WORLDWIDE
wwPDB
PROTEIN DATA BANK

Full wwPDB EM Validation Report (i)

Jun 25, 2025 – 04:11 AM JST

PDB ID	:	8WI9 / pdb_00008wi9
EMDB ID	:	EMD-37561
Title	:	Cryo- EM structure of Mycobacterium smegmatis 30S ribosomal subunit (body 2) of 70S ribosome, bS1 and RafH.
Authors	:	Kumar, N.; Sharma, S.; Kaushal, P.S.
Deposited on	:	2023-09-24
Resolution	:	3.50 Å(reported)
Based on initial model	:	8WHX

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 3.50 Å.

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

Metric	Percentile Ranks	Value
Clashscore		11
Ramachandran outliers		0
Sidechain outliers		0.4%
RNA backbone		0.58

Worse   *Better*

■ Percentile relative to all structures

▯ Percentile relative to all EM structures
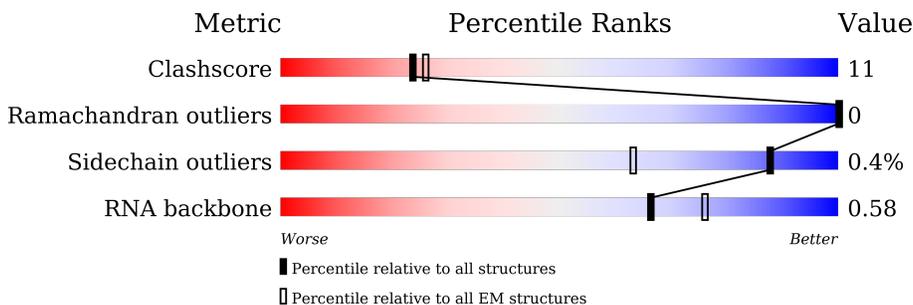
Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415
RNA backbone	6643	2191

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	1528	51% 41% 7% •
2	b	479	14% / 19% 14% 68%
3	v	33	79% 15% 6%
4	d	275	22% / 52% 22% • 25%
5	e	201	74% 25%
6	f	214	65% 13% 21%
7	g	96	69% 31%

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Mol	Chain	Length	Quality of chain
8	h	156	77% · 21% ·
9	i	132	73% · 26% ·
10	j	150	55% · 29% · 16%
11	k	101	19% · 51% · 28% · 21%
12	l	138	57% · 27% · 17%
13	m	124	79% · 19% ·
14	n	124	67% · 26% · 6%
15	o	61	67% · 31% ·
16	p	89	84% · 15% ·
17	q	156	53% · 19% · 28%
18	r	98	73% · 22% ·
19	s	84	63% · 14% · 23%
20	t	93	55% · 33% · 12%
21	u	86	88% · 9% ·
22	c	277	51% · 31% · 18%
23	x	11	18% · 82%
24	w	264	12% · 71% · 25% ·

2 Entry composition ⓘ

There are 24 unique types of molecules in this entry. The entry contains 54459 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 RNA chain called 16S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	a	1515	Total 32521	C 14485	N 5945	O 10576	P 1515	0	0

- Molecule 2 is a protein called 30S ribosomal protein bS1.

Mol	Chain	Residues	Atoms				AltConf	Trace
2	b	154	Total 1193	C 758	N 198	O 237	0	0

- Molecule 3 is a protein called 30S ribosomal protein S22.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	v	31	Total 271	C 166	N 69	O 35	S 1	0	0

- Molecule 4 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	d	207	Total 1656	C 1034	N 321	O 297	S 4	0	0

- Molecule 5 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	e	200	Total 1641	C 1028	N 316	O 295	S 2	0	0

- Molecule 6 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	f	168	Total 1223	C 769	N 230	O 220	S 4	0	0

- Molecule 7 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	g	96	Total 771	C 486	N 138	O 145	S 2	0	0

- Molecule 8 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	h	153	Total 1207	C 751	N 235	O 219	S 2	0	0

- Molecule 9 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	i	131	Total 1010	C 633	N 189	O 187	S 1	0	0

- Molecule 10 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms				AltConf	Trace
10	j	126	Total 994	C 630	N 194	O 170	0	0

- Molecule 11 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	k	80	Total 645	C 409	N 119	O 115	S 2	0	0

- Molecule 12 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	l	115	Total 855	C 528	N 170	O 156	S 1	0	0

- Molecule 13 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	m	121	Total 949	C 588	N 195	O 164	S 2	0	0

- Molecule 14 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	n	116	Total 935	C 572	N 191	O 169	S 3	0	0

- Molecule 15 is a protein called 30S ribosomal protein S14A.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	o	60	Total 477	C 302	N 97	O 73	S 5	0	0

- Molecule 16 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms				AltConf	Trace
16	p	88	Total 720	C 449	N 147	O 124	0	0

- Molecule 17 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms				AltConf	Trace
17	q	113	Total 891	C 570	N 162	O 159	0	0

- Molecule 18 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	r	94	Total 748	C 469	N 142	O 135	S 2	0	0

- Molecule 19 is a protein called 30S ribosomal protein S18B.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	s	65	Total 513	C 318	N 102	O 90	S 3	0	0

- Molecule 20 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	t	82	Total 662	C 425	N 124	O 112	S 1	0	0

- Molecule 21 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms				AltConf	Trace
21	u	85	Total 660	C 402	N 139	O 119	0	0

- Molecule 22 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	c	228	Total 1793	C 1132	N 322	O 330	S 9	0	0

- Molecule 23 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms				AltConf	Trace
23	x	11	Total 94	C 59	N 21	O 14	0	0

- Molecule 24 is a protein called Ribosome hibernation promotion factor RafH.

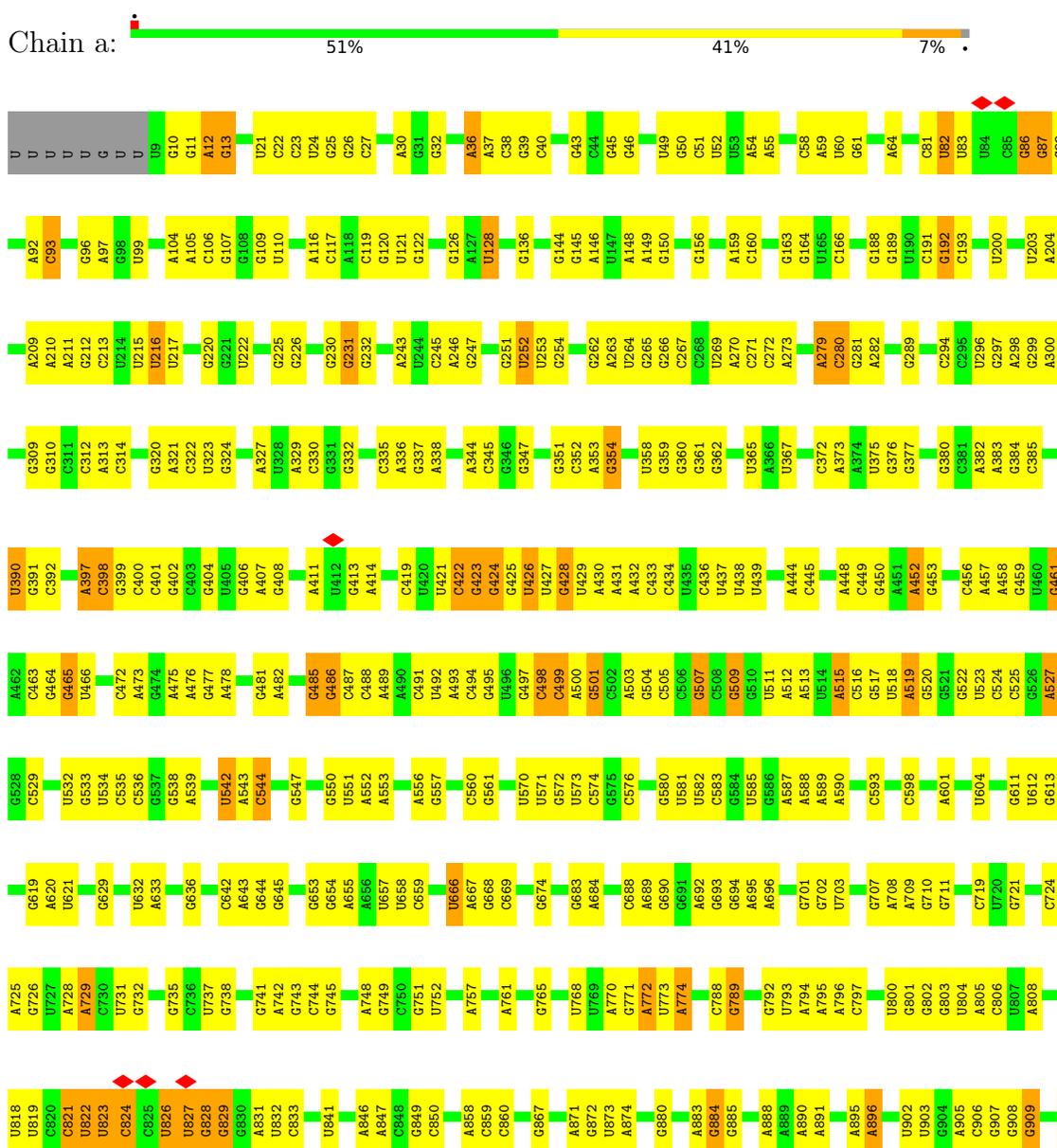| Mol	Chain	Residues	Atoms					AltConf	Trace
24	w	255	Total 2030	C 1273	N 387	O 364	S 6	0	0

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
w	259	HIS	-	expression tag	UNP A0QZ86
w	260	HIS	-	expression tag	UNP A0QZ86
w	261	HIS	-	expression tag	UNP A0QZ86
w	262	HIS	-	expression tag	UNP A0QZ86
w	263	HIS	-	expression tag	UNP A0QZ86
w	264	HIS	-	expression tag	UNP A0QZ86

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: 16S rRNA

This page contains a residue-level validation diagram for the RNA and protein chains.

