Full wwPDB EM Validation Report ⓘ

Jun 9, 2025 – 04:25 pm BST

PDB ID	:	9EPC / pdb_00009epc
EMDB ID	:	EMD-19877
Title	:	Cryo-EM structure of the Plastid-encoded RNA polymerase from Sinapis alba
Authors	:	Effantin, G.; Blanvillain, R.; Cobessi, D.
Deposited on	:	2024-03-18
Resolution	:	3.00 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:

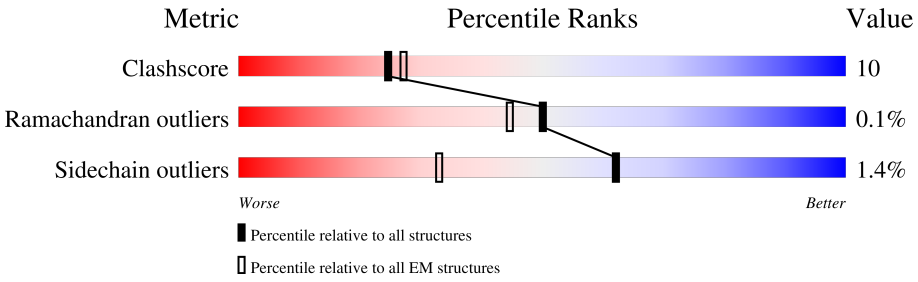
EMDB validation analysis	:	0.0.1.dev118
Mogul	:	1.8.4, CSD as541be (2020)
MolProbity	:	4-5-2 with Phenix2.0rc1
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.43.1

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 3.00 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	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

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

Mol	Chain	Length	Quality of chain
1	A	327	77% 20%
1	B	327	6% 64% 18% 17%
2	C	1072	6% 63% 26% 11%
3	D	680	68% 21% 10%
4	E	1373	55% 20% 25%
5	F	911	52% 18% 29%
6	G	1174	42% 13% 44%
7	H	675	60% 21% 18%

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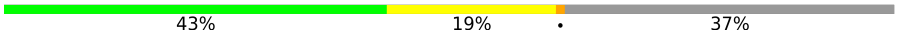
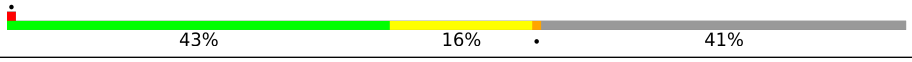
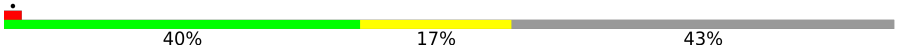
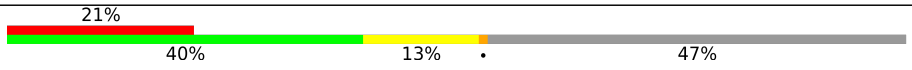
Mol	Chain	Length	Quality of chain
8	I	264	
9	J	529	
10	K	460	
11	L	483	
12	M	334	
13	N	297	
14	O	185	
14	P	185	
15	Q	768	
16	R	162	
17	S	611	
18	T	140	
19	U	187	

2 Entry composition

There are 25 unique types of molecules in this entry. The entry contains 65302 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
1	A	318	Total	C	N	O	S	0	0
			2595	1657	451	476	11		
1	B	271	Total	C	N	O	S	0	0
			2188	1395	379	404	10		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	67	PHE	SER	conflict	UNP A0A6C0M610
B	67	PHE	SER	conflict	UNP A0A6C0M610

- Molecule 2 is a protein called RpoB, subunit beta.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	C	950	Total	C	N	O	S	0	0
			7594	4843	1336	1387	28		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
3	D	612	Total	C	N	O	S	0	0
			4992	3202	880	887	23		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
4	E	1027	Total	C	N	O	S	1	0
			8219	5239	1460	1490	30		

- Molecule 5 is a protein called PAP1, pTAC3.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	F	643	Total	C	N	O	S	0	0
			5141	3253	894	961	33		

- Molecule 6 is a protein called PAP2, pTAC2.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	G	652	Total	C	N	O	S	0	0
			4604	2876	806	899	23		

- Molecule 7 is a protein called PAP3, pTAC10.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	H	551	Total	C	N	O	S	0	0
			4623	2947	799	860	17		

- Molecule 8 is a protein called PAP4, FSD3.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	I	215	Total	C	N	O	S	0	0
			1772	1141	301	324	6		

- Molecule 9 is a protein called PAP5, pTAC12, HEMERA.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	J	250	Total	C	N	O	S	0	0
			2104	1328	373	392	11		

- Molecule 10 is a protein called PAP6, FLN1.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	K	393	Total	C	N	O	S	0	0
			3167	2023	530	599	15		

- Molecule 11 is a protein called PAP7, pTAC14.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	L	425	Total	C	N	O	S	0	0
			3467	2222	589	636	20		

- Molecule 12 is a protein called PAP8, pTAC6.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	M	226	Total	C	N	O	S	0	0
			1885	1192	325	360	8		

- Molecule 13 is a protein called PAP9, FSD2.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	N	226	Total	C	N	O	S	0	0
			1832	1175	311	342	4		

- Molecule 14 is a protein called PAP10, TRXz.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	O	116	Total	C	N	O	S	0	0
			936	596	151	180	9		
14	P	110	Total	C	N	O	S	0	0
			885	563	141	172	9		

- Molecule 15 is a protein called PAP11, MurE-like.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	Q	441	Total	C	N	O	S	0	0
			3362	2092	579	670	21		

- Molecule 16 is a protein called PAP12, pTAC7.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	R	128	Total	C	N	O	S	0	0
			1069	672	193	201	3		

- Molecule 17 is a protein called FLN2.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	S	398	Total	C	N	O	S	0	0
			3153	1995	531	606	21		

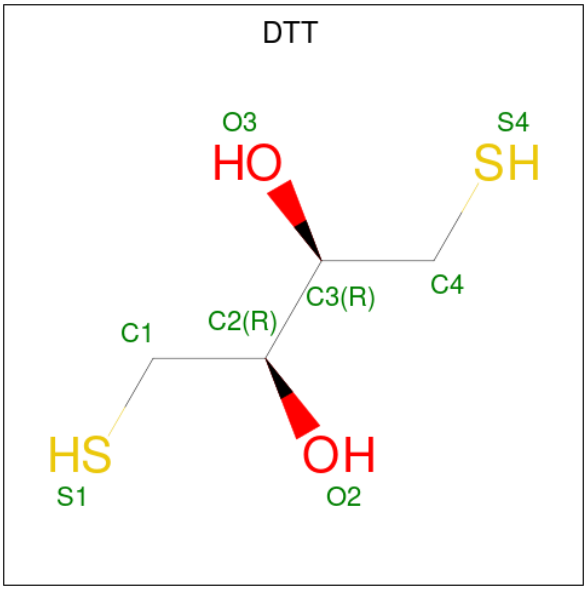
- Molecule 18 is a protein called pTAC18.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	T	104	Total	C	N	O	S	0	0
			881	571	148	158	4		

- Molecule 19 is a protein called PRIN2, PLASTID REDOX INSENSITIVE 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	U	99	Total	C	N	O	S	0	0
			793	505	133	152	3		

- Molecule 20 is 2,3-DIHYDROXY-1,4-DITHIOBUTANE (CCD ID: DTT) (formula: $C_4H_{10}O_2S_2$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms				AltConf
20	D	1	Total	C	O	S	0
			8	4	2	2	

- Molecule 21 is ZINC ION (CCD ID: ZN) (formula: Zn) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
21	E	1	Total	Zn	0
			1	1	

- Molecule 22 is FE (III) ION (CCD ID: FE) (formula: Fe) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
22	I	1	Total	Fe	0
			1	1	
22	N	1	Total	Fe	0
			1	1	

- Molecule 23 is CALCIUM ION (CCD ID: CA) (formula: Ca) (labeled as "Ligand of Interest"

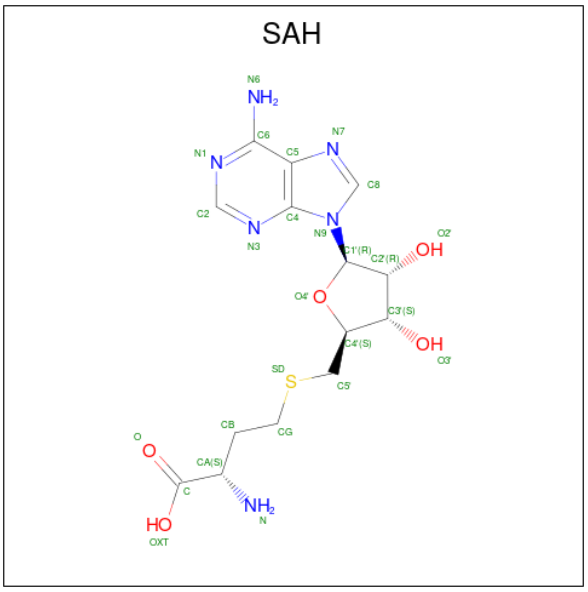
by depositor).

Mol	Chain	Residues	Atoms	AltConf
23	K	1	Total Ca 1 1	0
23	S	1	Total Ca 1 1	0

- Molecule 24 is POTASSIUM ION (CCD ID: K) (formula: K) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms	AltConf
24	K	1	Total K 1 1	0

- Molecule 25 is S-ADENOSYL-L-HOMOCYSTEINE (CCD ID: SAH) (formula: $C_{14}H_{20}N_6O_5S$) (labeled as "Ligand of Interest" by depositor).



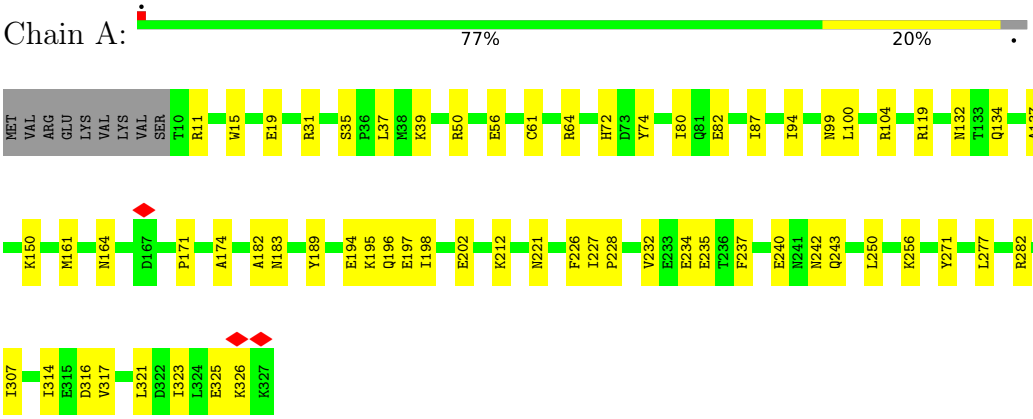
Mol	Chain	Residues	Atoms	AltConf
25	L	1	Total C N O S 26 14 6 5 1	0

3 Residue-property plots (i)

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

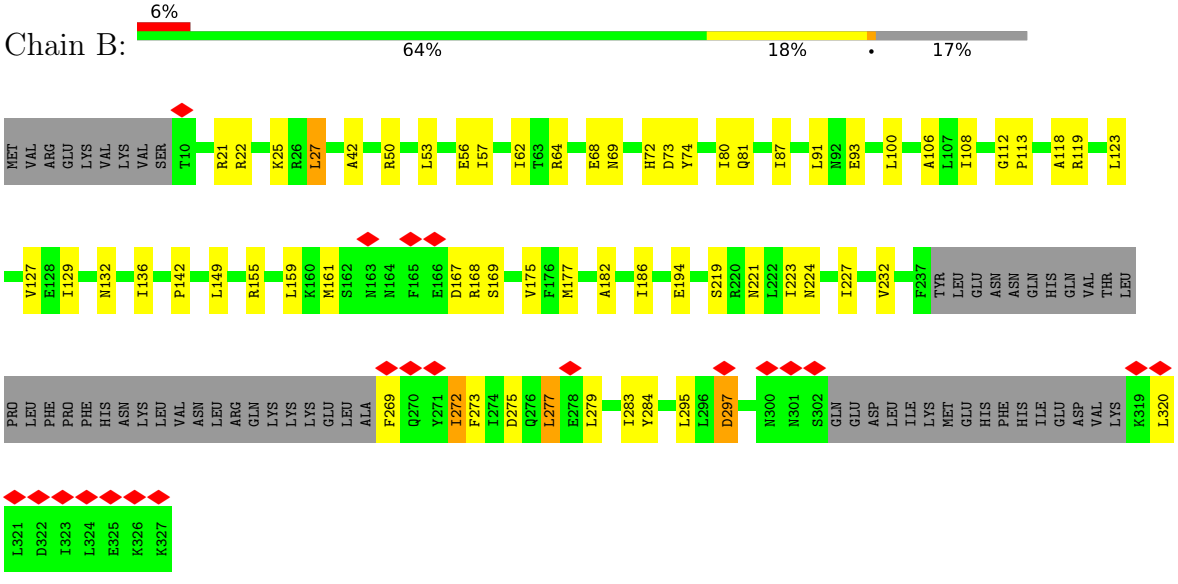
• Molecule 1: DNA-directed RNA polymerase subunit alpha

Chain A:



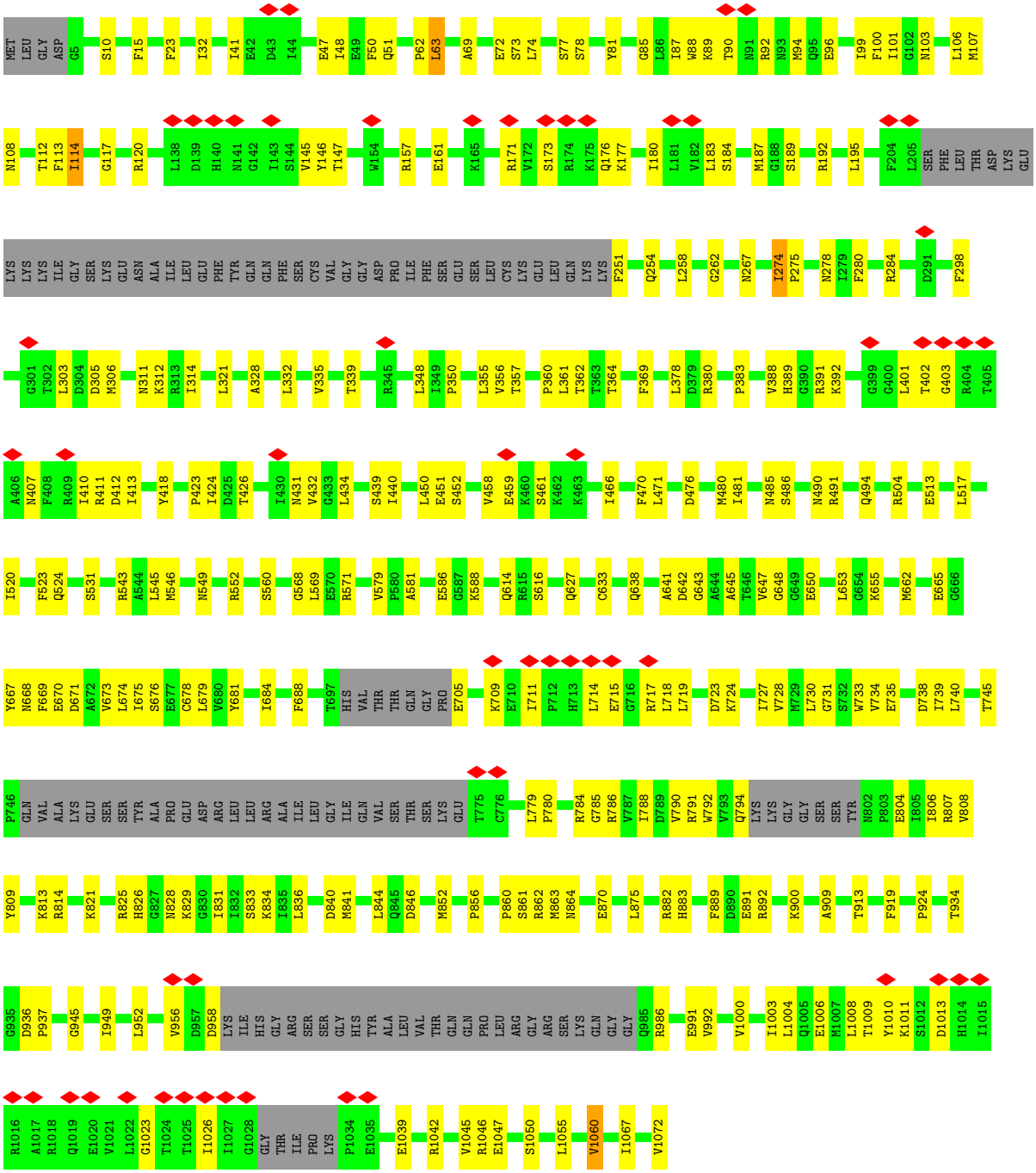
• Molecule 1: DNA-directed RNA polymerase subunit alpha

Chain B:



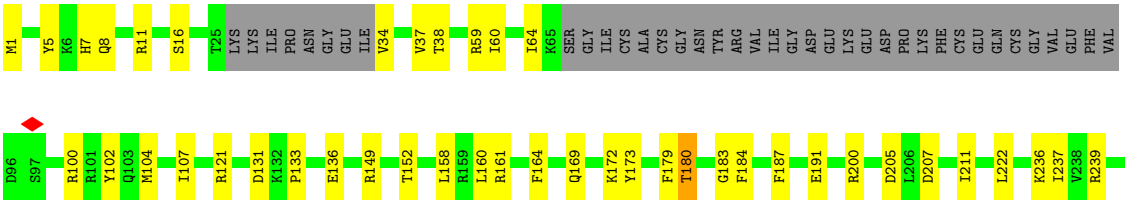
• Molecule 2: RpoB, subunit beta

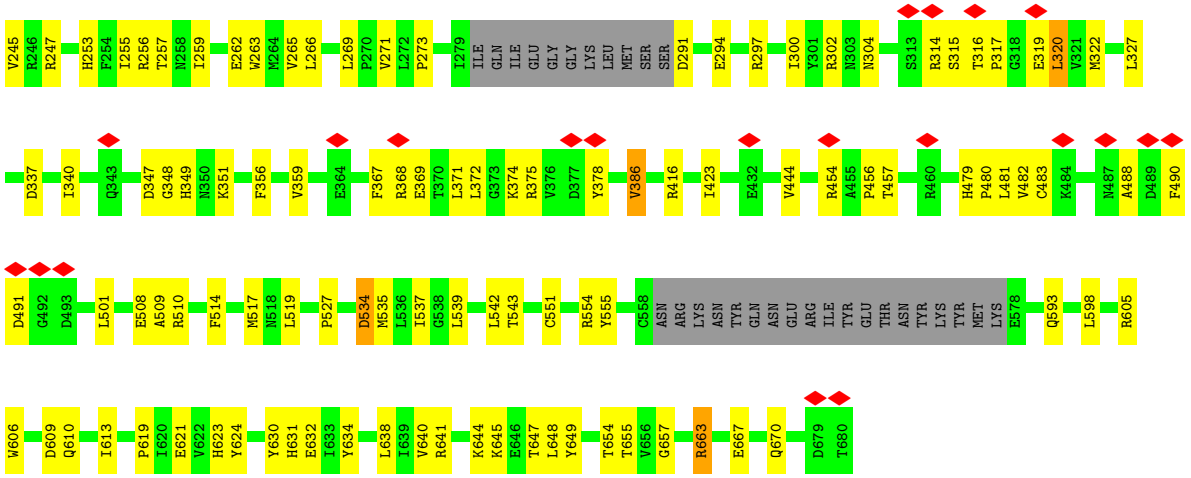
Chain C:



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

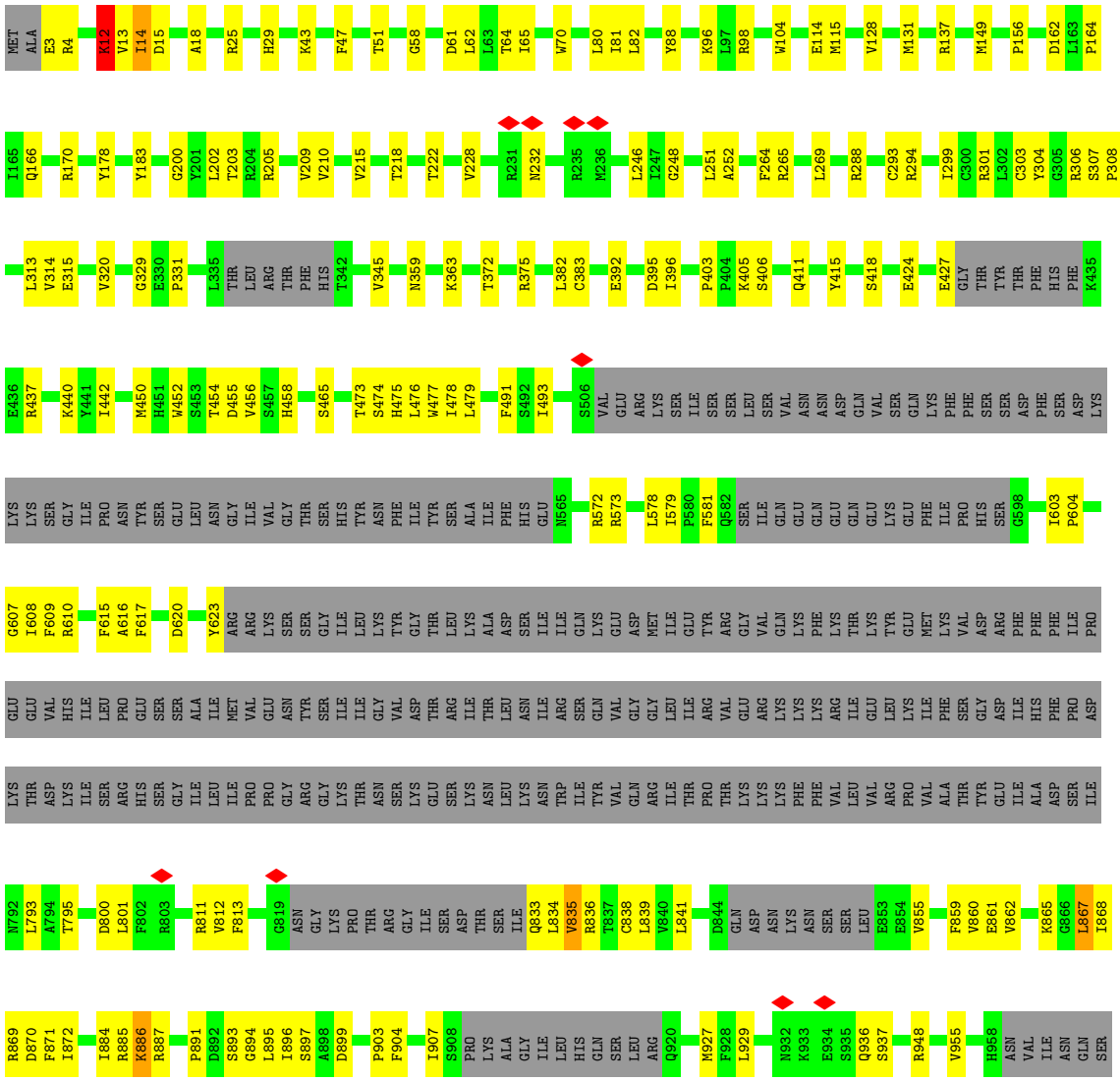
Chain D:

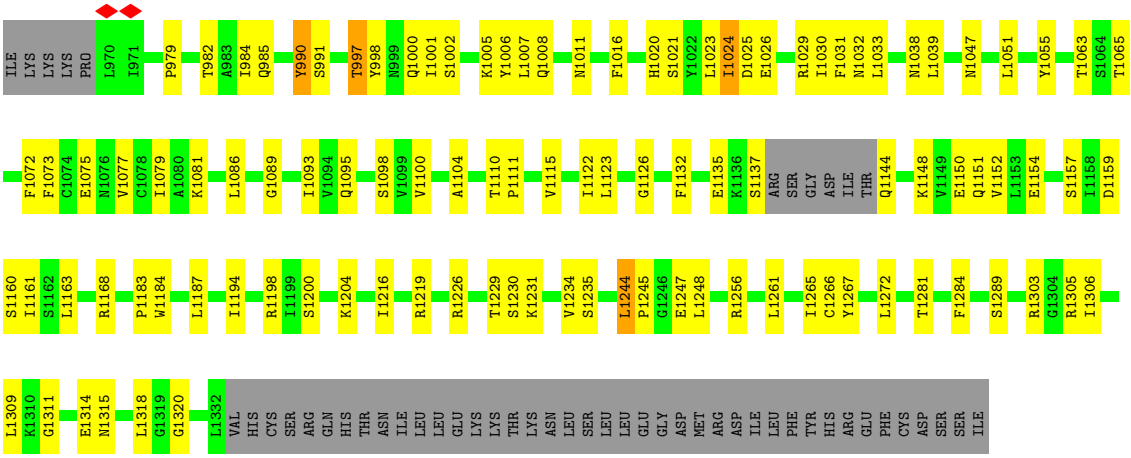




• Molecule 4: DNA-directed RNA polymerase subunit beta"

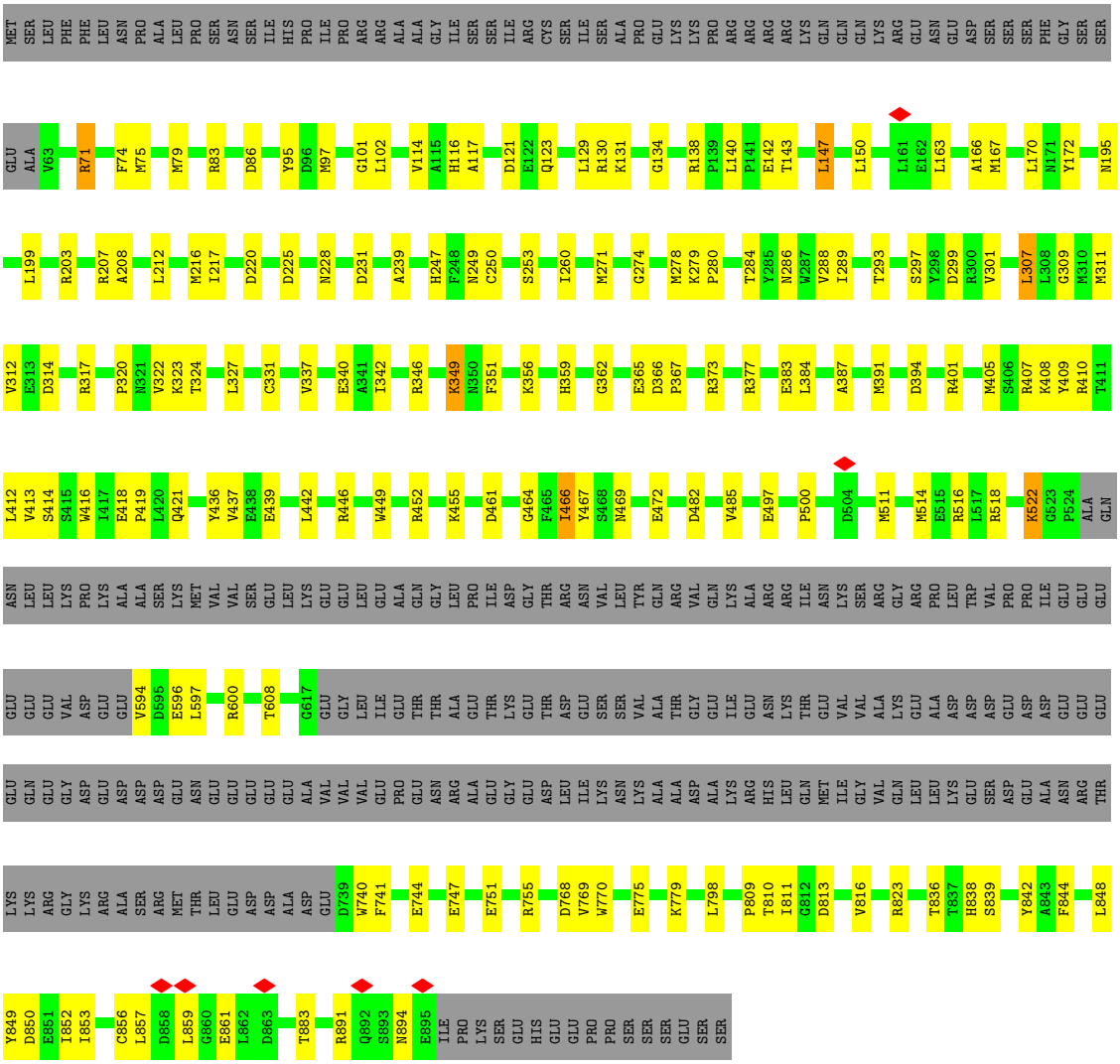
Chain E:





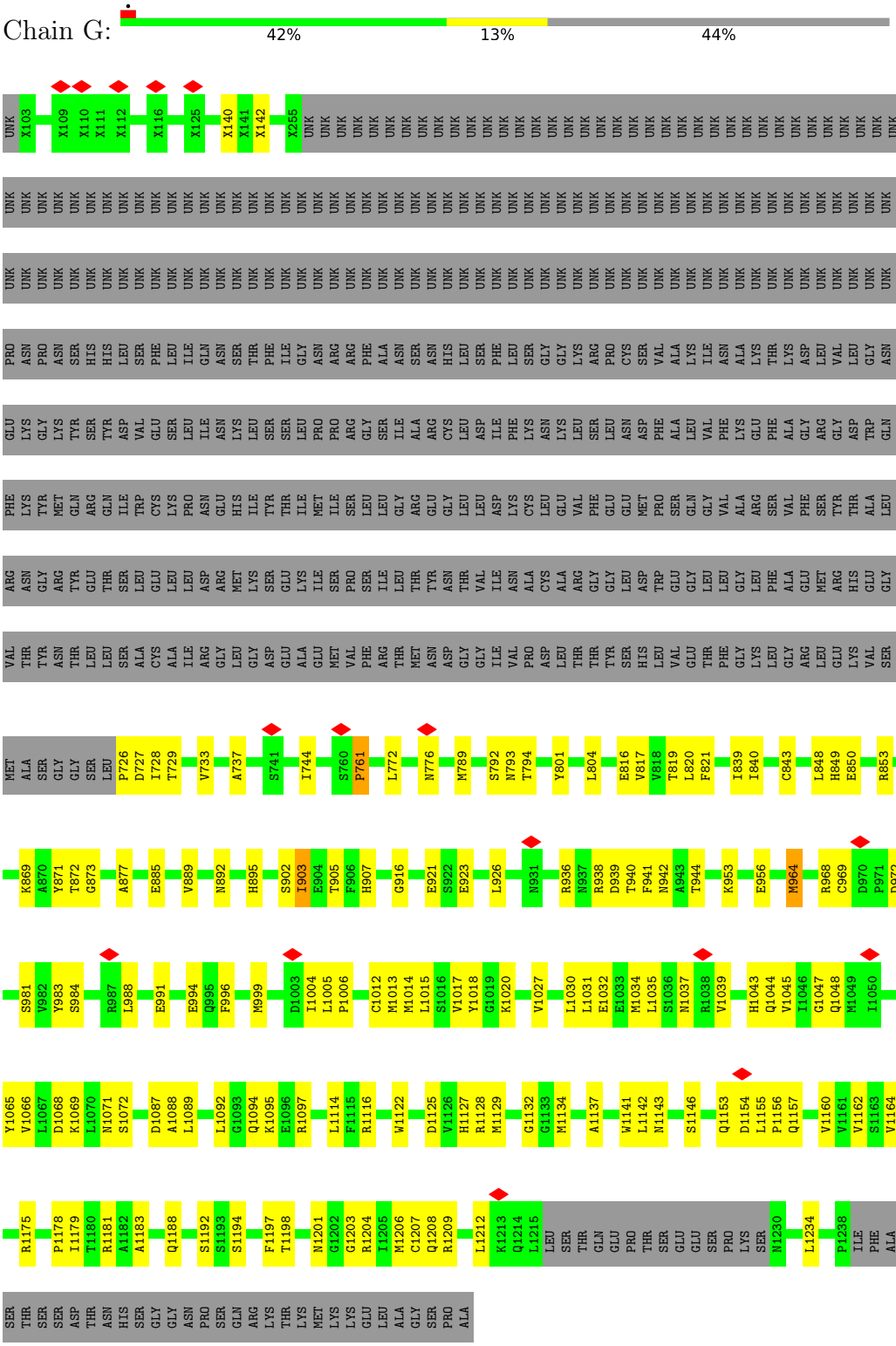
• Molecule 5: PAP1, pTAC3

Chain F:



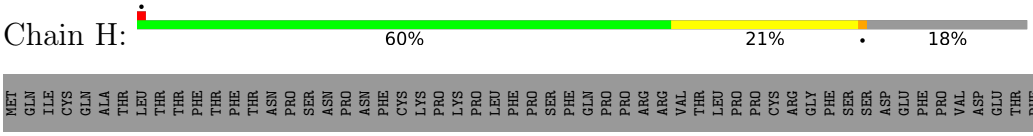
• Molecule 6: PAP2, pTAC2

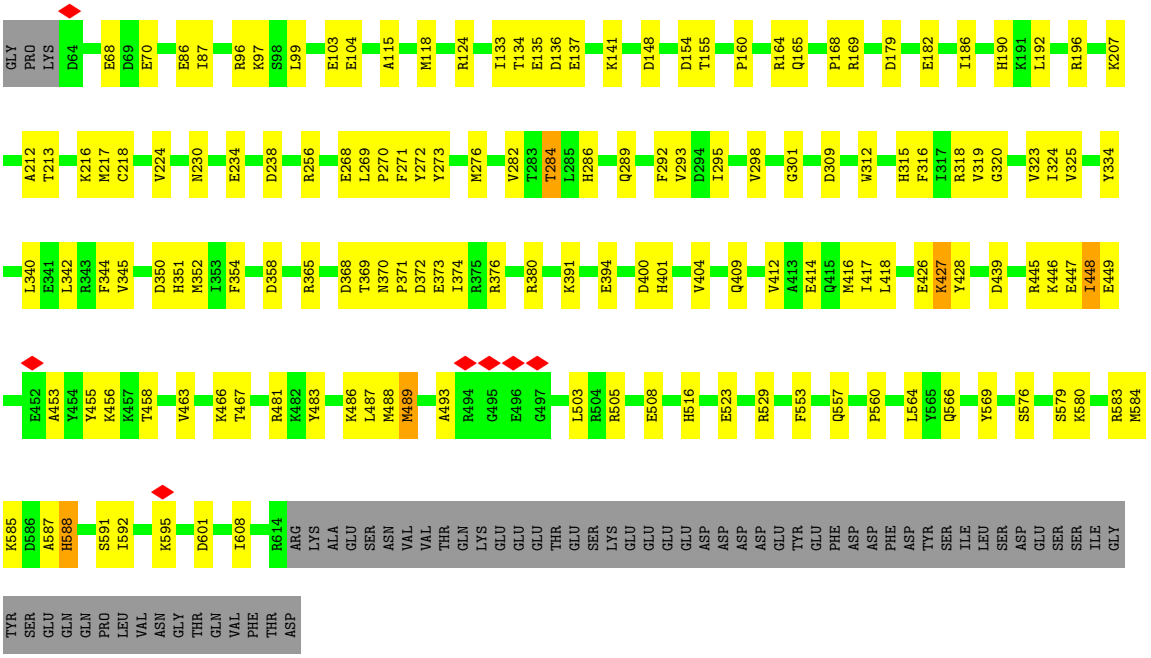
Chain G:



• Molecule 7: PAP3, pTAC10

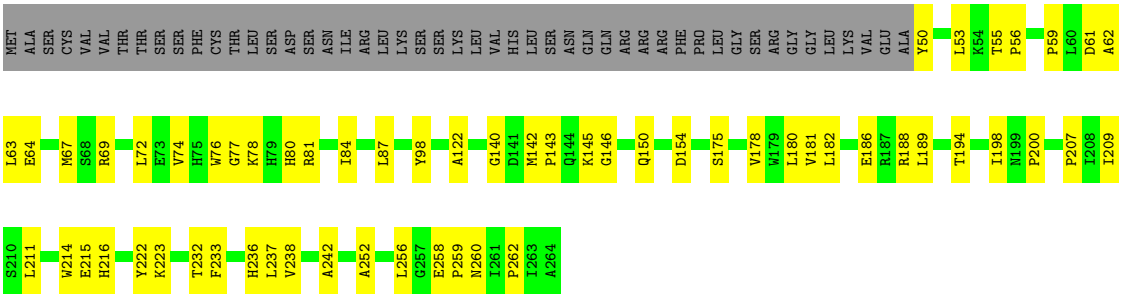
Chain H:





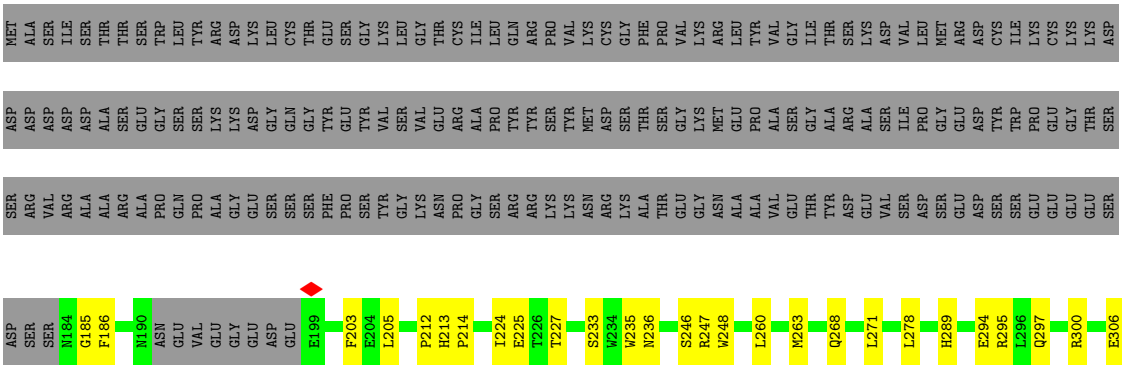
• Molecule 8: PAP4, FSD3

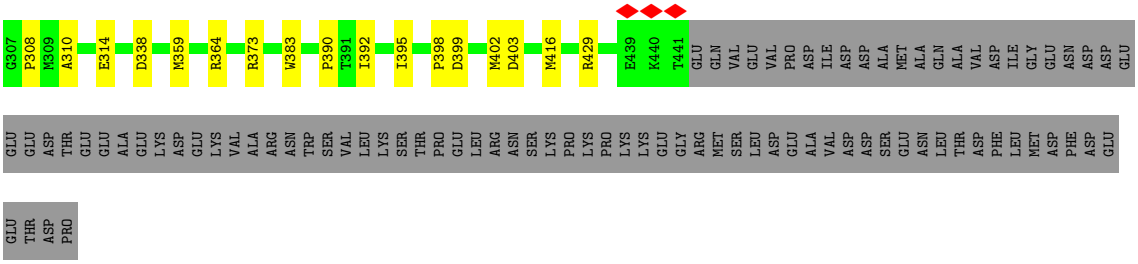
Chain I:



• Molecule 9: PAP5, pTAC12, HEMERA

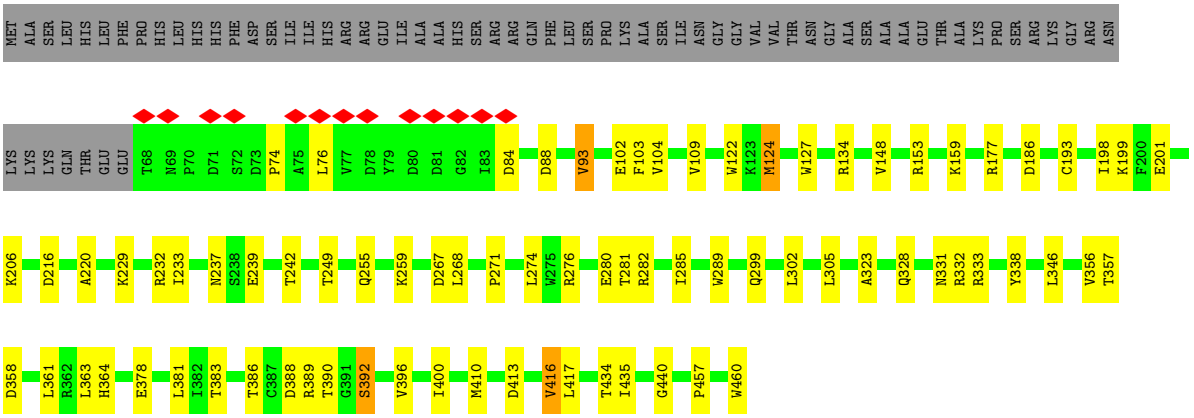
Chain J:





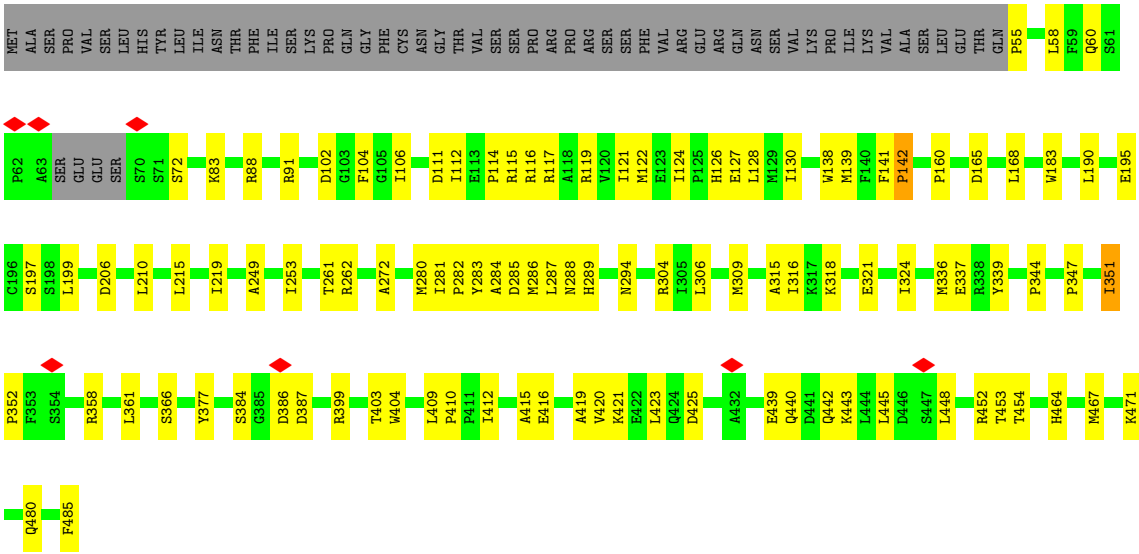
• Molecule 10: PAP6, FLN1

Chain K:



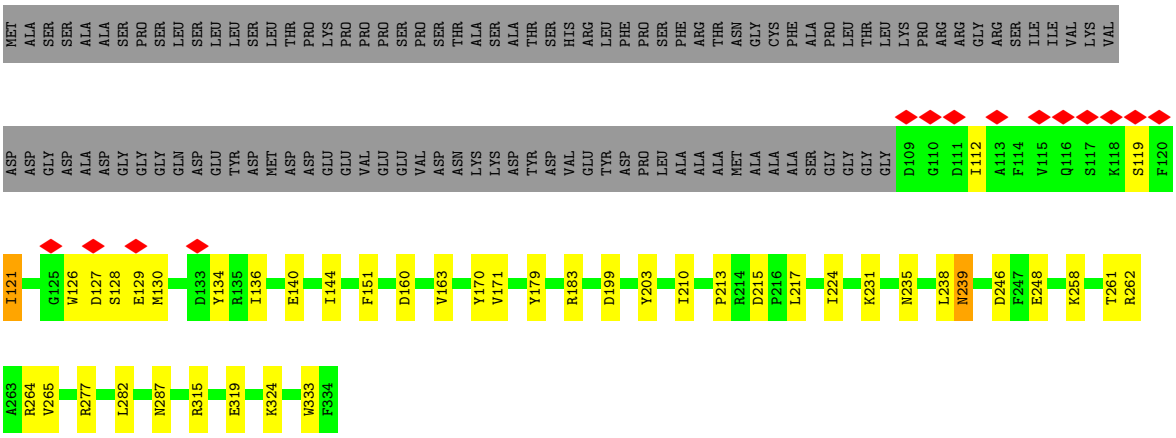
• Molecule 11: PAP7, pTAC14

Chain L:



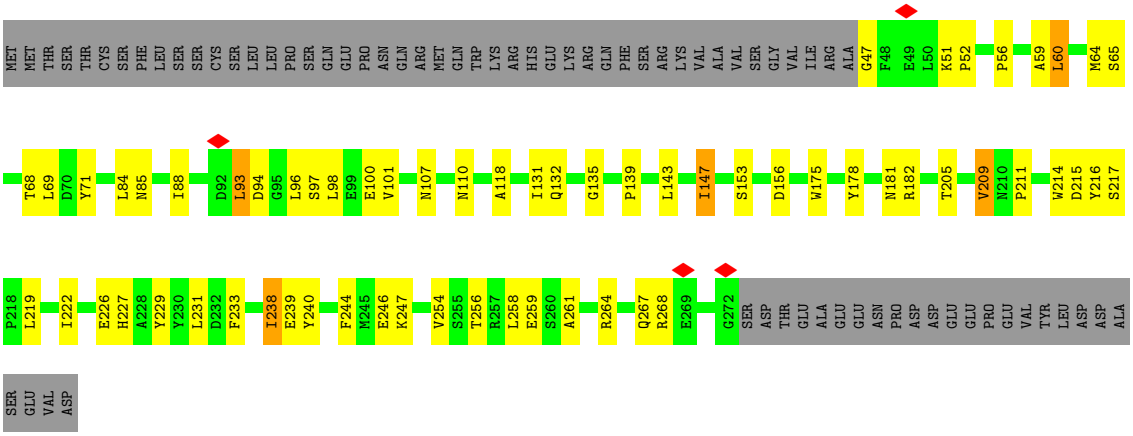
• Molecule 12: PAP8, pTAC6

Chain M:



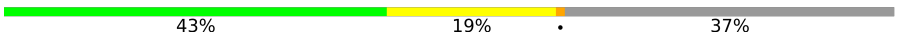
• Molecule 13: PAP9, FSD2

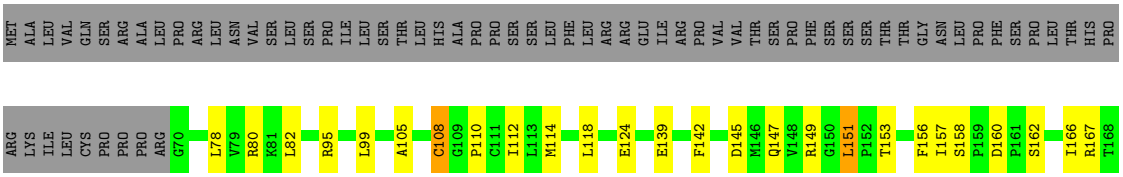
Chain N:

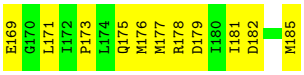


• Molecule 14: PAP10, TRXz

Chain O:

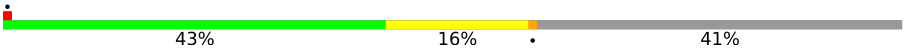






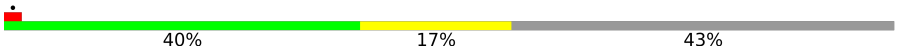
• Molecule 14: PAP10, TRXz

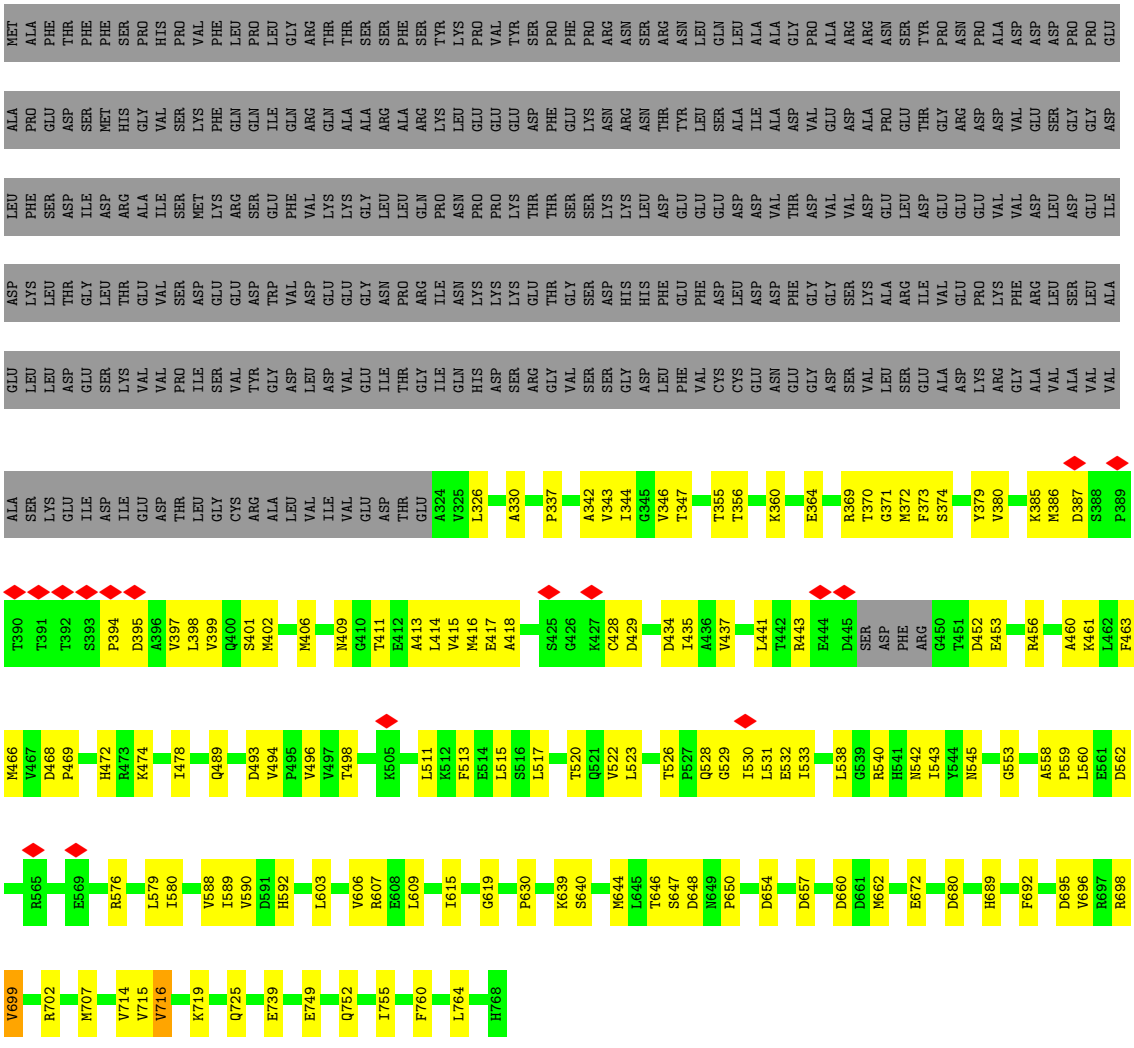
Chain P:



• Molecule 15: PAP11, MurE-like

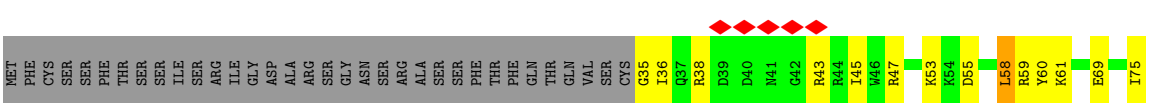
Chain Q:





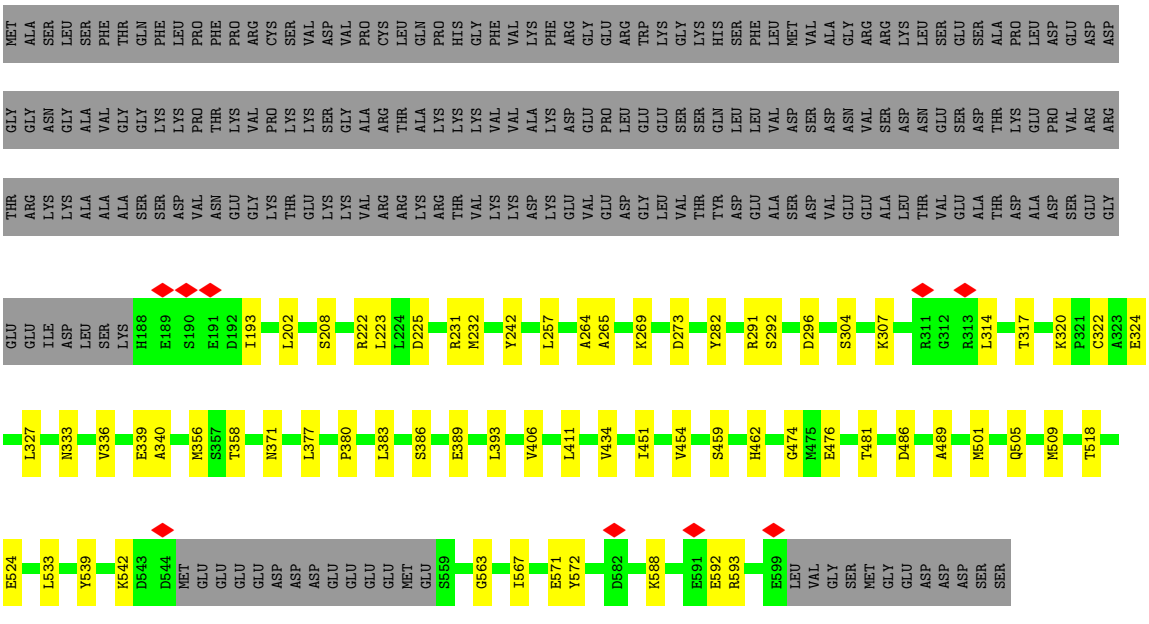
• Molecule 16: PAP12, pTAC7

Chain R:



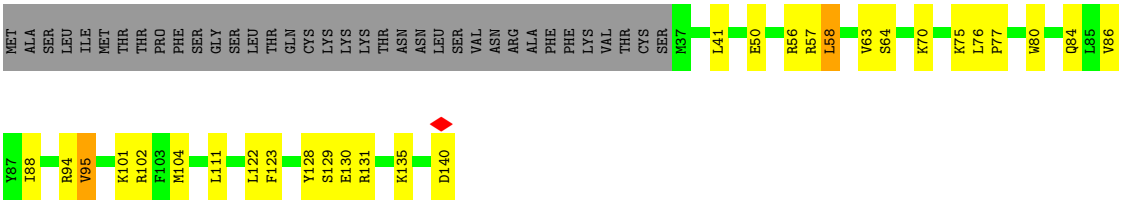
• Molecule 17: FLN2

Chain S:



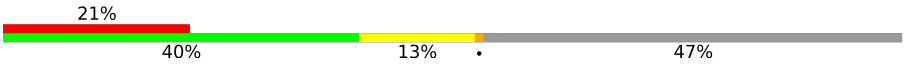
• Molecule 18: pTAC18

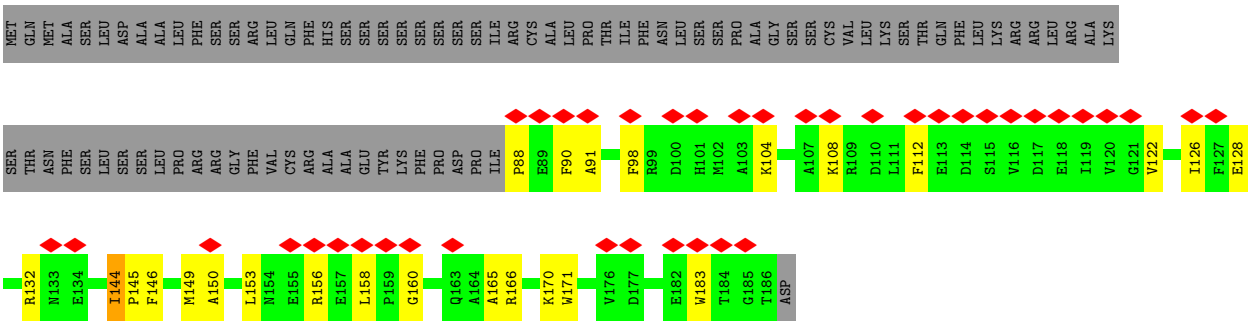
Chain T:



• Molecule 19: PRIN2, PLASTID REDOX INSENSITIVE 2

Chain U:





4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	105796	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	51	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2400	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	0.050	Depositor
Minimum map value	-0.001	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.002	Depositor
Recommended contour level	0.00912	Depositor
Map size (Å)	370.99997, 370.99997, 370.99997	wwPDB
Map dimensions	350, 350, 350	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.06, 1.06, 1.06	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: ZN, FE, K, CA, SAH, DTT

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	0.15	0/2648	0.26	0/3581
1	B	0.14	0/2229	0.24	0/3015
2	C	0.14	0/7746	0.25	0/10464
3	D	0.13	0/5106	0.25	0/6906
4	E	0.15	1/8382 (0.0%)	0.27	0/11327
5	F	0.11	0/5246	0.26	0/7091
6	G	0.11	0/3908	0.31	2/5287 (0.0%)
7	H	0.13	0/4752	0.26	0/6409
8	I	0.11	0/1826	0.24	0/2480
9	J	0.15	0/2156	0.26	0/2904
10	K	0.15	0/3250	0.26	0/4413
11	L	0.11	0/3559	0.24	0/4817
12	M	0.13	0/1931	0.22	0/2614
13	N	0.11	0/1886	0.26	0/2566
14	O	0.15	0/952	0.25	0/1284
14	P	0.13	0/900	0.27	0/1216
15	Q	0.12	0/3421	0.29	2/4643 (0.0%)
16	R	0.11	0/1089	0.24	0/1462
17	S	0.14	0/3222	0.24	0/4360
18	T	0.12	0/906	0.26	0/1226
19	U	0.10	0/812	0.24	0/1097
All	All	0.13	1/65927 (0.0%)	0.26	4/89162 (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
3	D	0	1
5	F	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
11	L	0	1
All	All	0	3

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	E	12	LYS	C-N	-5.28	1.30	1.33

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	G	761	PRO	N-CA-CB	7.90	111.54	103.25
6	G	726	PRO	N-CA-CB	6.76	110.43	103.00
15	Q	337	PRO	N-CA-CB	6.19	110.07	103.39
15	Q	326	LEU	CB-CA-C	-5.62	110.08	116.54

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
3	D	663	ARG	Sidechain
5	F	71	ARG	Sidechain
11	L	141	PHE	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	2595	0	2624	42	0
1	B	2188	0	2210	51	0
2	C	7594	0	7673	199	0
3	D	4992	0	5050	124	0
4	E	8219	0	8285	228	0
5	F	5141	0	5092	118	0
6	G	4604	0	3835	108	0
7	H	4623	0	4480	128	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
8	I	1772	0	1698	40	0
9	J	2104	0	2056	42	0
10	K	3167	0	3082	58	0
11	L	3467	0	3403	78	0
12	M	1885	0	1832	33	0
13	N	1832	0	1755	51	0
14	O	936	0	931	26	0
14	P	885	0	878	21	0
15	Q	3362	0	3227	101	0
16	R	1069	0	1058	26	0
17	S	3153	0	3113	46	0
18	T	881	0	858	17	0
19	U	793	0	766	15	0
20	D	8	0	9	1	0
21	E	1	0	0	0	0
22	I	1	0	0	0	0
22	N	1	0	0	0	0
23	K	1	0	0	0	0
23	S	1	0	0	0	0
24	K	1	0	0	0	0
25	L	26	0	19	5	0
All	All	65302	0	63934	1338	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 10.

