	0.53
2:C:348:SER:OG	2:C:349:GLU:N	2.42	0.53
9:J:6:DG:C8	9:J:6:DG:H5'	2.44	0.53
2:C:242:VAL:HG12	2:C:245:ARG:HE	1.74	0.53
2:C:1017:GLN:O	2:C:1021:LEU:HB2	2.09	0.53
2:C:1088:ASP:OD1	2:C:1088:ASP:N	2.37	0.53
3:D:950:ILE:HB	3:D:1017:VAL:HG12	1.91	0.53
3:D:1042:ASP:CG	3:D:1048:ARG:HB2	2.29	0.53
2:C:909:LYS:NZ	2:C:911:SER:HA	2.23	0.53
3:D:207:GLU:HG3	3:D:208:THR:N	2.24	0.53
3:D:997:VAL:HG13	3:D:1001:ALA:HB3	1.90	0.53
10:L:11:MET:HA	10:L:63:VAL:O	2.09	0.53
2:C:942:ASP:OD2	2:C:942:ASP:N	2.28	0.52
1:B:20:SER:HG	1:B:23:HIS:HB3	1.74	0.52
3:D:393:THR:HG23	3:D:396:ALA:H	1.74	0.52
5:F:145:LEU:HD23	5:F:221:PHE:CD1	2.42	0.52
5:F:299:LYS:O	5:F:303:ILE:HG12	2.09	0.52
5:F:377:LYS:NZ	5:F:381:GLU:OE2	2.23	0.52
3:D:275:ARG:HD3	3:D:298:MET:HG3	1.90	0.52
3:D:1251:LYS:O	3:D:1255:VAL:HG13	2.10	0.52
1:B:207:THR:OG1	1:B:208:ASN:N	2.41	0.52
3:D:492:SER:HB2	3:D:499:ILE:HD13	1.91	0.52
3:D:1348:LYS:O	3:D:1352:ILE:HG12	2.09	0.52
6:G:26:DG:C2	7:H:38:DG:C2	2.97	0.52
3:D:82:GLY:HA3	10:K:93:PRO:HD2	1.90	0.52
3:D:1174:ARG:HB2	3:D:1189:MET:SD	2.49	0.52
5:F:112:THR:OG1	5:F:114:GLU:OE2	2.27	0.52
7:H:30:DA:H1'	7:H:31:DT:H5'	1.92	0.52
2:C:338:THR:O	2:C:338:THR:OG1	2.26	0.52
4:E:36:ASP:N	4:E:36:ASP:OD1	2.40	0.52
5:F:379:MET:O	5:F:383:ASN:ND2	2.36	0.52
1:B:100:LEU:HD12	1:B:144:ILE:HD11	1.90	0.52
2:C:1014:LEU:HA	2:C:1017:GLN:HG3	1.91	0.52
3:D:210:SER:O	3:D:213:LYS:N	2.42	0.52
5:F:248:GLU:HA	5:F:251:LYS:HZ2	1.74	0.52
5:F:273:MET:HE1	5:F:361:ILE:HG22	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:26:TYR:HE2	2:C:32:LEU:HD12	1.75	0.52
2:C:56:VAL:HG11	2:C:468:LEU:HD13	1.91	0.52
2:C:145:ILE:HB	2:C:456:VAL:HG22	1.92	0.52
2:C:746:ALA:CB	2:C:974:ARG:HD2	2.40	0.52
3:D:1075:ARG:HB2	3:D:1100:PHE:HE1	1.73	0.52
5:F:397:ARG:HG2	7:H:26:DT:N3	2.25	0.52
10:K:129:ARG:NH2	10:K:171:LEU:O	2.34	0.52
10:L:63:VAL:HA	10:L:67:LEU:O	2.10	0.52
2:C:518:ASN:N	2:C:518:ASN:OD1	2.43	0.52
2:C:1070:HIS:NE2	2:C:1114:GLU:OE1	2.36	0.52
3:D:658:GLU:HA	3:D:661:VAL:HG12	1.91	0.52
6:G:13:DT:H2''	6:G:14:DT:H71	1.91	0.52
1:B:12:ARG:O	1:B:13:LEU:HB3	2.10	0.51
2:C:1021:LEU:HA	2:C:1024:GLU:HB3	1.92	0.51
3:D:317:THR:HG23	3:D:320:ASN:O	2.10	0.51
3:D:789:LYS:NZ	3:D:931:THR:HG21	2.24	0.51
3:D:857:LEU:H	3:D:857:LEU:HD23	1.75	0.51
5:F:219:GLU:HG3	5:F:220:LYS:HD2	1.92	0.51
1:A:193:GLU:HG2	1:A:194:GLN:HG3	1.92	0.51
2:C:1005:GLU:HB2	2:C:1007:LYS:HD2	1.93	0.51
3:D:275:ARG:NH2	5:F:403:ASP:OD1	2.40	0.51
5:F:353:LEU:HB3	5:F:357:GLN:HB2	1.92	0.51
10:K:17:PRO:HA	10:K:40:HIS:HE1	1.75	0.51
1:B:6:THR:OG1	1:B:7:GLU:N	2.42	0.51
5:F:233:ASP:O	5:F:236:LYS:NZ	2.44	0.51
7:H:34:DA:C8	7:H:35:DT:H72	2.46	0.51
10:K:24:GLN:HG2	10:K:159:CYS:O	2.11	0.51
2:C:14:ASP:HA	2:C:1183:ALA:HB3	1.91	0.51
2:C:812:PHE:CD2	2:C:813:GLU:HG2	2.46	0.51
2:C:1072:ASN:OD1	2:C:1072:ASN:N	2.29	0.51
2:C:1161:LEU:O	2:C:1161:LEU:CD2	2.56	0.51
3:D:1107:VAL:HG22	3:D:1122:ALA:HB2	1.93	0.51
2:C:453:ILE:HD12	2:C:530:ILE:HD12	1.92	0.51
2:C:893:THR:OG1	2:C:894:GLN:N	2.44	0.51
3:D:1064:SER:OG	3:D:1195:GLN:N	2.43	0.51
3:D:1101:LEU:HD21	3:D:1121:LEU:HD12	1.91	0.51
5:F:277:MET:O	5:F:281:ARG:HG2	2.11	0.51
1:B:23:HIS:CG	1:B:206:GLU:HG2	2.45	0.51
2:C:5:TYR:OH	2:C:1171:ARG:NH2	2.34	0.51
2:C:443:ASP:OD1	2:C:443:ASP:N	2.43	0.51
5:F:93:ARG:CZ	5:F:93:ARG:HA	2.40	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:L:140:ALA:HA	10:L:183:LEU:HD21	1.91	0.51
2:C:1326:LEU:HD13	3:D:342:LEU:HD22	1.93	0.51
3:D:555:TYR:CD2	3:D:585:LYS:HD2	2.46	0.51
5:F:331:HIS:O	5:F:334:SER:OG	2.26	0.51
6:G:15:DG:H2''	6:G:16:DC:C6	2.46	0.51
6:G:21:DA:H2''	6:G:22:DT:H5'	1.93	0.51
1:A:215:GLU:OE2	1:A:219:ARG:NH2	2.44	0.51
3:D:985:ILE:HG22	3:D:986:ASP:H	1.75	0.51
3:D:1067:ARG:CZ	3:D:1076:PRO:HG3	2.41	0.51
2:C:598:VAL:HG23	2:C:626:GLU:O	2.11	0.51
2:C:1222:GLU:OE1	2:C:1222:GLU:N	2.41	0.51
2:C:1287:LEU:HD21	3:D:1351:VAL:HG22	1.92	0.51
3:D:34:SER:OG	3:D:35:PHE:N	2.42	0.51
3:D:905:ARG:NH1	3:D:907:HIS:HB2	2.26	0.51
3:D:1176:VAL:HB	3:D:1187:GLU:HB3	1.92	0.51
5:F:606:VAL:HG22	5:F:610:PHE:CE2	2.46	0.51
3:D:654:ILE:HD13	3:D:760:THR:HB	1.93	0.50
3:D:718:SER:OG	3:D:719:PHE:N	2.40	0.50
3:D:918:ILE:O	3:D:922:SER:OG	2.28	0.50
5:F:229:VAL:HG13	5:F:232:ARG:HH21	1.76	0.50
5:F:277:MET:SD	5:F:362:ASN:HB2	2.51	0.50
5:F:584:ARG:HH21	6:G:15:DG:H8	1.58	0.50
5:F:601:PRO:CA	5:F:605:GLU:HG2	2.41	0.50
2:C:130:MET:SD	2:C:134:GLY:HA2	2.52	0.50
3:D:201:LEU:HD11	3:D:220:ARG:NH1	2.26	0.50
3:D:814:CYS:HB2	3:D:889:ASP:HB3	1.92	0.50
3:D:1105:ALA:HB1	3:D:1122:ALA:HB1	1.93	0.50
6:G:38:DC:H1'	6:G:39:DT:H5'	1.93	0.50
6:G:43:DT:N3	6:G:44:DT:C4	2.79	0.50
1:B:127:GLN:CD	1:B:127:GLN:H	2.14	0.50
2:C:297:VAL:HG12	2:C:315:MET:O	2.12	0.50
2:C:339:ASN:HD21	2:C:341:LEU:HB3	1.75	0.50
3:D:137:ARG:NH2	5:F:91:ILE:HD12	2.27	0.50
3:D:1090:ILE:HD11	3:D:1099:TYR:CE1	2.47	0.50
5:F:572:THR:HB	7:H:45:DA:OP1	2.11	0.50
6:G:43:DT:N3	6:G:44:DT:O4	2.44	0.50
10:L:99:SER:O	10:L:103:MET:HG3	2.10	0.50
10:L:109:ASP:HB3	10:L:110:TRP:CD1	2.47	0.50
2:C:463:GLN:HG3	2:C:505:PHE:HB2	1.93	0.50
3:D:536:LEU:HD22	3:D:541:LEU:HB2	1.94	0.50
3:D:861:ASN:OD1	3:D:861:ASN:N	2.42	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:K:117:ILE:HD11	10:K:129:ARG:HB2	1.93	0.50
10:L:96:ARG:HB3	10:L:100:ARG:HH12	1.76	0.50
2:C:59:ILE:N	2:C:68:LEU:O	2.33	0.50
6:G:43:DT:C2	6:G:44:DT:C5	2.98	0.50
7:H:38:DG:C2	7:H:39:DC:C4	2.99	0.50
10:K:111:TYR:CE1	10:K:164:LEU:HD12	2.46	0.50
10:L:24:GLN:O	10:L:28:VAL:HG23	2.12	0.50
2:C:325:LEU:HA	2:C:330:HIS:HD2	1.76	0.50
3:D:1280:VAL:HG21	3:D:1304:ARG:NE	2.27	0.50
5:F:345:GLN:O	5:F:349:GLU:HG2	2.12	0.50
6:G:43:DT:C5	6:G:44:DT:H72	2.46	0.50
9:J:8:DG:H2'	9:J:9:DT:H71	1.94	0.50
1:A:45:ARG:NH1	2:C:1084:ASP:OD1	2.43	0.50
1:B:192:VAL:O	1:B:194:GLN:N	2.42	0.50
2:C:452:ARG:HH12	2:C:454:ARG:HG2	1.76	0.50
2:C:1023:HIS:O	2:C:1027:LYS:HG2	2.12	0.50
3:D:367:GLY:HA3	3:D:448:GLN:HB2	1.94	0.50
3:D:973:LEU:HD12	3:D:1006:GLY:HA2	1.94	0.50
3:D:1179:PRO:CD	3:D:1184:ASP:HA	2.42	0.50
3:D:1267:VAL:HB	3:D:1301:THR:OG1	2.12	0.50
3:D:1313:SER:O	3:D:1316:THR:OG1	2.29	0.50
1:B:192:VAL:O	1:B:192:VAL:HG13	2.11	0.50
2:C:728:ASP:OD1	2:C:729:ALA:N	2.45	0.50
2:C:1276:TRP:CE2	3:D:801:VAL:HG11	2.47	0.50
3:D:1222:ARG:HG2	3:D:1223:LEU:HD23	1.94	0.50
5:F:344:LEU:HA	5:F:347:ILE:HD12	1.94	0.50
10:L:31:GLU:OE2	10:L:193:ARG:NH2	2.38	0.50
2:C:98:VAL:O	2:C:121:GLU:HA	2.11	0.50
10:L:41:VAL:HB	10:L:46:PRO:HA	1.93	0.50
1:B:164:ASP:O	1:B:166:ARG:NH1	2.45	0.49
2:C:624:ASP:C	2:C:626:GLU:H	2.15	0.49
2:C:1269:ARG:NE	3:D:344:GLY:O	2.45	0.49
3:D:1163:VAL:HG12	3:D:1202:GLU:O	2.12	0.49
5:F:127:ILE:O	5:F:130:VAL:HG12	2.11	0.49
10:K:19:ASP:OD2	10:K:60:PRO:HD3	2.12	0.49
1:B:162:GLU:HG3	1:B:166:ARG:HH22	1.77	0.49
3:D:1278:GLU:N	3:D:1278:GLU:OE1	2.45	0.49
5:F:397:ARG:HG2	7:H:26:DT:H3	1.77	0.49
6:G:33:DT:H1'	6:G:34:DC:H5'	1.94	0.49
2:C:59:ILE:O	2:C:68:LEU:N	2.26	0.49
2:C:60:GLN:O	2:C:476:LYS:HE2	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:1117:LEU:HD13	2:C:1195:ILE:HG12	1.93	0.49
3:D:793:SER:O	3:D:797:THR:HG22	2.12	0.49
3:D:945:ALA:HB3	3:D:1129:GLY:HA2	1.94	0.49
7:H:39:DC:H1'	7:H:40:DA:O4'	2.12	0.49
2:C:613:ASN:OD1	2:C:613:ASN:N	2.44	0.49
2:C:1106:ARG:H	2:C:1106:ARG:HD2	1.77	0.49
3:D:53:ARG:NH2	3:D:89:GLY:H	2.09	0.49
3:D:317:THR:HG22	3:D:322:ARG:O	2.12	0.49
6:G:15:DG:C2	7:H:49:DA:C2	3.00	0.49
2:C:241:LEU:N	2:C:283:LYS:O	2.44	0.49
2:C:444:ASP:N	2:C:444:ASP:OD1	2.38	0.49
2:C:611:GLU:OE2	2:C:637:ARG:NH2	2.45	0.49
2:C:1030:GLU:OE2	2:C:1033:ARG:NH2	2.44	0.49
3:D:749:LYS:O	3:D:752:GLY:N	2.43	0.49
3:D:1179:PRO:HD2	3:D:1184:ASP:O	2.12	0.49
5:F:476:ARG:NH2	5:F:477:GLU:HB3	2.27	0.49
2:C:977:ALA:O	2:C:980:VAL:HG22	2.12	0.49
2:C:990:ASP:O	2:C:994:ARG:NH1	2.43	0.49
5:F:309:ASN:ND2	5:F:312:SER:O	2.46	0.49
6:G:42:DT:H4'	6:G:43:DT:O5'	2.13	0.49
2:C:60:GLN:HA	2:C:67:GLU:HA	1.94	0.49
2:C:979:LEU:HD22	2:C:989:LEU:HD11	1.93	0.49
2:C:1002:LEU:HD23	2:C:1007:LYS:HB3	1.95	0.49
3:D:322:ARG:HG3	3:D:323:PRO:HD2	1.95	0.49
3:D:378:LYS:HE3	3:D:382:TYR:OH	2.13	0.49
3:D:630:ALA:O	3:D:634:ARG:HG2	2.13	0.49
5:F:225:ARG:O	5:F:229:VAL:HG23	2.13	0.49
5:F:585:GLU:O	5:F:588:ARG:HG2	2.11	0.49
6:G:43:DT:OP2	6:G:43:DT:H6	1.95	0.49
10:K:191:PHE:HA	10:K:196:PHE:CD2	2.47	0.49
3:D:54:ASP:CG	3:D:54:ASP:O	2.51	0.49
3:D:105:ILE:HD12	3:D:242:LEU:HD23	1.94	0.49
6:G:22:DT:H2''	6:G:23:DT:H71	1.95	0.49
2:C:596:ASP:OD1	2:C:597:GLY:N	2.41	0.49
2:C:1172:LEU:O	2:C:1175:ASN:N	2.45	0.49
2:C:1192:GLU:O	2:C:1195:ILE:N	2.45	0.49
3:D:40:LYS:HB3	3:D:42:GLU:OE1	2.12	0.49
3:D:235:GLU:CD	3:D:235:GLU:H	2.16	0.49
3:D:548:VAL:HG22	3:D:549:LYS:H	1.77	0.49
3:D:868:TRP:HA	3:D:868:TRP:CE3	2.47	0.49
3:D:959:LYS:HE3	3:D:959:LYS:HB3	1.73	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:F:105:MET:HE3	5:F:384:LEU:HB3	1.95	0.49
3:D:912:GLY:O	3:D:1360:GLY:N	2.36	0.48
3:D:970:SER:HB2	3:D:972:LYS:HZ3	1.77	0.48
5:F:295:CYS:SG	5:F:330:LEU:HA	2.52	0.48
5:F:395:THR:HG23	5:F:396:ASN:H	1.78	0.48
3:D:949:SER:OG	3:D:951:GLN:NE2	2.44	0.48
5:F:603:ARG:O	5:F:606:VAL:HG12	2.12	0.48
6:G:42:DT:H2''	6:G:43:DT:OP2	2.13	0.48
10:L:9:SER:OG	10:L:10:VAL:N	2.45	0.48
1:A:166:ARG:HG2	1:A:167:PRO:HD3	1.96	0.48
2:C:28:LEU:HD21	2:C:524:ILE:HG13	1.96	0.48
2:C:690:VAL:HG12	2:C:1234:LYS:O	2.13	0.48
2:C:696:ASP:OD2	2:C:696:ASP:N	2.31	0.48
3:D:45:ASN:O	3:D:47:ARG:N	2.45	0.48
3:D:582:ILE:HG13	3:D:623:GLN:HB3	1.95	0.48
3:D:1318:SER:HB2	3:D:1342:ASP:OD1	2.13	0.48
10:L:166:TRP:HE3	10:L:191:PHE:CE1	2.30	0.48
2:C:1155:VAL:HG12	2:C:1157:GLN:H	1.77	0.48
5:F:290:LEU:HD22	5:F:333:VAL:HG21	1.94	0.48
7:H:47:DG:C2	7:H:48:DC:C2	3.01	0.48
2:C:818:VAL:HG12	2:C:819:SER:O	2.14	0.48
2:C:1072:ASN:ND2	2:C:1111:GLN:OE1	2.47	0.48
3:D:298:MET:CE	5:F:402:LEU:HB3	2.43	0.48
3:D:514:THR:HG21	3:D:596:LEU:CB	2.43	0.48
3:D:961:SER:O	3:D:981:GLU:HB3	2.13	0.48
10:K:19:ASP:O	10:K:22:SER:OG	2.21	0.48
3:D:1318:SER:O	3:D:1318:SER:OG	2.29	0.48
5:F:287:ILE:HG21	5:F:306:PHE:CE1	2.48	0.48
5:F:487:MET:O	5:F:488:LEU:HD23	2.13	0.48
6:G:44:DT:OP2	6:G:44:DT:H2'	2.13	0.48
2:C:624:ASP:OD2	2:C:624:ASP:N	2.47	0.48
2:C:1270:PHE:O	3:D:344:GLY:HA2	2.14	0.48
3:D:338:PHE:HZ	3:D:1320:ILE:HG23	1.78	0.48
3:D:930:LEU:HB3	3:D:1244:GLN:HG3	1.96	0.48
6:G:21:DA:H2'	6:G:22:DT:H72	1.96	0.48
2:C:81:ASP:OD1	2:C:81:ASP:N	2.45	0.48
2:C:890:LYS:HB3	2:C:912:ASP:O	2.13	0.48
3:D:85:CYS:SG	3:D:86:GLU:N	2.86	0.48
3:D:703:THR:O	3:D:703:THR:OG1	2.26	0.48
3:D:960:LEU:HA	3:D:981:GLU:O	2.13	0.48