• Molecule 2: 30S ribosomal protein bS1

Chain b:

14%

19%   14%   68%

ASN GLY SER SER ARG SER GLU GLU GLU SER SER GLY GLY THR LEU ALA ASP ALA GLN LEU ALA ALA LEU ARG GLU LYS LEU ALA GLY ASN ALA

• Molecule 3: 30S ribosomal protein S22

Chain v:

79% 15% 6%

MET G2 R8 R11 R22 Q27 K30 L31 G32 LYS

• Molecule 4: 30S ribosomal protein S3

22%

Chain d:

52% 22% • 25%

MET G2 N6 P7 H8 S20 R21 W22 Y23 A24 D25 K26 Q27 K33 E34 A37 I38 R39 K40 L41 L42 A43 T44 G45 L46 E47 R48 A49 G50 I51 A52 D53 V54 E55 R58 T59 R60 D61 R62 V63 R64 V65 D66 I67 H68 T69 A70 R71 P72 G73 I74 V75 I76 G77 R78

R79 G80 T81 E82 A83 D84 R85 I86 R87 A88 D89 L90 E91 K92 L93 T94 G95 K96 Q97 V98 Q99 L100 N101 I102 L103 E104 V105 K106 N107 P108 E109 A120 N125 R126 F129 R130 M133 R134 K135 A136 I137 Q138 S139 A140 M141 R142 Q143 P144 V151 S163 R172 H176

T177 A180 E188 A189 K190 R195 V200 I207 V208 GLY GLY LYS ARG GLU LEU ALA ALA ALA PRO ALA SER ASP PRO ARG ARG GLU ARG PRO SER GLY THR ARG PRO ARG ARG SER GLY SER ALA GLY THR THR ALA THR SER THR GLU ALA GLY ARG ALA ALA THR

SER ASP ALA PRO ALA ALA GLY THR ALA ALA ALA GLU ALA PRO ALA GLU SER THR GLU SER

• Molecule 5: 30S ribosomal protein S4

Chain e:

74% 25%

MET A2 P7 R10 R13 D23 Q24 S25 R47 Q48 Q49 L50 Q51 E52 K53 E64 K65 Q66 E73 R76 R87 E90 S91 D94 N95 Y98 R99 R104 T105 M108 A109 R110 H115 L119 G122 V132 Y135 I138 D139

L145 L148 I152 A153 R154 G158 E159 R160 P163 S164 W165 L166 I175 L176 V177 E182 Q185 I186 D187 V188 P189 L190 E197 L198 K201

• Molecule 6: 30S ribosomal protein S5

Chain f:

65% 13% 21%

MET ALA GLU GLN ALA GLY ALA GLY SER ALA GLN ASP ASN ARG GLY GLY ARG GLY ARG ARG ASP ASP ARG GLY GLY ARG ARG ASP GLY GLY ASP LYS SER N35 Y36 V50 K51 R54 I63 V64 G65 D66 G67 K68 V73 K77 A83 K87 E90 R93

R98 L101 A116 R122 V130 G133 G134 A135 A136 R137 V145 V162 V178 R181 A190 M194 E202 ALA LEU ALA ALA ALA ALA ALA ARG GLU GLY SER ALA
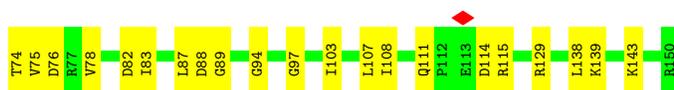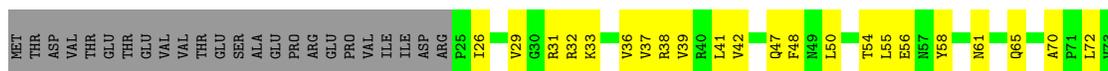
• Molecule 7: 30S ribosomal protein S6

Chain g:

69%　　31%

M1 R2 P3 Y4 V8 D11 P12 E16 V19 A20 P21 S22 L23 E24 L27 N28 V29 I30 D33 G34 G35 T36 K39 W43 G44 R45 I59 Y60 A61 V62 I63 T71 V72 N82 E83 S84 R87 H96

• Molecule 8: 30S ribosomal protein S7

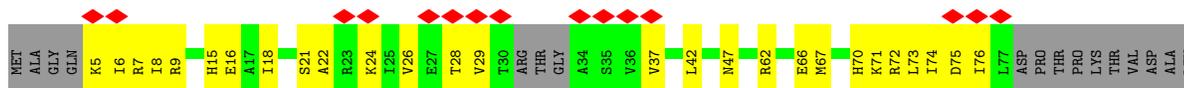Chain h:

77%　　21%

MET P2 R10 P11 L12 V17 Y18 Q21 L22 V23 V27 K36 R41 D57 P58 V59 L62 V69 K70 E74 R79 T84 Y85 Q86 V87 P88 S96 A100 R109 Q110 R111 R112 E113 M116 V117 E118 R119 K136 R137 R138 E139 N148

Y154 ARG TRP

• Molecule 9: 30S ribosomal protein S8

Chain i:

73%　　26%

MET T2 D5 F10 L11 T12 R15 N16 H22 T26 K31 N35 I36 L40 D48 Y49 R50 T51 E52 D53 A54 S59 L60 V61 V62 Q63 Y66 S73 G76 L77 R78 R79 V80 S81 K82 L98 L101 L112 E126 V131 W132

• Molecule 10: 30S ribosomal protein S9

Chain j:

55%　　29%　　16%

MET THR ASP VAL THR GLU THR GLU VAL VAL THR GLU SER ALA GLU PRO ARG GLU PRO VAL ILE ILE ASP ARG P25 I26 V29 G30 R31 R32 K33 V36 V37 R38 V39 R40 L41 V42 Q47 F48 N49 L50 T54 L55 E56 N57 Y58 N61 Q65 A70 P71 L72 V73

T74 V75 D76 R77 V78 D82 I83 L87 D88 G89 G94 G97 I103 L107 I108 Q111 P112 E113 D114 R115 R129 L138 K139 K143 R150

• Molecule 11: 30S ribosomal protein S10

Chain k:

19%

51%　　28%　　21%

MET ALA GLY GLN K5 I6 R7 I8 R9 H15 E16 A17 I18 S21 A22 R23 K24 I25 V26 E27 T28 V29 T30 ARG THR GLY A34 S35 V36 V37 L42 N47 R62 E66 M67 H70 K71 R72 L73 I74 D75 I76 L77 ASP PRO THR PRO LYS THR VAL ASP ALA LEU

MET ARG ILE ASP L92 S95 I100 Q101

• Molecule 12: 30S ribosomal protein S11

Chain l:

57%　　27%　　17%

MET ALA GLN ALA LYS LYS GLY GLY THR ALA ALA LYS LYS GLY GLN LYS THR ARG ARG GLU LYS K23 G28 A29 A30 K33 S34 T35 F36 N37 N38 T39 I43 T44 D45 P46 Q47 G48 N49 A52 W53 A54 S55 G63 K66 S67 A72 Q73 K82 A83 Q84

E85 V91 D92 V93 K96 G99 R102 I106 R107 S108 E115 V116 G117 T118 V122 T123 P124 H127 R137 VAL

• Molecule 13: 30S ribosomal protein S12

Chain m:

79%   19%

MET P2 Q5 Q6 L7 V8 G11 K18 R31 T35 L49 R50 R54 V55 K56 Q60 T64 L74 R83 V87 K88 D89 L90 I98 T104 R110 R114 E122 LYS SER

• Molecule 14: 30S ribosomal protein S13

Chain n:

67%   26%   6%

MET A2 R11 D12 M15 E16 L19 G24 R29 I33 L34 T37 G38 I39 M43 R44 T45 K46 D47 D51 Q52 V55 L56 R57 D58 Y59 I60 V66 D69 L70 R80 K81 I82 E83 I84 G89 L90 R91 V98 R115 T116 I117 ALA GLY

LYS LYS LYS ALA ARG

• Molecule 15: 30S ribosomal protein S14A

Chain o:

67%   31%

MET A2 K3 K4 H8 K9 A10 P14 K15 F16 R19 T22 R23 C24 N25 K26 C27 G28 R29 V33 Y34 R35 K36 C43 L44 R45 E46 M47 S60 W61

• Molecule 16: 30S ribosomal protein S15

Chain p:

84%   15%

MET A2 E6 H18 D21 T22 G23 E26 K34 D38 R65 V70 Y78 L81 I82 L87 R88 R89

• Molecule 17: 30S ribosomal protein S16

Chain q:

53%   19%   28%

MET A2 V3 K4 K12 I13 R14 Q17 I21 R26 V36 H41 P46 S47 I49 E54 P69 L73 I76 Q81 K82 G85 L86 P87 G88 A89 E90 L93 K94 V95 K96 E97 P100 L103 F106 N107 A108 E112 A113 E114 SER

GLY THR ALA ALA ALA THR THR PRO LYS LYS LYS ALA PRO LYS LYS ASP GLU ALA ALA GLU ALA PRO ALA GLU ALA GLU ALA PRO ALA GLU ALA ALA ASP ALA ALA SER GLU SER

• Molecule 18: 30S ribosomal protein S17

Chain r:

73% 22%

MET ALA ASP Q4 A12 K21 L48 D63 E64 N65 G66 E67 A68 G69 D72 R73 V74 M77 E78 P81 L82 S83 A84 T85 K86 R87 W88 R89 I93 L94 E95 K96 A97 LYS

• Molecule 19: 30S ribosomal protein S18B

Chain s:

63% 14% 23%

MET ALA LYS SER ASN LYS ARG ARG PRO ALA PRO GLU LYS PRO VAL LYS T17 R18 K19 K25 K26 G46 R51 N56 C57 H60 N70 A71 R72 E73 V74 S81 SER THR ARG

• Molecule 20: 30S ribosomal protein S19

Chain t:

55% 33% 12%

MET P2 R3 P9 F10 D13 H14 L15 L16 K17 K18 V19 D20 V21 Q22 K25 N26 T27 K28 Q29 K32 R36 R37 S38 T39 I40 I41 P42 D43 F44 I45 A50 V51 H52 R55 V62 M66 V67 K70 R78 H83 ILE LYS ASP ARG LYS SER

LYS ARG ARG

• Molecule 21: 30S ribosomal protein S20

Chain u:

88% 9%

MET A2 K5 R12 F35 V39 D45 K46 E49 L50 L51 L86

• Molecule 22: 30S ribosomal protein S2

Chain c:

51% 31% 18%

M1 T5 M6 K7 Q8 L9 L10 D11 S12 H15 F16 M27 I31 F32 D42 L43 Q44 Q45 T46 L47 T48 Y49 I50 D51 K52 F56 V57 K58 V61 L68 F69 V70 G71 T72 K73 K74 Q75 A76 Q77 E78 S79 I80 A81 E82 E83 A84 V87 G88 N93 Q94

L97 M100 L101 H108 K109 R110 L111 Q112 L117 E118 A119 M120 E121 Q122 T123 G124 G125 F126 E127 G128 R129 T130 K131 K132 E133 I134 K141 R146 I151 R152 D153 M154 Q155 K156 V157 W162 E169 L179 G180 I181 P182 I186 D194 D197 Y198 P199 I200

N203 D204 R208 A211 L212 L213 T214 K215 V221 A222 E223 G224 L225 Q226 A227 R228 ALA GLY GLN GLY SER GLY GLU LYS PRO ALA GLU GLY ALA GLU PRO LEU ALA GLU TRP GLU GLN GLU LEU LEU ALA GLY ALA THR ALA GLY ALA ALA ASP ALA SER ALA GLU GLY ALA ALA

ALA PRO GLU SER THR ASP ALA SER

• Molecule 23: 50S ribosomal protein L31

Chain x:

18% 82%

G56 R57 V58 A59 R60 F61 E62 K63 R64 Y65 G66

• Molecule 24: Ribosome hibernation promotion factor RafH

Chain w:

12%

71% 25%

M1 D4 E10 R28 A29 H30 D45 E49 R50 P51 A56 V72 R80 L81 R84 L85 A93 E94 H95 R99 W111 Y123 F124 P125 R126 P127 P128 R131 R132 I133 I134 R135 R136 S140 M141 V146 D147 E148 A149 A150 L151 E152 M153 E154

M155 H161 L162 F163 T164 E165 T168 G169 F170 A171 L174 Y175 K176 G177 G178 P179 T180 G181 Y182 R183 L184 V185 P189 V190 P191 A192 D193 E194 L195 S196 P197 F198 E199 K200 P201 I202 T203 I204 S205 T206 H207 P208 R220 L221 G222 F228 A234 A235 R238 A239 I242

