WORLDWIDE
wwPDB
PROTEIN DATA BANK

Full wwPDB EM Validation Report ⓘ

Nov 10, 2024 – 03:58 am GMT

PDB ID	:	8A43
EMDB ID	:	EMD-15135
Title	:	Human RNA polymerase I
Authors	:	Daiss, J.L.; Pilsl, M.; Straub, K.; Bleckmann, A.; Hoecherl, M.; Heiss, F.B.; Abascal-Palacios, G.; Ramsay, E.; Tluckova, K.; Mars, J.C.; Fuertges, T.; Bruckmann, A.; Rudack, T.; Bernecky, C.; Lamour, V.; Panov, K.; Vannini, A.; Moss, T.; Engel, C.
Deposited on	:	2022-06-10
Resolution	:	4.09 Å(reported)

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

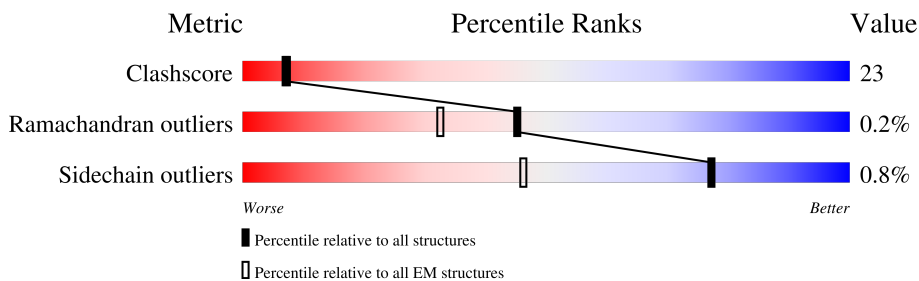|		
EMDB validation analysis	:	0.0.1.dev113
MolProbity	:	4.02b-467
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.39

1   Overall quality at a glance   ⓘ

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

The reported resolution of this entry is 4.09 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.
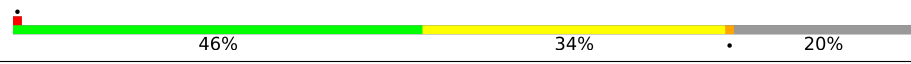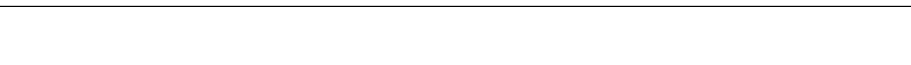
Metric	Percentile Ranks	Value
Clashscore		23
Ramachandran outliers		0.2%
Sidechain outliers		0.8%

Worse   *Better*

▮ Percentile relative to all structures

▯ Percentile relative to all EM structures

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	1720	35% / 49% 41% · 10%
2	B	1135	13% / 56% 42% ·
3	C	346	55% 32% · 12%
4	E	210	49% 51%
5	F	127	· 33% 28% · 39%
6	H	150	· 60% 39% ·
7	I	126	· 11% 24% · 63%
8	J	67	67% 31% ·

Continued from previous page...

Mol	Chain	Length	Quality of chain
9	K	133	46% 34% 20%
10	L	58	34% 43% 21%
11	N	419	10% 11% 14% 75%
12	M	510	7% 13% 11% 76%

2 Entry composition ⓘ

There are 12 unique types of molecules in this entry. The entry contains 31109 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called DNA-directed RNA polymerase I subunit RPA1.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	1549	Total	C	N	O	S	0	0
			12315	7818	2159	2255	83		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	1131	Total	C	N	O	S	0	0
			8973	5748	1529	1624	72		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
3	C	306	Total	C	N	O	S	0	0
			2450	1548	437	455	10		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
4	E	209	Total	C	N	O	S	0	0
			1715	1083	300	324	8		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
5	F	78	Total	C	N	O	S	0	0
			627	402	106	114	5		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
6	H	148	Total	C	N	O	S	0	0
			1186	750	194	237	5		

- Molecule 7 is a protein called DNA-directed RNA polymerase I subunit RPA12.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	I	47	Total	C	N	O	S	0	0
			355	223	60	68	4		

- Molecule 8 is a protein called DNA-directed RNA polymerases I, II, and III subunit RPABC5.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	J	66	Total	C	N	O	S	0	0
			524	339	88	91	6		

- Molecule 9 is a protein called DNA-directed RNA polymerases I and III subunit RPAC2.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	K	107	Total	C	N	O	S	0	0
			856	531	153	165	7		

- Molecule 10 is a protein called DNA-directed RNA polymerases I, II, and III subunit RPABC4.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	L	46	Total	C	N	O	S	0	0
			388	241	75	66	6		

- Molecule 11 is a protein called DNA-directed RNA polymerase I subunit RPA49.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	N	105	Total	C	N	O	S	0	0
			832	518	154	154	6		

- Molecule 12 is a protein called DNA-directed RNA polymerase I subunit RPA34.

| Mol	Chain	Residues	Atoms					AltConf	Trace
12	M	122	Total	C	N	O	S	0	0
			888	559	157	169	3		

3 Residue-property plots ⓘ

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.
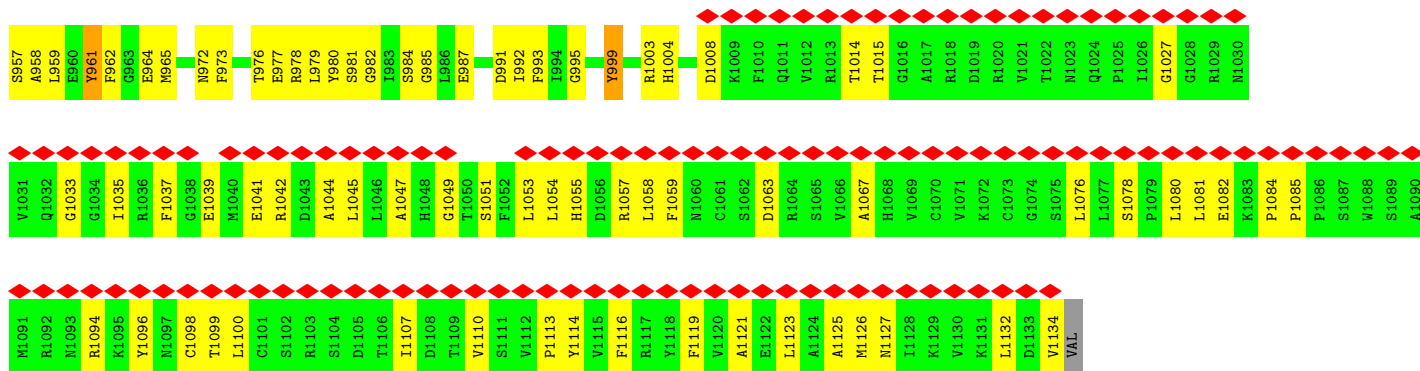
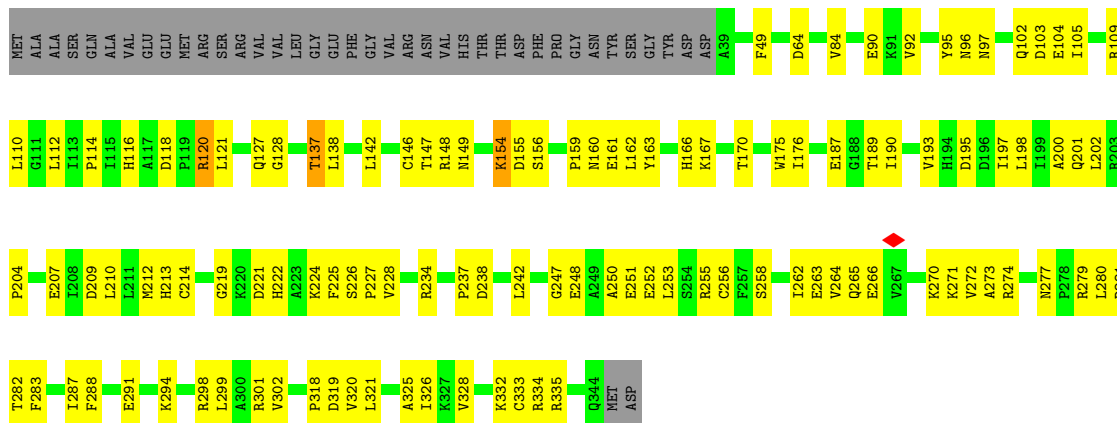• Molecule 1: DNA-directed RNA polymerase I subunit RPA1
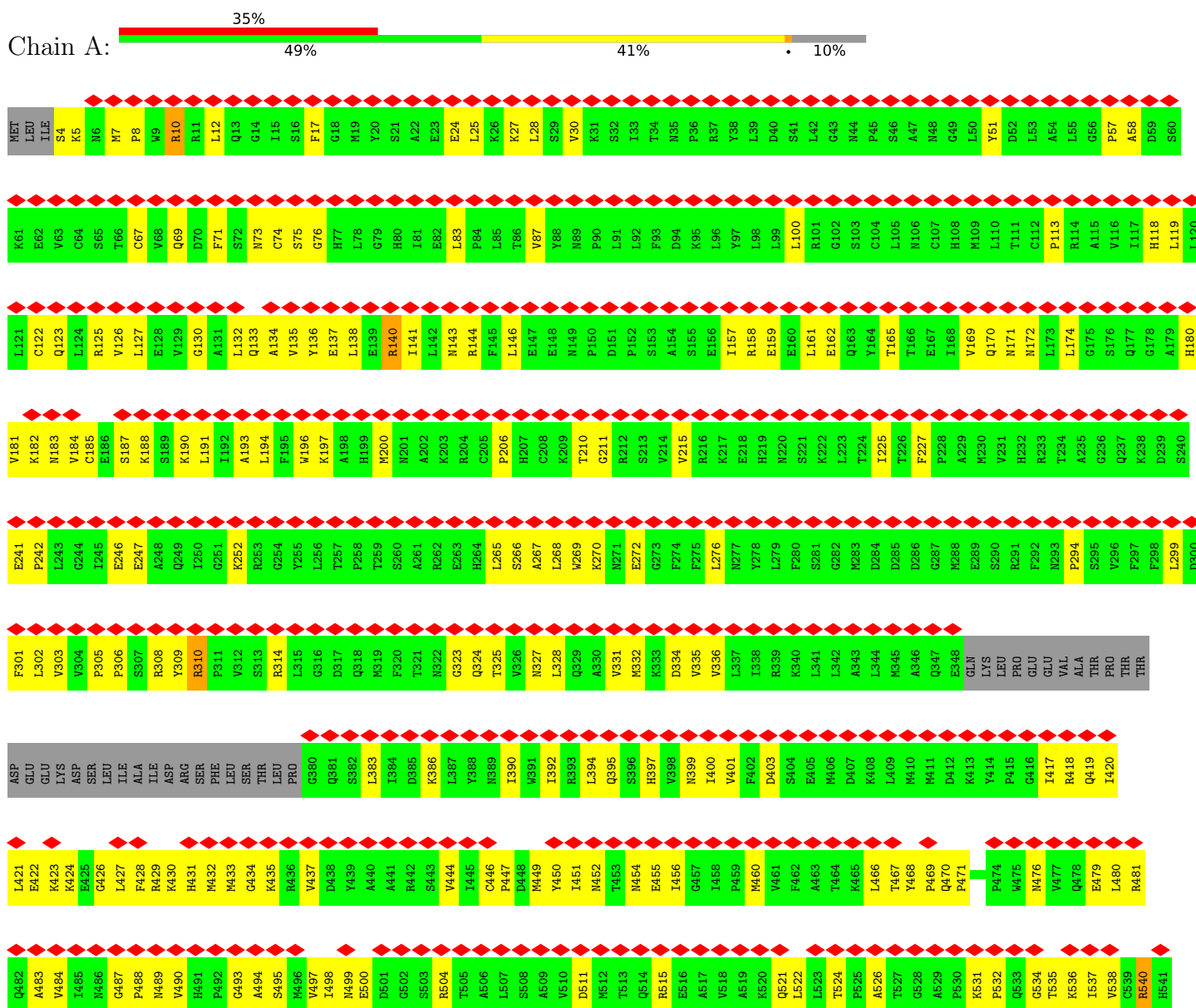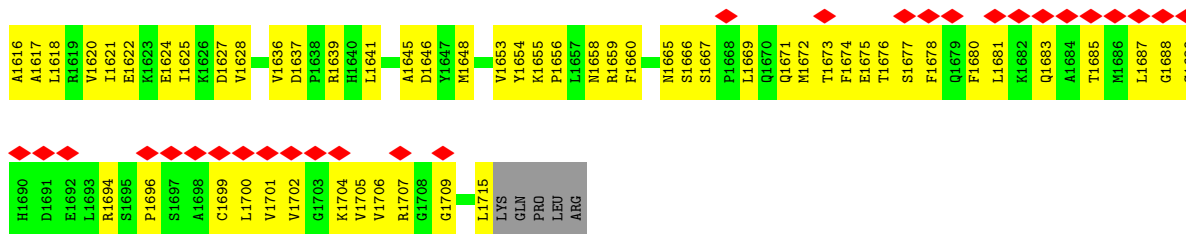
• Molecule 2: DNA-directed RNA polymerase I subunit RPA2
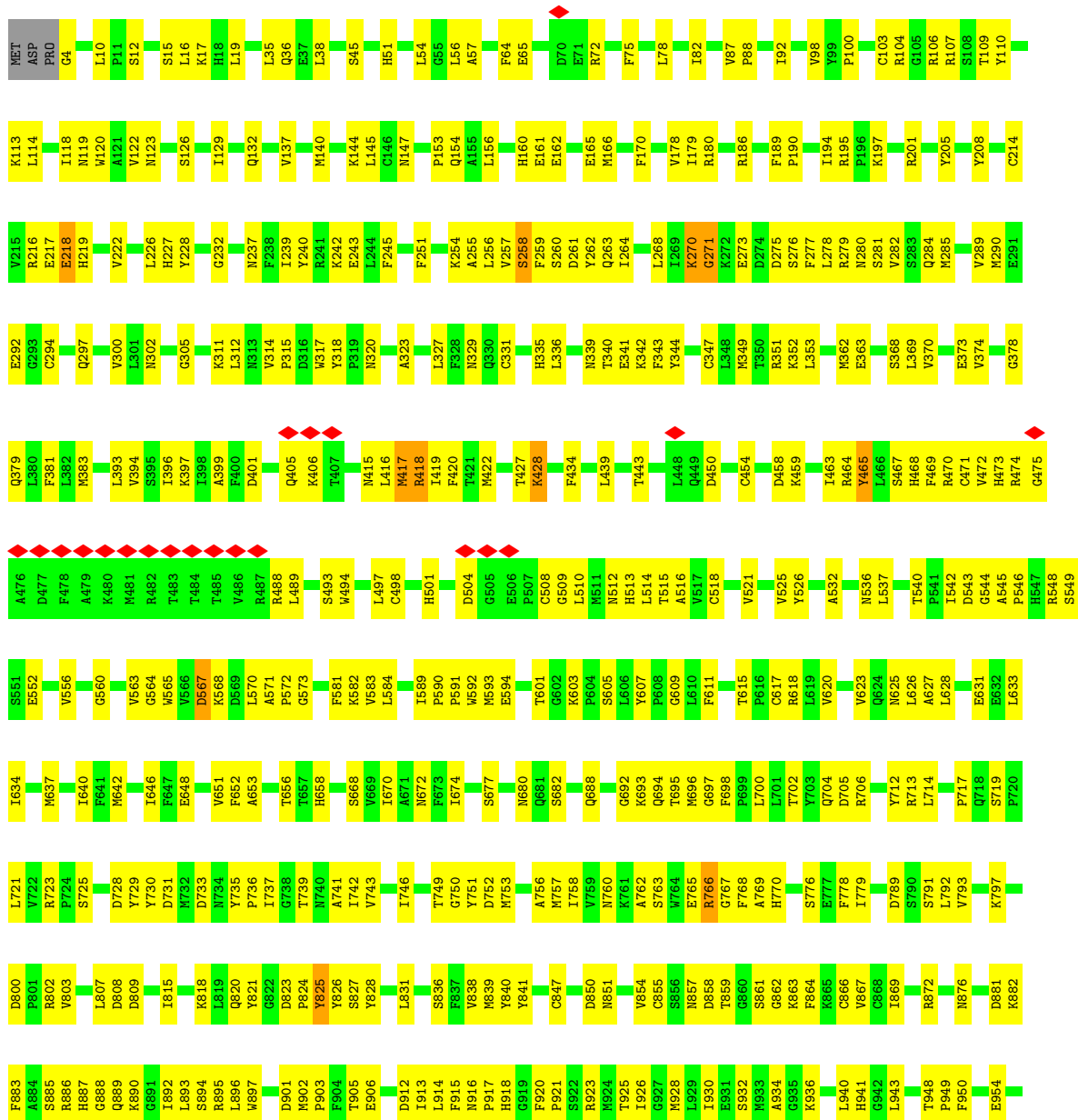
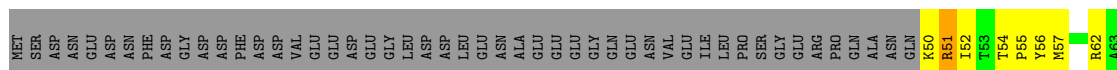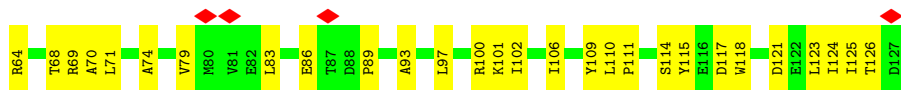• Molecule 3: DNA-directed RNA polymerases I and III subunit RPAC1

Chain C:

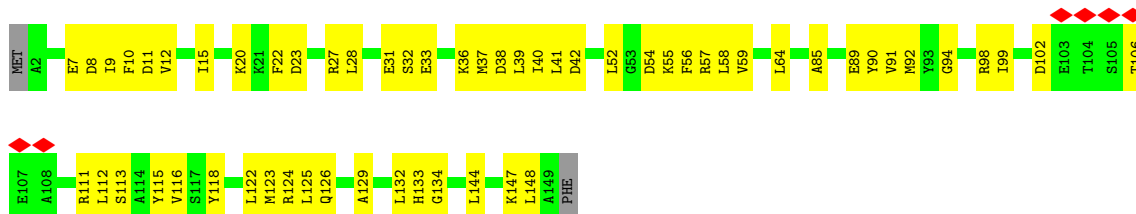• Molecule 4: DNA-directed RNA polymerases I, II, and III subunit RPABC1

Chain E:

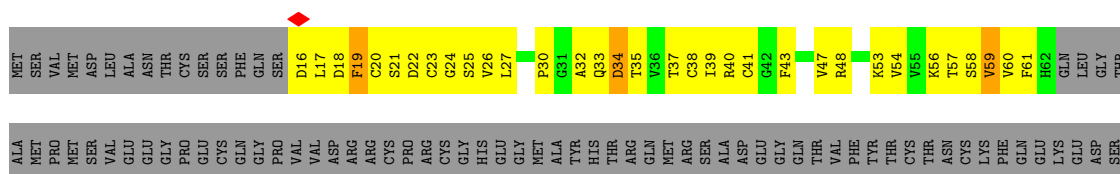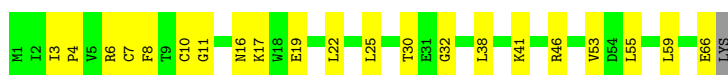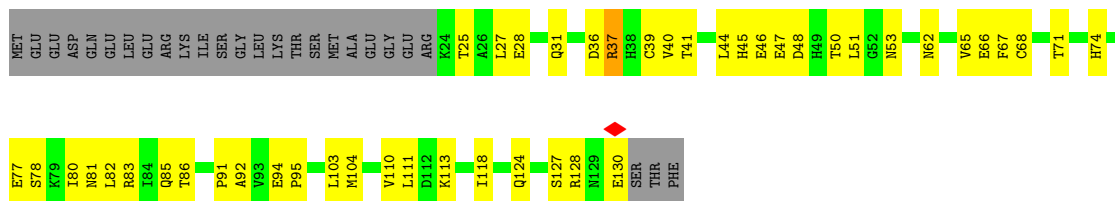• Molecule 5: DNA-directed RNA polymerases I, II, and III subunit RPABC2

Chain F:

R64 T68 R69 A70 L71 A74 V79 M80 V81 E82 L83 E86 T87 D88 P89 A93 L97 R100 K101 I102 I106 Y109 L110 P111 S114 Y115 E116 D117 W118 D121 E122 L123 I124 I125 T126 D127

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

Chain H:

60% 39%

MET A2 E7 D8 I9 F10 D11 V12 I15 K20 K21 F22 D23 R27 L28 E31 S32 E33 K36 M37 D38 L39 I40 L41 D42 L52 G53 D54 K55 F56 R57 L58 V59 L64 A85 E89 Y90 V91 M92 Y93 G94 R98 I99 D102 E103 T104 S105 T106

E107 A108 R111 L112 S113 A114 Y115 V116 S117 Y118 L122 M123 R124 L125 Q126 A129 L132 H133 G134 L144 K147 L148 A149 PHE

• Molecule 7: DNA-directed RNA polymerase I subunit RPA12

Chain I:

11% 24% 63%

MET SER VAL MET ASP LEU ALA ASN THR CYS SER SER PHE GLN SER D16 L17 D18 F19 C20 S21 D22 C23 G24 S25 V26 L27 P30 G31 A32 Q33 D34 T35 V36 T37 C38 I39 R40 C41 G42 F43 V47 R48 K53 V54 V55 K56 T57 S58 V59 V60 F61 H62 GLN LEU GLY THR

ALA MET PRO MET SER VAL GLU GLU GLY PRO GLY CYS SER GLN GLY PRO VAL VAL ASP ARG ARG CYS PRO ARG CYS GLY HIS GLU GLY MET ALA TYR HIS THR ARG GLN MET ARG SER ALA ASP GLU GLY GLN THR VAL PHE TYR THR CYS THR ASN CYS LYS PHE GLU GLU LYS GLU ASP SER

• Molecule 8: DNA-directed RNA polymerases I, II, and III subunit RPABC5

Chain J:

67% 31%

M1 I2 I3 P4 V5 R6 C7 F8 T9 C10 G11 N16 K17 W18 E19 L22 L25 T30 E31 G32 L38 K41 R46 V53 D54 L55 L59 E66 LYS

• Molecule 9: DNA-directed RNA polymerases I and III subunit RPAC2

Chain K:

46% 34% 20%

MET GLU GLU ASP GLN GLU LEU GLU GLU ARG LYS ILE SER GLY LEU LYS THR SER MET ALA GLU GLU ARG K24 T25 A26 L27 E28 Q31 D36 R37 H38 C39 V40 T41 L44 H45 E46 E47 D48 H49 T50 L51 G52 N53 N62 V65 E66 F67 C68 T71 H74

E77 S78 K79 I80 N81 L82 R83 I84 Q85 T86 P91 A92 V93 E94 P95 L103 M104 V110 L111 D112 K113 I118 Q124 S127 R128 N129 E130 SER THR PHE

• Molecule 10: DNA-directed RNA polymerases I, II, and III subunit RPABC4

Chain L:

34% 43% 21%

MET ASP THR GLN LYS ASP VAL GLN PRO PRO LYS GLN Q13 P14 Y17 I18 E25 N26 K29 S30 R31 D32 P33 I34 R35 C36 R37 Y41 R42 M44 Y45 K46 K47 K50 R51 L52 D56 A57 R58

• Molecule 11: DNA-directed RNA polymerase I subunit RPA49

Chain N:

10%
11%
14%
75%

MET ALA ALA GLU VAL LEU PRO SER A9 R10 W11 Q12 Y13 C14 G15 A16 P17 D18 G19 S20 Q21 V24 L25 V26 Q27 F28 S29 N30 G31 K32 S35 N38 M39 R40 F41 T42 L43 Y44 E45 N46 K47 D48 S49 T50 N51 P52 R53 K54 R55 N56 Q57 R58 I59 L60 A61 A62 E63

T64 D65 R66 L67 S68 Y69 V70 G71 N72 N73 F74 G75 T76 G77 A78 L79 K80 C81 L84 C85 R86 H87 I91 L92 N93 K94 T95 S96 G97 Q98 M99 E100 V101 Y102 D103 L106 F107 N108 M109 Q110 P111 L112 F113 SER ASP VAL SER VAL GLU SER GLU LEU ALA LEU GLU SER GLN

THR LYS THR TYR ARG GLU LYS MET ASP SER CYS ILE GLU ALA PHE GLY THR LYS GLN LYS ARG ALA LEU ASN THR ARG MET ASN ARG VAL GLY ASN GLU SER LEU ASN ARG ALA VAL ALA LYS ALA GLU THR ILE ILE ASP THR LYS GLY VAL THR ALA LEU VAL VAL SER ASP

ALA ILE HIS ASN ASP LEU GLN ASP ASP SER LEU TYR LEU PRO PRO CYS TYR ASP ASP ALA ALA LYS PRO GLU ASP VAL TYR LYS PHE GLU ASP LEU LEU SER PRO ALA GLU LEU GLN ILE SER ALA PHE ARG ASN VAL THR SER GLU ILE LEU LEU LYS MET ILE

GLU GLU ASN SER HIS CYS THR PHE VAL ILE GLU ALA LEU LYS SER LEU PRO SER VAL GLU SER ARG ASP ARG ARG VAL ALA GLN ALA ARG CYS ILE TRP PHE GLU ALA HIS ARG VAL VAL LYS SER ALA LEU GLY PRO GLY VAL PRO HIS ILE ILE ASN