All (1338) 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:288:VAL:CG1	5:F:307:LEU:HD21	1.84	1.06
14:P:120:MET:HE3	17:S:563:GLY:HA3	1.42	1.01
15:Q:371:GLY:HA3	15:Q:406:MET:HE1	1.42	0.97
10:K:434:THR:HG21	10:K:440:GLY:HA3	1.46	0.95
5:F:288:VAL:HG12	5:F:307:LEU:HD21	1.47	0.94
6:G:999:MET:HE1	6:G:1004:ILE:HD12	1.48	0.93
2:C:63:LEU:HD23	9:J:429:ARG:CD	1.98	0.92
6:G:976:LEU:HD13	6:G:999:MET:SD	2.12	0.91
15:Q:380:VAL:HB	15:Q:406:MET:HG2	1.55	0.87
1:B:269:PHE:CE1	1:B:295:LEU:HB3	2.10	0.85
2:C:63:LEU:HD23	9:J:429:ARG:NE	1.92	0.84
4:E:795:THR:HG22	7:H:608:ILE:HG23	1.59	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:F:288:VAL:HG12	5:F:307:LEU:CD2	2.09	0.82
14:O:108:CYS:HB2	14:O:151:LEU:HD23	1.61	0.81
4:E:867:LEU:HD13	7:H:416:MET:HG3	1.61	0.81
5:F:522:LYS:HD2	5:F:522:LYS:O	1.81	0.81
14:P:120:MET:HE3	17:S:563:GLY:CA	2.11	0.80
5:F:288:VAL:HG11	5:F:307:LEU:HD21	1.64	0.80
15:Q:371:GLY:HA3	15:Q:406:MET:CE	2.12	0.80
5:F:71:ARG:HH21	5:F:102:LEU:HD12	1.49	0.78
18:T:58:LEU:HD12	18:T:63:VAL:HG21	1.65	0.78
7:H:446:LYS:HB2	7:H:449:GLU:HB3	1.67	0.77
9:J:235:TRP:O	9:J:236:ASN:ND2	2.18	0.76
15:Q:371:GLY:CA	15:Q:406:MET:HE1	2.14	0.76
4:E:12:LYS:HD3	4:E:13:VAL:H	1.51	0.75
3:D:510:ARG:HD2	3:D:514:PHE:CE1	2.22	0.75
15:Q:478:ILE:HD11	15:Q:498:THR:HB	1.67	0.75
13:N:88:ILE:CG2	13:N:93:LEU:CD1	2.65	0.74
6:G:1194:SER:HG	6:G:1207:CYS:HG	1.35	0.74
6:G:999:MET:CE	6:G:1004:ILE:HD12	2.17	0.74
6:G:1034:MET:SD	6:G:1037:ASN:ND2	2.61	0.74
1:B:269:PHE:CE1	1:B:295:LEU:CB	2.70	0.73
10:K:193:CYS:HB3	14:O:166:ILE:HD11	1.69	0.73
2:C:882:ARG:HD3	9:J:395:ILE:HD12	1.71	0.73
6:G:1034:MET:HE2	6:G:1047:GLY:HA3	1.70	0.73
7:H:445:ARG:HB2	7:H:466:LYS:HD3	1.71	0.72
4:E:65:ILE:HD11	4:E:115:MET:HA	1.70	0.72
17:S:451:ILE:HD11	17:S:509:MET:HB3	1.71	0.72
1:B:269:PHE:HE1	1:B:295:LEU:HB3	1.51	0.72
4:E:617:PHE:HA	4:E:838:CYS:HA	1.71	0.71
6:G:1160:VAL:HG23	6:G:1206:MET:HB3	1.72	0.71
13:N:88:ILE:CG2	13:N:93:LEU:HD11	2.20	0.71
3:D:302:ARG:HD3	3:D:327:LEU:HB3	1.71	0.71
4:E:1073:PHE:HB3	7:H:87:ILE:HB	1.70	0.71
13:N:88:ILE:HG21	13:N:93:LEU:CD1	2.20	0.71
2:C:875:LEU:HB2	2:C:945:GLY:HA2	1.72	0.71
4:E:603:ILE:HG13	7:H:458:THR:HG21	1.72	0.71
6:G:1012:CYS:HB2	6:G:1088:ALA:HB2	1.72	0.71
5:F:377:ARG:HH21	5:F:472:GLU:HB2	1.53	0.70
5:F:410:ARG:HE	5:F:816:VAL:HG21	1.55	0.70
1:B:269:PHE:HD1	1:B:269:PHE:O	1.74	0.70
5:F:405:MET:HE2	5:F:409:TYR:HA	1.74	0.70
13:N:205:THR:HB	13:N:209:VAL:HG13	1.73	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:473:THR:HB	4:E:1111:PRO:HD3	1.73	0.69
15:Q:589:ILE:HB	15:Q:715:VAL:HG12	1.73	0.69
2:C:328:ALA:HB2	2:C:364:THR:HG21	1.73	0.69
11:L:83:LYS:HB3	16:R:58:LEU:HD21	1.75	0.69
4:E:4:ARG:HB2	16:R:61:LYS:HA	1.74	0.69
4:E:795:THR:HG22	7:H:608:ILE:HD12	1.73	0.69
4:E:887:ARG:NH2	7:H:523:GLU:OE2	2.24	0.69
1:A:19:GLU:OE1	1:A:31:ARG:NH2	2.26	0.69
1:B:123:LEU:HD11	1:B:129:ILE:HG12	1.75	0.69
3:D:316:THR:CG2	3:D:319:GLU:OE2	2.41	0.68
4:E:1021:SER:O	4:E:1032:ASN:ND2	2.26	0.68
4:E:859:PHE:HB3	4:E:872:ILE:HG13	1.74	0.68
4:E:491:PHE:HE2	4:E:936:GLN:HB2	1.57	0.68
8:I:181:VAL:HG11	8:I:200:PRO:HG2	1.74	0.68
17:S:222:ARG:HG3	17:S:476:GLU:HB3	1.75	0.68
4:E:836:ARG:NH2	7:H:592:ILE:O	2.27	0.68
14:P:91:VAL:HA	14:P:95:ARG:HE	1.58	0.68
2:C:401:LEU:HD12	2:C:410:ILE:HD12	1.75	0.68
11:L:116:ARG:NH1	16:R:135:ASP:OD2	2.27	0.68
18:T:50:GLU:HB2	18:T:111:LEU:HB3	1.76	0.68
13:N:246:GLU:HG3	13:N:247:LYS:HG2	1.75	0.68
15:Q:648:ASP:OD1	15:Q:719:LYS:NZ	2.27	0.68
2:C:180:ILE:HA	2:C:183:LEU:HB2	1.76	0.67
3:D:316:THR:HG22	3:D:319:GLU:OE2	1.94	0.67
5:F:147:LEU:HB3	5:F:163:LEU:HD13	1.77	0.67
1:B:161:MET:SD	1:B:161:MET:N	2.67	0.67
3:D:38:THR:O	3:D:304:ASN:ND2	2.25	0.67
2:C:627:GLN:HE22	2:C:648:GLY:H	1.41	0.67
6:G:1175:ARG:NH2	6:G:1198:THR:O	2.28	0.67
16:R:75:ILE:HG23	16:R:80:LYS:HB2	1.77	0.67
2:C:305:ASP:O	2:C:311:ASN:ND2	2.28	0.67
15:Q:371:GLY:N	15:Q:413:ALA:O	2.28	0.67
3:D:454:ARG:HH11	3:D:456:PRO:HG2	1.59	0.66
6:G:916:GLY:HA2	6:G:1128:ARG:HG2	1.76	0.66
14:O:114:MET:HE2	14:O:171:LEU:HD23	1.77	0.66
2:C:339:THR:HG21	2:C:355:LEU:HA	1.77	0.66
17:S:291:ARG:NH2	17:S:339:GLU:OE1	2.28	0.66
10:K:357:THR:HG22	10:K:363:LEU:HD22	1.78	0.66
4:E:1168:ARG:NH1	5:F:741:PHE:O	2.28	0.66
11:L:288:ASN:ND2	11:L:321:GLU:OE2	2.28	0.66
4:E:795:THR:CG2	7:H:608:ILE:HG23	2.26	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:209:VAL:HG13	4:E:210:VAL:HG13	1.78	0.66
13:N:88:ILE:HG23	13:N:93:LEU:HD11	1.77	0.66
2:C:504:ARG:NH1	4:E:1126:GLY:O	2.30	0.65
15:Q:647:SER:HB2	15:Q:650:PRO:HG3	1.77	0.65
4:E:218:THR:HA	4:E:301:ARG:HG3	1.78	0.65
5:F:437:VAL:HG13	5:F:442:LEU:HD11	1.77	0.65
17:S:292:SER:HA	17:S:333:ASN:HD22	1.60	0.65
16:R:93:GLU:HG2	16:R:99:PHE:HB2	1.76	0.65
2:C:1067:ILE:HD11	5:F:260:ILE:HD11	1.78	0.65
4:E:12:LYS:CD	4:E:12:LYS:H	2.09	0.65
6:G:936:ARG:HB3	6:G:941:PHE:HE1	1.60	0.65
7:H:370:ASN:HD22	7:H:373:GLU:HG3	1.59	0.65
7:H:584:MET:SD	7:H:585:LYS:N	2.69	0.65
10:K:388:ASP:HB2	10:K:435:ILE:HD13	1.78	0.65
14:P:182:ASP:OD1	14:P:183:ASN:N	2.30	0.65
15:Q:648:ASP:O	15:Q:725:GLN:NE2	2.27	0.65
11:L:452:ARG:NH1	11:L:454:THR:OG1	2.29	0.65
1:B:269:PHE:HE1	1:B:295:LEU:CB	2.06	0.64
2:C:391:ARG:NH2	2:C:439:SER:O	2.30	0.64
3:D:255:ILE:HD11	5:F:467:TYR:HD1	1.63	0.64
2:C:23:PHE:HD2	9:J:416:MET:HE2	1.63	0.64
4:E:955:VAL:HG22	4:E:1065:THR:HG22	1.79	0.64
2:C:63:LEU:CD2	9:J:429:ARG:NE	2.61	0.64
4:E:288:ARG:HB3	4:E:303:CYS:HA	1.78	0.64
13:N:88:ILE:CG2	13:N:93:LEU:HD12	2.28	0.64
4:E:308:PRO:HG3	4:E:1219:ARG:HH21	1.61	0.64
7:H:133:ILE:HG22	7:H:135:GLU:H	1.63	0.64
5:F:410:ARG:NH2	5:F:414:SER:O	2.31	0.64
1:B:50:ARG:NH1	1:B:182:ALA:O	2.31	0.64
4:E:1168:ARG:HH12	5:F:740:TRP:HB3	1.63	0.63
4:E:415:TYR:HB2	9:J:227:THR:HG21	1.79	0.63
14:O:105:ALA:HB3	14:O:151:LEU:HD21	1.78	0.63
14:O:173:PRO:HD2	14:O:176:MET:HE3	1.81	0.63
1:A:303:GLN:NE2	11:L:58:LEU:O	2.32	0.63
2:C:638:GLN:NE2	9:J:403:ASP:OD1	2.31	0.63
4:E:572:ARG:NH1	4:E:573:ARG:O	2.32	0.63
4:E:1161:ILE:O	4:E:1204:LYS:NZ	2.29	0.63
14:P:81:LYS:HZ3	14:P:135:ASP:H	1.46	0.63
14:O:147:GLN:O	14:O:167:ARG:NH1	2.31	0.63
15:Q:590:VAL:HA	15:Q:716:VAL:HG22	1.81	0.63
1:A:39:LYS:O	1:B:155:ARG:NH2	2.28	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:306:MET:O	2:C:312:LYS:NZ	2.31	0.63
6:G:1037:ASN:O	6:G:1039:VAL:N	2.30	0.63
2:C:171:ARG:HB3	2:C:177:LYS:HA	1.81	0.62
15:Q:538:LEU:O	15:Q:542:ASN:ND2	2.31	0.62
1:B:21:ARG:NH2	16:R:69:GLU:OE2	2.32	0.62
4:E:1248:LEU:HD21	4:E:1272:LEU:HD21	1.80	0.62
1:A:100:LEU:O	1:A:104:ARG:NH2	2.31	0.62
2:C:723:ASP:OD1	2:C:727:ILE:N	2.31	0.62
4:E:1144:GLN:HB2	4:E:1148:LYS:HB2	1.81	0.62
5:F:418:GLU:HB2	5:F:823:ARG:HH12	1.64	0.62
5:F:891:ARG:O	5:F:894:ASN:ND2	2.32	0.62
6:G:976:LEU:CD1	6:G:999:MET:SD	2.87	0.62
13:N:88:ILE:HG21	13:N:93:LEU:HD12	1.81	0.62
2:C:440:ILE:HD12	2:C:523:PHE:HB3	1.81	0.62
6:G:744:ILE:HA	6:G:772:LEU:HD21	1.79	0.62
6:G:1014:MET:HE3	6:G:1014:MET:H	1.65	0.62
11:L:467:MET:O	11:L:471:LYS:N	2.29	0.62
15:Q:755:ILE:HD12	15:Q:764:LEU:HD22	1.81	0.62
5:F:497:GLU:HB3	5:F:500:PRO:HG2	1.80	0.62
16:R:106:GLU:OE1	16:R:132:ARG:NH1	2.32	0.62
4:E:573:ARG:HH21	7:H:400:ASP:HA	1.65	0.62
4:E:867:LEU:HD21	7:H:417:ILE:HD13	1.81	0.62
6:G:999:MET:CE	6:G:1004:ILE:CD1	2.78	0.62
15:Q:355:THR:OG1	15:Q:545:ASN:ND2	2.32	0.62
17:S:269:LYS:HE2	17:S:296:ASP:HB2	1.82	0.62
2:C:792:TRP:HE3	2:C:806:ILE:HD11	1.65	0.62
4:E:477:TRP:NE1	7:H:86:GLU:OE2	2.31	0.62
4:E:1152:VAL:HA	4:E:1161:ILE:HG22	1.81	0.62
12:M:127:ASP:HB2	12:M:130:MET:HG2	1.82	0.62
5:F:775:GLU:OE2	5:F:779:LYS:NZ	2.32	0.61
8:I:77:GLY:O	8:I:81:ARG:NH1	2.34	0.61
5:F:71:ARG:NH1	11:L:485:PHE:CD1	2.67	0.61
17:S:380:PRO:HD2	17:S:383:LEU:HD22	1.81	0.61
18:T:76:LEU:HB3	18:T:122:LEU:HB2	1.82	0.61
3:D:534:ASP:OD1	3:D:534:ASP:N	2.30	0.61
13:N:215:ASP:O	13:N:264:ARG:NH2	2.31	0.61
2:C:63:LEU:HD23	9:J:429:ARG:HD3	1.83	0.61
12:M:248:GLU:OE1	12:M:277:ARG:NH1	2.34	0.61
15:Q:515:LEU:HB3	15:Q:609:LEU:HD13	1.82	0.61
4:E:904:PHE:O	18:T:94:ARG:NH1	2.34	0.61
2:C:675:ILE:HG22	2:C:852:MET:HG2	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:203:THR:HG22	4:E:329:GLY:HA3	1.81	0.61
15:Q:369:ARG:NH2	15:Q:409:ASN:OD1	2.32	0.61
2:C:251:PHE:N	2:C:254:GLN:OE1	2.34	0.61
4:E:1234:VAL:HA	4:E:1267:TYR:HA	1.81	0.61
2:C:88:TRP:O	2:C:92:ARG:N	2.34	0.61
2:C:814:ARG:HH12	2:C:956:VAL:HA	1.66	0.61
9:J:225:GLU:N	9:J:225:GLU:OE1	2.33	0.61
4:E:493:ILE:O	7:H:380:ARG:NH1	2.34	0.60
4:E:82:LEU:HD21	4:E:96:LYS:HA	1.82	0.60
6:G:942:ASN:HB3	6:G:975:THR:HG22	1.84	0.60
1:B:64:ARG:NH2	1:B:169:SER:O	2.35	0.60
2:C:891:GLU:O	9:J:247:ARG:NH2	2.33	0.60
3:D:160:LEU:HD21	15:Q:764:LEU:HD12	1.83	0.60
4:E:98:ARG:NH1	4:E:375:ARG:O	2.34	0.60
6:G:1015:LEU:HB3	6:G:1030:LEU:HD23	1.83	0.60
8:I:181:VAL:HG12	8:I:207:PRO:HA	1.84	0.60
1:B:93:GLU:OE2	3:D:605:ARG:NH2	2.35	0.60
6:G:817:VAL:HA	6:G:820:LEU:HD12	1.83	0.60
7:H:505:ARG:NH1	7:H:508:GLU:OE2	2.33	0.60
19:U:112:PHE:HE1	19:U:160:GLY:HA3	1.67	0.60
2:C:549:ASN:OD1	2:C:552:ARG:NH2	2.34	0.60
4:E:616:ALA:O	4:E:839:LEU:N	2.34	0.60
4:E:3:GLU:OE1	11:L:91:ARG:NH2	2.34	0.59
4:E:315:GLU:OE1	16:R:96:ARG:NH1	2.34	0.59
6:G:1068:ASP:O	6:G:1071:ASN:ND2	2.35	0.59
4:E:12:LYS:H	4:E:12:LYS:HD2	1.66	0.59
11:L:339:TYR:O	25:L:801:SAH:O3'	2.16	0.59
6:G:1155:LEU:HD11	6:G:1209:ARG:HG3	1.84	0.59
14:P:120:MET:CE	17:S:563:GLY:HA3	2.25	0.59
5:F:356:LYS:NZ	5:F:394:ASP:O	2.35	0.59
7:H:103:GLU:HG2	7:H:104:GLU:HG3	1.85	0.59
12:M:171:VAL:HG21	12:M:258:LYS:HB3	1.84	0.59
13:N:60:LEU:CD1	13:N:64:MET:O	2.50	0.59
13:N:68:THR:HG22	13:N:231:LEU:HB3	1.85	0.59
13:N:88:ILE:HG23	13:N:93:LEU:CD1	2.32	0.59
3:D:454:ARG:HH21	3:D:488:ALA:HA	1.67	0.59
4:E:1095:GLN:HG2	7:H:284:THR:HB	1.85	0.59
8:I:215:GLU:HB2	13:N:226:GLU:HB2	1.84	0.59
1:B:106:ALA:HB3	1:B:149:LEU:HB2	1.83	0.59
11:L:104:PHE:N	25:L:801:SAH:OXT	2.35	0.59
15:Q:615:ILE:HB	15:Q:714:VAL:HG12	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:S:489:ALA:HB2	17:S:533:LEU:HD22	1.85	0.59
6:G:1015:LEU:HD13	6:G:1092:LEU:HD11	1.84	0.59
10:K:198:ILE:HD11	14:O:157:ILE:HD12	1.84	0.59
1:B:269:PHE:O	1:B:269:PHE:CD1	2.55	0.59
2:C:791:ARG:HG2	2:C:807:ARG:HH21	1.68	0.59
5:F:288:VAL:CG1	5:F:307:LEU:CD2	2.70	0.59
2:C:89:LYS:HZ3	7:H:595:LYS:HB2	1.68	0.59
2:C:719:LEU:HD23	2:C:739:ILE:HG21	1.85	0.59
6:G:999:MET:HE1	6:G:1004:ILE:CD1	2.30	0.59
15:Q:343:VAL:HG13	15:Q:414:LEU:HD12	1.83	0.59
2:C:280:PHE:HZ	7:H:576:SER:HA	1.67	0.58
2:C:513:GLU:OE1	10:K:332:ARG:NH1	2.36	0.58
4:E:859:PHE:HA	4:E:872:ILE:HA	1.85	0.58
4:E:1151:GLN:NE2	4:E:1160:SER:O	2.36	0.58
10:K:323:ALA:HB1	10:K:328:GLN:HB3	1.85	0.58
11:L:199:LEU:HD11	11:L:336:MET:HE3	1.84	0.58
16:R:55:ASP:OD1	16:R:58:LEU:N	2.36	0.58
6:G:821:PHE:HB2	6:G:839:ILE:HD13	1.85	0.58
8:I:233:PHE:HA	8:I:237:LEU:HB2	1.85	0.58
1:B:56:GLU:O	1:B:221:ASN:ND2	2.36	0.58
4:E:1025:ASP:OD2	7:H:218:CYS:N	2.31	0.58
4:E:623:TYR:O	4:E:833:GLN:NE2	2.31	0.58
7:H:295:ILE:HD11	7:H:340:LEU:HD13	1.86	0.58
11:L:197:SER:OG	25:L:801:SAH:O2'	2.11	0.58
2:C:709:LYS:HD2	2:C:724:LYS:HA	1.85	0.58
3:D:161:ARG:NH2	15:Q:680:ASP:OD2	2.37	0.58
15:Q:469:PRO:HA	15:Q:494:VAL:HG22	1.85	0.58
18:T:80:TRP:NE1	18:T:84:GLN:OE1	2.27	0.58
2:C:78:SER:HB2	2:C:106:LEU:HD11	1.85	0.58
4:E:476:LEU:HD21	4:E:1115:VAL:HG22	1.84	0.58
4:E:1008:GLN:OE1	4:E:1011:ASN:ND2	2.37	0.58
5:F:293:THR:HG22	5:F:331:CYS:HB2	1.86	0.58
5:F:101:GLY:O	6:G:1201:ASN:ND2	2.29	0.58
6:G:1169:GLU:HB3	6:G:1201:ASN:HD21	1.69	0.58
11:L:281:ILE:HG21	11:L:306:LEU:HD23	1.85	0.58
3:D:64:ILE:HA	3:D:100:ARG:HD2	1.86	0.58
4:E:795:THR:HG22	7:H:608:ILE:CG2	2.32	0.58
7:H:503:LEU:HD23	7:H:505:ARG:H	1.68	0.58
8:I:74:VAL:HA	8:I:78:LYS:HG2	1.86	0.58
11:L:448:LEU:HG	16:R:36:ILE:HD11	1.86	0.58
2:C:73:SER:HA	2:C:117:GLY:HA3	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:900:LYS:HG3	9:J:383:TRP:HD1	1.68	0.57
3:D:624:TYR:HB3	12:M:282:LEU:HB3	1.86	0.57
3:D:663:ARG:NH2	3:D:667:GLU:OE2	2.37	0.57
11:L:126:HIS:HB2	11:L:304:ARG:HB3	1.85	0.57
1:A:282:ARG:HD3	17:S:193:ILE:HD11	1.86	0.57
6:G:140:UNK:O	6:G:142:UNK:N	2.36	0.57
10:K:289:TRP:NE1	10:K:346:LEU:O	2.34	0.57
2:C:424:ILE:HD11	4:E:178:TYR:HE2	1.68	0.57
3:D:257:THR:O	5:F:455:LYS:NZ	2.34	0.57
7:H:315:HIS:O	7:H:318:ARG:NH2	2.38	0.57
15:Q:371:GLY:CA	15:Q:406:MET:CE	2.80	0.57
2:C:192:ARG:HA	2:C:195:LEU:HD13	1.85	0.57
4:E:15:ASP:H	4:E:18:ALA:HB3	1.68	0.57
5:F:359:HIS:ND1	5:F:366:ASP:OD2	2.37	0.57
2:C:41:ILE:HB	2:C:50:PHE:HB3	1.87	0.57
2:C:718:LEU:HB3	2:C:739:ILE:HG22	1.85	0.57
3:D:149:ARG:NH2	3:D:158:LEU:O	2.38	0.57
4:E:1318:LEU:HD12	4:E:1320:GLY:H	1.69	0.57
3:D:121:ARG:NH1	3:D:337:ASP:OD2	2.36	0.57
15:Q:607:ARG:NH2	15:Q:639:LYS:O	2.37	0.57
15:Q:640:SER:O	15:Q:689:HIS:ND1	2.36	0.57
14:O:156:PHE:HB2	14:O:166:ILE:HG23	1.87	0.57
2:C:586:GLU:HG3	14:O:78:LEU:HD11	1.86	0.57
2:C:671:ASP:OD1	2:C:862:ARG:NH2	2.38	0.57
4:E:982:THR:HA	7:H:276:MET:HA	1.87	0.57
7:H:86:GLU:OE1	7:H:96:ARG:NH1	2.29	0.57
15:Q:346:VAL:HG12	15:Q:437:VAL:HB	1.87	0.57
2:C:87:ILE:HG22	2:C:94:MET:HA	1.87	0.57
2:C:452:SER:OG	2:C:524:GLN:NE2	2.38	0.57
5:F:362:GLY:HA2	5:F:366:ASP:HB2	1.87	0.57
7:H:196:ARG:NH1	8:I:55:THR:O	2.38	0.57
12:M:128:SER:OG	12:M:129:GLU:OE1	2.23	0.56
13:N:131:ILE:HD11	13:N:244:PHE:HE1	1.69	0.56
1:B:119:ARG:HB2	1:B:132:ASN:HB2	1.87	0.56
2:C:173:SER:H	2:C:176:GLN:HB2	1.71	0.56
2:C:458:VAL:HG13	2:C:461:SER:HB3	1.87	0.56
4:E:1231:LYS:HB2	4:E:1272:LEU:HD11	1.86	0.56
4:E:1261:LEU:HD22	5:F:340:GLU:HG2	1.86	0.56
7:H:133:ILE:HG23	7:H:137:GLU:HB2	1.86	0.56
4:E:293:CYS:O	4:E:1226:ARG:NH2	2.38	0.56
7:H:350:ASP:HB3	8:I:252:ALA:HA	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:K:88:ASP:OD1	10:K:88:ASP:N	2.34	0.56
10:K:333:ARG:NH2	10:K:358:ASP:OD2	2.38	0.56
12:M:128:SER:HB2	12:M:183:ARG:HG2	1.86	0.56
15:Q:360:LYS:HD2	15:Q:372:MET:HG3	1.87	0.56
1:B:283:ILE:HG21	1:B:320:LEU:HD13	1.87	0.56
2:C:101:ILE:HG22	2:C:361:LEU:HD22	1.87	0.56
4:E:1016:PHE:HE2	7:H:160:PRO:HD3	1.71	0.56
7:H:268:GLU:HB3	7:H:270:PRO:HD2	1.86	0.56
10:K:383:THR:OG1	10:K:386:THR:OG1	2.23	0.56
11:L:304:ARG:HD2	12:M:213:PRO:HD2	1.88	0.56
1:A:282:ARG:NH2	1:A:316:ASP:OD2	2.39	0.56
4:E:114:GLU:OE1	12:M:324:LYS:NZ	2.36	0.56
8:I:178:VAL:HB	8:I:211:LEU:HB3	1.87	0.56
2:C:63:LEU:CD2	9:J:429:ARG:CZ	2.84	0.56
4:E:895:LEU:HA	4:E:899:ASP:HB2	1.86	0.56
5:F:203:ARG:NH2	5:F:231:ASP:OD2	2.39	0.56
11:L:262:ARG:HH21	11:L:286:MET:HE1	1.71	0.56
14:P:182:ASP:OD1	14:P:183:ASN:ND2	2.39	0.56
5:F:207:ARG:HG3	5:F:239:ALA:HB1	1.87	0.56
14:O:80:ARG:HE	14:O:82:LEU:HD21	1.70	0.56
2:C:485:ASN:ND2	2:C:892:ARG:O	2.39	0.56
3:D:1:MET:N	5:F:278:MET:SD	2.79	0.56
1:A:277:LEU:HD11	1:A:295:LEU:HD12	1.88	0.55
3:D:8:GLN:HB2	4:E:1309:LEU:HD11	1.88	0.55
7:H:560:PRO:O	7:H:566:GLN:NE2	2.39	0.55
13:N:51:LYS:HD3	13:N:52:PRO:HD2	1.88	0.55
1:B:68:GLU:O	1:B:69:ASN:ND2	2.39	0.55
2:C:63:LEU:CD2	9:J:429:ARG:HD3	2.36	0.55
2:C:284:ARG:HB2	7:H:564:LEU:HG	1.89	0.55
7:H:365:ARG:N	7:H:368:ASP:OD2	2.39	0.55
8:I:215:GLU:OE1	13:N:227:HIS:N	2.39	0.55
14:O:95:ARG:NH2	14:O:158:SER:O	2.38	0.55
4:E:62:LEU:HD23	4:E:128:VAL:HG21	1.87	0.55
5:F:751:GLU:OE2	5:F:755:ARG:NH2	2.34	0.55
11:L:448:LEU:O	16:R:38:ARG:NH1	2.39	0.55
4:E:893:SER:O	4:E:896:ILE:HG12	2.05	0.55
8:I:59:PRO:HG2	8:I:62:ALA:HB2	1.89	0.55
17:S:377:LEU:HB2	17:S:406:VAL:HG12	1.88	0.55
2:C:63:LEU:CD2	9:J:429:ARG:CD	2.78	0.55
7:H:134:THR:OG1	7:H:137:GLU:OE1	2.16	0.55
3:D:158:LEU:HD12	3:D:191:GLU:HB3	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:256:ARG:NH2	5:F:297:SER:O	2.39	0.55
5:F:408:LYS:NZ	5:F:421:GLN:O	2.40	0.55
10:K:434:THR:CG2	10:K:440:GLY:HA3	2.30	0.55
4:E:1093:ILE:HB	4:E:1100:VAL:HB	1.89	0.55
2:C:1000:VAL:HG12	3:D:508:GLU:HB2	1.88	0.55
4:E:867:LEU:HD13	7:H:416:MET:CG	2.35	0.55
5:F:810:THR:OG1	5:F:813:ASP:OD1	2.25	0.55
15:Q:443:ARG:HD2	15:Q:452:ASP:HA	1.89	0.55
2:C:471:LEU:HD23	2:C:476:ASP:HA	1.89	0.55
6:G:1134:MET:CE	6:G:1183:ALA:HB2	2.37	0.55
10:K:76:LEU:O	10:K:259:LYS:NZ	2.40	0.55
2:C:934:THR:OG1	2:C:936:ASP:OD1	2.19	0.54
7:H:553:PHE:O	7:H:557:GLN:NE2	2.38	0.54
11:L:285:ASP:N	11:L:285:ASP:OD1	2.39	0.54
15:Q:698:ARG:NH1	15:Q:739:GLU:OE2	2.40	0.54
2:C:411:ARG:NH1	2:C:432:VAL:O	2.39	0.54
5:F:249:ASN:OD1	5:F:284:THR:OG1	2.25	0.54
7:H:190:HIS:ND1	8:I:98:TYR:OH	2.32	0.54
10:K:93:VAL:HG22	10:K:233:ILE:HB	1.88	0.54
12:M:231:LYS:NZ	12:M:235:ASN:OD1	2.40	0.54
2:C:357:THR:HG23	2:C:360:PRO:HD3	1.90	0.54
10:K:206:LYS:HG2	14:O:145:ASP:HB3	1.89	0.54
1:B:22:ARG:HH22	1:B:25:LYS:HG2	1.71	0.54
2:C:23:PHE:HB2	2:C:107:MET:HE3	1.90	0.54
15:Q:644:MET:HA	15:Q:692:PHE:O	2.07	0.54
3:D:314:ARG:NH1	3:D:315:SER:O	2.40	0.54
5:F:410:ARG:HH21	5:F:816:VAL:HG11	1.72	0.54
11:L:351:ILE:HD12	11:L:352:PRO:HD2	1.88	0.54
15:Q:395:ASP:O	15:Q:399:VAL:N	2.38	0.54
1:A:234:GLU:HG2	1:A:235:GLU:HG2	1.88	0.54
5:F:516:ARG:HH11	5:F:594:VAL:HG21	1.73	0.54
2:C:418:TYR:HH	4:E:183:TYR:HH	1.56	0.54
4:E:603:ILE:HG22	4:E:609:PHE:HZ	1.73	0.54
10:K:102:GLU:HG3	14:O:171:LEU:HD12	1.88	0.54
2:C:665:GLU:H	4:E:51:THR:HG1	1.56	0.54
4:E:1073:PHE:HB2	4:E:1077:VAL:HG21	1.88	0.54
3:D:104:MET:HE2	3:D:273:PRO:HD3	1.90	0.54
6:G:892:ASN:O	6:G:895:HIS:ND1	2.33	0.54
7:H:137:GLU:O	7:H:141:LYS:N	2.41	0.54
11:L:419:ALA:O	11:L:423:LEU:HG	2.08	0.54
5:F:138:ARG:NH1	5:F:172:TYR:OH	2.41	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:J:185:GLY:O	12:M:264:ARG:NH1	2.41	0.54
11:L:439:GLU:OE1	11:L:442:GLN:NE2	2.41	0.54
14:O:99:LEU:HB3	14:O:157:ILE:HB	1.89	0.54
14:O:177:MET:O	14:O:181:ILE:HG12	2.08	0.53
1:B:91:LEU:HD23	1:B:136:ILE:HD12	1.90	0.53
4:E:948:ARG:HD2	4:E:1098:SER:HB2	1.90	0.53
6:G:978:ALA:O	6:G:981:SER:OG	2.20	0.53
6:G:1031:LEU:HA	6:G:1034:MET:HB3	1.90	0.53
10:K:383:THR:HG1	10:K:386:THR:HG1	1.53	0.53
15:Q:606:VAL:HA	15:Q:609:LEU:HD23	1.90	0.53
4:E:1024:ILE:HD11	7:H:164:ARG:NE	2.24	0.53
6:G:772:LEU:O	6:G:776:ASN:ND2	2.33	0.53
13:N:153:SER:OG	13:N:156:ASP:OD1	2.26	0.53
15:Q:330:ALA:HB2	15:Q:397:VAL:HG13	1.90	0.53
1:A:56:GLU:O	1:A:221:ASN:ND2	2.36	0.53
5:F:407:ARG:NH2	15:Q:672:GLU:OE1	2.28	0.53
10:K:271:PRO:HD2	10:K:274:LEU:HD12	1.90	0.53
12:M:210:ILE:HG23	12:M:215:ASP:HB2	1.90	0.53
1:B:269:PHE:CE1	1:B:295:LEU:HB2	2.42	0.53
1:B:275:ASP:OD1	1:B:284:TYR:OH	2.24	0.53
17:S:481:THR:HG22	17:S:539:TYR:CZ	2.44	0.53
1:A:194:GLU:OE2	1:A:196:GLN:NE2	2.37	0.53
5:F:130:ARG:O	5:F:134:GLY:N	2.37	0.53
7:H:164:ARG:HH11	7:H:192:LEU:HB3	1.74	0.53
3:D:347:ASP:CG	3:D:348:GLY:H	2.16	0.53
3:D:483:CYS:O	3:D:488:ALA:N	2.37	0.53
3:D:644:LYS:NZ	12:M:238:LEU:O	2.42	0.53
4:E:149:MET:HE3	4:E:166:GLN:HA	1.90	0.53
10:K:389:ARG:O	10:K:392:SER:OG	2.19	0.53
11:L:121:ILE:HG22	11:L:122:MET:HG3	1.91	0.53
13:N:60:LEU:HD13	13:N:64:MET:O	2.09	0.53
2:C:451:GLU:HB3	2:C:470:PHE:HB3	1.91	0.53
2:C:1003:ILE:N	3:D:508:GLU:OE2	2.36	0.53
4:E:304:TYR:CD2	4:E:314:VAL:HG21	2.44	0.53
4:E:604:PRO:HG2	4:E:608:ILE:H	1.72	0.53
4:E:1157:SER:OG	4:E:1159:ASP:OD1	2.26	0.53
5:F:314:ASP:OD2	5:F:317:ARG:NH1	2.42	0.53
5:F:594:VAL:HG22	5:F:596:GLU:H	1.74	0.53
6:G:1134:MET:HE2	6:G:1183:ALA:HB2	1.91	0.53
6:G:1155:LEU:HB2	6:G:1212:LEU:HD11	1.91	0.53
15:Q:702:ARG:NE	15:Q:739:GLU:OE1	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:F:116:HIS:HB3	5:F:121:ASP:HB2	1.91	0.53
9:J:390:PRO:HB2	9:J:392:ILE:HG22	1.91	0.53
14:O:158:SER:HA	14:O:185:MET:HG2	1.90	0.53
5:F:274:GLY:O	5:F:279:LYS:NZ	2.42	0.53
5:F:377:ARG:HD3	5:F:469:ASN:HB3	1.91	0.53
15:Q:398:LEU:HD13	15:Q:402:MET:HE1	1.91	0.53
15:Q:580:ILE:HG23	15:Q:588:VAL:HB	1.91	0.53
2:C:47:GLU:HA	2:C:89:LYS:H	1.75	0.52
5:F:342:ILE:HD13	5:F:383:GLU:HG2	1.90	0.52
5:F:346:ARG:HA	5:F:349:LYS:HD3	1.92	0.52
5:F:511:MET:SD	5:F:511:MET:N	2.82	0.52
11:L:127:GLU:HG2	11:L:128:LEU:HD12	1.91	0.52
13:N:229:TYR:HB2	13:N:233:PHE:HE1	1.74	0.52
14:P:172:ILE:HG13	14:P:173:PRO:HD2	1.92	0.52
11:L:183:TRP:HZ3	11:L:190:LEU:HD11	1.74	0.52
13:N:229:TYR:HB2	13:N:233:PHE:CE1	2.44	0.52
18:T:41:LEU:HD11	18:T:102:ARG:HB2	1.92	0.52
4:E:1198:ARG:NH1	4:E:1229:THR:OG1	2.43	0.52
8:I:258:GLU:HG2	8:I:259:PRO:HD2	1.91	0.52
9:J:263:MET:SD	9:J:295:ARG:NH2	2.80	0.52
11:L:453:THR:N	16:R:35:GLY:HA3	2.24	0.52
17:S:592:GLU:N	17:S:592:GLU:OE1	2.42	0.52
3:D:34:VAL:HB	3:D:59:ARG:HH22	1.74	0.52
6:G:939:ASP:HA	6:G:942:ASN:HD21	1.74	0.52
6:G:1157:GLN:OE1	6:G:1157:GLN:N	2.41	0.52
8:I:216:HIS:N	13:N:226:GLU:OE1	2.43	0.52
4:E:1038:ASN:HB2	4:E:1051:LEU:HB2	1.92	0.52
5:F:280:PRO:O	5:F:317:ARG:NH2	2.38	0.52
15:Q:434:ASP:O	15:Q:472:HIS:HB3	2.10	0.52
5:F:75:MET:O	5:F:79:MET:HG2	2.09	0.52
15:Q:540:ARG:HA	15:Q:543:ILE:HG12	1.92	0.52
2:C:332:LEU:HD23	2:C:360:PRO:HG2	1.91	0.52