Y243 R244 R245 Y246 D247 G248 H249 Y250 G251 L252 I253 T254 P255 ALA ASP GLY HIS HIS HIS HIS HIS HIS HIS

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	110934	Depositor
Resolution determination method	OTHER	Depositor
CTF correction method	NONE; CTF correction in RELION 3.1.4	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose $(e^-/\text{Å}^2)$	1.34	Depositor
Minimum defocus (nm)	1800	Depositor
Maximum defocus (nm)	3000	Depositor
Magnification	Not provided	
Image detector	FEI FALCON IV (4k x 4k)	Depositor
Maximum map value	0.196	Depositor
Minimum map value	-0.034	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.008	Depositor
Recommended contour level	0.04	Depositor
Map size (Å)	406.6, 406.6, 406.6	wwPDB
Map dimensions	380, 380, 380	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.07, 1.07, 1.07	Depositor

5   Model quality (i)

5.1   Standard geometry (i)

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	0.12	0/36400	0.26	0/56798
2	b	0.16	0/1201	0.48	0/1615
3	v	0.11	0/271	0.25	0/348
4	d	0.15	0/1680	0.37	1/2256 (0.0%)
5	e	0.12	0/1672	0.29	0/2251
6	f	0.12	0/1239	0.29	0/1673
7	g	0.14	0/782	0.36	0/1059
8	h	0.13	0/1225	0.36	1/1653 (0.1%)
9	i	0.12	0/1025	0.29	0/1385
10	j	0.16	0/1012	0.41	0/1362
11	k	0.15	0/655	0.44	0/883
12	l	0.15	0/873	0.38	0/1180
13	m	0.12	0/960	0.31	0/1283
14	n	0.14	0/942	0.40	0/1260
15	o	0.15	0/488	0.37	0/650
16	p	0.12	0/729	0.27	0/977
17	q	0.14	0/908	0.36	0/1226
18	r	0.12	0/759	0.32	0/1016
19	s	0.12	0/518	0.28	0/693
20	t	0.14	0/680	0.37	0/915
21	u	0.16	0/663	0.40	0/882
22	c	0.14	0/1822	0.40	1/2457 (0.0%)
23	x	0.16	0/95	0.44	0/123
24	w	0.14	0/2078	0.33	0/2816
All	All	0.13	0/58677	0.30	3/86761 (0.0%)

There are no bond length outliers.

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
22	c	182	PRO	CA-N-CD	-8.07	100.70	112.00
8	h	58	PRO	CA-N-CD	-8.05	100.73	112.00
4	d	108	PRO	CA-N-CD	-6.87	102.38	112.00

There are no chirality outliers.

There are no planarity outliers.

5.2   Too-close contacts   (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	a	32521	0	16366	481	0
2	b	1193	0	1238	48	0
3	v	271	0	329	5	0
4	d	1656	0	1704	44	0
5	e	1641	0	1668	40	0
6	f	1223	0	1287	22	0
7	g	771	0	797	21	0
8	h	1207	0	1259	22	0
9	i	1010	0	1046	26	0
10	j	994	0	1050	35	0
11	k	645	0	672	23	0
12	l	855	0	863	26	0
13	m	949	0	1032	16	0
14	n	935	0	986	27	0
15	o	477	0	503	18	0
16	p	720	0	760	9	0
17	q	891	0	935	26	0
18	r	748	0	795	15	0
19	s	513	0	540	9	0
20	t	662	0	677	25	0
21	u	660	0	712	6	0
22	c	1793	0	1839	66	0
23	x	94	0	95	8	0
24	w	2030	0	2023	66	0
All	All	54459	0	39176	977	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 11.

