Full wwPDB EM Validation Report ⓘ

Mar 30, 2025 – 04:20 am BST

PDB ID	:	9Q90 / pdb_00009q90
EMDB ID	:	EMD-14171
Title	:	CryoEM structure of bacterial transcription intermediate complex mediated by activator PspF
Authors	:	Ye, F.; Gao, F.; Zhang, X.
Deposited on	:	2025-02-26
Resolution	:	3.50 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:

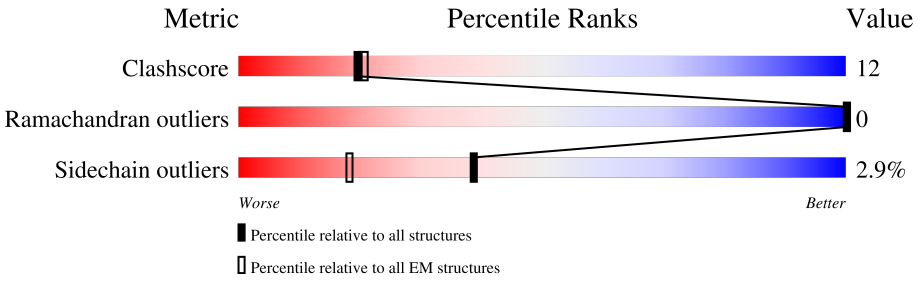
EMDB validation analysis	:	0.0.1.dev117
Mogul	:	?.? (???), CSD ??CSD?? (????)
MolProbity	:	4.02b-467
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.42

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 3.50 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	1	275	55% 35% · 6%
1	2	275	56% 37% · 6%
1	3	275	5% 64% 29% · 6%
1	4	275	58% 35% · 6%
1	5	275	5% 52% 39% · 7%
1	6	275	8% 52% 39% · 7%
2	A	329	75% 19% 6%
2	B	329	47% 20% · 32%

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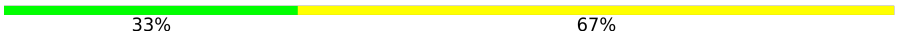
Mol	Chain	Length	Quality of chain
3	C	1342	
4	D	1407	
5	E	91	
6	M	497	
7	N	36	
8	T	36	

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
10	AF3	3	602	-	-	X	-
10	AF3	4	602	-	-	X	-

2 Entry composition

There are 11 unique types of molecules in this entry. The entry contains 41495 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 Psp operon transcriptional activator.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	1	258	Total	C	N	O	S	0	0
			2052	1302	360	380	10		
1	2	259	Total	C	N	O	S	0	0
			2052	1301	361	380	10		
1	3	259	Total	C	N	O	S	0	0
			2053	1304	358	381	10		
1	4	259	Total	C	N	O	S	0	0
			2062	1308	364	381	9		
1	5	256	Total	C	N	O	S	0	0
			2041	1295	361	376	9		
1	6	256	Total	C	N	O	S	0	0
			2000	1270	349	372	9		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
2	A	309	Total	C	N	O	S	0	0
			2322	1453	407	455	7		
2	B	223	Total	C	N	O	S	0	0
			1676	1045	294	332	5		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
3	C	1341	Total	C	N	O	S	0	0
			10125	6360	1761	1964	40		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
4	D	1334	Total	C	N	O	S	0	0
			9634	6052	1730	1814	38		

- Molecule 5 is a protein called DNA-directed RNA polymerase subunit omega.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	E	74	Total	C	N	O	S	0	0
			546	335	109	101	1		

- Molecule 6 is a protein called RNA polymerase sigma-54 factor.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	M	417	Total	C	N	O	S	0	0
			3301	2071	572	646	12		

There are 34 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
M	-19	MET	-	initiating methionine	UNP A6TEM1
M	-18	GLY	-	expression tag	UNP A6TEM1
M	-17	SER	-	expression tag	UNP A6TEM1
M	-16	SER	-	expression tag	UNP A6TEM1
M	-15	HIS	-	expression tag	UNP A6TEM1
M	-14	HIS	-	expression tag	UNP A6TEM1
M	-13	HIS	-	expression tag	UNP A6TEM1
M	-12	HIS	-	expression tag	UNP A6TEM1
M	-11	HIS	-	expression tag	UNP A6TEM1
M	-10	HIS	-	expression tag	UNP A6TEM1
M	-9	SER	-	expression tag	UNP A6TEM1
M	-8	SER	-	expression tag	UNP A6TEM1
M	-7	GLY	-	expression tag	UNP A6TEM1
M	-6	LEU	-	expression tag	UNP A6TEM1
M	-5	VAL	-	expression tag	UNP A6TEM1
M	-4	PRO	-	expression tag	UNP A6TEM1
M	-3	ARG	-	expression tag	UNP A6TEM1
M	-2	GLY	-	expression tag	UNP A6TEM1
M	-1	SER	-	expression tag	UNP A6TEM1
M	0	HIS	-	expression tag	UNP A6TEM1
M	1	MET	-	expression tag	UNP A6TEM1
M	2	LYS	-	expression tag	UNP A6TEM1
M	3	GLN	-	expression tag	UNP A6TEM1
M	4	GLY	-	expression tag	UNP A6TEM1
M	5	LEU	-	expression tag	UNP A6TEM1
M	6	GLN	-	expression tag	UNP A6TEM1
M	7	LEU	-	expression tag	UNP A6TEM1
M	8	ARG	-	expression tag	UNP A6TEM1
M	9	LEU	-	expression tag	UNP A6TEM1

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Chain	Residue	Modelled	Actual	Comment	Reference
M	10	SER	-	expression tag	UNP A6TEM1
M	11	GLN	-	expression tag	UNP A6TEM1
M	12	GLN	-	expression tag	UNP A6TEM1
M	13	LEU	-	expression tag	UNP A6TEM1
M	14	ALA	-	expression tag	UNP A6TEM1

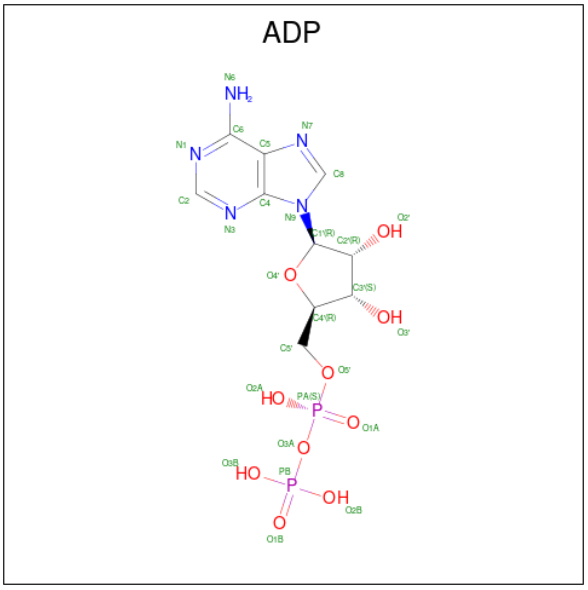
- Molecule 7 is a DNA chain called DNA (36-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
7	N	36	Total	C	N	O	P	0	0
			738	349	137	216	36		

- Molecule 8 is a DNA chain called DNA (36-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
8	T	36	Total	C	N	O	P	0	0
			738	349	137	216	36		

- Molecule 9 is ADENOSINE-5'-DIPHOSPHATE (CCD ID: ADP) (formula: $C_{10}H_{15}N_5O_{10}P_2$).



Mol	Chain	Residues	Atoms					AltConf
9	1	1	Total	C	N	O	P	0
			27	10	5	10	2	
9	2	1	Total	C	N	O	P	0
			27	10	5	10	2	

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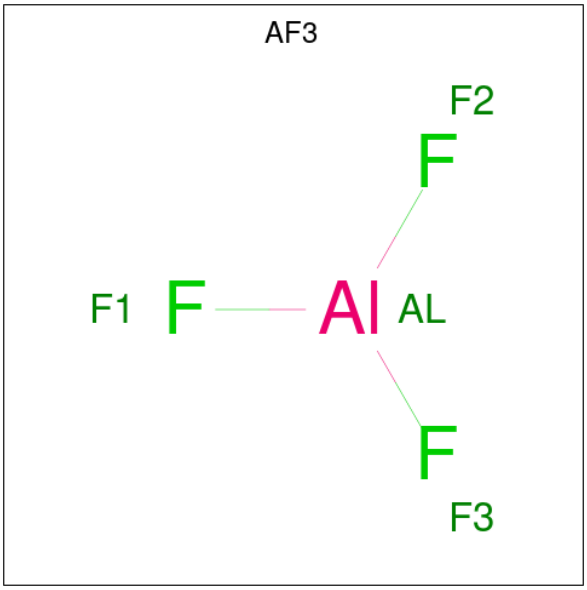
Mol	Chain	Residues	Atoms					AltConf
9	3	1	Total	C	N	O	P	0
			27	10	5	10	2	
9	4	1	Total	C	N	O	P	0
			27	10	5	10	2	
9	6	1	Total	C	N	O	P	0
			27	10	5	10	2	

- Molecule 10 is ALUMINUM FLUORIDE (CCD ID: AF3) (formula: AlF_3).



Mol	Chain	Residues	Atoms			AltConf
10	1	1	Total	Al	F	0
			4	1	3	
10	2	1	Total	Al	F	0
			4	1	3	
10	3	1	Total	Al	F	0
			4	1	3	
10	4	1	Total	Al	F	0
			4	1	3	

- Molecule 11 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
11	1	1	Total	Mg	0
			1	1	
11	2	1	Total	Mg	0
			1	1	

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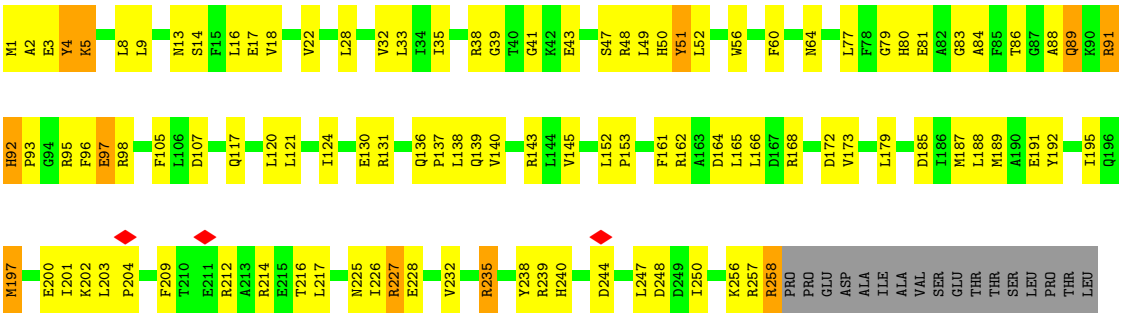
Mol	Chain	Residues	Atoms	AltConf
11	3	1	Total Mg 1 1	0
11	4	1	Total Mg 1 1	0

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.

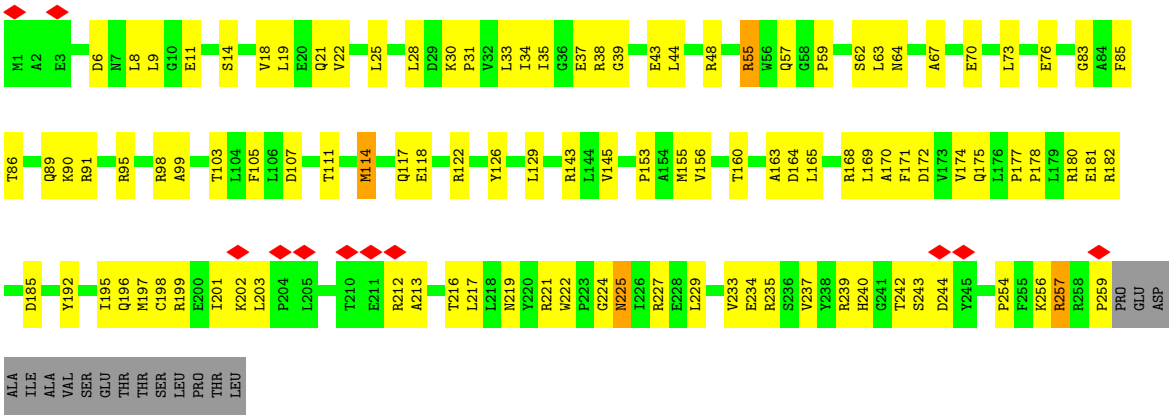
• Molecule 1: Psp operon transcriptional activator

Chain 1:



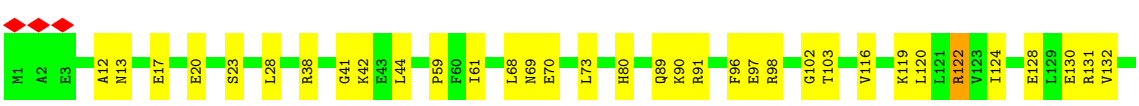
• Molecule 1: Psp operon transcriptional activator

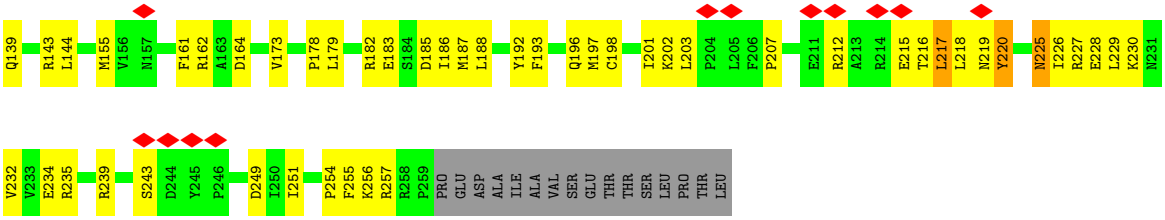
Chain 2:



• Molecule 1: Psp operon transcriptional activator

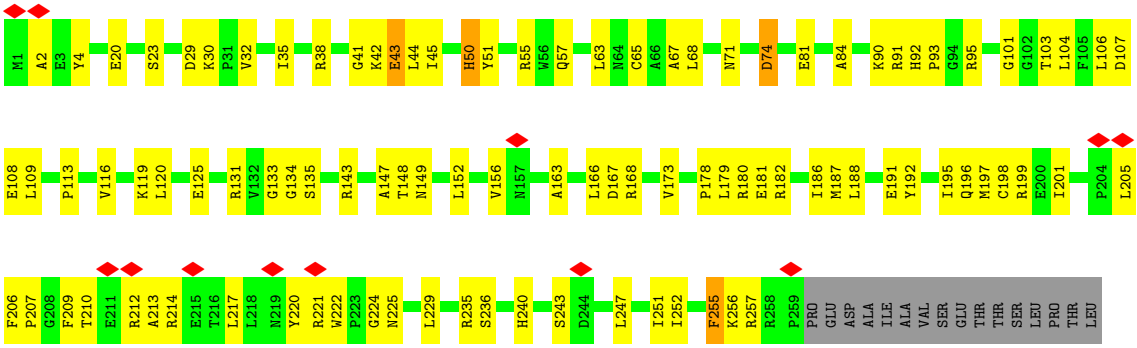
Chain 3:





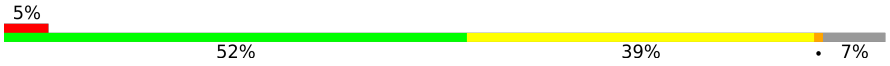
• Molecule 1: Psp operon transcriptional activator

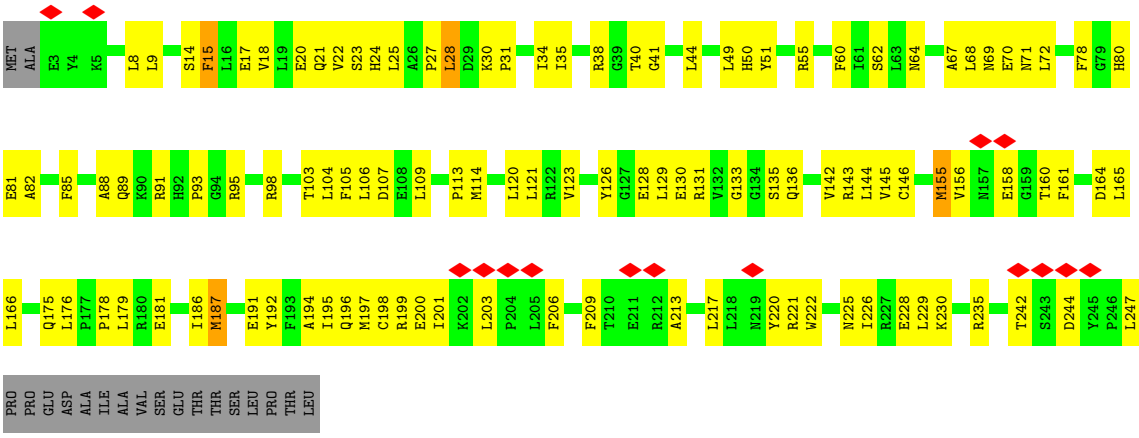
Chain 4:



• Molecule 1: Psp operon transcriptional activator

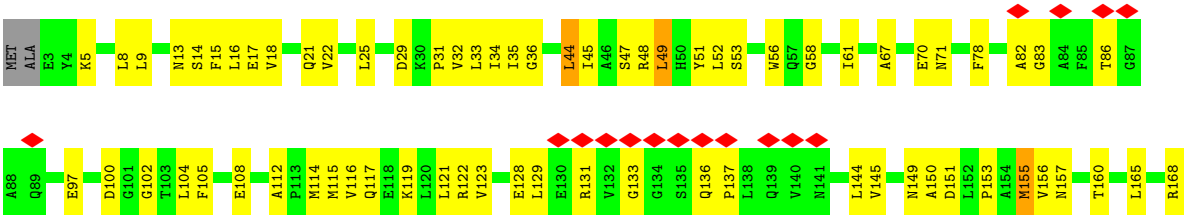
Chain 5:

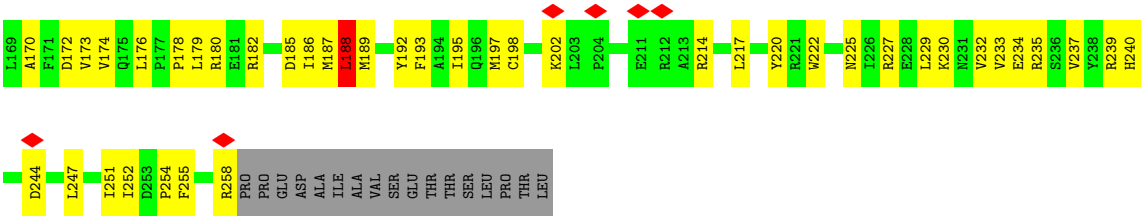




• Molecule 1: Psp operon transcriptional activator

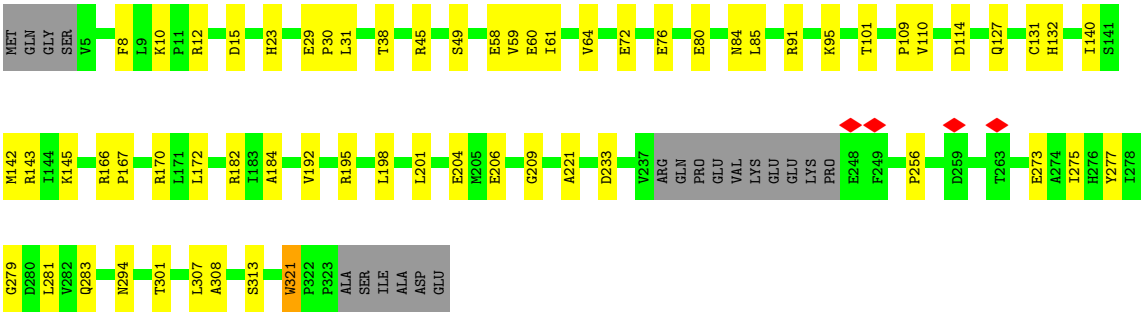
Chain 6:





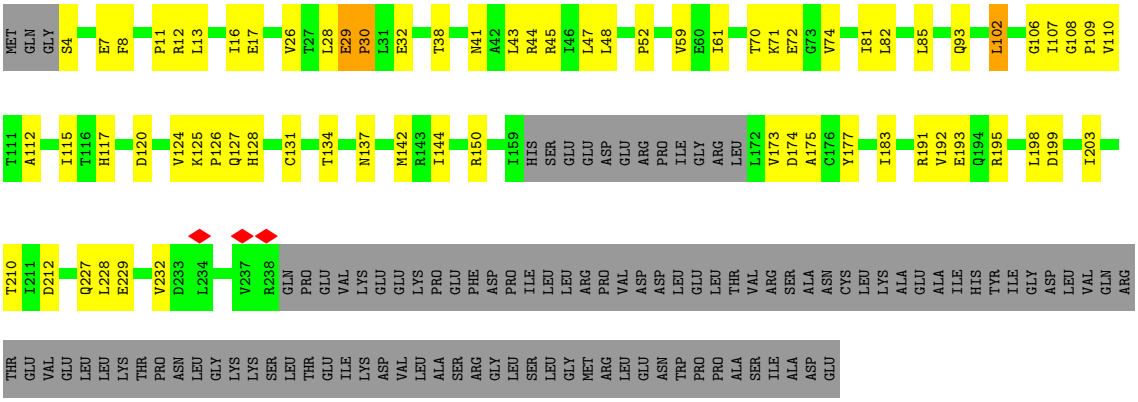
• Molecule 2: DNA-directed RNA polymerase subunit alpha

Chain A:



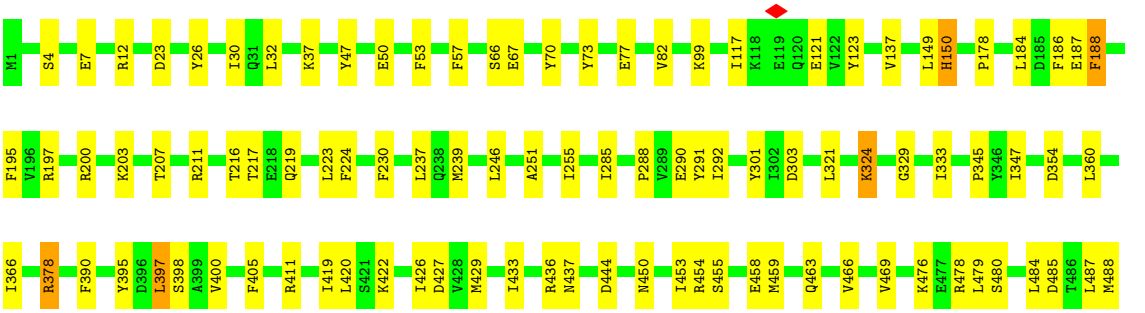
• Molecule 2: DNA-directed RNA polymerase subunit alpha

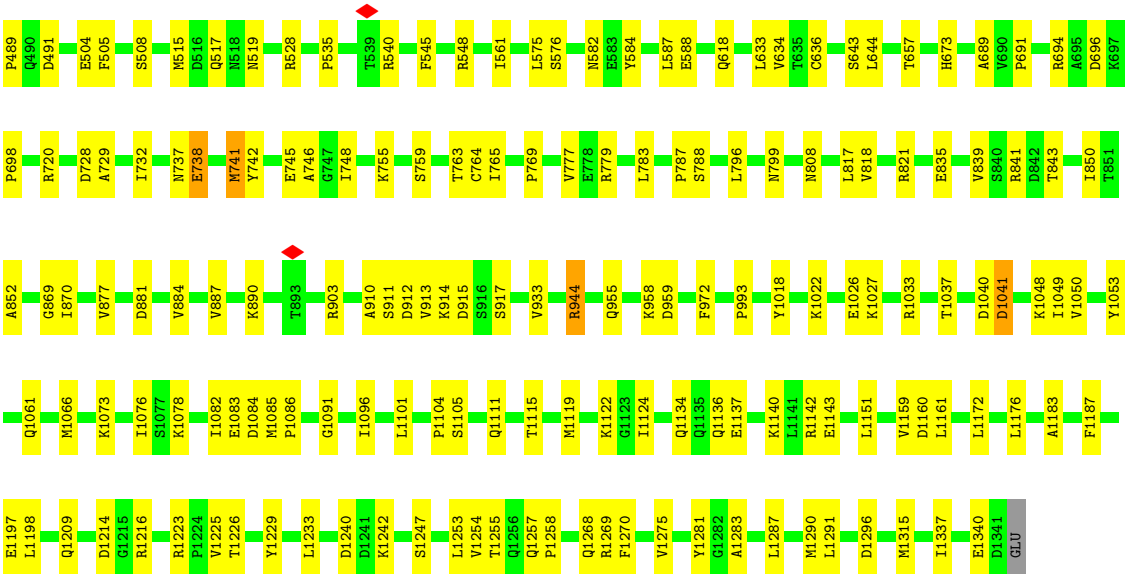
Chain B:



• Molecule 3: DNA-directed RNA polymerase subunit beta

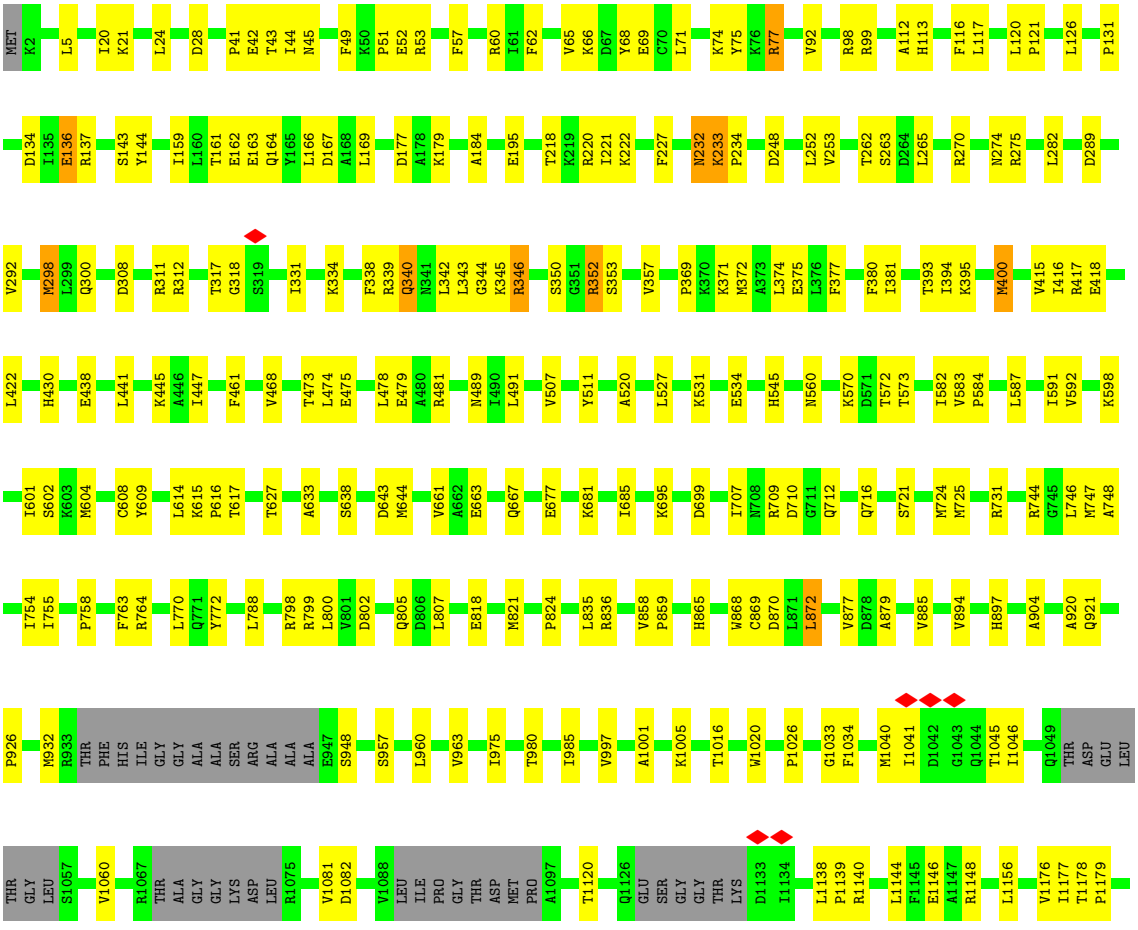
Chain C:

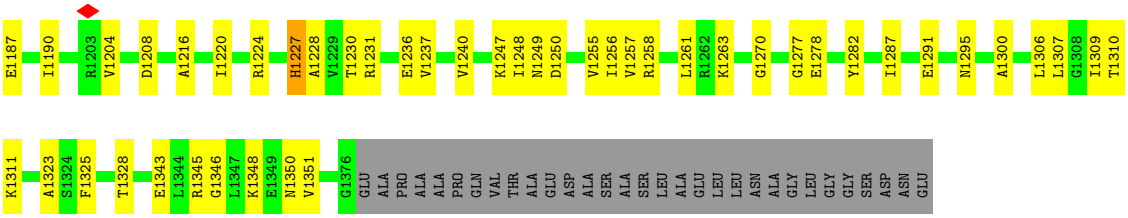




• Molecule 4: DNA-directed RNA polymerase subunit beta'

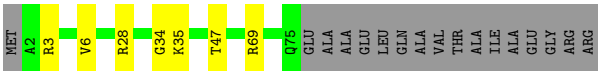
Chain D:





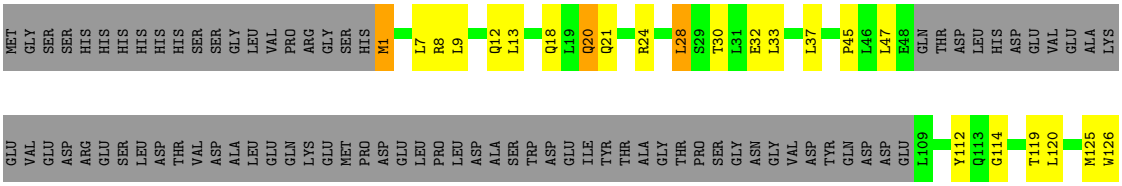
• Molecule 5: DNA-directed RNA polymerase subunit omega

Chain E:



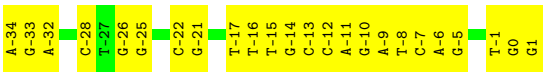
• Molecule 6: RNA polymerase sigma-54 factor

Chain M:



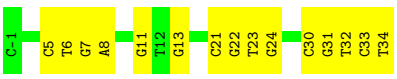
• Molecule 7: DNA (36-MER)

Chain N:



• Molecule 8: DNA (36-MER)

Chain T:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	23354	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 ($e^-/Å^2$)	40	Depositor
Minimum defocus (nm)	1400	Depositor
Maximum defocus (nm)	2600	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	0.302	Depositor
Minimum map value	-0.152	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.006	Depositor
Recommended contour level	0.012	Depositor
Map size (Å)	308.0, 308.0, 308.0	wwPDB
Map dimensions	280, 280, 280	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.1, 1.1, 1.1	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: MG, ADP, AF3

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	1	0.34	0/2093	0.63	0/2832
1	2	0.28	0/2093	0.59	0/2833
1	3	0.28	0/2095	0.60	1/2837 (0.0%)
1	4	0.27	0/2104	0.58	0/2848
1	5	0.28	0/2082	0.61	1/2817 (0.0%)
1	6	0.29	0/2038	0.64	3/2762 (0.1%)
2	A	0.24	0/2351	0.54	1/3202 (0.0%)
2	B	0.25	0/1693	0.56	0/2300
3	C	0.26	0/10283	0.53	3/13940 (0.0%)
4	D	0.25	0/9768	0.52	2/13270 (0.0%)
5	E	0.26	0/547	0.60	0/740
6	M	0.34	2/3348 (0.1%)	0.65	6/4533 (0.1%)
7	N	0.49	0/827	0.87	0/1274
8	T	0.50	0/827	0.88	0/1274
All	All	0.29	2/42149 (0.0%)	0.58	17/57462 (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
1	1	0	1
6	M	0	1
All	All	0	2

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	M	269	PRO	CG-CD	-10.80	1.15	1.50
6	M	269	PRO	N-CD	5.73	1.55	1.47

All (17) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	M	269	PRO	CA-N-CD	-12.21	94.41	111.50
6	M	269	PRO	N-CD-CG	-11.47	86.00	103.20
3	C	535	PRO	N-CD-CG	-6.69	93.16	103.20
1	6	49	LEU	CA-CB-CG	6.31	129.82	115.30
3	C	397	LEU	CA-CB-CG	6.30	129.78	115.30
6	M	269	PRO	CA-CB-CG	-6.25	92.12	104.00
6	M	452	MET	CB-CG-SD	6.24	131.13	112.40
1	5	31	PRO	CA-N-CD	-5.95	103.18	111.50
1	6	188	LEU	CA-CB-CG	5.82	128.69	115.30
1	3	217	LEU	CA-CB-CG	5.41	127.74	115.30
6	M	452	MET	CA-CB-CG	5.34	122.38	113.30
6	M	274	PRO	CA-N-CD	-5.30	104.08	111.50
2	A	15	ASP	CB-CG-OD1	5.23	123.00	118.30
3	C	535	PRO	CA-N-CD	-5.21	104.21	111.50
4	D	710	ASP	CB-CG-OD1	5.13	122.92	118.30
1	6	44	LEU	CA-CB-CG	5.10	127.03	115.30
4	D	699	ASP	CB-CG-OD1	5.05	122.85	118.30

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	1	227	ARG	Sidechain
6	M	1	MET	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	1	2052	0	2048	98	0
1	2	2052	0	2048	82	0
1	3	2053	0	2044	59	0
1	4	2062	0	2059	83	0
1	5	2041	0	2038	95	0
1	6	2000	0	1967	82	0
2	A	2322	0	2308	44	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	B	1676	0	1676	46	0
3	C	10125	0	9829	171	0
4	D	9634	0	9244	199	0
5	E	546	0	548	9	0
6	M	3301	0	3331	106	0
7	N	738	0	404	20	0
8	T	738	0	404	16	0
9	1	27	0	12	2	0
9	2	27	0	12	3	0
9	3	27	0	12	4	0
9	4	27	0	12	3	0
9	6	27	0	12	1	0
10	1	4	0	0	0	0
10	2	4	0	0	0	0
10	3	4	0	0	2	0
10	4	4	0	0	3	0
11	1	1	0	0	0	0
11	2	1	0	0	0	0
11	3	1	0	0	0	0
11	4	1	0	0	0	0
All	All	41495	0	40008	1006	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 12.