2:C:670:GLU:HB2	3:D:490:PHE:HD2	1.74	0.52
4:E:437:ARG:HG2	4:E:1135:GLU:HG2	1.92	0.52
4:E:1024:ILE:HG22	4:E:1030:ILE:HA	1.91	0.52
7:H:284:THR:HG23	7:H:292:PHE:HB2	1.91	0.52
2:C:579:VAL:HG12	2:C:643:GLY:HA3	1.91	0.52
3:D:619:PRO:HG3	3:D:634:TYR:CZ	2.45	0.52
3:D:631:HIS:HB3	3:D:638:LEU:HD11	1.91	0.52
4:E:1256:ARG:HB3	5:F:309:GLY:HA3	1.92	0.52
6:G:816:GLU:O	6:G:819:THR:OG1	2.24	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:Q:398:LEU:O	15:Q:401:SER:OG	2.25	0.52
1:A:141:GLU:HG3	1:A:143:ILE:HG23	1.92	0.52
2:C:588:LYS:NZ	2:C:633:CYS:SG	2.78	0.52
3:D:179:PHE:O	3:D:180:THR:OG1	2.28	0.52
4:E:228:VAL:HG21	4:E:246:LEU:HD21	1.92	0.52
4:E:458:HIS:N	7:H:68:GLU:OE2	2.33	0.52
6:G:1045:VAL:HG21	6:G:1066:VAL:HG21	1.92	0.52
7:H:164:ARG:NH1	7:H:192:LEU:O	2.43	0.51
9:J:306:GLU:HB3	9:J:310:ALA:HB3	1.93	0.51
11:L:445:LEU:O	16:R:38:ARG:NH1	2.39	0.51
15:Q:538:LEU:C	15:Q:542:ASN:HD21	2.17	0.51
1:B:112:GLY:HA3	1:B:142:PRO:HA	1.91	0.51
4:E:869:ARG:NE	7:H:416:MET:SD	2.79	0.51
4:E:1025:ASP:OD1	4:E:1026:GLU:N	2.38	0.51
5:F:597:LEU:HA	5:F:600:ARG:HH21	1.75	0.51
6:G:850:GLU:OE1	6:G:850:GLU:N	2.35	0.51
4:E:990:TYR:CE1	8:I:242:ALA:HA	2.46	0.51
4:E:1159:ASP:HB2	4:E:1163:LEU:HD23	1.92	0.51
6:G:996:PHE:CD1	6:G:1014:MET:SD	3.04	0.51
10:K:199:LYS:NZ	10:K:201:GLU:OE1	2.41	0.51
14:O:105:ALA:CB	14:O:151:LEU:HD21	2.41	0.51
15:Q:460:ALA:HB1	15:Q:489:GLN:HG3	1.91	0.51
3:D:479:HIS:CE1	3:D:481:LEU:HB2	2.45	0.51
5:F:225:ASP:OD1	5:F:228:ASN:ND2	2.42	0.51
10:K:378:GLU:CD	10:K:389:ARG:HH12	2.17	0.51
12:M:160:ASP:OD1	12:M:160:ASP:N	2.43	0.51
15:Q:511:LEU:HD11	15:Q:530:ILE:HD12	1.93	0.51
3:D:539:LEU:HB3	4:E:14:ILE:HD11	1.93	0.51
3:D:621:GLU:OE2	3:D:623:HIS:NE2	2.40	0.51
6:G:1062:ILE:HA	6:G:1065:TYR:HB3	1.93	0.51
12:M:134:TYR:HH	12:M:170:TYR:HH	1.54	0.51
19:U:88:PRO:HA	19:U:132:ARG:HD3	1.92	0.51
4:E:455:ASP:HB2	4:E:474:SER:HB3	1.93	0.51
8:I:63:LEU:HB3	8:I:67:MET:HB3	1.93	0.51
9:J:213:HIS:ND1	9:J:214:PRO:O	2.43	0.51
3:D:542:LEU:HD23	3:D:598:LEU:HD21	1.93	0.51
4:E:1001:ILE:HD12	7:H:351:HIS:HB2	1.92	0.51
6:G:869:LYS:O	6:G:872:THR:OG1	2.22	0.51
19:U:91:ALA:HB3	19:U:132:ARG:HE	1.76	0.51
1:A:119:ARG:HB2	1:A:132:ASN:HB2	1.93	0.51
1:B:232:VAL:HG23	17:S:223:LEU:HG	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:183:GLY:HA3	15:Q:698:ARG:HD2	1.92	0.51
3:D:257:THR:HG23	3:D:259:ILE:H	1.75	0.51
4:E:440:LYS:HB3	4:E:1132:PHE:HB2	1.92	0.51
5:F:405:MET:HE3	5:F:405:MET:HA	1.93	0.51
10:K:302:LEU:HD22	10:K:356:VAL:HG21	1.93	0.51
11:L:261:THR:HG22	11:L:339:TYR:HA	1.92	0.51
15:Q:342:ALA:O	15:Q:414:LEU:N	2.41	0.51
3:D:319:GLU:HG2	3:D:320:LEU:HD22	1.93	0.51
4:E:1029:ARG:HB3	4:E:1031:PHE:HE1	1.76	0.51
6:G:956:GLU:OE1	6:G:956:GLU:N	2.41	0.51
11:L:130:ILE:HB	11:L:280:MET:HB2	1.93	0.51
11:L:416:GLU:O	11:L:420:VAL:N	2.39	0.51
13:N:233:PHE:CE1	13:N:240:TYR:HB2	2.46	0.51
3:D:347:ASP:CG	3:D:348:GLY:N	2.69	0.50
6:G:1141:TRP:HE3	6:G:1142:LEU:HD22	1.75	0.50
15:Q:474:LYS:HB2	15:Q:496:VAL:HG22	1.93	0.50
15:Q:523:LEU:HG	15:Q:532:GLU:HG2	1.92	0.50
2:C:1011:LYS:HE3	3:D:378:TYR:HB2	1.93	0.50
6:G:1034:MET:HE1	6:G:1044:GLN:HA	1.92	0.50
13:N:47:GLY:N	13:N:85:ASN:OD1	2.43	0.50
19:U:128:GLU:HG3	19:U:132:ARG:NH2	2.26	0.50
2:C:662:MET:O	2:C:668:ASN:ND2	2.44	0.50
2:C:715:GLU:HG2	2:C:717:ARG:H	1.76	0.50
6:G:903:ILE:O	6:G:907:HIS:ND1	2.37	0.50
10:K:413:ASP:HB3	10:K:416:VAL:HG22	1.92	0.50
11:L:102:ASP:OD1	11:L:102:ASP:N	2.45	0.50
15:Q:538:LEU:HD11	15:Q:579:LEU:HD22	1.92	0.50
17:S:454:VAL:HB	17:S:462:HIS:HB2	1.94	0.50
4:E:573:ARG:NH2	7:H:400:ASP:HA	2.26	0.50
4:E:1235:SER:N	4:E:1266:CYS:O	2.39	0.50
17:S:383:LEU:HD21	17:S:393:LEU:HD23	1.92	0.50
4:E:359:ASN:OD1	4:E:418:SER:N	2.44	0.50
4:E:1261:LEU:HB2	4:E:1265:ILE:HD11	1.93	0.50
7:H:401:HIS:HB3	7:H:404:VAL:HG23	1.94	0.50
2:C:675:ILE:HB	2:C:679:LEU:HD12	1.92	0.50
4:E:162:ASP:OD1	4:E:162:ASP:N	2.45	0.50
6:G:1125:ASP:OD2	6:G:1165:ARG:NH2	2.44	0.50
4:E:620:ASP:O	4:E:833:GLN:NE2	2.44	0.50
4:E:1314:GLU:OE1	4:E:1314:GLU:N	2.36	0.50
5:F:312:VAL:HG23	5:F:769:VAL:HG21	1.92	0.50
7:H:489:MET:O	7:H:493:ALA:N	2.41	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:Q:379:TYR:CE1	15:Q:385:LYS:HG2	2.47	0.50
17:S:242:TYR:OH	17:S:476:GLU:OE2	2.29	0.50
17:S:291:ARG:O	17:S:333:ASN:ND2	2.44	0.50
1:A:240:GLU:OE2	1:A:243:GLN:N	2.32	0.50
2:C:388:VAL:HG11	2:C:552:ARG:HD3	1.94	0.50
5:F:859:LEU:HB2	5:F:861:GLU:OE2	2.11	0.50
7:H:409:GLN:NE2	7:H:467:THR:OG1	2.45	0.50
11:L:384:SER:HB2	11:L:387:ASP:HB2	1.93	0.50
2:C:94:MET:HE3	2:C:96:GLU:HB2	1.94	0.50
2:C:459:GLU:O	2:C:459:GLU:HG2	2.11	0.50
2:C:688:PHE:HE1	2:C:813:LYS:HG3	1.75	0.50
7:H:427:LYS:H	7:H:427:LYS:HD3	1.76	0.50
9:J:212:PRO:HA	12:M:333:TRP:O	2.12	0.50
10:K:410:MET:HG2	10:K:417:LEU:HA	1.94	0.50
2:C:531:SER:HB2	2:C:569:LEU:HD22	1.94	0.49
2:C:986:ARG:HB2	3:D:375:ARG:HD2	1.93	0.49
3:D:510:ARG:HA	3:D:514:PHE:CD1	2.46	0.49
4:E:12:LYS:CD	4:E:12:LYS:N	2.75	0.49
4:E:479:LEU:HD21	4:E:1072:PHE:HE2	1.76	0.49
4:E:894:GLY:O	4:E:897:SER:OG	2.21	0.49
5:F:768:ASP:N	5:F:768:ASP:OD1	2.44	0.49
6:G:902:SER:O	6:G:905:THR:OG1	2.23	0.49
4:E:859:PHE:HE1	7:H:453:ALA:HB3	1.77	0.49
12:M:134:TYR:OH	12:M:170:TYR:OH	2.29	0.49
13:N:107:ASN:HB3	13:N:110:ASN:HB2	1.94	0.49
18:T:56:ARG:HH21	18:T:57:ARG:HD2	1.76	0.49
2:C:161:GLU:N	2:C:161:GLU:OE1	2.46	0.49
2:C:679:LEU:HD23	2:C:684:ILE:HD12	1.94	0.49
2:C:735:GLU:HA	2:C:784:ARG:HG3	1.94	0.49
4:E:1110:THR:HG22	7:H:99:LEU:HD13	1.93	0.49
2:C:15:PHE:HE1	2:C:440:ILE:HG23	1.77	0.49
2:C:89:LYS:HG2	7:H:595:LYS:HE3	1.95	0.49
5:F:199:LEU:O	5:F:203:ARG:HG2	2.12	0.49
10:K:103:PHE:CE1	14:O:169:GLU:HB3	2.48	0.49
10:K:229:LYS:O	10:K:232:ARG:NH2	2.45	0.49
2:C:274:ILE:HD12	2:C:275:PRO:HD2	1.93	0.49
6:G:1014:MET:H	6:G:1014:MET:CE	2.25	0.49
7:H:168:PRO:HB3	7:H:273:TYR:HB2	1.92	0.49
2:C:826:HIS:NE2	2:C:870:GLU:OE1	2.40	0.49
5:F:217:ILE:HD12	5:F:247:HIS:HD2	1.78	0.49
5:F:811:ILE:HD13	5:F:842:TYR:HB3	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:G:984:SER:OG	6:G:1013:MET:HE3	2.12	0.49
7:H:309:ASP:OD2	7:H:354:PHE:N	2.44	0.49
7:H:447:GLU:HB2	7:H:466:LYS:HE2	1.94	0.49
13:N:64:MET:HE1	13:N:69:LEU:HD13	1.94	0.49
15:Q:619:GLY:HA3	15:Q:648:ASP:HB2	1.95	0.49
17:S:588:LYS:O	17:S:593:ARG:NE	2.34	0.49
6:G:1164:VAL:HG12	6:G:1203:GLY:HA3	1.95	0.49
2:C:1006:GLU:OE2	3:D:501:LEU:N	2.40	0.49
3:D:11:ARG:HB3	4:E:1306:ILE:HD13	1.93	0.49
4:E:4:ARG:O	16:R:61:LYS:NZ	2.45	0.49
4:E:1031:PHE:CZ	7:H:207:LYS:HG3	2.47	0.49
2:C:779:LEU:HD12	2:C:780:PRO:HD2	1.93	0.49
3:D:314:ARG:HH12	3:D:317:PRO:HD3	1.77	0.49
4:E:604:PRO:HD2	4:E:607:GLY:HA2	1.94	0.49
7:H:447:GLU:O	7:H:448:ILE:HB	2.13	0.49
10:K:122:TRP:HE3	14:O:112:ILE:HG12	1.78	0.49
14:P:98:PRO:HB3	14:P:185:MET:HE1	1.93	0.49
1:A:226:PHE:O	1:B:219:SER:OG	2.31	0.49
3:D:632:GLU:OE2	3:D:641:ARG:NH2	2.46	0.49
4:E:25:ARG:NH2	12:M:217:LEU:O	2.45	0.49
4:E:1047:ASN:OD1	4:E:1047:ASN:N	2.46	0.48
13:N:182:ARG:HE	13:N:268:ARG:NH1	2.11	0.48
3:D:294:GLU:HA	3:D:297:ARG:HG2	1.94	0.48
5:F:220:ASP:HB3	5:F:225:ASP:HB3	1.95	0.48
6:G:1143:ASN:O	6:G:1146:SER:OG	2.24	0.48
1:A:15:TRP:HH2	1:A:212:LYS:HE3	1.78	0.48
1:B:100:LEU:HA	17:S:505:GLN:NE2	2.28	0.48
4:E:222:THR:HB	4:E:294:ARG:HG3	1.95	0.48
4:E:1281:THR:O	4:E:1305:ARG:NH2	2.46	0.48
11:L:344:PRO:HD3	11:L:464:HIS:CE1	2.48	0.48
14:P:158:SER:HB2	14:P:185:MET:HG2	1.95	0.48
1:A:189:TYR:O	9:J:308:PRO:HG3	2.12	0.48
2:C:829:LYS:HD3	3:D:491:ASP:HB2	1.96	0.48
6:G:1125:ASP:OD1	6:G:1127:HIS:ND1	2.41	0.48
11:L:206:ASP:OD2	11:L:454:THR:OG1	2.23	0.48
13:N:84:LEU:HD11	13:N:118:ALA:HA	1.95	0.48
2:C:650:GLU:HG3	9:J:402:MET:HE3	1.96	0.48
2:C:861:SER:OG	4:E:137:ARG:NH1	2.45	0.48
9:J:186:PHE:CD1	12:M:262:ARG:HD3	2.49	0.48
2:C:711:ILE:HB	2:C:714:LEU:HD12	1.96	0.48
6:G:1194:SER:OG	6:G:1207:CYS:SG	2.54	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:H:370:ASN:ND2	7:H:373:GLU:HG3	2.28	0.48
2:C:112:THR:HG21	2:C:378:LEU:HD22	1.95	0.48
2:C:413:ILE:HD13	2:C:423:PRO:HB3	1.95	0.48
2:C:1060:VAL:O	2:C:1060:VAL:HG22	2.14	0.48
3:D:16:SER:HB3	3:D:263:TRP:CZ2	2.48	0.48
4:E:12:LYS:HD3	4:E:13:VAL:N	2.26	0.48
4:E:383:CYS:O	4:E:405:LYS:N	2.47	0.48
4:E:860:VAL:HG23	7:H:463:VAL:HB	1.95	0.48
8:I:182:LEU:HD11	8:I:256:LEU:HD21	1.95	0.48
10:K:216:ASP:OD2	14:O:149:ARG:NH1	2.47	0.48
15:Q:619:GLY:HA2	15:Q:662:MET:HE1	1.94	0.48
3:D:152:THR:H	3:D:205:ASP:CG	2.20	0.48
10:K:457:PRO:HA	10:K:460:TRP:CE2	2.49	0.48
12:M:199:ASP:HB2	12:M:224:ILE:HD12	1.95	0.48
15:Q:696:VAL:HB	15:Q:699:VAL:HG22	1.96	0.48
4:E:104:TRP:CD1	4:E:164:PRO:HG3	2.48	0.48
6:G:1034:MET:O	6:G:1037:ASN:HB2	2.14	0.48
13:N:264:ARG:O	13:N:267:GLN:NE2	2.47	0.48
1:A:164:ASN:HB3	1:A:171:PRO:HD3	1.96	0.48
2:C:958:ASP:OD1	2:C:958:ASP:N	2.47	0.48
4:E:860:VAL:N	4:E:871:PHE:O	2.37	0.48
4:E:937:SER:HB2	4:E:1122:ILE:HD12	1.96	0.48
5:F:365:GLU:HG3	5:F:464:GLY:HA3	1.95	0.48
14:O:139:GLU:HB3	14:O:142:PHE:HB3	1.96	0.48
15:Q:344:ILE:HG13	15:Q:435:ILE:HB	1.96	0.48
15:Q:463:PHE:HD2	15:Q:474:LYS:HZ2	1.61	0.48
15:Q:513:PHE:HB2	15:Q:522:VAL:HG22	1.95	0.48
2:C:740:LEU:HD23	2:C:808:VAL:HG11	1.96	0.47
6:G:999:MET:HE3	6:G:1004:ILE:HG13	1.95	0.47
7:H:401:HIS:HD2	7:H:516:HIS:HB2	1.79	0.47
11:L:386:ASP:OD1	11:L:386:ASP:N	2.47	0.47
13:N:65:SER:O	13:N:68:THR:OG1	2.30	0.47
13:N:181:ASN:HB2	13:N:216:TYR:HE1	1.77	0.47
13:N:254:VAL:O	13:N:258:LEU:N	2.47	0.47
15:Q:469:PRO:HB2	15:Q:493:ASP:HB2	1.96	0.47
15:Q:520:THR:HG21	15:Q:543:ILE:HD11	1.95	0.47
4:E:578:LEU:HD12	4:E:871:PHE:HB3	1.96	0.47
4:E:1183:PRO:HG2	4:E:1184:TRP:CE3	2.49	0.47
5:F:401:ARG:NH2	5:F:461:ASP:O	2.47	0.47
5:F:744:GLU:HG3	5:F:747:GLU:H	1.79	0.47
6:G:1178:PRO:HA	6:G:1181:ARG:HE	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:H:584:MET:O	7:H:588:HIS:N	2.37	0.47
9:J:399:ASP:OD1	9:J:399:ASP:N	2.47	0.47
14:O:160:ASP:OD2	14:O:162:SER:OG	2.21	0.47
15:Q:466:MET:HE1	15:Q:472:HIS:ND1	2.28	0.47
15:Q:478:ILE:HD12	15:Q:478:ILE:H	1.77	0.47
4:E:479:LEU:HD23	4:E:1104:ALA:HB2	1.95	0.47
4:E:1063:THR:HG21	7:H:320:GLY:HA3	1.96	0.47
5:F:95:TYR:C	6:G:1116:ARG:HH12	2.22	0.47
5:F:286:ASN:ND2	5:F:324:THR:OG1	2.39	0.47
2:C:147:THR:HG22	2:C:161:GLU:HB3	1.96	0.47
2:C:1003:ILE:HD11	3:D:509:ALA:HB2	1.97	0.47
5:F:419:PRO:HD3	5:F:823:ARG:HH12	1.80	0.47
12:M:121:ILE:HD11	12:M:126:TRP:HH2	1.80	0.47
2:C:99:ILE:HD12	2:C:356:VAL:HG21	1.95	0.47
3:D:152:THR:N	3:D:205:ASP:OD2	2.37	0.47
8:I:150:GLN:NE2	8:I:154:ASP:OD2	2.45	0.47
11:L:289:HIS:HA	11:L:324:ILE:O	2.14	0.47
2:C:173:SER:HB3	2:C:176:GLN:HG3	1.96	0.47
2:C:426:THR:H	2:C:545:LEU:HD13	1.80	0.47
14:P:156:PHE:HB2	14:P:166:ILE:HB	1.97	0.47
19:U:153:LEU:HD23	19:U:158:LEU:HD12	1.96	0.47
2:C:187:MET:HB3	7:H:569:TYR:HB3	1.97	0.47
2:C:667:TYR:O	2:C:833:SER:OG	2.32	0.47
2:C:889:PHE:O	2:C:892:ARG:NH1	2.48	0.47
3:D:255:ILE:HD11	5:F:467:TYR:CD1	2.46	0.47
4:E:58:GLY:N	4:E:61:ASP:OD2	2.48	0.47
4:E:372:THR:HG21	4:E:382:LEU:HG	1.96	0.47
4:E:478:ILE:HD12	4:E:1123:LEU:HD13	1.97	0.47
5:F:123:GLN:CD	5:F:123:GLN:H	2.23	0.47
5:F:311:MET:HG2	5:F:770:TRP:HZ2	1.80	0.47
10:K:159:LYS:HD3	10:K:186:ASP:HB2	1.97	0.47
13:N:56:PRO:HG2	13:N:59:ALA:HB2	1.96	0.47
19:U:146:PHE:HA	19:U:149:MET:HG2	1.96	0.47
2:C:348:LEU:O	2:C:350:PRO:HD3	2.14	0.47
2:C:627:GLN:NE2	2:C:642:ASP:OD2	2.48	0.47
6:G:1005:LEU:HD12	6:G:1006:PRO:HD2	1.96	0.47
1:B:80:ILE:HG21	1:B:87:ILE:HD11	1.96	0.47
2:C:120:ARG:HD3	2:C:369:PHE:HB3	1.96	0.47
2:C:909:ALA:O	2:C:913:THR:OG1	2.26	0.47
3:D:131:ASP:HB2	3:D:247:ARG:CZ	2.45	0.47
3:D:670:GLN:NE2	4:E:3:GLU:O	2.35	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:64:THR:OG1	4:E:170:ARG:NH1	2.47	0.47
5:F:452:ARG:NH2	15:Q:657:ASP:OD1	2.48	0.47
15:Q:453:GLU:HA	15:Q:456:ARG:HD3	1.97	0.47
1:B:81:GLN:HG3	3:D:645:LYS:HD2	1.97	0.47
7:H:97:LYS:HD2	7:H:115:ALA:HB2	1.97	0.47
7:H:401:HIS:CD2	7:H:516:HIS:HB2	2.50	0.47
7:H:455:TYR:CD2	7:H:456:LYS:HG2	2.49	0.47
3:D:222:LEU:HD22	3:D:237:ILE:HD11	1.96	0.46
4:E:493:ILE:HD13	7:H:371:PRO:HB3	1.97	0.46
6:G:733:VAL:O	6:G:737:ALA:N	2.38	0.46
11:L:420:VAL:HG11	11:L:480:GLN:HB2	1.96	0.46
15:Q:461:LYS:HA	15:Q:464:ALA:HB3	1.96	0.46
1:B:269:PHE:CZ	1:B:295:LEU:HB3	2.48	0.46
2:C:991:GLU:OE2	3:D:457:THR:OG1	2.33	0.46
3:D:160:LEU:HD22	3:D:164:PHE:HE1	1.80	0.46
4:E:1021:SER:OG	4:E:1039:LEU:O	2.24	0.46
7:H:369:THR:HG21	18:T:101:LYS:HD2	1.97	0.46
14:O:175:GLN:NE2	14:O:179:ASP:OD1	2.48	0.46
14:P:122:ALA:HB2	14:P:131:ILE:HG13	1.97	0.46
2:C:825:ARG:NH2	2:C:870:GLU:OE2	2.29	0.46
3:D:479:HIS:CD2	3:D:480:PRO:HD2	2.50	0.46
4:E:834:LEU:HG	4:E:835:VAL:HG23	1.96	0.46
11:L:88:ARG:HB2	11:L:128:LEU:HD21	1.97	0.46
13:N:238:ILE:HD12	13:N:239:GLU:HG3	1.97	0.46
2:C:520:ILE:HG21	10:K:381:LEU:HD22	1.97	0.46
2:C:627:GLN:HE22	2:C:648:GLY:N	2.11	0.46
4:E:990:TYR:CD1	8:I:242:ALA:HA	2.51	0.46
13:N:132:GLN:CD	13:N:135:GLY:H	2.23	0.46
15:Q:386:MET:HE2	15:Q:386:MET:HB2	1.67	0.46
19:U:166:ARG:O	19:U:170:LYS:HG2	2.16	0.46
2:C:581:ALA:N	2:C:641:ALA:O	2.42	0.46
7:H:580:LYS:HA	7:H:583:ARG:HE	1.80	0.46
15:Q:522:VAL:HB	15:Q:533:ILE:HD11	1.97	0.46
2:C:47:GLU:HB3	2:C:90:THR:HG23	1.97	0.46
3:D:37:VAL:HG22	3:D:60:ILE:HD13	1.98	0.46
3:D:236:LYS:HD3	3:D:239:ARG:HD2	1.97	0.46
6:G:1095:LYS:HB3	6:G:1234:LEU:HD22	1.97	0.46
15:Q:429:ASP:O	15:Q:465:ARG:NH1	2.41	0.46
15:Q:695:ASP:OD1	15:Q:695:ASP:N	2.46	0.46
19:U:156:ARG:HB2	19:U:158:LEU:HG	1.96	0.46
1:A:35:SER:HB2	1:A:198:ILE:HG23	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:232:VAL:HG11	17:S:225:ASP:HB2	1.98	0.46
2:C:69:ALA:HB1	2:C:114:ILE:HD11	1.98	0.46
2:C:674:LEU:HG	2:C:834:LYS:HB3	1.97	0.46
3:D:606:TRP:NE1	3:D:609:ASP:O	2.44	0.46
4:E:264:PHE:HB2	11:L:139:MET:HE1	1.98	0.46
5:F:849:TYR:O	5:F:853:ILE:HG12	2.16	0.46
6:G:938:ARG:HH21	6:G:968:ARG:HH21	1.64	0.46
7:H:358:ASP:N	7:H:358:ASP:OD1	2.48	0.46
7:H:391:LYS:HB2	7:H:394:GLU:HG2	1.97	0.46
11:L:195:GLU:OE2	16:R:47:ARG:NE	2.44	0.46
11:L:289:HIS:O	25:L:801:SAH:N6	2.48	0.46
13:N:88:ILE:HG22	13:N:94:ASP:HA	1.97	0.46
2:C:63:LEU:HD21	9:J:429:ARG:CZ	2.45	0.46
5:F:322:VAL:HG22	5:F:351:PHE:CG	2.51	0.46
6:G:1114:LEU:HD11	6:G:1137:ALA:HB1	1.98	0.46
18:T:95:VAL:HG13	18:T:104:MET:HB2	1.98	0.46
1:A:256:LYS:HE2	1:A:271:TYR:CE2	2.51	0.46
7:H:455:TYR:HE2	7:H:456:LYS:HE2	1.81	0.46
11:L:377:TYR:HB2	11:L:399:ARG:NH2	2.31	0.46
12:M:246:ASP:OD1	12:M:277:ARG:NH1	2.49	0.46
18:T:135:LYS:NZ	18:T:140:ASP:HB3	2.31	0.46
1:A:240:GLU:HG2	1:A:242:ASN:HB2	1.97	0.46
2:C:568:GLY:O	2:C:571:ARG:HD3	2.16	0.46
6:G:789:MET:HE3	6:G:792:SER:HB3	1.98	0.46
8:I:63:LEU:HD12	8:I:72:LEU:HD11	1.98	0.46
8:I:87:LEU:HD22	8:I:122:ALA:HA	1.98	0.46
15:Q:428:CYS:O	15:Q:465:ARG:NH2	2.48	0.46
1:A:61:CYS:SG	1:A:174:ALA:HB1	2.55	0.45
1:A:74:TYR:HD1	2:C:788:ILE:HD11	1.81	0.45
2:C:852:MET:HE1	2:C:949:ILE:HG21	1.98	0.45
6:G:1087:ASP:HA	6:G:1132:GLY:HA3	1.97	0.45
6:G:1125:ASP:HA	6:G:1162:VAL:HB	1.98	0.45
7:H:587:ALA:O	7:H:591:SER:N	2.49	0.45
1:A:80:ILE:HG22	1:A:82:GLU:H	1.81	0.45
2:C:1039:GLU:OE1	3:D:102:TYR:OH	2.30	0.45
4:E:800:ASP:OD1	4:E:801:LEU:N	2.49	0.45
6:G:1169:GLU:HB3	6:G:1201:ASN:ND2	2.30	0.45
14:P:150:GLY:O	14:P:153:THR:OG1	2.31	0.45
2:C:733:TRP:CH2	2:C:785:GLY:HA2	2.51	0.45
4:E:891:PRO:C	4:E:894:GLY:H	2.23	0.45
15:Q:588:VAL:HA	15:Q:714:VAL:HG23	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:1023:GLY:HA2	2:C:1026:ILE:HB	1.97	0.45
4:E:81:ILE:HG21	9:J:236:ASN:HA	1.98	0.45
4:E:202:LEU:HD13	4:E:1150:GLU:HG2	1.97	0.45
6:G:840:ILE:HG22	6:G:873:GLY:HA3	1.98	0.45
6:G:1129:MET:SD	6:G:1129:MET:N	2.90	0.45
11:L:249:ALA:O	11:L:253:ILE:HG12	2.17	0.45
2:C:791:ARG:HD3	2:C:809:TYR:HE1	1.82	0.45
3:D:291:ASP:O	3:D:294:GLU:HG2	2.17	0.45
4:E:1244:LEU:HD12	4:E:1247:GLU:HB2	1.99	0.45
4:E:1284:PHE:HB3	4:E:1305:ARG:HD3	1.97	0.45
6:G:968:ARG:NH2	6:G:969:CYS:SG	2.89	0.45
6:G:1069:LYS:O	6:G:1072:SER:OG	2.30	0.45
11:L:288:ASN:OD1	25:L:801:SAH:N	2.50	0.45
4:E:859:PHE:CE1	7:H:453:ALA:HB3	2.51	0.45
3:D:169:GLN:HA	3:D:172:LYS:NZ	2.32	0.45
6:G:1154:ASP:OD1	6:G:1155:LEU:N	2.46	0.45
3:D:349:HIS:HB2	3:D:351:LYS:HD3	1.99	0.45
4:E:375:ARG:NH2	4:E:424:GLU:OE2	2.49	0.45
4:E:929:LEU:HB2	4:E:936:GLN:HG2	1.98	0.45
7:H:179:ASP:HB3	7:H:182:GLU:HB2	1.99	0.45
7:H:186:ILE:HD11	7:H:224:VAL:HG12	1.99	0.45
10:K:124:MET:HA	10:K:127:TRP:CE2	2.52	0.45
11:L:419:ALA:O	11:L:423:LEU:N	2.36	0.45
1:B:224:ASN:ND2	17:S:524:GLU:OE1	2.49	0.45
2:C:828:ASN:OD1	2:C:828:ASN:N	2.42	0.45
2:C:883:HIS:CE1	9:J:398:PRO:HB3	2.52	0.45
2:C:1042:ARG:O	2:C:1046:ARG:HG2	2.16	0.45
3:D:200:ARG:NH1	3:D:262:GLU:O	2.49	0.45
3:D:551:CYS:O	9:J:289:HIS:NE2	2.29	0.45
3:D:624:TYR:CD1	3:D:630:TYR:HB3	2.52	0.45
4:E:475:HIS:ND1	7:H:96:ARG:HD2	2.32	0.45
4:E:985:GLN:HB2	4:E:991:SER:O	2.17	0.45
5:F:320:PRO:HG3	5:F:770:TRP:CD2	2.51	0.45
7:H:273:TYR:O	7:H:276:MET:HG2	2.17	0.45
15:Q:526:THR:OG1	15:Q:529:GLY:O	2.22	0.45
18:T:64:SER:O	18:T:131:ARG:NH2	2.49	0.45
19:U:144:ILE:HG23	19:U:145:PRO:HD3	1.99	0.45
2:C:47:GLU:CD	2:C:47:GLU:H	2.25	0.45
5:F:436:TYR:CG	15:Q:630:PRO:HG3	2.52	0.45
5:F:856:CYS:O	5:F:861:GLU:HG2	2.17	0.45
6:G:1155:LEU:HD13	6:G:1212:LEU:HD21	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:H:301:GLY:HA3	7:H:342:LEU:HD22	1.98	0.45
7:H:601:ASP:N	7:H:601:ASP:OD1	2.50	0.45
10:K:74:PRO:HG2	10:K:255:GLN:HB3	1.99	0.45
10:K:274:LEU:O	10:K:281:THR:OG1	2.24	0.45
11:L:112:ILE:HB	11:L:316:ILE:HB	1.99	0.45
11:L:117:ARG:HD2	11:L:117:ARG:HA	1.66	0.45
13:N:139:PRO:HB3	13:N:143:LEU:HB2	1.98	0.45
13:N:219:LEU:HB3	13:N:254:VAL:HG13	1.99	0.45
15:Q:416:MET:HE2	15:Q:416:MET:HB2	1.79	0.45
17:S:208:SER:HG	17:S:324:GLU:HG3	1.82	0.45
17:S:340:ALA:O	17:S:371:ASN:ND2	2.51	0.45
2:C:733:TRP:HE3	2:C:786:ARG:HE	1.64	0.44
4:E:581:PHE:HB3	4:E:870:ASP:HB3	1.99	0.44
5:F:449:TRP:N	15:Q:660:ASP:OD2	2.50	0.44
7:H:169:ARG:HA	7:H:190:HIS:CE1	2.52	0.44
8:I:61:ASP:HB3	8:I:69:ARG:HH11	1.83	0.44
12:M:315:ARG:HH21	12:M:333:TRP:CG	2.35	0.44
15:Q:356:THR:HG23	15:Q:415:VAL:HG22	1.99	0.44
15:Q:360:LYS:HE2	15:Q:379:TYR:HD2	1.82	0.44
17:S:327:LEU:O	17:S:358:THR:HG21	2.17	0.44
1:B:108:ILE:HD11	1:B:149:LEU:HD11	1.99	0.44
5:F:142:GLU:OE2	11:L:366:SER:OG	2.34	0.44
10:K:378:GLU:OE1	10:K:389:ARG:NH1	2.30	0.44
11:L:421:LYS:O	11:L:425:ASP:N	2.45	0.44
12:M:315:ARG:NH1	12:M:319:GLU:OE1	2.50	0.44
15:Q:343:VAL:HA	15:Q:414:LEU:HB3	1.98	0.44
15:Q:646:THR:HG22	15:Q:647:SER:H	1.82	0.44
1:B:177:MET:HB3	3:D:593:GLN:NE2	2.32	0.44
2:C:85:GLY:HA2	2:C:94:MET:HE1	1.98	0.44
2:C:103:ASN:HB2	2:C:362:THR:HG22	1.99	0.44
2:C:113:PHE:CZ	2:C:321:LEU:HD11	2.53	0.44
2:C:864:ASN:OD1	2:C:864:ASN:N	2.50	0.44
2:C:1006:GLU:HG2	2:C:1011:LYS:HD3	1.98	0.44
3:D:245:VAL:HG21	4:E:1245:PRO:HG2	1.98	0.44
3:D:356:PHE:O	3:D:359:VAL:HG12	2.16	0.44
5:F:844:PHE:HB3	5:F:848:LEU:HD22	1.99	0.44
6:G:885:GLU:H	6:G:885:GLU:CD	2.25	0.44
10:K:361:LEU:HD21	10:K:378:GLU:HG2	2.00	0.44
12:M:287:ASN:O	12:M:287:ASN:ND2	2.50	0.44
17:S:273:ASP:OD1	17:S:273:ASP:N	2.50	0.44
3:D:543:THR:HG21	4:E:14:ILE:HG23	1.97	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:647:THR:HB	3:D:649:TYR:CZ	2.51	0.44
3:D:654:THR:OG1	3:D:655:THR:N	2.50	0.44
4:E:609:PHE:HB2	4:E:855:VAL:HG21	2.00	0.44
4:E:998:TYR:HD1	4:E:1002:SER:HB3	1.82	0.44
5:F:131:LYS:HG2	6:G:889:VAL:HG21	1.99	0.44
5:F:439:GLU:OE1	5:F:446:ARG:NH1	2.51	0.44
6:G:849:HIS:HA	6:G:877:ALA:HB1	1.99	0.44
6:G:1015:LEU:HA	6:G:1018:TYR:HB2	2.00	0.44
6:G:1027:VAL:O	6:G:1031:LEU:HG	2.16	0.44
7:H:282:VAL:HG23	7:H:319:VAL:HA	1.98	0.44
15:Q:347:THR:HB	15:Q:418:ALA:HB3	1.99	0.44
17:S:486:ASP:OD1	17:S:486:ASP:N	2.45	0.44
1:A:72:HIS:HB3	2:C:731:GLY:HA2	1.99	0.44
1:B:42:ALA:HB1	1:B:186:ILE:HD12	1.99	0.44
3:D:107:ILE:HD12	3:D:269:LEU:HD23	1.99	0.44
4:E:12:LYS:CD	4:E:13:VAL:H	2.26	0.44
4:E:403:PRO:O	4:E:406:SER:OG	2.27	0.44
5:F:250:CYS:O	5:F:253:SER:OG	2.28	0.44
6:G:991:GLU:HA	6:G:994:GLU:HG2	1.99	0.44
10:K:285:ILE:HG22	10:K:289:TRP:HB2	1.99	0.44
17:S:231:ARG:HG3	17:S:232:MET:HG2	1.99	0.44
3:D:543:THR:HB	4:E:13:VAL:HA	1.99	0.44
7:H:414:GLU:OE2	7:H:505:ARG:NH2	2.39	0.44
11:L:210:LEU:HD21	11:L:215:LEU:HD23	1.99	0.44
12:M:261:THR:OG1	12:M:262:ARG:N	2.51	0.44
2:C:380:ARG:HB2	2:C:616:SER:HB2	1.99	0.44
2:C:486:SER:OG	2:C:494:GLN:NE2	2.50	0.44
5:F:836:THR:O	5:F:839:SER:OG	2.33	0.44
7:H:334:TYR:CZ	7:H:365:ARG:HG3	2.53	0.44
10:K:84:ASP:OD1	10:K:84:ASP:N	2.50	0.44
13:N:97:SER:O	13:N:101:VAL:HG23	2.18	0.44
2:C:81:TYR:CE2	2:C:100:PHE:HB2	2.53	0.44
2:C:314:ILE:HG13	2:C:450:LEU:HG	2.00	0.44
2:C:836:LEU:HB3	2:C:840:ASP:OD1	2.18	0.44
2:C:992:VAL:HG13	2:C:1004:LEU:HD11	1.99	0.44
3:D:121:ARG:HG2	3:D:340:ILE:HG21	2.00	0.44
4:E:979:PRO:HG3	7:H:272:TYR:CE1	2.52	0.44