All (977) 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)
24:w:124:PHE:CD2	24:w:126:ARG:HG2	1.76	1.20
1:a:1232:A:H62	1:a:1268:C:N4	1.44	1.15
1:a:1232:A:N6	1:a:1268:C:H42	1.46	1.12
24:w:124:PHE:HD2	24:w:126:ARG:HG2	1.14	0.96
24:w:126:ARG:HG3	24:w:247:ASP:O	1.66	0.95
1:a:82:U:H3	1:a:87:G:H1	0.92	0.91
1:a:728:A:O2'	1:a:729:A:N7	2.07	0.86
1:a:745:G:H1	1:a:792:G:HO2'	1.25	0.84
1:a:83:U:O2	1:a:86:G:O6	1.96	0.84
2:b:128:GLY:HA3	2:b:142:ILE:HG22	1.61	0.83
1:a:644:G:H22	1:a:721:G:H1	1.28	0.81
24:w:124:PHE:HD2	24:w:126:ARG:CG	1.93	0.81
24:w:124:PHE:CD2	24:w:126:ARG:CG	2.63	0.78
24:w:128:PRO:HA	24:w:131:ARG:HG3	1.65	0.78
1:a:149:A:N6	1:a:166:C:O2	2.19	0.76
1:a:936:G:H21	1:a:1208:A:H62	1.34	0.75
1:a:1338:G:H2'	1:a:1339:A:H8	1.52	0.75
2:b:34:ASN:OD1	2:b:35:ASP:N	2.19	0.75
18:r:64:GLU:OE1	18:r:64:GLU:N	2.19	0.75
4:d:86:ILE:HD13	4:d:100:LEU:HD13	1.67	0.75
10:j:37:VAL:HG22	10:j:87:LEU:HD22	1.69	0.74
4:d:62:ARG:HH12	4:d:64:ARG:HB2	1.52	0.74
24:w:124:PHE:HE2	24:w:126:ARG:CD	2.00	0.74
2:b:66:ARG:HH22	2:b:72:HIS:HA	1.50	0.74
24:w:124:PHE:CE2	24:w:126:ARG:HG2	2.23	0.74
1:a:772:A:O2'	1:a:774:A:N7	2.20	0.73
11:k:21:SER:HA	11:k:24:LYS:NZ	2.04	0.73
1:a:1106:U:OP1	11:k:7:ARG:NH2	2.23	0.72
2:b:120:LYS:HZ2	2:b:176:LEU:HD22	1.54	0.72
14:n:39:ILE:HG12	14:n:52:GLN:HG2	1.72	0.72
2:b:135:LYS:HB2	24:w:155:MET:HG2	1.71	0.71
1:a:437:U:HO2'	5:e:115:HIS:HD1	1.36	0.71
2:b:79:VAL:HG12	2:b:80:VAL:HG23	1.71	0.71
4:d:139:SER:OG	4:d:142:ARG:NH2	2.24	0.71
2:b:22:PHE:CE1	2:b:26:ILE:HD11	2.25	0.71
1:a:11:G:H1	6:f:122:ARG:HH11	1.39	0.71
2:b:130:VAL:HA	2:b:140:LEU:HA	1.73	0.71
24:w:245:ARG:HE	24:w:249:HIS:HB2	1.55	0.71
22:c:8:GLN:HG3	22:c:212:LEU:HD11	1.73	0.70
22:c:6:MET:SD	22:c:7:LYS:NZ	2.64	0.70
24:w:124:PHE:CE2	24:w:126:ARG:CD	2.75	0.70
1:a:598:C:O2	17:q:12:LYS:NZ	2.24	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:654:G:H2'	1:a:655:A:H8	1.56	0.70
6:f:63:ILE:HD12	6:f:73:VAL:HG22	1.73	0.70
11:k:67:MET:HE1	15:o:36:LYS:HD3	1.73	0.70
1:a:693:G:H2'	1:a:694:G:C8	2.26	0.70
1:a:666:U:H1'	12:l:53:TRP:HE1	1.56	0.69
1:a:481:G:OP1	13:m:114:ARG:NH2	2.25	0.69
1:a:1349:C:O2'	11:k:62:ARG:NH2	2.25	0.69
17:q:103:LEU:O	17:q:107:ASN:ND2	2.26	0.69
1:a:653:G:H2'	1:a:654:G:C8	2.27	0.69
20:t:41:ILE:HG22	20:t:43:ASP:H	1.57	0.69
1:a:297:G:N2	1:a:300:A:OP2	2.24	0.68
1:a:452:A:H62	17:q:94:LYS:H	1.39	0.68
8:h:12:LEU:O	8:h:21:GLN:NE2	2.26	0.68
1:a:1231:A:H2'	1:a:1232:A:C8	2.30	0.67
2:b:100:LEU:HD12	2:b:102:LEU:HD21	1.77	0.67
1:a:83:U:O2	1:a:86:G:C6	2.47	0.67
9:i:50:ARG:HH12	9:i:63:GLN:HE22	1.41	0.67
2:b:115:THR:O	2:b:119:LEU:HG	1.94	0.67
18:r:21:LYS:HB2	18:r:78:GLU:HG3	1.75	0.66
1:a:985:G:H2'	1:a:986:G:C8	2.30	0.66
1:a:1018:C:H2'	1:a:1019:U:C6	2.31	0.66
7:g:28:ASN:OD1	7:g:29:VAL:N	2.29	0.66
21:u:45:ASP:N	21:u:45:ASP:OD1	2.28	0.66
1:a:1199:C:H2'	1:a:1200:A:H8	1.58	0.66
1:a:1338:G:H2'	1:a:1339:A:C8	2.31	0.66
1:a:517:G:OP1	13:m:110:ARG:NH2	2.28	0.66
1:a:1017:C:H2'	1:a:1018:C:C6	2.30	0.66
1:a:485:G:H2'	1:a:486:G:C8	2.31	0.66
1:a:1057:G:N2	1:a:1060:A:OP2	2.25	0.66
1:a:1199:C:H2'	1:a:1200:A:C8	2.31	0.66
1:a:25:G:H2'	1:a:26:G:C8	2.31	0.65
20:t:25:LYS:HE2	20:t:27:THR:HB	1.77	0.65
2:b:129:THR:O	2:b:141:ASP:N	2.30	0.65
1:a:1014:U:H2'	1:a:1015:G:C8	2.31	0.65
1:a:1051:C:H2'	1:a:1052:G:H8	1.62	0.65
1:a:1015:G:H2'	1:a:1016:G:H8	1.59	0.65
8:h:116:MET:HE2	8:h:116:MET:HA	1.78	0.65
1:a:593:C:OP1	5:e:76:ARG:NH1	2.27	0.65
5:e:49:GLN:HB3	5:e:198:LEU:HB2	1.78	0.65
24:w:131:ARG:HD2	24:w:250:TYR:CZ	2.31	0.65
1:a:427:U:OP1	5:e:13:ARG:NH2	2.30	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:940:A:OP1	20:t:55:ARG:NH1	2.29	0.65
1:a:1010:C:N4	1:a:1014:U:H3	1.94	0.65
1:a:203:U:H2'	1:a:204:A:H8	1.62	0.64
1:a:1027:G:HO2'	1:a:1196:G:HO2'	1.45	0.64
1:a:489:A:H8	1:a:523:U:HO2'	1.45	0.64
15:o:26:LYS:HD3	15:o:27:CYS:HB3	1.78	0.64
9:i:40:LEU:HD21	9:i:131:VAL:HG11	1.80	0.64
24:w:131:ARG:O	24:w:249:HIS:ND1	2.29	0.64
1:a:694:G:H2'	1:a:695:A:C8	2.32	0.64
2:b:117:GLU:HA	2:b:120:LYS:HG2	1.80	0.64
17:q:86:LEU:HB2	17:q:87:PRO:HD3	1.80	0.64
22:c:32:PHE:HB2	22:c:42:ASP:HB2	1.79	0.63
1:a:1261:A:OP1	11:k:9:ARG:NH1	2.24	0.63
17:q:46:PRO:HG3	17:q:96:LYS:HD3	1.80	0.63
10:j:72:LEU:HD23	10:j:107:LEU:HD11	1.81	0.63
24:w:161:HIS:HE1	24:w:163:PHE:HB3	1.62	0.63
1:a:1303:U:O2'	20:t:78:ARG:NH2	2.32	0.63
1:a:1410:C:H2'	1:a:1411:A:H8	1.63	0.63
4:d:99:GLN:NE2	4:d:101:ASN:OD1	2.31	0.63
17:q:90:GLU:N	17:q:90:GLU:OE2	2.30	0.63
1:a:873:U:H2'	1:a:874:A:H8	1.64	0.63
24:w:153:MET:HE3	24:w:161:HIS:HB3	1.80	0.63
1:a:411:A:C4	1:a:413:G:H1'	2.34	0.63
10:j:26:ILE:HD11	10:j:41:LEU:HB3	1.81	0.63
14:n:33:ILE:O	14:n:37:THR:HG22	1.99	0.63
1:a:1506:U:H2'	1:a:1507:G:H8	1.63	0.62
1:a:209:A:N3	1:a:222:U:O2'	2.29	0.62
2:b:143:GLY:O	2:b:144:LEU:HD23	2.00	0.62
1:a:312:C:H2'	1:a:313:A:H8	1.64	0.62
5:e:197:GLU:OE1	6:f:137:ARG:NH2	2.25	0.62
1:a:401:C:O2'	1:a:601:A:N3	2.30	0.62
1:a:1407:U:H2'	1:a:1408:A:C8	2.35	0.62
1:a:1522:C:H2'	1:a:1523:C:O4'	2.00	0.62
1:a:144:G:H2'	1:a:145:G:C8	2.35	0.62
1:a:803:G:HO2'	9:i:2:THR:N	1.96	0.62
1:a:402:G:OP1	5:e:66:GLN:NE2	2.33	0.62
1:a:872:G:O2'	1:a:888:A:N6	2.32	0.62
22:c:6:MET:SD	22:c:6:MET:N	2.73	0.62
11:k:6:ILE:HG13	11:k:76:ILE:HD11	1.81	0.62
14:n:51:ASP:OD1	14:n:52:GLN:N	2.33	0.62
15:o:16:PHE:HD1	15:o:19:ARG:HG3	1.65	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:c:186:ILE:HG22	22:c:200:ILE:HB	1.82	0.62
1:a:362:G:N2	1:a:365:U:OP2	2.33	0.61
18:r:73:ARG:HB2	18:r:95:GLU:HG3	1.81	0.61
11:k:21:SER:HA	11:k:24:LYS:HZ2	1.62	0.61
11:k:42:LEU:HB2	11:k:71:LYS:HB2	1.83	0.61
1:a:38:C:H2'	1:a:39:G:H8	1.66	0.61
1:a:692:A:H2'	1:a:693:G:C8	2.35	0.61
1:a:485:G:H2'	1:a:486:G:H8	1.64	0.61
1:a:983:C:H2'	1:a:984:A:C8	2.35	0.61
4:d:39:ARG:NH1	4:d:54:VAL:O	2.34	0.61
14:n:58:ASP:OD1	14:n:59:TYR:N	2.33	0.61
1:a:1219:A:H5'	1:a:1318:C:H41	1.66	0.61
1:a:961:C:O2	15:o:19:ARG:HD2	2.00	0.61
1:a:1231:A:N3	1:a:1353:G:O2'	2.31	0.61
1:a:1410:C:H2'	1:a:1411:A:C8	2.36	0.61
17:q:54:GLU:OE2	17:q:54:GLU:N	2.24	0.61
19:s:46:GLY:O	19:s:72:ARG:NH2	2.34	0.60
1:a:880:G:N2	1:a:883:A:OP2	2.34	0.60
1:a:928:A:H2'	1:a:929:G:C8	2.36	0.60
1:a:669:C:OP1	12:l:55:SER:OG	2.19	0.60
20:t:19:VAL:HG21	20:t:44:PHE:HE1	1.64	0.60
1:a:826:U:H4'	19:s:19:LYS:HE2	1.83	0.60
4:d:20:SER:OG	4:d:22:TRP:NE1	2.35	0.60
19:s:57:CYS:SG	19:s:60:HIS:ND1	2.74	0.60
1:a:21:U:H2'	1:a:22:C:C6	2.36	0.60
24:w:49:GLU:HG2	24:w:50:ARG:HG3	1.84	0.60
1:a:561:G:OP1	16:p:65:ARG:NH1	2.29	0.60
20:t:29:GLN:OE1	20:t:29:GLN:N	2.35	0.60
10:j:54:THR:HG23	10:j:56:GLU:H	1.67	0.59
18:r:72:ASP:OD2	18:r:96:LYS:NZ	2.33	0.59
9:i:48:ASP:OD1	9:i:49:TYR:N	2.35	0.59