3:D:1026:PRO:HB3	3:D:1123:ARG:HA	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:L:23:HIS:O	10:L:27:ILE:HG13	2.13	0.48
2:C:210:LEU:HA	2:C:210:LEU:HD23	1.51	0.48
2:C:974:ARG:HB2	2:C:974:ARG:NH1	2.29	0.48
3:D:410:ASP:OD1	3:D:410:ASP:N	2.46	0.48
3:D:1323:ALA:HB1	3:D:1328:THR:HG23	1.96	0.48
3:D:1367:GLN:O	3:D:1370:MET:HG3	2.14	0.48
5:F:278:ASP:O	5:F:282:THR:HG22	2.14	0.48
3:D:1194:ARG:HB3	3:D:1211:SER:HB3	1.96	0.48
5:F:327:SER:O	5:F:330:LEU:HB2	2.14	0.48
7:H:40:DA:H2''	7:H:41:DA:C8	2.49	0.48
2:C:658:GLN:HG2	2:C:1186:VAL:HG23	1.96	0.47
2:C:1290:MET:SD	3:D:347:VAL:HG11	2.53	0.47
3:D:398:LYS:HD2	5:F:532:LEU:HD21	1.94	0.47
3:D:902:ASP:H	3:D:1251:LYS:HZ1	1.62	0.47
3:D:957:SER:OG	3:D:958:ILE:N	2.47	0.47
3:D:1259:GLN:NE2	3:D:1262:ARG:HE	2.11	0.47
9:J:7:DC:H2''	9:J:8:DG:C8	2.48	0.47
2:C:678:ARG:NH2	2:C:1106:ARG:HG2	2.30	0.47
3:D:610:ARG:HA	3:D:610:ARG:HD3	1.67	0.47
3:D:1056:LEU:HD22	3:D:1108:GLN:HE21	1.78	0.47
10:L:129:ARG:HG3	10:L:173:ILE:HD11	1.95	0.47
2:C:75:LEU:HD21	2:C:127:ILE:HD11	1.96	0.47
2:C:102:LEU:CB	2:C:489:PRO:HG3	2.44	0.47
2:C:256:GLU:HG3	2:C:260:LYS:C	2.34	0.47
2:C:1192:GLU:OE2	3:D:764:ARG:NE	2.28	0.47
2:C:1303:LYS:HD3	2:C:1303:LYS:HA	1.50	0.47
3:D:632:ALA:O	3:D:635:SER:OG	2.32	0.47
3:D:978:ARG:CZ	3:D:999:TYR:H	2.27	0.47
3:D:1184:ASP:N	3:D:1185:PRO:HD3	2.29	0.47
3:D:1227:HIS:HA	3:D:1230:THR:HG22	1.96	0.47
3:D:1266:ILE:H	3:D:1266:ILE:HG12	1.48	0.47
6:G:43:DT:C2	6:G:44:DT:C4	3.02	0.47
10:L:96:ARG:NH2	10:L:100:ARG:HH22	2.13	0.47
1:A:31:LEU:HD23	1:A:31:LEU:HA	1.72	0.47
2:C:237:LEU:HD13	2:C:292:ILE:HG13	1.96	0.47
2:C:356:THR:OG1	2:C:357:ASN:N	2.47	0.47
2:C:494:ASN:OD1	2:C:495:ALA:N	2.48	0.47
2:C:629:PHE:HE2	2:C:650:VAL:HG21	1.79	0.47
2:C:1252:SER:OG	2:C:1253:LEU:N	2.48	0.47
3:D:1077:ALA:HB2	3:D:1100:PHE:CE1	2.49	0.47
10:K:147:PRO:HG2	10:K:152:ASP:HA	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:35:PHE:HA	1:B:38:THR:CG2	2.45	0.47
2:C:257:ALA:HB3	2:C:262:TYR:HE2	1.79	0.47
3:D:21:LYS:HG2	3:D:22:ILE:N	2.29	0.47
3:D:930:LEU:CD1	3:D:1244:GLN:HB3	2.42	0.47
3:D:978:ARG:O	3:D:996:LYS:HD2	2.15	0.47
3:D:1045:THR:HB	3:D:1067:ARG:NH2	2.30	0.47
4:E:72:GLN:O	4:E:76:GLU:HG3	2.15	0.47
5:F:373:ARG:HB3	5:F:373:ARG:NH1	2.30	0.47
10:L:37:GLU:OE1	10:L:39:GLU:N	2.47	0.47
3:D:331:ILE:HG13	3:D:332:LYS:H	1.80	0.47
3:D:835:LEU:O	3:D:838:ARG:N	2.47	0.47
4:E:15:ASN:HB3	4:E:18:ASP:H	1.80	0.47
10:K:63:VAL:HA	10:K:67:LEU:O	2.14	0.47
2:C:42:ASP:OD2	2:C:46:GLN:HB3	2.14	0.47
2:C:61:SER:OG	2:C:66:SER:OG	2.31	0.47
2:C:231:GLU:O	2:C:238:GLN:N	2.47	0.47
2:C:1313:HIS:HB2	3:D:474:LEU:HD13	1.97	0.47
3:D:133:ARG:NH2	8:I:23:DG:OP1	2.47	0.47
3:D:264:ASP:HB3	3:D:324:LEU:HD22	1.96	0.47
3:D:708:ASN:HA	3:D:713:GLU:HA	1.96	0.47
4:E:3:ARG:HH21	4:E:52:ARG:HG2	1.79	0.47
5:F:256:PHE:HD1	5:F:259:PHE:HD2	1.63	0.47
1:A:31:LEU:HD13	1:A:36:GLY:HA2	1.97	0.47
2:C:231:GLU:HA	2:C:331:LYS:O	2.15	0.47
3:D:1120:THR:HG22	3:D:1122:ALA:N	2.30	0.47
3:D:1166:GLY:HA3	3:D:1174:ARG:NE	2.27	0.47
3:D:1264:ALA:O	3:D:1277:GLY:HA2	2.15	0.47
10:L:15:SER:OG	10:L:26:ARG:NE	2.45	0.47
1:A:182:ARG:NH1	1:A:204:GLU:OE2	2.41	0.47
2:C:194:LEU:HD12	2:C:194:LEU:HA	1.69	0.47
2:C:1275:VAL:O	2:C:1279:GLU:HG3	2.14	0.47
3:D:15:GLU:H	3:D:15:GLU:CD	2.16	0.47
3:D:371:LYS:HZ1	3:D:371:LYS:H	1.62	0.47
5:F:226:ALA:O	5:F:230:VAL:HG22	2.14	0.47
5:F:585:GLU:HA	5:F:588:ARG:CZ	2.45	0.47
5:F:602:SER:N	5:F:605:GLU:HG2	2.23	0.47
10:L:22:SER:OG	10:L:26:ARG:NH2	2.31	0.47
1:A:164:ASP:OD2	1:A:166:ARG:HD3	2.15	0.47
2:C:465:ARG:O	2:C:469:VAL:HG13	2.15	0.47
2:C:541:GLU:N	2:C:541:GLU:OE1	2.48	0.47
2:C:848:GLU:HG2	2:C:888:THR:HG22	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:992:LEU:HD13	2:C:996:ARG:HB2	1.97	0.47
3:D:127:LEU:HD21	3:D:234:PRO:HB3	1.97	0.47
3:D:964:LYS:O	3:D:976:THR:HG21	2.15	0.47
5:F:292:VAL:HA	5:F:297:MET:H	1.79	0.47
3:D:1000:GLY:HA3	3:D:1026:PRO:O	2.14	0.46
1:A:11:PRO:HA	1:A:30:PRO:HD2	1.97	0.46
2:C:122:VAL:HG21	2:C:493:ILE:HG21	1.97	0.46
2:C:825:GLU:OE1	2:C:827:ARG:HD2	2.15	0.46
2:C:1137:GLU:OE2	2:C:1139:ALA:HB3	2.15	0.46
3:D:909:ILE:HG13	3:D:910:ASN:N	2.29	0.46
3:D:973:LEU:HB3	3:D:1003:LEU:HD23	1.97	0.46
3:D:1107:VAL:HG13	3:D:1121:LEU:O	2.15	0.46
5:F:324:LYS:HE3	5:F:325:PRO:HD2	1.97	0.46
7:H:36:DC:H2''	7:H:37:DC:C6	2.51	0.46
10:K:140:ALA:HA	10:K:143:PHE:CE2	2.50	0.46
1:A:95:LYS:H	1:A:95:LYS:HZ3	1.62	0.46
2:C:303:ASP:OD1	2:C:328:SER:OG	2.18	0.46
2:C:1137:GLU:HG3	2:C:1140:LYS:H	1.79	0.46
3:D:646:ILE:HD12	3:D:762:ASN:HD21	1.80	0.46
3:D:1002:VAL:N	3:D:1019:ASN:O	2.49	0.46
3:D:1171:GLY:O	3:D:1172:LYS:HG3	2.16	0.46
7:H:27:DA:C6	7:H:28:DG:C6	3.04	0.46
10:K:184:LYS:HA	10:K:187:MET:HE2	1.97	0.46
10:L:73:ARG:HA	10:L:76:MET:HE2	1.97	0.46
2:C:989:LEU:O	2:C:992:LEU:HG	2.15	0.46
3:D:377:PHE:CE2	3:D:416:ILE:HD11	2.50	0.46
3:D:1289:ASN:O	3:D:1292:LEU:N	2.48	0.46
6:G:44:DT:H2''	6:G:45:DA:C5	2.51	0.46
10:K:189:ARG:O	10:K:193:ARG:HG3	2.15	0.46
10:L:201:THR:HG23	10:L:204:GLU:HG3	1.97	0.46
1:B:47:LEU:HD23	1:B:51:MET:HE3	1.97	0.46
2:C:227:LYS:HA	2:C:227:LYS:HD3	1.75	0.46
2:C:245:ARG:HG3	2:C:337:PHE:CE2	2.51	0.46
2:C:421:SER:N	2:C:424:ASP:OD2	2.48	0.46
3:D:47:ARG:HH12	6:G:30:DA:H5''	1.81	0.46
3:D:750:PRO:HA	3:D:777:HIS:CE1	2.50	0.46
3:D:773:PHE:O	3:D:776:THR:OG1	2.33	0.46
3:D:1078:LEU:HD12	3:D:1101:LEU:HD11	1.98	0.46
3:D:1090:ILE:HG13	3:D:1097:ALA:HB2	1.98	0.46
5:F:272:SER:O	5:F:276:MET:HG2	2.15	0.46
7:H:37:DC:H2''	7:H:38:DG:C8	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:61:SER:OG	2:C:479:LEU:HB3	2.15	0.46
2:C:85:CYS:HB3	2:C:90:VAL:O	2.16	0.46
3:D:169:LEU:HD23	3:D:169:LEU:HA	1.67	0.46
3:D:1035:VAL:HG13	3:D:1112:GLY:H	1.80	0.46
3:D:1184:ASP:N	3:D:1184:ASP:OD2	2.45	0.46
5:F:143:TYR:HA	5:F:146:GLU:OE1	2.16	0.46
5:F:162:ILE:HG12	5:F:165:PHE:CE2	2.51	0.46
1:B:133:LEU:HD13	1:B:138:ALA:HA	1.96	0.46
2:C:367:TYR:OH	2:C:374:GLU:OE2	2.27	0.46
2:C:439:LYS:HE3	2:C:439:LYS:HB2	1.63	0.46
3:D:759:ILE:HG23	3:D:771:GLN:HB3	1.97	0.46
3:D:1050:THR:HG23	3:D:1110:GLU:OE1	2.15	0.46
1:A:45:ARG:O	1:A:49:SER:OG	2.21	0.46
1:B:162:GLU:HG3	1:B:166:ARG:HH12	1.81	0.46
2:C:230:PHE:CE1	2:C:292:ILE:HG23	2.51	0.46
2:C:357:ASN:OD1	2:C:358:ASP:N	2.49	0.46
2:C:389:PHE:HB2	2:C:390:PHE:CE2	2.50	0.46
3:D:1072:LYS:H	3:D:1072:LYS:HD3	1.80	0.46
3:D:1081:VAL:HA	3:D:1088:VAL:N	2.27	0.46
3:D:1158:GLU:O	3:D:1206:ARG:HB2	2.16	0.46
4:E:73:GLN:HA	4:E:76:GLU:CD	2.36	0.46
5:F:437:GLN:OE1	7:H:27:DA:N6	2.49	0.46
5:F:577:GLY:O	5:F:580:PHE:N	2.49	0.46
1:B:197:ASP:O	1:B:198:LEU:HD23	2.16	0.46
2:C:161:LYS:O	2:C:163:LYS:HG2	2.15	0.46
2:C:979:LEU:HD21	2:C:1011:LEU:HD11	1.98	0.46
3:D:318:GLY:C	3:D:320:ASN:H	2.19	0.46
3:D:824:PRO:HD3	3:D:835:LEU:HD13	1.98	0.46
5:F:111:LEU:HD22	5:F:382:ALA:HB1	1.97	0.46
5:F:456:MET:O	5:F:460:ILE:HG13	2.16	0.46
7:H:37:DC:H2"	7:H:38:DG:H8	1.80	0.46
10:K:196:PHE:O	10:K:199:SER:OG	2.32	0.46
1:A:145:LYS:HD3	1:A:147:GLN:HE21	1.80	0.46
2:C:189:ASP:OD1	2:C:193:ASN:N	2.37	0.46
2:C:564:PRO:HD2	2:C:572:ILE:HB	1.97	0.46
3:D:278:ARG:HH12	5:F:446:GLN:HE22	1.64	0.46
3:D:951:GLN:HB3	3:D:1014:GLY:HA2	1.98	0.46
5:F:279:ARG:NH2	5:F:347:ILE:HG12	2.31	0.46
5:F:358:VAL:O	5:F:362:ASN:ND2	2.49	0.46
10:K:64:ASP:C	10:K:66:GLU:H	2.18	0.46
10:L:15:SER:O	10:L:40:HIS:HA	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:218:ARG:HG3	1:B:231:PHE:O	2.15	0.45
2:C:813:GLU:O	2:C:815:SER:N	2.49	0.45
3:D:233:LYS:HB2	3:D:236:TRP:CE2	2.51	0.45
3:D:418:GLU:O	3:D:481:ARG:NH2	2.49	0.45
3:D:930:LEU:HA	3:D:930:LEU:HD23	1.75	0.45
3:D:1176:VAL:HA	3:D:1187:GLU:HA	1.97	0.45
1:B:79:LEU:HD23	1:B:79:LEU:HA	1.71	0.45
2:C:344:GLY:HA3	2:C:346:TYR:CE2	2.52	0.45
2:C:733:VAL:HG22	2:C:750:ILE:HG12	1.98	0.45
2:C:996:ARG:HH11	2:C:996:ARG:HA	1.81	0.45
3:D:147:ILE:HD11	3:D:179:LYS:HG2	1.98	0.45
3:D:980:THR:HG1	3:D:997:VAL:H	1.64	0.45
3:D:1279:GLN:N	3:D:1279:GLN:OE1	2.48	0.45
3:D:1287:ILE:HD11	3:D:1300:ALA:CB	2.43	0.45
5:F:232:ARG:O	5:F:235:ILE:HG13	2.17	0.45
5:F:359:LYS:HA	5:F:362:ASN:HD21	1.80	0.45
1:B:23:HIS:HD2	1:B:24:ALA:N	2.14	0.45
1:B:104:LYS:NZ	1:B:114:ASP:OD2	2.30	0.45
2:C:281:ASP:OD1	2:C:281:ASP:N	2.49	0.45
3:D:77:ARG:HD2	3:D:77:ARG:HA	1.67	0.45
3:D:1029:THR:HG22	3:D:1099:TYR:HE2	1.81	0.45
5:F:140:ALA:HB1	5:F:256:PHE:HE2	1.81	0.45
5:F:300:LYS:HB3	5:F:300:LYS:HE3	1.66	0.45
6:G:32:DA:H1'	6:G:33:DT:H5'	1.98	0.45
1:B:205:MET:HE3	1:B:205:MET:HB3	1.69	0.45
2:C:99:LYS:HG2	2:C:121:GLU:HG2	1.99	0.45
2:C:221:LEU:HD13	2:C:336:LEU:HD11	1.98	0.45
2:C:996:ARG:HA	2:C:996:ARG:NH1	2.30	0.45
3:D:362:ARG:H	3:D:365:GLN:HE21	1.64	0.45
3:D:749:LYS:NZ	3:D:753:SER:OG	2.33	0.45
3:D:825:VAL:CG1	3:D:833:GLU:HB2	2.47	0.45
3:D:980:THR:O	3:D:996:LYS:HA	2.16	0.45
3:D:1266:ILE:HD11	3:D:1276:GLU:H	1.81	0.45
5:F:607:LEU:HD22	5:F:610:PHE:CD2	2.51	0.45
8:I:16:DC:H42	9:J:12:DG:H1	1.63	0.45
10:K:168:LEU:HD22	10:K:173:ILE:HB	1.98	0.45
1:A:102:LEU:HB3	1:A:142:MET:HG2	1.99	0.45
1:B:114:ASP:N	1:B:114:ASP:OD1	2.50	0.45
2:C:158:ASP:OD1	2:C:159:SER:N	2.44	0.45
2:C:964:LEU:HD11	2:C:1021:LEU:HD13	1.99	0.45
3:D:614:LEU:HD12	3:D:614:LEU:HA	1.74	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:986:ASP:CG	3:D:988:PHE:H	2.20	0.45
3:D:1023:HIS:C	3:D:1125:PRO:HA	2.36	0.45
3:D:1276:GLU:HB3	3:D:1278:GLU:OE2	2.16	0.45
5:F:304:THR:O	5:F:305:LEU:HD13	2.17	0.45
10:L:202:GLU:HA	10:L:205:ARG:HH11	1.82	0.45
1:A:9:LEU:HA	1:A:9:LEU:HD23	1.74	0.45
3:D:82:GLY:O	10:L:82:ARG:NH1	2.50	0.45
3:D:91:GLU:OE2	3:D:101:ARG:NH2	2.41	0.45
3:D:1040:MET:SD	3:D:1078:LEU:HG	2.56	0.45
2:C:192:ASP:HB3	2:C:346:TYR:CD1	2.51	0.45
2:C:1142:ARG:HH12	2:C:1165:SER:HA	1.81	0.45
3:D:576:ARG:HD3	3:D:593:ASN:HA	1.97	0.45
3:D:1021:ASP:HB2	3:D:1024:THR:CB	2.47	0.45
3:D:1327:GLU:HG3	3:D:1330:ARG:HB3	1.99	0.45
10:L:21:TYR:HE1	10:L:111:TYR:HD2	1.63	0.45
2:C:813:GLU:HB2	3:D:461:PHE:CD2	2.42	0.45
3:D:678:ARG:NH2	3:D:679:TYR:HB2	2.32	0.45
10:L:32:LYS:NZ	10:L:86:PRO:O	2.36	0.45
1:A:33:ARG:CZ	1:A:197:ASP:HB2	2.46	0.45
1:A:193:GLU:OE2	1:A:193:GLU:N	2.50	0.45
2:C:30:ILE:HG23	2:C:31:GLN:H	1.82	0.45
2:C:75:LEU:HD12	2:C:94:ALA:HB3	1.98	0.45
2:C:119:GLU:O	2:C:121:GLU:N	2.47	0.45
2:C:236:LYS:HA	2:C:236:LYS:HD3	1.60	0.45
2:C:489:PRO:HA	2:C:492:MET:HE2	1.99	0.45
3:D:1257:VAL:O	3:D:1260:MET:N	2.50	0.45
5:F:261:LEU:HG	5:F:262:VAL:O	2.16	0.45
6:G:18:DT:H1'	6:G:19:DC:C6	2.52	0.45
10:L:11:MET:O	10:L:11:MET:HG2	2.16	0.45
1:A:125:LYS:HE3	1:A:127:GLN:NE2	2.32	0.45