All (1006) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:3:42:LYS:NZ	10:3:602:AF3:F3	1.84	1.00
2:A:10:LYS:HD2	2:B:227:GLN:HA	1.52	0.89
1:1:81:GLU:HA	1:1:91:ARG:HE	1.42	0.85
3:C:903:ARG:HD3	3:C:910:ALA:HB2	1.58	0.83
1:2:38:ARG:HH12	1:2:224:GLY:HA2	1.43	0.83
1:4:179:LEU:HA	1:4:182:ARG:HD3	1.62	0.81
6:M:237:ARG:O	6:M:240:ARG:NH1	2.13	0.80
1:3:254:PRO:HB2	1:4:173:VAL:HG12	1.63	0.80
1:1:86:THR:HG23	6:M:13:LEU:HA	1.63	0.79
1:6:227:ARG:HH12	9:6:301:ADP:H4'	1.49	0.78
4:D:334:LYS:HA	4:D:339:ARG:HD3	1.65	0.78
2:A:109:PRO:HA	2:A:132:HIS:HB3	1.67	0.77
4:D:836:ARG:NH1	4:D:869:CYS:SG	2.58	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:4:179:LEU:HD11	1:4:186:ILE:HG12	1.68	0.76
4:D:527:LEU:HD12	4:D:531:LYS:HB3	1.68	0.75
4:D:275:ARG:HD3	4:D:298:MET:HB3	1.68	0.75
3:C:397:LEU:HD12	3:C:398:SER:H	1.52	0.75
1:4:42:LYS:NZ	10:4:602:AF3:F2	2.10	0.75
1:1:32:VAL:HB	1:1:145:VAL:HG12	1.69	0.75
2:B:13:LEU:HB3	2:B:29:GLU:HB3	1.67	0.74
1:4:180:ARG:HD2	1:4:221:ARG:HH12	1.52	0.74
1:3:186:ILE:HD11	1:3:218:LEU:HD23	1.69	0.74
3:C:689:ALA:HB2	3:C:1233:LEU:HD12	1.70	0.74
6:M:18:GLN:HE22	8:T:11:DG:H1	1.35	0.74
6:M:441:LYS:NZ	7:N:-28:DC:OP1	2.20	0.73
8:T:21:DC:H2'	8:T:22:DG:C8	2.22	0.73
1:5:235:ARG:HH22	1:6:173:VAL:HG12	1.51	0.73
1:1:3:GLU:HA	1:1:52:LEU:HD21	1.69	0.73
2:A:60:GLU:HG2	2:A:170:ARG:HG2	1.70	0.73
6:M:425:LYS:HB2	6:M:465:LEU:HD21	1.69	0.73
1:1:189:MET:SD	1:1:189:MET:N	2.62	0.72
3:C:1275:VAL:HB	4:D:343:LEU:HG	1.71	0.72
1:5:93:PRO:HG2	1:5:98:ARG:HH12	1.53	0.72
2:A:49:SER:OG	3:C:1083:GLU:OE2	2.06	0.72
3:C:360:LEU:HA	3:C:378:ARG:HH22	1.53	0.72
1:3:201:ILE:HG13	1:3:203:LEU:HD23	1.71	0.71
7:N:-10:DG:H2'	7:N:-9:DA:C8	2.25	0.71
1:6:153:PRO:HA	1:6:156:VAL:HG12	1.72	0.71
2:A:167:PRO:HD2	2:A:170:ARG:HD3	1.71	0.71
1:5:34:ILE:HD11	1:5:176:LEU:HD11	1.72	0.71
2:B:112:ALA:HB3	2:B:126:PRO:HA	1.73	0.70
4:D:417:ARG:HG2	4:D:418:GLU:HG2	1.72	0.70
1:5:69:ASN:OD1	1:5:71:ASN:ND2	2.24	0.70
2:B:11:PRO:HA	2:B:29:GLU:HG3	1.71	0.70
1:4:38:ARG:HB2	1:4:149:ASN:HD21	1.56	0.70
1:5:155:MET:O	1:5:160:THR:OG1	2.09	0.70
1:2:62:SER:HB3	1:3:122:ARG:HH21	1.57	0.70
2:A:45:ARG:NH2	3:C:1084:ASP:OD1	2.25	0.70
3:C:839:VAL:HG12	3:C:1049:ILE:HG12	1.73	0.70
4:D:136:GLU:OE2	4:D:312:ARG:NH1	2.25	0.70
1:2:70:GLU:HA	1:2:73:LEU:HD23	1.75	0.69
1:4:95:ARG:NH2	1:5:130:GLU:OE1	2.25	0.69
3:C:1258:PRO:HG2	4:D:346:ARG:HB3	1.74	0.69
1:3:235:ARG:NH1	1:3:251:ILE:O	2.26	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:240:HIS:NE2	1:2:242:THR:O	2.25	0.69
3:C:422:LYS:O	3:C:426:ILE:HD12	1.92	0.69
3:C:519:ASN:ND2	3:C:689:ALA:O	2.26	0.69
4:D:1144:LEU:HD11	4:D:1236:GLU:HG2	1.73	0.69
2:B:47:LEU:HD11	2:B:183:ILE:HD13	1.76	0.68
4:D:644:MET:O	4:D:764:ARG:NH1	2.27	0.68
1:1:1:MET:HB3	1:1:56:TRP:CE2	2.28	0.68
3:C:478:ARG:O	3:C:478:ARG:NH1	2.27	0.68
1:4:42:LYS:HE3	10:4:602:AF3:F1	1.82	0.68
2:A:110:VAL:HG12	2:A:132:HIS:HA	1.76	0.68
3:C:763:THR:HG22	3:C:764:CYS:H	1.58	0.68
1:2:257:ARG:HG3	1:2:259:PRO:HD2	1.75	0.67
1:5:68:LEU:HD13	1:5:72:LEU:HG	1.76	0.67
1:5:68:LEU:HB3	1:5:72:LEU:HB3	1.75	0.67
3:C:433:ILE:O	3:C:437:ASN:ND2	2.27	0.67
4:D:126:LEU:O	4:D:220:ARG:NH1	2.27	0.67
6:M:455:ARG:NH2	7:N:-26:DG:O6	2.28	0.67
1:3:28:LEU:O	1:3:143:ARG:NH1	2.27	0.67
4:D:24:LEU:HB2	4:D:232:ASN:HD22	1.60	0.66
1:5:155:MET:HA	1:5:158:GLU:HG2	1.78	0.66
2:A:23:HIS:NE2	2:A:204:GLU:OE2	2.27	0.66
4:D:42:GLU:HB2	4:D:52:GLU:HG2	1.78	0.66
3:C:887:VAL:HB	3:C:913:VAL:HB	1.78	0.66
1:2:175:GLN:N	1:2:175:GLN:OE1	2.24	0.66
3:C:1142:ARG:HD3	3:C:1161:LEU:HB3	1.78	0.66
1:2:89:GLN:N	1:2:89:GLN:OE1	2.30	0.65
1:5:229:LEU:HD23	1:5:229:LEU:H	1.60	0.65
1:6:31:PRO:HA	1:6:145:VAL:HG12	1.78	0.65
1:2:254:PRO:HB2	1:3:173:VAL:HG22	1.78	0.65
4:D:41:PRO:O	4:D:270:ARG:NH1	2.30	0.65
1:4:180:ARG:HG3	1:4:181:GLU:OE1	1.97	0.65
6:M:47:LEU:HD21	6:M:297:LEU:HD13	1.79	0.65
6:M:351:GLN:NE2	6:M:365:MET:SD	2.66	0.64
1:1:139:GLN:NE2	1:1:140:VAL:O	2.30	0.64
4:D:66:LYS:NZ	4:D:69:GLU:OE1	2.29	0.64
4:D:474:LEU:HD12	5:E:28:ARG:HE	1.63	0.64
1:3:97:GLU:OE1	1:3:131:ARG:NH2	2.27	0.64
4:D:1346:GLY:O	4:D:1350:ASN:ND2	2.31	0.64
4:D:885:VAL:HG12	4:D:1258:ARG:HD2	1.80	0.64
4:D:438:GLU:OE2	4:D:481:ARG:NH2	2.31	0.64
4:D:1263:LYS:HD2	4:D:1307:LEU:HD11	1.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:195:ILE:O	1:5:199:ARG:HG3	1.97	0.64
6:M:400:LYS:NZ	7:N:-16:DT:OP2	2.29	0.64
1:2:198:CYS:HA	1:2:201:ILE:HG22	1.80	0.63
3:C:633:LEU:HB3	3:C:644:LEU:HD12	1.80	0.63
3:C:890:LYS:N	3:C:912:ASP:O	2.29	0.63
3:C:184:LEU:HG	3:C:186:PHE:HE1	1.63	0.63
6:M:441:LYS:H	6:M:441:LYS:HD2	1.62	0.63
3:C:696:ASP:OD2	3:C:799:ASN:ND2	2.28	0.63
1:4:191:GLU:O	1:4:195:ILE:HG12	1.98	0.63
1:6:14:SER:O	1:6:18:VAL:HG23	1.99	0.63
1:4:38:ARG:NH2	1:4:224:GLY:HA2	2.14	0.63
1:5:121:LEU:HD21	1:5:164:ASP:HB3	1.81	0.63
1:6:45:ILE:O	1:6:49:LEU:HD22	1.98	0.63
2:A:84:ASN:ND2	2:A:131:CYS:SG	2.72	0.63
1:1:136:GLN:NE2	1:1:137:PRO:O	2.32	0.63
1:2:39:GLY:O	1:2:225:ASN:ND2	2.31	0.63
7:N:-17:DT:H2"	7:N:-16:DT:H71	1.79	0.63
1:6:53:SER:HA	1:6:56:TRP:HD1	1.63	0.63
2:B:12:ARG:H	2:B:29:GLU:HG2	1.63	0.63
1:1:22:VAL:HG23	1:1:49:LEU:HD13	1.80	0.62
4:D:475:GLU:OE1	5:E:28:ARG:NH2	2.22	0.62
6:M:30:THR:HG22	6:M:336:ARG:HH22	1.64	0.62
3:C:835:GLU:HG3	3:C:1053:TYR:HE1	1.64	0.62
3:C:1066:MET:HG3	3:C:1076:ILE:HD11	1.81	0.62
1:4:186:ILE:HB	1:4:187:MET:HE1	1.80	0.62
4:D:824:PRO:HG3	4:D:835:LEU:HB2	1.82	0.62
4:D:980:THR:OG1	4:D:997:VAL:O	2.17	0.62
4:D:491:LEU:HB2	4:D:904:ALA:HA	1.80	0.62
1:5:186:ILE:HG13	1:5:187:MET:SD	2.39	0.62
3:C:1269:ARG:NH1	4:D:344:GLY:O	2.32	0.62
1:5:38:ARG:HH22	1:6:157:ASN:HA	1.64	0.62
1:6:186:ILE:H	1:6:186:ILE:HD12	1.65	0.62
4:D:800:LEU:HB3	4:D:920:ALA:HB1	1.81	0.62
1:1:17:GLU:N	1:1:17:GLU:OE1	2.33	0.62
1:3:130:GLU:OE1	1:3:130:GLU:N	2.32	0.62
1:3:98:ARG:NH1	1:4:135:SER:O	2.33	0.61
4:D:805:GLN:HE22	4:D:1348:LYS:HB2	1.65	0.61
4:D:1177:ILE:HD11	4:D:1187:GLU:HA	1.81	0.61
1:6:230:LYS:O	1:6:234:GLU:HG2	1.99	0.61
3:C:1111:GLN:O	3:C:1115:THR:HG23	2.00	0.61
1:3:256:LYS:HE3	1:3:256:LYS:HA	1.81	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:28:LEU:O	1:5:143:ARG:NH1	2.33	0.61
2:A:182:ARG:NH1	2:A:206:GLU:OE1	2.33	0.61
1:2:103:THR:HG22	1:2:143:ARG:HB3	1.81	0.61
1:1:197:MET:O	1:1:201:ILE:HG22	2.00	0.61
2:B:191:ARG:NH2	2:B:193:GLU:O	2.34	0.61
2:B:82:LEU:HD13	2:B:173:VAL:HG12	1.83	0.61
6:M:451:ILE:HG22	6:M:453:VAL:HG13	1.82	0.61
1:5:62:SER:O	1:5:95:ARG:NH1	2.34	0.60
1:6:70:GLU:OE1	1:6:70:GLU:N	2.32	0.60
3:C:251:ALA:HB1	3:C:255:ILE:HG13	1.83	0.60
6:M:215:GLU:O	6:M:219:ILE:HD12	2.01	0.60
1:2:203:LEU:HD13	1:2:243:SER:HB2	1.82	0.60
1:6:202:LYS:HE3	1:6:202:LYS:HA	1.82	0.60
3:C:491:ASP:OD1	3:C:491:ASP:N	2.34	0.60
1:1:173:VAL:HG22	1:6:254:PRO:HB2	1.84	0.60
1:1:247:LEU:HD21	1:1:250:ILE:HD11	1.82	0.60
1:5:220:TYR:HB3	1:5:222:TRP:CE2	2.36	0.60
2:B:108:GLY:HA2	2:B:134:THR:HG22	1.83	0.60
4:D:308:ASP:OD2	4:D:311:ARG:NH1	2.34	0.60
1:1:5:LYS:HE2	1:1:5:LYS:H	1.64	0.60
1:6:155:MET:HG2	1:6:160:THR:HB	1.83	0.60
1:3:227:ARG:NH2	9:3:601:ADP:O3A	2.34	0.60
4:D:274:ASN:OD1	4:D:275:ARG:N	2.35	0.60
4:D:1156:LEU:HD22	4:D:1208:ASP:HB3	1.84	0.60
1:1:93:PRO:HG2	1:1:98:ARG:HH21	1.65	0.60
2:B:4:SER:N	2:B:7:GLU:OE1	2.35	0.60
2:B:127:GLN:N	2:B:127:GLN:OE1	2.35	0.60
4:D:744:ARG:NH2	4:D:747:MET:SD	2.74	0.60
3:C:1134:GLN:OE1	3:C:1136:GLN:NE2	2.35	0.60
4:D:798:ARG:NH2	4:D:1325:PHE:O	2.35	0.59
1:4:55:ARG:HH21	1:4:143:ARG:HG3	1.67	0.59
1:5:191:GLU:O	1:5:195:ILE:HG12	2.02	0.59
1:6:8:LEU:HD21	1:6:15:PHE:HE2	1.67	0.59
1:6:53:SER:HA	1:6:56:TRP:CD1	2.37	0.59
1:2:18:VAL:HA	1:2:21:GLN:HG2	1.85	0.59
3:C:808:ASN:H	4:D:633:ALA:HB2	1.68	0.59
4:D:179:LYS:HB2	4:D:184:ALA:HB2	1.84	0.59
1:6:232:VAL:HG22	1:6:252:ILE:HA	1.84	0.59
1:1:172:ASP:OD1	1:6:239:ARG:NH2	2.35	0.59
6:M:120:LEU:HB2	6:M:264:ILE:HG21	1.85	0.59
3:C:884:VAL:O	3:C:917:SER:OG	2.19	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:18:VAL:O	1:5:22:VAL:HG23	2.03	0.59
2:B:59:VAL:HG22	2:B:144:ILE:HG22	1.83	0.59
3:C:12:ARG:NH2	3:C:698:PRO:O	2.36	0.59
4:D:1040:MET:CE	4:D:1046:ILE:HG12	2.33	0.59
1:4:92:HIS:NE2	1:5:133:GLY:O	2.36	0.59
3:C:1061:GLN:NE2	3:C:1240:ASP:OD1	2.35	0.59
1:1:80:HIS:O	1:1:91:ARG:HB2	2.02	0.58
4:D:416:ILE:HD13	4:D:441:LEU:HD21	1.86	0.58
1:2:219:ASN:O	1:2:221:ARG:NH1	2.36	0.58
1:3:198:CYS:HA	1:3:201:ILE:HG12	1.86	0.58
1:5:70:GLU:HB2	1:5:113:PRO:HG3	1.85	0.58
1:3:164:ASP:N	1:3:164:ASP:OD1	2.36	0.58
2:A:45:ARG:O	2:A:49:SER:OG	2.22	0.58
3:C:237:LEU:HD11	3:C:292:ILE:HD11	1.85	0.58
4:D:369:PRO:HG2	4:D:372:MET:HB2	1.85	0.58
1:4:65:CYS:HA	1:4:68:LEU:HD21	1.86	0.58
1:5:62:SER:HB2	1:5:105:PHE:HB3	1.84	0.58
3:C:484:LEU:HD23	3:C:484:LEU:H	1.68	0.58
4:D:353:SER:HB3	4:D:447:ILE:HG13	1.86	0.58
1:1:235:ARG:HH12	1:2:172:ASP:HA	1.68	0.58
1:5:20:GLU:O	1:5:23:SER:OG	2.15	0.58
2:B:16:ILE:HG22	2:B:26:VAL:HG13	1.85	0.58
3:C:366:ILE:HD12	3:C:366:ILE:H	1.68	0.58
3:C:720:ARG:H	3:C:779:ARG:HG3	1.69	0.58
3:C:1296:ASP:OD1	3:C:1296:ASP:N	2.36	0.58
4:D:507:VAL:HG22	4:D:601:ILE:HD11	1.84	0.58
1:2:177:PRO:O	1:2:182:ARG:NH1	2.37	0.58
2:A:101:THR:HG22	2:A:143:ARG:HG2	1.85	0.58
3:C:877:VAL:HG23	3:C:881:ASP:HB2	1.84	0.58
4:D:134:ASP:HB3	4:D:159:ILE:HD11	1.85	0.58
4:D:802:ASP:OD2	4:D:1348:LYS:NZ	2.26	0.58
6:M:20:GLN:NE2	7:N:-12:DC:N3	2.51	0.58
1:6:47:SER:HB2	1:6:51:TYR:CE2	2.39	0.57
1:1:83:GLY:HA3	1:1:88:ALA:HB3	1.86	0.57
1:3:103:THR:HG22	1:3:143:ARG:HB3	1.85	0.57
2:A:308:ALA:HA	2:A:313:SER:H	1.69	0.57
3:C:528:ARG:NH2	3:C:576:SER:O	2.37	0.57
4:D:161:THR:HG22	4:D:162:GLU:H	1.69	0.57
4:D:583:VAL:HG21	4:D:592:VAL:HG21	1.86	0.57
4:D:681:LYS:O	4:D:685:ILE:HG23	2.02	0.57
1:1:80:HIS:CD2	1:1:92:HIS:CD2	2.93	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:677:GLU:O	4:D:681:LYS:HG3	2.03	0.57
7:N:-9:DA:H2'	7:N:-8:DT:H71	1.85	0.57
1:3:212:ARG:O	1:3:216:THR:HG23	2.04	0.57
1:3:178:PRO:HA	1:3:225:ASN:OD1	2.04	0.57
3:C:188:PHE:CE2	3:C:436:ARG:HG3	2.40	0.57
1:2:34:ILE:HD12	1:2:174:VAL:HB	1.87	0.57
4:D:338:PHE:O	4:D:342:LEU:N	2.36	0.57
1:3:155:MET:HG2	1:3:161:PHE:HB2	1.86	0.57
1:5:226:ILE:HG22	1:5:230:LYS:HD2	1.85	0.57
3:C:582:ASN:ND2	3:C:588:GLU:OE2	2.37	0.57
4:D:340:GLN:HA	4:D:344:GLY:HA3	1.87	0.57
1:5:222:TRP:HA	1:5:228:GLU:HG2	1.86	0.57
6:M:280:LYS:HD2	6:M:283:GLY:H	1.70	0.57
1:5:181:GLU:OE1	1:5:181:GLU:N	2.37	0.57
6:M:233:ARG:NH2	8:T:32:DT:OP2	2.33	0.57
1:4:113:PRO:HG2	1:4:116:VAL:HG23	1.87	0.57
1:4:29:ASP:HA	1:4:143:ARG:HE	1.69	0.56
1:4:156:VAL:HG21	1:4:166:LEU:HD13	1.86	0.56
1:3:69:ASN:OD1	1:3:70:GLU:N	2.37	0.56
1:3:255:PHE:O	1:3:256:LYS:HD2	2.05	0.56
1:4:55:ARG:NH1	1:4:101:GLY:O	2.39	0.56
1:5:178:PRO:HA	1:5:225:ASN:HD21	1.69	0.56
2:B:59:VAL:HG21	2:B:85:LEU:HD13	1.88	0.56
3:C:207:THR:OG1	3:C:354:ASP:OD2	2.23	0.56
3:C:444:ASP:O	3:C:450:ASN:ND2	2.31	0.56
7:N:-15:DT:H2"	7:N:-14:DG:C8	2.41	0.56
1:4:91:ARG:HH12	1:4:131:ARG:CZ	2.18	0.56
3:C:216:THR:HG22	3:C:219:GLN:OE1	2.05	0.56
1:1:191:GLU:O	1:1:195:ILE:HG12	2.04	0.56
2:B:125:LYS:HE3	2:B:128:HIS:HB2	1.86	0.56
6:M:442:LEU:HA	6:M:445:MET:HE3	1.88	0.56
1:6:185:ASP:O	1:6:189:MET:HG2	2.06	0.56
2:A:31:LEU:HD21	2:A:201:LEU:HD23	1.87	0.56
4:D:1005:LYS:NZ	4:D:1016:THR:O	2.38	0.56
1:1:79:GLY:HA2	1:1:92:HIS:NE2	2.21	0.56
1:2:227:ARG:NH1	9:2:601:ADP:O3A	2.37	0.56
3:C:303:ASP:HA	3:C:329:GLY:HA2	1.86	0.56
1:1:83:GLY:HA3	1:1:88:ALA:CB	2.36	0.56
1:4:106:LEU:HB3	1:4:109:LEU:HD21	1.88	0.56
3:C:835:GLU:HG3	3:C:1053:TYR:CE1	2.41	0.56
4:D:1261:LEU:HD23	4:D:1306:LEU:HB3	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:6:112:ALA:O	1:6:117:GLN:NE2	2.39	0.56
6:M:274:PRO:HB3	6:M:391:HIS:HB2	1.88	0.55
1:2:213:ALA:O	1:2:217:LEU:HG	2.07	0.55
1:1:18:VAL:O	1:1:22:VAL:HG12	2.05	0.55
1:1:47:SER:O	1:1:51:TYR:HB2	2.06	0.55
1:2:256:LYS:HE3	1:2:256:LYS:HA	1.88	0.55
2:A:38:THR:HB	2:B:45:ARG:HD2	1.87	0.55
3:C:1101:LEU:HG	4:D:725:MET:HE3	1.88	0.55
1:2:85:PHE:CG	6:M:7:LEU:HD12	2.42	0.55
1:5:25:LEU:O	1:5:143:ARG:NH2	2.36	0.55
1:1:185:ASP:HB3	1:1:189:MET:CE	2.37	0.55
1:3:61:ILE:HG12	1:3:98:ARG:HH21	1.70	0.55
3:C:1223:ARG:HH22	4:D:721:SER:HB2	1.72	0.55
6:M:199:LEU:HB3	6:M:256:LEU:HD23	1.88	0.55
1:3:42:LYS:CE	10:3:602:AF3:F3	2.44	0.55
3:C:1022:LYS:O	3:C:1026:GLU:HG2	2.07	0.55
1:6:14:SER:O	1:6:17:GLU:HG2	2.07	0.55
4:D:582:ILE:HG13	4:D:627:THR:HG21	1.88	0.55
1:3:124:ILE:HG12	1:3:144:LEU:HD22	1.88	0.54
1:4:178:PRO:HB2	1:4:181:GLU:OE1	2.06	0.54
6:M:37:LEU:HD11	6:M:297:LEU:HD11	1.89	0.54
1:1:152:LEU:HD11	1:6:255:PHE:CZ	2.42	0.54
1:5:235:ARG:NH1	1:6:170:ALA:O	2.41	0.54
1:6:108:GLU:OE2	1:6:149:ASN:ND2	2.40	0.54
1:4:38:ARG:NH1	1:5:164:ASP:OD1	2.40	0.54
3:C:1209:GLN:OE1	3:C:1226:THR:OG1	2.20	0.54
4:D:948:SER:OG	4:D:1020:TRP:O	2.23	0.54
6:M:186:ASP:HB3	6:M:187:PRO:HD3	1.89	0.54
6:M:390:LEU:HD22	6:M:399:LEU:HD23	1.90	0.54
1:1:244:ASP:OD1	1:1:244:ASP:N	2.38	0.54
1:5:41:GLY:HA2	1:5:44:LEU:HD12	1.88	0.54
4:D:253:VAL:HG21	6:M:112:TYR:HA	1.90	0.54
1:6:48:ARG:O	1:6:52:LEU:HD22	2.08	0.54
3:C:1254:VAL:HG12	3:C:1255:THR:HG23	1.90	0.54
4:D:162:GLU:O	4:D:166:LEU:HG	2.06	0.54
1:5:50:HIS:ND1	1:5:103:THR:HG22	2.23	0.54
3:C:1283:ALA:HA	4:D:479:GLU:OE2	2.08	0.54
4:D:960:LEU:HD12	4:D:963:VAL:HB	1.89	0.54
1:2:55:ARG:HH12	1:2:103:THR:HG23	1.73	0.54
1:4:210:THR:HG22	1:4:212:ARG:H	1.73	0.54
2:B:48:LEU:HD11	4:D:534:GLU:HG3	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:81:GLU:HA	1:1:91:ARG:NE	2.19	0.54
1:3:226:ILE:HG21	9:3:601:ADP:C8	2.43	0.54
3:C:99:LYS:HA	3:C:121:GLU:HB3	1.90	0.54
3:C:1151:LEU:HD22	3:C:1198:LEU:HD13	1.90	0.54
1:5:40:THR:HA	1:5:225:ASN:HB2	1.90	0.53
4:D:74:LYS:HG2	4:D:75:TYR:HD1	1.73	0.53
1:5:93:PRO:HG2	1:5:98:ARG:NH1	2.23	0.53
2:B:30:PRO:HA	2:B:199:ASP:O	2.07	0.53
1:4:38:ARG:HH22	1:4:224:GLY:HA2	1.73	0.53
1:5:161:PHE:HD2	1:5:166:LEU:HB2	1.73	0.53
2:A:127:GLN:OE1	2:A:127:GLN:N	2.41	0.53
1:4:41:GLY:HA2	9:4:601:ADP:PA	2.49	0.53
1:5:209:PHE:HD1	1:5:247:LEU:HD11	1.73	0.53
4:D:137:ARG:HB3	4:D:143:SER:HB2	1.90	0.53
4:D:661:VAL:HG23	4:D:685:ILE:HD11	1.89	0.53
4:D:1146:GLU:OE2	4:D:1310:THR:OG1	2.19	0.53
6:M:336:ARG:HH21	6:M:388:LYS:HZ1	1.56	0.53
1:1:202:LYS:HD3	1:1:202:LYS:N	2.24	0.53
1:6:104:LEU:HB2	1:6:144:LEU:HB2	1.91	0.53
2:B:71:LYS:O	2:B:74:VAL:HG12	2.08	0.53
1:4:30:LYS:O	1:4:143:ARG:NH2	2.40	0.53
1:5:9:LEU:H	1:5:9:LEU:HD23	1.74	0.53
2:B:11:PRO:HB2	2:B:28:LEU:HD12	1.90	0.53
3:C:411:ARG:NH2	3:C:427:ASP:OD2	2.40	0.53
4:D:164:GLN:HA	4:D:167:ASP:OD2	2.08	0.53
1:4:198:CYS:SG	1:4:206:PHE:HB2	2.49	0.53
1:6:235:ARG:O	1:6:239:ARG:HG2	2.08	0.53
3:C:50:GLU:HG2	3:C:73:TYR:HE1	1.74	0.53
3:C:741:MET:SD	3:C:742:TYR:N	2.82	0.53
3:C:67:GLU:OE1	3:C:67:GLU:N	2.41	0.53
4:D:1220:ILE:HG23	4:D:1224:ARG:HD2	1.90	0.53
1:6:35:ILE:HD13	1:6:173:VAL:HG23	1.91	0.52
1:6:237:VAL:HA	1:6:247:LEU:HD21	1.90	0.52
4:D:746:LEU:HD23	4:D:758:PRO:HB3	1.89	0.52
6:M:234:THR:HA	6:M:237:ARG:HG2	1.91	0.52
1:1:161:PHE:HE2	1:1:166:LEU:HB2	1.74	0.52
1:1:179:LEU:HD12	1:1:226:ILE:HA	1.91	0.52
1:6:22:VAL:HG13	1:6:49:LEU:HD13	1.90	0.52
4:D:707:ILE:HG23	4:D:712:GLN:HA	1.91	0.52