24:w:126:ARG:HB2	24:w:248:GLY:HA3	1.83	0.59
11:k:8:ILE:HD13	11:k:100:ILE:HG12	1.84	0.59
2:b:140:LEU:HD21	2:b:169:ILE:HG22	1.85	0.59
9:i:10:PHE:HD2	9:i:36:ILE:HD11	1.68	0.59
22:c:47:LEU:HA	22:c:50:ILE:HG22	1.83	0.59
1:a:1149:C:O2'	1:a:1150:A:OP2	2.20	0.59
7:g:83:GLU:OE2	7:g:83:GLU:N	2.26	0.59
1:a:269:U:H2'	1:a:270:A:C8	2.38	0.58
4:d:27:GLN:N	4:d:27:GLN:OE1	2.35	0.58
13:m:74:LEU:HD21	13:m:104:THR:HB	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:u:46:LYS:HA	21:u:49:GLU:OE1	2.02	0.58
22:c:72:THR:N	22:c:169:GLU:OE2	2.31	0.58
1:a:1040:U:OP1	15:o:45:ARG:NH2	2.32	0.58
1:a:826:U:H2'	1:a:828:G:H5'	1.85	0.58
7:g:12:PRO:O	7:g:45:ARG:NH2	2.35	0.58
7:g:44:GLY:HA2	7:g:60:TYR:H	1.68	0.58
1:a:1324:C:H2'	1:a:1325:G:H8	1.68	0.58
9:i:26:THR:HG23	9:i:61:VAL:HG22	1.85	0.58
1:a:1359:U:O4	8:h:10:ARG:NH1	2.35	0.58
6:f:83:ALA:O	6:f:87:LYS:HG3	2.03	0.58
6:f:130:VAL:O	6:f:137:ARG:NH2	2.36	0.58
10:j:114:ASP:OD1	10:j:114:ASP:N	2.30	0.58
1:a:748:A:H4'	1:a:1507:G:N2	2.18	0.58
1:a:1342:A:OP2	15:o:35:ARG:NH2	2.37	0.58
1:a:1517:C:H5'	1:a:1518:A:H5'	1.86	0.58
1:a:1521:U:H3	24:w:124:PHE:HA	1.67	0.58
1:a:21:U:H2'	1:a:22:C:H6	1.69	0.58
24:w:56:ALA:HB2	24:w:81:LEU:HD21	1.86	0.58
1:a:525:C:OP1	5:e:53:LYS:NZ	2.32	0.58
1:a:1383:C:H1'	24:w:84:ARG:HD3	1.86	0.58
1:a:92:A:O2'	1:a:93:C:O5'	2.22	0.58
1:a:380:G:N2	1:a:383:A:OP2	2.33	0.58
1:a:654:G:H2'	1:a:655:A:C8	2.38	0.58
1:a:688:C:H2'	1:a:689:A:H8	1.68	0.58
1:a:953:G:N2	1:a:1346:A:OP1	2.28	0.58
14:n:39:ILE:HD12	14:n:39:ILE:H	1.69	0.58
20:t:13:ASP:O	20:t:17:LYS:HG3	2.03	0.58
1:a:1329:G:O6	10:j:32:ARG:NH2	2.36	0.57
20:t:32:LYS:HA	20:t:50:ALA:HB3	1.85	0.57
1:a:1130:C:H2'	1:a:1131:G:C8	2.38	0.57
1:a:312:C:H2'	1:a:313:A:C8	2.39	0.57
5:e:73:GLU:OE1	5:e:76:ARG:NH2	2.35	0.57
5:e:104:ARG:H	5:e:108:MET:HE2	1.69	0.57
1:a:1061:G:N7	6:f:77:LYS:NZ	2.52	0.57
1:a:642:C:H2'	1:a:643:A:C8	2.39	0.57
1:a:1159:G:OP1	10:j:115:ARG:NH1	2.37	0.57
5:e:94:ASP:OD1	5:e:95:ASN:N	2.38	0.57
1:a:49:U:H2'	1:a:50:G:C8	2.39	0.57
20:t:39:THR:HG22	20:t:70:LYS:HE2	1.84	0.57
1:a:82:U:O2	1:a:87:G:N2	2.28	0.57
1:a:461:G:O2'	1:a:463:C:N4	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:b:127:LYS:HD3	2:b:128:GLY:N	2.20	0.57
11:k:8:ILE:HB	11:k:74:ILE:HB	1.87	0.57
24:w:185:VAL:HG22	24:w:205:SER:HB2	1.87	0.57
1:a:1324:C:H2'	1:a:1325:G:C8	2.39	0.56
1:a:1120:G:H4'	1:a:1121:G:H5'	1.87	0.56
1:a:272:C:H2'	1:a:273:A:H8	1.68	0.56
1:a:890:A:H2'	1:a:891:A:H8	1.71	0.56
1:a:920:A:N3	1:a:1359:U:O2'	2.31	0.56
1:a:1418:G:H2'	1:a:1419:C:C6	2.41	0.56
17:q:81:GLN:O	17:q:85:GLY:N	2.37	0.56
1:a:92:A:H1'	1:a:93:C:H5	1.69	0.56
1:a:226:G:H5"	18:r:12:ALA:HB2	1.88	0.56
1:a:1491:A:H2'	1:a:1492:G:C8	2.41	0.56
4:d:58:ARG:HG3	4:d:63:VAL:HG22	1.87	0.56
1:a:1508:C:H2'	1:a:1509:G:H8	1.69	0.56
22:c:58:LYS:HG2	22:c:223:GLU:OE1	2.06	0.56
24:w:124:PHE:CE2	24:w:126:ARG:CG	2.89	0.56
1:a:695:A:H2'	1:a:696:A:C8	2.41	0.56
4:d:137:ILE:O	4:d:141:MET:HG2	2.05	0.56
5:e:87:ARG:O	5:e:91:SER:OG	2.24	0.56
15:o:16:PHE:CD1	15:o:19:ARG:HG3	2.41	0.56
22:c:83:GLU:HG3	22:c:214:THR:HB	1.88	0.56
4:d:69:THR:HG22	4:d:102:ILE:HD11	1.87	0.56
24:w:123:TYR:HD1	24:w:124:PHE:O	1.88	0.56
24:w:124:PHE:CE2	24:w:126:ARG:HD3	2.40	0.56
1:a:804:U:H2'	1:a:805:A:H8	1.69	0.56
1:a:884:G:H2'	1:a:885:G:H8	1.70	0.56
1:a:975:G:O2'	1:a:976:A:N7	2.37	0.56
22:c:45:GLN:HA	22:c:48:THR:HG22	1.86	0.56
1:a:1159:G:N2	1:a:1162:G:OP2	2.38	0.56
4:d:109:GLU:OE1	4:d:139:SER:OG	2.19	0.56
7:g:27:LEU:O	7:g:30:ILE:HG13	2.06	0.56
2:b:173:ILE:HD12	2:b:183:VAL:HG22	1.88	0.55
1:a:806:C:O2	9:i:16:ASN:ND2	2.39	0.55
22:c:121:GLU:OE1	22:c:122:GLN:NE2	2.39	0.55
1:a:1138:A:H62	1:a:1159:G:H21	1.55	0.55
1:a:1380:C:OP2	6:f:54:ARG:NH2	2.39	0.55
12:l:52:ALA:HB1	12:l:82:LYS:HB3	1.88	0.55
20:t:15:LEU:HA	20:t:18:LYS:HB2	1.86	0.55
24:w:124:PHE:HE2	24:w:126:ARG:HD2	1.69	0.55
1:a:1349:C:HO2'	11:k:62:ARG:HH22	1.52	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:b:69:SER:HB3	2:b:74:VAL:HG21	1.89	0.55
12:l:47:GLN:N	12:l:47:GLN:OE1	2.38	0.55
1:a:819:U:H3	1:a:829:G:H1	1.54	0.55
12:l:99:GLY:HA2	12:l:102:ARG:HD3	1.87	0.55
22:c:156:LYS:HD2	22:c:157:VAL:HG12	1.88	0.55
1:a:632:U:O4	1:a:732:G:O2'	2.22	0.55
1:a:1034:C:O2'	24:w:45:ASP:OD2	2.25	0.55
2:b:66:ARG:NH2	2:b:72:HIS:HA	2.21	0.55
7:g:21:PRO:O	7:g:24:GLU:HB3	2.06	0.55
1:a:859:C:OP1	9:i:82:LYS:NZ	2.30	0.55
5:e:132:VAL:HG11	5:e:177:VAL:HG21	1.88	0.55
5:e:145:LEU:O	5:e:154:ARG:NH2	2.40	0.55
22:c:57:VAL:O	22:c:61:VAL:HG12	2.06	0.55
24:w:182:TYR:HB2	24:w:202:ILE:HG22	1.88	0.55
1:a:1010:C:H42	1:a:1014:U:H3	1.49	0.55
4:d:87:ARG:O	4:d:91:GLU:HG2	2.06	0.55
5:e:197:GLU:OE2	6:f:130:VAL:N	2.39	0.55
1:a:87:G:H2'	1:a:88:G:H8	1.72	0.54
1:a:928:A:H2'	1:a:929:G:H8	1.71	0.54
1:a:1160:A:OP2	10:j:115:ARG:NH2	2.39	0.54
1:a:1266:U:O2'	1:a:1267:U:OP1	2.25	0.54
1:a:49:U:H2'	1:a:50:G:H8	1.71	0.54
1:a:1375:G:N2	1:a:1486:A:H8	2.06	0.54
5:e:7:PRO:HB2	5:e:10:ARG:HG3	1.88	0.54
8:h:138:ARG:NH1	8:h:139:GLU:OE2	2.39	0.54
1:a:10:G:OP2	1:a:10:G:N2	2.41	0.54
1:a:1300:A:OP1	20:t:3:ARG:NH2	2.34	0.54
1:a:1517:C:C5'	1:a:1518:A:H5'	2.36	0.54
22:c:79:SER:O	22:c:82:GLU:HG3	2.07	0.54
24:w:189:PRO:HD3	24:w:208:PRO:HB3	1.88	0.54
1:a:1044:G:O2'	1:a:1171:G:N2	2.39	0.54
1:a:404:G:OP2	5:e:110:ARG:NH1	2.40	0.54
1:a:858:A:H1'	9:i:12:THR:HG21	1.90	0.54
2:b:23:LEU:HA	2:b:26:ILE:HD12	1.90	0.54
14:n:19:LEU:HD13	14:n:33:ILE:HD11	1.90	0.54
24:w:136:ARG:HH21	24:w:254:THR:HG21	1.72	0.54
1:a:82:U:O4	1:a:87:G:O6	2.25	0.54
1:a:294:C:OP1	1:a:590:A:O2'	2.23	0.54
1:a:358:U:H2'	1:a:359:G:H8	1.73	0.54
1:a:936:G:H21	1:a:1208:A:N6	2.03	0.54
1:a:1457:G:H2'	1:a:1458:G:C8	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:d:53:ASP:OD1	4:d:54:VAL:N	2.40	0.54
6:f:190:ALA:HB1	6:f:194:MET:HE2	1.90	0.54
7:g:44:GLY:HA3	7:g:59:ILE:HG23	1.90	0.54
12:l:43:ILE:HG13	12:l:83:ALA:HB2	1.89	0.54
1:a:13:G:H5'	6:f:133:GLY:HA3	1.89	0.54
1:a:1232:A:H62	1:a:1268:C:H42	0.69	0.54
1:a:1407:U:H2'	1:a:1408:A:H8	1.73	0.54
16:p:6:GLU:CD	16:p:6:GLU:H	2.15	0.54
1:a:1305:G:H2'	1:a:1306:A:C8	2.43	0.54
22:c:118:GLU:O	22:c:122:GLN:HG2	2.07	0.54
22:c:182:PRO:HD2	22:c:182:PRO:O	2.08	0.54
8:h:69:VAL:HG23	8:h:100:ALA:HB1	1.89	0.54
1:a:544:C:C4	18:r:48:LEU:HD11	2.43	0.54
1:a:1296:C:H2'	1:a:1297:U:C6	2.44	0.54
2:b:174:ILE:HD12	2:b:184:VAL:HG12	1.90	0.54
4:d:62:ARG:NH1	4:d:64:ARG:HB2	2.22	0.54
1:a:390:U:H2'	1:a:391:G:C8	2.43	0.53
1:a:1220:A:H62	1:a:1281:A:N6	2.06	0.53
1:a:1269:A:H2	1:a:1335:G:H1'	1.73	0.53
2:b:58:LYS:HD3	2:b:59:THR:HB	1.90	0.53
7:g:8:VAL:HG22	7:g:61:ALA:HB3	1.89	0.53
19:s:17:THR:OG1	19:s:18:ARG:N	2.39	0.53
5:e:135:TYR:HB3	17:q:106:PHE:HB2	1.90	0.53