2:C:270:THR:H	2:C:273:HIS:CG	2.35	0.45
2:C:347:ILE:O	2:C:350:THR:OG1	2.33	0.45
2:C:656:SER:OG	2:C:657:THR:N	2.49	0.45
2:C:1161:LEU:HD23	2:C:1161:LEU:C	2.36	0.45
2:C:1164:PHE:O	2:C:1166:ASP:N	2.50	0.45
3:D:45:ASN:C	3:D:47:ARG:H	2.20	0.45
3:D:958:ILE:HD13	3:D:958:ILE:HA	1.78	0.45
5:F:511:ILE:HA	5:F:511:ILE:HD12	1.61	0.45
6:G:29:DT:H2''	6:G:30:DA:C8	2.52	0.45
10:K:111:TYR:CD1	10:K:164:LEU:HD12	2.52	0.45
1:B:67:GLU:N	1:B:67:GLU:OE1	2.46	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:205:MET:HE3	1:B:213:PRO:HB3	1.99	0.44
2:C:759:SER:OG	2:C:761:GLN:N	2.50	0.44
2:C:1014:LEU:HA	2:C:1017:GLN:HB2	1.99	0.44
2:C:1151:LEU:HD21	2:C:1198:LEU:HA	1.98	0.44
2:C:1184:THR:HG23	2:C:1189:GLY:HA2	1.99	0.44
3:D:860:ARG:HG2	3:D:861:ASN:H	1.81	0.44
3:D:1192:LYS:HE3	3:D:1192:LYS:HB2	1.84	0.44
5:F:607:LEU:HD13	5:F:610:PHE:CB	2.47	0.44
10:K:104:HIS:HD2	10:K:105:ARG:HG3	1.82	0.44
2:C:678:ARG:CZ	2:C:1106:ARG:HG2	2.47	0.44
2:C:1212:LEU:HD23	2:C:1212:LEU:HA	1.76	0.44
3:D:805:GLN:HE21	3:D:805:GLN:HB3	1.52	0.44
3:D:1018:ALA:HB3	3:D:1020:TRP:HZ3	1.81	0.44
5:F:601:PRO:HA	5:F:605:GLU:OE2	2.17	0.44
10:K:126:ASP:HA	10:K:129:ARG:HB3	1.98	0.44
10:K:132:LEU:O	10:K:136:LEU:HG	2.16	0.44
1:A:235:ARG:O	1:A:235:ARG:HG3	2.17	0.44
1:B:75:GLN:HG3	1:B:76:GLU:N	2.32	0.44
2:C:881:ASP:N	2:C:881:ASP:OD1	2.50	0.44
5:F:573:LEU:H	5:F:573:LEU:HG	1.52	0.44
9:J:8:DG:C2'	9:J:9:DT:H71	2.47	0.44
2:C:358:ASP:OD1	2:C:361:SER:N	2.28	0.44
2:C:1271:GLY:HA2	3:D:344:GLY:HA2	1.98	0.44
3:D:262:THR:O	5:F:507:MET:N	2.44	0.44
3:D:441:LEU:HD13	3:D:441:LEU:HA	1.86	0.44
3:D:963:VAL:O	3:D:964:LYS:NZ	2.29	0.44
3:D:1169:THR:C	3:D:1171:GLY:H	2.20	0.44
3:D:1356:LEU:HA	3:D:1356:LEU:HD23	1.67	0.44
7:H:36:DC:H2''	7:H:37:DC:C5	2.52	0.44
7:H:38:DG:N2	7:H:39:DC:C2	2.86	0.44
8:I:23:DG:H2''	8:I:24:DG:C8	2.52	0.44
1:A:100:LEU:HD21	1:A:121:VAL:HG21	1.98	0.44
2:C:17:LYS:N	2:C:1188:ASP:OD2	2.50	0.44
2:C:452:ARG:NH2	2:C:458:GLU:OE1	2.41	0.44
2:C:996:ARG:HA	2:C:996:ARG:HD2	1.71	0.44
2:C:1028:LYS:HB3	2:C:1028:LYS:HE2	1.74	0.44
3:D:224:LEU:HD23	3:D:224:LEU:HA	1.79	0.44
3:D:1103:GLY:O	3:D:1124:ILE:HG12	2.18	0.44
3:D:1226:VAL:O	3:D:1229:VAL:HG12	2.17	0.44
10:L:28:VAL:O	10:L:31:GLU:N	2.51	0.44
1:B:194:GLN:HG3	1:B:195:ARG:HG3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:29:SER:O	2:C:33:ASP:HB2	2.18	0.44
2:C:233:ARG:H	2:C:238:GLN:CD	2.18	0.44
2:C:577:VAL:HG23	2:C:661:VAL:O	2.16	0.44
3:D:39:LYS:N	3:D:54:ASP:OD2	2.51	0.44
3:D:205:LEU:HD23	3:D:217:LEU:CB	2.48	0.44
3:D:572:THR:OG1	3:D:573:THR:N	2.49	0.44
3:D:869:CYS:SG	3:D:870:ASP:N	2.91	0.44
3:D:931:THR:O	3:D:1137:GLY:HA2	2.17	0.44
5:F:109:GLU:CD	5:F:109:GLU:H	2.21	0.44
5:F:110:LEU:HD12	5:F:110:LEU:H	1.83	0.44
10:K:15:SER:HB3	10:K:38:ILE:HD11	1.99	0.44
10:K:32:LYS:HE2	10:K:88:LEU:HD12	2.00	0.44
1:A:191:ARG:NH1	1:A:195:ARG:O	2.51	0.44
2:C:742:TYR:HB3	2:C:743:PRO:HD2	1.99	0.44
2:C:1080:ASN:HD22	2:C:1085:MET:HE2	1.83	0.44
2:C:1161:LEU:O	2:C:1161:LEU:CG	2.66	0.44
2:C:1276:TRP:CZ2	3:D:801:VAL:HG11	2.52	0.44
3:D:876:SER:HA	3:D:990:ARG:HH21	1.82	0.44
3:D:1011:VAL:HG12	3:D:1012:ALA:O	2.18	0.44
5:F:575:GLU:H	5:F:575:GLU:CD	2.19	0.44
5:F:608:ARG:O	5:F:611:LEU:HD12	2.17	0.44
10:K:23:HIS:HB2	10:K:167:ARG:HH22	1.83	0.44
1:A:58:GLU:HG2	1:A:145:LYS:HB3	1.99	0.44
1:B:50:SER:O	1:B:50:SER:OG	2.27	0.44
1:B:215:GLU:OE2	1:B:219:ARG:NH2	2.51	0.44
2:C:119:GLU:OE1	2:C:489:PRO:HD2	2.17	0.44
2:C:269:ILE:HA	2:C:273:HIS:ND1	2.32	0.44
2:C:275:ARG:HA	2:C:278:GLU:OE2	2.16	0.44
3:D:857:LEU:HD12	3:D:871:LEU:CD2	2.48	0.44
1:B:13:LEU:O	1:B:13:LEU:HD23	2.18	0.44
2:C:246:LEU:HA	2:C:249:GLU:OE2	2.17	0.44
2:C:975:ILE:HG12	2:C:1014:LEU:HD23	1.99	0.44
2:C:1007:LYS:O	2:C:1011:LEU:HG	2.18	0.44
3:D:1009:GLU:CD	3:D:1009:GLU:H	2.22	0.44
3:D:1064:SER:OG	3:D:1193:TRP:O	2.30	0.44
3:D:1150:PRO:O	3:D:1152:GLU:N	2.51	0.44
5:F:164:GLY:C	5:F:260:ARG:HH21	2.22	0.44
5:F:256:PHE:HD1	5:F:259:PHE:CD2	2.36	0.44
2:C:139:ASN:HD22	2:C:139:ASN:HA	1.62	0.43
2:C:466:VAL:O	2:C:469:VAL:HG22	2.18	0.43
2:C:542:ARG:HG2	8:I:15:DT:H5'	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:902:ASP:OD1	3:D:903:LEU:N	2.51	0.43
3:D:1276:GLU:CD	3:D:1277:GLY:H	2.21	0.43
7:H:48:DC:C2	7:H:49:DA:C8	3.06	0.43
10:K:16:GLY:H	10:K:22:SER:HB3	1.82	0.43
10:K:58:SER:O	10:K:61:THR:OG1	2.28	0.43
1:B:208:ASN:O	1:B:210:THR:N	2.45	0.43
2:C:19:PRO:HA	2:C:1156:ARG:HE	1.82	0.43
3:D:1162:ILE:HG13	3:D:1163:VAL:N	2.33	0.43
3:D:1332:LEU:HD23	3:D:1332:LEU:HA	1.82	0.43
5:F:231:THR:HG22	5:F:248:GLU:HB3	2.00	0.43
5:F:292:VAL:HG23	5:F:293:GLU:OE2	2.18	0.43
1:A:48:LEU:HD23	1:A:48:LEU:HA	1.73	0.43
2:C:302:ILE:HG22	2:C:309:LEU:HA	2.00	0.43
2:C:633:LEU:HD23	2:C:633:LEU:H	1.83	0.43
3:D:704:GLU:O	3:D:706:VAL:N	2.50	0.43
3:D:1266:ILE:HD12	3:D:1274:PHE:H	1.83	0.43
5:F:429:THR:HA	6:G:40:DT:H72	2.01	0.43
3:D:478:LEU:HD23	3:D:478:LEU:HA	1.80	0.43
3:D:1098:GLN:HG2	3:D:1100:PHE:CE2	2.53	0.43
10:K:106:ILE:HD11	10:K:149:PHE:HE2	1.82	0.43
10:L:163:PRO:O	10:L:167:ARG:HD2	2.18	0.43
10:L:165:LEU:HD13	10:L:187:MET:HG2	2.00	0.43
1:B:23:HIS:CD2	1:B:206:GLU:HG2	2.53	0.43
1:B:96:ASP:HA	1:B:148:ARG:HD2	1.99	0.43
1:B:133:LEU:HD22	1:B:138:ALA:HA	1.99	0.43
1:B:162:GLU:HG3	1:B:166:ARG:NH2	2.34	0.43
2:C:27:LEU:HD13	2:C:663:VAL:HG11	2.00	0.43
2:C:557:ARG:NH2	2:C:611:GLU:OE1	2.41	0.43
2:C:1113:LEU:HG	3:D:641:ILE:HD13	2.00	0.43
3:D:332:LYS:HG2	3:D:333:GLY:N	2.30	0.43
3:D:968:ASN:HD21	3:D:972:LYS:HZ3	1.67	0.43
3:D:978:ARG:NE	3:D:999:TYR:HB3	2.30	0.43
3:D:1205:GLU:OE2	3:D:1206:ARG:N	2.52	0.43
3:D:1283:SER:HA	3:D:1286:LYS:HD2	1.99	0.43
4:E:38:LEU:HB3	4:E:58:LEU:HD23	2.00	0.43
1:A:45:ARG:NH2	1:B:34:GLY:O	2.47	0.43
1:B:103:ASN:OD1	1:B:141:SER:HB2	2.18	0.43
1:B:168:ILE:HD12	1:B:168:ILE:HA	1.89	0.43
2:C:468:LEU:HA	2:C:468:LEU:HD23	1.58	0.43
3:D:511:TYR:OH	3:D:727:ASP:OD2	2.21	0.43
3:D:536:LEU:HA	3:D:536:LEU:HD23	1.65	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:902:ASP:HB3	3:D:1251:LYS:HE3	1.99	0.43
3:D:1028:ILE:HD13	3:D:1120:THR:HG23	2.00	0.43
3:D:1191:PRO:HB3	3:D:1193:TRP:CZ3	2.54	0.43
5:F:114:GLU:OE2	5:F:115:GLY:N	2.51	0.43
10:K:46:PRO:HB2	10:K:50:LEU:HD22	2.00	0.43
10:L:168:LEU:HB2	10:L:169:PRO:HD3	2.01	0.43
1:A:33:ARG:HA	1:A:33:ARG:NE	2.33	0.43
2:C:964:LEU:HD12	2:C:964:LEU:HA	1.56	0.43
2:C:1101:LEU:HD13	3:D:504:GLN:HB2	2.01	0.43
2:C:1164:PHE:HD2	2:C:1166:ASP:H	1.66	0.43
3:D:203:GLU:OE2	3:D:204:GLU:HG3	2.18	0.43
3:D:997:VAL:HG22	3:D:998:PRO:HD2	2.01	0.43
3:D:1025:MET:O	3:D:1124:ILE:HB	2.18	0.43
1:B:67:GLU:H	1:B:67:GLU:CD	2.19	0.43
2:C:1125:GLY:HA3	2:C:1179:GLY:HA2	2.00	0.43
3:D:113:HIS:HD1	3:D:115:TRP:H	1.67	0.43
3:D:368:LEU:HD12	3:D:368:LEU:HA	1.89	0.43
3:D:518:VAL:HB	3:D:716:GLN:OE1	2.19	0.43
3:D:826:ILE:HG13	3:D:831:VAL:HG12	2.00	0.43
3:D:849:LEU:HD12	3:D:856:ILE:HG12	2.01	0.43
3:D:1027:VAL:HB	3:D:1101:LEU:HD22	2.01	0.43
3:D:1049:GLN:OE1	3:D:1058:SER:HB3	2.19	0.43
5:F:141:ILE:HD12	5:F:141:ILE:HA	1.83	0.43
5:F:246:GLN:OE1	5:F:246:GLN:N	2.36	0.43
5:F:324:LYS:HG3	5:F:326:TRP:CH2	2.54	0.43
5:F:330:LEU:O	5:F:334:SER:HB3	2.18	0.43
5:F:479:THR:O	5:F:482:GLU:N	2.51	0.43
5:F:557:LYS:HE2	5:F:557:LYS:HB2	1.56	0.43
10:K:79:LEU:HD23	10:K:79:LEU:HA	1.80	0.43
1:B:192:VAL:C	1:B:194:GLN:H	2.22	0.43
2:C:235:ASN:O	2:C:238:GLN:NE2	2.51	0.43
2:C:688:GLN:HE22	2:C:1237:HIS:HE1	1.66	0.43
2:C:781:ASP:OD2	2:C:782:VAL:N	2.52	0.43
3:D:1034:PHE:CE1	3:D:1114:GLN:HB2	2.53	0.43
5:F:324:LYS:HG3	5:F:326:TRP:CZ2	2.53	0.43
5:F:385:ARG:NE	6:G:42:DT:H5'	2.34	0.43
10:K:165:LEU:HD21	10:K:187:MET:HG3	2.00	0.43
10:L:15:SER:N	10:L:39:GLU:O	2.52	0.43
2:C:74:ARG:HH22	2:C:97:ARG:HG2	1.83	0.43
2:C:372:PRO:O	5:F:94:THR:HG21	2.19	0.43
3:D:221:ILE:HD12	3:D:221:ILE:HA	1.80	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:395:LYS:HA	3:D:395:LYS:HD2	1.81	0.43
3:D:1035:VAL:HG12	3:D:1113:VAL:H	1.83	0.43
3:D:1095:MET:SD	3:D:1096:PRO:HD2	2.59	0.43
3:D:1287:ILE:CD1	3:D:1300:ALA:CB	2.97	0.43
7:H:49:DA:C2	7:H:50:DA:C4	3.07	0.43
10:K:24:GLN:NE2	10:K:160:TYR:HA	2.34	0.43
10:K:131:GLN:HA	10:K:134:GLU:OE1	2.19	0.43
1:A:77:ASP:OD2	2:C:755:LYS:NZ	2.37	0.42
2:C:892:GLU:O	2:C:892:GLU:HG2	2.19	0.42
3:D:53:ARG:O	3:D:54:ASP:HB3	2.18	0.42
3:D:161:THR:HG22	3:D:164:GLN:OE1	2.18	0.42
3:D:393:THR:OG1	3:D:394:ILE:N	2.52	0.42
3:D:490:ILE:HD11	3:D:609:TYR:CD1	2.54	0.42
3:D:663:GLU:O	3:D:666:GLU:HG3	2.19	0.42
3:D:1065:ALA:HB2	3:D:1193:TRP:HB3	2.01	0.42
5:F:105:MET:HE1	5:F:385:ARG:HA	2.01	0.42
1:B:34:GLY:N	1:B:199:ASP:OD2	2.49	0.42
2:C:114:VAL:HG13	2:C:115:LYS:HD2	2.01	0.42
2:C:223:LEU:HA	2:C:223:LEU:HD12	1.71	0.42
2:C:243:PRO:HA	2:C:246:LEU:HD12	2.01	0.42
2:C:820:GLU:HB2	2:C:1080:ASN:O	2.20	0.42
2:C:1058:ARG:HD3	2:C:1238:LEU:HD23	2.01	0.42
3:D:57:PHE:HB3	3:D:98:ARG:NH2	2.34	0.42
3:D:88:CYS:C	3:D:90:VAL:H	2.23	0.42
3:D:744:ARG:HG3	3:D:759:ILE:HB	2.00	0.42
3:D:968:ASN:HD21	3:D:972:LYS:NZ	2.17	0.42
5:F:98:VAL:O	5:F:102:MET:HG2	2.18	0.42
5:F:216:LEU:O	5:F:220:LYS:HB2	2.19	0.42
5:F:596:ARG:O	5:F:599:ARG:N	2.52	0.42
5:F:607:LEU:HA	5:F:610:PHE:CB	2.38	0.42
10:L:18:THR:O	10:L:167:ARG:NH2	2.29	0.42
10:L:115:ASN:O	10:L:119:ASN:CB	2.68	0.42
10:L:117:ILE:HG21	10:L:171:LEU:HD22	1.99	0.42
3:D:74:LYS:HD3	3:D:75:TYR:CE2	2.54	0.42
3:D:750:PRO:HD3	3:D:777:HIS:CD2	2.55	0.42
3:D:927:GLY:C	3:D:929:GLN:H	2.22	0.42
3:D:1101:LEU:H	3:D:1101:LEU:HG	1.62	0.42
5:F:268:TYR:CD2	5:F:269:LEU:HD22	2.51	0.42
10:K:71:GLU:HG2	10:L:104:HIS:NE2	2.34	0.42
1:A:102:LEU:HD21	1:A:114:ASP:HB2	2.01	0.42
1:B:107:ILE:CD1	1:B:136:GLU:H	2.29	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:629:PHE:CE2	2:C:650:VAL:HG21	2.53	0.42
2:C:916:SER:O	2:C:916:SER:OG	2.35	0.42
2:C:968:GLU:OE1	2:C:971:LEU:HD23	2.19	0.42
2:C:976:ARG:HA	2:C:979:LEU:HB2	2.01	0.42
2:C:985:GLU:HB2	2:C:989:LEU:HB2	2.01	0.42
2:C:1164:PHE:CD2	2:C:1164:PHE:C	2.92	0.42
3:D:161:THR:OG1	3:D:162:GLU:N	2.52	0.42
3:D:225:GLU:O	3:D:229:GLN:HG2	2.20	0.42
3:D:318:GLY:O	3:D:320:ASN:N	2.51	0.42
3:D:534:GLU:HA	3:D:578:ILE:HD11	2.01	0.42
3:D:744:ARG:HE	3:D:744:ARG:HB2	1.43	0.42
3:D:1105:ALA:HA	3:D:1123:ARG:O	2.19	0.42
5:F:530:LEU:HD12	5:F:530:LEU:H	1.84	0.42
7:H:50:DA:C2	7:H:51:DG:C5	3.07	0.42
1:B:185:TYR:HA	1:B:202:VAL:O	2.20	0.42
2:C:124:MET:HB2	2:C:498:ILE:HD12	2.01	0.42
2:C:197:ARG:HH21	2:C:203:LYS:HB2	1.84	0.42
2:C:346:TYR:OH	2:C:436:ARG:NH1	2.53	0.42
3:D:97:VAL:C	3:D:99:ARG:H	2.21	0.42
3:D:1162:ILE:HA	3:D:1203:ARG:HA	2.02	0.42