THR LYS LEU LYS HIS PHE THR CYS LEU THR TYR ASN ASN GLY ARG LEU ASN LEU ILE SER ASP SER MET LYS ALA LYS ILE THR ALA TYR VAL ILE ILE LEU ALA LEU HIS HIS ASP PHE ILE ASP LEU THR VAL LEU GLN ARG ASP LYS LEU GLU GLU LYS ARG

MET MET GLU ILE ALA LYS MET ARG LEU LYS ILE SER LYS ARG ARG VAL SER VAL ALA GLY SER GLU GLU ASP HIS LYS LEU GLY THR LEU LEU PRO LEU PRO ALA GLN THR ASP ARG ALA LYS ARG LYS ILE THR

• Molecule 12: DNA-directed RNA polymerase I subunit RPA34

Chain M:

7%
13%
11%
76%

MET GLU GLU PRO GLN ALA GLY ASP ALA ALA ARG PHE SER CYS PRO PRO ASN PHE THR ALA LYS P22 P23 A24 S25 E26 S27 P28 R29 F30 S31 L32 E33 A34 L35 T36 G37 P38 D39 T40 E41 L42 W43 L44 I45 Q46 A47 P48 A49 D50 F51 A52 P53 E54 C55 F56 L63 S64 G65

K70 G71 K72 L73 A74 G75 K76 R77 H78 R79 Y80 R81 V82 L83 S84 P87 Q88 A89 G90 E91 L94 L95 A96 P97 S98 T99 E100 A101 G102 G103 G104 L105 T106 C107 A108 G113 T114 L115 R116 I117 L118 E119 G120 P121 Q122 Q123 S124 L125 S126 G127 S128 P129 L130 Q131 P132 I133

P134 A135 S136 P137 P138 P139 Q140 I141 P142 P143 GLY LEU ARG ARG PHE CYS ALA PHE GLY GLY ASN PRO PRO VAL THR GLY PRO ARG SER ALA LEU ALA PRO ASN LEU LEU THR SER GLY LYS LYS LYS GLU MET GLN VAL THR GLU ALA PRO VAL THR GLN GLU ALA VAL THR GLN GLU ALA VAL ASN GLY

HIS GLY ALA LEU GLU VAL ASP MET ALA LEU GLY SER PRO GLU MET ASP VAL ARG LYS LYS GLN GLU GLN ILE ASN THR GLU LEU ASP THR VAL LEU SER PRO GLU ALA ALA GLY PRO VAL GLY THR GLU GLU THR VAL GLU THR LEU GLU LEU GLY VAL VAL LEU LEU PRO SER THR THR LYS LYS ARG

LYS LYS PRO LYS GLY LYS GLU THR PHE GLU PRO GLU GLU GLY ALA ILE PRO LEU PRO THR LYS LYS ARG LYS LYS GLY GLN GLN ILE ASN THR GLU LEU ASP PRO LEU ASP THR VAL LEU SER PRO ALA ALA ALA PRO THR LYS LYS ARG LYS LYS GLY GLN GLN THR GLY GLY MET GLU GLU GLY GLY VAL THR THR GLU SER PRO GLN GLN VAL

LYS VAL GLU GLY PRO LEU GLU GLU ALA ILE PRO LEU PRO LEU PRO THR LYS LYS ARG LYS LYS GLY GLY LYS MET ALA MET GLU GLY PRO GLY THR VAL LEU SER PRO GLU MET GLU GLU GLY GLY MET GLU LEU PRO ALA PRO SER PRO GLY GLY MET GLU THR ALA PRO GLN GLN PRO GLY GLY ALA LYS

PRO GLN ALA GLN ALA LEU GLU ALA ALA PRO LYS LYS THR LYS LYS ARG LYS LYS GLU GLY GLN GLN ASP ALA THR VAL GLU PRO GLY SER THR THR MET ALA PRO GLN PRO GLN PRO GLY THR ALA ALA PRO THR SER LYS LYS LYS LYS LYS LYS GLU ARG GLY HIS THR

VAL THR GLU PRO ILE GLN PRO ASP LEU GLU GLU LEU GLY GLU GLN PRO LEU GLU GLN LEU ASP ASP SER GLU GLU SER ARG MET PRO GLU VAL VAL PRO GLU GLU GLU GLU MET PRO GLY PRO PRO LEU ASN SER GLU GLY SER GLY GLU GLU

ALA PRO THR GLY ARG ASP LYS LYS ARG LYS LYS GLN GLN GLN GLN GLN PRO VAL

4 Experimental information ⓘ

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	108012	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	JEOL CRYO ARM 200	Depositor
Voltage (kV)	200	Depositor
Electron dose $(e^-/Å^2)$	40	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	2700	Depositor
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.117	Depositor
Minimum map value	-0.059	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.004	Depositor
Recommended contour level	0.0154	Depositor
Map size (Å)	286.60742, 286.60742, 286.60742	wwPDB
Map dimensions	190, 190, 190	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.5084602, 1.5084602, 1.5084602	Depositor

5   Model quality ⓘ

5.1   Standard geometry ⓘ

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	0.37	0/12574	0.53	0/16983
2	B	0.53	0/9193	0.58	0/12442
3	C	0.48	0/2498	0.55	0/3386
4	E	0.37	0/1745	0.53	0/2358
5	F	0.31	0/637	0.53	0/861
6	H	0.43	0/1207	0.55	0/1628
7	I	0.35	0/361	0.62	0/489
8	J	0.63	0/533	0.59	0/719
9	K	0.46	0/871	0.52	0/1174
10	L	0.51	0/394	0.58	0/524
11	N	0.34	0/848	0.51	0/1142
12	M	0.31	0/914	0.51	0/1251
All	All	0.44	0/31775	0.55	0/42957

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	4
2	B	0	3
3	C	0	1
7	I	0	2
9	K	0	1
12	M	0	2
All	All	0	13

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (13) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	1184	LYS	Peptide
1	A	1257	ALA	Peptide
1	A	310	ARG	Peptide
1	A	664	LYS	Peptide
2	B	218	GLU	Peptide
2	B	258	SER	Peptide
2	B	270	LYS	Peptide
3	C	137	THR	Peptide
7	I	19	PHE	Peptide
7	I	57	THR	Peptide
9	K	37	ARG	Peptide
12	M	126	SER	Peptide
12	M	136	SER	Peptide

5.2 Too-close contacts ⓘ

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	12315	0	12425	660	0
2	B	8973	0	8954	436	0
3	C	2450	0	2452	101	0
4	E	1715	0	1733	113	0
5	F	627	0	659	37	0
6	H	1186	0	1147	44	0
7	I	355	0	345	42	0
8	J	524	0	544	20	0
9	K	856	0	840	41	0
10	L	388	0	395	24	0
11	N	832	0	812	80	0
12	M	888	0	889	57	0
All	All	31109	0	31195	1462	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 23.