22:c:51:ASP:OD1	22:c:52:LYS:N	2.41	0.53
22:c:156:LYS:HD2	22:c:157:VAL:N	2.23	0.53
1:a:32:G:O2'	1:a:296:U:OP1	2.26	0.53
1:a:725:A:OP1	1:a:833:C:O2'	2.24	0.53
1:a:407:A:H2'	1:a:408:G:H8	1.72	0.53
1:a:1508:C:H2'	1:a:1509:G:C8	2.43	0.53
10:j:33:LYS:HG3	10:j:33:LYS:O	2.08	0.53
12:l:37:ASN:HA	12:l:67:SER:HB3	1.90	0.53
22:c:117:LEU:HB3	22:c:141:LYS:HE2	1.91	0.53
1:a:163:G:H2'	1:a:164:G:H8	1.73	0.53
1:a:452:A:N6	17:q:94:LYS:H	2.07	0.53
1:a:1244:G:O6	1:a:1254:G:N2	2.41	0.53
1:a:1497:A:H2'	1:a:1498:C:C6	2.43	0.53
5:e:189:PRO:O	5:e:190:LEU:HG	2.09	0.53
10:j:82:ASP:C	10:j:83:ILE:HD13	2.33	0.53
24:w:133:ILE:HG22	24:w:250:TYR:HB2	1.91	0.53
1:a:895:A:H4'	1:a:896:A:O5'	2.09	0.53
1:a:1458:G:H2'	1:a:1459:G:O4'	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:b:45:LYS:HZ1	22:c:75:GLN:HA	1.74	0.53
11:k:15:HIS:O	11:k:18:ILE:HG22	2.09	0.53
22:c:44:GLN:OE1	22:c:44:GLN:N	2.40	0.53
1:a:99:U:OP1	21:u:12:ARG:NH1	2.42	0.53
1:a:1265:U:OP2	1:a:1266:U:O2'	2.17	0.53
1:a:604:U:O2'	17:q:17:GLN:OE1	2.24	0.52
2:b:91:LEU:HB2	2:b:101:ILE:HG22	1.91	0.52
24:w:10:GLU:N	24:w:10:GLU:OE1	2.42	0.52
1:a:481:G:H2'	1:a:482:A:C8	2.44	0.52
1:a:498:C:H4'	1:a:499:C:O5'	2.10	0.52
1:a:504:G:H2'	1:a:505:C:C6	2.44	0.52
10:j:42:VAL:HG23	10:j:82:ASP:HB3	1.92	0.52
10:j:88:ASP:N	10:j:88:ASP:OD1	2.41	0.52
24:w:126:ARG:HH21	24:w:249:HIS:CE1	2.27	0.52
1:a:45:G:H2'	1:a:46:G:H8	1.73	0.52
1:a:337:G:H2'	1:a:338:A:H8	1.74	0.52
1:a:979:U:H2'	1:a:980:G:H8	1.75	0.52
13:m:35:THR:N	13:m:54:ARG:O	2.43	0.52
24:w:161:HIS:CE1	24:w:163:PHE:HB3	2.42	0.52
2:b:26:ILE:HG21	22:c:10:LEU:HD22	1.92	0.52
20:t:22:GLN:HA	20:t:25:LYS:HZ2	1.75	0.52
1:a:145:G:O2'	1:a:1429:A:N3	2.39	0.52
1:a:1296:C:H2'	1:a:1297:U:H6	1.74	0.52
6:f:68:LYS:O	6:f:98:ARG:NH2	2.43	0.52
24:w:4:ASP:OD1	24:w:4:ASP:N	2.38	0.52
1:a:60:U:H2'	1:a:61:G:H8	1.75	0.52
1:a:570:U:OP1	9:i:31:LYS:HG3	2.10	0.52
1:a:489:A:H8	1:a:523:U:O2'	1.93	0.52
1:a:1440:A:H3'	1:a:1441:G:H8	1.75	0.52
6:f:135:ALA:HB1	6:f:162:VAL:HG23	1.92	0.52
1:a:819:U:H3	1:a:829:G:H22	1.57	0.52
1:a:930:C:H2'	1:a:931:A:H8	1.75	0.52
1:a:1414:C:H2'	1:a:1415:G:O4'	2.10	0.52
22:c:211:ALA:O	22:c:215:LYS:HG2	2.09	0.52
6:f:64:VAL:HG11	6:f:93:ARG:HG3	1.91	0.51
1:a:654:G:H21	12:l:127:HIS:HB2	1.75	0.51
12:l:85:GLU:N	12:l:85:GLU:OE1	2.43	0.51
22:c:56:PHE:CG	22:c:198:TYR:HE2	2.29	0.51
1:a:926:G:N1	1:a:1320:G:OP2	2.43	0.51
1:a:1273:C:OP1	8:h:41:ARG:NH1	2.44	0.51
1:a:1337:A:H2'	1:a:1338:G:C8	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1374:U:H2'	1:a:1375:G:C8	2.45	0.51
8:h:70:LYS:HG2	8:h:96:SER:HB2	1.93	0.51
8:h:113:GLU:HB2	8:h:119:ARG:HG2	1.93	0.51
14:n:16:GLU:N	14:n:16:GLU:OE1	2.43	0.51
17:q:49:ILE:HB	17:q:93:LEU:HD11	1.92	0.51
22:c:108:HIS:O	22:c:112:GLN:HG2	2.10	0.51
1:a:890:A:H2'	1:a:891:A:C8	2.46	0.51
1:a:1486:A:H2	1:a:1489:G:H1	1.59	0.51
6:f:178:VAL:HG21	9:i:101:LEU:HD13	1.93	0.51
1:a:322:C:H2'	1:a:323:U:C6	2.46	0.51
1:a:571:U:H2'	1:a:572:G:H8	1.75	0.51
18:r:74:VAL:HG12	18:r:93:ILE:HG23	1.92	0.51
1:a:83:U:C2	1:a:86:G:O6	2.62	0.51
1:a:494:C:H2'	1:a:495:G:H8	1.75	0.51
22:c:97:LEU:H	22:c:100:MET:HE3	1.75	0.51
1:a:413:G:O2'	1:a:428:G:N2	2.42	0.51
1:a:1003:C:H2'	1:a:1004:G:C8	2.45	0.51
2:b:59:THR:HG21	2:b:99:ARG:HA	1.92	0.51
8:h:79:ARG:HG2	8:h:84:THR:HG23	1.93	0.51
1:a:987:A:H2'	1:a:988:C:C6	2.46	0.51
8:h:109:ARG:HA	8:h:116:MET:HE1	1.93	0.51
11:k:18:ILE:HG12	11:k:72:ARG:HG2	1.93	0.51
1:a:399:G:H2'	1:a:400:C:C6	2.46	0.50
1:a:481:G:H2'	1:a:482:A:H8	1.75	0.50
1:a:1305:G:HO2'	1:a:1344:C:HO2'	1.54	0.50
8:h:116:MET:HE2	8:h:119:ARG:HE	1.76	0.50
22:c:44:GLN:HA	22:c:47:LEU:HD12	1.92	0.50
1:a:444:A:H2'	1:a:445:C:C6	2.45	0.50
1:a:832:U:H2'	1:a:833:C:C6	2.46	0.50
1:a:1168:G:N2	15:o:60:SER:OG	2.44	0.50
1:a:1066:U:H3	1:a:1079:G:H22	1.58	0.50
22:c:42:ASP:HB3	22:c:45:GLN:OE1	2.11	0.50
23:x:57:ARG:O	23:x:57:ARG:HD3	2.11	0.50
1:a:507:G:O2'	1:a:515:A:N1	2.37	0.50
1:a:804:U:H2'	1:a:805:A:C8	2.46	0.50
4:d:64:ARG:NH2	4:d:66:ASP:OD2	2.43	0.50
24:w:242:ILE:HG12	24:w:252:LEU:HD13	1.92	0.50
1:a:424:G:H2'	1:a:425:G:H8	1.77	0.50
1:a:298:A:H2'	1:a:299:G:C8	2.47	0.50
3:v:8:ARG:HA	3:v:11:ARG:HG2	1.94	0.50
12:l:91:VAL:O	12:l:117:GLY:N	2.31	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:w:146:VAL:HB	24:w:198:PHE:HB3	1.93	0.50
1:a:407:A:H2'	1:a:408:G:C8	2.47	0.50
4:d:34:GLU:OE2	4:d:58:ARG:NE	2.45	0.50
5:e:166:LEU:HD23	5:e:177:VAL:HG22	1.94	0.50
22:c:132:LYS:H	22:c:132:LYS:HD2	1.77	0.50
24:w:51:PRO:HD2	24:w:72:VAL:HA	1.92	0.50
24:w:245:ARG:NE	24:w:249:HIS:HB2	2.26	0.50
1:a:472:C:H2'	1:a:473:A:C8	2.47	0.49
1:a:1063:U:O2'	1:a:1082:A:OP2	2.25	0.49
1:a:1337:A:H2'	1:a:1338:G:H8	1.76	0.49
10:j:70:ALA:O	10:j:74:THR:HG22	2.12	0.49
13:m:50:ARG:NH1	13:m:89:ASP:OD2	2.43	0.49
18:r:67:GLU:OE1	18:r:67:GLU:N	2.38	0.49
1:a:724:C:H2'	1:a:725:A:H8	1.77	0.49
1:a:1110:A:H61	1:a:1125:G:H1'	1.78	0.49
1:a:1278:C:H4'	1:a:1284:U:O4	2.11	0.49
1:a:1298:G:N1	1:a:1301:A:OP2	2.42	0.49
22:c:87:VAL:HG11	22:c:221:VAL:HG13	1.93	0.49
1:a:25:G:H2'	1:a:26:G:H8	1.74	0.49
1:a:587:A:OP1	1:a:611:G:N2	2.40	0.49
7:g:30:ILE:HG22	7:g:71:THR:HG22	1.94	0.49
1:a:320:G:H2'	1:a:321:A:C8	2.47	0.49
12:l:63:GLY:O	12:l:66:LYS:HG2	2.12	0.49
15:o:22:THR:HB	15:o:33:VAL:HG11	1.94	0.49
22:c:77:GLN:O	22:c:80:ILE:HG12	2.11	0.49
1:a:30:A:H61	1:a:538:G:H1'	1.78	0.49
1:a:128:U:O2'	1:a:262:G:N3	2.45	0.49
2:b:30:ILE:HG12	22:c:16:PHE:HZ	1.78	0.49
8:h:23:VAL:O	8:h:27:VAL:HG13	2.12	0.49
11:k:26:VAL:HA	11:k:29:VAL:HG22	1.93	0.49
1:a:203:U:H2'	1:a:204:A:C8	2.46	0.49
9:i:10:PHE:CD2	9:i:36:ILE:HD11	2.48	0.49
24:w:177:GLY:H	24:w:182:TYR:HA	1.78	0.49
1:a:254:G:OP1	18:r:85:THR:OG1	2.30	0.49
1:a:501:G:N7	13:m:50:ARG:NH2	2.60	0.49
8:h:57:ASP:OD1	8:h:59:VAL:N	2.44	0.49
22:c:5:THR:OG1	22:c:6:MET:SD	2.69	0.49
1:a:1295:U:H2'	1:a:1296:C:C6	2.47	0.49
5:e:176:LEU:HB3	17:q:106:PHE:HE1	1.78	0.49
1:a:636:G:N2	16:p:23:GLY:HA3	2.27	0.49
19:s:51:ARG:NH1	19:s:56:ASN:O	2.43	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:859:C:H2'	1:a:860:C:H6	1.78	0.48
12:l:28:GLY:HA2	12:l:46:PRO:HD3	1.94	0.48
12:l:73:GLN:HG3	12:l:108:SER:OG	2.13	0.48
20:t:62:VAL:HA	20:t:66:MET:SD	2.53	0.48
1:a:522:G:H2'	1:a:523:U:C6	2.48	0.48
1:a:525:C:H5'	5:e:64:GLU:HB2	1.96	0.48
1:a:805:A:H2'	1:a:806:C:C6	2.49	0.48
1:a:891:A:N3	1:a:1396:A:O2'	2.45	0.48
1:a:1522:C:H5'	1:a:1522:C:H6	1.78	0.48
5:e:148:LEU:O	5:e:152:ILE:HG22	2.14	0.48
9:i:12:THR:HG22	9:i:15:ARG:HH12	1.78	0.48
12:l:117:GLY:O	24:w:220:ARG:NH2	2.40	0.48
14:n:43:MET:HE2	14:n:47:ASP:HB2	1.96	0.48
1:a:252:U:H2'	1:a:253:U:C6	2.49	0.48
1:a:498:C:H5"	1:a:499:C:C6	2.48	0.48