4:E:25:ARG:NH2	4:E:68:GLU:OE1	2.45	0.42
5:F:149:ASP:OD2	5:F:225:ARG:NH1	2.53	0.42
5:F:297:MET:HG2	5:F:301:ASN:OD1	2.19	0.42
5:F:324:LYS:HB2	5:F:327:SER:HB3	2.01	0.42
5:F:344:LEU:HA	5:F:344:LEU:HD12	1.82	0.42
6:G:20:DC:H2''	6:G:21:DA:N7	2.34	0.42
10:L:12:THR:HA	10:L:37:GLU:HB3	2.02	0.42
2:C:1062:PRO:HA	2:C:1076:ILE:HG12	2.02	0.42
2:C:1301:ARG:HG3	2:C:1302:THR:N	2.34	0.42
3:D:123:ARG:HA	3:D:123:ARG:HD3	1.67	0.42
3:D:585:LYS:O	3:D:587:LEU:N	2.53	0.42
3:D:647:PRO:HG2	3:D:650:LYS:HB2	2.00	0.42
5:F:373:ARG:HB3	5:F:373:ARG:CZ	2.50	0.42
6:G:20:DC:C2	7:H:44:DG:N2	2.87	0.42
9:J:10:DC:N3	9:J:11:DA:N6	2.68	0.42
10:L:155:SER:OG	10:L:157:VAL:HG22	2.20	0.42
1:B:85:LEU:HA	1:B:85:LEU:HD23	1.82	0.42
2:C:185:ASP:OD1	2:C:185:ASP:N	2.52	0.42
2:C:192:ASP:HB3	2:C:346:TYR:HD1	1.84	0.42
2:C:198:ILE:HD13	2:C:388:LEU:HD21	2.01	0.42
2:C:1279:GLU:HG2	3:D:1357:ILE:CD1	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:147:ILE:HG13	3:D:177:ASP:HB3	2.02	0.42
3:D:222:LYS:HE2	3:D:1276:GLU:HG2	2.02	0.42
3:D:1196:LEU:HD12	3:D:1210:ILE:HG22	2.01	0.42
5:F:231:THR:HA	5:F:248:GLU:OE1	2.19	0.42
6:G:24:DG:N1	7:H:40:DA:C2	2.87	0.42
10:K:62:LEU:O	10:K:68:THR:HA	2.20	0.42
2:C:17:LYS:HB3	2:C:1154:ASP:OD1	2.20	0.42
2:C:38:PHE:CD2	2:C:39:ILE:HG23	2.55	0.42
2:C:347:ILE:HD13	2:C:347:ILE:HA	1.80	0.42
2:C:1326:LEU:O	2:C:1330:ILE:HG12	2.20	0.42
3:D:24:LEU:HD21	3:D:237:MET:HG2	2.02	0.42
3:D:322:ARG:NH1	3:D:322:ARG:HB2	2.34	0.42
5:F:354:THR:N	5:F:357:GLN:OE1	2.31	0.42
10:L:32:LYS:HD3	10:L:32:LYS:HA	1.84	0.42
10:L:41:VAL:HG12	10:L:47:PRO:HD3	2.01	0.42
1:A:10:LYS:HE3	1:B:226:GLU:HB3	2.02	0.42
1:B:77:ASP:O	1:B:81:ILE:HG13	2.20	0.42
1:B:83:LEU:HD12	1:B:83:LEU:HA	1.65	0.42
1:B:151:GLY:O	1:B:177:TYR:HB2	2.20	0.42
2:C:56:VAL:HG13	2:C:57:PHE:CD2	2.54	0.42
2:C:805:MET:HE2	2:C:805:MET:HB2	1.77	0.42
3:D:363:LEU:HA	3:D:363:LEU:HD12	1.83	0.42
3:D:981:GLU:HG3	3:D:983:LYS:HG3	2.02	0.42
3:D:1005:LYS:HE3	3:D:1011:VAL:HG22	2.02	0.42
3:D:1216:ALA:HB3	3:D:1219:ASP:OD1	2.20	0.42
3:D:1368:ASP:HA	3:D:1371:ARG:NH1	2.35	0.42
5:F:341:LEU:O	5:F:345:GLN:HG3	2.20	0.42
5:F:554:ARG:O	5:F:558:VAL:HG12	2.19	0.42
1:A:127:GLN:OE1	1:A:127:GLN:N	2.44	0.42
1:A:236:ASP:N	1:A:236:ASP:OD1	2.52	0.42
1:B:20:SER:OG	1:B:23:HIS:HB3	2.19	0.42
2:C:902:LEU:HA	2:C:902:LEU:HD23	1.81	0.42
2:C:1073:LYS:HB2	2:C:1073:LYS:HE3	1.72	0.42
2:C:1099:ASN:OD1	2:C:1100:PRO:HD2	2.20	0.42
3:D:235:GLU:OE1	3:D:235:GLU:N	2.42	0.42
3:D:416:ILE:HD13	3:D:416:ILE:HA	1.77	0.42
3:D:416:ILE:HG13	3:D:441:LEU:HD21	2.01	0.42
5:F:596:ARG:HA	5:F:599:ARG:NH1	2.35	0.42
10:K:11:MET:HA	10:K:63:VAL:O	2.19	0.42
2:C:101:ARG:HD3	2:C:118:LYS:NZ	2.34	0.41
2:C:230:PHE:CZ	2:C:292:ILE:HD12	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:404:LYS:HE3	2:C:404:LYS:HB3	1.75	0.41
3:D:388:ARG:HH21	3:D:414:GLU:HG2	1.85	0.41
3:D:816:THR:O	3:D:860:ARG:NH2	2.53	0.41
3:D:1072:LYS:HG2	3:D:1073:ASP:N	2.35	0.41
5:F:354:THR:O	5:F:357:GLN:N	2.52	0.41
5:F:559:LEU:HD12	5:F:559:LEU:HA	1.75	0.41
10:K:151:SER:OG	10:K:153:GLU:O	2.28	0.41
10:K:156:LEU:HD23	10:K:156:LEU:HA	1.77	0.41
10:K:186:TYR:O	10:K:190:VAL:HG12	2.20	0.41
1:B:157:THR:O	1:B:161:SER:OG	2.18	0.41
2:C:255:ILE:H	2:C:255:ILE:HG13	1.73	0.41
2:C:895:LEU:H	2:C:895:LEU:HG	1.55	0.41
3:D:929:GLN:OE1	3:D:930:LEU:HB2	2.20	0.41
5:F:355:ILE:HA	5:F:355:ILE:HD13	1.81	0.41
5:F:462:LYS:HB2	5:F:462:LYS:HE3	1.78	0.41
5:F:474:MET:HE1	5:F:476:ARG:HH11	1.84	0.41
10:K:126:ASP:OD1	10:K:126:ASP:N	2.52	0.41
2:C:207:THR:OG1	2:C:354:ASP:OD2	2.34	0.41
3:D:219:LYS:HE3	3:D:219:LYS:HB2	1.83	0.41
5:F:121:LYS:HE2	5:F:121:LYS:HB2	1.86	0.41
5:F:359:LYS:HA	5:F:362:ASN:ND2	2.35	0.41
5:F:429:THR:HA	6:G:40:DT:C7	2.51	0.41
10:L:101:LEU:HD12	10:L:101:LEU:HA	1.72	0.41
1:A:12:ARG:H	1:A:30:PRO:HD2	1.85	0.41
1:B:207:THR:HG21	1:B:211:ILE:O	2.21	0.41
2:C:102:LEU:O	2:C:116:ASP:HA	2.19	0.41
2:C:237:LEU:HD23	2:C:237:LEU:HA	1.71	0.41
2:C:288:PRO:HB2	2:C:290:GLU:OE1	2.20	0.41
2:C:972:PHE:CD2	2:C:975:ILE:HD12	2.56	0.41
3:D:596:LEU:HA	3:D:596:LEU:HD12	1.86	0.41
5:F:261:LEU:HD21	5:F:266:PHE:HB2	2.02	0.41
5:F:560:ARG:HG2	5:F:565:ILE:HB	2.03	0.41
2:C:270:THR:O	2:C:273:HIS:HB2	2.21	0.41
2:C:490:GLN:CG	5:F:472:GLN:HE22	2.33	0.41
3:D:544:LEU:HD12	3:D:544:LEU:HA	1.89	0.41
3:D:1179:PRO:CG	3:D:1184:ASP:HA	2.51	0.41
5:F:216:LEU:HA	5:F:219:GLU:HG2	2.02	0.41
5:F:604:SER:O	5:F:606:VAL:N	2.53	0.41
6:G:31:DA:H2''	6:G:32:DA:H8	1.85	0.41
6:G:38:DC:H6	6:G:38:DC:H5'	1.86	0.41
2:C:146:VAL:HG13	2:C:529:ARG:HB3	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:172:TYR:CD2	2:C:435:ILE:HG22	2.55	0.41
2:C:755:LYS:HA	2:C:755:LYS:HD2	1.82	0.41
2:C:813:GLU:C	2:C:815:SER:H	2.24	0.41
2:C:1292:THR:HG22	2:C:1293:VAL:N	2.34	0.41
2:C:1340:GLU:O	3:D:17:PHE:HB2	2.20	0.41
3:D:179:LYS:HB2	3:D:184:ALA:HB2	2.02	0.41
3:D:694:SER:O	3:D:697:MET:HG3	2.21	0.41
1:A:218:ARG:NH1	1:B:231:PHE:O	2.54	0.41
2:C:976:ARG:O	2:C:980:VAL:HG13	2.19	0.41
3:D:770:LEU:HD23	3:D:770:LEU:HA	1.81	0.41
3:D:868:TRP:HA	3:D:868:TRP:HE3	1.85	0.41
3:D:876:SER:HA	3:D:990:ARG:NH2	2.36	0.41
5:F:348:GLU:HG2	5:F:353:LEU:O	2.20	0.41
5:F:390:ILE:HD11	5:F:432:THR:HG23	2.02	0.41
1:A:45:ARG:NH2	1:B:37:HIS:HB2	2.36	0.41
1:A:191:ARG:HH22	1:A:197:ASP:HA	1.86	0.41
1:B:32:GLU:HB2	1:B:35:PHE:CD1	2.56	0.41
2:C:318:SER:O	2:C:321:LEU:N	2.54	0.41
2:C:849:GLU:O	2:C:886:LYS:HG3	2.20	0.41
3:D:166:LEU:O	3:D:170:GLU:HG2	2.21	0.41
3:D:346:ARG:HD3	3:D:346:ARG:HA	1.95	0.41
3:D:642:ASP:N	3:D:642:ASP:OD1	2.53	0.41
5:F:102:MET:HE2	5:F:102:MET:HB3	1.87	0.41
5:F:377:LYS:NZ	5:F:377:LYS:HB3	2.36	0.41
5:F:477:GLU:CD	5:F:478:PRO:HD2	2.41	0.41
10:K:104:HIS:ND1	10:L:71:GLU:OE1	2.53	0.41
10:K:129:ARG:HG3	10:K:173:ILE:HG12	2.02	0.41
1:A:23:HIS:NE2	1:A:204:GLU:HG3	2.36	0.41
2:C:107:ARG:O	2:C:108:GLU:HB2	2.21	0.41
2:C:207:THR:HG21	2:C:351:LEU:HG	2.03	0.41
2:C:232:ILE:HG12	2:C:237:LEU:HD23	2.02	0.41
2:C:341:LEU:HD23	2:C:342:ASP:N	2.36	0.41
2:C:414:ILE:HD13	2:C:414:ILE:HA	1.83	0.41
2:C:582:ASN:HB2	2:C:586:PHE:O	2.21	0.41
2:C:726:TYR:CZ	2:C:728:ASP:HB2	2.55	0.41
2:C:730:SER:O	2:C:730:SER:OG	2.34	0.41
2:C:1256:GLN:O	2:C:1301:ARG:NH2	2.54	0.41
2:C:1282:GLY:HA3	4:E:17:PHE:CE1	2.56	0.41
3:D:371:LYS:HE2	3:D:371:LYS:HB2	1.88	0.41
3:D:450:HIS:CE1	3:D:452:LEU:HB2	2.56	0.41
3:D:566:LYS:HE2	3:D:566:LYS:HB3	1.87	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:835:LEU:HD12	3:D:835:LEU:HA	1.79	0.41
3:D:1023:HIS:O	3:D:1125:PRO:HA	2.21	0.41
5:F:124:GLU:HA	5:F:127:ILE:HG22	2.03	0.41
5:F:296:LYS:HD3	5:F:296:LYS:HA	1.67	0.41
10:L:110:TRP:CD1	10:L:110:TRP:N	2.86	0.41
1:B:20:SER:O	1:B:23:HIS:N	2.53	0.41
2:C:678:ARG:HA	2:C:678:ARG:HD3	1.68	0.41
2:C:699:LEU:HD23	2:C:699:LEU:HA	1.77	0.41
2:C:933:VAL:HG13	2:C:1050:VAL:HG22	2.03	0.41
2:C:985:GLU:O	2:C:989:LEU:HB3	2.22	0.41
2:C:1103:VAL:HG21	2:C:1112:ILE:HD11	2.03	0.41
2:C:1113:LEU:HA	2:C:1113:LEU:HD23	1.85	0.41
2:C:1308:ILE:HD13	2:C:1308:ILE:HA	1.85	0.41
5:F:228:TYR:OH	5:F:232:ARG:NH1	2.54	0.41
5:F:272:SER:HA	5:F:275:VAL:HG12	2.03	0.41
5:F:300:LYS:O	5:F:304:THR:HG22	2.21	0.41
1:B:152:TYR:CE2	3:D:536:LEU:HD21	2.56	0.40
1:B:162:GLU:HG3	1:B:166:ARG:NH1	2.36	0.40
3:D:174:ASP:CG	3:D:175:GLU:H	2.24	0.40
3:D:543:SER:OG	3:D:544:LEU:N	2.54	0.40
3:D:865:HIS:CE1	3:D:868:TRP:CD1	3.09	0.40
3:D:901:ARG:O	3:D:903:LEU:HD12	2.21	0.40
3:D:1098:GLN:HG2	3:D:1100:PHE:HE2	1.86	0.40
3:D:1281:GLU:HG2	3:D:1282:TYR:N	2.36	0.40
6:G:15:DG:H2''	6:G:16:DC:H6	1.83	0.40
2:C:68:LEU:HD12	2:C:101:ARG:O	2.21	0.40
3:D:312:ARG:O	3:D:314:ARG:HG3	2.22	0.40
3:D:317:THR:OG1	3:D:318:GLY:N	2.54	0.40
3:D:419:HIS:HE1	3:D:471:PRO:O	2.04	0.40
3:D:980:THR:O	3:D:996:LYS:HD3	2.21	0.40
5:F:269:LEU:O	5:F:272:SER:OG	2.30	0.40
5:F:311:THR:O	5:F:341:LEU:HD21	2.21	0.40
10:K:81:GLU:CD	10:L:96:ARG:HE	2.21	0.40
10:K:170:GLN:OE1	10:K:171:LEU:HD23	2.21	0.40
1:A:14:VAL:HG13	1:A:15:ASP:OD1	2.20	0.40
1:B:214:GLU:OE2	1:B:218:ARG:NH2	2.35	0.40
2:C:179:TYR:HB2	2:C:398:SER:OG	2.21	0.40
2:C:632:ASP:OD1	2:C:632:ASP:N	2.53	0.40
2:C:971:LEU:HD12	2:C:971:LEU:HA	1.85	0.40
2:C:985:GLU:CB	2:C:989:LEU:HB2	2.51	0.40
2:C:1133:LYS:O	2:C:1135:GLN:NE2	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:139:LEU:HD23	3:D:139:LEU:HA	1.78	0.40
3:D:317:THR:HB	3:D:324:LEU:HD21	2.03	0.40
3:D:518:VAL:HA	3:D:547:ARG:HH22	1.86	0.40
3:D:985:ILE:HG22	3:D:986:ASP:N	2.37	0.40
3:D:1104:LYS:CB	3:D:1125:PRO:HD2	2.51	0.40
3:D:1116:SER:N	3:D:1119:ASP:OD1	2.53	0.40
5:F:287:ILE:HG21	5:F:306:PHE:CZ	2.56	0.40
5:F:294:GLN:OE1	5:F:333:VAL:HB	2.21	0.40
7:H:39:DC:H6	7:H:39:DC:H2'	1.72	0.40
2:C:122:VAL:HG21	2:C:493:ILE:HD13	2.03	0.40
2:C:151:ARG:HE	2:C:151:ARG:HB3	1.75	0.40
2:C:833:ILE:HA	2:C:1054:LEU:O	2.21	0.40
2:C:878:THR:OG1	2:C:879:GLY:N	2.54	0.40
2:C:1033:ARG:O	2:C:1037:THR:HG22	2.21	0.40
2:C:1259:LEU:O	2:C:1259:LEU:HG	2.15	0.40
3:D:120:LEU:HD13	3:D:120:LEU:HA	1.77	0.40
3:D:265:LEU:HD23	3:D:265:LEU:HA	1.89	0.40
3:D:442:ILE:HG22	3:D:443:GLU:O	2.21	0.40
4:E:21:LEU:HD23	4:E:21:LEU:HA	1.83	0.40
5:F:165:PHE:N	5:F:260:ARG:HH21	2.19	0.40
6:G:23:DT:H2''	6:G:24:DG:C8	2.55	0.40
10:L:9:SER:C	10:L:11:MET:H	2.24	0.40
10:L:15:SER:HG	10:L:26:ARG:HE	1.67	0.40
10:L:126:ASP:HA	10:L:129:ARG:HH11	1.86	0.40
1:A:98:VAL:HG11	1:A:121:VAL:CG2	2.51	0.40
1:A:195:ARG:HD2	1:A:195:ARG:HA	1.93	0.40
1:B:47:LEU:HD23	1:B:51:MET:CE	2.51	0.40
1:B:161:SER:O	1:B:163:GLU:N	2.51	0.40
2:C:471:VAL:HG21	2:C:498:ILE:HD11	2.04	0.40
2:C:609:ILE:H	2:C:609:ILE:HG12	1.55	0.40
3:D:298:MET:HE2	5:F:402:LEU:HB3	2.02	0.40
3:D:411:ILE:HD13	3:D:411:ILE:HA	1.88	0.40
3:D:515:ARG:HE	3:D:515:ARG:HB3	1.75	0.40
3:D:955:LYS:HE2	3:D:1010:GLN:HB3	2.04	0.40
3:D:1191:PRO:HB3	3:D:1193:TRP:CE3	2.57	0.40
3:D:1248:ILE:HG22	3:D:1249:ASN:O	2.21	0.40
3:D:1287:ILE:N	3:D:1287:ILE:HD13	2.37	0.40
4:E:50:ALA:O	4:E:54:ILE:HG12	2.21	0.40
10:L:64:ASP:C	10:L:66:GLU:H	2.21	0.40
10:L:165:LEU:HD13	10:L:187:MET:CG	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	228/329 (69%)	208 (91%)	20 (9%)	0	100	100
1	B	226/329 (69%)	199 (88%)	25 (11%)	2 (1%)	17	54
2	C	1337/1342 (100%)	1167 (87%)	168 (13%)	2 (0%)	51	83
3	D	1359/1430 (95%)	1188 (87%)	168 (12%)	3 (0%)	47	78
4	E	85/91 (93%)	74 (87%)	11 (13%)	0	100	100
5	F	465/613 (76%)	426 (92%)	39 (8%)	0	100	100
10	K	197/232 (85%)	171 (87%)	25 (13%)	1 (0%)	29	66
10	L	202/232 (87%)	175 (87%)	23 (11%)	4 (2%)	7	35
All	All	4099/4598 (89%)	3608 (88%)	479 (12%)	12 (0%)	44	73