1:2:178:PRO:HG2	1:2:181:GLU:HG3	1.92	0.52
1:2:76:GLU:OE2	1:2:95:ARG:NH2	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:104:LEU:HD13	1:5:142:VAL:HG11	1.92	0.52
2:A:301:THR:HG21	6:M:174:GLU:HG2	1.92	0.52
4:D:474:LEU:HB2	5:E:28:ARG:HH21	1.74	0.52
4:D:872:LEU:HD22	4:D:877:VAL:HB	1.92	0.52
6:M:285:TRP:CH2	6:M:356:GLU:HG3	2.45	0.52
6:M:292:ASP:OD1	6:M:292:ASP:N	2.37	0.52
1:2:237:VAL:HA	1:2:240:HIS:HB3	1.90	0.52
4:D:120:LEU:HB2	4:D:121:PRO:HD2	1.92	0.52
4:D:233:LYS:HG3	4:D:234:PRO:HD2	1.92	0.52
1:1:38:ARG:HH11	1:2:163:ALA:HB1	1.74	0.52
1:4:180:ARG:NH1	1:4:181:GLU:OE2	2.43	0.52
3:C:1018:TYR:O	3:C:1022:LYS:HG2	2.10	0.52
1:1:50:HIS:NE2	1:1:60:PHE:HB2	2.24	0.52
6:M:285:TRP:HH2	6:M:356:GLU:HG3	1.75	0.52
1:2:192:TYR:O	1:2:196:GLN:HG2	2.10	0.52
6:M:222:ASP:OD1	6:M:222:ASP:N	2.41	0.52
1:1:64:ASN:HB2	1:2:122:ARG:HD3	1.91	0.52
2:A:192:VAL:HG11	2:A:198:LEU:H	1.75	0.52
7:N:-14:DG:H2"	7:N:-13:DC:O5'	2.10	0.52
2:A:221:ALA:O	2:B:228:LEU:HD21	2.10	0.51
4:D:591:ILE:HD12	4:D:604:MET:HG3	1.92	0.51
1:3:197:MET:HB2	1:3:234:GLU:HG2	1.91	0.51
1:4:20:GLU:O	1:4:23:SER:OG	2.26	0.51
3:C:321:LEU:HD12	3:C:324:LYS:HD3	1.91	0.51
4:D:836:ARG:NH1	4:D:870:ASP:OD1	2.43	0.51
7:N:-11:DA:H2"	7:N:-10:DG:C8	2.45	0.51
1:6:239:ARG:HG3	1:6:251:ILE:HD13	1.91	0.51
1:4:42:LYS:HD2	1:4:147:ALA:HB1	1.93	0.51
1:5:192:TYR:O	1:5:196:GLN:HG2	2.09	0.51
1:6:136:GLN:NE2	1:6:137:PRO:O	2.42	0.51
4:D:74:LYS:HG2	4:D:75:TYR:CD1	2.46	0.51
1:2:14:SER:O	1:2:18:VAL:HG22	2.10	0.51
2:A:10:LYS:HD2	2:B:227:GLN:CA	2.33	0.51
2:A:166:ARG:HE	2:A:172:LEU:HD11	1.75	0.51
4:D:112:ALA:HB3	4:D:300:GLN:HE22	1.74	0.51
4:D:1307:LEU:HD22	4:D:1311:LYS:HB3	1.91	0.51
6:M:140:ILE:HD11	6:M:170:ILE:HD12	1.92	0.51
1:1:22:VAL:CG2	1:1:49:LEU:HD13	2.41	0.51
6:M:47:LEU:HD11	6:M:297:LEU:HB3	1.91	0.51
1:1:28:LEU:O	1:1:143:ARG:NH1	2.44	0.51
1:4:148:THR:OG1	1:4:149:ASN:N	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:242:THR:OG1	1:5:244:ASP:OD2	2.28	0.51
3:C:852:ALA:HB2	3:C:869:GLY:HA2	1.93	0.51
1:4:107:ASP:OD1	1:4:108:GLU:N	2.44	0.51
3:C:26:TYR:HE2	3:C:32:LEU:HD21	1.73	0.51
2:A:76:GLU:HB2	2:A:131:CYS:HB3	1.92	0.51
9:4:601:ADP:O3B	10:4:602:AF3:F3	2.18	0.51
3:C:117:ILE:O	3:C:117:ILE:HG22	2.10	0.51
3:C:1275:VAL:HG23	3:C:1287:LEU:HD11	1.93	0.51
1:4:57:GLN:O	1:4:57:GLN:NE2	2.43	0.50
1:6:36:GLY:HA3	1:6:176:LEU:HB2	1.93	0.50
2:B:175:ALA:HB1	2:B:177:TYR:CZ	2.46	0.50
6:M:323:LEU:HB3	6:M:327:ARG:NH2	2.26	0.50
2:A:29:GLU:HG2	2:A:30:PRO:HD2	1.93	0.50
2:A:76:GLU:HB3	2:A:80:GLU:HB2	1.92	0.50
1:3:20:GLU:O	1:3:23:SER:OG	2.24	0.50
1:5:28:LEU:HD13	1:5:30:LYS:HB2	1.93	0.50
3:C:82:VAL:HG13	3:C:137:VAL:HG21	1.92	0.50
3:C:117:ILE:HG22	3:C:489:PRO:HD3	1.93	0.50
3:C:455:SER:O	3:C:459:MET:HG3	2.11	0.50
3:C:1291:LEU:HD23	4:D:345:LYS:HD2	1.93	0.50
4:D:68:TYR:O	4:D:92:VAL:HG13	2.11	0.50
6:M:162:VAL:HG21	6:M:172:LEU:HD23	1.92	0.50
1:2:197:MET:HG3	1:2:234:GLU:HG3	1.92	0.50
1:6:131:ARG:NH2	1:6:136:GLN:OE1	2.45	0.50
1:5:179:LEU:HD22	1:5:222:TRP:HB2	1.93	0.50
1:5:197:MET:O	1:5:200:GLU:HG2	2.10	0.50
1:5:213:ALA:O	1:5:217:LEU:HG	2.11	0.50
1:2:6:ASP:OD2	1:2:48:ARG:NH1	2.45	0.50
1:6:187:MET:SD	1:6:187:MET:N	2.82	0.50
1:2:28:LEU:O	1:2:143:ARG:NH1	2.44	0.50
6:M:125:MET:O	6:M:129:GLU:HG2	2.11	0.50
3:C:545:PHE:HE2	4:D:932:MET:HB3	1.77	0.50
3:C:1085:MET:HE3	3:C:1086:PRO:HD2	1.94	0.50
1:1:185:ASP:HB3	1:1:189:MET:HE2	1.94	0.50
1:3:179:LEU:HD12	1:3:182:ARG:HD2	1.94	0.50
1:5:179:LEU:HB2	1:5:225:ASN:HA	1.93	0.50
3:C:288:PRO:HB2	3:C:290:GLU:HG2	1.94	0.50
6:M:456:ARG:NH1	7:N:-26:DG:N7	2.60	0.50
1:2:244:ASP:OD1	1:2:244:ASP:N	2.44	0.49
1:3:249:ASP:OD1	1:3:249:ASP:N	2.45	0.49
1:4:125:GLU:HB2	1:4:168:ARG:HH11	1.76	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:239:MET:N	3:C:285:ILE:O	2.35	0.49
3:C:914:LYS:HB3	6:M:266:THR:HB	1.93	0.49
7:N:-6:DA:H2"	7:N:-5:DG:C8	2.47	0.49
1:1:240:HIS:ND1	1:1:247:LEU:HA	2.26	0.49
3:C:1172:LEU:O	3:C:1176:LEU:HG	2.13	0.49
7:N:-33:DG:H2"	7:N:-32:DA:C8	2.47	0.49
1:6:21:GLN:O	1:6:25:LEU:HG	2.11	0.49
2:B:192:VAL:HG23	2:B:193:GLU:H	1.76	0.49
1:4:213:ALA:O	1:4:217:LEU:HG	2.12	0.49
1:6:179:LEU:HD21	1:6:225:ASN:O	2.12	0.49
2:A:12:ARG:H	2:A:29:GLU:HB3	1.77	0.49
2:A:256:PRO:HA	2:A:277:TYR:HB3	1.95	0.49
6:M:165:ILE:HG21	6:M:170:ILE:HG13	1.93	0.49
1:2:105:PHE:HA	1:2:145:VAL:O	2.13	0.49
1:4:221:ARG:O	1:4:221:ARG:NH1	2.46	0.49
1:5:35:ILE:HB	1:5:175:GLN:HA	1.93	0.49
3:C:360:LEU:HA	3:C:378:ARG:NH2	2.23	0.49
3:C:843:THR:HG22	6:M:270:GLU:HA	1.94	0.49
3:C:915:ASP:O	6:M:266:THR:OG1	2.23	0.49
3:C:1040:ASP:OD1	3:C:1041:ASP:N	2.45	0.49
1:1:96:PHE:O	1:1:97:GLU:HB3	2.11	0.49
2:A:58:GLU:HB3	2:A:145:LYS:HE2	1.94	0.49
3:C:1033:ARG:O	3:C:1037:THR:HG22	2.12	0.49
1:5:135:SER:OG	1:5:136:GLN:N	2.45	0.49
1:6:195:ILE:HA	1:6:198:CYS:SG	2.53	0.49
3:C:30:ILE:HD12	3:C:575:LEU:HD11	1.94	0.49
6:M:423:LEU:HD12	6:M:446:LEU:HD11	1.95	0.49
1:1:43:GLU:OE1	1:2:126:TYR:OH	2.22	0.49
1:1:201:ILE:HG23	1:1:203:LEU:H	1.76	0.49
1:2:212:ARG:O	1:2:216:THR:HG23	2.12	0.49
3:C:53:PHE:O	3:C:57:PHE:HB2	2.12	0.49
3:C:548:ARG:HH11	4:D:788:LEU:HD11	1.78	0.49
1:1:93:PRO:HG2	1:1:98:ARG:NH2	2.27	0.48
2:A:109:PRO:HA	2:A:132:HIS:CB	2.42	0.48
3:C:149:LEU:HD13	3:C:453:ILE:HG22	1.95	0.48
3:C:817:LEU:HD12	3:C:1078:LYS:HB3	1.94	0.48
4:D:663:GLU:OE1	4:D:667:GLN:NE2	2.46	0.48
1:1:256:LYS:NZ	1:1:258:ARG:HB2	2.27	0.48
1:2:21:GLN:HE21	1:2:174:VAL:HG13	1.78	0.48
2:A:45:ARG:NH1	2:B:38:THR:OG1	2.46	0.48
2:B:106:GLY:HA3	2:B:137:ASN:HA	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:66:SER:HB2	3:C:479:LEU:HD11	1.95	0.48
4:D:1040:MET:HE2	4:D:1046:ILE:HG12	1.94	0.48
7:N:-7:DC:H2"	7:N:-6:DA:C8	2.49	0.48
2:A:167:PRO:HD2	2:A:170:ARG:HH11	1.77	0.48
2:B:41:ASN:OD1	2:B:45:ARG:NH1	2.46	0.48
6:M:233:ARG:HB2	6:M:237:ARG:NH2	2.29	0.48
1:6:49:LEU:HD23	1:6:105:PHE:HZ	1.78	0.48
6:M:233:ARG:HB2	6:M:237:ARG:HH22	1.78	0.48
6:M:274:PRO:O	6:M:290:ASN:ND2	2.46	0.48
1:1:14:SER:O	1:1:18:VAL:HG23	2.12	0.48
1:2:165:LEU:O	1:2:169:LEU:N	2.47	0.48
1:6:33:LEU:HG	1:6:35:ILE:HD11	1.96	0.48
6:M:323:LEU:HB3	6:M:327:ARG:HH21	1.77	0.48
1:5:120:LEU:HA	1:5:123:VAL:HG12	1.95	0.48
3:C:57:PHE:CE2	3:C:70:TYR:HB3	2.48	0.48
7:N:-22:DC:H2"	7:N:-21:DG:C8	2.49	0.48
9:2:601:ADP:H5'1	9:2:601:ADP:H8	1.77	0.48
3:C:1122:LYS:HG2	3:C:1229:TYR:CZ	2.49	0.48
4:D:748:ALA:HB1	4:D:755:ILE:H	1.78	0.48
1:2:18:VAL:O	1:2:22:VAL:HG12	2.14	0.48
1:3:89:GLN:HE22	1:3:90:LYS:HG2	1.79	0.48
1:5:121:LEU:HD13	1:5:165:LEU:HA	1.96	0.48
6:M:466:SER:O	6:M:466:SER:OG	2.31	0.48
1:1:235:ARG:HD3	1:1:239:ARG:CG	2.44	0.48
1:3:192:TYR:O	1:3:196:GLN:HG2	2.14	0.48
1:6:121:LEU:HD13	1:6:165:LEU:HA	1.96	0.48
4:D:393:THR:HG22	4:D:395:LYS:HG2	1.94	0.48
4:D:807:LEU:HD11	4:D:894:VAL:HG13	1.95	0.48
4:D:1228:ALA:HA	4:D:1231:ARG:HE	1.79	0.48
8:T:32:DT:H2"	8:T:33:DC:C5	2.49	0.48
1:4:4:TYR:CD2	1:4:51:TYR:HB3	2.49	0.48
2:A:273:GLU:HB3	2:A:275:ILE:HG12	1.94	0.48
2:B:70:THR:OG1	2:B:72:GLU:OE1	2.25	0.48
3:C:903:ARG:HH11	3:C:903:ARG:HG3	1.78	0.48
6:M:345:ARG:O	6:M:348:VAL:HG12	2.13	0.48
7:N:-26:DG:H2"	7:N:-25:DG:C8	2.49	0.48
1:2:37:GLU:OE2	1:2:180:ARG:NH2	2.47	0.47
2:A:281:LEU:HG	2:A:307:LEU:HD21	1.95	0.47
3:C:211:ARG:NH2	3:C:217:THR:OG1	2.36	0.47
4:D:1228:ALA:HA	4:D:1231:ARG:NE	2.29	0.47
6:M:236:MET:HE3	6:M:243:GLU:HA	1.94	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:164:ASP:O	1:1:168:ARG:HG2	2.14	0.47
1:5:81:GLU:HG2	1:5:131:ARG:HD3	1.95	0.47
3:C:1270:PHE:HD2	4:D:343:LEU:HD12	1.78	0.47
6:M:18:GLN:NE2	8:T:11:DG:H22	2.13	0.47
6:M:180:LYS:HA	6:M:183:GLN:HG3	1.96	0.47
1:1:39:GLY:HA3	1:1:225:ASN:OD1	2.15	0.47
1:2:8:LEU:HD21	1:2:44:LEU:CB	2.44	0.47
1:5:78:PHE:CD1	1:5:129:LEU:HD11	2.50	0.47
1:5:144:LEU:HD12	1:5:145:VAL:N	2.29	0.47
3:C:476:LYS:NZ	3:C:480:SER:HB2	2.29	0.47
3:C:933:VAL:HG23	3:C:1050:VAL:HG22	1.96	0.47
4:D:380:PHE:HB3	4:D:415:VAL:HG21	1.96	0.47
4:D:975:ILE:HD12	4:D:1001:ALA:HB3	1.95	0.47
1:1:188:LEU:HD12	1:1:188:LEU:H	1.79	0.47
1:2:67:ALA:HA	1:3:119:LYS:HD3	1.95	0.47
1:6:235:ARG:CZ	1:6:254:PRO:HG3	2.45	0.47
3:C:548:ARG:NH1	4:D:788:LEU:HD11	2.29	0.47
3:C:870:ILE:HD11	3:C:944:ARG:CZ	2.45	0.47
1:4:186:ILE:HB	1:4:187:MET:CE	2.42	0.47
1:6:244:ASP:OD1	1:6:244:ASP:N	2.47	0.47
1:2:222:TRP:CH2	1:2:229:LEU:HD13	2.49	0.47
1:3:12:ALA:HB2	1:3:185:ASP:OD2	2.15	0.47
1:3:38:ARG:NH2	1:4:167:ASP:OD2	2.47	0.47
1:4:192:TYR:O	1:4:196:GLN:HG2	2.14	0.47
2:A:91:ARG:NH2	2:A:209:GLY:O	2.47	0.47
3:C:515:MET:SD	3:C:517:GLN:NE2	2.87	0.47
1:1:4:TYR:HE1	1:1:48:ARG:HH21	1.63	0.47
1:2:235:ARG:NH2	1:2:254:PRO:HD3	2.29	0.47
1:4:84:ALA:HB1	1:4:133:GLY:HA3	1.97	0.47
1:4:197:MET:O	1:4:201:ILE:HG12	2.14	0.47
1:5:38:ARG:HH12	1:6:157:ASN:HA	1.80	0.47
1:6:122:ARG:NH2	1:6:128:GLU:OE2	2.43	0.47
1:6:123:VAL:HA	1:6:128:GLU:O	2.13	0.47
2:A:58:GLU:OE1	2:A:170:ARG:HB3	2.15	0.47
3:C:911:SER:HB3	6:M:259:ARG:NH1	2.30	0.47
3:C:1270:PHE:CD2	4:D:343:LEU:HD12	2.50	0.47
4:D:282:LEU:HD12	6:M:45:PRO:HB3	1.96	0.47
4:D:1263:LYS:HE2	4:D:1277:GLY:HA2	1.97	0.47
6:M:119:THR:OG1	6:M:120:LEU:N	2.48	0.47
6:M:436:PRO:HB2	6:M:470:SER:HB2	1.95	0.47
1:6:71:ASN:OD1	1:6:71:ASN:N	2.46	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:1040:MET:HE1	4:D:1046:ILE:HG12	1.96	0.47
1:3:13:ASN:O	1:3:17:GLU:HG3	2.14	0.47
1:4:207:PRO:HD3	1:4:243:SER:HA	1.95	0.47
1:5:82:ALA:HB2	1:5:91:ARG:HD3	1.96	0.47
1:5:109:LEU:HD13	1:5:146:CYS:HB3	1.97	0.47
4:D:1045:THR:O	4:D:1060:VAL:HG13	2.14	0.47
4:D:1278:GLU:OE2	4:D:1278:GLU:N	2.48	0.47
1:6:34:ILE:HA	1:6:174:VAL:HB	1.96	0.47
4:D:51:PRO:HG2	4:D:71:LEU:HD11	1.96	0.47
1:2:14:SER:HB2	1:2:177:PRO:HG3	1.97	0.46
1:5:17:GLU:O	1:5:21:GLN:HG3	2.14	0.46
1:5:38:ARG:HH12	1:6:157:ASN:C	2.19	0.46
2:B:192:VAL:HG23	2:B:193:GLU:N	2.29	0.46
4:D:1204:VAL:HG21	4:D:1208:ASP:HA	1.97	0.46
1:1:4:TYR:HE2	1:1:47:SER:HB2	1.79	0.46
1:1:238:TYR:HE2	1:2:25:LEU:HD23	1.80	0.46
1:2:57:GLN:OE1	1:2:57:GLN:N	2.40	0.46
1:2:201:ILE:O	1:2:202:LYS:HG3	2.15	0.46
1:4:255:PHE:O	1:4:257:ARG:NH1	2.48	0.46
2:A:279:GLY:HA3	2:A:321:TRP:HZ2	1.81	0.46
3:C:1253:LEU:HG	6:M:114:GLY:O	2.14	0.46
1:1:212:ARG:O	1:1:216:THR:HG22	2.15	0.46
1:2:195:ILE:O	1:2:199:ARG:HG2	2.16	0.46
1:3:220:TYR:OH	1:3:228:GLU:OE2	2.34	0.46
1:4:103:THR:HG22	1:4:143:ARG:HB2	1.96	0.46
2:B:192:VAL:HG13	2:B:198:LEU:HD12	1.98	0.46
6:M:28:LEU:HD22	6:M:32:GLU:OE1	2.15	0.46
1:3:41:GLY:N	9:3:601:ADP:O1A	2.43	0.46
3:C:230:PHE:HB3	3:C:333:ILE:O	2.15	0.46
1:4:240:HIS:CE1	1:4:247:LEU:HB2	2.49	0.46
1:4:256:LYS:HD2	1:4:257:ARG:H	1.79	0.46
1:5:121:LEU:HD12	1:5:121:LEU:HA	1.80	0.46
4:D:615:LYS:HB2	4:D:616:PRO:HD3	1.98	0.46
7:N:-33:DG:N2	8:T:34:DT:O2	2.49	0.46
1:4:44:LEU:HD22	1:4:44:LEU:H	1.79	0.46
1:4:222:TRP:CH2	1:4:229:LEU:HD12	2.50	0.46
2:B:110:VAL:HG21	2:B:131:CYS:HB3	1.97	0.46
1:3:183:GLU:O	1:3:186:ILE:HG12	2.16	0.46
3:C:12:ARG:HD3	3:C:1183:ALA:HB2	1.98	0.46
6:M:126:TRP:O	6:M:130:LEU:HD12	2.15	0.46
8:T:7:DG:H2"	8:T:8:DA:C8	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:504:GLU:OE2	3:C:508:SER:OG	2.33	0.46
3:C:517:GLN:HB3	3:C:759:SER:HB2	1.97	0.46
4:D:137:ARG:HH12	4:D:159:ILE:HG21	1.81	0.46
1:1:33:LEU:HB3	1:1:173:VAL:HG12	1.98	0.46
2:A:279:GLY:O	2:A:283:GLN:HG2	2.16	0.46
3:C:728:ASP:OD1	3:C:729:ALA:N	2.45	0.46
3:C:1105:SER:OG	4:D:731:ARG:NH1	2.49	0.46
4:D:377:PHE:O	4:D:381:ILE:HG12	2.15	0.46
4:D:1148:ARG:HG3	4:D:1148:ARG:HH11	1.80	0.46
6:M:224:LEU:HD23	6:M:224:LEU:HA	1.76	0.46
1:6:32:VAL:HA	1:6:172:ASP:HB2	1.98	0.46
3:C:150:HIS:CE1	3:C:454:ARG:HD3	2.50	0.46
3:C:850:ILE:HD12	3:C:1048:LYS:HD3	1.98	0.46
6:M:441:LYS:HD2	6:M:441:LYS:N	2.31	0.46
1:2:59:PRO:HG2	1:2:99:ALA:HA	1.98	0.45
1:4:74:ASP:N	1:4:74:ASP:OD1	2.48	0.45
1:5:196:GLN:OE1	1:5:199:ARG:NH2	2.48	0.45
3:C:673:HIS:ND1	4:D:763:PHE:O	2.46	0.45
4:D:218:THR:HA	4:D:221:ILE:HG22	1.98	0.45
4:D:926:PRO:HG2	4:D:1248:ILE:HD11	1.96	0.45
5:E:34:GLY:O	5:E:35:LYS:HD3	2.16	0.45
6:M:157:GLN:NE2	6:M:160:ASP:HB2	2.31	0.45
1:1:39:GLY:HA3	1:1:225:ASN:CG	2.37	0.45
1:4:41:GLY:O	1:4:45:ILE:HD12	2.16	0.45
1:5:191:GLU:HG3	1:5:209:PHE:CE2	2.52	0.45
3:C:187:GLU:OE1	3:C:197:ARG:NE	2.49	0.45
3:C:463:GLN:HG2	3:C:505:PHE:HB2	1.96	0.45
4:D:478:LEU:HG	5:E:47:THR:HG23	1.97	0.45
1:5:50:HIS:CD2	1:5:60:PHE:HB2	2.52	0.45
1:5:179:LEU:N	1:5:225:ASN:OD1	2.49	0.45
1:5:209:PHE:CD1	1:5:247:LEU:HD11	2.51	0.45
2:B:8:PHE:HD2	2:B:32:GLU:HG3	1.81	0.45
4:D:371:LYS:HE3	4:D:371:LYS:HB3	1.72	0.45
1:1:5:LYS:HE2	1:1:5:LYS:N	2.32	0.45
1:1:117:GLN:OE1	1:1:165:LEU:HD13	2.17	0.45
2:A:72:GLU:OE2	3:C:958:LYS:HE2	2.16	0.45
4:D:317:THR:OG1	4:D:318:GLY:N	2.49	0.45
1:1:152:LEU:HD12	1:1:153:PRO:HD3	1.98	0.45
1:4:42:LYS:HG3	1:4:43:GLU:OE2	2.16	0.45
1:6:58:GLY:HA3	1:6:102:GLY:HA2	1.98	0.45
1:6:229:LEU:O	1:6:233:VAL:HG12	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:732:ILE:HD11	3:C:769:PRO:HB3	1.97	0.45
4:D:41:PRO:HB2	4:D:270:ARG:HG3	1.98	0.45
4:D:584:PRO:HG2	4:D:587:LEU:HD13	1.98	0.45
4:D:957:SER:H	4:D:985:ILE:H	1.65	0.45
1:4:236:SER:HA	1:4:251:ILE:HD13	1.98	0.45
1:5:143:ARG:HG2	1:5:144:LEU:N	2.31	0.45
2:A:61:ILE:HG23	2:A:64:VAL:HG22	1.98	0.45
4:D:572:THR:OG1	4:D:573:THR:N	2.50	0.45
4:D:746:LEU:HD13	4:D:754:ILE:HG21	1.99	0.45
4:D:865:HIS:HB2	4:D:868:TRP:CZ3	2.52	0.45
6:M:290:ASN:HB3	6:M:293:SER:HB3	1.96	0.45
7:N:-1:DT:H2"	7:N:0:DG:C8	2.52	0.45
1:4:74:ASP:HB3	1:4:119:LYS:NZ	2.32	0.45
2:B:229:GLU:O	2:B:232:VAL:HG22	2.16	0.45
3:C:1281:TYR:OH	4:D:489:ASN:ND2	2.46	0.45
1:1:89:GLN:CD	1:1:89:GLN:H	2.19	0.45
4:D:821:MET:SD	4:D:879:ALA:HB1	2.56	0.45
4:D:885:VAL:HG13	4:D:894:VAL:HG11	1.99	0.45
4:D:1026:PRO:HA	4:D:1120:THR:HG21	1.98	0.45
4:D:1177:ILE:HG23	4:D:1179:PRO:HD3	1.99	0.45
1:1:131:ARG:NH2	1:1:138:LEU:HD22	2.32	0.45
2:B:124:VAL:HB	2:B:210:THR:HG22	1.98	0.45
4:D:643:ASP:OD2	4:D:721:SER:HB3	2.17	0.45
1:6:193:PHE:HB3	1:6:234:GLU:OE1	2.17	0.45
2:B:41:ASN:ND2	2:B:44:ARG:HH21	2.15	0.45
4:D:858:VAL:HG22	4:D:859:PRO:HD2	1.98	0.45
1:1:197:MET:HE1	1:1:200:GLU:HB3	1.99	0.44
1:1:203:LEU:HD22	1:1:204:PRO:HD2	1.99	0.44
3:C:390:PHE:HA	3:C:419:ILE:HG23	2.00	0.44
3:C:1225:VAL:HA	4:D:638:SER:HB2	1.99	0.44
3:C:1291:LEU:HD11	4:D:1351:VAL:HG13	1.98	0.44
1:2:85:PHE:CD2	6:M:7:LEU:HD12	2.52	0.44
2:B:107:ILE:HG23	2:B:109:PRO:HD2	1.99	0.44
4:D:520:ALA:HB3	4:D:545:HIS:HA	2.00	0.44
4:D:1033:GLY:HA3	4:D:1082:ASP:HA	1.99	0.44
4:D:1176:VAL:O	4:D:1190:ILE:N	2.50	0.44
4:D:1216:ALA:O	4:D:1220:ILE:HG13	2.17	0.44
6:M:303:TYR:HA	6:M:306:MET:SD	2.57	0.44
1:4:196:GLN:HA	1:4:199:ARG:NH1	2.33	0.44
3:C:4:SER:O	3:C:7:GLU:N	2.51	0.44
4:D:374:LEU:HD12	4:D:381:ILE:HG13	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:1270:GLY:HA3	4:D:1300:ALA:HB2	1.99	0.44
6:M:233:ARG:HH22	8:T:32:DT:P	2.40	0.44
1:3:128:GLU:N	1:3:128:GLU:OE1	2.51	0.44
1:5:121:LEU:HD22	1:5:165:LEU:HB2	1.98	0.44
3:C:1254:VAL:O	3:C:1255:THR:OG1	2.30	0.44
4:D:77:ARG:HG2	6:M:156:ILE:HD13	1.98	0.44
4:D:1230:THR:HG22	4:D:1257:VAL:HG11	1.99	0.44
2:A:294:ASN:OD1	2:A:294:ASN:N	2.50	0.44
3:C:224:PHE:CE1	3:C:426:ILE:HG23	2.52	0.44
8:T:5:DC:H2"	8:T:6:DT:C6	2.52	0.44
1:2:182:ARG:HB2	1:2:185:ASP:HB2	1.98	0.44