All (1462) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:704:ASN:H	1:A:1043:ASN:HD21	1.06	1.01
1:A:1700:LEU:HD22	2:B:1054:LEU:HD13	1.45	0.96
11:N:91:ILE:HB	11:N:100:GLU:HB3	1.52	0.90
2:B:180:ARG:NH2	2:B:471:CYS:SG	2.47	0.88
1:A:933:LYS:NZ	2:B:642:MET:O	2.08	0.87
1:A:1539:ASP:O	1:A:1543:LEU:N	2.08	0.85
2:B:347:CYS:SG	2:B:351:ARG:NH1	2.49	0.85
1:A:704:ASN:HD21	1:A:740:ARG:HG3	1.40	0.85
5:F:97:LEU:HA	5:F:102:ILE:HD11	1.59	0.84
5:F:110:LEU:HB3	5:F:111:PRO:HD2	1.57	0.84
3:C:109:ARG:NH2	8:J:3:ILE:O	2.10	0.84
2:B:940:LEU:O	8:J:46:ARG:NH2	2.10	0.83
2:B:179:ILE:HD13	2:B:454:CYS:HB3	1.58	0.83
1:A:1125:TYR:O	1:A:1132:ARG:NH2	2.11	0.83
1:A:446:CYS:SG	1:A:576:ARG:NH1	2.52	0.82
6:H:33:GLU:O	6:H:36:LYS:NZ	2.13	0.81
1:A:797:LEU:HD13	2:B:917:PRO:HB2	1.60	0.81
1:A:1028:LYS:O	1:A:1031:PHE:N	2.14	0.81
2:B:802:ARG:HH12	2:B:824:PRO:HD3	1.46	0.80
2:B:217:GLU:O	2:B:219:HIS:ND1	2.15	0.80
11:N:11:TRP:HH2	12:M:53:PRO:HB2	1.46	0.80
7:I:22:ASP:H	11:N:66:ARG:HE	1.31	0.79
2:B:802:ARG:NH1	2:B:824:PRO:HD3	1.98	0.79
1:A:1119:GLU:OE1	1:A:1122:ARG:NH2	2.16	0.79
9:K:47:GLU:HG3	9:K:48:ASP:H	1.47	0.79
1:A:1055:GLU:O	1:A:1059:ARG:NH2	2.16	0.78
7:I:35:THR:HA	7:I:47:VAL:HB	1.65	0.78
1:A:651:GLU:N	1:A:651:GLU:OE1	2.14	0.78
2:B:515:THR:HG22	2:B:516:ALA:H	1.48	0.78
1:A:140:ARG:NH2	4:E:119:VAL:O	2.16	0.78
1:A:972:ARG:HH21	2:B:509:GLY:HA2	1.49	0.78
1:A:967:HIS:HD2	2:B:682:SER:OG	1.67	0.78
7:I:35:THR:HG22	7:I:47:VAL:H	1.49	0.77
1:A:1297:ILE:HG21	1:A:1544:VAL:HG11	1.66	0.77
1:A:75:SER:H	2:B:1080:LEU:HD22	1.49	0.77
2:B:625:ASN:HD21	2:B:627:ALA:HB3	1.48	0.77
1:A:1107:SER:OG	1:A:1118:GLN:NE2	2.17	0.77
3:C:96:ASN:ND2	3:C:207:GLU:OE2	2.17	0.77
11:N:86:ARG:HH12	12:M:53:PRO:HD3	1.48	0.76
2:B:719:SER:OG	2:B:723:ARG:NH1	2.18	0.76
4:E:167:GLU:O	4:E:172:ARG:NH2	2.19	0.76
2:B:92:ILE:O	10:L:35:ARG:NH2	2.19	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:626:LEU:HA	12:M:131:GLN:HE22	1.51	0.75
3:C:116:HIS:HB2	3:C:193:VAL:HG22	1.68	0.75
1:A:73:ASN:HB3	2:B:1081:LEU:HB3	1.68	0.75
3:C:221:ASP:OD2	10:L:58:ARG:NH2	2.17	0.75
2:B:162:GLU:OE1	2:B:735:TYR:OH	2.03	0.75
1:A:1154:ILE:HD11	5:F:52:ILE:HA	1.66	0.75
1:A:133:GLN:HB3	4:E:210:GLN:HE21	1.49	0.75
2:B:54:LEU:HA	2:B:57:ALA:HB3	1.68	0.75
2:B:186:ARG:HH22	2:B:637:MET:HB2	1.51	0.75
1:A:1295:GLN:HE21	1:A:1296:LYS:HG2	1.52	0.75
2:B:930:ILE:HD13	2:B:959:LEU:HD12	1.69	0.75
3:C:149:ASN:ND2	3:C:161:GLU:O	2.20	0.75
1:A:828:ARG:HH22	1:A:844:GLY:HA3	1.51	0.74
2:B:567:ASP:OD1	2:B:567:ASP:N	2.19	0.74
1:A:435:LYS:HG2	2:B:1058:LEU:HD23	1.68	0.74
2:B:194:ILE:HG13	2:B:363:GLU:HG3	1.68	0.74
2:B:232:GLY:O	2:B:281:SER:OG	2.04	0.74
9:K:37:ARG:HB3	9:K:91:PRO:HB3	1.69	0.74
2:B:1096:TYR:HB2	2:B:1107:ILE:HG13	1.70	0.74
6:H:56:PHE:HB3	6:H:147:LYS:HA	1.69	0.74
2:B:178:VAL:HG21	2:B:469:PHE:HE1	1.53	0.73
9:K:36:ASP:OD2	9:K:37:ARG:NH1	2.20	0.73
3:C:96:ASN:HB2	10:L:50:LYS:HG2	1.70	0.73
11:N:24:VAL:HG23	12:M:95:LEU:HB2	1.68	0.73
1:A:418:ARG:O	1:A:422:GLU:HB2	1.87	0.73
1:A:1324:HIS:CE1	1:A:1335:PRO:HD3	2.23	0.73
7:I:22:ASP:N	11:N:66:ARG:HE	1.87	0.73
2:B:260:SER:HB2	11:N:111:PRO:HG2	1.70	0.73
1:A:1113:ARG:HD2	1:A:1118:GLN:HB3	1.70	0.73
1:A:76:GLY:HA3	1:A:306:PRO:HB3	1.70	0.72
1:A:925:ARG:HG2	1:A:926:PRO:HD2	1.70	0.72
1:A:1342:MET:HG2	1:A:1346:PHE:CD2	2.24	0.72
2:B:934:ALA:HA	2:B:962:PHE:HE2	1.52	0.72
2:B:257:VAL:HG22	2:B:259:PHE:HB2	1.69	0.72
1:A:181:VAL:HG12	1:A:182:LYS:H	1.54	0.72
1:A:1699:CYS:HB3	1:A:1706:VAL:HG13	1.69	0.72
4:E:29:THR:N	4:E:32:GLU:OE1	2.21	0.72
1:A:1127:LEU:O	1:A:1132:ARG:NH2	2.21	0.72
2:B:302:ASN:OD1	2:B:320:ASN:ND2	2.23	0.72
1:A:916:LEU:HD22	1:A:951:VAL:HG11	1.69	0.72
4:E:172:ARG:NE	4:E:210:GLN:OE1	2.23	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:H:15:ILE:HD11	6:H:52:LEU:HA	1.72	0.71
11:N:92:LEU:HB2	12:M:41:GLU:HB2	1.72	0.71
1:A:452:ASN:HB2	1:A:455:GLU:HB3	1.71	0.71
2:B:642:MET:SD	2:B:658:HIS:NE2	2.63	0.71
2:B:885:SER:OG	2:B:886:ARG:N	2.21	0.71
1:A:796:THR:HG21	2:B:992:ILE:HA	1.72	0.71
1:A:1503:GLN:HA	1:A:1506:ARG:HD2	1.72	0.71
2:B:261:ASP:OD1	2:B:262:TYR:N	2.24	0.71
2:B:263:GLN:HG2	11:N:30:ASN:HD21	1.55	0.71
2:B:694:GLN:HE22	2:B:1003:ARG:HE	1.39	0.71
1:A:399:ASN:O	1:A:403:ASP:N	2.23	0.70
1:A:631:ILE:HD12	1:A:632:GLN:H	1.56	0.70
2:B:498:CYS:SG	2:B:668:SER:N	2.61	0.70
2:B:312:LEU:HD13	2:B:327:LEU:HD12	1.72	0.70
11:N:46:ASN:ND2	11:N:57:GLN:OE1	2.24	0.70
1:A:1498:MET:HG2	1:A:1501:ARG:HE	1.55	0.70
2:B:697:GLY:HA3	2:B:737:ILE:HD12	1.73	0.70
12:M:80:TYR:HA	12:M:119:GLU:HA	1.72	0.70
1:A:801:ASP:O	1:A:892:ASN:ND2	2.24	0.70
1:A:1305:MET:HA	1:A:1310:ASN:HA	1.71	0.70
2:B:1054:LEU:HG	2:B:1058:LEU:HD13	1.74	0.70
2:B:339:ASN:OD1	2:B:340:THR:N	2.24	0.70
3:C:263:GLU:OE2	3:C:274:ARG:NH1	2.24	0.70
1:A:127:LEU:HD11	1:A:191:LEU:HD12	1.73	0.70
1:A:957:THR:HB	2:B:954:GLU:HA	1.74	0.70
1:A:1253:MET:O	1:A:1658:ASN:ND2	2.25	0.70
1:A:266:SER:HA	1:A:294:PRO:HG2	1.74	0.70
5:F:56:TYR:H	5:F:123:LEU:HD22	1.56	0.70
12:M:83:LEU:HD22	12:M:116:ARG:HG3	1.74	0.69
10:L:56:ASP:OD2	10:L:57:ALA:N	2.25	0.69
1:A:429:ARG:NH1	1:A:1675:GLU:O	2.25	0.69
1:A:855:GLN:O	1:A:859:ASN:ND2	2.20	0.69
1:A:1052:HIS:HB3	1:A:1055:GLU:HB3	1.75	0.69
1:A:887:ARG:HD3	1:A:891:GLU:HB3	1.74	0.69
2:B:770:HIS:ND1	2:B:876:ASN:OD1	2.26	0.69
11:N:81:CYS:O	11:N:85:CYS:N	2.20	0.69
11:N:94:LYS:N	12:M:39:ASP:O	2.20	0.69
1:A:1566:GLU:OE2	1:A:1574:LYS:NZ	2.25	0.69
2:B:179:ILE:HD11	2:B:434:PHE:HE1	1.58	0.68
7:I:34:ASP:OD1	7:I:34:ASP:N	2.24	0.68
1:A:675:ILE:HG12	6:H:92:MET:HG2	1.75	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:601:THR:HG1	2:B:605:SER:HG	1.39	0.68
11:N:48:ASP:OD2	11:N:51:ASN:ND2	2.26	0.68
1:A:935:LEU:O	1:A:937:CYS:N	2.25	0.68
2:B:439:LEU:HB3	2:B:450:ASP:HB2	1.74	0.68
3:C:270:LYS:NZ	3:C:271:LYS:O	2.17	0.68
4:E:173:ILE:O	4:E:210:GLN:N	2.26	0.68
1:A:479:GLU:OE1	1:A:543:LYS:NZ	2.25	0.68
9:K:41:THR:OG1	9:K:83:ARG:NE	2.26	0.68
2:B:255:ALA:O	2:B:297:GLN:NE2	2.27	0.68
1:A:4:SER:OG	1:A:5:LYS:N	2.28	0.67
1:A:1327:TYR:HB2	1:A:1331:LYS:HD2	1.75	0.67
2:B:470:ARG:NH2	2:B:515:THR:O	2.25	0.67
2:B:700:LEU:HD11	2:B:706:ARG:HD2	1.76	0.67
1:A:310:ARG:HH21	1:A:325:THR:HA	1.58	0.67
3:C:96:ASN:HD22	10:L:50:LYS:HE2	1.60	0.67
1:A:171:ASN:OD1	1:A:172:ASN:ND2	2.27	0.67
1:A:51:TYR:HE1	1:A:310:ARG:HD3	1.59	0.67
1:A:1075:TRP:CD2	1:A:1142:CYS:HB3	2.30	0.67
2:B:261:ASP:O	2:B:264:ILE:N	2.27	0.67
6:H:102:ASP:OD1	6:H:106:THR:OG1	2.11	0.67
1:A:620:VAL:HG22	1:A:627:LEU:HD12	1.77	0.67
3:C:97:ASN:HD22	3:C:103:ASP:HB3	1.59	0.67
2:B:905:THR:HG22	2:B:906:GLU:H	1.60	0.67
3:C:156:SER:HA	3:C:162:LEU:HD11	1.76	0.67
7:I:23:CYS:O	11:N:66:ARG:HG3	1.94	0.67
1:A:1004:ASP:OD2	1:A:1008:ARG:NH2	2.28	0.66
1:A:1046:VAL:O	1:A:1050:SER:OG	2.13	0.66
1:A:749:LEU:HB3	1:A:754:TYR:HE1	1.58	0.66
2:B:757:MET:N	2:B:894:SER:OG	2.29	0.66
2:B:934:ALA:HA	2:B:962:PHE:CE2	2.29	0.66
6:H:64:LEU:HD11	6:H:144:LEU:HD21	1.77	0.66
2:B:766:ARG:NH2	8:J:10:CYS:O	2.24	0.66
1:A:447:PRO:HB2	1:A:579:TYR:CE1	2.31	0.66
1:A:1665:ASN:ND2	1:A:1667:SER:O	2.27	0.66
1:A:1306:GLU:OE1	7:I:48:ARG:NH2	2.29	0.66
1:A:606:ALA:HA	1:A:609:TYR:HD2	1.60	0.66
2:B:854:VAL:HG13	10:L:44:MET:HB2	1.78	0.66
7:I:38:CYS:SG	7:I:39:ILE:N	2.69	0.66
1:A:310:ARG:HG3	1:A:324:GLN:HE21	1.61	0.66
1:A:1352:GLU:HA	1:A:1355:LYS:HE3	1.76	0.66
1:A:1002:GLN:NE2	5:F:111:PRO:O	2.29	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:H:27:ARG:NE	6:H:42:ASP:OD1	2.25	0.66
11:N:86:ARG:NH1	12:M:51:PHE:O	2.29	0.65
2:B:195:ARG:HD3	2:B:197:LYS:HB3	1.77	0.65
1:A:182:LYS:NZ	1:A:1009:ASP:OD2	2.28	0.65
2:B:823:ASP:O	2:B:841:TYR:N	2.28	0.65
2:B:140:MET:HB2	2:B:170:PHE:HE2	1.61	0.65
3:C:142:LEU:HD23	3:C:210:LEU:HD23	1.79	0.65
1:A:113:PRO:HG3	1:A:206:PRO:HG2	1.78	0.65
1:A:551:ASN:HB3	1:A:595:ASN:HD21	1.62	0.65
1:A:821:HIS:O	1:A:825:GLN:NE2	2.30	0.65
2:B:548:ARG:HG3	2:B:550:TYR:CZ	2.32	0.65
1:A:1257:ALA:O	1:A:1259:ILE:N	2.30	0.65
2:B:88:PRO:HB2	2:B:859:THR:HG21	1.78	0.65
6:H:64:LEU:HD21	6:H:85:ALA:HB2	1.78	0.65
1:A:677:LYS:HB2	6:H:91:VAL:H	1.61	0.65
1:A:1221:GLU:HB2	1:A:1222:PRO:HD3	1.79	0.65
12:M:140:GLN:NE2	12:M:141:ILE:O	2.30	0.65
1:A:797:LEU:HD21	2:B:921:PRO:HD3	1.78	0.64
2:B:227:HIS:CE1	2:B:237:ASN:HD22	2.15	0.64
12:M:31:SER:HA	12:M:97:PRO:HG2	1.78	0.64
1:A:428:PHE:CD1	1:A:432:MET:HG3	2.32	0.64
1:A:633:ASP:OD2	2:B:753:MET:HG2	1.98	0.64
1:A:1305:MET:HB3	1:A:1310:ASN:HD22	1.60	0.64
2:B:793:VAL:H	2:B:828:TYR:HA	1.63	0.64
3:C:163:TYR:CE1	3:C:204:PRO:HD3	2.33	0.64
1:A:428:PHE:O	2:B:1042:ARG:NH2	2.31	0.64
1:A:978:THR:O	1:A:982:THR:HG23	1.95	0.64
2:B:594:GLU:OE2	2:B:618:ARG:NE	2.30	0.64
11:N:61:ALA:HA	11:N:70:VAL:HA	1.77	0.64
11:N:84:LEU:HA	12:M:49:ALA:HB2	1.78	0.64
1:A:637:SER:HG	1:A:785:PHE:HD1	1.44	0.64
2:B:1003:ARG:NH1	2:B:1004:HIS:O	2.30	0.64
11:N:60:LEU:O	11:N:71:GLY:N	2.26	0.64
1:A:573:LYS:NZ	2:B:1008:ASP:OD2	2.21	0.64
2:B:292:GLU:N	2:B:292:GLU:OE2	2.31	0.64
2:B:626:LEU:HA	12:M:131:GLN:NE2	2.11	0.64
1:A:132:LEU:HD13	4:E:172:ARG:NH2	2.13	0.64
2:B:762:ALA:O	2:B:765:GLU:N	2.28	0.64
1:A:1324:HIS:O	1:A:1328:GLN:CB	2.46	0.63
12:M:45:ILE:HG23	12:M:115:LEU:HB2	1.79	0.63
1:A:847:GLN:HA	1:A:850:HIS:CD2	2.34	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:N:80:LYS:O	11:N:84:LEU:N	2.30	0.63
2:B:779:ILE:HG13	2:B:867:VAL:HB	1.80	0.63
4:E:31:ASP:OD1	4:E:31:ASP:N	2.30	0.63
4:E:52:ARG:NH2	4:E:107:GLN:OE1	2.32	0.63
1:A:1699:CYS:HA	1:A:1702:VAL:HG22	1.81	0.63
1:A:1337:ASP:OD1	1:A:1337:ASP:N	2.31	0.63
2:B:344:TYR:OH	2:B:543:ASP:OD1	2.11	0.63
1:A:1130:GLU:OE2	1:A:1130:GLU:N	2.31	0.63
1:A:1340:ARG:O	1:A:1344:THR:OG1	2.11	0.63
2:B:857:ASN:HB2	2:B:862:GLY:HA3	1.81	0.63
1:A:1110:ARG:HH21	1:A:1111:ASN:HD22	1.46	0.63
2:B:791:SER:OG	2:B:864:PHE:O	2.16	0.63
10:L:26:ASN:ND2	10:L:36:CYS:SG	2.71	0.63
1:A:1052:HIS:ND1	5:F:126:THR:OG1	2.29	0.62
1:A:1316:GLN:OE1	1:A:1317:LEU:N	2.32	0.62
4:E:27:LEU:HG	4:E:64:HIS:CG	2.33	0.62
1:A:955:PHE:O	1:A:956:LEU:HD23	1.99	0.62
5:F:69:ARG:NH2	5:F:101:LYS:O	2.32	0.62
1:A:137:GLU:HG3	4:E:187:ARG:HG2	1.81	0.62
1:A:584:ALA:HB2	1:A:627:LEU:HD21	1.81	0.62
1:A:1051:GLN:OE1	1:A:1051:GLN:N	2.32	0.62
11:N:92:LEU:O	12:M:41:GLU:N	2.33	0.62
1:A:83:LEU:HD22	1:A:302:LEU:HD11	1.81	0.62
7:I:25:SER:OG	7:I:26:VAL:N	2.30	0.62
1:A:1144:ASP:N	1:A:1144:ASP:OD1	2.33	0.62
2:B:949:PRO:HB2	2:B:950:PHE:CD2	2.35	0.62
6:H:133:HIS:CD2	6:H:134:GLY:H	2.17	0.62
11:N:11:TRP:CH2	12:M:53:PRO:HB2	2.33	0.62
2:B:696:MET:HG3	2:B:712:TYR:HB3	1.81	0.62
9:K:39:CYS:HA	9:K:85:GLN:HG2	1.80	0.62
4:E:62:VAL:HG22	4:E:71:GLN:HB2	1.80	0.61
12:M:81:ARG:N	12:M:118:LEU:O	2.29	0.61
2:B:981:SER:OG	2:B:982:GLY:N	2.30	0.61
3:C:112:LEU:HB3	8:J:6:ARG:HD2	1.81	0.61
3:C:242:LEU:HD21	3:C:298:ARG:HD3	1.82	0.61
1:A:1287:ARG:HG3	1:A:1555:ALA:HB2	1.82	0.61
1:A:1612:TYR:HE1	4:E:142:HIS:CD2	2.18	0.61
3:C:334:ARG:NE	9:K:104:MET:SD	2.74	0.61
1:A:452:ASN:OD1	1:A:567:ARG:NH2	2.33	0.61
10:L:25:GLU:N	10:L:25:GLU:OE1	2.31	0.61
1:A:616:GLN:HA	1:A:766:TYR:CE1	2.35	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:275:ASP:OD1	2:B:277:PHE:N	2.33	0.61
1:A:619:LEU:HA	1:A:626:PRO:HA	1.81	0.61
2:B:825:TYR:N	2:B:839:MET:O	2.34	0.61
1:A:1083:LEU:HD23	1:A:1083:LEU:H	1.66	0.61
1:A:1175:ALA:HB2	1:A:1189:LEU:HD21	1.82	0.61
2:B:583:VAL:HG13	2:B:584:LEU:HD12	1.81	0.61
2:B:980:TYR:OH	3:C:301:ARG:NH1	2.34	0.61
6:H:38:ASP:N	6:H:38:ASP:OD1	2.30	0.61
2:B:903:PRO:HB2	2:B:979:LEU:HD11	1.83	0.61
10:L:30:SER:O	10:L:31:ARG:NH1	2.34	0.61
1:A:1050:SER:O	5:F:126:THR:OG1	2.20	0.60
1:A:1089:PHE:CD1	4:E:27:LEU:HD22	2.36	0.60
2:B:540:THR:HG21	2:B:546:PRO:HB3	1.81	0.60
2:B:825:TYR:HB3	2:B:826:TYR:CD1	2.35	0.60
6:H:11:ASP:HB2	6:H:55:LYS:HG3	1.83	0.60
12:M:65:GLY:O	12:M:84:SER:OG	2.19	0.60
1:A:1145:PRO:O	1:A:1148:SER:OG	2.16	0.60
1:A:1614:ILE:O	1:A:1617:ALA:N	2.34	0.60
1:A:1273:LYS:O	1:A:1275:LEU:N	2.34	0.60
2:B:752:ASP:HB2	2:B:916:ASN:HB2	1.82	0.60
1:A:833:LEU:HD12	1:A:834:PRO:HD2	1.84	0.60
1:A:1274:ALA:O	1:A:1278:VAL:HB	2.01	0.60
1:A:1312:PHE:HB3	1:A:1532:PRO:HA	1.83	0.60
1:A:1604:ASP:OD1	1:A:1605:ILE:N	2.34	0.60
2:B:623:VAL:HG21	2:B:658:HIS:HD2	1.67	0.60
4:E:47:LYS:NZ	4:E:52:ARG:HD2	2.16	0.60
2:B:514:LEU:HD23	2:B:518:CYS:SG	2.41	0.60
2:B:704:GLN:OE1	2:B:851:ASN:ND2	2.32	0.60
1:A:132:LEU:HD13	4:E:172:ARG:HH21	1.66	0.60
1:A:1559:ILE:HD11	1:A:1584:ASN:HB3	1.84	0.60
1:A:1673:THR:HG23	2:B:1042:ARG:HH22	1.67	0.60
2:B:525:VAL:HG11	2:B:590:PRO:HG3	1.84	0.60
2:B:739:THR:HG21	2:B:769:ALA:HB2	1.83	0.60
8:J:17:LYS:HB3	8:J:38:LEU:HD13	1.83	0.60
2:B:932:SER:OG	2:B:995:GLY:HA3	2.02	0.60
1:A:1053:LEU:HD12	1:A:1198:LEU:HD12	1.84	0.60
1:A:1616:ALA:HA	4:E:144:LEU:HD13	1.83	0.59
2:B:275:ASP:OD1	2:B:278:LEU:N	2.32	0.59
1:A:140:ARG:HH21	4:E:123:PRO:HD3	1.66	0.59
1:A:813:GLN:NE2	2:B:954:GLU:OE2	2.35	0.59
1:A:1706:VAL:HG23	2:B:1051:SER:OG	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:L:14:PRO:HB2	10:L:29:LYS:HE3	1.84	0.59
1:A:1355:LYS:HA	1:A:1358:ASN:HD21	1.67	0.59
11:N:11:TRP:CZ3	11:N:13:TYR:HB2	2.37	0.59
1:A:1034:PRO:HB2	1:A:1035:LYS:HZ2	1.66	0.59
1:A:1622:GLU:HG3	1:A:1641:LEU:HB3	1.85	0.59
2:B:615:THR:O	2:B:618:ARG:NH1	2.35	0.59
1:A:577:LEU:HD12	1:A:578:HIS:H	1.67	0.59
1:A:1031:PHE:HE2	1:A:1040:LEU:HD11	1.67	0.59
1:A:470:GLN:HB3	1:A:480:LEU:HD21	1.85	0.59
1:A:751:LYS:HG3	1:A:901:GLY:HA3	1.85	0.59
1:A:887:ARG:O	1:A:892:ASN:HB2	2.02	0.59
1:A:1005:LEU:HD13	1:A:1151:ARG:HH21	1.67	0.59
4:E:133:GLN:HA	4:E:136:LEU:HG	1.84	0.59
12:M:71:GLY:N	12:M:78:HIS:O	2.34	0.59
1:A:677:LYS:HB3	1:A:678:PRO:HD3	1.85	0.59
1:A:1304:CYS:HB2	1:A:1314:VAL:HG13	1.85	0.59
2:B:417:MET:SD	2:B:417:MET:N	2.75	0.59
1:A:460:MET:HG3	1:A:570:PRO:HA	1.84	0.59
1:A:1110:ARG:NH2	1:A:1111:ASN:HD22	2.01	0.59
2:B:916:ASN:HD21	2:B:918:HIS:HB2	1.68	0.59
2:B:941:HIS:CE1	12:M:143:PRO:HD2	2.38	0.59
4:E:26:TYR:HA	4:E:64:HIS:CE1	2.37	0.59
4:E:36:THR:HG22	4:E:38:GLU:H	1.67	0.59
7:I:38:CYS:SG	7:I:40:ARG:N	2.72	0.59
1:A:1034:PRO:HB2	1:A:1035:LYS:NZ	2.17	0.59
2:B:201:ARG:HB2	2:B:205:TYR:HE2	1.66	0.59
2:B:544:GLY:O	2:B:546:PRO:HD3	2.03	0.59
4:E:163:TYR:HB2	4:E:165:LEU:HD22	1.84	0.59
11:N:42:THR:OG1	11:N:61:ALA:O	2.15	0.59
12:M:32:LEU:O	12:M:36:THR:HG23	2.03	0.59
2:B:64:PHE:CE1	2:B:397:LYS:HB2	2.37	0.58
4:E:63:ALA:N	4:E:70:ASP:O	2.34	0.58
1:A:633:ASP:HA	2:B:918:HIS:CE1	2.37	0.58
2:B:521:VAL:HG22	2:B:592:TRP:HD1	1.68	0.58
3:C:253:LEU:HB3	3:C:262:ILE:HD13	1.85	0.58
1:A:1011:ASP:HA	1:A:1694:ARG:NH2	2.18	0.58
1:A:1341:PHE:CZ	1:A:1345:ARG:HG3	2.38	0.58
3:C:103:ASP:OD1	3:C:104:GLU:N	2.37	0.58
1:A:1100:VAL:HG11	1:A:1120:MET:HG2	1.85	0.58
3:C:138:LEU:HB2	3:C:214:CYS:HB2	1.85	0.58
2:B:625:ASN:OD1	2:B:626:LEU:N	2.37	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:399:ALA:HB2	2:B:422:MET:SD	2.44	0.58
2:B:700:LEU:HA	2:B:735:TYR:HE2	1.69	0.58
2:B:741:ALA:HB2	2:B:768:PHE:HZ	1.69	0.58
3:C:116:HIS:ND1	3:C:116:HIS:O	2.37	0.58
1:A:802:ILE:HD11	1:A:912:ILE:HG21	1.86	0.58
1:A:1053:LEU:O	1:A:1056:VAL:C	2.41	0.58
1:A:602:GLU:HG3	5:F:71:LEU:HA	1.86	0.58
2:B:824:PRO:HA	2:B:840:TYR:HA	1.85	0.58
2:B:728:ASP:O	2:B:731:ASP:N	2.28	0.57
1:A:643:THR:O	1:A:645:GLY:N	2.35	0.57
1:A:974:GLY:O	1:A:978:THR:HG23	2.05	0.57
3:C:170:THR:OG1	3:C:195:ASP:HA	2.04	0.57
4:E:77:PRO:HD2	4:E:105:VAL:O	2.05	0.57
1:A:691:LEU:O	1:A:695:ILE:HB	2.04	0.57
1:A:1296:LYS:HB2	1:A:1320:GLN:HB2	1.86	0.57
1:A:703:LEU:HD13	1:A:768:ILE:HD11	1.86	0.57
1:A:897:MET:HA	1:A:902:ALA:HB3	1.86	0.57
3:C:64:ASP:OD2	3:C:279:ARG:NH2	2.37	0.57
1:A:1050:SER:OG	1:A:1051:GLN:OE1	2.15	0.57
2:B:362:MET:N	2:B:605:SER:O	2.32	0.57
3:C:262:ILE:HG13	3:C:262:ILE:O	2.03	0.57
1:A:545:GLY:O	1:A:609:TYR:OH	2.08	0.57
1:A:686:GLN:O	1:A:689:SER:OG	2.22	0.57
1:A:704:ASN:N	1:A:1043:ASN:HD21	1.89	0.57
2:B:368:SER:OG	2:B:369:LEU:N	2.37	0.57
2:B:458:ASP:OD2	2:B:464:ARG:NH1	2.37	0.57
2:B:1067:ALA:HB1	2:B:1076:LEU:HD11	1.87	0.57
4:E:26:TYR:HA	4:E:64:HIS:HE1	1.69	0.57
1:A:1295:GLN:HG3	1:A:1296:LYS:HG3	1.87	0.57
1:A:579:TYR:HB2	1:A:631:ILE:HG12	1.86	0.57
2:B:87:VAL:HG22	2:B:88:PRO:O	2.04	0.57
1:A:847:GLN:HA	1:A:850:HIS:HD2	1.69	0.56
1:A:1354:ILE:O	1:A:1358:ASN:ND2	2.38	0.56
3:C:159:PRO:HA	3:C:162:LEU:HB2	1.86	0.56
3:C:258:SER:OG	3:C:281:ASP:OD1	2.23	0.56
11:N:86:ARG:NH1	12:M:53:PRO:HD3	2.20	0.56
2:B:201:ARG:HB2	2:B:205:TYR:CE2	2.40	0.56
1:A:134:ALA:O	1:A:138:LEU:HG	2.04	0.56
1:A:535:THR:HG22	1:A:536:LYS:H	1.70	0.56
1:A:571:GLU:OE2	2:B:895:ARG:NH1	2.37	0.56