All (12) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	D	710	ASP
3	D	1345	ARG
1	B	21	SER
10	L	10	VAL
2	C	398	SER
10	K	65	ARG
2	C	814	ASP
10	L	48	GLN
1	B	193	GLU
3	D	338	PHE
10	L	65	ARG
10	L	72	SER

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	198/286 (69%)	184 (93%)	14 (7%)	14	45
1	B	196/286 (68%)	179 (91%)	17 (9%)	10	35
2	C	1153/1157 (100%)	1078 (94%)	75 (6%)	17	48
3	D	1116/1189 (94%)	1016 (91%)	100 (9%)	9	33
4	E	65/75 (87%)	62 (95%)	3 (5%)	27	61
5	F	419/540 (78%)	383 (91%)	36 (9%)	10	36
10	K	172/204 (84%)	162 (94%)	10 (6%)	20	53
10	L	175/204 (86%)	160 (91%)	15 (9%)	10	36
All	All	3494/3941 (89%)	3224 (92%)	270 (8%)	16	42

All (270) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	19	VAL
1	A	56	VAL
1	A	72	GLU
1	A	77	ASP
1	A	120	ASP
1	A	157	THR
1	A	174	ASP
1	A	191	ARG
1	A	192	VAL
1	A	205	MET
1	A	212	ASP
1	A	219	ARG
1	A	231	PHE
1	A	236	ASP
1	B	14	VAL
1	B	15	ASP
1	B	16	ILE
1	B	17	GLU
1	B	27	THR
1	B	38	THR
1	B	54	CYS
1	B	59	VAL
1	B	67	GLU