5:F:140:LEU:HB2	5:F:143:THR:HG23	1.98	0.44
5:F:850:ASP:HA	5:F:883:THR:HG21	2.00	0.44
6:G:801:TYR:HA	6:G:804:LEU:HB3	1.99	0.44
6:G:1094:GLN:HB3	6:G:1097:ARG:HD3	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:J:359:MET:HE2	9:J:359:MET:HB3	1.94	0.44
10:K:331:ASN:O	10:K:331:ASN:ND2	2.51	0.44
11:L:122:MET:HE1	11:L:283:TYR:O	2.18	0.44
1:A:194:GLU:HG3	1:A:196:GLN:HG3	2.00	0.44
2:C:267:ASN:ND2	2:C:274:ILE:O	2.51	0.44
2:C:350:PRO:HG2	2:C:355:LEU:HD11	2.00	0.44
2:C:481:ILE:HG12	2:C:517:LEU:HB2	1.99	0.44
3:D:200:ARG:NH1	3:D:265:VAL:O	2.51	0.44
4:E:411:GLN:NE2	9:J:233:SER:OG	2.43	0.44
6:G:1188:GLN:HA	6:G:1192:SER:HA	2.00	0.44
7:H:372:ASP:CG	7:H:376:ARG:HH21	2.26	0.44
13:N:96:LEU:HB2	13:N:100:GLU:OE2	2.18	0.44
1:B:277:LEU:HD12	1:B:277:LEU:O	2.18	0.43
2:C:412:ASP:HB3	4:E:156:PRO:HG3	2.00	0.43
3:D:255:ILE:HA	5:F:455:LYS:HE3	1.99	0.43
3:D:517:MET:HE3	3:D:517:MET:HB2	1.90	0.43
4:E:997:THR:HG23	7:H:155:THR:HG23	2.00	0.43
5:F:117:ALA:HA	5:F:150:LEU:HD22	1.99	0.43
10:K:356:VAL:HB	10:K:364:HIS:HB2	2.00	0.43
14:P:100:ILE:HD12	14:P:156:PHE:CD2	2.53	0.43
17:S:542:LYS:NZ	17:S:572:TYR:O	2.41	0.43
1:A:303:GLN:O	1:A:307:ILE:HG12	2.18	0.43
1:B:272:ILE:HD11	1:B:295:LEU:HD12	2.00	0.43
2:C:77:SER:OG	2:C:103:ASN:HB3	2.19	0.43
3:D:367:PHE:CD1	4:E:1289:SER:HA	2.52	0.43
4:E:984:ILE:HG21	7:H:164:ARG:HE	1.83	0.43
5:F:409:TYR:OH	5:F:439:GLU:OE2	2.22	0.43
6:G:923:GLU:HA	6:G:926:LEU:HB3	1.99	0.43
6:G:938:ARG:HA	6:G:964:MET:CE	2.48	0.43
7:H:316:PHE:CD2	7:H:352:MET:HE1	2.53	0.43
8:I:186:GLU:N	8:I:186:GLU:OE1	2.50	0.43
10:K:220:ALA:HA	10:K:249:THR:HG23	2.00	0.43
11:L:122:MET:HE2	11:L:124:ILE:HD11	2.00	0.43
14:O:124:GLU:CD	14:O:178:ARG:HH21	2.26	0.43
17:S:202:LEU:HD11	17:S:265:ALA:HB2	1.99	0.43
1:A:161:MET:HE2	1:A:161:MET:HB3	1.91	0.43
2:C:937:PRO:HG3	9:J:364:ARG:HB3	2.00	0.43
3:D:542:LEU:HD22	3:D:657:GLY:HA2	1.99	0.43
10:K:237:ASN:HA	10:K:267:ASP:O	2.18	0.43
11:L:111:ASP:OD1	11:L:318:LYS:N	2.51	0.43
17:S:307:LYS:HB3	17:S:317:THR:HG23	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:11:ARG:NH2	17:S:474:GLY:O	2.50	0.43
1:A:314:ILE:O	1:A:317:VAL:HG12	2.18	0.43
2:C:794:GLN:HA	2:C:804:GLU:HA	1.99	0.43
3:D:104:MET:HB2	3:D:271:VAL:O	2.18	0.43
4:E:307:SER:HB2	4:E:314:VAL:HG22	2.00	0.43
6:G:1175:ARG:HH21	6:G:1197:PHE:HB3	1.82	0.43
9:J:338:ASP:OD1	9:J:338:ASP:N	2.51	0.43
12:M:112:ILE:HD13	12:M:163:VAL:HG22	2.00	0.43
19:U:104:LYS:O	19:U:108:LYS:HG2	2.18	0.43
2:C:62:PRO:HB3	2:C:77:SER:O	2.19	0.43
4:E:1200:SER:O	4:E:1204:LYS:HG2	2.19	0.43
5:F:74:PHE:CD2	5:F:97:MET:HG2	2.53	0.43
10:K:390:THR:OG1	14:O:110:PRO:HD3	2.17	0.43
11:L:412:ILE:HG22	11:L:415:ALA:H	1.82	0.43
14:P:125:TYR:CE1	14:P:181:ILE:HD11	2.54	0.43
1:B:295:LEU:HD23	1:B:295:LEU:HA	1.89	0.43
3:D:519:LEU:O	3:D:527:PRO:HA	2.18	0.43
4:E:1089:GLY:HA2	4:E:1104:ALA:HB3	2.01	0.43
7:H:418:LEU:HD23	7:H:481:ARG:HB2	2.00	0.43
16:R:82:MET:HE1	16:R:126:PHE:CZ	2.53	0.43
2:C:986:ARG:NH2	3:D:369:GLU:O	2.44	0.43
3:D:416:ARG:HH11	16:R:116:ASP:HA	1.82	0.43
4:E:363:LYS:NZ	4:E:392:GLU:OE1	2.37	0.43
4:E:395:ASP:OD1	4:E:396:ILE:N	2.48	0.43
4:E:491:PHE:CE2	4:E:936:GLN:HB2	2.46	0.43
4:E:895:LEU:HD23	4:E:895:LEU:H	1.84	0.43
5:F:86:ASP:OD1	5:F:86:ASP:N	2.51	0.43
5:F:320:PRO:HG3	5:F:770:TRP:CE3	2.54	0.43
8:I:80:HIS:O	8:I:84:ILE:HG12	2.19	0.43
13:N:88:ILE:HD12	13:N:93:LEU:HD11	2.00	0.43
13:N:258:LEU:HD22	13:N:261:ALA:HB3	2.00	0.43
14:P:185:MET:HE2	14:P:185:MET:HB3	1.78	0.43
15:Q:707:MET:HE3	15:Q:707:MET:HB2	1.91	0.43
15:Q:749:GLU:O	15:Q:752:GLN:HG2	2.18	0.43
17:S:202:LEU:HB3	17:S:340:ALA:HA	2.01	0.43
2:C:645:ALA:HB1	2:C:653:LEU:HD23	2.00	0.43
2:C:1047:GLU:O	2:C:1050:SER:OG	2.33	0.43
3:D:314:ARG:HA	3:D:314:ARG:HD2	1.87	0.43
5:F:167:MET:HB3	5:F:167:MET:HE3	1.80	0.43
6:G:727:ASP:C	6:G:729:THR:H	2.27	0.43
6:G:921:GLU:N	6:G:921:GLU:OE1	2.50	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:G:1037:ASN:ND2	6:G:1043:HIS:HB3	2.34	0.43
9:J:260:LEU:HG	9:J:271:LEU:HD21	2.01	0.43
15:Q:374:SER:HB2	15:Q:417:GLU:OE2	2.19	0.43
18:T:75:LYS:HE2	18:T:77:PRO:HG3	2.00	0.43
1:A:37:LEU:O	1:A:197:GLU:N	2.48	0.43
1:A:195:LYS:HG3	1:B:159:LEU:HB2	2.00	0.43
4:E:903:PRO:HA	18:T:123:PHE:CE2	2.54	0.43
4:E:1079:ILE:HG12	4:E:1086:LEU:HD11	2.00	0.43
8:I:260:ASN:OD1	8:I:260:ASN:N	2.51	0.43
11:L:358:ARG:HG3	11:L:404:TRP:CD1	2.54	0.43
13:N:143:LEU:O	13:N:147:ILE:HG13	2.19	0.43
15:Q:531:LEU:HD13	15:Q:560:LEU:HB3	1.99	0.43
18:T:128:TYR:OH	18:T:130:GLU:OE1	2.20	0.43
2:C:267:ASN:HD21	2:C:274:ILE:HG23	1.84	0.43
3:D:107:ILE:HG12	3:D:300:ILE:HD11	2.00	0.43
3:D:172:LYS:HE2	3:D:173:TYR:CE1	2.54	0.43
3:D:316:THR:HG21	3:D:319:GLU:OE2	2.16	0.43
4:E:345:VAL:O	4:E:1137:SER:N	2.44	0.43
4:E:615:PHE:CD1	4:E:841:LEU:HD23	2.54	0.43
4:E:1020:HIS:HB2	7:H:160:PRO:HB3	2.00	0.43
4:E:1194:ILE:O	4:E:1198:ARG:HG3	2.19	0.43
6:G:1089:LEU:HD23	6:G:1097:ARG:HB2	2.00	0.43
7:H:312:TRP:CZ2	8:I:262:PRO:HG3	2.54	0.43
14:P:101:VAL:HB	14:P:155:PHE:HB2	2.01	0.43
2:C:466:ILE:HG23	10:K:124:MET:HE3	2.01	0.42
2:C:705:GLU:HG2	2:C:745:THR:HG22	2.00	0.42
2:C:821:LYS:HB3	2:C:952:LEU:HD12	2.01	0.42
3:D:510:ARG:HD2	3:D:514:PHE:CD1	2.53	0.42
4:E:454:THR:OG1	4:E:455:ASP:N	2.52	0.42
4:E:1198:ARG:HH12	4:E:1226:ARG:HA	1.84	0.42
11:L:55:PRO:O	11:L:60:GLN:NE2	2.52	0.42
11:L:115:ARG:HG2	11:L:119:ARG:HD2	2.00	0.42
11:L:358:ARG:HD3	11:L:404:TRP:HB3	2.01	0.42
13:N:211:PRO:HA	13:N:214:TRP:CD1	2.54	0.42
15:Q:559:PRO:HG2	15:Q:562:ASP:HB2	2.00	0.42
17:S:459:SER:OG	17:S:476:GLU:OE1	2.20	0.42
2:C:184:SER:O	2:C:189:SER:OG	2.29	0.42
5:F:208:ALA:HB1	5:F:212:LEU:HD23	2.01	0.42
6:G:972:ASP:N	6:G:975:THR:OG1	2.52	0.42
7:H:154:ASP:OD1	7:H:154:ASP:N	2.48	0.42
7:H:282:VAL:HG12	7:H:293:VAL:HG22	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:I:180:LEU:HB3	8:I:209:ILE:HB	2.01	0.42
11:L:115:ARG:NH1	16:R:134:ASN:O	2.52	0.42
11:L:358:ARG:HG3	11:L:404:TRP:HD1	1.83	0.42
15:Q:346:VAL:HG23	15:Q:417:GLU:HA	2.00	0.42
15:Q:398:LEU:O	15:Q:402:MET:CE	2.67	0.42
2:C:274:ILE:HD11	2:C:278:ASN:HB3	2.00	0.42
2:C:402:THR:OG1	2:C:403:GLY:N	2.52	0.42
2:C:1045:VAL:HG21	2:C:1072:VAL:HG11	2.00	0.42
3:D:367:PHE:HA	3:D:371:LEU:HD23	2.01	0.42
5:F:166:ALA:O	5:F:170:LEU:N	2.48	0.42
7:H:414:GLU:CD	7:H:505:ARG:HE	2.27	0.42
10:K:148:VAL:HG11	10:K:177:ARG:HB2	2.01	0.42
10:K:281:THR:O	10:K:285:ILE:HG12	2.18	0.42
17:S:292:SER:HB3	17:S:336:VAL:HG21	2.02	0.42
19:U:150:ALA:HB2	19:U:165:ALA:HB2	2.01	0.42
1:A:94:ILE:HA	1:A:134:GLN:NE2	2.34	0.42
2:C:383:PRO:HG3	2:C:579:VAL:HG21	2.00	0.42
3:D:479:HIS:ND1	3:D:481:LEU:HB2	2.34	0.42
4:E:405:LYS:HE3	4:E:427:GLU:HA	2.00	0.42
6:G:866:PRO:HB2	6:G:871:TYR:CE1	2.54	0.42
6:G:1153:GLN:OE1	6:G:1153:GLN:N	2.52	0.42
11:L:165:ASP:OD1	11:L:165:ASP:N	2.49	0.42
15:Q:344:ILE:N	15:Q:414:LEU:O	2.45	0.42
15:Q:692:PHE:CG	15:Q:760:PHE:HB2	2.53	0.42
2:C:560:SER:HB2	2:C:647:VAL:HG23	2.00	0.42
3:D:479:HIS:HB3	3:D:482:VAL:HG22	2.01	0.42
4:E:927:MET:HE3	4:E:936:GLN:OE1	2.20	0.42
4:E:1000:GLN:HB3	7:H:154:ASP:OD1	2.19	0.42
4:E:1311:GLY:O	4:E:1315:ASN:ND2	2.52	0.42
5:F:522:LYS:HD2	5:F:522:LYS:C	2.41	0.42
10:K:268:LEU:HD23	10:K:268:LEU:HA	1.90	0.42
11:L:440:GLN:HA	11:L:443:LYS:HE3	2.01	0.42
15:Q:373:PHE:HZ	15:Q:394:PRO:HG2	1.84	0.42
2:C:389:HIS:HA	2:C:392:LYS:HE3	2.00	0.42
2:C:678:CYS:HA	2:C:681:TYR:CZ	2.54	0.42
4:E:608:ILE:HG22	4:E:610:ARG:HD2	2.01	0.42
4:E:813:PHE:HB2	4:E:838:CYS:SG	2.59	0.42
4:E:865:LYS:NZ	7:H:439:ASP:OD1	2.48	0.42
5:F:838:HIS:NE2	5:F:849:TYR:OH	2.39	0.42
6:G:1017:VAL:HA	6:G:1020:LYS:HE2	2.02	0.42
1:A:321:LEU:O	1:A:325:GLU:HG2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:73:ASP:HB2	1:B:168:ARG:HH12	1.84	0.42
3:D:386:VAL:HG22	3:D:490:PHE:CE1	2.54	0.42
3:D:554:ARG:NH2	9:J:268:GLN:O	2.53	0.42
4:E:609:PHE:HB2	4:E:841:LEU:HD11	2.02	0.42
4:E:979:PRO:HG2	7:H:271:PHE:HE2	1.84	0.42
5:F:271:MET:HB2	5:F:278:MET:O	2.19	0.42
6:G:953:LYS:HB3	6:G:956:GLU:HB2	2.02	0.42
12:M:119:SER:OG	12:M:140:GLU:OE1	2.38	0.42
13:N:178:TYR:HB3	13:N:217:SER:OG	2.19	0.42
14:O:151:LEU:O	14:O:153:THR:N	2.52	0.42
15:Q:517:LEU:HD23	15:Q:609:LEU:HB3	2.01	0.42
15:Q:576:ARG:HH11	15:Q:592:HIS:CE1	2.37	0.42
1:B:62:ILE:HD13	1:B:149:LEU:HD13	2.02	0.42
1:B:167:ASP:OD1	1:B:167:ASP:N	2.52	0.42
2:C:669:PHE:HD2	3:D:490:PHE:HE2	1.67	0.42
2:C:730:LEU:HD12	2:C:790:VAL:HG22	2.00	0.42
3:D:535:MET:HG3	4:E:47:PHE:CE1	2.55	0.42
4:E:885:ARG:O	4:E:887:ARG:N	2.52	0.42
5:F:452:ARG:NH1	15:Q:654:ASP:OD2	2.53	0.42
6:G:853:ARG:HH11	6:G:857:GLN:HE21	1.68	0.42
6:G:1198:THR:HG22	6:G:1206:MET:HG2	2.01	0.42
10:K:134:ARG:O	10:K:389:ARG:HD2	2.19	0.42
10:K:282:ARG:HD2	10:K:305:LEU:O	2.19	0.42
12:M:144:ILE:HB	12:M:151:PHE:HB3	2.02	0.42
16:R:157:LEU:HD23	16:R:157:LEU:H	1.83	0.42
1:B:72:HIS:HB3	1:B:74:TYR:CD2	2.55	0.42
1:B:175:VAL:HG12	1:B:177:MET:HG2	2.01	0.42
2:C:860:PRO:HG2	4:E:131:MET:SD	2.60	0.42
4:E:70:TRP:CZ2	9:J:278:LEU:HD12	2.53	0.42
4:E:1007:LEU:O	8:I:145:LYS:NZ	2.45	0.42
4:E:1023:LEU:HD13	7:H:165:GLN:HE21	1.85	0.42
5:F:373:ARG:HA	5:F:373:ARG:HD2	1.90	0.42
14:P:104:TYR:CE1	14:P:133:LYS:HD3	2.54	0.42
16:R:95:ASN:HD22	16:R:98:GLU:HG3	1.83	0.42
17:S:567:ILE:HB	17:S:571:GLU:HB2	2.02	0.42
19:U:90:PHE:HB2	19:U:183:TRP:CE3	2.54	0.42
1:A:227:ILE:HG22	1:A:228:PRO:HD3	2.01	0.42
2:C:108:ASN:ND2	2:C:112:THR:O	2.53	0.42
4:E:200:GLY:O	4:E:203:THR:OG1	2.35	0.42
4:E:904:PHE:HA	4:E:907:ILE:HG22	2.02	0.42
5:F:416:TRP:CH2	5:F:798:LEU:HD21	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:F:849:TYR:HA	5:F:852:ILE:HG22	2.02	0.42
6:G:1055:ASP:HB2	6:G:1097:ARG:HH12	1.85	0.42
7:H:148:ASP:OD1	7:H:148:ASP:N	2.53	0.42
7:H:230:ASN:O	7:H:234:GLU:HG2	2.20	0.42
7:H:323:VAL:HG21	7:H:344:PHE:HE1	1.85	0.42
9:J:246:SER:C	9:J:248:TRP:H	2.26	0.42
11:L:443:LYS:HE3	11:L:443:LYS:HB3	1.78	0.42
12:M:129:GLU:CD	12:M:129:GLU:H	2.28	0.42
1:B:113:PRO:HD3	1:B:142:PRO:HA	2.01	0.41
2:C:792:TRP:CE3	2:C:806:ILE:HD11	2.51	0.41
2:C:1045:VAL:HG22	2:C:1055:LEU:HD23	2.01	0.41
3:D:184:PHE:HA	3:D:187:PHE:CE1	2.55	0.41
5:F:514:MET:SD	5:F:518:ARG:NH2	2.93	0.41
6:G:793:ASN:OD1	6:G:794:THR:N	2.52	0.41
6:G:1168:LEU:HD12	6:G:1168:LEU:H	1.84	0.41
9:J:297:GLN:OE1	9:J:300:ARG:NH2	2.40	0.41
10:K:276:ARG:NH2	10:K:280:GLU:OE1	2.51	0.41
11:L:294:ASN:ND2	11:L:321:GLU:O	2.43	0.41
16:R:85:ASP:HB3	16:R:133:VAL:HG21	2.02	0.41
19:U:98:PHE:HB2	19:U:171:TRP:CZ3	2.55	0.41
1:A:232:VAL:HG11	1:A:237:PHE:CE2	2.55	0.41
2:C:10:SER:HB3	10:K:124:MET:SD	2.60	0.41
2:C:187:MET:H	2:C:187:MET:HG3	1.70	0.41
4:E:205:ARG:NH1	4:E:1154:GLU:OE2	2.53	0.41
4:E:252:ALA:O	4:E:265:ARG:NH2	2.53	0.41
5:F:289:ILE:O	5:F:293:THR:HG23	2.20	0.41
5:F:387:ALA:O	5:F:391:MET:HG3	2.21	0.41
9:J:314:GLU:OE2	9:J:373:ARG:NH1	2.53	0.41
11:L:106:ILE:HD13	11:L:287:LEU:HD23	2.02	0.41
15:Q:387:ASP:N	15:Q:387:ASP:OD1	2.51	0.41
18:T:70:LYS:HA	18:T:129:SER:HA	2.01	0.41
1:A:64:ARG:HG2	1:A:150:LYS:HB2	2.01	0.41
1:A:250:LEU:HD12	17:S:282:TYR:HB2	2.02	0.41
1:B:194:GLU:N	1:B:194:GLU:OE1	2.53	0.41
2:C:673:VAL:N	2:C:831:ILE:O	2.48	0.41
3:D:5:TYR:HB3	3:D:7:HIS:CE1	2.55	0.41
3:D:133:PRO:HG2	3:D:136:GLU:HG3	2.02	0.41
4:E:202:LEU:HD13	4:E:205:ARG:HH21	1.83	0.41
4:E:215:VAL:HA	4:E:299:ILE:O	2.21	0.41
4:E:251:LEU:HD13	4:E:269:LEU:HD11	2.02	0.41
4:E:331:PRO:HG2	4:E:1216:ILE:HD11	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:862:VAL:HG21	7:H:412:VAL:HG11	2.02	0.41
7:H:325:VAL:HG21	7:H:342:LEU:HD23	2.02	0.41
10:K:383:THR:HG23	10:K:383:THR:O	2.20	0.41
3:D:416:ARG:NH1	16:R:116:ASP:HA	2.35	0.41
4:E:43:LYS:HE2	4:E:43:LYS:HB3	1.89	0.41
4:E:452:TRP:CD1	4:E:456:VAL:HB	2.54	0.41
4:E:871:PHE:HE2	7:H:412:VAL:HG11	1.84	0.41
4:E:1039:LEU:HD12	4:E:1039:LEU:HA	1.80	0.41
5:F:195:ASN:ND2	5:F:216:MET:HE3	2.35	0.41
5:F:366:ASP:HA	5:F:367:PRO:HD3	1.91	0.41
5:F:418:GLU:HB2	5:F:419:PRO:HD3	2.02	0.41
7:H:488:MET:SD	7:H:489:MET:N	2.94	0.41
7:H:529:ARG:HA	13:N:214:TRP:CH2	2.55	0.41
8:I:140:GLY:N	8:I:238:VAL:O	2.51	0.41
8:I:142:MET:SD	8:I:143:PRO:HD2	2.61	0.41
10:K:134:ARG:NH1	10:K:378:GLU:OE2	2.54	0.41
11:L:106:ILE:HD11	11:L:286:MET:HB2	2.02	0.41
17:S:304:SER:HB3	17:S:322:CYS:HB3	2.03	0.41
18:T:75:LYS:HG2	18:T:77:PRO:HD3	2.01	0.41
1:B:223:ILE:O	1:B:227:ILE:HG12	2.20	0.41
2:C:431:ASN:HB2	2:C:434:LEU:HD12	2.02	0.41
2:C:490:ASN:OD1	2:C:491:ARG:N	2.47	0.41
2:C:1009:THR:HB	2:C:1010:TYR:H	1.74	0.41
4:E:793:LEU:HD22	4:E:812:VAL:HG11	2.03	0.41
4:E:886:LYS:HE2	4:E:886:LYS:HB3	1.84	0.41
5:F:413:VAL:HG21	5:F:809:PRO:HB3	2.03	0.41
6:G:1122:TRP:HE3	6:G:1156:PRO:HB3	1.85	0.41
7:H:118:MET:HE1	7:H:124:ARG:HG3	2.02	0.41
7:H:286:HIS:HB3	7:H:289:GLN:HB2	2.02	0.41
8:I:223:LYS:HG2	13:N:71:TYR:CE2	2.55	0.41
11:L:347:PRO:O	11:L:399:ARG:NH1	2.54	0.41
15:Q:644:MET:HE3	15:Q:644:MET:HB3	1.81	0.41
1:B:53:LEU:HD23	1:B:57:ILE:HD11	2.02	0.41
2:C:298:PHE:HB3	4:E:465:SER:HB3	2.03	0.41
2:C:728:VAL:HG22	2:C:740:LEU:HA	2.01	0.41
3:D:610:GLN:HG2	12:M:203:TYR:CD2	2.56	0.41
4:E:62:LEU:HB2	4:E:170:ARG:HD3	2.02	0.41
5:F:71:ARG:NH2	5:F:102:LEU:HD12	2.26	0.41
6:G:1048:GLN:HB3	6:G:1053:ASN:HB3	2.02	0.41
6:G:1127:HIS:CE1	6:G:1128:ARG:HG3	2.56	0.41
7:H:213:THR:HG22	7:H:216:LYS:HD3	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:I:50:TYR:HB2	8:I:98:TYR:HE2	1.86	0.41
8:I:175:SER:HB3	8:I:214:TRP:CE2	2.56	0.41
10:K:396:VAL:O	10:K:400:ILE:HG13	2.21	0.41
13:N:256:THR:O	13:N:259:GLU:HG3	2.19	0.41
15:Q:511:LEU:N	15:Q:523:LEU:O	2.52	0.41
15:Q:522:VAL:HG21	15:Q:543:ILE:HD12	2.03	0.41
2:C:335:VAL:HG21	2:C:360:PRO:HG3	2.03	0.41
2:C:1013:ASP:N	2:C:1013:ASP:OD1	2.52	0.41
3:D:554:ARG:HD2	9:J:294:GLU:OE2	2.21	0.41
4:E:450:MET:HB2	4:E:1123:LEU:HD11	2.03	0.41
4:E:1226:ARG:O	4:E:1230:SER:HB3	2.20	0.41
13:N:147:ILE:HG13	13:N:147:ILE:H	1.58	0.41
14:P:154:LEU:HB2	14:P:168:THR:OG1	2.20	0.41
15:Q:528:GLN:OE1	15:Q:528:GLN:N	2.52	0.41
17:S:257:LEU:HD23	17:S:264:ALA:HB2	2.03	0.41
2:C:171:ARG:HB2	2:C:173:SER:O	2.21	0.41
2:C:588:LYS:HG2	2:C:633:CYS:SG	2.61	0.41
2:C:863:MET:HE2	2:C:863:MET:HB2	1.87	0.41
3:D:207:ASP:O	3:D:211:ILE:HG12	2.21	0.41
3:D:367:PHE:CE1	4:E:1289:SER:HB3	2.56	0.41
6:G:983:TYR:HD1	6:G:988:LEU:HD11	1.86	0.41
7:H:269:LEU:N	7:H:270:PRO:HD2	2.36	0.41
10:K:299:GLN:HG3	10:K:338:TYR:OH	2.21	0.41
12:M:136:ILE:HG12	12:M:179:TYR:CZ	2.55	0.41
13:N:175:TRP:NE1	13:N:205:THR:OG1	2.47	0.41
1:A:99:ASN:ND2	17:S:231:ARG:O	2.54	0.41
2:C:51:GLN:NE2	2:C:85:GLY:HA3	2.36	0.41
2:C:89:LYS:HD2	2:C:89:LYS:HA	1.92	0.41
2:C:844:LEU:HB2	2:C:846:ASP:OD1	2.21	0.41
2:C:1008:LEU:HA	3:D:374:LYS:HG3	2.02	0.41
3:D:236:LYS:HD3	3:D:236:LYS:HA	1.86	0.41
3:D:423:ILE:H	3:D:423:ILE:HD12	1.86	0.41
3:D:510:ARG:CD	3:D:514:PHE:CE1	3.01	0.41
4:E:248:GLY:HA2	4:E:306:ARG:HB3	2.03	0.41
4:E:1031:PHE:CD2	7:H:212:ALA:HA	2.56	0.41
4:E:1265:ILE:HG22	4:E:1267:TYR:HD1	1.86	0.41
5:F:83:ARG:NH2	11:L:409:LEU:HD21	2.36	0.41
5:F:384:LEU:HD21	5:F:412:LEU:HD13	2.03	0.41
7:H:426:GLU:HB2	7:H:428:TYR:CD2	2.56	0.41
8:I:56:PRO:HD3	8:I:76:TRP:NE1	2.36	0.41
10:K:88:ASP:O	10:K:153:ARG:NH2	2.52	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:L:168:LEU:HD23	11:L:168:LEU:HA	1.92	0.41
11:L:282:PRO:C	11:L:284:ALA:H	2.29	0.41
11:L:361:LEU:HB3	11:L:403:THR:HG21	2.03	0.41
13:N:135:GLY:HA3	13:N:247:LYS:O	2.21	0.41
15:Q:399:VAL:HA	15:Q:402:MET:HE3	2.02	0.41
16:R:53:LYS:H	16:R:53:LYS:HG2	1.72	0.41
1:A:183:ASN:HB3	1:A:202:GLU:HG3	2.03	0.41
1:B:27:LEU:HD22	1:B:27:LEU:HA	1.95	0.41
2:C:919:PHE:CE1	2:C:924:PRO:HB3	2.55	0.41
3:D:256:ARG:HH11	3:D:256:ARG:HA	1.85	0.41
3:D:554:ARG:HD3	3:D:555:TYR:CE2	2.56	0.41
4:E:29:HIS:ND1	12:M:215:ASP:O	2.52	0.41
4:E:1005:LYS:HG2	4:E:1006:TYR:CZ	2.56	0.41
4:E:1157:SER:HB3	4:E:1160:SER:OG	2.21	0.41
5:F:323:LYS:HZ2	5:F:327:LEU:HD11	1.86	0.41
6:G:843:CYS:SG	6:G:848:LEU:HB2	2.60	0.41
10:K:239:GLU:O	10:K:242:THR:OG1	2.34	0.41
15:Q:466:MET:HE2	15:Q:468:ASP:O	2.21	0.41
16:R:59:ARG:HG3	16:R:60:TYR:CD1	2.55	0.41
17:S:501:MET:HB2	17:S:518:THR:HG23	2.03	0.41
18:T:84:GLN:HG2	18:T:86:VAL:HG23	2.03	0.41
2:C:676:SER:HB3	2:C:841:MET:HG3	2.03	0.40
3:D:368:ARG:HA	3:D:372:LEU:HD23	2.02	0.40
4:E:811:ARG:HH11	4:E:813:PHE:HE1	1.68	0.40
4:E:985:GLN:NE2	7:H:196:ARG:HH21	2.18	0.40
4:E:1005:LYS:HG3	8:I:146:GLY:HA3	2.03	0.40
4:E:1184:TRP:CD1	4:E:1187:LEU:HD13	2.56	0.40
5:F:299:ASP:OD1	5:F:301:VAL:HG12	2.21	0.40
7:H:238:ASP:OD1	7:H:238:ASP:N	2.54	0.40
7:H:368:ASP:HB3	7:H:374:ILE:HD11	2.03	0.40
8:I:53:LEU:HD22	8:I:81:ARG:HB2	2.03	0.40
11:L:219:ILE:HD11	11:L:337:GLU:HA	2.04	0.40
13:N:88:ILE:HG21	13:N:93:LEU:HD11	1.88	0.40
1:A:323:ILE:HA	1:A:326:LYS:NZ	2.35	0.40
2:C:258:LEU:HB3	2:C:262:GLY:HA3	2.03	0.40
2:C:856:PRO:HB2	4:E:131:MET:HE1	2.02	0.40
4:E:861:GLU:OE2	4:E:868:ILE:HG23	2.20	0.40
4:E:1024:ILE:HD11	7:H:164:ARG:CZ	2.51	0.40
5:F:114:VAL:HG21	11:L:410:PRO:HG3	2.03	0.40
7:H:483:TYR:CZ	7:H:487:LEU:HD11	2.56	0.40
7:H:576:SER:HB2	7:H:579:SER:HB3	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:I:188:ARG:HG3	8:I:189:LEU:O	2.21	0.40
9:J:203:PHE:C	9:J:205:LEU:H	2.28	0.40
12:M:239:ASN:OD1	12:M:239:ASN:N	2.54	0.40
15:Q:603:LEU:O	15:Q:606:VAL:HG12	2.21	0.40
17:S:320:LYS:HB3	17:S:320:LYS:HE3	1.85	0.40
17:S:386:SER:O	17:S:389:GLU:HG2	2.21	0.40
1:B:118:ALA:HB1	1:B:129:ILE:HD12	2.04	0.40
1:B:297:ASP:OD1	1:B:297:ASP:N	2.54	0.40
2:C:72:GLU:HB3	2:C:74:LEU:HG	2.03	0.40
2:C:146:TYR:HD2	2:C:303:LEU:HD21	1.86	0.40
2:C:543:ARG:NH2	2:C:546:MET:HE1	2.36	0.40
2:C:655:LYS:HE3	2:C:684:ILE:O	2.21	0.40
3:D:160:LEU:HD22	3:D:164:PHE:CE1	2.57	0.40
3:D:640:VAL:HB	3:D:649:TYR:HB2	2.03	0.40
4:E:88:TYR:CE1	4:E:1075:GLU:HG2	2.57	0.40
6:G:1032:GLU:OE1	6:G:1035:LEU:HD12	2.22	0.40
7:H:256:ARG:CZ	7:H:298:VAL:HG11	2.52	0.40
8:I:64:GLU:OE2	8:I:69:ARG:N	2.51	0.40
9:J:224:ILE:HD12	9:J:224:ILE:HA	1.91	0.40
14:P:146:MET:HE3	17:S:314:LEU:HG	2.03	0.40
15:Q:343:VAL:O	15:Q:434:ASP:N	2.44	0.40
15:Q:364:GLU:HG3	15:Q:370:THR:HG21	2.03	0.40
16:R:117:GLU:HG2	16:R:122:LYS:HD2	2.02	0.40
17:S:411:LEU:HD22	17:S:454:VAL:HG21	2.02	0.40
19:U:122:VAL:O	19:U:126:ILE:HD12	2.22	0.40
1:A:87:ILE:HD12	1:A:137:ALA:HB2	2.03	0.40
1:B:273:PHE:HE2	10:K:177:ARG:HH21	1.69	0.40
2:C:407:ASN:O	2:C:410:ILE:HG22	2.22	0.40
2:C:734:VAL:HG23	2:C:738:ASP:HB2	2.04	0.40
3:D:322:MET:HE3	3:D:322:MET:HB3	1.99	0.40
3:D:479:HIS:HE1	3:D:481:LEU:HD12	1.86	0.40
3:D:551:CYS:SG	20:D:551(A):DTT:O2	2.62	0.40
4:E:1081:LYS:NZ	7:H:136:ASP:OD1	2.55	0.40
4:E:1184:TRP:HH2	5:F:608:THR:HG22	1.86	0.40
5:F:482:ASP:HA	5:F:485:VAL:HG12	2.03	0.40
6:G:940:THR:O	6:G:944:THR:HG23	2.21	0.40
6:G:1160:VAL:HG21	6:G:1204:ARG:HB3	2.03	0.40
7:H:70:GLU:H	7:H:70:GLU:HG2	1.76	0.40
8:I:222:TYR:OH	8:I:232:THR:HG21	2.22	0.40
11:L:72:SER:HB2	16:R:43:ARG:HH21	1.85	0.40
11:L:126:HIS:NE2	11:L:142:PRO:HD2	2.36	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:L:138:TRP:CZ2	11:L:160:PRO:HA	2.56	0.40
15:Q:553:GLY:O	15:Q:558:ALA:N	2.37	0.40
19:U:112:PHE:CE1	19:U:160:GLY:HA3	2.52	0.40
1:A:50:ARG:NH1	1:A:182:ALA:O	2.54	0.40
2:C:679:LEU:HD11	2:C:852:MET:HG3	2.03	0.40
2:C:991:GLU:OE1	2:C:991:GLU:N	2.49	0.40
3:D:253:HIS:HD2	4:E:1303:ARG:HB3	1.87	0.40
4:E:313:LEU:HD13	11:L:272:ALA:HB2	2.02	0.40
4:E:1055:TYR:CE1	7:H:324:ILE:HG12	2.57	0.40
6:G:1134:MET:HE1	6:G:1179:ILE:O	2.22	0.40
8:I:194:THR:HB	8:I:198:ILE:HB	2.03	0.40
11:L:114:PRO:HD3	11:L:315:ALA:HB2	2.04	0.40
14:P:87:LEU:HD23	14:P:142:PHE:HZ	1.86	0.40
15:Q:406:MET:CE	15:Q:411:THR:HG21	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	316/327 (97%)	300 (95%)	16 (5%)	0	100	100
1	B	265/327 (81%)	255 (96%)	10 (4%)	0	100	100
2	C	936/1072 (87%)	887 (95%)	49 (5%)	0	100	100
3	D	602/680 (88%)	580 (96%)	21 (4%)	1 (0%)	44	77
4	E	1006/1373 (73%)	943 (94%)	62 (6%)	1 (0%)	48	81
5	F	637/911 (70%)	604 (95%)	32 (5%)	1 (0%)	44	77
6	G	495/1174 (42%)	477 (96%)	16 (3%)	2 (0%)	30	66
7	H	549/675 (81%)	523 (95%)	25 (5%)	1 (0%)	44	77
8	I	213/264 (81%)	200 (94%)	13 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
9	J	246/529 (46%)	231 (94%)	15 (6%)	0	100	100
10	K	391/460 (85%)	379 (97%)	12 (3%)	0	100	100
11	L	421/483 (87%)	407 (97%)	13 (3%)	1 (0%)	44	77
12	M	224/334 (67%)	218 (97%)	6 (3%)	0	100	100
13	N	224/297 (75%)	208 (93%)	16 (7%)	0	100	100
14	O	114/185 (62%)	112 (98%)	2 (2%)	0	100	100
14	P	108/185 (58%)	106 (98%)	2 (2%)	0	100	100
15	Q	437/768 (57%)	419 (96%)	18 (4%)	0	100	100
16	R	126/162 (78%)	118 (94%)	8 (6%)	0	100	100
17	S	394/611 (64%)	373 (95%)	21 (5%)	0	100	100
18	T	102/140 (73%)	99 (97%)	3 (3%)	0	100	100
19	U	97/187 (52%)	95 (98%)	2 (2%)	0	100	100
All	All	7903/11144 (71%)	7534 (95%)	362 (5%)	7 (0%)	50	81