1:A:669:LYS:H	1:A:694:ASN:HD21	1.52	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:698:GLU:N	1:A:698:GLU:OE1	2.38	0.56
1:A:1044:TYR:OH	1:A:1048:MET:SD	2.52	0.56
2:B:104:ARG:NH2	2:B:161:GLU:OE2	2.38	0.56
2:B:290:MET:SD	7:I:25:SER:OG	2.60	0.56
2:B:336:LEU:HD13	2:B:341:GLU:HB3	1.87	0.56
2:B:546:PRO:HG2	2:B:549:SER:OG	2.04	0.56
2:B:591:PRO:HD2	2:B:592:TRP:CZ3	2.41	0.56
3:C:90:GLU:HG2	3:C:224:LYS:NZ	2.20	0.56
6:H:113:SER:HA	6:H:126:GLN:HA	1.87	0.56
11:N:57:GLN:O	11:N:58:ARG:NH1	2.36	0.56
11:N:93:ASN:OD1	11:N:95:THR:OG1	2.19	0.56
1:A:146:LEU:HA	1:A:158:ARG:HD3	1.86	0.56
2:B:542:ILE:HA	2:B:564:GLY:HA2	1.87	0.56
5:F:121:ASP:N	5:F:121:ASP:OD1	2.36	0.56
1:A:1700:LEU:HG	1:A:1706:VAL:HG21	1.88	0.56
4:E:95:GLN:OE1	4:E:125:TYR:OH	2.12	0.56
4:E:132:GLN:HE22	4:E:136:LEU:HD21	1.71	0.56
12:M:87:PRO:HD3	12:M:113:GLY:HA2	1.88	0.56
1:A:433:MET:HB2	2:B:1042:ARG:NE	2.21	0.56
1:A:637:SER:O	1:A:640:SER:OG	2.13	0.56
2:B:601:THR:OG1	2:B:605:SER:OG	2.17	0.56
2:B:702:THR:O	2:B:702:THR:OG1	2.20	0.56
4:E:82:VAL:O	4:E:111:THR:OG1	2.22	0.56
5:F:89:PRO:O	5:F:93:ALA:HB2	2.05	0.56
9:K:44:LEU:HD12	9:K:80:ILE:HD11	1.87	0.56
10:L:42:ARG:HG2	10:L:42:ARG:O	2.05	0.56
1:A:1290:LEU:O	1:A:1294:LEU:HG	2.06	0.56
1:A:1085:ARG:HH12	4:E:19:GLN:HB3	1.71	0.56
1:A:1265:SER:OG	1:A:1601:TYR:O	2.23	0.56
1:A:1604:ASP:CG	1:A:1606:HIS:H	2.08	0.56
2:B:883:PHE:HD2	2:B:999:TYR:HD1	1.53	0.56
3:C:137:THR:OG1	3:C:138:LEU:O	2.24	0.56
3:C:247:GLY:O	3:C:270:LYS:HE2	2.06	0.56
2:B:263:GLN:HG2	11:N:30:ASN:ND2	2.21	0.55
5:F:97:LEU:HD21	5:F:125:ILE:HG21	1.89	0.55
1:A:1338:ILE:HG13	1:A:1339:LEU:N	2.21	0.55
2:B:72:ARG:HG2	2:B:123:ASN:HB2	1.87	0.55
2:B:881:ASP:OD2	2:B:882:LYS:N	2.32	0.55
1:A:1118:GLN:HA	1:A:1121:LEU:HD12	1.89	0.55
1:A:1324:HIS:O	1:A:1328:GLN:HB2	2.05	0.55
1:A:1497:ALA:O	1:A:1500:ARG:HG2	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1671:GLN:HB3	1:A:1680:PHE:CG	2.41	0.55
1:A:1604:ASP:OD1	1:A:1606:HIS:N	2.37	0.55
1:A:580:ALA:N	1:A:631:ILE:HD13	2.21	0.55
1:A:872:TYR:O	1:A:876:ILE:HG12	2.06	0.55
1:A:1153:ASP:OD1	1:A:1154:ILE:N	2.38	0.55
2:B:56:LEU:O	2:B:218:GLU:HB3	2.06	0.55
2:B:218:GLU:OE1	2:B:218:GLU:N	2.28	0.55
4:E:134:GLU:OE2	4:E:181:ARG:NH2	2.39	0.55
1:A:1567:THR:HG23	1:A:1574:LYS:HD3	1.88	0.55
1:A:1324:HIS:O	1:A:1328:GLN:HB3	2.07	0.55
1:A:140:ARG:NH2	4:E:123:PRO:HD3	2.21	0.55
1:A:165:THR:O	1:A:169:VAL:HG23	2.07	0.55
1:A:692:LEU:HA	1:A:695:ILE:HG22	1.88	0.55
1:A:1567:THR:OG1	1:A:1568:THR:N	2.37	0.55
7:I:37:THR:OG1	7:I:38:CYS:N	2.40	0.55
1:A:69:GLN:HG2	2:B:1082:GLU:HA	1.89	0.55
1:A:854:ASP:OD1	1:A:855:GLN:N	2.31	0.55
1:A:1026:ILE:HG23	1:A:1029:THR:HB	1.89	0.55
1:A:1250:GLU:HA	1:A:1254:VAL:HB	1.88	0.55
1:A:1089:PHE:HD2	1:A:1092:TYR:HD2	1.54	0.55
1:A:1681:LEU:O	1:A:1685:THR:HG23	2.07	0.55
1:A:562:GLN:HE21	1:A:564:HIS:CE1	2.24	0.54
7:I:18:ASP:HB2	7:I:27:LEU:HD22	1.89	0.54
8:J:22:LEU:HD23	8:J:25:LEU:HD12	1.87	0.54
1:A:140:ARG:HH21	4:E:122:ALA:HB3	1.72	0.54
1:A:732:MET:HB3	6:H:122:LEU:HD11	1.90	0.54
2:B:889:GLN:HE21	2:B:925:THR:HG21	1.72	0.54
2:B:912:ASP:OD1	2:B:912:ASP:N	2.38	0.54
2:B:943:LEU:H	2:B:943:LEU:HD23	1.71	0.54
6:H:8:ASP:OD1	6:H:9:ILE:N	2.39	0.54
1:A:24:GLU:HA	1:A:27:LYS:HE3	1.90	0.54
1:A:1092:TYR:O	1:A:1096:ILE:HG12	2.08	0.54
1:A:1342:MET:HG2	1:A:1346:PHE:CE2	2.43	0.54
4:E:82:VAL:HB	4:E:110:MET:HG3	1.90	0.54
1:A:531:LYS:HE3	1:A:534:GLY:HA3	1.90	0.54
2:B:1055:HIS:O	2:B:1059:PHE:HB3	2.07	0.54
11:N:80:LYS:O	11:N:84:LEU:HG	2.06	0.54
1:A:1290:LEU:HD21	1:A:1346:PHE:CZ	2.42	0.54
1:A:1314:VAL:HG12	1:A:1530:LYS:HB2	1.90	0.54
2:B:78:LEU:HD11	2:B:119:ASN:HB3	1.88	0.54
2:B:756:ALA:HA	2:B:892:ILE:HG22	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:895:ARG:HG2	2:B:896:LEU:N	2.23	0.54
11:N:67:LEU:HB3	11:N:111:PRO:HB3	1.90	0.54
1:A:327:ASN:HB3	1:A:401:VAL:HG22	1.89	0.54
1:A:456:ILE:HG12	1:A:564:HIS:CB	2.37	0.54
1:A:1299:VAL:HB	7:I:56:LYS:HG3	1.90	0.54
2:B:800:ASP:O	2:B:802:ARG:N	2.32	0.54
1:A:613:CYS:O	1:A:617:GLN:HB2	2.07	0.54
2:B:214:CYS:SG	2:B:335:HIS:ND1	2.70	0.54
1:A:227:PHE:HB2	1:A:252:LYS:HB3	1.90	0.53
1:A:1342:MET:O	1:A:1346:PHE:HB2	2.08	0.53
2:B:393:LEU:O	2:B:396:ILE:HG22	2.08	0.53
5:F:100:ARG:HD2	5:F:100:ARG:N	2.23	0.53
11:N:40:ARG:NE	11:N:63:GLU:OE2	2.41	0.53
1:A:30:VAL:HG11	2:B:1099:THR:HG22	1.89	0.53
1:A:455:GLU:HG2	1:A:565:ARG:O	2.08	0.53
1:A:487:GLY:HA2	1:A:494:ALA:H	1.73	0.53
1:A:710:LYS:HB3	1:A:750:ASP:OD2	2.08	0.53
2:B:467:SER:O	2:B:470:ARG:N	2.36	0.53
2:B:609:GLY:HA3	2:B:611:PHE:HE2	1.73	0.53
7:I:19:PHE:O	11:N:66:ARG:NH1	2.42	0.53
9:K:62:ASN:HD22	9:K:95:PRO:HB3	1.73	0.53
1:A:619:LEU:HD21	1:A:763:HIS:CD2	2.43	0.53
1:A:73:ASN:HD22	2:B:1081:LEU:HB3	1.74	0.53
2:B:258:SER:OG	2:B:259:PHE:N	2.41	0.53
2:B:648:GLU:O	2:B:651:VAL:HG12	2.09	0.53
2:B:800:ASP:OD1	2:B:800:ASP:N	2.38	0.53
6:H:37:MET:HE1	6:H:132:LEU:HD11	1.89	0.53
1:A:187:SER:O	1:A:191:LEU:HG	2.08	0.53
1:A:630:LEU:HD21	1:A:634:HIS:HB2	1.91	0.53
5:F:110:LEU:HB2	5:F:114:SER:O	2.09	0.53
11:N:84:LEU:O	12:M:49:ALA:N	2.41	0.53
1:A:632:GLN:HA	1:A:635:MET:SD	2.49	0.53
1:A:1498:MET:HA	1:A:1501:ARG:HE	1.73	0.53
3:C:189:THR:OG1	3:C:190:ILE:N	2.41	0.53
12:M:98:SER:HB2	12:M:101:ALA:HB3	1.91	0.53
1:A:599:PRO:HB3	2:B:1057:ARG:NH2	2.23	0.53
1:A:1527:VAL:HG22	1:A:1528:THR:H	1.74	0.53
2:B:228:TYR:HB2	2:B:353:LEU:HD21	1.91	0.53
2:B:312:LEU:HD22	2:B:327:LEU:HB2	1.89	0.53
2:B:601:THR:OG1	2:B:603:LYS:O	2.27	0.53
4:E:44:SER:HB3	4:E:50:GLU:HG3	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:H:40:ILE:HB	6:H:124:ARG:HB3	1.90	0.53
1:A:136:TYR:HB3	4:E:187:ARG:NH1	2.24	0.53
3:C:248:GLU:O	3:C:251:GLU:HG2	2.08	0.53
4:E:46:ASP:OD1	4:E:47:LYS:N	2.38	0.53
1:A:607:GLU:HB3	5:F:64:ARG:HH11	1.73	0.53
3:C:318:PRO:HA	3:C:321:LEU:HD12	1.91	0.53
4:E:110:MET:HB3	4:E:115:LYS:NZ	2.24	0.53
5:F:57:MET:HE2	5:F:62:ARG:HB2	1.90	0.53
1:A:1288:VAL:HG11	1:A:1331:LYS:HD3	1.90	0.53
2:B:680:ASN:HD21	2:B:887:HIS:HB3	1.74	0.53
2:B:694:GLN:NE2	2:B:1003:ARG:HE	2.03	0.53
4:E:131:LEU:H	4:E:131:LEU:HD12	1.73	0.53
4:E:172:ARG:HA	4:E:208:LEU:O	2.09	0.53
1:A:447:PRO:O	1:A:579:TYR:OH	2.25	0.52
1:A:1092:TYR:CZ	1:A:1096:ILE:HG13	2.44	0.52
2:B:532:ALA:O	2:B:536:ASN:ND2	2.43	0.52
2:B:751:TYR:CE2	2:B:895:ARG:HD2	2.44	0.52
7:I:23:CYS:H	11:N:66:ARG:NE	2.06	0.52
8:J:10:CYS:SG	8:J:11:GLY:N	2.82	0.52
1:A:608:ALA:HA	1:A:612:ALA:HB3	1.90	0.52
5:F:55:PRO:HG3	5:F:118:TRP:HH2	1.74	0.52
10:L:30:SER:OG	10:L:31:ARG:N	2.42	0.52
11:N:60:LEU:N	11:N:71:GLY:O	2.36	0.52
12:M:137:PRO:HG2	12:M:138:PRO:HD3	1.92	0.52
1:A:819:SER:O	1:A:819:SER:OG	2.23	0.52
1:A:994:LYS:HB3	1:A:1674:PHE:CD1	2.43	0.52
1:A:1011:ASP:HB3	1:A:1666:SER:HB2	1.92	0.52
1:A:1656:PRO:HG2	1:A:1660:PHE:CD1	2.44	0.52
1:A:397:HIS:O	1:A:401:VAL:HG23	2.10	0.52
1:A:717:VAL:O	1:A:718:LYS:NZ	2.31	0.52
11:N:43:LEU:HD21	12:M:23:PRO:HA	1.92	0.52
1:A:57:PRO:HD2	1:A:74:CYS:SG	2.49	0.52
1:A:332:MET:O	1:A:336:VAL:HG23	2.09	0.52
1:A:972:ARG:O	1:A:976:VAL:HG23	2.09	0.52
1:A:1249:ARG:HG2	1:A:1253:MET:SD	2.49	0.52
2:B:38:LEU:HD12	2:B:730:TYR:HE1	1.74	0.52
2:B:261:ASP:OD2	7:I:26:VAL:HG23	2.09	0.52
1:A:401:VAL:HG12	2:B:1126:MET:HG3	1.90	0.52
1:A:417:ILE:N	2:B:1126:MET:HE3	2.25	0.52
2:B:263:GLN:HE21	11:N:111:PRO:CD	2.22	0.52
2:B:753:MET:HA	2:B:916:ASN:ND2	2.25	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:N:86:ARG:N	12:M:47:ALA:O	2.43	0.52
1:A:618:TYR:CE2	1:A:626:PRO:HB3	2.45	0.52
1:A:1533:LEU:H	1:A:1533:LEU:HD23	1.74	0.52
3:C:159:PRO:HB3	3:C:163:TYR:HD2	1.75	0.52
6:H:94:GLY:HA2	6:H:118:TYR:HD1	1.74	0.52
1:A:119:LEU:HD22	1:A:143:ASN:HB2	1.91	0.52
1:A:130:GLY:HA2	1:A:184:VAL:HG21	1.92	0.52
1:A:421:LEU:O	1:A:1677:SER:OG	2.12	0.52
3:C:319:ASP:OD1	3:C:320:VAL:N	2.41	0.52
4:E:84:ILE:HD11	4:E:113:SER:OG	2.10	0.52
7:I:21:SER:C	11:N:66:ARG:HB2	2.30	0.52
1:A:597:HIS:HE2	2:B:1057:ARG:HD2	1.75	0.52
1:A:1153:ASP:HB2	5:F:54:THR:HB	1.91	0.52
2:B:1003:ARG:HG2	2:B:1004:HIS:N	2.25	0.52
3:C:159:PRO:O	3:C:163:TYR:N	2.43	0.52
6:H:20:LYS:NZ	6:H:22:PHE:O	2.27	0.52
7:I:18:ASP:CG	7:I:27:LEU:HB2	2.30	0.52
1:A:822:CYS:SG	1:A:823:GLY:N	2.83	0.52
1:A:1211:VAL:HA	1:A:1214:LEU:HD22	1.93	0.52
2:B:214:CYS:HB3	2:B:222:VAL:HG12	1.91	0.52
7:I:33:GLN:N	7:I:33:GLN:OE1	2.44	0.52
11:N:26:VAL:HG21	11:N:41:PHE:CE1	2.45	0.52
1:A:716:TRP:O	1:A:718:LYS:NZ	2.43	0.51
2:B:219:HIS:O	2:B:383:MET:HB3	2.11	0.51
1:A:181:VAL:HG22	4:E:166:ARG:HH21	1.75	0.51
1:A:1624:GLU:HA	1:A:1627:ASP:OD2	2.10	0.51
2:B:370:VAL:HG21	2:B:640:ILE:HD11	1.91	0.51
2:B:548:ARG:HH21	2:B:567:ASP:HB2	1.75	0.51
2:B:653:ALA:HA	12:M:130:LEU:HD11	1.91	0.51
3:C:156:SER:HA	3:C:162:LEU:HD21	1.92	0.51
3:C:237:PRO:HB3	3:C:283:PHE:CE1	2.45	0.51
3:C:252:GLU:O	3:C:256:CYS:N	2.43	0.51
6:H:54:ASP:OD1	6:H:147:LYS:HG2	2.11	0.51
1:A:75:SER:H	2:B:1080:LEU:CD2	2.22	0.51
1:A:843:ARG:O	1:A:847:GLN:HG2	2.09	0.51
1:A:934:SER:O	1:A:935:LEU:HD12	2.11	0.51
1:A:1220:GLY:O	1:A:1223:SER:OG	2.20	0.51
1:A:1249:ARG:O	1:A:1253:MET:N	2.41	0.51
3:C:288:PHE:HA	3:C:294:LYS:HG2	1.92	0.51
1:A:685:LYS:HG2	1:A:744:LEU:HD22	1.91	0.51
1:A:1095:LYS:HE3	1:A:1096:ILE:HD11	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1266:VAL:HG12	1:A:1600:LEU:HD11	1.91	0.51
1:A:1283:LYS:HB3	1:A:1332:CYS:HB2	1.93	0.51
1:A:1583:ILE:HD12	1:A:1607:ALA:HB2	1.92	0.51
2:B:776:SER:O	2:B:776:SER:OG	2.22	0.51
1:A:1504:ALA:O	1:A:1508:ILE:HG12	2.11	0.51
11:N:87:HIS:CG	11:N:106:LEU:HD13	2.46	0.51
1:A:831:LEU:HD22	1:A:847:GLN:HG3	1.93	0.51
4:E:168:ASN:HA	4:E:172:ARG:NH2	2.26	0.51
11:N:78:ALA:C	11:N:108:ASN:HD21	2.14	0.51
1:A:1290:LEU:HG	1:A:1294:LEU:HD11	1.93	0.51
4:E:11:TRP:CE2	4:E:37:LEU:HB2	2.45	0.51
1:A:749:LEU:HB3	1:A:754:TYR:CE1	2.43	0.51
1:A:1089:PHE:CE1	4:E:27:LEU:HD22	2.46	0.51
1:A:1283:LYS:HD3	1:A:1332:CYS:HB2	1.92	0.51
1:A:1344:THR:O	1:A:1348:LYS:NZ	2.29	0.51
2:B:510:LEU:O	2:B:512:ASN:N	2.43	0.51
3:C:291:GLU:HA	3:C:294:LYS:HE2	1.92	0.51
6:H:7:GLU:OE2	6:H:57:ARG:NH1	2.42	0.51
7:I:23:CYS:HA	7:I:41:CYS:SG	2.50	0.51
10:L:32:ASP:N	10:L:32:ASP:OD1	2.44	0.51
11:N:26:VAL:HG23	12:M:95:LEU:HD11	1.93	0.51
1:A:454:ASN:O	1:A:565:ARG:HG3	2.10	0.51
1:A:469:PRO:HG3	1:A:600:GLN:HE21	1.76	0.51
2:B:314:VAL:HG21	2:B:323:ALA:HB2	1.93	0.51
3:C:222:HIS:ND1	3:C:224:LYS:HG2	2.25	0.51
1:A:631:ILE:O	1:A:635:MET:HG3	2.11	0.50
1:A:1113:ARG:NE	1:A:1118:GLN:OE1	2.45	0.50
2:B:36:GLN:NE2	2:B:165:GLU:O	2.35	0.50
2:B:467:SER:OG	2:B:468:HIS:N	2.44	0.50
2:B:815:ILE:HD11	10:L:46:LYS:HB3	1.94	0.50
1:A:616:GLN:O	1:A:766:TYR:OH	2.28	0.50
1:A:733:CYS:SG	1:A:734:GLU:N	2.83	0.50
2:B:275:ASP:OD1	2:B:276:SER:N	2.44	0.50
2:B:280:ASN:ND2	2:B:284:GLN:OE1	2.43	0.50
2:B:263:GLN:HE21	11:N:111:PRO:HD2	1.76	0.50
3:C:114:PRO:O	3:C:193:VAL:HG23	2.12	0.50
4:E:107:GLN:HG3	4:E:132:GLN:HG2	1.93	0.50
1:A:241:GLU:HG3	1:A:242:PRO:HD2	1.93	0.50
1:A:1060:ALA:HB1	1:A:1156:PHE:HB2	1.93	0.50
1:A:1117:THR:O	1:A:1121:LEU:HG	2.12	0.50
2:B:984:SER:OG	2:B:985:GLY:N	2.43	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:K:92:ALA:O	9:K:95:PRO:HD2	2.12	0.50
1:A:332:MET:HA	1:A:335:VAL:HG22	1.94	0.50
1:A:626:PRO:HD3	1:A:763:HIS:CD2	2.46	0.50
2:B:545:ALA:HB1	12:M:91:GLU:OE2	2.11	0.50
2:B:957:SER:OG	2:B:958:ALA:N	2.45	0.50
1:A:433:MET:HB3	2:B:1042:ARG:HB2	1.94	0.50
1:A:484:VAL:O	1:A:515:ARG:NH2	2.42	0.50
1:A:980:VAL:O	1:A:984:ARG:HG2	2.12	0.50
1:A:1497:ALA:O	1:A:1501:ARG:HG3	2.11	0.50
2:B:239:ILE:HG13	2:B:243:GLU:C	2.32	0.50
2:B:582:LYS:NZ	2:B:593:MET:O	2.31	0.50
2:B:847:CYS:HB2	2:B:872:ARG:O	2.11	0.50
2:B:926:ILE:O	2:B:930:ILE:HG22	2.12	0.50
7:I:22:ASP:HB2	7:I:43:PHE:CD2	2.46	0.50
1:A:499:ASN:HA	1:A:536:LYS:HG2	1.92	0.50
1:A:782:ALA:O	1:A:786:THR:HG23	2.12	0.50
1:A:966:PHE:HA	1:A:969:MET:SD	2.52	0.50
1:A:1342:MET:HG2	1:A:1346:PHE:HD2	1.76	0.50
2:B:256:LEU:HD22	2:B:343:PHE:HB2	1.94	0.50
12:M:83:LEU:O	12:M:115:LEU:HA	2.12	0.50
1:A:1019:TYR:O	1:A:1021:GLU:N	2.45	0.50
1:A:1026:ILE:HA	1:A:1029:THR:OG1	2.11	0.50
1:A:1353:SER:HB2	1:A:1543:LEU:HD21	1.94	0.50
8:J:22:LEU:O	8:J:25:LEU:HB2	2.12	0.50
10:L:32:ASP:HB2	10:L:33:PRO:HD2	1.93	0.50
11:N:81:CYS:HB2	11:N:85:CYS:HB2	1.93	0.50
1:A:638:GLY:HA2	1:A:785:PHE:CE1	2.47	0.49
1:A:1709:GLY:HA3	2:B:1049:GLY:O	2.12	0.49
3:C:146:CYS:SG	3:C:147:THR:N	2.84	0.49
8:J:7:CYS:SG	8:J:8:PHE:N	2.85	0.49
1:A:1213:LEU:HG	2:B:1047:ALA:HA	1.94	0.49
1:A:1615:GLU:N	1:A:1615:GLU:OE1	2.45	0.49
2:B:239:ILE:HG13	2:B:243:GLU:O	2.11	0.49
2:B:991:ASP:N	2:B:991:ASP:OD1	2.44	0.49
1:A:184:VAL:HG22	1:A:188:LYS:NZ	2.28	0.49
1:A:929:MET:HG2	1:A:933:LYS:O	2.12	0.49
1:A:1539:ASP:HB2	1:A:1542:SER:HB3	1.94	0.49
1:A:1618:LEU:HD22	1:A:1645:ALA:HB1	1.94	0.49
2:B:65:GLU:HB2	2:B:75:PHE:CE1	2.46	0.49
1:A:629:GLY:HA3	1:A:756:SER:HB3	1.94	0.49
1:A:1051:GLN:HG3	1:A:1202:ARG:NH2	2.28	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1215:ALA:HA	1:A:1218:SER:OG	2.12	0.49
1:A:1256:SER:OG	1:A:1258:ASN:HB2	2.12	0.49
6:H:55:LYS:O	6:H:148:LEU:N	2.42	0.49
1:A:392:ILE:HA	1:A:395:GLN:HE21	1.78	0.49
1:A:669:LYS:H	1:A:694:ASN:ND2	2.10	0.49
1:A:781:LEU:HG	1:A:785:PHE:CE2	2.47	0.49
1:A:1604:ASP:OD2	1:A:1607:ALA:N	2.44	0.49
2:B:767:GLY:HA2	2:B:770:HIS:CD2	2.47	0.49
3:C:175:TRP:NE1	3:C:176:ILE:O	2.44	0.49
3:C:242:LEU:HG	3:C:298:ARG:HB2	1.94	0.49
4:E:57:ASP:HB3	4:E:59:THR:HG23	1.93	0.49
6:H:98:ARG:HD3	6:H:115:TYR:HD2	1.78	0.49
1:A:183:ASN:HB2	4:E:168:ASN:OD1	2.13	0.49
2:B:329:ASN:HD22	2:B:342:LYS:HZ2	1.61	0.49
2:B:379:GLN:O	2:B:383:MET:HG2	2.12	0.49
2:B:627:ALA:O	12:M:128:SER:OG	2.28	0.49
4:E:47:LYS:HZ2	4:E:52:ARG:HD2	1.78	0.49
4:E:81:LYS:HB3	4:E:111:THR:HG23	1.95	0.49
1:A:1495:PRO:HB2	1:A:1498:MET:HB2	1.94	0.49
2:B:427:THR:OG1	2:B:428:LYS:N	2.45	0.49
2:B:752:ASP:CB	2:B:916:ASN:HB2	2.41	0.49
1:A:551:ASN:N	1:A:595:ASN:OD1	2.40	0.49
1:A:988:LEU:HD13	1:A:1245:ILE:HG23	1.94	0.49
1:A:1034:PRO:O	1:A:1036:GLN:HG2	2.13	0.49
2:B:72:ARG:NH1	2:B:123:ASN:HB2	2.27	0.49
2:B:540:THR:HG22	2:B:565:TRP:O	2.12	0.49
2:B:753:MET:SD	2:B:916:ASN:ND2	2.86	0.49
3:C:84:VAL:HB	3:C:227:PRO:HG3	1.94	0.49
3:C:90:GLU:HG2	3:C:224:LYS:HZ1	1.78	0.49
3:C:160:ASN:HD22	3:C:166:HIS:CE1	2.30	0.49
4:E:60:VAL:HG13	4:E:71:GLN:OE1	2.13	0.49
9:K:27:LEU:HD12	9:K:28:GLU:H	1.78	0.49
1:A:119:LEU:HD13	1:A:143:ASN:HD22	1.78	0.49
1:A:487:GLY:CA	1:A:515:ARG:HH22	2.26	0.49
1:A:1347:PHE:O	1:A:1351:MET:HG2	2.12	0.49
1:A:1501:ARG:O	1:A:1505:VAL:HG23	2.12	0.49
1:A:1672:MET:SD	1:A:1681:LEU:HD21	2.53	0.49
2:B:178:VAL:HG21	2:B:469:PHE:CE1	2.41	0.49
2:B:552:GLU:HB2	2:B:568:LYS:HE3	1.95	0.49
4:E:60:VAL:HG22	4:E:71:GLN:NE2	2.28	0.49
4:E:67:ASP:O	4:E:69:THR:N	2.43	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:187:ARG:HD3	4:E:210:GLN:HA	1.95	0.49
11:N:44:TYR:HB2	11:N:59:ILE:HB	1.95	0.49
11:N:59:ILE:HA	11:N:72:ASN:OD1	2.12	0.49
12:M:54:GLU:H	12:M:54:GLU:CD	2.16	0.49
1:A:497:VAL:HG13	1:A:538:VAL:HA	1.93	0.49
1:A:1021:GLU:HB2	4:E:199:THR:OG1	2.12	0.49
2:B:120:TRP:CG	2:B:416:LEU:HD21	2.48	0.49
2:B:405:GLN:OE1	2:B:406:LYS:HG3	2.13	0.49
2:B:546:PRO:HG2	2:B:549:SER:CB	2.43	0.49
2:B:1039:GLU:O	2:B:1042:ARG:HG2	2.12	0.49
11:N:17:PRO:HD3	11:N:102:TYR:CD1	2.48	0.49
1:A:455:GLU:OE2	1:A:567:ARG:HB2	2.12	0.48
1:A:1621:ILE:O	1:A:1625:ILE:HG13	2.12	0.48
2:B:501:HIS:O	2:B:501:HIS:CD2	2.66	0.48
6:H:133:HIS:CG	6:H:134:GLY:H	2.31	0.48
10:L:41:TYR:HE2	10:L:43:ILE:HG22	1.77	0.48
11:N:80:LYS:C	11:N:84:LEU:HG	2.33	0.48
1:A:630:LEU:HD13	1:A:754:TYR:HB2	1.96	0.48
1:A:727:PHE:HA	6:H:124:ARG:HH12	1.78	0.48
3:C:326:ILE:HG21	9:K:111:LEU:HB2	1.95	0.48
9:K:45:HIS:HB3	9:K:46:GLU:HG2	1.95	0.48
11:N:13:TYR:OH	11:N:103:ASP:OD1	2.24	0.48
12:M:79:ARG:HG3	12:M:122:GLN:HE21	1.76	0.48
1:A:619:LEU:HG	1:A:626:PRO:HA	1.96	0.48
1:A:1100:VAL:HG21	1:A:1120:MET:SD	2.54	0.48
1:A:1289:CYS:HB3	1:A:1552:VAL:HG12	1.95	0.48
2:B:179:ILE:HD11	2:B:434:PHE:CE1	2.44	0.48
2:B:733:ASP:O	2:B:736:PRO:HD3	2.14	0.48
3:C:175:TRP:CD1	3:C:190:ILE:HG21	2.49	0.48
7:I:22:ASP:N	11:N:66:ARG:HB2	2.28	0.48
9:K:47:GLU:N	9:K:78:SER:O	2.35	0.48
10:L:52:LEU:HD23	10:L:52:LEU:H	1.78	0.48
1:A:446:CYS:N	1:A:575:LEU:O	2.44	0.48
1:A:498:ILE:HD12	1:A:504:ARG:HG2	1.94	0.48
1:A:664:LYS:HA	1:A:664:LYS:HE2	1.95	0.48
1:A:1498:MET:HG2	1:A:1501:ARG:NE	2.27	0.48
1:A:133:GLN:OE1	4:E:188:GLY:HA2	2.14	0.48
1:A:449:MET:HG3	2:B:750:GLY:O	2.14	0.48
1:A:449:MET:HG3	2:B:750:GLY:C	2.34	0.48
1:A:555:THR:HB	2:B:1044:ALA:HB2	1.95	0.48