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Mol	Chain	Res	Type
1	B	127	GLN
1	B	148	ARG
1	B	150	ARG
1	B	174	ASP
1	B	186	ASN
1	B	193	GLU
1	B	207	THR
1	B	233	ASP
2	C	3	TYR
2	C	23	ASP
2	C	39	ILE
2	C	47	TYR
2	C	55	SER
2	C	70	TYR
2	C	81	ASP
2	C	97	ARG
2	C	113	THR
2	C	115	LYS
2	C	150	HIS
2	C	161	LYS
2	C	165	HIS
2	C	255	ILE
2	C	281	ASP
2	C	300	ASP
2	C	306	THR
2	C	339	ASN
2	C	340	ASP
2	C	384	LEU
2	C	393	ASP
2	C	443	ASP
2	C	484	LEU
2	C	486	THR
2	C	487	LEU
2	C	491	ASP
2	C	518	ASN
2	C	524	ILE
2	C	539	THR
2	C	553	THR
2	C	589	THR
2	C	613	ASN
2	C	632	ASP
2	C	656	SER

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Mol	Chain	Res	Type
2	C	657	THR
2	C	659	GLN
2	C	687	ARG
2	C	694	ARG
2	C	720	ARG
2	C	764	CYS
2	C	765	ILE
2	C	766	ASN
2	C	819	SER
2	C	851	THR
2	C	857	VAL
2	C	895	LEU
2	C	913	VAL
2	C	924	VAL
2	C	940	GLU
2	C	990	ASP
2	C	1004	ASP
2	C	1014	LEU
2	C	1018	TYR
2	C	1023	HIS
2	C	1041	ASP
2	C	1046	VAL
2	C	1076	ILE
2	C	1093	PRO
2	C	1127	LYS
2	C	1132	LEU
2	C	1135	GLN
2	C	1156	ARG
2	C	1172	LEU
2	C	1198	LEU
2	C	1223	ARG
2	C	1232	MET
2	C	1233	LEU
2	C	1236	ASN
2	C	1240	ASP
2	C	1246	ARG
2	C	1259	LEU
2	C	1269	ARG
2	C	1296	ASP
2	C	1302	THR
2	C	1312	ASN
3	D	18	ASP

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Mol	Chain	Res	Type
3	D	20	ILE
3	D	32	SER
3	D	46	TYR
3	D	54	ASP
3	D	60	ARG
3	D	80	HIS
3	D	91	GLU
3	D	93	THR
3	D	126	LEU
3	D	133	ARG
3	D	155	GLU
3	D	159	ILE
3	D	160	LEU
3	D	172	PHE
3	D	176	PHE
3	D	203	GLU
3	D	227	PHE
3	D	240	THR
3	D	244	VAL
3	D	314	ARG
3	D	317	THR
3	D	332	LYS
3	D	335	GLN
3	D	392	THR
3	D	393	THR
3	D	410	ASP
3	D	416	ILE
3	D	425	ARG
3	D	430	HIS
3	D	460	ASP
3	D	485	MET
3	D	505	ASP
3	D	506	VAL
3	D	518	VAL
3	D	527	LEU
3	D	543	SER
3	D	545	HIS
3	D	560	ASN
3	D	598	LYS
3	D	638	SER
3	D	674	THR
3	D	703	THR

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Mol	Chain	Res	Type
3	D	710	ASP
3	D	712	GLN
3	D	722	ILE
3	D	746	LEU
3	D	764	ARG
3	D	801	VAL
3	D	803	VAL
3	D	805	GLN
3	D	823	THR
3	D	843	VAL
3	D	847	ASP
3	D	849	LEU
3	D	858	VAL
3	D	862	THR
3	D	863	LEU
3	D	868	TRP
3	D	869	CYS
3	D	874	GLU
3	D	890	THR
3	D	901	ARG
3	D	902	ASP
3	D	918	ILE
3	D	929	GLN
3	D	959	LYS
3	D	966	VAL
3	D	980	THR
3	D	986	ASP
3	D	997	VAL
3	D	1007	ASP
3	D	1015	GLU
3	D	1034	PHE
3	D	1046	ILE
3	D	1047	THR
3	D	1072	LYS
3	D	1078	LEU
3	D	1081	VAL
3	D	1088	VAL
3	D	1093	THR
3	D	1140	ARG
3	D	1155	ILE
3	D	1170	LYS
3	D	1178	THR

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Mol	Chain	Res	Type
3	D	1181	ASP
3	D	1187	GLU
3	D	1199	PHE
3	D	1203	ARG
3	D	1204	VAL
3	D	1236	GLU
3	D	1266	ILE
3	D	1272	SER
3	D	1280	VAL
3	D	1282	TYR
3	D	1306	LEU
3	D	1307	LEU
3	D	1316	THR
3	D	1325	PHE
3	D	1357	ILE
4	E	3	ARG
4	E	46	THR
4	E	62	GLN
5	F	95	THR
5	F	109	GLU
5	F	114	GLU
5	F	147	GLN
5	F	220	LYS
5	F	225	ARG
5	F	236	LYS
5	F	250	LEU
5	F	256	PHE
5	F	296	LYS
5	F	300	LYS
5	F	346	GLN
5	F	360	ASP
5	F	395	THR
5	F	397	ARG
5	F	423	ARG
5	F	445	ASP
5	F	457	ILE
5	F	465	ARG
5	F	471	LEU
5	F	472	GLN
5	F	476	ARG
5	F	509	THR
5	F	515	GLU

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Mol	Chain	Res	Type
5	F	527	THR
5	F	533	ASP
5	F	557	LYS
5	F	569	THR
5	F	570	ASP
5	F	572	THR
5	F	573	LEU
5	F	579	GLN
5	F	580	PHE
5	F	587	ILE
5	F	588	ARG
5	F	607	LEU
10	K	19	ASP
10	K	65	ARG
10	K	70	TRP
10	K	91	VAL
10	K	121	SER
10	K	134	GLU
10	K	143	PHE
10	K	154	PHE
10	K	160	TYR
10	K	183	LEU
10	L	8	ARG
10	L	11	MET
10	L	45	ASN
10	L	56	ASN
10	L	64	ASP
10	L	112	THR
10	L	114	MET
10	L	118	ILE
10	L	146	LYS
10	L	158	ASP
10	L	164	LEU
10	L	175	PHE
10	L	194	ASP
10	L	201	THR
10	L	202	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (44) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	160	HIS

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Mol	Chain	Res	Type
1	B	128	HIS
1	B	132	HIS
2	C	65	ASN
2	C	139	ASN
2	C	330	HIS
2	C	343	HIS
2	C	490	GLN
2	C	760	ASN
2	C	1008	GLN
2	C	1080	ASN
2	C	1116	HIS
2	C	1135	GLN
2	C	1237	HIS
3	D	45	ASN
3	D	294	ASN
3	D	320	ASN
3	D	365	GLN
3	D	419	HIS
3	D	477	GLN
3	D	720	ASN
3	D	739	GLN
3	D	805	GLN
3	D	951	GLN
3	D	968	ASN
3	D	1098	GLN
3	D	1108	GLN
3	D	1197	ASN
3	D	1218	HIS
3	D	1235	ASN
3	D	1238	GLN
4	E	62	GLN
4	E	70	GLN
4	E	72	GLN
5	F	271	ASN
5	F	309	ASN
5	F	323	ASN
5	F	406	GLN
5	F	446	GLN
5	F	455	HIS
5	F	464	ASN
10	K	24	GLN
10	K	40	HIS

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Mol	Chain	Res	Type
10	K	85	HIS

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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 3 ligands modelled in this entry, 3 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.

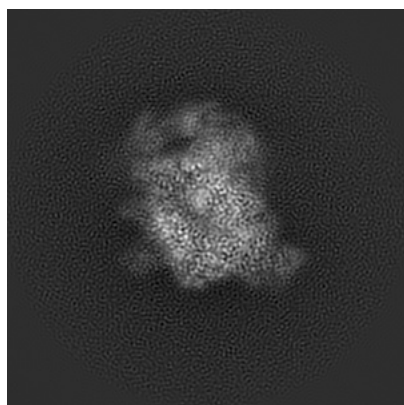
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-21853. These allow visual inspection of the internal detail of the map and identification of artifacts.

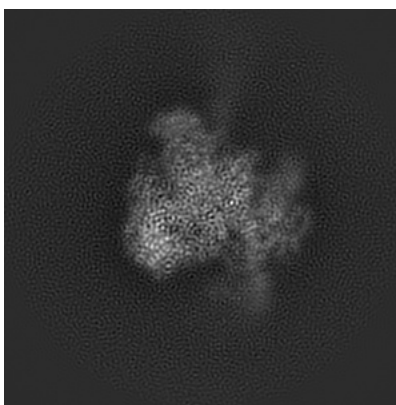
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

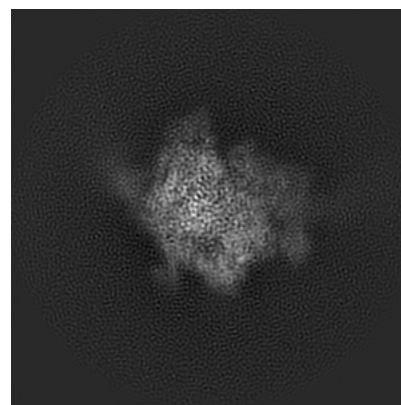
6.1.1 Primary map



X



Y

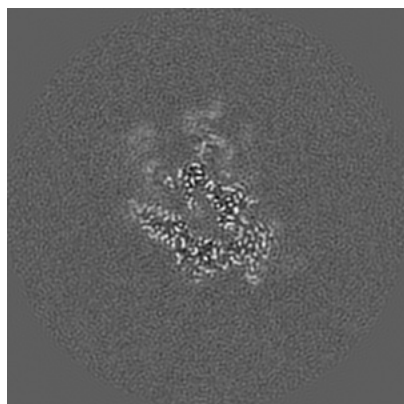


Z

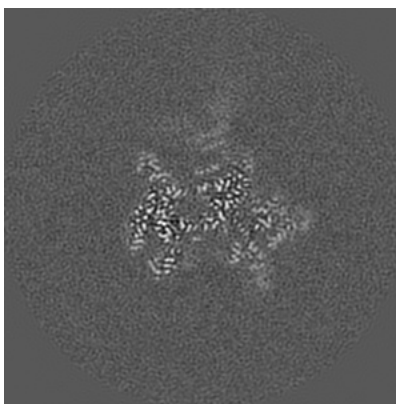
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