All (7) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
5	F	466	ILE
6	G	728	ILE
6	G	761	PRO
7	H	448	ILE
11	L	142	PRO
4	E	886	LYS
3	D	180	THR

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	292/301 (97%)	292 (100%)	0	100	100
1	B	246/301 (82%)	240 (98%)	6 (2%)	44	74

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	C	828/931 (89%)	818 (99%)	10 (1%)	67	86
3	D	548/608 (90%)	540 (98%)	8 (2%)	60	83
4	E	911/1230 (74%)	896 (98%)	15 (2%)	58	82
5	F	547/782 (70%)	539 (98%)	8 (2%)	60	83
6	G	400/740 (54%)	397 (99%)	3 (1%)	79	90
7	H	491/609 (81%)	484 (99%)	7 (1%)	62	83
8	I	187/231 (81%)	186 (100%)	1 (0%)	86	94
9	J	227/469 (48%)	227 (100%)	0	100	100
10	K	346/401 (86%)	340 (98%)	6 (2%)	56	81
11	L	377/431 (88%)	375 (100%)	2 (0%)	86	94
12	M	214/299 (72%)	211 (99%)	3 (1%)	62	83
13	N	193/259 (74%)	186 (96%)	7 (4%)	30	64
14	O	104/169 (62%)	100 (96%)	4 (4%)	28	62
14	P	99/169 (59%)	96 (97%)	3 (3%)	36	69
15	Q	359/661 (54%)	356 (99%)	3 (1%)	79	90
16	R	114/144 (79%)	110 (96%)	4 (4%)	31	65
17	S	348/532 (65%)	346 (99%)	2 (1%)	84	93
18	T	94/127 (74%)	91 (97%)	3 (3%)	34	67
19	U	82/160 (51%)	81 (99%)	1 (1%)	67	86
All	All	7007/9554 (73%)	6911 (99%)	96 (1%)	62	83

All (96) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	27	LEU
1	B	127	VAL
1	B	272	ILE
1	B	277	LEU
1	B	279	LEU
1	B	297	ASP
2	C	32	ILE
2	C	48	ILE
2	C	63	LEU
2	C	114	ILE
2	C	145	VAL

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Mol	Chain	Res	Type
2	C	157	ARG
2	C	274	ILE
2	C	480	MET
2	C	614	GLN
2	C	1060	VAL
3	D	266	LEU
3	D	320	LEU
3	D	386	VAL
3	D	444	VAL
3	D	534	ASP
3	D	537	ILE
3	D	613	ILE
3	D	648	LEU
4	E	12	LYS
4	E	14	ILE
4	E	80	LEU
4	E	232	ASN
4	E	320	VAL
4	E	442	ILE
4	E	579	ILE
4	E	835	VAL
4	E	867	LEU
4	E	884	ILE
4	E	990	TYR
4	E	997	THR
4	E	1024	ILE
4	E	1033	LEU
4	E	1244	LEU
5	F	129	LEU
5	F	147	LEU
5	F	307	LEU
5	F	337	VAL
5	F	349	LYS
5	F	466	ILE
5	F	522	LYS
5	F	857	LEU
6	G	903	ILE
6	G	964	MET
6	G	1208	GLN
7	H	217	MET
7	H	284	THR
7	H	345	VAL

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Mol	Chain	Res	Type
7	H	427	LYS
7	H	486	LYS
7	H	489	MET
7	H	588	HIS
8	I	236	HIS
10	K	93	VAL
10	K	104	VAL
10	K	109	VAL
10	K	124	MET
10	K	392	SER
10	K	416	VAL
11	L	309	MET
11	L	351	ILE
12	M	121	ILE
12	M	239	ASN
12	M	265	VAL
13	N	60	LEU
13	N	93	LEU
13	N	98	LEU
13	N	147	ILE
13	N	209	VAL
13	N	222	ILE
13	N	238	ILE
14	O	108	CYS
14	O	118	LEU
14	O	151	LEU
14	O	182	ASP
14	P	114	MET
14	P	172	ILE
14	P	185	MET
15	Q	441	LEU
15	Q	699	VAL
15	Q	716	VAL
16	R	45	ILE
16	R	58	LEU
16	R	91	LEU
16	R	139	ASP
17	S	356	MET
17	S	434	VAL
18	T	58	LEU
18	T	88	ILE
18	T	95	VAL

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Mol	Chain	Res	Type
19	U	144	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (59) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	111	GLN
1	A	163	ASN
1	A	276	GLN
1	B	193	ASN
2	C	16	ASN
2	C	91	ASN
2	C	116	ASN
2	C	124	ASN
2	C	324	GLN
2	C	494	GLN
2	C	551	GLN
2	C	614	GLN
2	C	624	GLN
2	C	627	GLN
2	C	954	HIS
2	C	1068	ASN
3	D	7	HIS
3	D	303	ASN
3	D	453	ASN
4	E	792	ASN
4	E	842	ASN
4	E	921	ASN
4	E	945	ASN
4	E	985	GLN
4	E	1011	ASN
4	E	1038	ASN
4	E	1054	ASN
4	E	1071	GLN
4	E	1241	ASN
5	F	195	ASN
5	F	325	HIS
5	F	780	ASN
6	G	828	ASN
6	G	1071	ASN
6	G	1188	GLN
7	H	370	ASN
7	H	409	GLN

Continued on next page...

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Mol	Chain	Res	Type
9	J	236	ASN
9	J	329	GLN
9	J	396	GLN
9	J	423	ASN
10	K	174	ASN
10	K	235	HIS
10	K	279	ASN
10	K	331	ASN
11	L	311	ASN
11	L	480	GLN
12	M	321	HIS
13	N	207	ASN
13	N	227	HIS
13	N	235	ASN
14	O	85	GLN
15	Q	545	ASN
16	R	114	ASN
17	S	210	GLN
17	S	333	ASN
17	S	395	GLN
17	S	469	ASN
19	U	173	GLN

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates

There are no oligosaccharides in this entry.

5.6 Ligand geometry

Of 8 ligands modelled in this entry, 6 are monoatomic - leaving 2 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
25	SAH	L	801	-	24,28,28	0.90	1 (4%)	25,40,40	0.72	0
20	DTT	D	551(A)	3	7,7,7	0.57	0	4,8,8	0.48	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
25	SAH	L	801	-	-	4/11/31/31	0/3/3/3
20	DTT	D	551(A)	3	-	0/8/8/8	-

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
25	L	801	SAH	C8-N7	-2.55	1.30	1.34

There are no bond angle outliers.

There are no chirality outliers.

All (4) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
25	L	801	SAH	CA-CB-CG-SD
25	L	801	SAH	O-C-CA-CB
25	L	801	SAH	OXT-C-CA-CB
25	L	801	SAH	CB-CG-SD-C5'

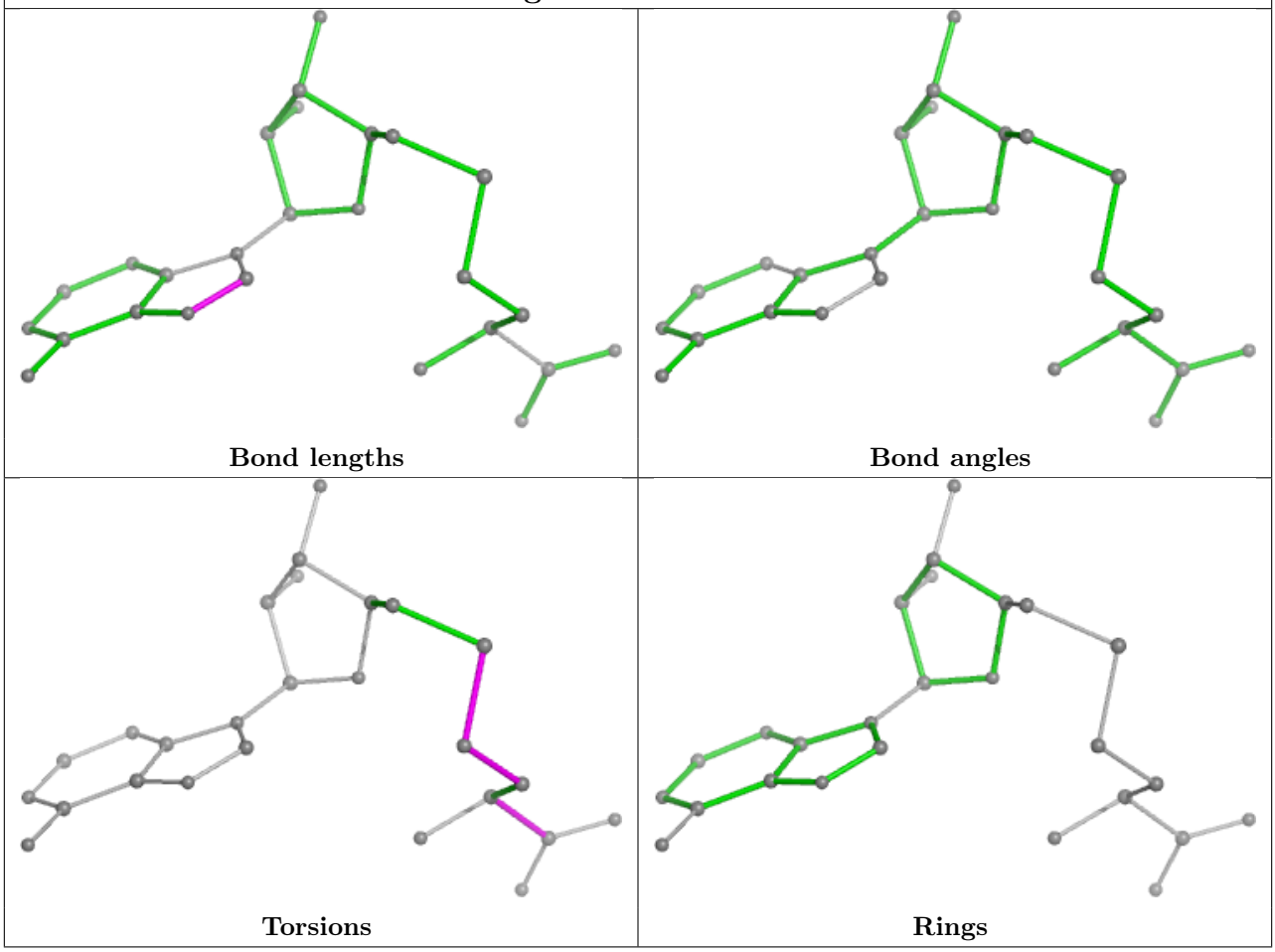
There are no ring outliers.

2 monomers are involved in 6 short contacts:

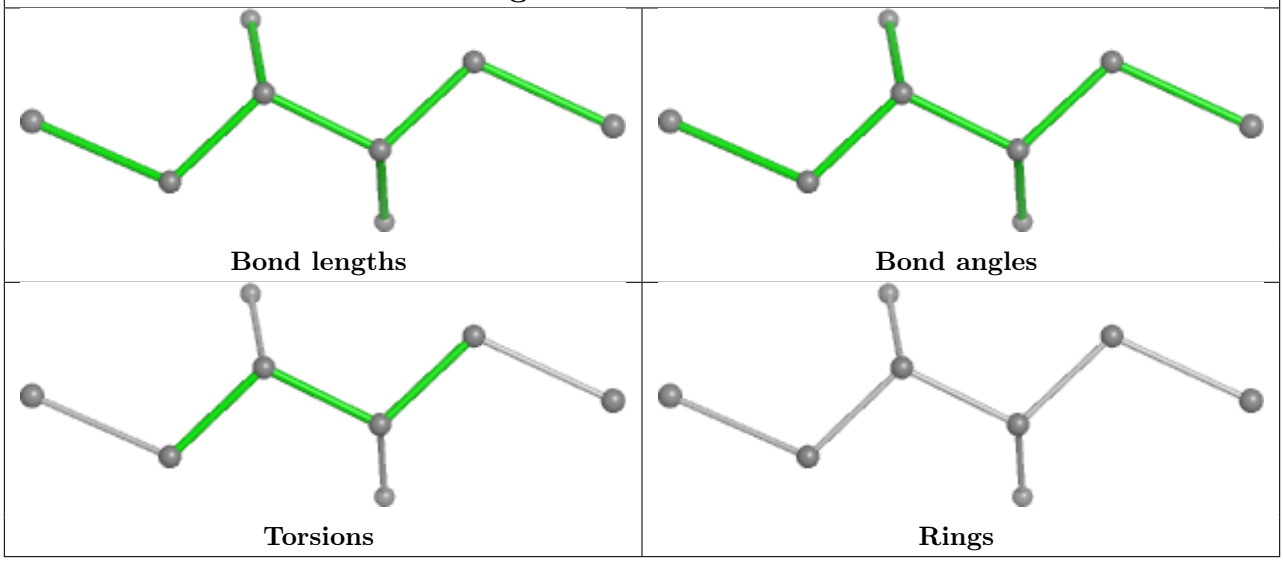
Mol	Chain	Res	Type	Clashes	Symm-Clashes
25	L	801	SAH	5	0
20	D	551(A)	DTT	1	0

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

Ligand SAH L 801



Ligand DTT D 551A



5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
6	G	9

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	G	154:UNK	C	155:UNK	N	11.62
1	G	219:UNK	C	220:UNK	N	11.53
1	G	181:UNK	C	182:UNK	N	11.40
1	G	194:UNK	C	195:UNK	N	11.25
1	G	230:UNK	C	231:UNK	N	10.51
1	G	128:UNK	C	129:UNK	N	9.89
1	G	205:UNK	C	206:UNK	N	9.28
1	G	243:UNK	C	244:UNK	N	6.21
1	G	141:UNK	C	142:UNK	N	4.92

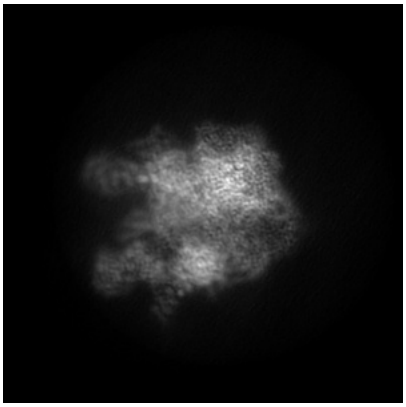
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-19877. These allow visual inspection of the internal detail of the map and identification of artifacts.

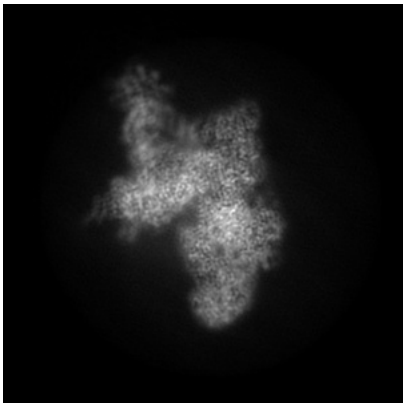
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

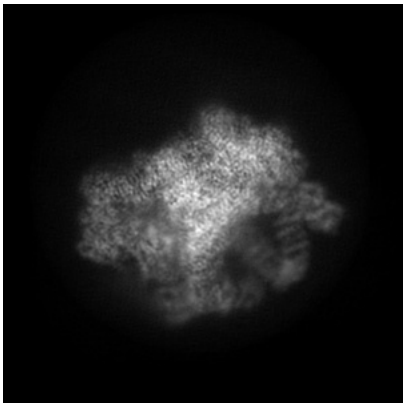
6.1.1 Primary map



X



Y

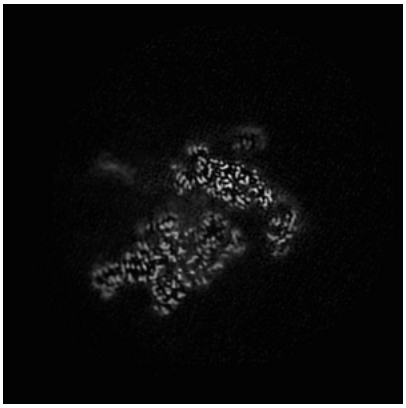


Z

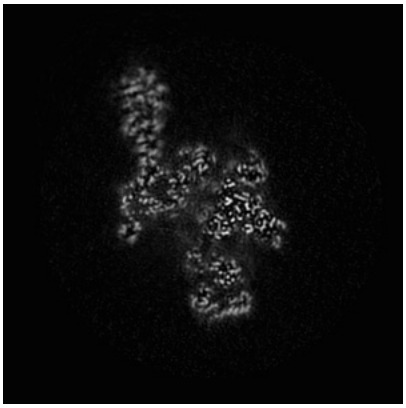
The images above show the map projected in three orthogonal directions.