1:5:21:GLN:O	1:5:25:LEU:HD22	2.17	0.44
2:A:12:ARG:H	2:A:29:GLU:CB	2.31	0.44
4:D:99:ARG:HB3	4:D:248:ASP:HB3	2.00	0.44
1:1:3:GLU:HG3	1:1:52:LEU:HD11	1.99	0.44
1:1:203:LEU:HD23	1:1:203:LEU:HA	1.86	0.44
1:5:198:CYS:HB2	1:5:203:LEU:HB2	2.00	0.44
3:C:972:PHE:CZ	3:C:993:PRO:HB3	2.53	0.44
6:M:259:ARG:HG2	6:M:262:GLN:HB2	1.98	0.44
6:M:285:TRP:HE1	6:M:352:GLN:HG2	1.82	0.44
1:1:81:GLU:HB2	1:1:91:ARG:HH21	1.82	0.44
1:5:67:ALA:HA	1:6:114:MET:HG3	1.98	0.44
1:5:80:HIS:ND1	1:5:88:ALA:HB2	2.33	0.44
4:D:357:VAL:HB	4:D:461:PHE:CE2	2.53	0.44
4:D:920:ALA:HB2	4:D:1256:ILE:HD11	2.00	0.44
1:1:187:MET:SD	1:1:187:MET:N	2.90	0.44
1:2:90:LYS:HD3	1:2:91:ARG:N	2.33	0.44
1:4:81:GLU:OE2	1:4:134:GLY:HA2	2.18	0.44
1:6:5:LYS:HZ1	1:6:9:LEU:HD13	1.82	0.44
1:6:149:ASN:OD1	1:6:150:ALA:N	2.50	0.44
1:6:240:HIS:CG	1:6:247:LEU:HG	2.53	0.44
5:E:69:ARG:HH11	5:E:69:ARG:HG2	1.83	0.44
6:M:233:ARG:HH12	8:T:31:DG:H3'	1.83	0.44
6:M:421:ARG:NH1	6:M:464:SER:OG	2.51	0.44
2:B:26:VAL:N	2:B:203:ILE:O	2.44	0.43
3:C:195:PHE:CD2	3:C:203:LYS:HD3	2.53	0.43
4:D:51:PRO:HB3	4:D:57:PHE:O	2.18	0.43
4:D:53:ARG:HH21	4:D:60:ARG:NH1	2.15	0.43
4:D:161:THR:HB	4:D:164:GLN:OE1	2.18	0.43
4:D:430:HIS:HA	4:D:921:GLN:HG2	2.00	0.43
1:6:180:ARG:H	1:6:180:ARG:HG2	1.66	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:765:ILE:HA	3:C:787:PRO:HG3	2.00	0.43
4:D:598:LYS:O	4:D:601:ILE:HG12	2.18	0.43
4:D:709:ARG:HA	4:D:709:ARG:HD3	1.77	0.43
6:M:264:ILE:HD12	6:M:264:ILE:HA	1.83	0.43
1:1:185:ASP:O	1:1:189:MET:HG2	2.18	0.43
1:3:73:LEU:HD11	1:3:116:VAL:HG23	2.00	0.43
1:4:67:ALA:O	1:4:68:LEU:HD23	2.19	0.43
1:5:49:LEU:HD23	1:5:49:LEU:HA	1.85	0.43
3:C:1085:MET:HB3	3:C:1085:MET:HE2	1.75	0.43
6:M:295:PRO:HG2	6:M:333:LEU:HD11	1.99	0.43
6:M:377:HIS:HB2	8:T:13:DG:OP2	2.18	0.43
1:1:185:ASP:HB3	1:1:189:MET:HE3	2.01	0.43
1:1:209:PHE:CD1	1:1:247:LEU:HD22	2.53	0.43
4:D:177:ASP:N	4:D:177:ASP:OD1	2.52	0.43
4:D:531:LYS:HE3	4:D:531:LYS:HB2	1.88	0.43
4:D:1040:MET:HE3	4:D:1041:ILE:O	2.18	0.43
6:M:309:SER:O	6:M:311:ARG:NH1	2.52	0.43
6:M:331:LYS:NZ	8:T:11:DG:O6	2.52	0.43
1:1:105:PHE:CE2	1:1:107:ASP:HB2	2.54	0.43
1:2:222:TRP:HB3	1:2:225:ASN:HA	2.00	0.43
1:4:44:LEU:HD23	9:4:601:ADP:H8	1.84	0.43
2:B:12:ARG:H	2:B:29:GLU:CG	2.29	0.43
3:C:419:ILE:HG22	3:C:420:LEU:O	2.19	0.43
3:C:561:ILE:HD11	4:D:772:TYR:HE1	1.83	0.43
4:D:131:PRO:HG2	4:D:134:ASP:OD2	2.18	0.43
4:D:570:LYS:HB3	4:D:570:LYS:HE2	1.72	0.43
6:M:20:GLN:HE21	6:M:20:GLN:HB3	1.64	0.43
6:M:280:LYS:HD3	6:M:285:TRP:CE3	2.54	0.43
1:2:86:THR:HG22	6:M:8:ARG:H	1.83	0.43
1:4:235:ARG:NH2	1:4:251:ILE:O	2.31	0.43
1:5:109:LEU:HD23	1:5:109:LEU:H	1.82	0.43
1:6:227:ARG:HA	1:6:227:ARG:NE	2.34	0.43
2:B:52:PRO:HA	2:B:150:ARG:HG2	2.00	0.43
3:C:454:ARG:HD2	3:C:458:GLU:OE1	2.18	0.43
4:D:614:LEU:O	4:D:617:THR:HG22	2.17	0.43
4:D:695:LYS:HE3	4:D:695:LYS:HB3	1.80	0.43
6:M:462:ARG:HH21	6:M:469:PRO:HG3	1.82	0.43
1:1:79:GLY:O	1:1:131:ARG:HB3	2.18	0.43
1:1:130:GLU:OE1	1:1:130:GLU:N	2.52	0.43
1:1:212:ARG:HE	1:1:212:ARG:HB2	1.68	0.43
1:1:225:ASN:OD1	1:1:227:ARG:HG2	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:248:ASP:N	1:1:248:ASP:OD1	2.45	0.43
1:4:120:LEU:HD23	1:4:120:LEU:O	2.18	0.43
1:5:18:VAL:HA	1:5:21:GLN:OE1	2.19	0.43
1:5:93:PRO:HA	1:5:131:ARG:NH2	2.33	0.43
3:C:378:ARG:HD2	3:C:378:ARG:HA	1.80	0.43
3:C:1137:GLU:HB3	3:C:1140:LYS:HZ3	1.83	0.43
4:D:252:LEU:HA	4:D:262:THR:HG22	2.01	0.43
4:D:350:SER:HA	4:D:468:VAL:O	2.19	0.43
4:D:394:ILE:H	4:D:394:ILE:HD12	1.83	0.43
4:D:1287:ILE:HD11	4:D:1300:ALA:HB3	2.01	0.43
8:T:23:DT:H2"	8:T:24:DG:H8	1.82	0.43
1:3:226:ILE:HD12	1:3:226:ILE:HA	1.86	0.43
1:5:156:VAL:HG23	1:5:161:PHE:O	2.19	0.43
2:B:61:ILE:HD13	2:B:142:MET:HA	2.01	0.43
2:B:74:VAL:HG21	2:B:81:ILE:HD11	2.00	0.43
4:D:43:THR:HG23	4:D:44:ILE:H	1.83	0.43
4:D:1323:ALA:O	4:D:1328:THR:HG22	2.18	0.43
8:T:6:DT:H2'	8:T:7:DG:C8	2.54	0.43
1:1:41:GLY:HA2	9:1:601:ADP:H5'1	2.01	0.43
1:3:215:GLU:OE2	1:3:219:ASN:ND2	2.51	0.43
1:4:104:LEU:HD12	1:4:104:LEU:HA	1.82	0.43
3:C:618:GLN:NE2	4:D:770:LEU:HB2	2.33	0.43
3:C:818:VAL:HG22	3:C:1096:ILE:HG12	2.00	0.43
4:D:807:LEU:HD22	4:D:1255:VAL:HG13	2.00	0.43
4:D:1178:THR:N	4:D:1179:PRO:HD3	2.34	0.43
6:M:232:PHE:O	6:M:236:MET:HG3	2.19	0.43
1:2:107:ASP:OD2	1:3:122:ARG:HG3	2.19	0.43
1:4:29:ASP:HA	1:4:143:ARG:NE	2.33	0.43
1:4:45:ILE:HD12	1:4:45:ILE:H	1.84	0.43
1:5:187:MET:SD	1:5:187:MET:N	2.92	0.43
2:B:102:LEU:HD23	2:B:115:ILE:HG12	2.01	0.43
3:C:466:VAL:O	3:C:469:VAL:HG12	2.19	0.43
3:C:737:ASN:OD1	3:C:737:ASN:N	2.52	0.43
3:C:1160:ASP:O	3:C:1161:LEU:HG	2.18	0.43
3:C:1268:GLN:HE22	4:D:352:ARG:N	2.17	0.43
4:D:353:SER:OG	4:D:445:LYS:O	2.35	0.43
6:M:28:LEU:HD13	6:M:33:LEU:HB2	2.01	0.43
6:M:28:LEU:O	6:M:388:LYS:NZ	2.50	0.43
6:M:233:ARG:NH1	8:T:31:DG:H3'	2.34	0.43
1:5:89:GLN:HB3	1:6:86:THR:CB	2.49	0.42
1:6:119:LYS:HD3	1:6:119:LYS:HA	1.73	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:400:MET:HE2	4:D:400:MET:HB2	1.91	0.42
4:D:587:LEU:HD11	4:D:608:CYS:HA	2.01	0.42
6:M:21:GLN:O	6:M:24:ARG:HG3	2.19	0.42
8:T:30:DC:H2"	8:T:31:DG:C8	2.53	0.42
1:1:120:LEU:HD22	1:1:165:LEU:HD11	2.01	0.42
1:2:111:THR:HG21	1:3:162:ARG:NH2	2.34	0.42
1:2:165:LEU:HG	1:2:169:LEU:HB2	2.00	0.42
1:5:161:PHE:CD2	1:5:166:LEU:HB2	2.52	0.42
2:B:173:VAL:HG23	2:B:174:ASP:N	2.34	0.42
3:C:587:LEU:HD23	3:C:587:LEU:HA	1.92	0.42
3:C:1223:ARG:HB3	3:C:1223:ARG:NH1	2.34	0.42
6:M:154:LEU:HD13	6:M:156:ILE:O	2.18	0.42
1:1:2:ALA:HB3	1:1:56:TRP:CZ3	2.55	0.42
1:2:90:LYS:HD3	1:2:91:ARG:H	1.84	0.42
1:4:2:ALA:HB3	1:4:4:TYR:CE1	2.54	0.42
1:5:197:MET:O	1:5:201:ILE:HG12	2.19	0.42
3:C:1247:SER:HB3	4:D:375:GLU:O	2.19	0.42
4:D:116:PHE:O	4:D:117:LEU:HG	2.18	0.42
4:D:1138:LEU:HB3	4:D:1139:PRO:HD3	2.02	0.42
6:M:214:GLU:O	6:M:218:LEU:HG	2.19	0.42
1:1:225:ASN:HD21	1:1:227:ARG:HG2	1.83	0.42
1:2:111:THR:HG21	1:3:162:ARG:HH22	1.84	0.42
1:5:8:LEU:HD12	1:5:44:LEU:HD13	2.01	0.42
1:5:64:ASN:HB3	1:5:106:LEU:HD13	2.01	0.42
2:B:93:GLN:H	2:B:120:ASP:HB3	1.84	0.42
4:D:62:PHE:O	4:D:98:ARG:HA	2.19	0.42
1:1:77:LEU:HD12	1:1:95:ARG:HB2	2.00	0.42
1:2:153:PRO:HA	1:2:156:VAL:HB	2.01	0.42
1:3:96:PHE:HZ	1:3:120:LEU:HD21	1.85	0.42
4:D:799:ARG:HB3	4:D:1309:ILE:HG21	2.02	0.42
6:M:438:SER:OG	6:M:439:ASP:N	2.52	0.42
1:1:86:THR:CG2	6:M:13:LEU:HA	2.43	0.42
1:2:155:MET:HB3	1:2:160:THR:HB	2.02	0.42
1:3:89:GLN:NE2	1:3:90:LYS:HG2	2.35	0.42
1:3:90:LYS:HE2	1:3:91:ARG:O	2.20	0.42
1:4:35:ILE:HD12	1:4:35:ILE:HA	1.88	0.42
1:5:40:THR:O	1:5:40:THR:OG1	2.37	0.42
3:C:748:ILE:HD13	3:C:748:ILE:HA	1.86	0.42
3:C:1255:THR:O	3:C:1257:GLN:HG3	2.20	0.42
6:M:151:THR:HB	6:M:259:ARG:HG3	2.00	0.42
6:M:359:GLU:H	6:M:359:GLU:CD	2.18	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:8:LEU:O	1:1:9:LEU:C	2.57	0.42
1:1:235:ARG:NH1	1:2:172:ASP:HA	2.34	0.42
1:4:71:ASN:ND2	6:M:1:MET:O	2.47	0.42
1:4:188:LEU:O	1:4:191:GLU:HG3	2.20	0.42
5:E:3:ARG:HH22	5:E:6:VAL:HA	1.85	0.42
6:M:133:PHE:HB3	6:M:137:ASP:HB2	2.02	0.42
1:4:257:ARG:H	1:4:257:ARG:HD2	1.84	0.42
1:6:97:GLU:HA	1:6:100:ASP:OD2	2.19	0.42
4:D:511:TYR:HE2	4:D:724:MET:HG2	1.84	0.42
1:2:33:LEU:HD21	1:2:35:ILE:HD11	2.01	0.42
1:5:14:SER:O	1:5:17:GLU:HG2	2.19	0.42
1:6:82:ALA:HB3	1:6:131:ARG:HD3	2.00	0.42
1:6:123:VAL:HG13	1:6:129:LEU:HG	2.02	0.42
1:6:144:LEU:HD12	1:6:145:VAL:N	2.35	0.42
1:6:192:TYR:O	1:6:195:ILE:HG12	2.20	0.42
6:M:128:VAL:O	6:M:131:THR:HG22	2.20	0.42
1:3:80:HIS:HA	1:3:132:VAL:HB	2.01	0.42
1:4:63:LEU:HD11	1:4:106:LEU:HD13	2.02	0.42
2:A:59:VAL:HG21	2:A:85:LEU:HD13	2.02	0.42
3:C:738:GLU:OE1	3:C:738:GLU:N	2.49	0.42
1:2:30:LYS:HB2	1:2:171:PHE:CE1	2.54	0.41
1:2:117:GLN:OE1	1:2:165:LEU:HD22	2.20	0.41
1:2:197:MET:HB3	1:2:197:MET:HE3	1.87	0.41
1:4:32:VAL:HG13	1:4:143:ARG:HH22	1.85	0.41
1:5:38:ARG:HH12	1:6:157:ASN:CA	2.33	0.41
1:5:68:LEU:HD22	1:5:72:LEU:HD23	2.01	0.41
4:D:161:THR:HG22	4:D:162:GLU:N	2.34	0.41
4:D:818:GLU:OE2	4:D:1227:HIS:NE2	2.48	0.41
1:1:83:GLY:O	6:M:12:GLN:NE2	2.53	0.41
1:5:95:ARG:HG3	1:5:104:LEU:HD21	2.02	0.41
1:5:123:VAL:HG23	1:5:128:GLU:O	2.20	0.41
3:C:485:ASP:OD1	3:C:485:ASP:N	2.53	0.41
4:D:137:ARG:NH1	4:D:159:ILE:HG21	2.35	0.41
4:D:163:GLU:HA	4:D:166:LEU:HD12	2.01	0.41
4:D:1249:ASN:OD1	4:D:1250:ASP:N	2.52	0.41
6:M:210:THR:HA	6:M:211:PRO:HD3	1.91	0.41
1:4:220:TYR:HD2	1:4:222:TRP:CD2	2.39	0.41
1:5:15:PHE:HA	1:5:18:VAL:HG22	2.02	0.41
1:5:225:ASN:O	1:5:226:ILE:HD13	2.20	0.41
3:C:691:PRO:HB3	3:C:788:SER:HB3	2.00	0.41
3:C:1337:ILE:HD11	4:D:20:ILE:HD11	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:28:ASP:OD1	4:D:28:ASP:N	2.53	0.41
1:1:121:LEU:HB2	1:1:165:LEU:HD12	2.02	0.41
1:2:19:LEU:HD23	1:2:19:LEU:HA	1.95	0.41
1:2:85:PHE:HA	6:M:9:LEU:HB2	2.02	0.41
1:3:44:LEU:HD11	9:3:601:ADP:H2'	2.01	0.41
1:4:148:THR:HG21	1:4:152:LEU:HD21	2.01	0.41
3:C:37:LYS:HB3	3:C:37:LYS:HE2	1.84	0.41
3:C:178:PRO:HB3	3:C:395:TYR:CZ	2.56	0.41
3:C:345:PRO:O	3:C:347:ILE:HG12	2.20	0.41
3:C:796:LEU:HD12	3:C:796:LEU:O	2.20	0.41
3:C:1151:LEU:HD11	3:C:1197:GLU:HG3	2.01	0.41
4:D:42:GLU:H	4:D:42:GLU:HG2	1.68	0.41
4:D:45:ASN:HB2	4:D:52:GLU:OE2	2.19	0.41
1:1:256:LYS:HZ3	1:1:258:ARG:HB2	1.86	0.41
1:2:63:LEU:HG	1:2:95:ARG:HG2	2.02	0.41
1:3:207:PRO:HG3	1:3:243:SER:HA	2.03	0.41
1:4:195:ILE:HA	1:4:198:CYS:SG	2.61	0.41
1:5:194:ALA:HB1	1:5:206:PHE:CE1	2.54	0.41
1:6:178:PRO:HB2	1:6:180:ARG:HG2	2.01	0.41
1:6:197:MET:HE2	1:6:234:GLU:OE2	2.20	0.41
1:2:164:ASP:HB2	1:2:168:ARG:NH2	2.35	0.41
1:4:179:LEU:HD23	1:4:225:ASN:O	2.20	0.41
1:6:115:MET:SD	1:6:116:VAL:N	2.93	0.41
1:6:151:ASP:O	1:6:155:MET:HE3	2.20	0.41
2:A:140:ILE:HG12	2:A:142:MET:HE1	2.03	0.41
3:C:476:LYS:HZ3	3:C:480:SER:HB2	1.85	0.41
3:C:755:LYS:HA	3:C:755:LYS:HD2	1.93	0.41
3:C:1027:LYS:O	3:C:1027:LYS:HD3	2.21	0.41
3:C:1104:PRO:HG3	4:D:725:MET:HE2	2.03	0.41
3:C:1214:ASP:OD2	3:C:1216:ARG:NH2	2.53	0.41
3:C:1268:GLN:NE2	4:D:352:ARG:HG3	2.35	0.41
4:D:345:LYS:HB3	4:D:345:LYS:HE2	1.85	0.41
6:M:359:GLU:OE2	6:M:359:GLU:N	2.35	0.41
1:2:8:LEU:HD21	1:2:44:LEU:HB2	2.03	0.41
1:2:64:ASN:HA	1:2:107:ASP:OD1	2.20	0.41
1:3:202:LYS:HE2	1:3:202:LYS:HB2	1.97	0.41
1:3:229:LEU:HA	1:3:232:VAL:HG12	2.03	0.41
3:C:223:LEU:HD21	3:C:426:ILE:HG21	2.03	0.41
3:C:301:TYR:CZ	3:C:333:ILE:HA	2.56	0.41
3:C:634:VAL:HG23	3:C:636:CYS:SG	2.61	0.41
3:C:911:SER:HB3	6:M:259:ARG:CZ	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:1124:ILE:HD11	3:C:1198:LEU:HD11	2.02	0.41
5:E:6:VAL:HG23	5:E:6:VAL:O	2.21	0.41
1:1:197:MET:HA	1:1:197:MET:CE	2.50	0.41
1:1:214:ARG:HA	1:1:217:LEU:CD2	2.51	0.41
1:2:31:PRO:HG2	1:2:170:ALA:HA	2.03	0.41
1:2:243:SER:OG	1:2:243:SER:O	2.36	0.41
1:3:230:LYS:HE3	1:3:234:GLU:OE2	2.21	0.41
1:5:50:HIS:HD2	1:5:51:TYR:CE1	2.38	0.41
1:1:39:GLY:N	9:1:601:ADP:O2B	2.54	0.41
1:1:235:ARG:HD3	1:1:239:ARG:HG3	2.03	0.41
1:2:233:VAL:HG13	1:2:234:GLU:OE1	2.20	0.41
1:3:38:ARG:HH21	1:4:163:ALA:C	2.24	0.41
1:3:144:LEU:HD12	1:3:144:LEU:HA	1.92	0.41
1:4:209:PHE:O	1:4:214:ARG:NH1	2.53	0.41
1:4:256:LYS:HD2	1:4:257:ARG:N	2.36	0.41
1:6:18:VAL:O	1:6:22:VAL:HG23	2.21	0.41
1:6:188:LEU:HD23	1:6:188:LEU:H	1.85	0.41
2:B:43:LEU:HD23	2:B:43:LEU:HA	1.89	0.41
3:C:223:LEU:HG	3:C:224:PHE:HD1	1.86	0.41
3:C:400:VAL:HG22	3:C:584:TYR:HB3	2.02	0.41
3:C:429:MET:O	3:C:433:ILE:HG12	2.21	0.41
3:C:870:ILE:HG22	3:C:884:VAL:HG22	2.02	0.41
3:C:1159:VAL:HG22	3:C:1160:ASP:O	2.21	0.41
3:C:1340:GLU:OE2	4:D:21:LYS:HD2	2.21	0.41
4:D:289:ASP:HA	4:D:292:VAL:HG12	2.03	0.41
4:D:331:ILE:HG23	4:D:338:PHE:HE1	1.86	0.41
4:D:1034:PHE:N	4:D:1081:VAL:O	2.53	0.41
4:D:1343:GLU:HG2	4:D:1345:ARG:HH21	1.85	0.41
6:M:144:ILE:HG21	6:M:179:LEU:HD23	2.02	0.41
6:M:220:ILE:HD12	6:M:220:ILE:HA	1.91	0.41
1:1:120:LEU:O	1:1:124:ILE:HG22	2.21	0.41
1:2:114:MET:O	1:2:118:GLU:HG2	2.20	0.41
1:4:65:CYS:O	1:4:68:LEU:HG	2.20	0.41
1:5:105:PHE:CE2	1:5:107:ASP:HB2	2.55	0.41
1:6:83:GLY:CA	1:6:133:GLY:HA3	2.50	0.41
4:D:65:VAL:HG22	4:D:66:LYS:H	1.86	0.41
4:D:222:LYS:HD2	4:D:222:LYS:HA	1.82	0.41
4:D:263:SER:O	4:D:265:LEU:HD12	2.20	0.41
6:M:199:LEU:HD12	6:M:220:ILE:HD11	2.02	0.41
1:2:39:GLY:HA2	9:2:601:ADP:O3A	2.20	0.40
1:3:187:MET:HG3	1:3:188:LEU:HD12	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:20:GLU:OE2	1:5:24:HIS:NE2	2.50	0.40
1:5:126:TYR:HB2	1:5:128:GLU:OE1	2.21	0.40
1:6:214:ARG:HA	1:6:217:LEU:HG	2.03	0.40
2:A:184:ALA:HB2	3:C:1091:GLY:HA3	2.03	0.40
2:A:233:ASP:OD1	2:A:233:ASP:N	2.44	0.40
4:D:21:LYS:HB2	4:D:21:LYS:HE3	1.79	0.40
4:D:1291:GLU:HA	4:D:1295:ASN:O	2.21	0.40
6:M:380:THR:O	6:M:384:VAL:HG23	2.21	0.40
1:1:13:ASN:H	1:1:16:LEU:HD13	1.85	0.40
1:1:162:ARG:HH12	1:6:67:ALA:HA	1.84	0.40
1:1:172:ASP:OD1	1:1:173:VAL:N	2.54	0.40
1:3:59:PRO:O	1:3:102:GLY:HA3	2.21	0.40
1:4:50:HIS:HB2	1:4:103:THR:OG1	2.22	0.40
1:5:24:HIS:O	1:5:27:PRO:HD2	2.21	0.40
1:6:61:ILE:HD12	1:6:61:ILE:HA	1.91	0.40
1:6:220:TYR:HB3	1:6:222:TRP:NE1	2.36	0.40
3:C:288:PRO:HD2	3:C:291:TYR:HE1	1.86	0.40
3:C:1315:MET:HB2	4:D:473:THR:HG21	2.02	0.40
4:D:1140:ARG:HG2	4:D:1240:VAL:HG21	2.03	0.40
4:D:1177:ILE:HG12	4:D:1179:PRO:HD3	2.02	0.40
5:E:3:ARG:NH2	5:E:6:VAL:HG12	2.36	0.40
1:1:3:GLU:N	1:1:3:GLU:OE1	2.54	0.40
1:1:35:ILE:HD13	1:1:35:ILE:HA	1.97	0.40
1:4:220:TYR:CE2	1:4:252:ILE:HD11	2.57	0.40
1:6:13:ASN:HA	1:6:16:LEU:HD12	2.04	0.40
1:6:155:MET:HE3	1:6:155:MET:H	1.86	0.40
1:6:182:ARG:NE	1:6:185:ASP:OD2	2.54	0.40
2:B:195:ARG:H	2:B:195:ARG:HG2	1.75	0.40
3:C:657:THR:HB	3:C:1187:PHE:HB2	2.02	0.40
3:C:745:GLU:HG2	3:C:746:ALA:N	2.36	0.40
4:D:491:LEU:HD11	4:D:609:TYR:CZ	2.57	0.40
1:1:228:GLU:O	1:1:232:VAL:HG23	2.20	0.40
1:3:193:PHE:CE1	1:3:230:LYS:HG3	2.57	0.40
1:4:92:HIS:HA	1:4:93:PRO:HD3	1.98	0.40
1:5:64:ASN:HB2	1:5:105:PHE:O	2.22	0.40
3:C:729:ALA:O	3:C:755:LYS:HE2	2.22	0.40
3:C:777:VAL:HG11	3:C:783:LEU:HD21	2.02	0.40
3:C:1082:ILE:HD12	3:C:1082:ILE:H	1.87	0.40
4:D:5:LEU:HA	4:D:5:LEU:HD23	1.88	0.40
4:D:417:ARG:HG2	4:D:418:GLU:N	2.37	0.40
4:D:1144:LEU:HD13	4:D:1237:VAL:HG23	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:M:144:ILE:HG12	6:M:161:ILE:HD13	2.03	0.40
6:M:358:GLY:HA2	6:M:394:ARG:NH1	2.37	0.40
7:N:-34:DA:H2"	7:N:-33:DG:C8	2.56	0.40
7:N:0:DG:H2"	7:N:1:DG:C8	2.57	0.40
1:1:84:ALA:HB1	1:2:83:GLY:HA3	2.03	0.40
1:2:38:ARG:NH1	1:2:224:GLY:HA2	2.24	0.40
1:2:95:ARG:HD3	1:2:95:ARG:HA	1.96	0.40
1:2:197:MET:CE	1:2:237:VAL:HB	2.51	0.40
4:D:49:PHE:HZ	6:M:271:TYR:HB2	1.87	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	1	256/275 (93%)	242 (94%)	14 (6%)	0	100	100
1	2	257/275 (94%)	248 (96%)	9 (4%)	0	100	100
1	3	257/275 (94%)	246 (96%)	11 (4%)	0	100	100
1	4	257/275 (94%)	247 (96%)	10 (4%)	0	100	100
1	5	254/275 (92%)	243 (96%)	11 (4%)	0	100	100
1	6	254/275 (92%)	244 (96%)	10 (4%)	0	100	100
2	A	305/329 (93%)	280 (92%)	25 (8%)	0	100	100
2	B	219/329 (67%)	207 (94%)	12 (6%)	0	100	100
3	C	1339/1342 (100%)	1261 (94%)	78 (6%)	0	100	100
4	D	1322/1407 (94%)	1221 (92%)	101 (8%)	0	100	100
5	E	72/91 (79%)	69 (96%)	3 (4%)	0	100	100
6	M	413/497 (83%)	397 (96%)	16 (4%)	0	100	100
All	All	5205/5645 (92%)	4905 (94%)	300 (6%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains

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	1	219/235 (93%)	207 (94%)	12 (6%)	18	46
1	2	219/235 (93%)	209 (95%)	10 (5%)	23	52
1	3	219/235 (93%)	211 (96%)	8 (4%)	29	58
1	4	220/235 (94%)	214 (97%)	6 (3%)	40	65
1	5	218/235 (93%)	210 (96%)	8 (4%)	29	58
1	6	208/235 (88%)	201 (97%)	7 (3%)	32	60
2	A	249/286 (87%)	244 (98%)	5 (2%)	50	72
2	B	180/286 (63%)	174 (97%)	6 (3%)	33	61
3	C	1047/1157 (90%)	1018 (97%)	29 (3%)	38	65
4	D	913/1168 (78%)	890 (98%)	23 (2%)	42	67
5	E	53/75 (71%)	53 (100%)	0	100	100
6	M	367/440 (83%)	360 (98%)	7 (2%)	52	73
All	All	4112/4822 (85%)	3991 (97%)	121 (3%)	39	64

All (121) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	1	4	TYR
1	1	5	LYS
1	1	51	TYR
1	1	89	GLN
1	1	91	ARG
1	1	92	HIS
1	1	97	GLU
1	1	192	TYR
1	1	197	MET
1	1	235	ARG
1	1	257	ARG