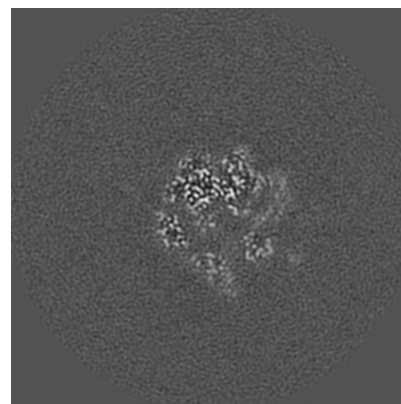
6.2.1 Primary map



X Index: 150



Y Index: 150

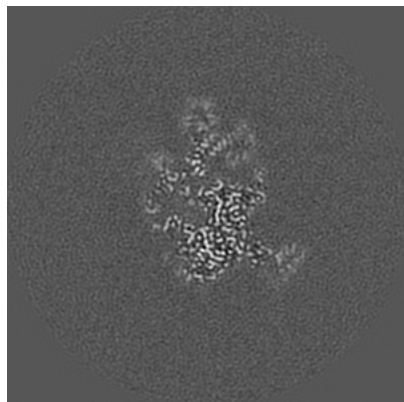


Z Index: 150

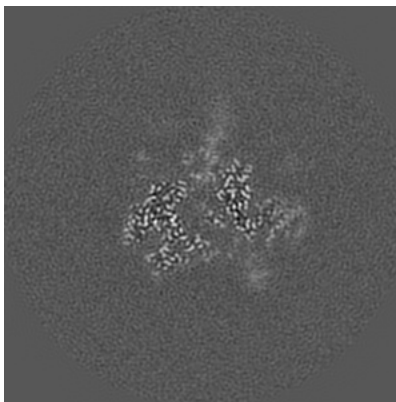
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

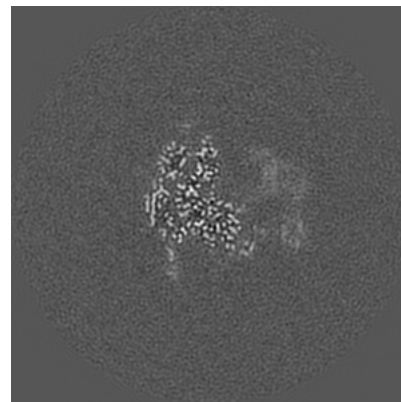
6.3.1 Primary map



X Index: 138



Y Index: 144

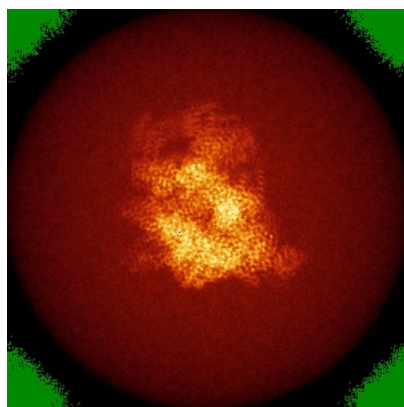


Z Index: 123

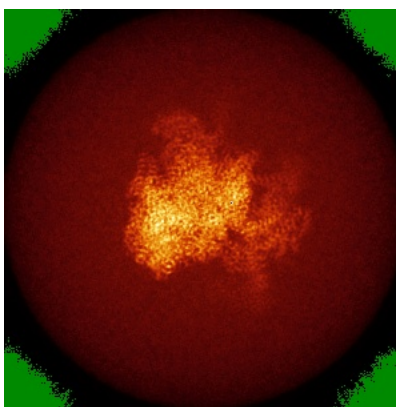
The images above show the largest variance slices of the map in three orthogonal directions.

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

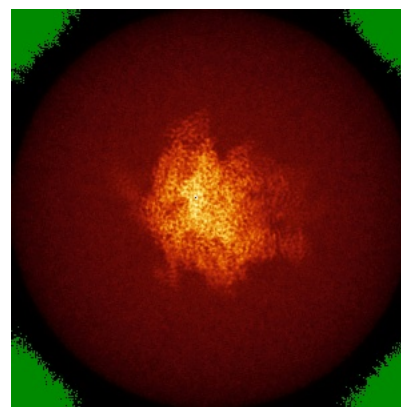
6.4.1 Primary map



X



Y

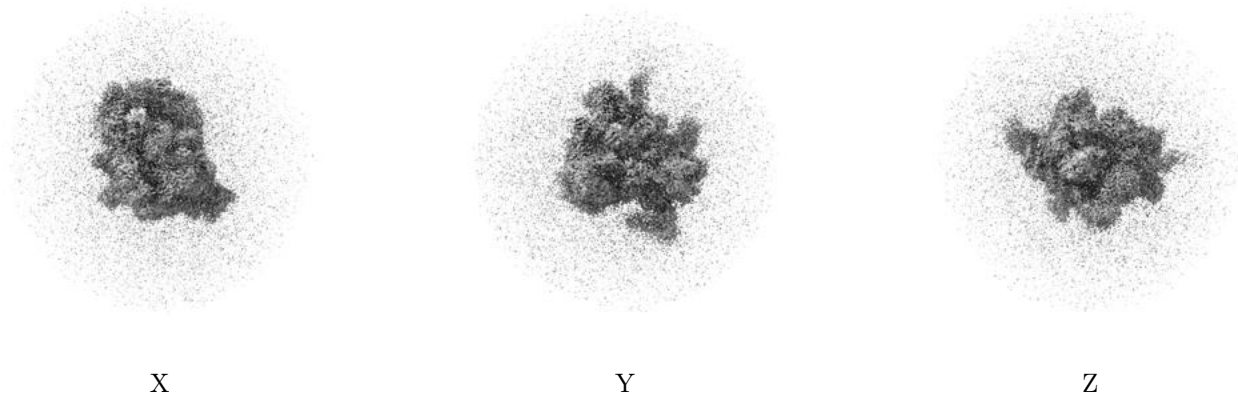


Z

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



The images above show the 3D surface view of the map at the recommended contour level 0.015. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

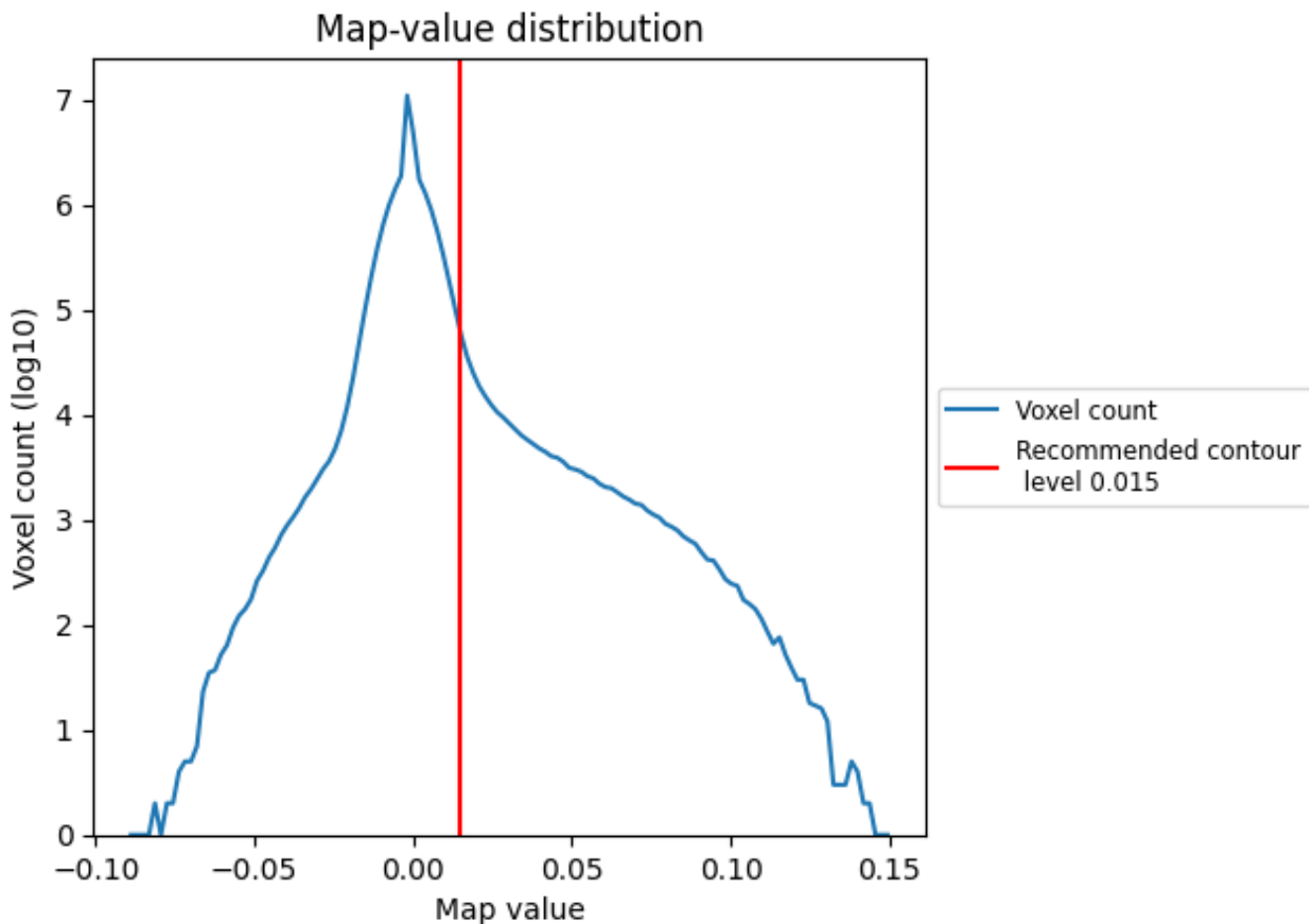
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

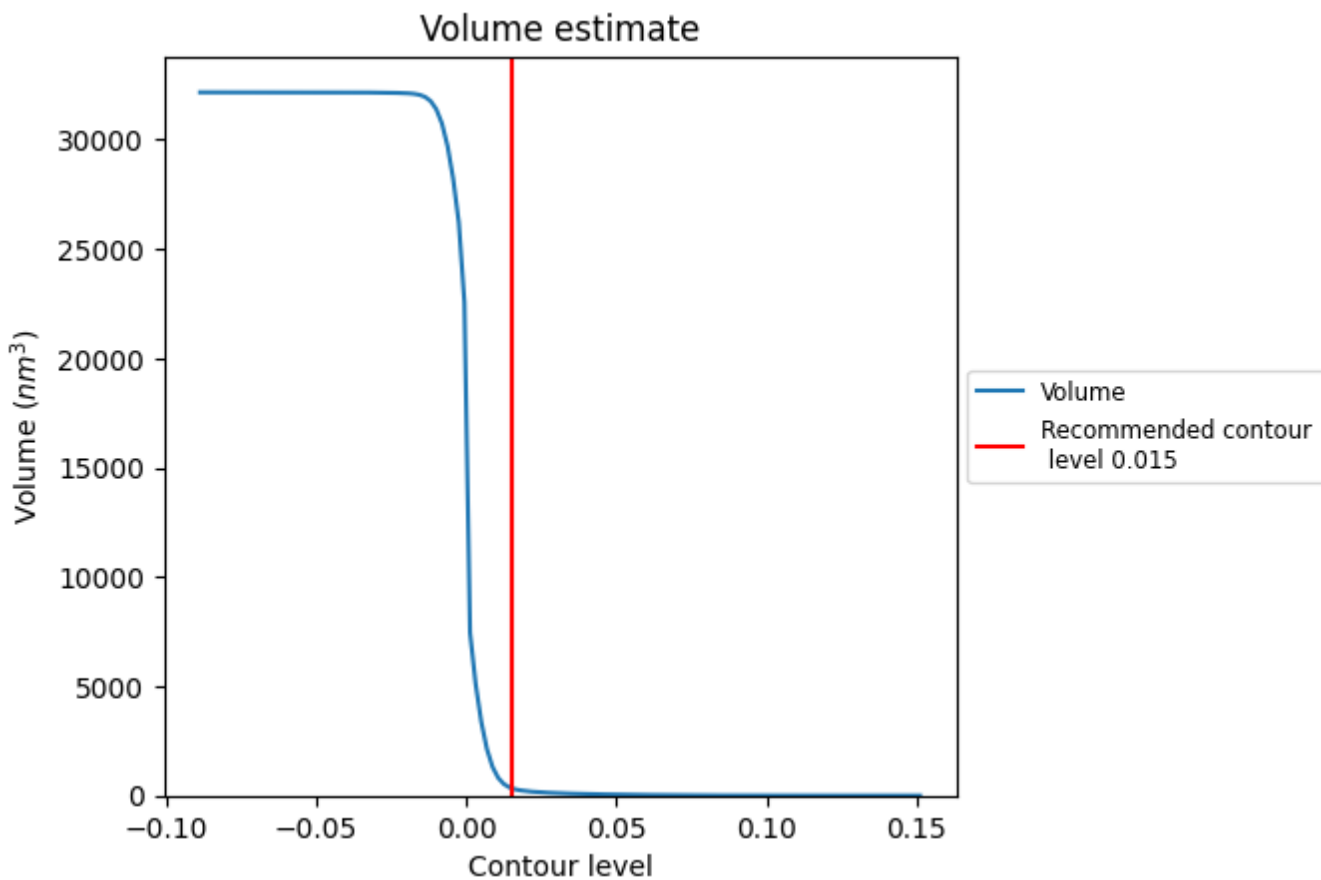
This section contains the results of statistical analysis of the map.

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.

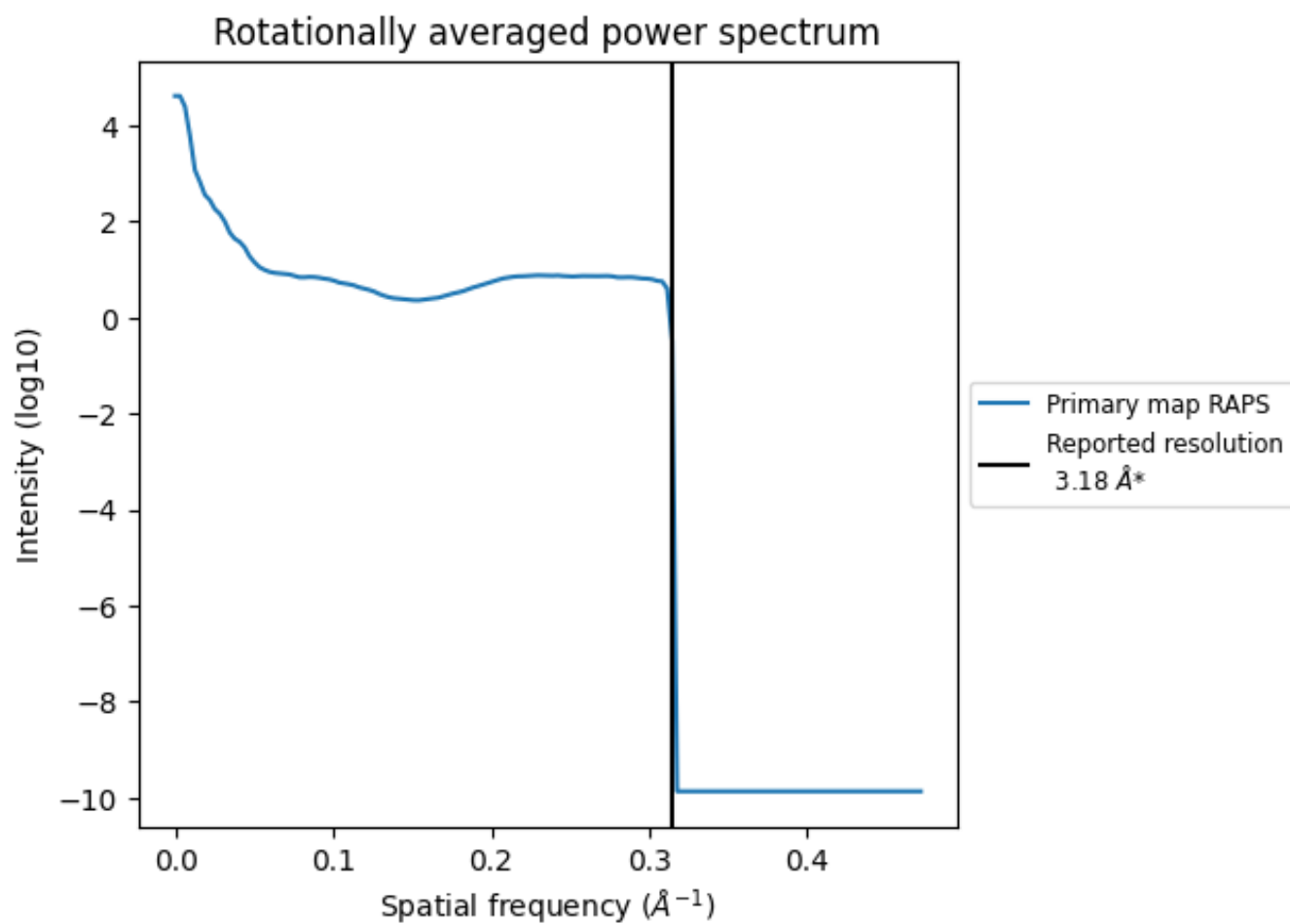
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 343 nm^3 ; this corresponds to an approximate mass of 310 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