17:q:54:GLU:H	17:q:54:GLU:CD	2.16	0.48
1:a:299:G:H2'	1:a:300:A:C8	2.48	0.48
2:b:164:TYR:HD1	2:b:167:LYS:HE2	1.78	0.48
2:b:172:LYS:O	2:b:185:LEU:HD22	2.13	0.48
4:d:33:LYS:HG2	15:o:25:ASN:HD22	1.79	0.48
1:a:674:G:H22	1:a:768:U:H5'	1.78	0.48
1:a:1295:U:H2'	1:a:1296:C:H6	1.79	0.48
18:r:77:MET:SD	18:r:89:ARG:NH2	2.86	0.48
1:a:252:U:H2'	1:a:253:U:H6	1.78	0.48
1:a:1265:U:H5"	1:a:1266:U:H4'	1.95	0.48
1:a:1281:A:H2'	1:a:1281:A:N3	2.29	0.48
2:b:148:LEU:HD22	2:b:153:VAL:HG22	1.96	0.48
1:a:527:A:OP2	5:e:2:ALA:N	2.47	0.48
1:a:534:U:H2'	1:a:535:C:H6	1.79	0.48
1:a:1521:U:H3	24:w:125:PRO:HD3	1.79	0.48
3:v:27:GLN:HA	3:v:30:LYS:HD3	1.95	0.48
4:d:129:PHE:HD2	4:d:133:MET:HE1	1.78	0.48
7:g:27:LEU:HD11	7:g:63:ILE:HD13	1.94	0.48
20:t:9:PRO:HD3	23:x:65:TYR:CD1	2.49	0.48
1:a:81:C:H3'	1:a:82:U:H5"	1.95	0.48
1:a:122:G:OP1	1:a:585:U:O2'	2.19	0.48
1:a:269:U:H2'	1:a:270:A:H8	1.79	0.48
14:n:12:ASP:OD1	14:n:44:ARG:NE	2.36	0.48
22:c:79:SER:O	22:c:83:GLU:HG2	2.14	0.48
1:a:23:C:H5"	6:f:116:ALA:HB3	1.94	0.48
1:a:422:C:H4'	1:a:423:G:O5'	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:425:G:H2'	1:a:426:U:C6	2.49	0.48
1:a:263:A:H2'	1:a:264:U:C6	2.49	0.47
1:a:707:G:N2	1:a:710:G:OP2	2.40	0.47
1:a:1287:G:H22	1:a:1313:G:H1'	1.79	0.47
5:e:182:GLU:HB2	5:e:185:GLN:HE21	1.78	0.47
14:n:80:ARG:HA	14:n:83:GLU:HG3	1.96	0.47
1:a:1203:G:OP2	1:a:1304:C:N4	2.43	0.47
18:r:83:SER:O	18:r:87:ARG:NH1	2.47	0.47
1:a:54:A:O2'	1:a:360:G:N2	2.47	0.47
9:i:76:GLY:HA3	9:i:132:TRP:CE2	2.49	0.47
12:l:102:ARG:O	12:l:106:ILE:HG13	2.14	0.47
14:n:52:GLN:O	14:n:56:LEU:HD22	2.13	0.47
1:a:324:G:N1	1:a:327:A:OP2	2.48	0.47
5:e:47:ARG:NH1	5:e:51:GLN:OE1	2.47	0.47
6:f:87:LYS:O	6:f:90:GLU:HG3	2.13	0.47
7:g:87:ARG:NH1	19:s:73:GLU:O	2.48	0.47
13:m:56:LYS:HE3	13:m:60:GLN:HA	1.96	0.47
5:e:98:TYR:O	5:e:160:ARG:NH2	2.47	0.47
1:a:106:C:O2'	17:q:26:ARG:O	2.31	0.47
1:a:518:U:H2'	1:a:519:A:H8	1.79	0.47
1:a:805:A:H2'	1:a:806:C:H6	1.80	0.47
1:a:1138:A:H1'	1:a:1162:G:N2	2.29	0.47
1:a:1208:A:C8	20:t:83:HIS:CD2	3.02	0.47
4:d:25:ASP:OD1	4:d:25:ASP:N	2.48	0.47
4:d:177:THR:HG22	4:d:180:ALA:H	1.79	0.47
9:i:31:LYS:HB2	9:i:31:LYS:HE3	1.73	0.47
10:j:75:VAL:HG11	10:j:107:LEU:HD13	1.97	0.47
1:a:1222:G:H2'	1:a:1223:G:H8	1.79	0.47
4:d:6:ASN:OD1	4:d:8:HIS:N	2.47	0.47
7:g:4:TYR:CD2	7:g:72:VAL:HG21	2.49	0.47
1:a:1409:A:H2'	1:a:1410:C:H6	1.80	0.47
2:b:120:LYS:HE2	2:b:173:ILE:HG21	1.97	0.47
18:r:63:ASP:OD1	18:r:63:ASP:N	2.48	0.47
1:a:688:C:C2	1:a:689:A:C8	3.03	0.47
1:a:986:G:N2	1:a:987:A:N3	2.62	0.47
1:a:1086:G:H5"	4:d:172:ARG:HG2	1.97	0.47
11:k:72:ARG:HA	11:k:72:ARG:HD3	1.63	0.47
1:a:997:A:C2	1:a:1200:A:H1'	2.50	0.46
5:e:164:SER:OG	5:e:185:GLN:OE1	2.33	0.46
5:e:176:LEU:HB3	17:q:106:PHE:CE1	2.51	0.46
11:k:7:ARG:HD2	11:k:73:LEU:HD11	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:n:52:GLN:HA	14:n:55:VAL:HG12	1.97	0.46
14:n:91:ARG:HB3	14:n:98:VAL:HG12	1.95	0.46
1:a:582:U:H2'	1:a:583:C:C6	2.50	0.46
1:a:719:C:P	7:g:2:ARG:HH22	2.38	0.46
1:a:905:A:O2'	1:a:1382:C:OP2	2.31	0.46
1:a:956:A:OP1	15:o:29:ARG:NH2	2.48	0.46
1:a:1125:G:N2	1:a:1127:A:H62	2.13	0.46
9:i:50:ARG:NE	9:i:52:GLU:OE2	2.48	0.46
10:j:61:ASN:O	10:j:65:GLN:HG3	2.15	0.46
20:t:22:GLN:HA	20:t:25:LYS:NZ	2.30	0.46
1:a:230:G:H2'	1:a:231:G:O4'	2.15	0.46
1:a:858:A:H2'	1:a:859:C:C6	2.51	0.46
12:l:45:ASP:OD2	12:l:49:ASN:ND2	2.41	0.46
1:a:191:C:H2'	1:a:192:G:O4'	2.15	0.46
1:a:382:A:H2'	1:a:383:A:C8	2.51	0.46
1:a:481:G:H1'	1:a:529:C:H1'	1.96	0.46
1:a:927:G:C2	1:a:928:A:C8	3.02	0.46
1:a:1301:A:C8	1:a:1305:G:C6	3.04	0.46
8:h:136:LYS:HB3	8:h:136:LYS:HE3	1.68	0.46
11:k:47:ASN:O	11:k:66:GLU:HA	2.15	0.46
1:a:12:A:N6	5:e:197:GLU:O	2.49	0.46
12:l:39:THR:HG21	12:l:72:ALA:HB2	1.98	0.46
14:n:82:ILE:HA	14:n:89:GLY:HA2	1.98	0.46
17:q:82:LYS:HB2	17:q:89:ALA:HB2	1.97	0.46
24:w:183:ARG:HG3	24:w:203:THR:HG23	1.97	0.46
1:a:36:A:H2'	1:a:37:A:C8	2.50	0.46
1:a:384:G:H2'	1:a:385:C:C6	2.51	0.46
1:a:1042:U:H2'	1:a:1043:C:C6	2.51	0.46
1:a:1237:C:H2'	1:a:1259:G:N7	2.30	0.46
4:d:151:VAL:HG22	4:d:200:VAL:HG22	1.96	0.46
19:s:70:ASN:O	19:s:74:VAL:HG22	2.15	0.46
1:a:741:G:H2'	1:a:742:A:H8	1.81	0.46
1:a:1139:C:O3'	22:c:132:LYS:NZ	2.48	0.46
10:j:76:ASP:O	10:j:76:ASP:OD1	2.33	0.46
18:r:65:ASN:HB2	18:r:67:GLU:CD	2.40	0.46
20:t:67:VAL:O	23:x:57:ARG:NH1	2.47	0.46
1:a:667:A:C2	1:a:684:A:C5	3.04	0.46
1:a:741:G:H2'	1:a:742:A:C8	2.51	0.46
5:e:119:LEU:HD21	5:e:122:GLY:HA2	1.98	0.46
14:n:33:ILE:HG13	14:n:34:LEU:N	2.30	0.46
22:c:225:LEU:O	22:c:228:ARG:HG2	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:337:G:H2'	1:a:338:A:C8	2.51	0.46
1:a:936:G:H2'	1:a:937:A:C8	2.51	0.46
4:d:139:SER:O	4:d:142:ARG:NE	2.46	0.46
12:l:122:VAL:HG23	12:l:122:VAL:O	2.16	0.46
9:i:22:HIS:O	9:i:66:TYR:OH	2.27	0.46
22:c:9:LEU:O	22:c:12:SER:OG	2.34	0.46
1:a:360:G:H2'	1:a:361:G:C8	2.50	0.45
1:a:436:C:H2'	1:a:437:U:C6	2.52	0.45
1:a:823:U:O4	1:a:826:U:N3	2.44	0.45
1:a:1207:C:OP1	14:n:91:ARG:NH2	2.36	0.45
1:a:1359:U:H2'	1:a:1360:A:C8	2.51	0.45
1:a:1432:C:H2'	1:a:1433:C:C6	2.51	0.45
13:m:5:GLN:HA	13:m:8:VAL:HG22	1.98	0.45
14:n:24:GLY:HA3	14:n:66:VAL:HG12	1.97	0.45
15:o:43:CYS:O	15:o:47:MET:HG3	2.17	0.45
1:a:246:A:C2	1:a:282:A:C5	3.05	0.45
1:a:431:A:C4	1:a:432:A:C8	3.04	0.45
1:a:493:A:H2'	1:a:494:C:C6	2.50	0.45
1:a:1003:C:H2'	1:a:1004:G:H8	1.81	0.45
1:a:1043:C:OP2	1:a:1044:G:O2'	2.25	0.45
1:a:1218:C:O3'	1:a:1282:G:N2	2.47	0.45
10:j:26:ILE:HD12	10:j:26:ILE:O	2.17	0.45
1:a:335:C:H2'	1:a:336:A:H8	1.81	0.45
1:a:449:C:H2'	1:a:450:G:O4'	2.17	0.45
22:c:203:ASN:OD1	22:c:204:ASP:N	2.50	0.45
1:a:1076:C:H2'	1:a:1077:C:H6	1.82	0.45
1:a:1232:A:H2'	1:a:1233:A:C8	2.52	0.45
1:a:1494:C:OP1	3:v:11:ARG:HB3	2.16	0.45
7:g:33:ASP:OD2	7:g:71:THR:OG1	2.31	0.45
20:t:17:LYS:O	20:t:21:VAL:HG13	2.16	0.45
22:c:223:GLU:O	22:c:226:GLN:HG2	2.16	0.45
1:a:270:A:H2'	1:a:271:C:C6	2.51	0.45
2:b:133:VAL:HG21	2:b:165:ILE:HG12	1.98	0.45
9:i:11:LEU:HD22	9:i:77:LEU:HD22	1.98	0.45
20:t:16:LEU:O	20:t:19:VAL:HG22	2.17	0.45
22:c:119:ALA:O	22:c:123:THR:HG23	2.16	0.45
24:w:195:LEU:HD12	24:w:196:SER:H	1.81	0.45
1:a:384:G:H2'	1:a:385:C:H6	1.81	0.45
1:a:581:U:H2'	1:a:582:U:C6	2.51	0.45
1:a:749:G:H4'	1:a:1497:A:H4'	1.97	0.45
2:b:47:ASP:OD1	2:b:48:ARG:N	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:b:131:ILE:HB	2:b:141:ASP:HB2	1.99	0.45
10:j:72:LEU:HA	10:j:75:VAL:HG12	1.98	0.45
12:l:92:ASP:HB2	12:l:118:THR:HG22	1.98	0.45
17:q:108:ALA:O	17:q:112:GLU:HG3	2.17	0.45
1:a:279:A:OP1	1:a:280:C:O2'	2.32	0.45
1:a:636:G:H21	16:p:23:GLY:HA3	1.81	0.45
1:a:1177:A:OP1	1:a:1178:A:H5"	2.16	0.45
2:b:30:ILE:HG12	22:c:16:PHE:CZ	2.51	0.45
6:f:181:ARG:NH1	9:i:73:SER:O	2.49	0.45