6.2 Central slices

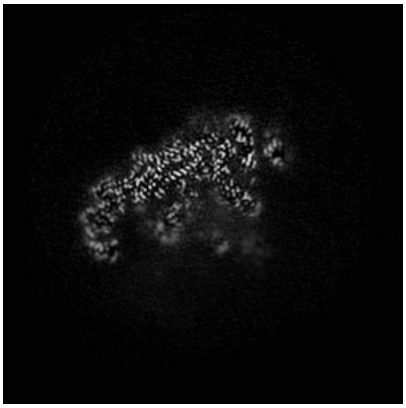
6.2.1 Primary map



X Index: 175



Y Index: 175

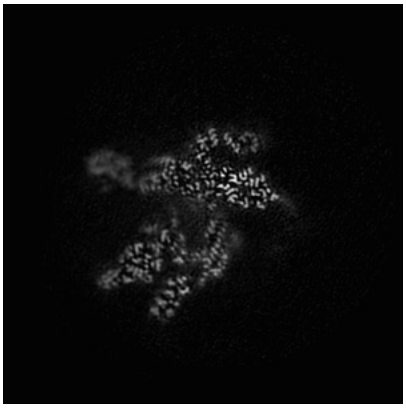


Z Index: 175

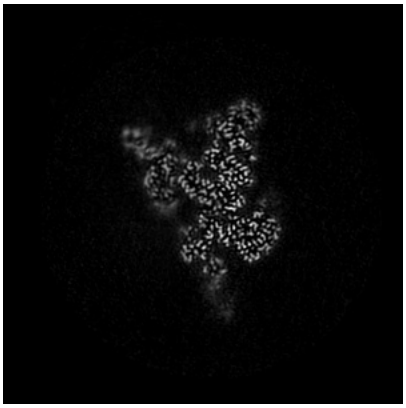
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

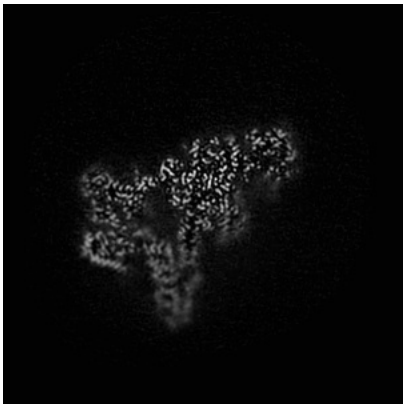
6.3.1 Primary map



X Index: 167



Y Index: 205

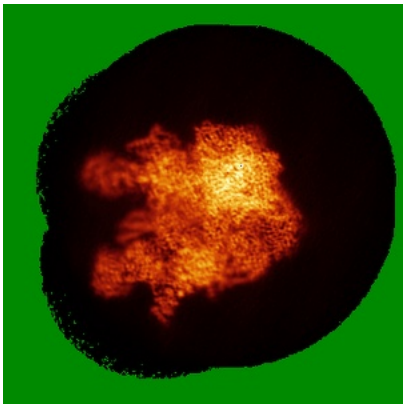


Z Index: 196

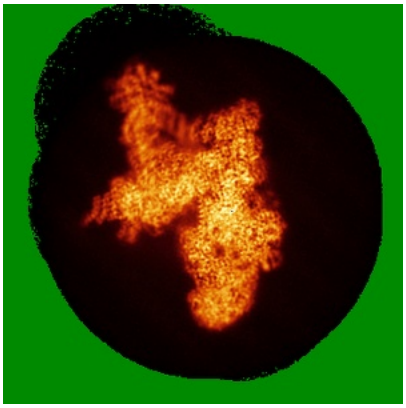
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) (i)

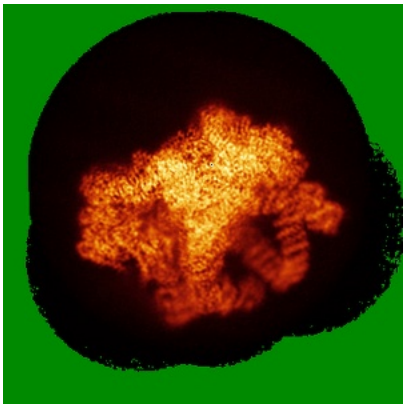
6.4.1 Primary map



X



Y

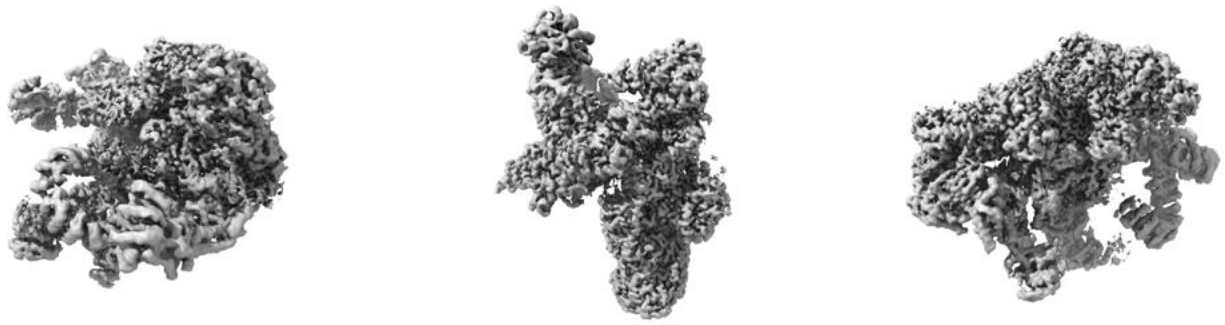


Z

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

6.5 Orthogonal surface views (i)

6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.00912. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

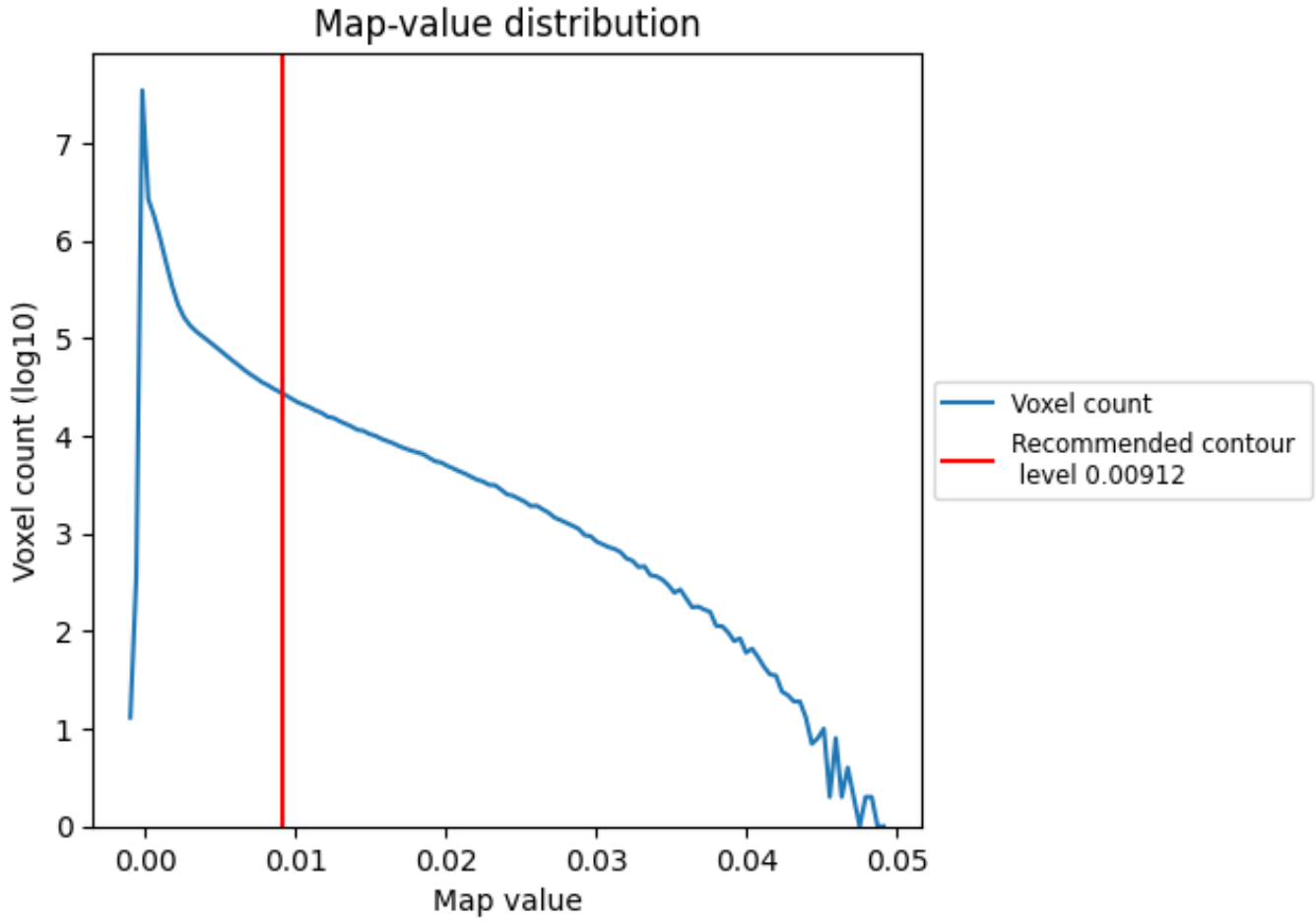
6.6 Mask visualisation (i)

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

7 Map analysis

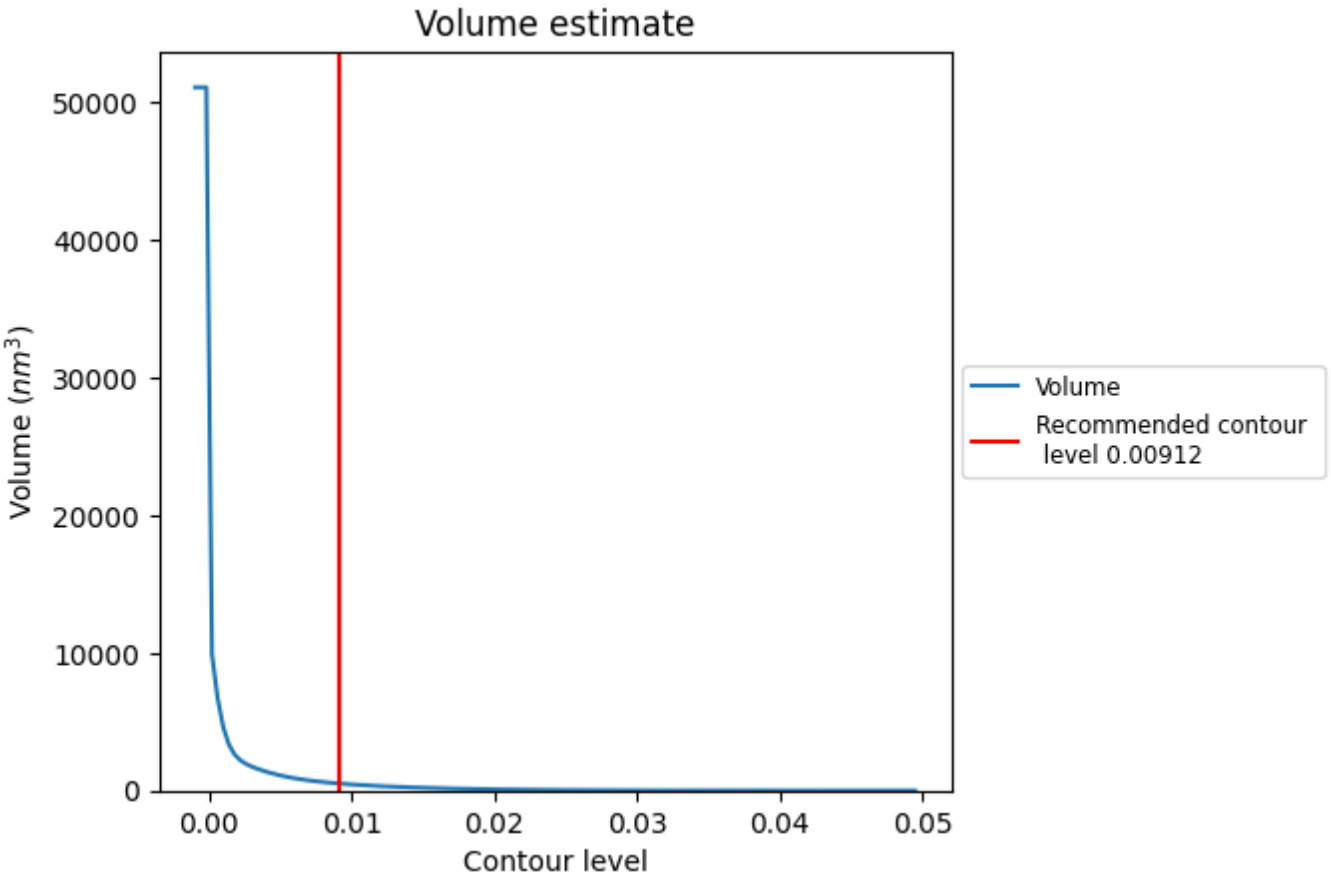
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

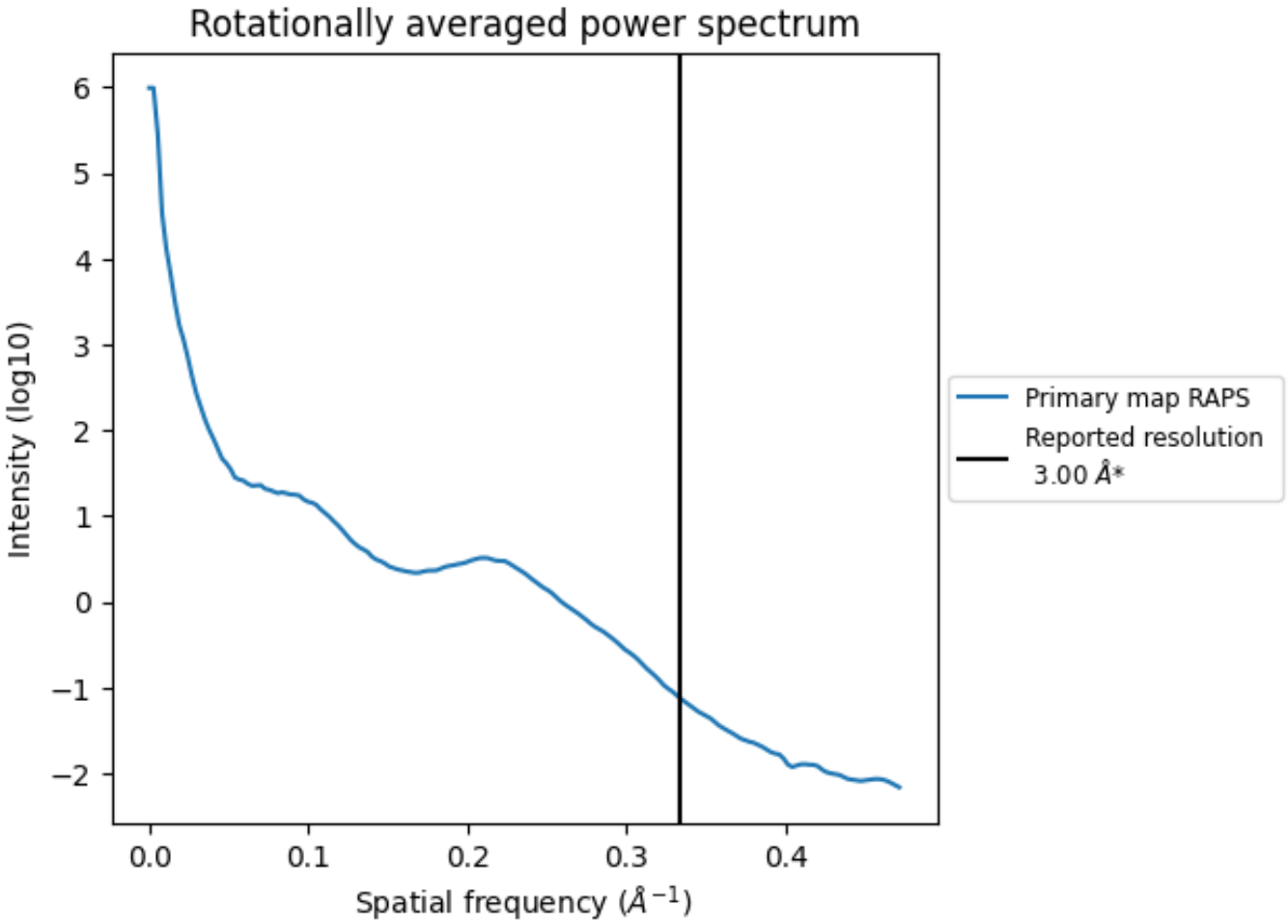
7.2 Volume estimate



The volume at the recommended contour level is 511 nm^3; this corresponds to an approximate mass of 461 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 0.333 Å^{-1}

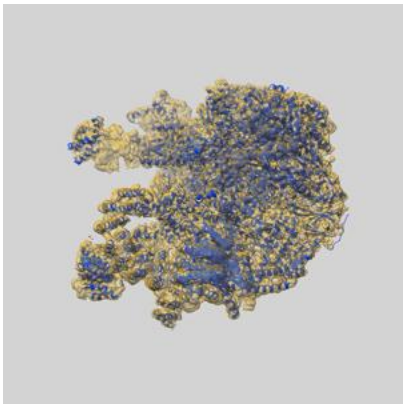
8 Fourier-Shell correlation

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

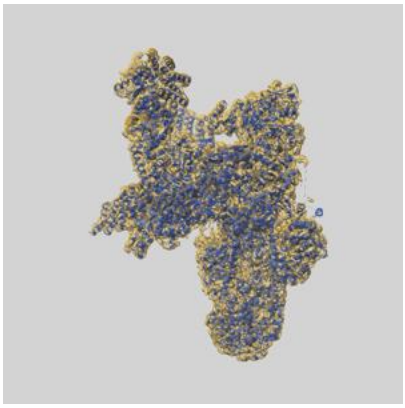
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-19877 and PDB model 9EPC. Per-residue inclusion information can be found in section 3 on page 9.

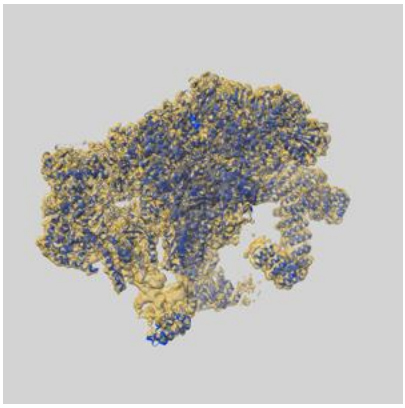
9.1 Map-model overlay



X



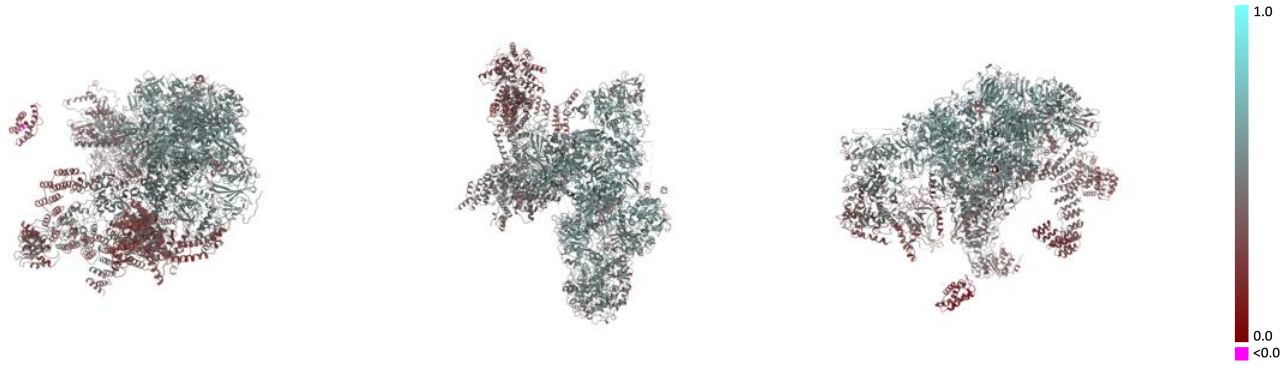
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.00912 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.

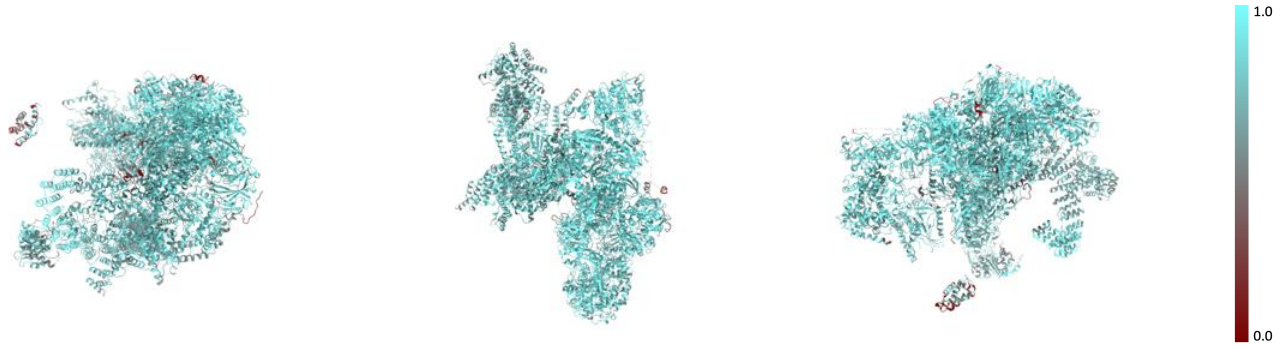
9.2 Q-score mapped to coordinate model (i)



X Y Z

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

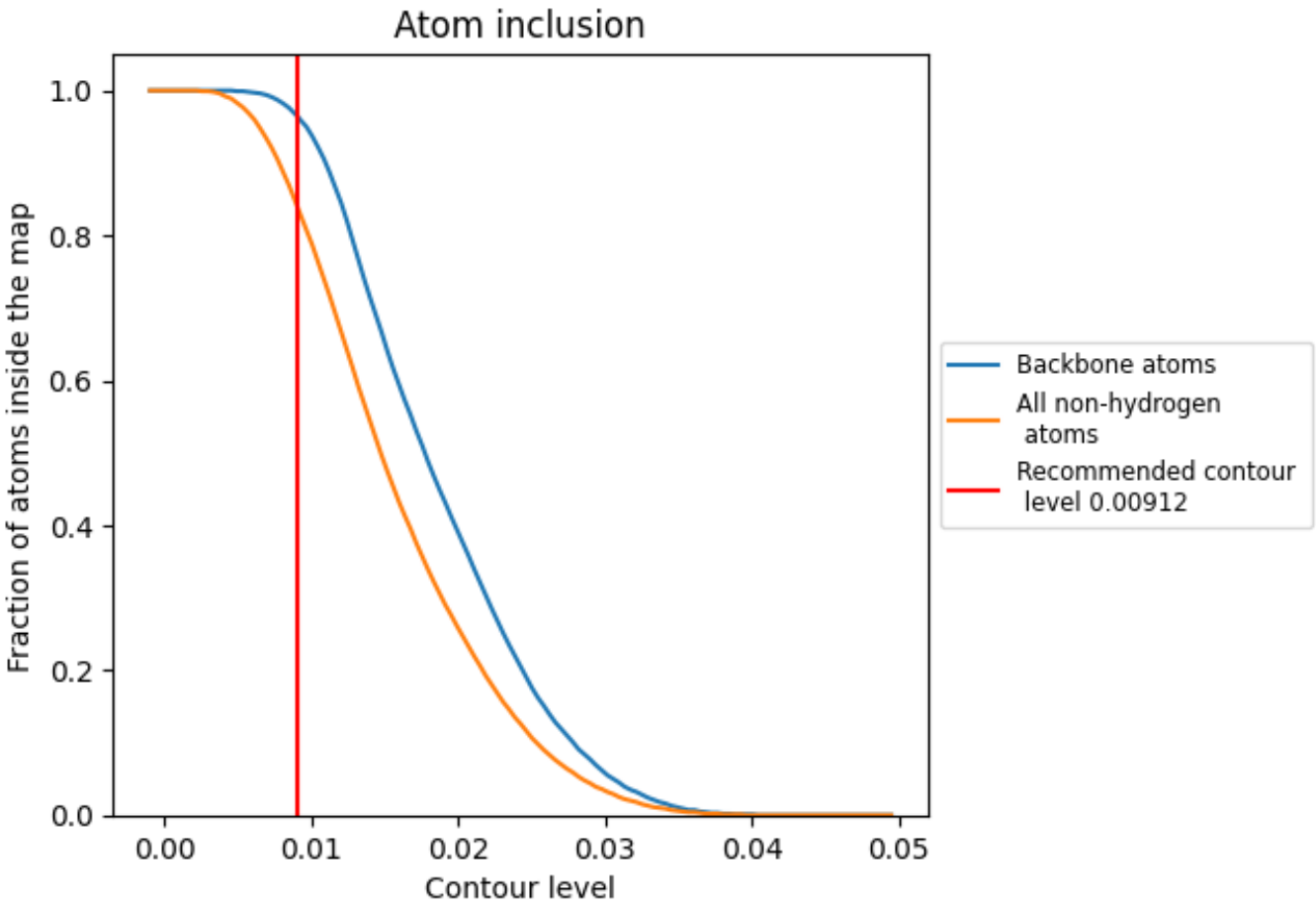
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.00912).

9.4 Atom inclusion (i)



At the recommended contour level, 96% 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 (0.00912) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8360	0.4790
A	0.8730	0.5350
B	0.8320	0.5350
C	0.8290	0.5070
D	0.8400	0.4890
E	0.8710	0.5110
F	0.8340	0.4420
G	0.7500	0.3160
H	0.8430	0.4630
I	0.8780	0.4820
J	0.9100	0.5650
K	0.9100	0.5710
L	0.8300	0.4530
M	0.8440	0.5420
N	0.8250	0.4010
O	0.9030	0.5550
P	0.8320	0.4980
Q	0.7480	0.4240
R	0.7990	0.5130
S	0.8840	0.5440
T	0.8610	0.4630
U	0.4750	0.1740