1:A:961:PRO:HA	2:B:950:PHE:HE1	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:7:THR:HA	4:E:10:LEU:HD12	1.94	0.48
1:A:546:ASP:HA	1:A:609:TYR:OH	2.14	0.48
1:A:1267:PRO:HG2	1:A:1596:ASP:HB3	1.95	0.48
2:B:122:VAL:HB	2:B:126:SER:HB2	1.95	0.48
2:B:473:HIS:CD2	2:B:475:GLY:H	2.32	0.48
1:A:169:VAL:HG22	1:A:174:LEU:HB3	1.95	0.48
1:A:1063:LYS:HB2	1:A:1064:LYS:HZ2	1.78	0.48
1:A:1294:LEU:HD12	1:A:1548:ALA:HB1	1.96	0.48
1:A:1503:GLN:O	1:A:1507:GLU:HG2	2.14	0.48
2:B:279:ARG:HE	7:I:16:ASP:N	2.12	0.48
2:B:1119:PHE:O	2:B:1123:LEU:HD23	2.13	0.48
9:K:71:THR:HG22	9:K:81:ASN:HB2	1.95	0.48
1:A:87:VAL:O	1:A:299:LEU:N	2.46	0.48
1:A:1178:THR:O	1:A:1183:GLU:HB2	2.13	0.48
1:A:1255:ALA:HB1	1:A:1654:TYR:CE2	2.49	0.48
7:I:20:CYS:HA	11:N:66:ARG:HD2	1.94	0.48
1:A:606:ALA:HA	1:A:609:TYR:CD2	2.46	0.48
1:A:677:LYS:HD2	1:A:678:PRO:N	2.27	0.48
3:C:234:ARG:NH2	3:C:279:ARG:O	2.47	0.48
4:E:66:ASP:OD1	4:E:66:ASP:N	2.45	0.48
11:N:46:ASN:CG	11:N:57:GLN:HB3	2.34	0.48
1:A:997:GLU:HG2	1:A:1213:LEU:HD11	1.94	0.48
1:A:1033:GLN:OE1	1:A:1166:LYS:HE3	2.14	0.48
4:E:134:GLU:CD	4:E:181:ARG:HH22	2.16	0.48
1:A:427:LEU:HA	1:A:430:LYS:HB2	1.95	0.47
1:A:1050:SER:O	1:A:1052:HIS:ND1	2.46	0.47
2:B:107:ARG:HD2	2:B:778:PHE:CD1	2.48	0.47
2:B:889:GLN:HE22	2:B:923:ARG:HG3	1.78	0.47
3:C:265:GLN:O	3:C:272:VAL:N	2.38	0.47
4:E:121:MET:O	4:E:125:TYR:HB2	2.14	0.47
4:E:132:GLN:NE2	4:E:136:LEU:HD21	2.28	0.47
7:I:23:CYS:C	11:N:66:ARG:HG3	2.34	0.47
1:A:269:TRP:CZ3	1:A:276:LEU:HB3	2.49	0.47
1:A:1601:TYR:HD2	1:A:1620:VAL:HG13	1.79	0.47
2:B:625:ASN:O	12:M:131:GLN:NE2	2.43	0.47
2:B:674:ILE:HD11	2:B:688:GLN:HG3	1.95	0.47
3:C:251:GLU:HG3	3:C:252:GLU:N	2.30	0.47
7:I:21:SER:H	11:N:66:ARG:NE	2.13	0.47
12:M:126:SER:OG	12:M:127:GLY:N	2.47	0.47
3:C:95:TYR:HD1	10:L:51:ARG:O	1.97	0.47
1:A:650:ARG:NH2	9:K:66:GLU:O	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1009:ASP:HB3	1:A:1013:SER:OG	2.14	0.47
2:B:270:LYS:HG3	2:B:271:GLY:H	1.79	0.47
2:B:271:GLY:HA2	2:B:273:GLU:OE2	2.14	0.47
2:B:537:LEU:HA	12:M:118:LEU:HD22	1.97	0.47
3:C:251:GLU:HB2	3:C:255:ARG:HH12	1.79	0.47
4:E:84:ILE:HD12	4:E:84:ILE:H	1.79	0.47
1:A:497:VAL:HG22	1:A:538:VAL:HG13	1.95	0.47
1:A:500:GLU:OE2	1:A:536:LYS:HG3	2.14	0.47
1:A:1002:GLN:HE21	1:A:1707:ARG:NH2	2.12	0.47
1:A:1496:GLU:HA	1:A:1499:GLU:HB3	1.97	0.47
2:B:64:PHE:HE1	2:B:397:LYS:HB2	1.77	0.47
2:B:821:TYR:HA	2:B:841:TYR:HB3	1.96	0.47
2:B:854:VAL:HA	2:B:866:CYS:O	2.15	0.47
6:H:31:GLU:HG2	6:H:32:SER:O	2.15	0.47
12:M:94:LEU:HB3	12:M:108:ALA:HB3	1.95	0.47
1:A:69:GLN:OE1	2:B:1080:LEU:HB2	2.15	0.47
1:A:580:ALA:HB2	1:A:631:ILE:HA	1.96	0.47
1:A:915:LEU:HG	1:A:916:LEU:H	1.79	0.47
1:A:1253:MET:HG2	1:A:1658:ASN:HB3	1.97	0.47
1:A:1273:LYS:HD2	1:A:1274:ALA:N	2.30	0.47
1:A:1281:LEU:HG	1:A:1591:TYR:CZ	2.49	0.47
2:B:12:SER:O	2:B:12:SER:OG	2.29	0.47
2:B:263:GLN:HA	11:N:30:ASN:OD1	2.14	0.47
2:B:857:ASN:ND2	2:B:861:SER:O	2.30	0.47
2:B:958:ALA:O	2:B:962:PHE:HB2	2.14	0.47
2:B:978:ARG:NH2	2:B:987:GLU:OE2	2.48	0.47
3:C:197:ILE:HD13	8:J:16:ASN:HB3	1.95	0.47
3:C:237:PRO:HB3	3:C:283:PHE:HE1	1.80	0.47
3:C:277:ASN:OD1	3:C:279:ARG:HB3	2.15	0.47
10:L:46:LYS:HG2	10:L:47:LYS:H	1.79	0.47
1:A:711:ILE:HD11	1:A:748:VAL:HG21	1.97	0.47
1:A:1051:GLN:HG3	1:A:1202:ARG:CZ	2.45	0.47
1:A:1199:LYS:HD2	1:A:1199:LYS:HA	1.80	0.47
1:A:1269:LEU:HD22	1:A:1595:LEU:N	2.30	0.47
1:A:1349:LEU:HB3	1:A:1547:LEU:HD21	1.96	0.47
2:B:268:LEU:HD23	2:B:268:LEU:O	2.15	0.47
2:B:417:MET:HG2	2:B:418:ARG:HD3	1.96	0.47
2:B:965:MET:HA	12:M:142:PRO:HG3	1.97	0.47
9:K:37:ARG:O	9:K:91:PRO:HA	2.15	0.47
1:A:828:ARG:HE	1:A:837:ALA:HB2	1.80	0.47
1:A:1273:LYS:HE3	1:A:1273:LYS:HB3	1.63	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1625:ILE:O	1:A:1628:VAL:HG12	2.15	0.47
2:B:394:VAL:O	2:B:397:LYS:HB3	2.15	0.47
2:B:620:VAL:HG23	2:B:634:ILE:O	2.14	0.47
3:C:95:TYR:O	3:C:209:ASP:HB2	2.15	0.47
6:H:27:ARG:NH2	6:H:42:ASP:OD2	2.47	0.47
9:K:48:ASP:OD2	9:K:50:THR:OG1	2.29	0.47
9:K:94:GLU:HB2	9:K:95:PRO:HD3	1.96	0.47
1:A:456:ILE:HG23	1:A:576:ARG:O	2.14	0.47
1:A:925:ARG:CG	1:A:926:PRO:HD2	2.41	0.47
1:A:1705:VAL:HG13	2:B:1051:SER:HB3	1.95	0.47
2:B:118:ILE:O	2:B:129:ILE:HA	2.15	0.47
2:B:808:ASP:OD1	2:B:809:ASP:N	2.46	0.47
3:C:118:ASP:OD1	3:C:121:LEU:HG	2.15	0.47
1:A:511:ASP:O	1:A:515:ARG:HG2	2.15	0.46
1:A:1277:ARG:HH12	1:A:1591:TYR:HD2	1.63	0.46
1:A:1324:HIS:CE1	1:A:1328:GLN:HB2	2.50	0.46
1:A:1616:ALA:HA	4:E:144:LEU:CD1	2.44	0.46
1:A:1674:PHE:CE2	1:A:1675:GLU:HB2	2.50	0.46
2:B:571:ALA:HB3	2:B:572:PRO:HD3	1.96	0.46
2:B:756:ALA:HB1	2:B:894:SER:OG	2.15	0.46
2:B:792:LEU:H	2:B:792:LEU:HD23	1.80	0.46
2:B:1053:LEU:O	2:B:1057:ARG:HG2	2.15	0.46
3:C:167:LYS:NZ	8:J:19:GLU:OE2	2.45	0.46
3:C:256:CYS:SG	3:C:287:ILE:HD12	2.54	0.46
8:J:30:THR:O	8:J:32:GLY:N	2.48	0.46
8:J:59:LEU:O	8:J:59:LEU:HD23	2.15	0.46
9:K:25:THR:HG21	9:K:28:GLU:HB2	1.96	0.46
10:L:17:TYR:HD1	10:L:45:TYR:O	1.98	0.46
11:N:87:HIS:NE2	11:N:106:LEU:HD22	2.29	0.46
1:A:766:TYR:HD1	1:A:771:GLY:HA2	1.80	0.46
1:A:1174:TRP:NE1	1:A:1178:THR:HB	2.30	0.46
1:A:1269:LEU:HD22	1:A:1595:LEU:O	2.15	0.46
2:B:521:VAL:CG2	2:B:592:TRP:HD1	2.28	0.46
2:B:544:GLY:HA2	11:N:79:LEU:HD11	1.96	0.46
9:K:67:PHE:HB3	9:K:85:GLN:HB2	1.96	0.46
1:A:118:HIS:CE1	1:A:158:ARG:HE	2.33	0.46
1:A:1269:LEU:O	1:A:1271:THR:N	2.48	0.46
2:B:19:LEU:HD22	8:J:53:VAL:HG23	1.97	0.46
2:B:282:VAL:HA	2:B:285:MET:HE2	1.97	0.46
2:B:570:LEU:O	2:B:573:GLY:N	2.48	0.46
4:E:49:SER:OG	4:E:50:GLU:N	2.47	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:309:TYR:HB3	2:B:1121:ALA:HB2	1.98	0.46
1:A:992:ILE:O	1:A:995:HIS:HB2	2.15	0.46
1:A:1011:ASP:OD1	1:A:1011:ASP:N	2.43	0.46
1:A:1303:PHE:CG	1:A:1303:PHE:O	2.68	0.46
2:B:153:PRO:O	2:B:156:LEU:HB2	2.15	0.46
2:B:515:THR:HG22	2:B:516:ALA:N	2.23	0.46
2:B:867:VAL:HG12	2:B:869:ILE:HG13	1.97	0.46
11:N:68:SER:HB2	11:N:112:LEU:O	2.16	0.46
1:A:5:LYS:HE2	1:A:531:LYS:HE3	1.97	0.46
1:A:122:CYS:O	1:A:126:VAL:HG23	2.16	0.46
1:A:710:LYS:HE3	1:A:751:LYS:HD2	1.98	0.46
1:A:994:LYS:HB3	1:A:1674:PHE:HD1	1.80	0.46
1:A:1162:THR:CG2	4:E:200:ALA:HA	2.45	0.46
1:A:1613:GLY:HA2	4:E:177:ASP:OD1	2.16	0.46
1:A:876:ILE:HG21	1:A:915:LEU:HD13	1.98	0.46
1:A:1706:VAL:HG12	1:A:1707:ARG:H	1.80	0.46
3:C:266:GLU:HG3	3:C:271:LYS:HA	1.98	0.46
1:A:144:ARG:O	1:A:158:ARG:HD2	2.16	0.46
1:A:306:PRO:O	1:A:310:ARG:HB2	2.16	0.46
1:A:841:GLU:HG3	1:A:844:GLY:H	1.80	0.46
1:A:934:SER:OG	1:A:938:PHE:HD2	1.98	0.46
1:A:972:ARG:NH1	2:B:489:LEU:HD21	2.31	0.46
1:A:1706:VAL:H	2:B:1051:SER:CB	2.28	0.46
2:B:329:ASN:HD22	2:B:342:LYS:NZ	2.14	0.46
2:B:474:ARG:HH11	2:B:510:LEU:HA	1.81	0.46
2:B:698:PHE:HE1	2:B:713:ARG:HH21	1.61	0.46
2:B:797:LYS:HE2	2:B:836:SER:H	1.80	0.46
2:B:888:GLY:O	2:B:890:LYS:N	2.48	0.46
2:B:901:ASP:O	2:B:982:GLY:HA3	2.16	0.46
3:C:148:ARG:NH2	8:J:66:GLU:O	2.38	0.46
9:K:62:ASN:ND2	9:K:95:PRO:HB3	2.30	0.46
1:A:67:CYS:HG	2:B:1099:THR:HG1	1.62	0.46
1:A:303:VAL:HG12	2:B:1127:ASN:HA	1.97	0.46
1:A:471:PRO:HG3	1:A:537:ILE:HG22	1.98	0.46
1:A:555:THR:CB	2:B:1044:ALA:HB2	2.45	0.46
1:A:579:TYR:CE1	2:B:753:MET:HB3	2.51	0.46
1:A:704:ASN:ND2	1:A:740:ARG:HG3	2.20	0.46
1:A:1091:SER:HA	1:A:1094:GLN:CD	2.36	0.46
1:A:1268:VAL:HA	1:A:1595:LEU:HA	1.97	0.46
1:A:1508:ILE:HG13	1:A:1509:HIS:ND1	2.31	0.46
2:B:467:SER:O	2:B:469:PHE:N	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:863:LYS:H	2:B:863:LYS:HD2	1.80	0.46
1:A:1075:TRP:CE3	1:A:1142:CYS:HB3	2.51	0.46
1:A:422:GLU:HG2	1:A:1677:SER:OG	2.16	0.46
1:A:452:ASN:HB2	1:A:455:GLU:CB	2.44	0.46
1:A:1017:PHE:O	1:A:1018:LEU:HD23	2.16	0.46
2:B:240:TYR:HB2	2:B:331:CYS:SG	2.56	0.46
7:I:23:CYS:HB2	7:I:38:CYS:HB2	1.98	0.46
9:K:74:HIS:HD2	9:K:77:GLU:HG3	1.81	0.46
11:N:63:GLU:HG3	11:N:63:GLU:O	2.16	0.46
1:A:967:HIS:CD2	2:B:682:SER:OG	2.58	0.45
1:A:976:VAL:O	1:A:980:VAL:HG22	2.16	0.45
1:A:1280:SER:O	1:A:1284:GLN:HG3	2.16	0.45
1:A:1567:THR:CG2	1:A:1574:LYS:HD3	2.46	0.45
4:E:122:ALA:O	4:E:125:TYR:N	2.49	0.45
5:F:57:MET:HA	5:F:123:LEU:HD13	1.99	0.45
12:M:127:GLY:O	12:M:128:SER:OG	2.34	0.45
1:A:1257:ALA:O	1:A:1259:ILE:HG23	2.16	0.45
2:B:4:GLY:HA3	2:B:631:GLU:HG2	1.99	0.45
2:B:923:ARG:HB3	2:B:925:THR:HG23	1.98	0.45
4:E:162:ARG:HH11	4:E:163:TYR:HE2	1.63	0.45
9:K:51:LEU:O	9:K:53:ASN:N	2.49	0.45
11:N:70:VAL:O	11:N:109:MET:HA	2.15	0.45
12:M:55:CYS:HB3	12:M:73:LEU:HG	1.99	0.45
1:A:469:PRO:CG	1:A:600:GLN:HE21	2.29	0.45
1:A:500:GLU:CD	1:A:536:LYS:HG3	2.36	0.45
1:A:791:LEU:HB3	1:A:792:TYR:CD2	2.51	0.45
2:B:254:LYS:NZ	2:B:261:ASP:HB3	2.31	0.45
3:C:127:GLN:OE1	3:C:128:GLY:N	2.49	0.45
3:C:283:PHE:HE2	3:C:299:LEU:HB3	1.81	0.45
4:E:95:GLN:O	4:E:98:ASN:ND2	2.50	0.45
9:K:80:ILE:O	9:K:81:ASN:ND2	2.49	0.45
9:K:124:GLN:OE1	9:K:127:SER:OG	2.34	0.45
1:A:17:PHE:HB2	1:A:1688:GLY:HA2	1.98	0.45
1:A:487:GLY:HA3	1:A:515:ARG:HH22	1.81	0.45
1:A:555:THR:HG21	2:B:1041:GLU:HA	1.99	0.45
1:A:1318:ARG:NH2	1:A:1526:GLN:OE1	2.49	0.45
2:B:742:ILE:O	2:B:913:ILE:HG22	2.16	0.45
2:B:758:ILE:HD13	2:B:894:SER:HB2	1.98	0.45
3:C:198:LEU:HD11	3:C:200:ALA:O	2.17	0.45
4:E:60:VAL:O	4:E:61:LEU:HD22	2.16	0.45
1:A:132:LEU:HD22	4:E:172:ARG:NE	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:305:PRO:HD3	2:B:1125:ALA:HA	1.97	0.45
1:A:310:ARG:HH22	1:A:328:LEU:HD22	1.82	0.45
1:A:1133:ARG:HA	1:A:1136:GLN:HG3	1.99	0.45
1:A:1176:ALA:O	1:A:1180:LYS:HE2	2.16	0.45
1:A:1658:ASN:HB2	1:A:1659:ARG:HH11	1.82	0.45
2:B:625:ASN:ND2	2:B:628:LEU:H	2.14	0.45
2:B:972:ASN:OD1	2:B:973:PHE:N	2.49	0.45
4:E:124:LYS:O	4:E:126:ILE:HD12	2.17	0.45
5:F:109:TYR:CD1	5:F:115:TYR:HB3	2.52	0.45
9:K:124:GLN:OE1	9:K:128:ARG:NE	2.50	0.45
12:M:31:SER:CA	12:M:97:PRO:HG2	2.45	0.45
1:A:435:LYS:O	2:B:1037:PHE:HB2	2.16	0.45
1:A:456:ILE:HG12	1:A:564:HIS:HB2	1.98	0.45
1:A:1615:GLU:OE2	4:E:207:ARG:NH2	2.47	0.45
2:B:154:GLN:OE1	2:B:154:GLN:N	2.40	0.45
2:B:472:VAL:HG13	2:B:514:LEU:HD11	1.98	0.45
3:C:234:ARG:NH1	3:C:281:ASP:O	2.50	0.45
11:N:85:CYS:SG	12:M:48:PRO:HA	2.56	0.45
1:A:616:GLN:HA	1:A:766:TYR:HE1	1.82	0.45
1:A:759:TYR:H	1:A:763:HIS:CE1	2.35	0.45
2:B:35:LEU:HD11	2:B:166:MET:CE	2.47	0.45
2:B:51:HIS:CD2	2:B:144:LYS:HD2	2.52	0.45
2:B:815:ILE:HD12	2:B:815:ILE:H	1.82	0.45
6:H:54:ASP:OD2	6:H:147:LYS:HE3	2.17	0.45
1:A:428:PHE:CE1	1:A:432:MET:HG3	2.51	0.45
1:A:630:LEU:CD2	1:A:634:HIS:HB2	2.47	0.45
2:B:459:LYS:NZ	2:B:465:TYR:OH	2.48	0.45
2:B:760:ASN:OD1	2:B:762:ALA:N	2.50	0.45
2:B:807:LEU:HD21	2:B:824:PRO:HG2	1.99	0.45
3:C:238:ASP:OD1	3:C:238:ASP:N	2.41	0.45
3:C:252:GLU:H	3:C:252:GLU:HG2	1.47	0.45
4:E:150:VAL:HA	4:E:191:VAL:HG22	1.99	0.45
6:H:39:LEU:HD13	6:H:125:LEU:HB2	1.99	0.45
1:A:140:ARG:HD3	1:A:141:ILE:HD13	1.99	0.45
1:A:631:ILE:HD12	1:A:632:GLN:N	2.29	0.45
1:A:1115:PRO:HA	1:A:1118:GLN:NE2	2.32	0.45
7:I:18:ASP:OD2	7:I:27:LEU:HB2	2.16	0.45
1:A:331:VAL:HG22	1:A:397:HIS:HB3	1.98	0.45
1:A:499:ASN:OD1	1:A:500:GLU:N	2.48	0.45
1:A:800:GLU:OE2	1:A:887:ARG:NH2	2.50	0.45
1:A:919:ILE:HG22	1:A:920:GLU:N	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1162:THR:HG22	4:E:200:ALA:HA	1.98	0.45
1:A:1357:LYS:HA	1:A:1357:LYS:HD3	1.79	0.45
2:B:893:LEU:HD12	2:B:893:LEU:HA	1.74	0.45
12:M:43:TRP:CZ3	12:M:113:GLY:HA3	2.52	0.45
1:A:123:GLN:HE22	1:A:135:VAL:HG13	1.82	0.44
1:A:193:ALA:O	1:A:197:LYS:HD2	2.17	0.44
1:A:711:ILE:HG23	1:A:750:ASP:OD2	2.17	0.44
1:A:907:VAL:HA	1:A:910:MET:SD	2.57	0.44
1:A:1052:HIS:CG	5:F:126:THR:HG1	2.33	0.44
2:B:467:SER:HB3	2:B:670:ILE:HD11	1.99	0.44
3:C:92:VAL:HG21	3:C:110:LEU:HD12	1.99	0.44
3:C:95:TYR:HB2	3:C:209:ASP:HB3	1.99	0.44
1:A:75:SER:HA	1:A:308:ARG:HB3	1.99	0.44
1:A:309:TYR:HB3	2:B:1121:ALA:CB	2.47	0.44
1:A:429:ARG:HH22	1:A:1676:THR:HA	1.81	0.44
1:A:429:ARG:NH2	1:A:1676:THR:HA	2.32	0.44
1:A:488:PRO:HB3	1:A:495:SER:HB3	1.99	0.44
1:A:991:CYS:HB3	1:A:1253:MET:CE	2.48	0.44
1:A:1247:ARG:O	1:A:1251:ILE:HG12	2.17	0.44
2:B:100:PRO:O	2:B:103:CYS:N	2.49	0.44
2:B:260:SER:HB2	11:N:111:PRO:CG	2.44	0.44
2:B:763:SER:O	2:B:768:PHE:HB2	2.18	0.44
4:E:102:ALA:O	4:E:103:LEU:HD23	2.17	0.44
4:E:147:GLU:O	4:E:194:ILE:HG22	2.17	0.44
9:K:127:SER:HA	9:K:130:GLU:OE2	2.17	0.44
1:A:12:LEU:HB3	1:A:1704:LYS:HE2	2.00	0.44
1:A:1086:ARG:HA	1:A:1086:ARG:HD3	1.74	0.44
1:A:1109:ASN:HD21	4:E:43:GLN:HB2	1.82	0.44
1:A:1351:MET:HE1	1:A:1512:ILE:HD11	1.99	0.44
2:B:725:SER:H	2:B:948:THR:CG2	2.30	0.44
2:B:746:ILE:CG2	2:B:992:ILE:HD12	2.47	0.44
4:E:122:ALA:HA	4:E:125:TYR:O	2.17	0.44
7:I:21:SER:H	11:N:66:ARG:CZ	2.30	0.44
11:N:81:CYS:HA	11:N:84:LEU:HD12	1.98	0.44
1:A:685:LYS:HE2	1:A:685:LYS:HB2	1.75	0.44
1:A:1335:PRO:HA	1:A:1338:ILE:HG12	1.99	0.44
1:A:1346:PHE:HA	1:A:1349:LEU:HD12	1.98	0.44
1:A:1715:LEU:HD11	5:F:68:THR:HG21	1.99	0.44
2:B:504:ASP:HA	2:B:508:CYS:SG	2.58	0.44
2:B:961:TYR:CE1	12:M:139:PRO:HG2	2.53	0.44
2:B:976:THR:HG22	2:B:993:PHE:HB2	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:280:LEU:HD23	3:C:280:LEU:HA	1.80	0.44
1:A:552:ARG:NH1	1:A:554:PRO:HD2	2.32	0.44
1:A:781:LEU:HA	1:A:781:LEU:HD12	1.66	0.44
1:A:1266:VAL:HA	1:A:1600:LEU:CD1	2.47	0.44
2:B:305:GLY:HA3	2:B:320:ASN:O	2.17	0.44
2:B:746:ILE:HG21	2:B:992:ILE:HD12	2.00	0.44
2:B:936:LYS:HB2	2:B:936:LYS:HE3	1.69	0.44
4:E:90:TYR:HD1	4:E:90:TYR:HA	1.59	0.44
4:E:105:VAL:HA	4:E:130:PHE:O	2.16	0.44
4:E:187:ARG:HD3	4:E:209:VAL:O	2.17	0.44
6:H:116:VAL:O	6:H:123:MET:N	2.49	0.44
7:I:23:CYS:H	11:N:66:ARG:HE	1.65	0.44
9:K:66:GLU:N	9:K:85:GLN:O	2.41	0.44
1:A:935:LEU:HD13	1:A:966:PHE:CE1	2.53	0.44
1:A:1089:PHE:HD2	1:A:1092:TYR:CD2	2.34	0.44
1:A:1089:PHE:CZ	4:E:29:THR:HG22	2.53	0.44
1:A:1222:PRO:HA	1:A:1225:GLN:HB2	1.98	0.44
1:A:1340:ARG:HA	1:A:1340:ARG:HD3	1.60	0.44
1:A:1669:LEU:CD1	1:A:1701:VAL:HG21	2.48	0.44
1:A:1696:PRO:HA	1:A:1706:VAL:HG11	2.00	0.44
2:B:336:LEU:HD21	2:B:560:GLY:O	2.18	0.44
2:B:652:PHE:O	2:B:656:THR:HG22	2.18	0.44
2:B:746:ILE:CG2	2:B:992:ILE:HG23	2.48	0.44
4:E:54:ARG:NH2	4:E:90:TYR:HE2	2.16	0.44
4:E:199:THR:OG1	4:E:200:ALA:N	2.50	0.44
5:F:83:LEU:H	5:F:83:LEU:HD23	1.83	0.44
7:I:20:CYS:CA	11:N:66:ARG:HD2	2.47	0.44
1:A:100:LEU:HD12	1:A:265:LEU:HD21	2.00	0.44
1:A:246:GLU:HG3	1:A:247:GLU:N	2.33	0.44
1:A:677:LYS:HG3	6:H:89:GLU:O	2.17	0.44
1:A:1031:PHE:HZ	1:A:1039:PHE:CD2	2.35	0.44
1:A:1040:LEU:HD23	1:A:1047:ILE:HG21	1.98	0.44
1:A:1063:LYS:HB2	1:A:1064:LYS:NZ	2.32	0.44
1:A:1209:GLU:OE1	1:A:1214:LEU:HD21	2.17	0.44
1:A:1309:GLN:HB3	1:A:1311:LYS:HG2	2.00	0.44
1:A:1565:ASN:CG	1:A:1579:ASN:HD21	2.21	0.44
1:A:1672:MET:HE3	1:A:1681:LEU:HD11	1.99	0.44
2:B:396:ILE:HD12	2:B:396:ILE:HA	1.93	0.44
2:B:627:ALA:HB1	12:M:127:GLY:HA3	2.00	0.44
2:B:714:LEU:O	2:B:717:PRO:HD3	2.18	0.44
4:E:115:LYS:HA	4:E:118:LEU:HD12	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:F:110:LEU:HB3	5:F:111:PRO:CD	2.37	0.44
7:I:20:CYS:HA	11:N:66:ARG:CD	2.47	0.44
1:A:1053:LEU:O	1:A:1056:VAL:O	2.36	0.44
1:A:1669:LEU:O	1:A:1672:MET:HB3	2.18	0.44
2:B:189:PHE:HE1	2:B:611:PHE:CD1	2.35	0.44
2:B:751:TYR:HE2	2:B:895:ARG:HD2	1.82	0.44
3:C:283:PHE:CE2	3:C:299:LEU:HB3	2.53	0.44
1:A:123:GLN:NE2	1:A:135:VAL:HG13	2.32	0.44
1:A:803:LEU:O	1:A:886:HIS:HB2	2.18	0.44
1:A:1184:LYS:HD2	1:A:1184:LYS:HA	1.85	0.44
1:A:1583:ILE:HG13	1:A:1583:ILE:O	2.18	0.44
2:B:15:SER:OG	2:B:17:LYS:HG2	2.18	0.44
2:B:106:ARG:HG3	2:B:855:CYS:HB2	1.99	0.44
2:B:758:ILE:HB	2:B:914:LEU:HD12	2.00	0.44
4:E:152:THR:OG1	4:E:154:GLU:OE1	2.36	0.44
1:A:422:GLU:OE2	1:A:1678:PHE:N	2.32	0.43
1:A:547:ILE:HG13	1:A:564:HIS:O	2.17	0.43
1:A:1052:HIS:HB3	1:A:1055:GLU:CB	2.45	0.43
1:A:1589:PHE:HB2	1:A:1590:LYS:NZ	2.33	0.43
2:B:1063:ASP:HB3	2:B:1114:TYR:H	1.83	0.43
6:H:58:LEU:HD23	6:H:59:VAL:N	2.33	0.43
1:A:185:CYS:HA	1:A:188:LYS:HG2	2.00	0.43
1:A:604:GLY:O	1:A:607:GLU:HG3	2.18	0.43
1:A:1021:GLU:OE1	4:E:200:ALA:HB3	2.17	0.43
1:A:1151:ARG:HH12	5:F:52:ILE:HD12	1.83	0.43
2:B:251:PHE:CD2	2:B:289:VAL:HG23	2.53	0.43
2:B:581:PHE:HB3	2:B:589:ILE:HD12	2.00	0.43
2:B:882:LYS:HG2	2:B:890:LYS:HE3	1.99	0.43
3:C:325:ALA:O	3:C:328:VAL:HG12	2.17	0.43
4:E:197:SER:HB3	4:E:201:GLY:HA2	1.98	0.43
1:A:210:THR:OG1	1:A:211:GLY:N	2.51	0.43
1:A:1210:ALA:O	1:A:1214:LEU:HD13	2.18	0.43
1:A:1312:PHE:HB3	1:A:1531:LEU:O	2.19	0.43
1:A:1358:ASN:HB2	1:A:1535:LYS:NZ	2.33	0.43
2:B:98:VAL:O	2:B:147:ASN:ND2	2.51	0.43
2:B:132:GLN:NE2	2:B:420:PHE:HB3	2.32	0.43
2:B:208:TYR:N	2:B:208:TYR:CD2	2.86	0.43
2:B:276:SER:HB3	7:I:54:VAL:HG13	2.00	0.43
2:B:467:SER:HB3	2:B:670:ILE:CD1	2.48	0.43
2:B:850:ASP:OD2	2:B:872:ARG:HB3	2.19	0.43