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Mol	Chain	Res	Type
1	1	258	ARG
1	2	9	LEU
1	2	11	GLU
1	2	43	GLU
1	2	55	ARG
1	2	98	ARG
1	2	114	MET
1	2	129	LEU
1	2	225	ASN
1	2	239	ARG
1	2	257	ARG
1	3	68	LEU
1	3	122	ARG
1	3	139	GLN
1	3	217	LEU
1	3	220	TYR
1	3	225	ASN
1	3	239	ARG
1	3	257	ARG
1	4	43	GLU
1	4	50	HIS
1	4	74	ASP
1	4	90	LYS
1	4	205	LEU
1	4	255	PHE
1	5	15	PHE
1	5	28	LEU
1	5	55	ARG
1	5	85	PHE
1	5	114	MET
1	5	155	MET
1	5	187	MET
1	5	221	ARG
1	6	29	ASP
1	6	44	LEU
1	6	78	PHE
1	6	155	MET
1	6	168	ARG
1	6	188	LEU
1	6	258	ARG
2	A	8	PHE
2	A	95	LYS

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Mol	Chain	Res	Type
2	A	114	ASP
2	A	195	ARG
2	A	321	TRP
2	B	17	GLU
2	B	29	GLU
2	B	30	PRO
2	B	102	LEU
2	B	117	HIS
2	B	212	ASP
3	C	23	ASP
3	C	47	TYR
3	C	77	GLU
3	C	123	TYR
3	C	150	HIS
3	C	188	PHE
3	C	200	ARG
3	C	246	LEU
3	C	324	LYS
3	C	378	ARG
3	C	405	PHE
3	C	487	LEU
3	C	488	MET
3	C	540	ARG
3	C	643	SER
3	C	694	ARG
3	C	738	GLU
3	C	741	MET
3	C	821	ARG
3	C	841	ARG
3	C	944	ARG
3	C	955	GLN
3	C	959	ASP
3	C	1041	ASP
3	C	1073	LYS
3	C	1119	MET
3	C	1143	GLU
3	C	1242	LYS
3	C	1290	MET
4	D	77	ARG
4	D	113	HIS
4	D	136	GLU
4	D	144	TYR

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Mol	Chain	Res	Type
4	D	169	LEU
4	D	195	GLU
4	D	227	PHE
4	D	232	ASN
4	D	233	LYS
4	D	298	MET
4	D	340	GLN
4	D	346	ARG
4	D	352	ARG
4	D	400	MET
4	D	422	LEU
4	D	560	ASN
4	D	602	SER
4	D	716	GLN
4	D	872	LEU
4	D	897	HIS
4	D	1227	HIS
4	D	1247	LYS
4	D	1282	TYR
6	M	20	GLN
6	M	28	LEU
6	M	240	ARG
6	M	279	ARG
6	M	285	TRP
6	M	435	LYS
6	M	452	MET

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (14) such sidechains are listed below:

Mol	Chain	Res	Type
1	1	7	ASN
1	1	136	GLN
1	1	139	GLN
1	2	21	GLN
1	3	89	GLN
1	5	71	ASN
2	A	84	ASN
3	C	150	HIS
3	C	1017	GLN
3	C	1268	GLN
4	D	200	GLN
6	M	12	GLN

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Mol	Chain	Res	Type
6	M	18	GLN
6	M	20	GLN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 13 ligands modelled in this entry, 4 are monoatomic - leaving 9 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

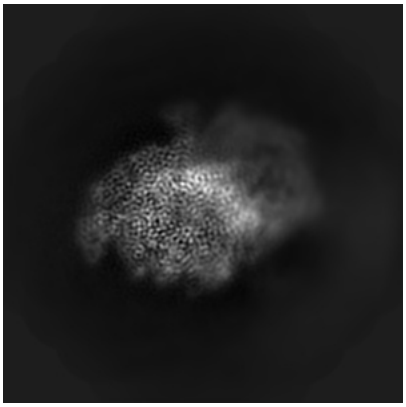
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-14171. These allow visual inspection of the internal detail of the map and identification of artifacts.

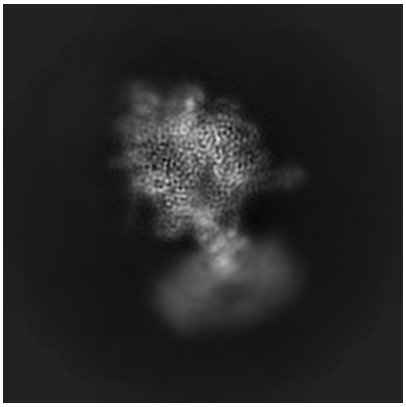
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

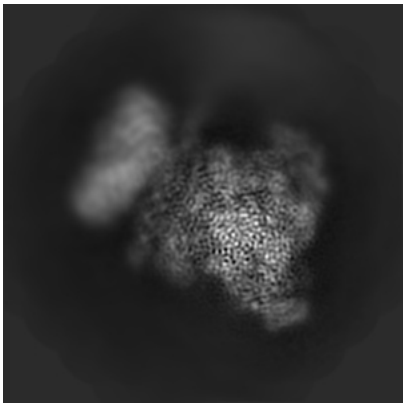
6.1.1 Primary map



X



Y

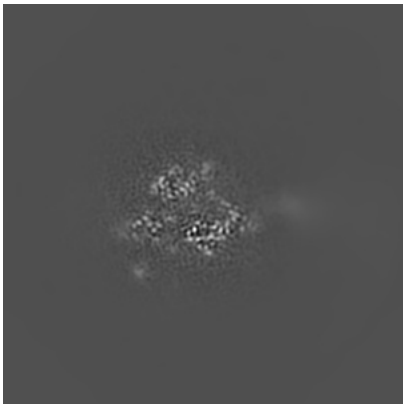


Z

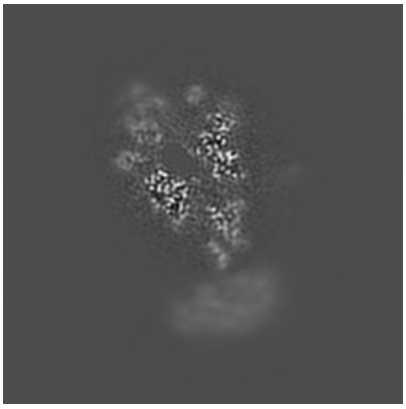
The images above show the map projected in three orthogonal directions.

6.2 Central slices

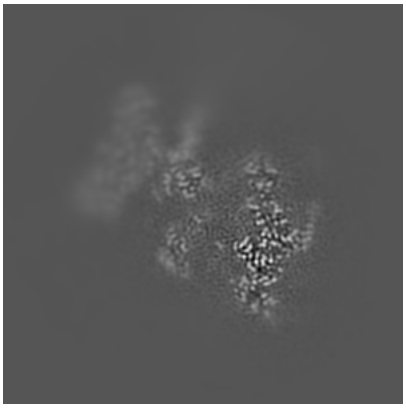
6.2.1 Primary map



X Index: 140



Y Index: 140

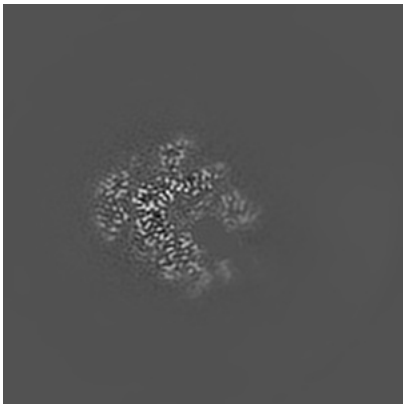


Z Index: 140

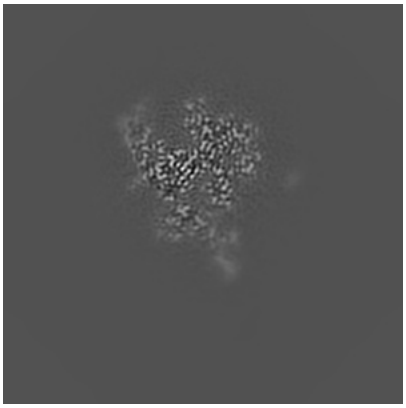
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

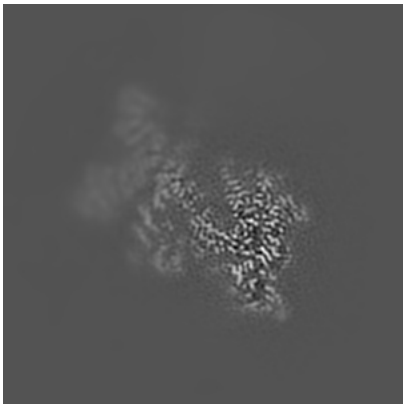
6.3.1 Primary map



X Index: 173



Y Index: 111

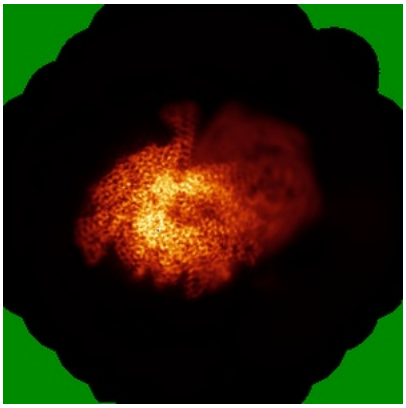


Z Index: 149

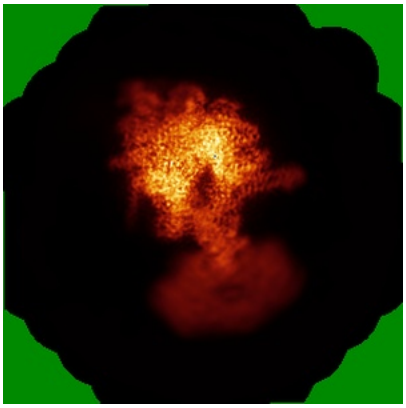
The images above show the largest variance slices of the map in three orthogonal directions.

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

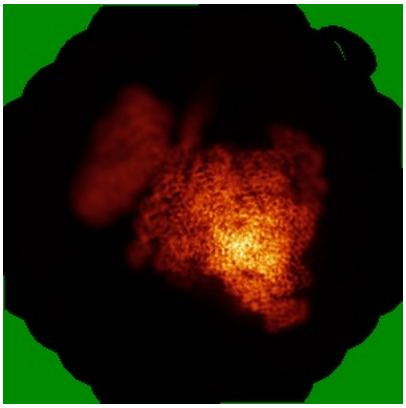
6.4.1 Primary map



X



Y

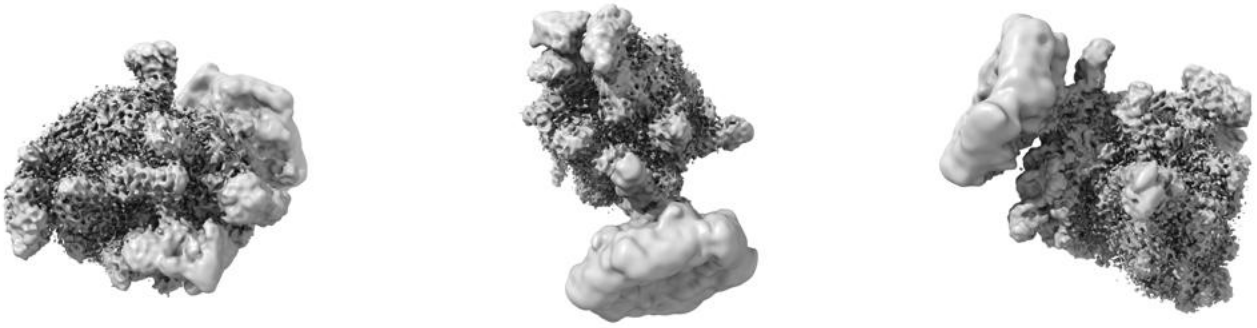


Z

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 0.012. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