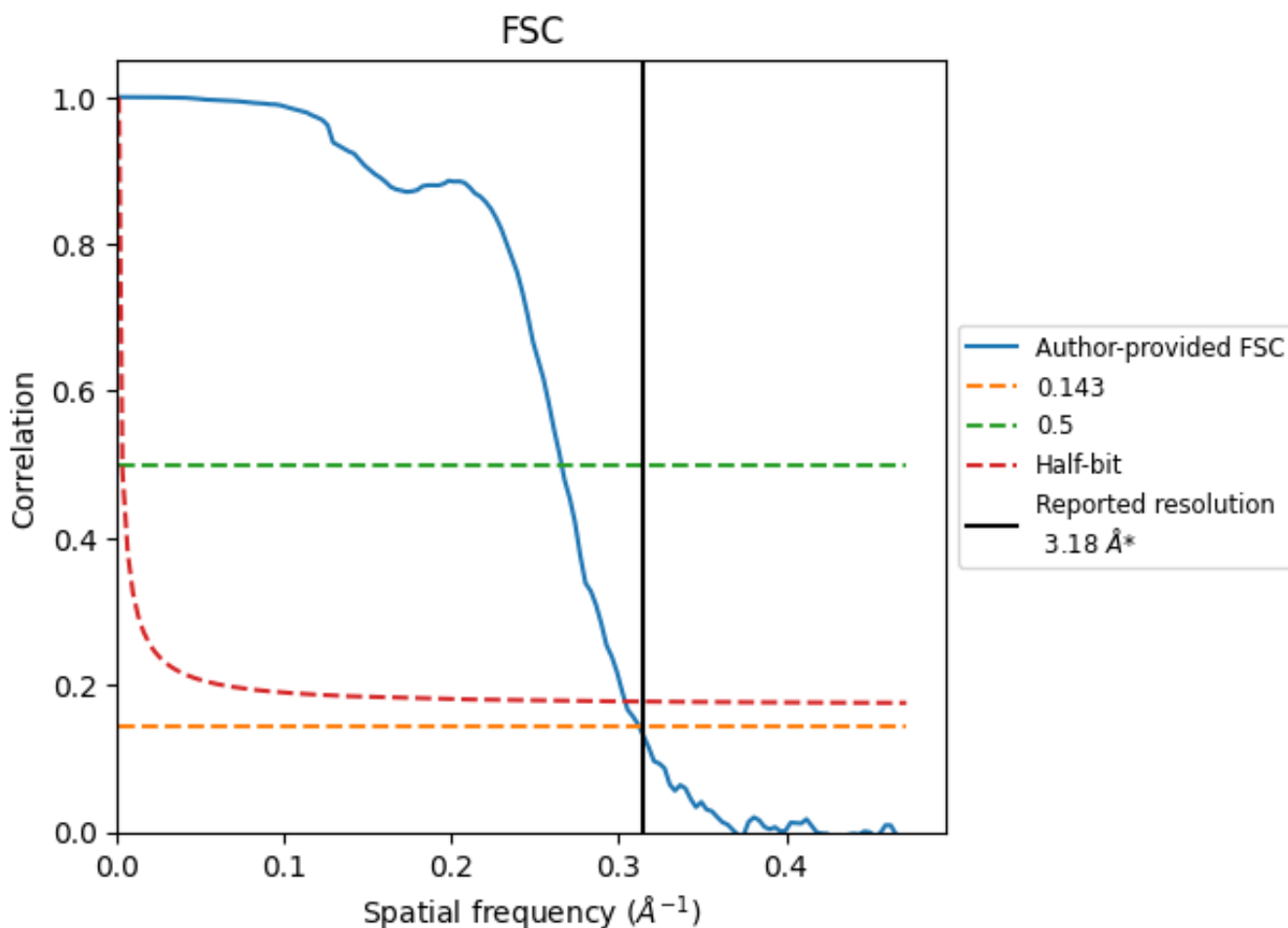


*Reported resolution corresponds to spatial frequency of 0.314 Å⁻¹

8 Fourier-Shell correlation [\(i\)](#)

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC [\(i\)](#)



*Reported resolution corresponds to spatial frequency of 0.314 Å⁻¹

8.2 Resolution estimates [i](#)

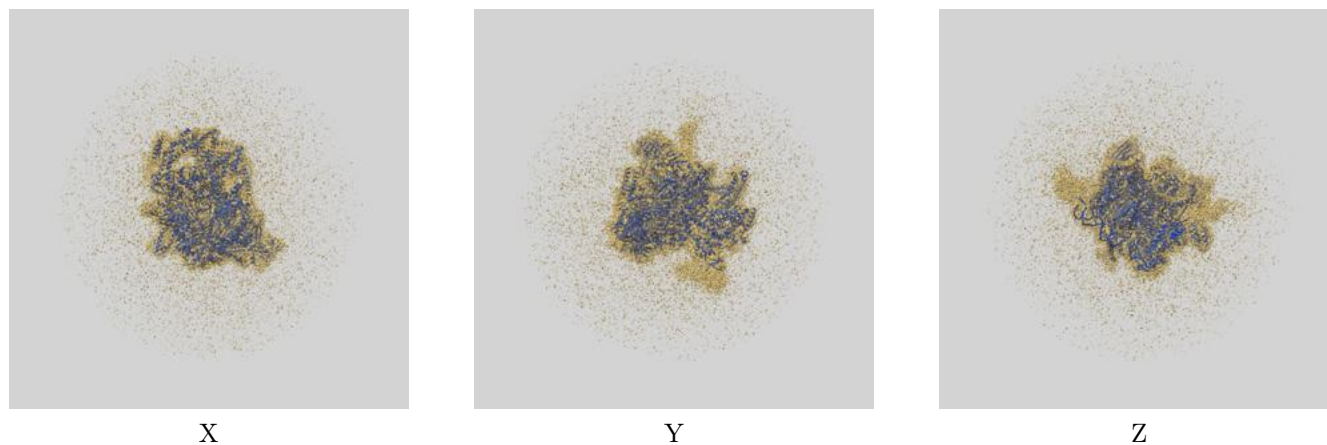
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.18	-	-
Author-provided FSC curve	3.20	3.76	3.29
Unmasked-calculated*	-	-	-

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

9 Map-model fit [i](#)

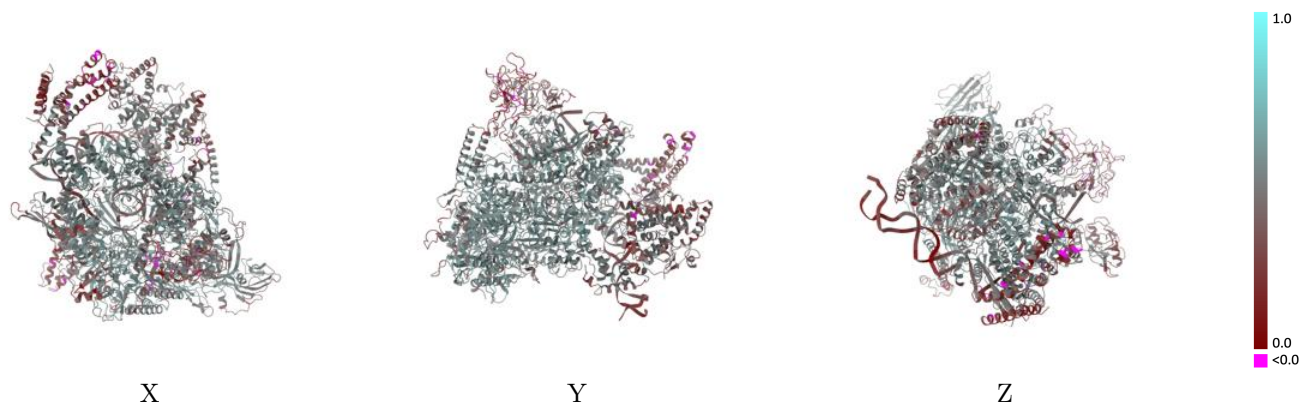
This section contains information regarding the fit between EMDB map EMD-21853 and PDB model 6WMU. Per-residue inclusion information can be found in section 3 on page 8.

9.1 Map-model overlay [i](#)



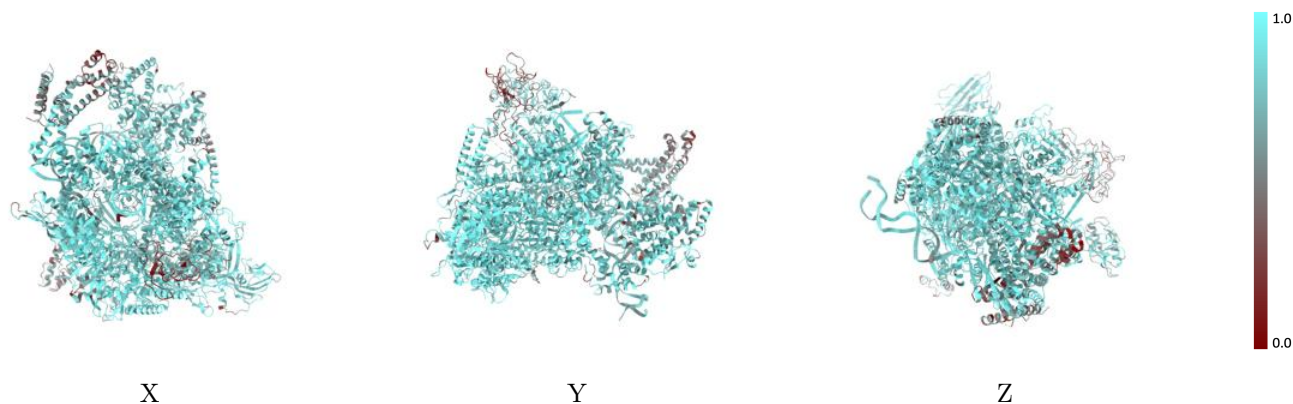
The images above show the 3D surface view of the map at the recommended contour level 0.015 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



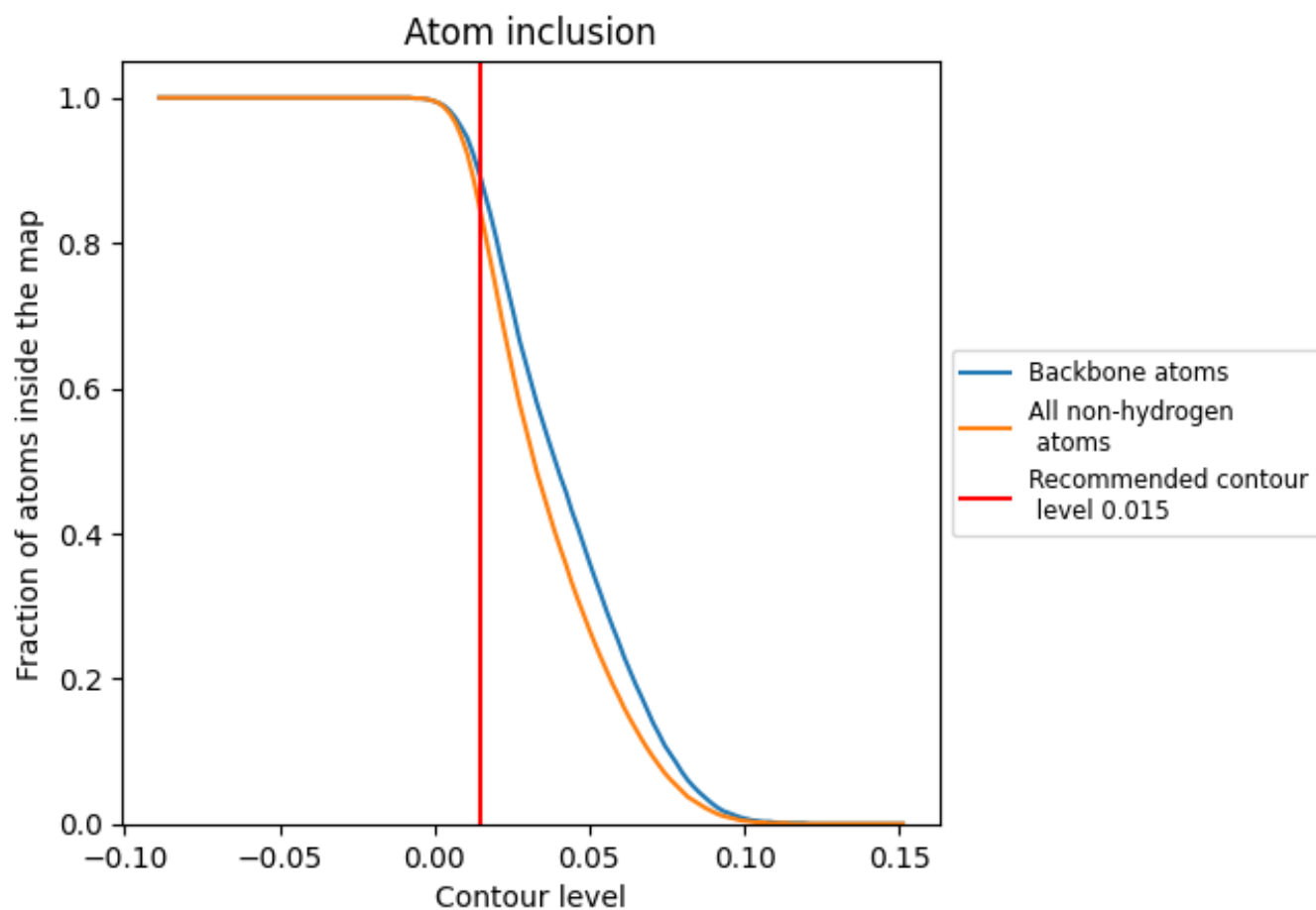
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.015).



























9.4 Atom inclusion [i](#)



At the recommended contour level, 89% of all backbone atoms, 84% 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 (0.015) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8410	 0.4710
A	 0.9140	 0.5390
B	 0.8610	 0.4980
C	 0.8800	 0.5090
D	 0.8350	 0.4830
E	 0.8280	 0.4980
F	 0.7290	 0.3820
G	 0.7880	 0.3160
H	 0.7540	 0.2780
I	 0.9330	 0.4220
J	 0.9380	 0.4280
K	 0.8330	 0.4270
L	 0.8330	 0.4340