4:E:187:ARG:N	4:E:189:GLN:OE1	2.50	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:H:90:TYR:HE2	6:H:92:MET:HG3	1.83	0.43
8:J:25:LEU:HD23	8:J:25:LEU:HA	1.75	0.43
1:A:267:ALA:HA	1:A:270:LYS:HG2	2.00	0.43
1:A:444:VAL:HG13	1:A:574:VAL:HG23	1.99	0.43
1:A:711:ILE:N	1:A:750:ASP:OD2	2.50	0.43
1:A:895:GLN:HA	1:A:898:VAL:HG22	2.00	0.43
1:A:990:ARG:O	1:A:993:ILE:HG22	2.18	0.43
2:B:51:HIS:NE2	2:B:144:LYS:HD2	2.34	0.43
2:B:64:PHE:CZ	2:B:397:LYS:HB2	2.53	0.43
2:B:160:HIS:HD2	2:B:705:ASP:OD1	2.01	0.43
2:B:625:ASN:CG	2:B:627:ALA:H	2.21	0.43
2:B:897:TRP:HB3	2:B:902:MET:CE	2.48	0.43
2:B:1084:PRO:HA	2:B:1085:PRO:HD3	1.88	0.43
4:E:29:THR:O	4:E:32:GLU:HB2	2.18	0.43
4:E:197:SER:OG	4:E:198:GLU:N	2.52	0.43
4:E:209:VAL:O	4:E:210:GLN:HG3	2.18	0.43
5:F:97:LEU:HD21	5:F:125:ILE:HD13	2.00	0.43
6:H:111:ARG:O	6:H:112:LEU:HD12	2.18	0.43
1:A:25:LEU:HD23	1:A:301:PHE:HB2	2.00	0.43
1:A:1189:LEU:HD23	1:A:1189:LEU:HA	1.86	0.43
2:B:863:LYS:HD2	2:B:863:LYS:N	2.33	0.43
6:H:112:LEU:HD13	6:H:129:ALA:HB2	1.99	0.43
1:A:28:LEU:HD12	2:B:1100:LEU:HG	2.01	0.43
1:A:137:GLU:OE2	4:E:187:ARG:HB3	2.18	0.43
1:A:268:LEU:O	1:A:272:GLU:HG2	2.18	0.43
1:A:704:ASN:ND2	1:A:740:ARG:HA	2.33	0.43
1:A:1097:GLN:HG2	1:A:1101:LYS:HZ2	1.82	0.43
1:A:1529:VAL:HG12	1:A:1530:LYS:N	2.33	0.43
2:B:15:SER:C	2:B:16:LEU:HD12	2.38	0.43
2:B:281:SER:HA	2:B:284:GLN:NE2	2.34	0.43
4:E:51:GLY:H	4:E:55:ARG:HG3	1.83	0.43
6:H:98:ARG:O	6:H:115:TYR:HB2	2.19	0.43
10:L:18:ILE:HD11	10:L:47:LYS:HG3	2.00	0.43
1:A:83:LEU:HD11	1:A:394:LEU:HD11	1.99	0.43
1:A:635:MET:HE3	1:A:754:TYR:HE2	1.84	0.43
1:A:797:LEU:HD21	2:B:921:PRO:CD	2.49	0.43
1:A:972:ARG:NH2	2:B:509:GLY:HA2	2.26	0.43
2:B:189:PHE:CD1	2:B:190:PRO:HD2	2.54	0.43
8:J:41:LYS:HA	8:J:41:LYS:HD3	1.69	0.43
10:L:41:TYR:CE2	10:L:43:ILE:HG22	2.52	0.43
1:A:433:MET:CB	2:B:1042:ARG:HB2	2.49	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:470:GLN:CD	1:A:476:ASN:HD22	2.21	0.43
1:A:607:GLU:O	1:A:611:LEU:HB2	2.18	0.43
2:B:493:SER:OG	2:B:497:LEU:HB2	2.19	0.43
2:B:494:TRP:HZ2	2:B:646:ILE:HD11	1.83	0.43
2:B:620:VAL:HG22	2:B:633:LEU:HD12	2.00	0.43
2:B:915:PHE:CE2	2:B:920:PHE:HZ	2.36	0.43
2:B:1027:GLY:HA2	2:B:1033:GLY:HA3	2.01	0.43
2:B:1132:LEU:HD22	2:B:1134:VAL:HG13	2.00	0.43
9:K:27:LEU:HD12	9:K:28:GLU:N	2.33	0.43
11:N:44:TYR:HD2	11:N:59:ILE:HB	1.84	0.43
1:A:190:LYS:O	1:A:194:LEU:HG	2.19	0.43
1:A:606:ALA:O	1:A:610:VAL:HG22	2.18	0.43
1:A:615:ASP:OD2	1:A:772:GLU:HA	2.18	0.43
1:A:1316:GLN:CD	1:A:1526:GLN:HE21	2.22	0.43
1:A:1350:LEU:O	1:A:1354:ILE:HG12	2.19	0.43
2:B:72:ARG:HB3	2:B:317:TRP:HH2	1.84	0.43
2:B:397:LYS:NZ	2:B:401:ASP:HB2	2.34	0.43
2:B:749:THR:HG21	2:B:751:TYR:CD2	2.54	0.43
2:B:1014:THR:HG22	2:B:1015:THR:HG23	2.01	0.43
1:A:579:TYR:HB2	1:A:631:ILE:CD1	2.49	0.43
1:A:599:PRO:HB3	2:B:1057:ARG:HH22	1.82	0.43
1:A:623:ASP:HA	1:A:1026:ILE:HG21	2.01	0.43
1:A:989:GLN:O	1:A:992:ILE:HG22	2.19	0.43
1:A:1050:SER:C	1:A:1052:HIS:HD1	2.23	0.43
1:A:1302:SER:O	1:A:1303:PHE:HB3	2.19	0.43
1:A:1324:HIS:HE1	1:A:1333:LEU:O	2.02	0.43
2:B:374:VAL:O	2:B:617:CYS:HB3	2.19	0.43
2:B:719:SER:HG	2:B:723:ARG:NH1	2.15	0.43
2:B:800:ASP:O	2:B:803:VAL:HG12	2.18	0.43
2:B:827:SER:OG	2:B:838:VAL:HG12	2.18	0.43
2:B:902:MET:SD	2:B:914:LEU:HD11	2.59	0.43
4:E:193:ILE:HG22	4:E:195:ARG:H	1.84	0.43
5:F:86:GLU:CD	5:F:86:GLU:H	2.22	0.43
6:H:41:LEU:HD13	6:H:123:MET:HG3	2.01	0.43
12:M:44:LEU:O	12:M:114:THR:HA	2.19	0.43
1:A:961:PRO:HA	2:B:950:PHE:CE1	2.54	0.42
1:A:1137:LYS:HE2	1:A:1137:LYS:HB3	1.74	0.42
1:A:1324:HIS:HA	1:A:1327:TYR:CE2	2.54	0.42
2:B:474:ARG:NH1	2:B:510:LEU:HA	2.34	0.42
2:B:694:GLN:HE22	2:B:1003:ARG:NE	2.13	0.42
3:C:332:LYS:HD2	3:C:335:ARG:HH21	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:N:78:ALA:HA	11:N:108:ASN:HD21	1.83	0.42
1:A:623:ASP:O	1:A:1030:GLN:HB2	2.19	0.42
1:A:1309:GLN:HB3	1:A:1311:LYS:CG	2.49	0.42
1:A:1677:SER:O	1:A:1681:LEU:HG	2.19	0.42
2:B:857:ASN:HB2	2:B:862:GLY:CA	2.48	0.42
2:B:964:GLU:HG3	12:M:142:PRO:CD	2.48	0.42
3:C:238:ASP:HB3	3:C:302:VAL:HG23	2.00	0.42
4:E:110:MET:HB3	4:E:115:LYS:HZ3	1.84	0.42
7:I:25:SER:HB2	7:I:40:ARG:NH2	2.35	0.42
1:A:927:PRO:HG3	2:B:488:ARG:NH2	2.34	0.42
1:A:1026:ILE:HD11	1:A:1639:ARG:HD2	2.00	0.42
1:A:1589:PHE:HE1	4:E:137:ILE:HG22	1.83	0.42
2:B:109:THR:HG22	2:B:110:TYR:H	1.84	0.42
3:C:334:ARG:HH21	9:K:104:MET:HB3	1.84	0.42
8:J:38:LEU:HD23	8:J:38:LEU:HA	1.76	0.42
1:A:451:ILE:HD11	1:A:577:LEU:HA	2.00	0.42
1:A:521:GLN:O	1:A:524:THR:OG1	2.33	0.42
12:M:83:LEU:HB3	12:M:116:ARG:HB2	2.01	0.42
1:A:188:LYS:HD2	1:A:1687:LEU:HD11	2.01	0.42
1:A:383:LEU:O	1:A:386:LYS:HG2	2.19	0.42
1:A:643:THR:C	1:A:645:GLY:H	2.21	0.42
1:A:830:ALA:HB1	1:A:861:ILE:HG12	2.00	0.42
1:A:1090:LEU:O	1:A:1094:GLN:HG3	2.19	0.42
2:B:336:LEU:HD23	2:B:336:LEU:HA	1.70	0.42
2:B:474:ARG:CZ	2:B:512:ASN:HD21	2.32	0.42
2:B:548:ARG:HG3	2:B:550:TYR:OH	2.19	0.42
2:B:590:PRO:HB3	2:B:592:TRP:HE3	1.84	0.42
2:B:702:THR:OG1	2:B:706:ARG:NH1	2.53	0.42
3:C:49:PHE:CZ	9:K:110:VAL:HG22	2.54	0.42
5:F:50:LYS:C	5:F:51:ARG:HD3	2.40	0.42
5:F:101:LYS:HA	5:F:101:LYS:HD3	1.75	0.42
9:K:118:ILE:HD13	9:K:118:ILE:HA	1.89	0.42
1:A:386:LYS:O	1:A:390:ILE:HG23	2.20	0.42
1:A:483:ALA:O	1:A:494:ALA:N	2.52	0.42
1:A:760:GLY:H	1:A:763:HIS:HB3	1.84	0.42
1:A:851:LEU:HD22	1:A:857:ASP:OD2	2.19	0.42
1:A:1562:CYS:HA	1:A:1580:THR:HA	2.02	0.42
1:A:1706:VAL:HG12	1:A:1707:ARG:N	2.34	0.42
2:B:818:LYS:NZ	2:B:820:GLN:HE21	2.18	0.42
3:C:201:GLN:O	3:C:202:LEU:HD23	2.19	0.42
1:A:718:LYS:HD3	1:A:718:LYS:HA	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1103:LEU:HD13	1:A:1105:LEU:HG	2.01	0.42
1:A:1303:PHE:O	1:A:1305:MET:N	2.53	0.42
1:A:1545:VAL:HG13	7:I:61:PHE:CZ	2.54	0.42
2:B:858:ASP:OD1	2:B:858:ASP:N	2.52	0.42
2:B:905:THR:HG21	2:B:977:GLU:OE1	2.20	0.42
3:C:272:VAL:HG12	3:C:273:ALA:H	1.85	0.42
1:A:419:GLN:O	1:A:423:LYS:N	2.53	0.42
1:A:581:ASN:HD21	1:A:628:ALA:HB2	1.84	0.42
1:A:1659:ARG:HG3	1:A:1674:PHE:CZ	2.54	0.42
2:B:315:PRO:HG2	2:B:318:TYR:CZ	2.55	0.42
2:B:463:ILE:HG22	2:B:693:LYS:HG2	2.02	0.42
2:B:556:VAL:O	2:B:563:VAL:HG12	2.19	0.42
2:B:1039:GLU:HA	2:B:1042:ARG:HD3	2.01	0.42
3:C:159:PRO:HB3	3:C:163:TYR:CD2	2.55	0.42
3:C:219:GLY:HA2	3:C:225:PHE:HB2	2.02	0.42
3:C:281:ASP:OD1	3:C:282:THR:N	2.53	0.42
4:E:159:LEU:HD22	4:E:206:TYR:CD1	2.55	0.42
1:A:795:PHE:CZ	1:A:893:SER:HB3	2.55	0.42
1:A:1559:ILE:HD12	1:A:1559:ILE:H	1.85	0.42
2:B:107:ARG:HD2	2:B:778:PHE:CE1	2.55	0.42
2:B:855:CYS:H	2:B:866:CYS:HB3	1.84	0.42
7:I:30:PRO:O	7:I:32:ALA:N	2.53	0.42
11:N:48:ASP:O	11:N:55:ARG:HA	2.20	0.42
1:A:429:ARG:HA	2:B:1042:ARG:CZ	2.49	0.42
1:A:483:ALA:HA	1:A:493:GLY:HA2	2.01	0.42
1:A:562:GLN:NE2	1:A:614:THR:HB	2.35	0.42
1:A:622:LYS:NZ	1:A:1636:VAL:HG12	2.34	0.42
1:A:672:SER:OG	1:A:673:PRO:HD2	2.20	0.42
1:A:728:ASN:C	1:A:730:ASP:H	2.22	0.42
1:A:1275:LEU:HA	1:A:1278:VAL:HG12	2.00	0.42
1:A:1637:ASP:O	1:A:1639:ARG:N	2.50	0.42
2:B:82:ILE:HG23	2:B:113:LYS:O	2.20	0.42
2:B:294:CYS:SG	2:B:300:VAL:HG12	2.60	0.42
2:B:700:LEU:HA	2:B:735:TYR:CE2	2.51	0.42
3:C:207:GLU:OE1	3:C:207:GLU:N	2.53	0.42
3:C:319:ASP:OD1	3:C:319:ASP:N	2.50	0.42
9:K:39:CYS:CA	9:K:85:GLN:HG2	2.49	0.42
11:N:12:GLN:OE1	11:N:98:GLN:NE2	2.52	0.42
12:M:52:ALA:HB3	12:M:73:LEU:HD13	2.01	0.42
1:A:323:GLY:O	1:A:327:ASN:ND2	2.50	0.41
1:A:644:ARG:HB2	1:A:734:GLU:OE2	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:691:LEU:HD11	1:A:784:LEU:HD22	2.02	0.41
1:A:1152:PRO:HB3	1:A:1158:SER:HB2	2.02	0.41
1:A:1303:PHE:HB3	7:I:53:LYS:NZ	2.35	0.41
2:B:694:GLN:OE1	2:B:1003:ARG:NH2	2.53	0.41
2:B:1113:PRO:HD2	2:B:1116:PHE:CD2	2.55	0.41
4:E:18:MET:SD	4:E:32:GLU:HB3	2.60	0.41
9:K:128:ARG:HD3	9:K:128:ARG:HA	1.84	0.41
1:A:157:ILE:HB	1:A:159:GLU:OE1	2.20	0.41
1:A:466:LEU:HD23	1:A:467:THR:N	2.34	0.41
1:A:1122:ARG:HA	1:A:1125:TYR:HD2	1.85	0.41
2:B:214:CYS:HB3	2:B:222:VAL:CG1	2.50	0.41
2:B:415:ASN:O	2:B:419:ILE:HG23	2.20	0.41
2:B:760:ASN:OD1	2:B:760:ASN:C	2.59	0.41
3:C:333:CYS:SG	9:K:103:LEU:HD23	2.60	0.41
4:E:142:HIS:O	4:E:145:VAL:HG12	2.20	0.41
1:A:184:VAL:HG22	1:A:188:LYS:HZ2	1.85	0.41
1:A:558:ARG:HB3	1:A:559:PRO:HD3	2.01	0.41
1:A:1671:GLN:NE2	1:A:1683:GLN:HE22	2.18	0.41
2:B:137:VAL:HG21	2:B:381:PHE:HZ	1.85	0.41
2:B:590:PRO:HB3	2:B:592:TRP:CE3	2.55	0.41
2:B:1045:LEU:HD21	2:B:1054:LEU:HD12	2.03	0.41
4:E:11:TRP:CD2	4:E:37:LEU:HB2	2.54	0.41
4:E:115:LYS:O	4:E:118:LEU:HB2	2.20	0.41
4:E:162:ARG:HE	4:E:163:TYR:HE2	1.66	0.41
7:I:58:SER:O	7:I:60:VAL:HG22	2.21	0.41
9:K:40:VAL:HG22	9:K:41:THR:H	1.85	0.41
9:K:68:CYS:HA	9:K:83:ARG:O	2.19	0.41
9:K:82:LEU:HD12	9:K:82:LEU:HA	1.78	0.41
12:M:114:THR:O	12:M:115:LEU:HD23	2.20	0.41
1:A:481:ARG:O	1:A:484:VAL:HG12	2.20	0.41
1:A:1263:MET:HA	1:A:1581:GLU:HA	2.03	0.41
1:A:1269:LEU:HG	1:A:1271:THR:HG23	2.02	0.41
1:A:1604:ASP:CG	1:A:1607:ALA:H	2.23	0.41
1:A:1621:ILE:HD13	1:A:1648:MET:CE	2.50	0.41
1:A:1646:ASP:OD1	4:E:195:ARG:NH2	2.41	0.41
2:B:275:ASP:CG	2:B:278:LEU:HB2	2.40	0.41
2:B:312:LEU:CD2	2:B:327:LEU:HB2	2.51	0.41
2:B:546:PRO:HG2	2:B:549:SER:HB2	2.03	0.41
2:B:698:PHE:CE2	8:J:55:LEU:HD23	2.55	0.41
3:C:187:GLU:OE1	3:C:187:GLU:N	2.48	0.41
5:F:106:ILE:O	5:F:117:ASP:HA	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:N:16:ALA:HB3	11:N:19:GLY:HA2	2.01	0.41
11:N:35:SER:OG	11:N:38:ASN:ND2	2.53	0.41
1:A:215:VAL:HG12	1:A:225:ILE:HD13	2.01	0.41
1:A:397:HIS:O	1:A:400:ILE:HG22	2.20	0.41
1:A:451:ILE:HD12	1:A:456:ILE:HA	2.01	0.41
1:A:626:PRO:HG2	1:A:756:SER:C	2.41	0.41
1:A:671:LEU:HD23	1:A:671:LEU:HA	1.90	0.41
1:A:935:LEU:HD23	2:B:494:TRP:CE3	2.55	0.41
1:A:1031:PHE:CE2	1:A:1040:LEU:HD11	2.52	0.41
1:A:1198:LEU:HA	1:A:1198:LEU:HD23	1.82	0.41
1:A:1653:VAL:CG2	1:A:1655:LYS:HE3	2.51	0.41
2:B:889:GLN:HG3	2:B:928:MET:SD	2.60	0.41
3:C:154:LYS:HD2	3:C:155:ASP:HA	2.02	0.41
6:H:28:LEU:HB2	6:H:41:LEU:O	2.21	0.41
10:L:46:LYS:HG2	10:L:47:LYS:N	2.36	0.41
11:N:62:ALA:N	11:N:69:TYR:O	2.49	0.41
1:A:161:LEU:HB3	1:A:162:GLU:OE2	2.21	0.41
1:A:489:ASN:OD1	1:A:490:VAL:N	2.54	0.41
1:A:657:VAL:O	1:A:661:LEU:HD12	2.21	0.41
1:A:951:VAL:HA	1:A:963:GLU:OE2	2.21	0.41
1:A:1067:HIS:N	1:A:1067:HIS:CD2	2.87	0.41
1:A:1217:GLN:O	1:A:1221:GLU:HG3	2.21	0.41
2:B:10:LEU:HD23	2:B:729:TYR:CD1	2.56	0.41
2:B:144:LYS:C	2:B:145:LEU:HD22	2.40	0.41
2:B:243:GLU:HG3	2:B:245:PHE:CE1	2.56	0.41
2:B:721:LEU:HD23	2:B:721:LEU:HA	1.76	0.41
2:B:743:VAL:HG12	2:B:913:ILE:CG2	2.50	0.41
2:B:1094:ARG:O	2:B:1094:ARG:HG3	2.20	0.41
11:N:24:VAL:O	11:N:25:LEU:HD23	2.20	0.41
11:N:42:THR:OG1	11:N:42:THR:O	2.38	0.41
12:M:94:LEU:O	12:M:108:ALA:N	2.51	0.41
1:A:7:MET:CE	1:A:8:PRO:HD2	2.51	0.41
1:A:581:ASN:HD21	1:A:628:ALA:CB	2.33	0.41
1:A:607:GLU:CB	5:F:64:ARG:HH11	2.34	0.41
1:A:791:LEU:HB3	1:A:792:TYR:CE2	2.56	0.41
1:A:1153:ASP:OD1	1:A:1154:ILE:HG13	2.21	0.41
1:A:1202:ARG:HG2	5:F:56:TYR:OH	2.20	0.41
2:B:471:CYS:CB	2:B:513:HIS:HD2	2.34	0.41
2:B:692:GLY:O	2:B:695:THR:HG23	2.21	0.41
2:B:991:ASP:O	2:B:992:ILE:HD13	2.20	0.41
3:C:250:ALA:HB1	3:C:264:VAL:HG12	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:171:PRO:HB2	4:E:207:ARG:NH1	2.36	0.41
5:F:57:MET:SD	5:F:125:ILE:HG12	2.61	0.41
1:A:423:LYS:N	1:A:426:GLY:HA2	2.36	0.41
1:A:578:HIS:NE2	1:A:631:ILE:HB	2.36	0.41
1:A:1241:VAL:HG12	1:A:1261:THR:HB	2.03	0.41
2:B:702:THR:H	2:B:702:THR:HG23	1.66	0.41
2:B:760:ASN:HB3	2:B:912:ASP:HA	2.02	0.41
2:B:792:LEU:HA	2:B:828:TYR:HA	2.03	0.41
3:C:212:MET:O	3:C:213:HIS:CD2	2.74	0.41
12:M:55:CYS:HG	12:M:56:PHE:HD1	1.66	0.41
1:A:252:LYS:O	1:A:252:LYS:HG2	2.21	0.41
1:A:420:ILE:HG22	1:A:427:LEU:HD12	2.02	0.41
1:A:431:HIS:HA	1:A:434:GLY:O	2.21	0.41
1:A:484:VAL:C	1:A:515:ARG:HH21	2.23	0.41
1:A:526:ALA:HB2	1:A:532:PRO:HA	2.03	0.41
1:A:551:ASN:OD1	1:A:552:ARG:N	2.48	0.41
1:A:839:TYR:CE1	1:A:943:PHE:HB2	2.56	0.41
1:A:1001:VAL:HG12	1:A:1209:GLU:O	2.21	0.41
1:A:1024:LEU:HD13	1:A:1203:SER:O	2.20	0.41
1:A:1096:ILE:O	1:A:1100:VAL:HG22	2.21	0.41
1:A:1672:MET:HG3	1:A:1677:SER:CB	2.51	0.41
2:B:45:SER:OG	2:B:378:GLY:HA3	2.21	0.41
2:B:57:ALA:HA	2:B:218:GLU:HB3	2.02	0.41
2:B:186:ARG:NE	2:B:373:GLU:OE1	2.50	0.41
2:B:242:LYS:NZ	2:B:443:THR:HA	2.35	0.41
3:C:137:THR:O	3:C:138:LEU:HD23	2.21	0.41
4:E:73:PHE:O	4:E:103:LEU:N	2.54	0.41
5:F:70:ALA:O	5:F:74:ALA:HB2	2.21	0.41
6:H:38:ASP:O	6:H:125:LEU:HA	2.21	0.41
6:H:98:ARG:O	6:H:99:ILE:HD13	2.20	0.41
7:I:17:LEU:HD23	7:I:18:ASP:O	2.21	0.41
9:K:65:VAL:HG12	9:K:86:THR:HG22	2.02	0.41
11:N:12:GLN:O	11:N:101:VAL:HB	2.20	0.41
11:N:87:HIS:CD2	12:M:46:GLN:HG2	2.56	0.41
12:M:87:PRO:HB3	12:M:114:THR:CG2	2.51	0.41
1:A:609:TYR:O	1:A:613:CYS:HB3	2.21	0.41
1:A:1075:TRP:O	1:A:1079:HIS:HD2	2.04	0.41
2:B:226:LEU:HD11	2:B:349:MET:SD	2.60	0.41
2:B:352:LYS:HG3	2:B:607:TYR:CD1	2.55	0.41
2:B:789:ASP:H	2:B:831:LEU:HB2	1.86	0.41
3:C:95:TYR:HB2	3:C:209:ASP:CB	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:102:GLN:HG3	3:C:105:ILE:HG12	2.03	0.41
3:C:163:TYR:HE1	3:C:204:PRO:HD3	1.84	0.41
3:C:226:SER:OG	3:C:228:VAL:O	2.38	0.41
4:E:166:ARG:H	4:E:169:GLN:NE2	2.18	0.41
6:H:11:ASP:OD2	6:H:12:VAL:N	2.54	0.41
9:K:113:LYS:HD2	9:K:113:LYS:HA	1.83	0.41
11:N:78:ALA:CA	11:N:108:ASN:HD21	2.34	0.41
1:A:10:ARG:HG3	2:B:1110:VAL:HG12	2.03	0.40
1:A:170:GLN:OE1	1:A:171:ASN:HB2	2.21	0.40
1:A:450:TYR:CG	2:B:751:TYR:HE1	2.39	0.40
1:A:840:ASP:HB3	1:A:845:LYS:HZ2	1.85	0.40
1:A:1304:CYS:HB3	1:A:1313:GLN:HA	2.03	0.40
1:A:1612:TYR:CE1	4:E:142:HIS:CD2	3.05	0.40
2:B:114:LEU:HD12	2:B:114:LEU:HA	1.84	0.40
2:B:311:LYS:HD3	2:B:311:LYS:HA	1.79	0.40
3:C:251:GLU:HG3	3:C:252:GLU:H	1.86	0.40
4:E:89:VAL:HG12	4:E:90:TYR:CD1	2.57	0.40
6:H:9:ILE:HA	6:H:57:ARG:HA	2.02	0.40
8:J:3:ILE:HG13	8:J:4:PRO:HD2	2.03	0.40
11:N:9:ALA:HB2	12:M:63:LEU:HD21	2.03	0.40
1:A:196:TRP:O	1:A:200:MET:HG2	2.21	0.40
1:A:468:TYR:HB3	1:A:540:ARG:NH1	2.36	0.40
1:A:522:LEU:HD23	1:A:522:LEU:HA	1.94	0.40
1:A:1295:GLN:HG3	1:A:1296:LYS:CG	2.49	0.40
2:B:216:ARG:NE	2:B:218:GLU:OE2	2.54	0.40
2:B:525:VAL:HG12	2:B:526:TYR:N	2.37	0.40
3:C:272:VAL:HG12	3:C:273:ALA:N	2.35	0.40
4:E:24:ARG:HD2	4:E:24:ARG:HA	1.75	0.40
5:F:79:VAL:HG11	5:F:83:LEU:HD22	2.04	0.40
6:H:22:PHE:HB3	6:H:23:ASP:H	1.79	0.40
1:A:180:HIS:CE1	1:A:1689:SER:HG	2.38	0.40
1:A:424:LYS:HB2	1:A:424:LYS:HE2	1.89	0.40
1:A:437:VAL:O	2:B:1035:ILE:HG22	2.21	0.40
1:A:483:ALA:HB1	1:A:540:ARG:HB2	2.03	0.40
1:A:1059:ARG:HE	5:F:124:ILE:HD11	1.86	0.40
1:A:1126:GLU:OE1	1:A:1126:GLU:N	2.33	0.40
2:B:668:SER:O	2:B:672:ASN:HB2	2.22	0.40
2:B:1078:SER:HB2	2:B:1098:CYS:HB2	2.04	0.40
3:C:118:ASP:OD1	3:C:120:ARG:N	2.53	0.40
3:C:155:ASP:OD1	3:C:155:ASP:N	2.54	0.40
5:F:56:TYR:N	5:F:123:LEU:HD22	2.32	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:I:23:CYS:SG	7:I:24:GLY:N	2.95	0.40
1:A:58:ALA:HA	1:A:71:PHE:CD2	2.56	0.40
1:A:269:TRP:HB2	1:A:294:PRO:HG3	2.04	0.40
1:A:334:ASP:HB2	1:A:397:HIS:CE1	2.56	0.40
1:A:828:ARG:NH2	1:A:844:GLY:HA3	2.27	0.40
1:A:1296:LYS:HG2	7:I:59:VAL:HA	2.02	0.40
1:A:1341:PHE:CE2	1:A:1345:ARG:HG3	2.57	0.40
1:A:1627:ASP:OD1	1:A:1628:VAL:N	2.55	0.40
2:B:464:ARG:O	2:B:468:HIS:HB2	2.22	0.40
2:B:592:TRP:O	2:B:618:ARG:NH2	2.55	0.40
2:B:674:ILE:HG22	2:B:677:SER:HB2	2.04	0.40
2:B:883:PHE:CD2	2:B:999:TYR:HD1	2.38	0.40
2:B:1081:LEU:HD23	2:B:1082:GLU:N	2.37	0.40
6:H:8:ASP:HB3	6:H:10:PHE:CE2	2.56	0.40
9:K:31:GLN:HA	9:K:40:VAL:HG23	2.03	0.40
1:A:535:THR:HG22	1:A:536:LYS:N	2.36	0.40
1:A:744:LEU:HD23	1:A:745:LEU:N	2.36	0.40
1:A:1100:VAL:HA	1:A:1103:LEU:HG	2.04	0.40
2:B:227:HIS:CD2	2:B:227:HIS:N	2.88	0.40
2:B:1003:ARG:HG2	2:B:1004:HIS:O	2.21	0.40
2:B:1037:PHE:CD2	2:B:1041:GLU:HB3	2.56	0.40
3:C:265:GLN:NE2	3:C:274:ARG:HB3	2.35	0.40
4:E:73:PHE:N	4:E:101:ARG:O	2.55	0.40
4:E:102:ALA:O	4:E:127:LEU:HA	2.21	0.40
4:E:110:MET:HB3	4:E:115:LYS:HE2	2.03	0.40
10:L:47:LYS:HE3	10:L:47:LYS:HB3	1.88	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	1543/1720 (90%)	1328 (86%)	211 (14%)	4 (0%)	37	71
2	B	1129/1135 (100%)	944 (84%)	184 (16%)	1 (0%)	48	82
3	C	304/346 (88%)	241 (79%)	63 (21%)	0	100	100
4	E	207/210 (99%)	184 (89%)	23 (11%)	0	100	100
5	F	76/127 (60%)	62 (82%)	14 (18%)	0	100	100
6	H	146/150 (97%)	119 (82%)	27 (18%)	0	100	100
7	I	45/126 (36%)	29 (64%)	15 (33%)	1 (2%)	5	32
8	J	64/67 (96%)	51 (80%)	13 (20%)	0	100	100
9	K	105/133 (79%)	92 (88%)	13 (12%)	0	100	100
10	L	44/58 (76%)	34 (77%)	10 (23%)	0	100	100
11	N	103/419 (25%)	98 (95%)	5 (5%)	0	100	100
12	M	120/510 (24%)	107 (89%)	11 (9%)	2 (2%)	7	37
All	All	3886/5001 (78%)	3289 (85%)	589 (15%)	8 (0%)	45	77