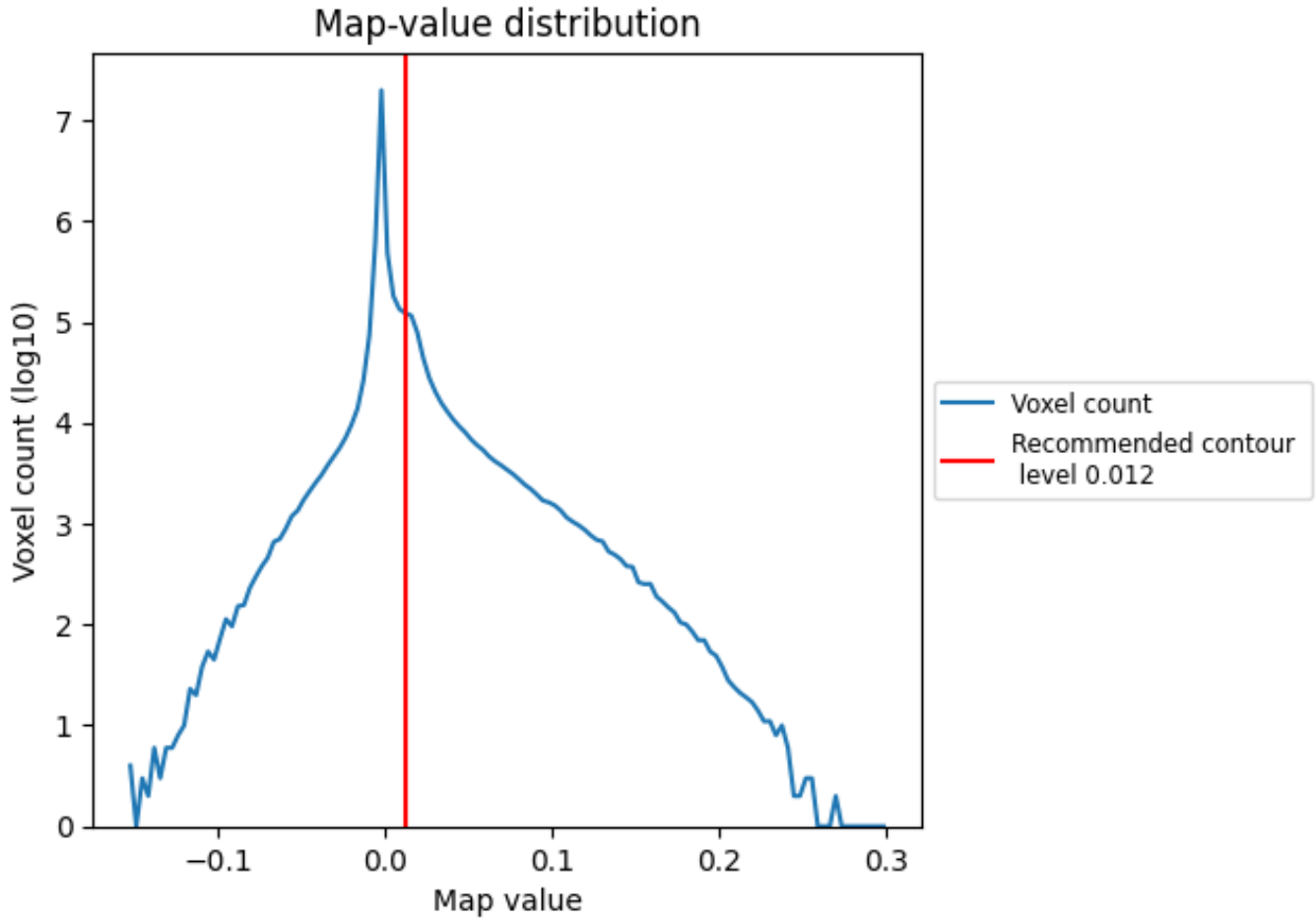
6.6 Mask visualisation (i)

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

7 Map analysis

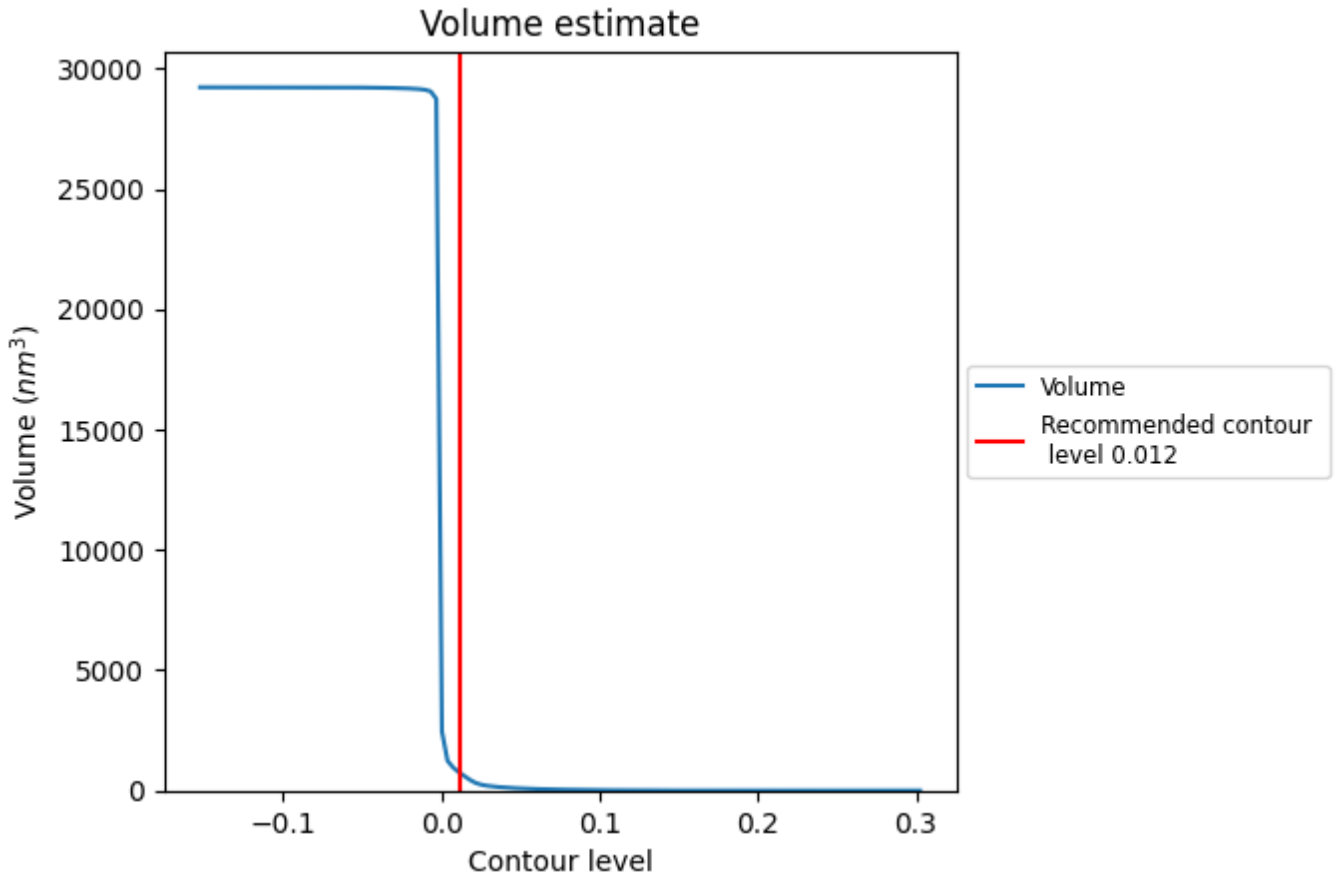
This section contains the results of statistical analysis of the map.

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.

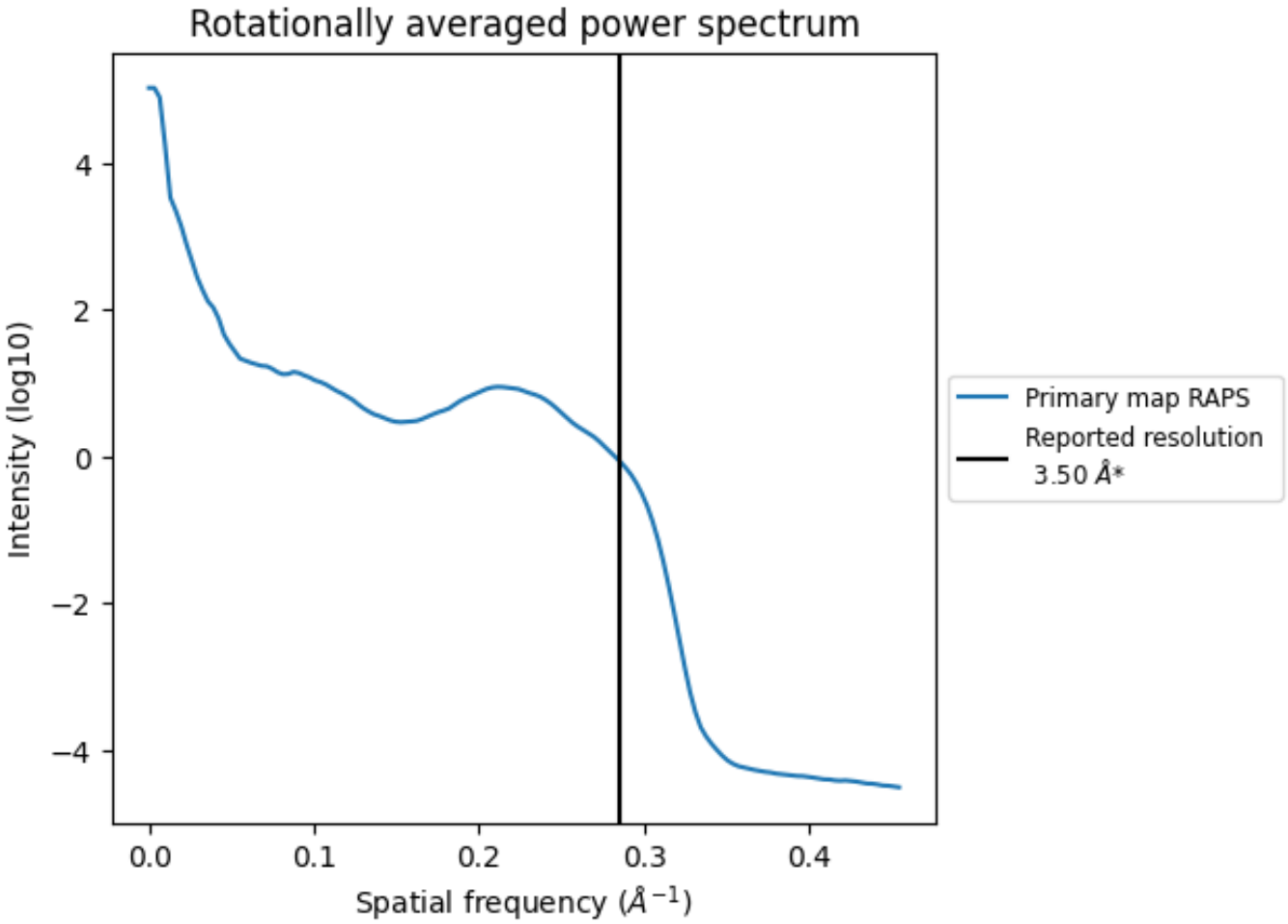
7.2 Volume estimate



The volume at the recommended contour level is 723 nm^3; this corresponds to an approximate mass of 653 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 0.286 $Å^{-1}$

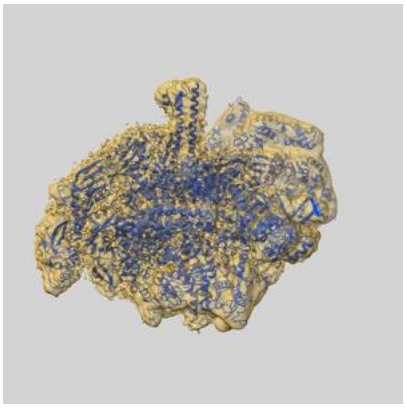
8 Fourier-Shell correlation (i)

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

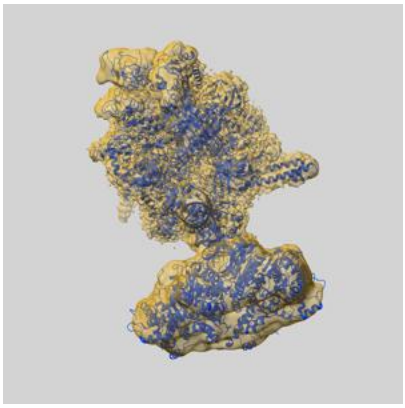
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-14171 and PDB model 9Q90. Per-residue inclusion information can be found in section 3 on page 9.

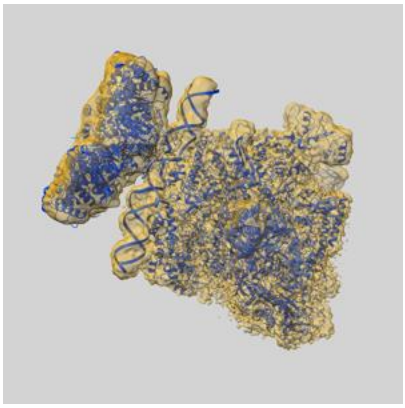
9.1 Map-model overlay



X



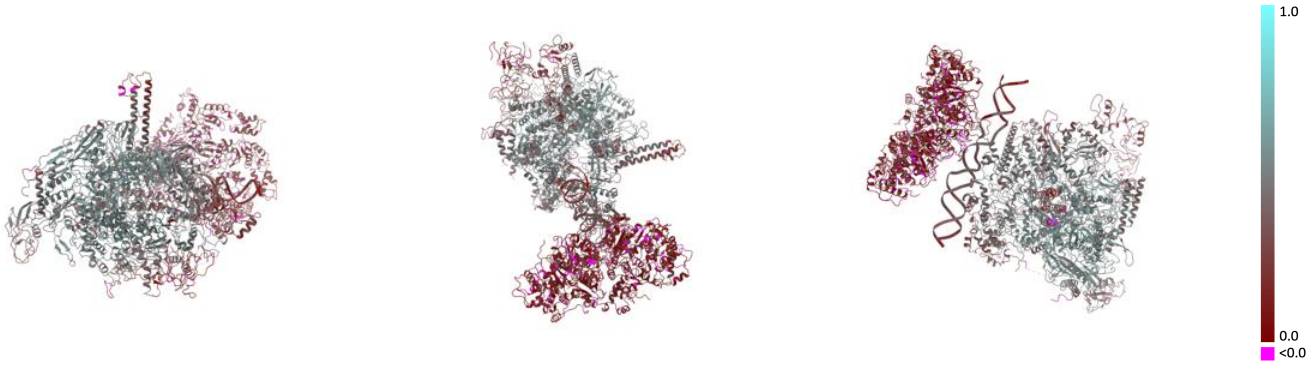
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.012 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.

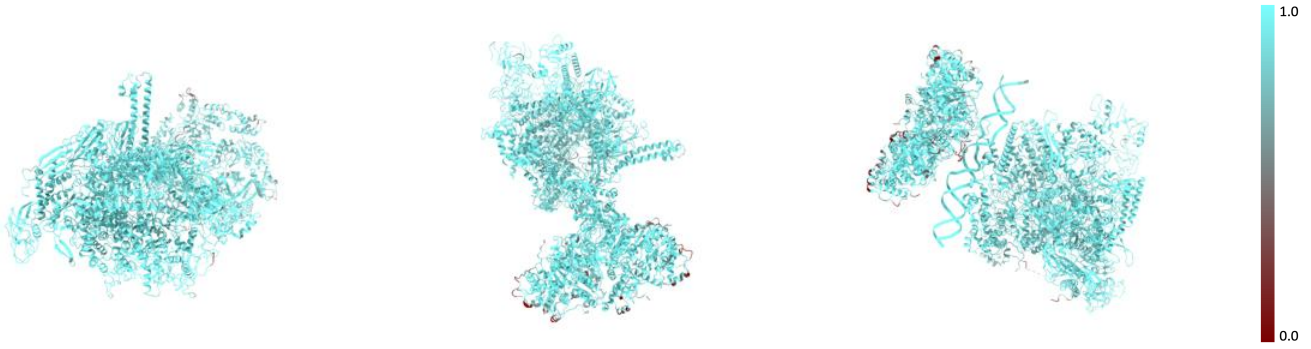
9.2 Q-score mapped to coordinate model (i)



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.

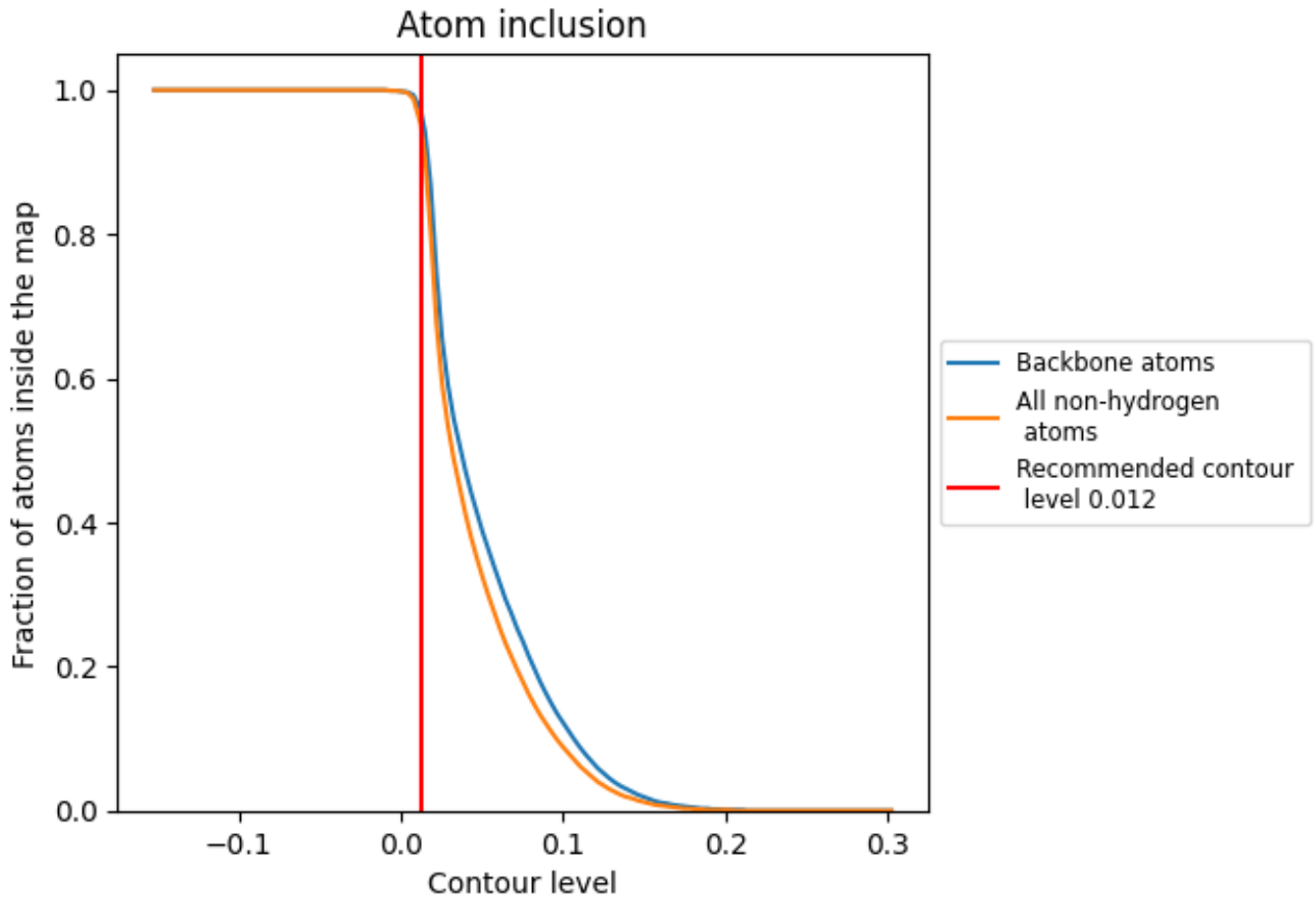
9.3 Atom inclusion mapped to coordinate model (i)



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 (0.012).

9.4 Atom inclusion (i)



At the recommended contour level, 97% of all backbone atoms, 95% 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 (0.012) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.9530	0.3560
1	0.9450	0.1570
2	0.9070	0.1390
3	0.9020	0.1270
4	0.9330	0.1320
5	0.9100	0.1300
6	0.8820	0.1290
A	0.9240	0.4430
B	0.9660	0.4290
C	0.9760	0.4740
D	0.9740	0.4590
E	0.9850	0.5050
M	0.9680	0.4220
N	0.9860	0.3140
T	0.9780	0.3020