All (8) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	1258	ASN
1	A	1274	ALA
2	B	271	GLY
1	A	644	ARG
1	A	678	PRO
7	I	59	VAL
12	M	126	SER
12	M	127	GLY

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	A	1356/1504 (90%)	1345 (99%)	11 (1%)	79	84
2	B	988/992 (100%)	979 (99%)	9 (1%)	75	83

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	C	269/302 (89%)	267 (99%)	2 (1%)	81	86
4	E	191/192 (100%)	191 (100%)	0	100	100
5	F	68/111 (61%)	67 (98%)	1 (2%)	60	75
6	H	129/131 (98%)	129 (100%)	0	100	100
7	I	42/111 (38%)	41 (98%)	1 (2%)	44	63
8	J	55/56 (98%)	55 (100%)	0	100	100
9	K	96/119 (81%)	96 (100%)	0	100	100
10	L	43/55 (78%)	41 (95%)	2 (5%)	22	46
11	N	89/366 (24%)	89 (100%)	0	100	100
12	M	97/427 (23%)	97 (100%)	0	100	100
All	All	3423/4366 (78%)	3397 (99%)	26 (1%)	77	84

All (26) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	10	ARG
1	A	125	ARG
1	A	140	ARG
1	A	314	ARG
1	A	540	ARG
1	A	716	TRP
1	A	832	ASN
1	A	856	ARG
1	A	924	ARG
1	A	1085	ARG
1	A	1610	ASN
2	B	417	MET
2	B	418	ARG
2	B	428	LYS
2	B	465	TYR
2	B	567	ASP
2	B	766	ARG
2	B	825	TYR
2	B	961	TYR
2	B	999	TYR
3	C	120	ARG
3	C	154	LYS
5	F	51	ARG

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Mol	Chain	Res	Type
7	I	34	ASP
10	L	37	ARG
10	L	42	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (65) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	13	GLN
1	A	73	ASN
1	A	143	ASN
1	A	177	GLN
1	A	324	GLN
1	A	562	GLN
1	A	600	GLN
1	A	694	ASN
1	A	704	ASN
1	A	850	HIS
1	A	967	HIS
1	A	1002	GLN
1	A	1030	GLN
1	A	1043	ASN
1	A	1067	HIS
1	A	1079	HIS
1	A	1081	ASN
1	A	1111	ASN
1	A	1240	ASN
1	A	1295	GLN
1	A	1310	ASN
1	A	1329	GLN
1	A	1358	ASN
1	A	1359	ASN
1	A	1579	ASN
1	A	1683	GLN
2	B	18	HIS
2	B	59	GLN
2	B	97	ASN
2	B	160	HIS
2	B	227	HIS
2	B	237	ASN
2	B	263	GLN
2	B	329	ASN
2	B	473	HIS

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Mol	Chain	Res	Type
2	B	512	ASN
2	B	536	ASN
2	B	672	ASN
2	B	688	GLN
2	B	734	ASN
2	B	820	GLN
2	B	846	ASN
2	B	889	GLN
2	B	918	HIS
2	B	941	HIS
2	B	1030	ASN
2	B	1048	HIS
3	C	59	ASN
3	C	160	ASN
3	C	213	HIS
3	C	305	HIS
4	E	64	HIS
4	E	98	ASN
4	E	132	GLN
4	E	133	GLN
4	E	169	GLN
6	H	133	HIS
9	K	38	HIS
9	K	45	HIS
9	K	81	ASN
9	K	85	GLN
9	K	101	ASN
10	L	13	GLN
11	N	38	ASN
12	M	131	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 ⓘ

There are no ligands in this entry.

5.7   Other polymers ⓘ

There are no such residues in this entry.

5.8   Polymer linkage issues ⓘ

There are no chain breaks in this entry.

6 Map visualisation ⓘ

This section contains visualisations of the EMDB entry EMD-15135. These allow visual inspection of the internal detail of the map and identification of artifacts.

Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections ⓘ
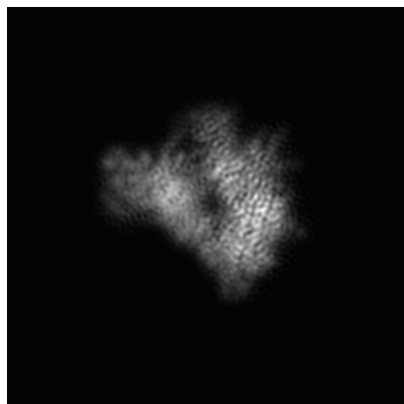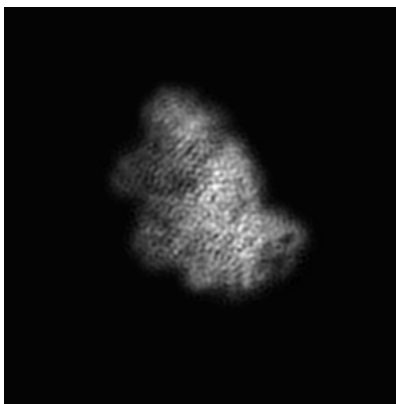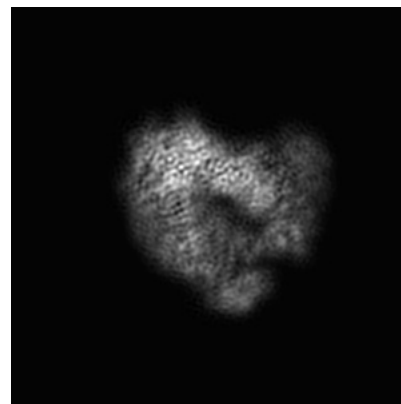
6.1.1 Primary map

| X | Y | Z |

6.1.2 Raw map

| X | Y | Z |
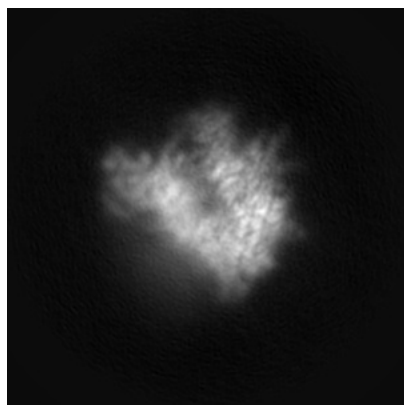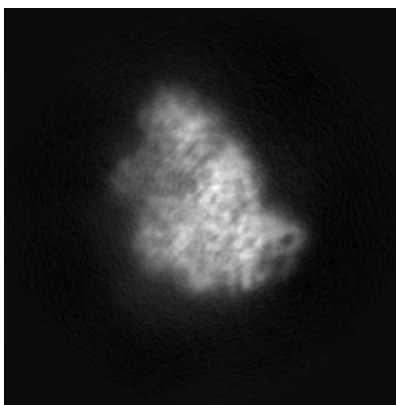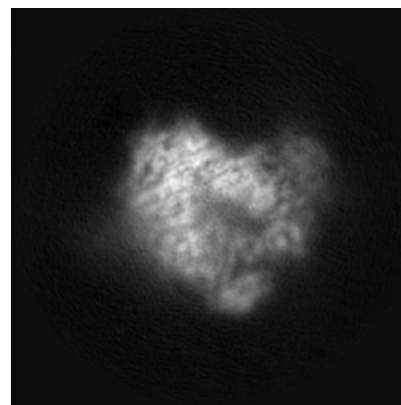
The images above show the map projected in three orthogonal directions.

6.2 Central slices ⓘ
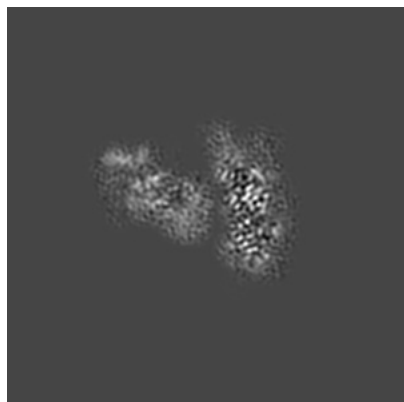
6.2.1 Primary map
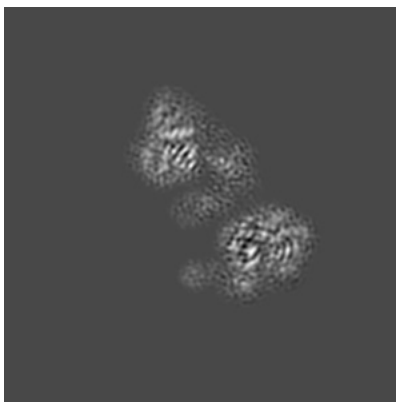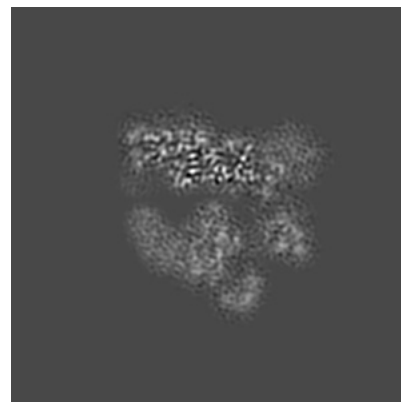
X Index: 95   Y Index: 95   Z Index: 95

6.2.2 Raw map
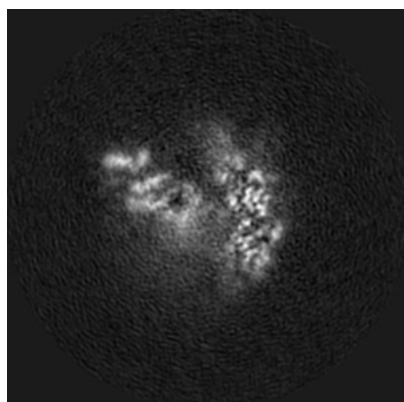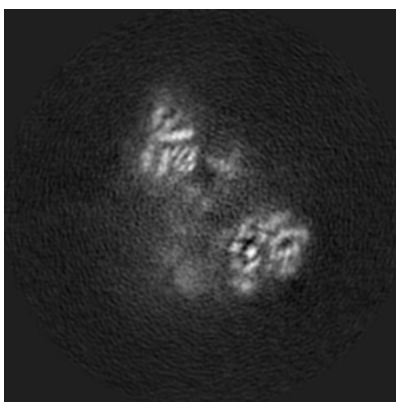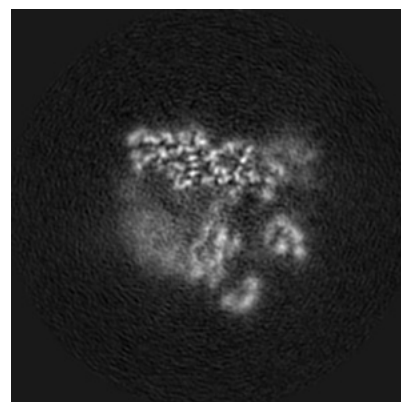
X Index: 95   Y Index: 95   Z Index: 95

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

6.3 Largest variance slices ⓘ
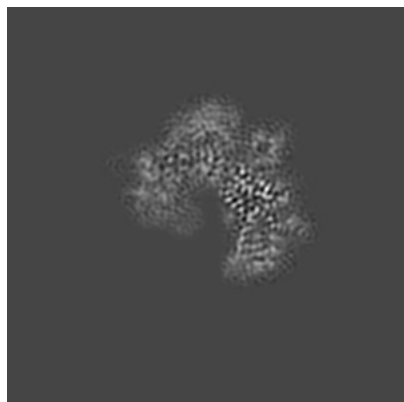
6.3.1 Primary map
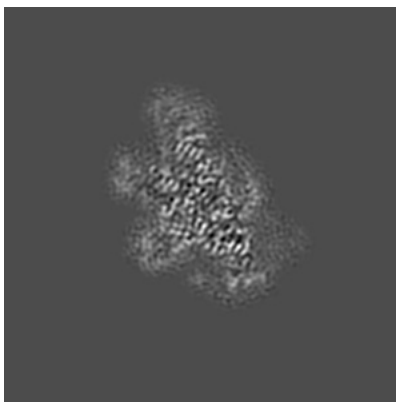
X Index: 83	Y Index: 111	Z Index: 99
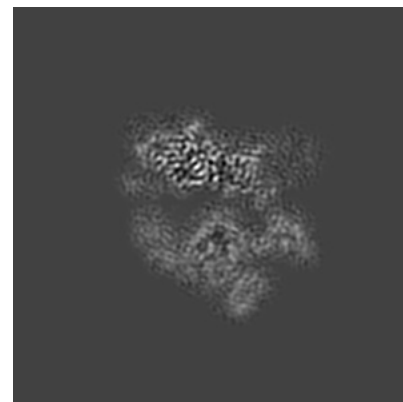
6.3.2 Raw map
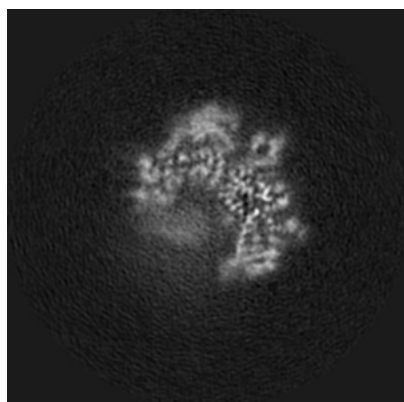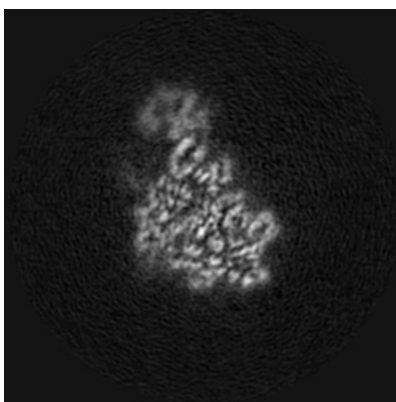
X Index: 83	Y Index: 118	Z Index: 99
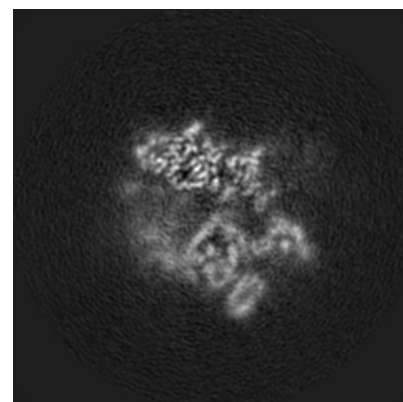
The images above show the largest variance slices of the map in three orthogonal directions.

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

6.4.1 Primary map
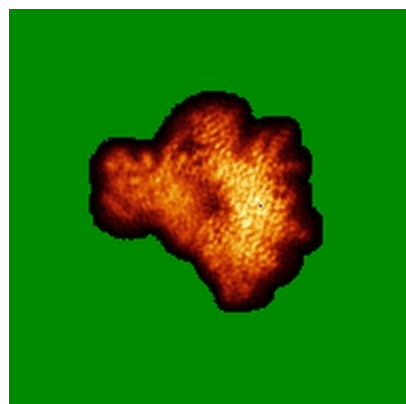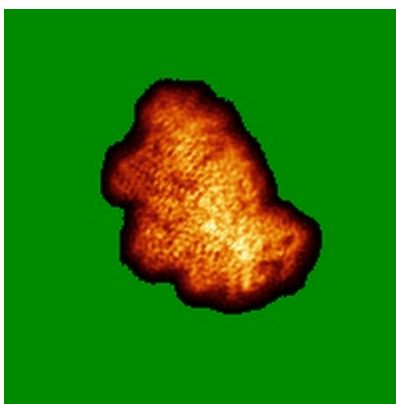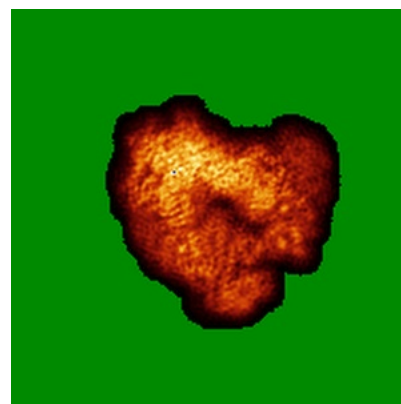
| X | Y | Z |

6.4.2 Raw map

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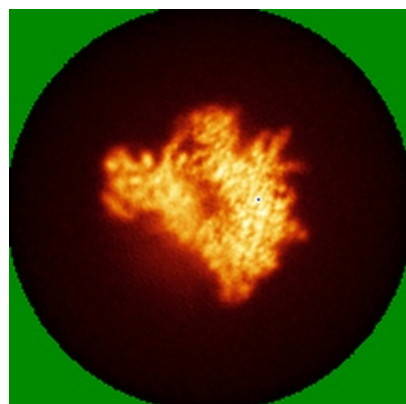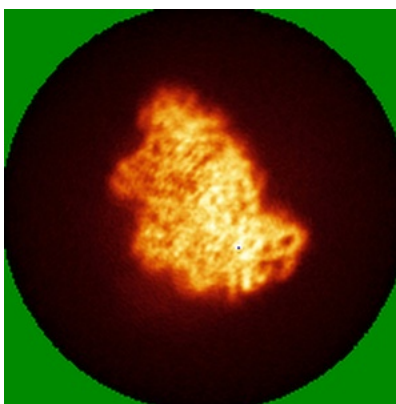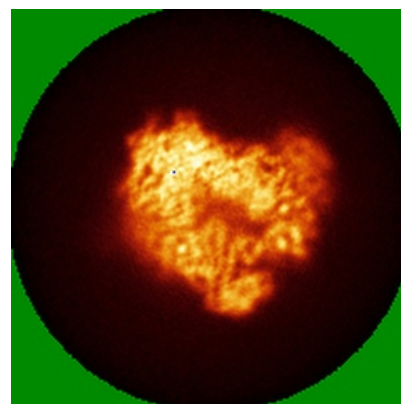
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views (i)

6.5.1 Primary map

| X | Y | Z |
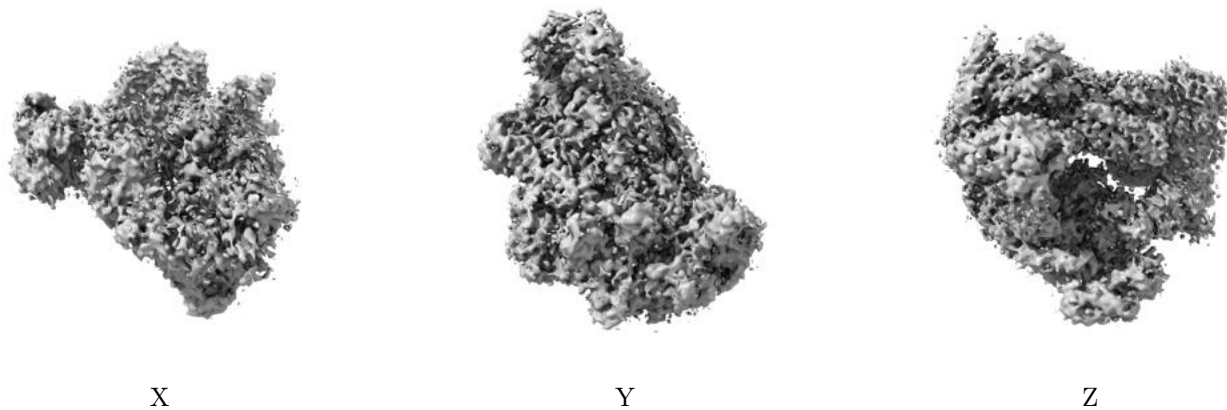
The images above show the 3D surface view of the map at the recommended contour level 0.0154. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map

| X | Y | Z |
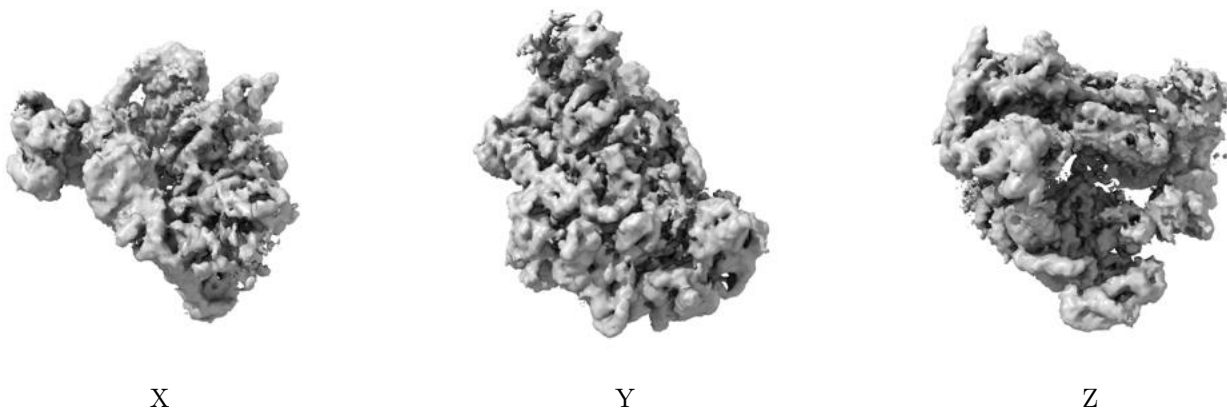
These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

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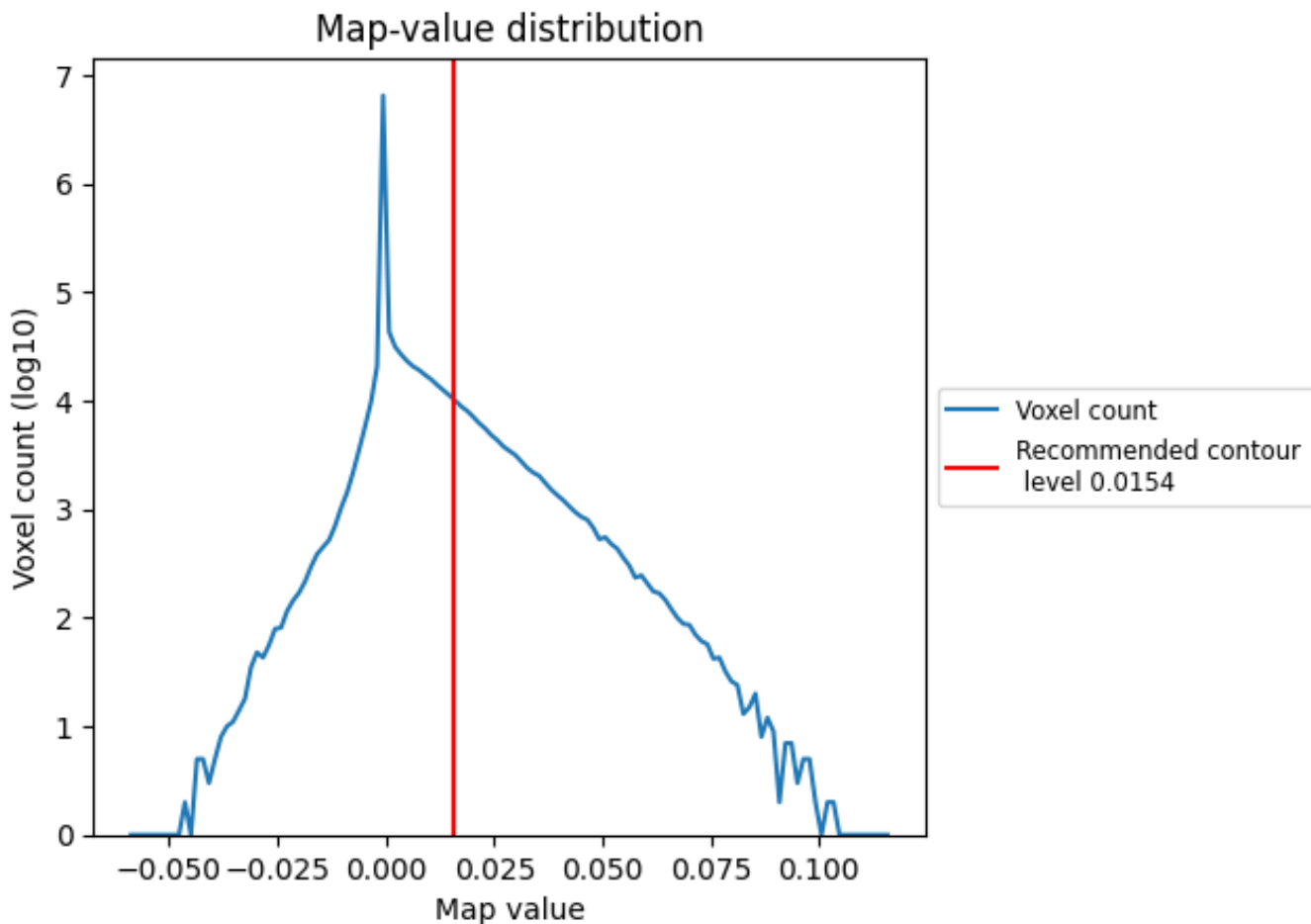
The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

7.2 Volume estimate ⓘ
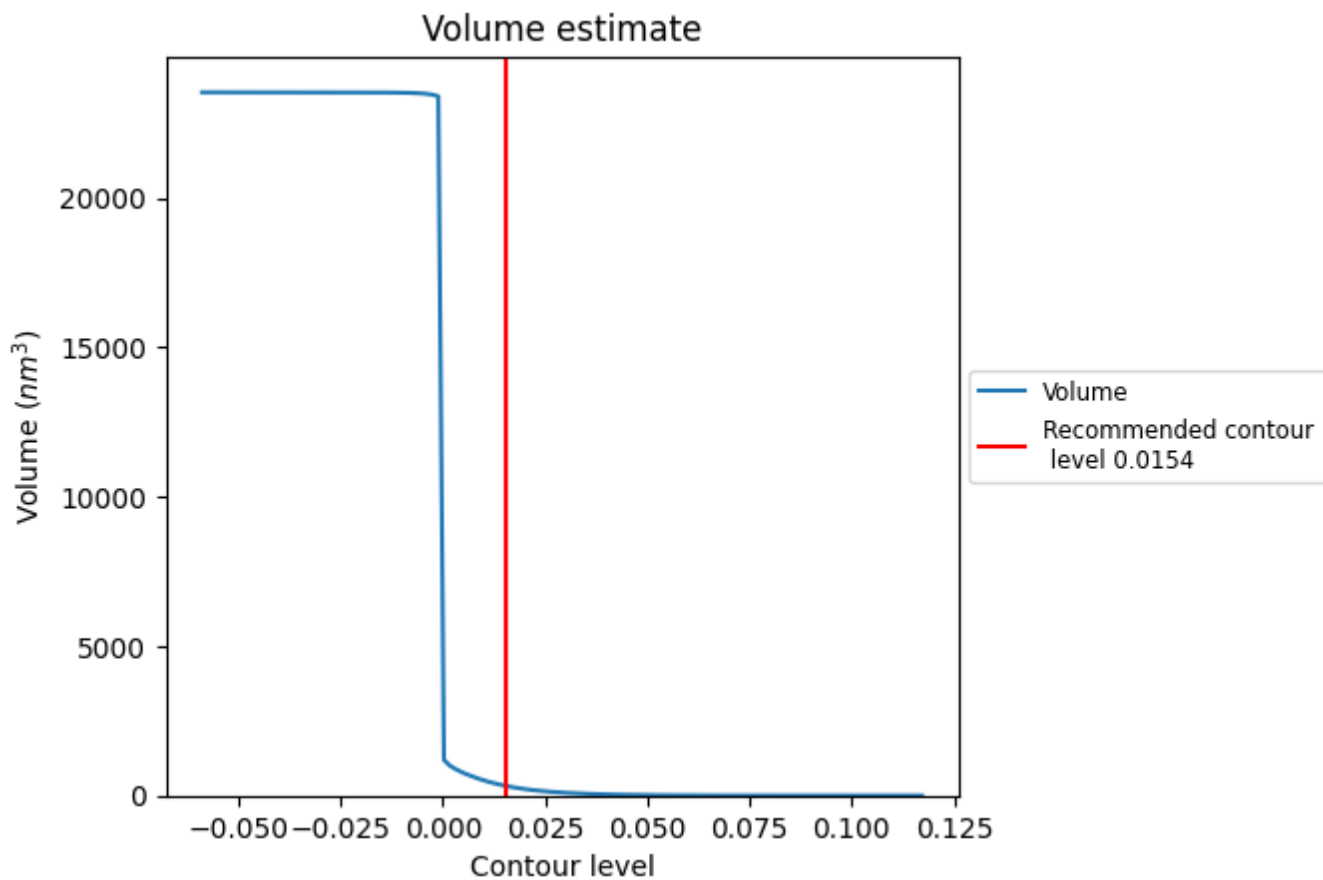
The volume at the recommended contour level is 324 nm³; this corresponds to an approximate mass of 293 kDa.

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 ⓘ
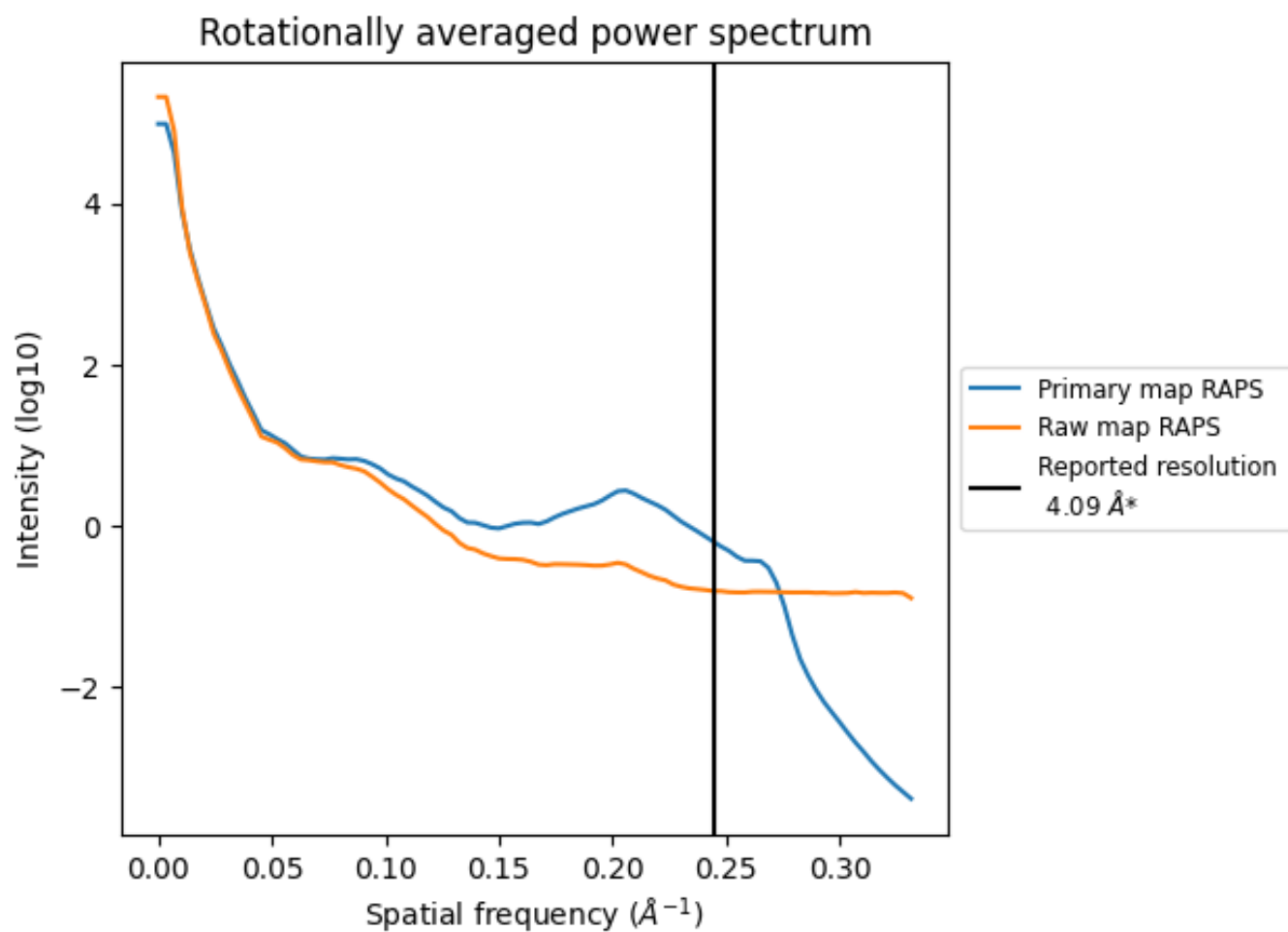
*Reported resolution corresponds to spatial frequency of 0.244 Å^{-1}

8　Fourier-Shell correlation ⓘ

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

8.1　FSC ⓘ
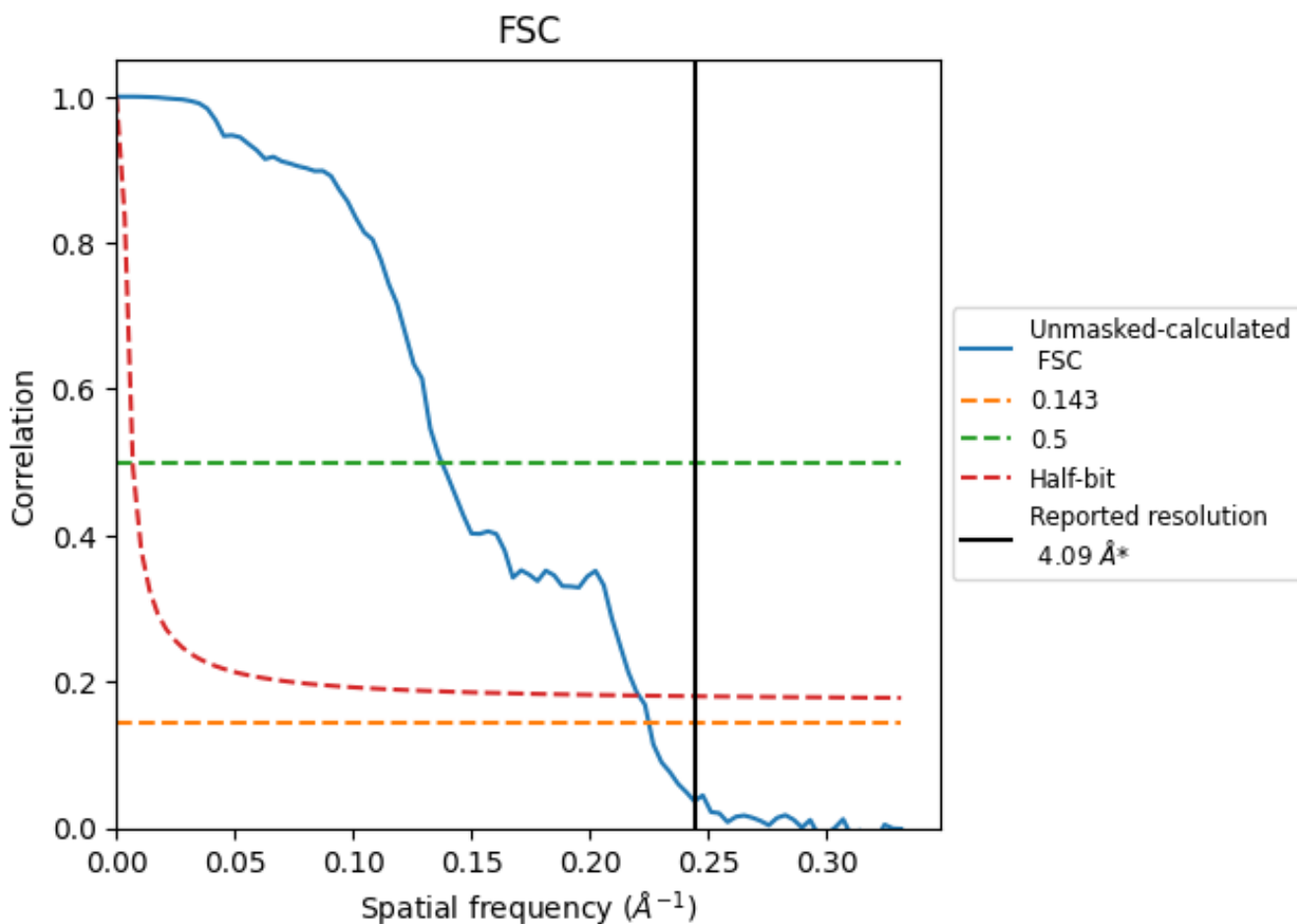
*Reported resolution corresponds to spatial frequency of 0.244 Å^{-1}

8.2 Resolution estimates (i)

Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	4.09	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	4.45	7.28	4.53

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

9 Map-model fit ⓘ

This section contains information regarding the fit between EMDB map EMD-15135 and PDB model 8A43. Per-residue inclusion information can be found in section 3 on page 6.

9.1 Map-model overlay ⓘ
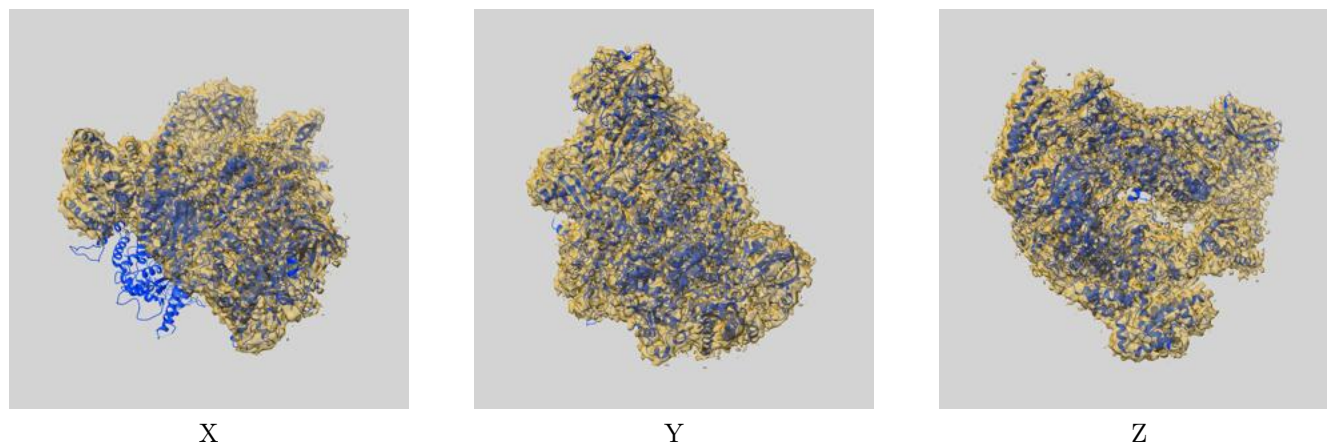
| X | Y | Z |

The images above show the 3D surface view of the map at the recommended contour level 0.0154 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model ⓘ

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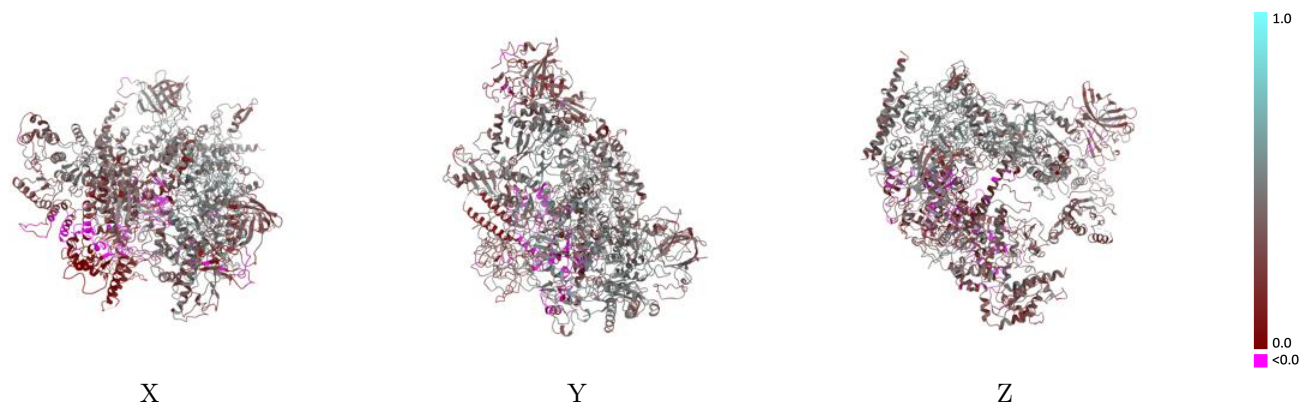
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

9.3 Atom inclusion mapped to coordinate model ⓘ

X   Y   Z
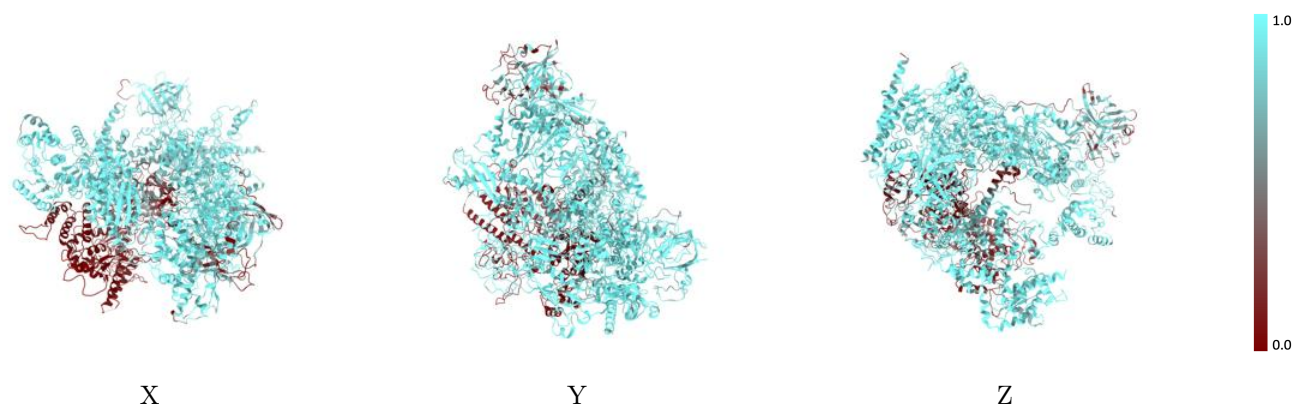
The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.0154).

9.4　Atom inclusion ⓘ
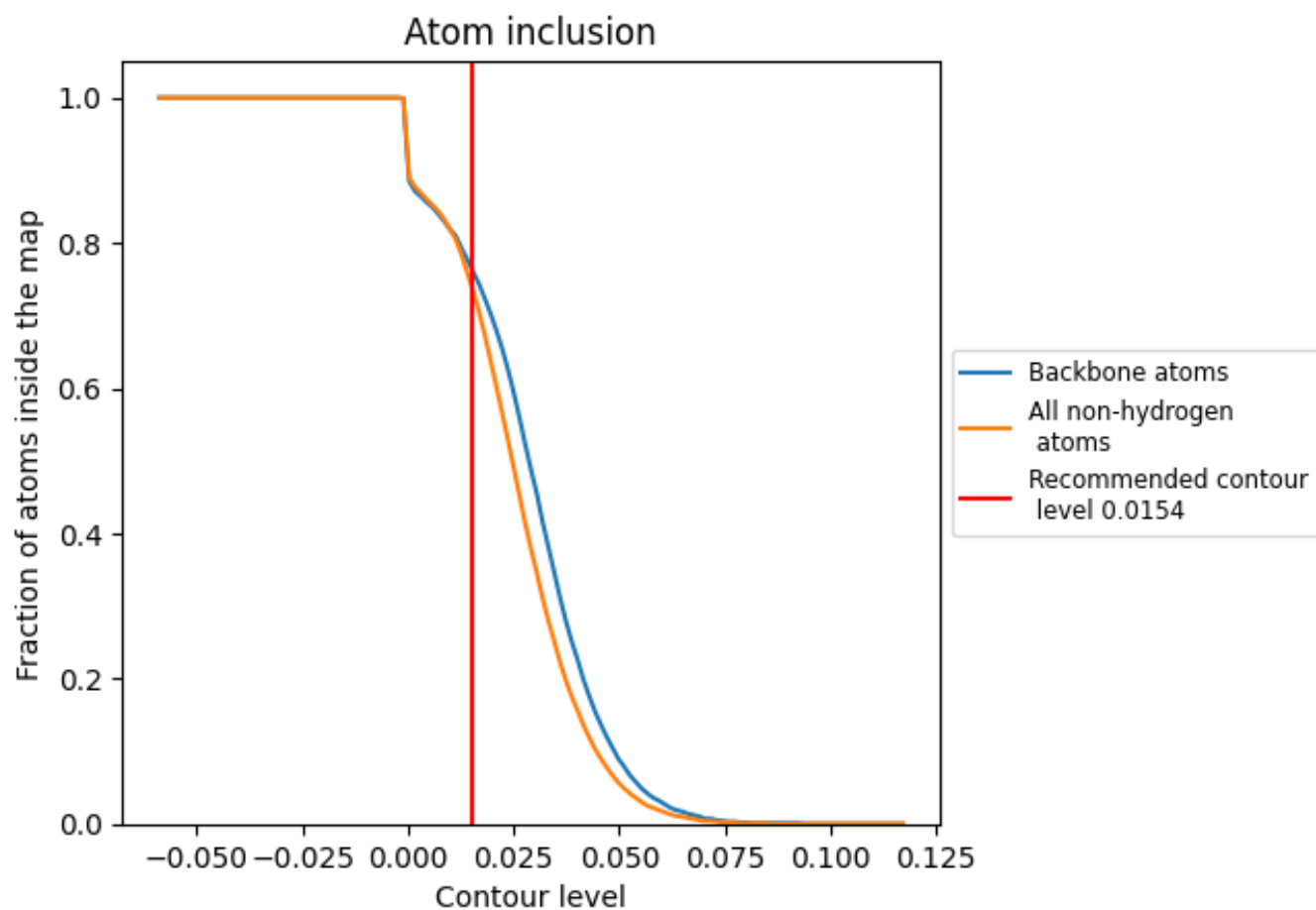
At the recommended contour level, 76% of all backbone atoms, 74% of all non-hydrogen atoms, are inside the map.

9.5   Map-model fit summary (i)

The table lists the average atom inclusion at the recommended contour level (0.0154) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7350	0.3370
A	0.5680	0.2480
B	0.8330	0.4060
C	0.9440	0.4530
E	0.9310	0.3660
F	0.8210	0.3330
H	0.8910	0.3880
I	0.8860	0.3530
J	0.9570	0.4890
K	0.9230	0.4300
L	0.9380	0.4330
M	0.5550	0.2790
N	0.5380	0.2490

1.0

0.0
<0.0