8:h:17:VAL:HG23	8:h:18:TYR:CD1	2.51	0.45
1:a:23:C:H2'	1:a:24:U:C6	2.52	0.45
1:a:770:A:OP1	24:w:30:HIS:ND1	2.39	0.45
1:a:902:U:H2'	1:a:903:U:C6	2.52	0.45
1:a:977:C:O2'	15:o:8:HIS:NE2	2.50	0.45
1:a:1248:U:O2'	1:a:1249:G:O5'	2.34	0.45
1:a:321:A:H2'	1:a:322:C:H6	1.81	0.45
1:a:419:C:N3	1:a:425:G:N1	2.65	0.45
1:a:492:U:H2'	1:a:493:A:H8	1.81	0.45
1:a:522:G:H2'	1:a:523:U:H6	1.82	0.45
1:a:620:A:H2'	1:a:621:U:C6	2.51	0.45
1:a:1171:G:H5"	4:d:176:HIS:CE1	2.52	0.45
1:a:1206:U:O2	1:a:1206:U:H2'	2.17	0.45
2:b:139:ILE:HG12	2:b:147:PHE:CD1	2.52	0.45
5:e:104:ARG:H	5:e:108:MET:CE	2.28	0.45
9:i:50:ARG:HH12	9:i:63:GLN:NE2	2.12	0.45
9:i:101:LEU:HD23	9:i:101:LEU:HA	1.83	0.45
13:m:54:ARG:HH11	13:m:64:THR:HB	1.82	0.45
13:m:87:VAL:HG11	13:m:90:LEU:HD12	1.99	0.45
23:x:58:VAL:O	23:x:62:GLU:HG2	2.17	0.45
1:a:24:U:H2'	1:a:25:G:O4'	2.17	0.44
1:a:725:A:H2'	1:a:726:G:C8	2.52	0.44
1:a:907:G:O2'	1:a:909:G:OP1	2.30	0.44
1:a:1249:G:H2'	1:a:1250:A:C8	2.52	0.44
1:a:1413:C:H2'	1:a:1414:C:C6	2.52	0.44
1:a:64:A:N7	1:a:104:A:H4'	2.31	0.44
1:a:534:U:H2'	1:a:535:C:C6	2.52	0.44
1:a:1393:G:H2'	1:a:1394:U:C6	2.52	0.44
2:b:172:LYS:HA	2:b:172:LYS:HD3	1.69	0.44
6:f:36:TYR:HD2	6:f:93:ARG:HH21	1.64	0.44
24:w:131:ARG:HD3	24:w:248:GLY:O	2.17	0.44
24:w:175:TYR:CE1	24:w:183:ARG:HB3	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:438:U:O2'	1:a:439:U:O2	2.14	0.44
1:a:463:C:OP2	1:a:464:G:O2'	2.34	0.44
1:a:542:U:H5"	1:a:543:A:C5	2.53	0.44
1:a:543:A:H2'	1:a:547:G:C8	2.53	0.44
1:a:1334:C:H2'	1:a:1335:G:C8	2.51	0.44
4:d:55:GLU:OE1	4:d:55:GLU:N	2.50	0.44
15:o:10:ALA:HB2	15:o:23:ARG:HD2	2.00	0.44
22:c:131:LYS:O	22:c:134:ILE:HG13	2.16	0.44
24:w:126:ARG:HH21	24:w:249:HIS:HE1	1.65	0.44
1:a:688:C:H2'	1:a:689:A:C8	2.51	0.44
1:a:826:U:H5'	1:a:827:U:OP1	2.16	0.44
1:a:1329:G:C8	10:j:129:ARG:HB3	2.52	0.44
7:g:82:ASN:OD1	7:g:84:SER:OG	2.26	0.44
11:k:15:HIS:ND1	11:k:16:GLU:OE2	2.46	0.44
22:c:68:LEU:HD22	22:c:70:VAL:HG23	2.00	0.44
5:e:185:GLN:H	5:e:185:GLN:HG2	1.60	0.44
18:r:81:PRO:HB3	18:r:87:ARG:CZ	2.47	0.44
20:t:19:VAL:HG21	20:t:44:PHE:CE1	2.50	0.44
1:a:12:A:C6	5:e:201:LYS:HG3	2.52	0.44
1:a:26:G:H4'	1:a:867:G:C8	2.53	0.44
1:a:156:G:N2	1:a:159:A:OP2	2.44	0.44
1:a:1051:C:H2'	1:a:1052:G:C8	2.48	0.44
1:a:1276:G:H2'	1:a:1277:U:C6	2.53	0.44
11:k:37:VAL:HG12	11:k:75:ASP:H	1.82	0.44
12:l:96:LYS:HD2	12:l:124:PRO:HD3	1.99	0.44
23:x:56:GLY:O	23:x:60:ARG:HG3	2.17	0.44
24:w:93:ALA:HB1	24:w:95:HIS:CD2	2.53	0.44
1:a:26:G:H2'	1:a:27:C:H6	1.83	0.44
1:a:109:G:H2'	1:a:110:U:C6	2.53	0.44
1:a:1232:A:N3	1:a:1352:C:O2'	2.36	0.44
1:a:1239:G:H2'	1:a:1240:C:C6	2.53	0.44
2:b:114:GLY:HA2	2:b:117:GLU:OE1	2.18	0.44
14:n:29:ARG:HA	14:n:29:ARG:HD3	1.59	0.44
22:c:71:GLY:O	22:c:93:ASN:HA	2.18	0.44
24:w:147:ASP:O	24:w:151:LEU:HG	2.17	0.44
24:w:222:GLY:HA2	24:w:244:ARG:NH2	2.33	0.44
1:a:452:A:O2'	17:q:76:ILE:HD11	2.18	0.44
1:a:532:U:H2'	1:a:533:G:H8	1.83	0.44
1:a:653:G:H2'	1:a:654:G:H8	1.78	0.44
1:a:1181:C:H4'	1:a:1182:A:H5'	2.00	0.44
22:c:61:VAL:HG13	22:c:224:GLY:HA3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:96:G:C4	1:a:97:A:C8	3.06	0.44
1:a:375:U:H2'	1:a:376:G:H8	1.83	0.44
1:a:390:U:H2'	1:a:391:G:H8	1.82	0.44
1:a:1488:G:OP1	1:a:1491:A:H4'	2.18	0.44
1:a:1514:G:H2'	1:a:1515:A:C8	2.53	0.44
9:i:98:LEU:HD23	9:i:98:LEU:HA	1.85	0.44
22:c:131:LYS:HD3	22:c:134:ILE:HD11	2.00	0.44
16:p:82:ILE:HD12	16:p:87:LEU:HB2	2.00	0.43
23:x:60:ARG:HA	23:x:63:LYS:HG2	2.00	0.43
1:a:493:A:H2'	1:a:494:C:H6	1.83	0.43
1:a:1133:G:OP1	11:k:70:HIS:ND1	2.43	0.43
4:d:33:LYS:HE3	4:d:33:LYS:HB3	1.84	0.43
4:d:90:LEU:HB3	4:d:98:VAL:HG11	2.00	0.43
5:e:163:PRO:HG2	5:e:166:LEU:HD12	2.00	0.43
8:h:74:GLU:O	8:h:88:PRO:HA	2.18	0.43
16:p:26:GLU:HG3	16:p:81:LEU:HD22	2.00	0.43
24:w:126:ARG:CG	24:w:247:ASP:O	2.53	0.43
1:a:45:G:H2'	1:a:46:G:C8	2.52	0.43
1:a:119:C:H2'	1:a:120:G:H8	1.83	0.43
1:a:550:G:H2'	1:a:551:U:C6	2.53	0.43
1:a:748:A:H4'	1:a:1507:G:H22	1.83	0.43
5:e:23:ASP:OD1	5:e:25:SER:N	2.52	0.43
8:h:111:ARG:NH2	8:h:113:GLU:OE2	2.52	0.43
10:j:47:GLN:NE2	10:j:48:PHE:O	2.51	0.43
12:l:118:THR:HA	24:w:220:ARG:NH2	2.32	0.43
13:m:18:LYS:HA	13:m:18:LYS:HD3	1.76	0.43
14:n:33:ILE:HD13	14:n:60:ILE:HD11	2.00	0.43
1:a:39:G:H2'	1:a:40:C:C6	2.54	0.43
1:a:323:U:H2'	1:a:324:G:O4'	2.17	0.43
1:a:444:A:H2'	1:a:445:C:H6	1.82	0.43
1:a:658:U:H2'	1:a:659:C:H6	1.83	0.43
1:a:905:A:H2'	1:a:906:C:C6	2.53	0.43
1:a:953:G:H22	1:a:1346:A:P	2.40	0.43
1:a:1011:U:O2'	1:a:1012:U:O5'	2.34	0.43
10:j:47:GLN:HB3	10:j:82:ASP:OD2	2.19	0.43
12:l:30:ALA:HB3	12:l:93:VAL:HG22	2.01	0.43
1:a:500:A:N6	1:a:509:G:H1'	2.33	0.43
1:a:573:U:C2	1:a:574:C:C5	3.07	0.43
1:a:1099:C:H2'	1:a:1100:U:H6	1.83	0.43
5:e:90:GLU:O	5:e:95:ASN:ND2	2.52	0.43
7:g:39:LYS:HE2	7:g:39:LYS:HB2	1.82	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:h:22:LEU:HD22	8:h:62:LEU:HD21	2.00	0.43
10:j:32:ARG:HD3	10:j:97:GLY:HA3	2.01	0.43
20:t:10:PHE:HE2	20:t:37:ARG:HG3	1.83	0.43
1:a:657:U:O2	1:a:757:A:O2'	2.36	0.43
7:g:11:ASP:OD1	7:g:11:ASP:N	2.41	0.43
7:g:30:ILE:O	7:g:36:THR:OG1	2.31	0.43
13:m:31:ARG:HE	13:m:31:ARG:HB3	1.61	0.43
21:u:5:LYS:HB3	21:u:5:LYS:HE2	1.79	0.43
22:c:84:ALA:O	22:c:88:GLY:N	2.48	0.43
1:a:109:G:H1'	1:a:354:G:H5'	2.01	0.43
1:a:1117:U:H4'	1:a:1118:A:OP1	2.18	0.43
1:a:1231:A:H4'	10:j:89:GLY:HA2	2.01	0.43
1:a:1357:A:OP1	8:h:36:LYS:NZ	2.46	0.43
1:a:1369:G:H2'	1:a:1370:G:H8	1.83	0.43
10:j:29:VAL:HG12	10:j:38:ARG:HG2	2.01	0.43
10:j:111:GLN:HG3	10:j:114:ASP:OD1	2.18	0.43
16:p:18:HIS:NE2	16:p:21:ASP:HB3	2.33	0.43
22:c:56:PHE:CD1	22:c:198:TYR:HE2	2.36	0.43
1:a:1036:U:H5'	4:d:163:SER:HB2	1.99	0.43
1:a:1098:U:H2'	1:a:1099:C:H6	1.84	0.43
1:a:1098:U:H2'	1:a:1099:C:C6	2.54	0.43
1:a:1219:A:H2	1:a:1222:G:N3	2.16	0.43
1:a:1269:A:H2'	1:a:1270:A:C8	2.53	0.43
4:d:104:GLU:O	4:d:106:LYS:NZ	2.52	0.43
4:d:190:LYS:HG2	4:d:195:ARG:CZ	2.48	0.43
6:f:36:TYR:HE1	6:f:66:ASP:HB3	1.84	0.43
22:c:74:LYS:HA	22:c:77:GLN:HB2	2.01	0.43
24:w:28:ARG:HD3	24:w:28:ARG:HA	1.88	0.43
1:a:571:U:H2'	1:a:572:G:C8	2.54	0.43
1:a:725:A:H2'	1:a:726:G:H8	1.83	0.43
1:a:846:A:H2'	1:a:847:A:C8	2.54	0.43
6:f:50:VAL:HG22	6:f:51:LYS:H	1.84	0.43
9:i:5:ASP:OD2	9:i:79:ARG:NE	2.39	0.43
9:i:35:ASN:HB3	9:i:112:LEU:HD12	2.01	0.43
10:j:48:PHE:CD2	10:j:55:LEU:HD22	2.53	0.43
14:n:51:ASP:OD1	14:n:51:ASP:C	2.62	0.43
17:q:47:SER:O	17:q:49:ILE:HG13	2.18	0.43
1:a:492:U:H2'	1:a:493:A:C8	2.54	0.43
1:a:708:A:H2'	1:a:709:A:C8	2.54	0.43
2:b:24:ALA:O	2:b:28:LYS:HG2	2.19	0.43
21:u:35:PHE:CE1	21:u:51:LEU:HB2	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:w:175:TYR:CD2	24:w:228:PHE:HZ	2.37	0.43
1:a:105:A:H5'	1:a:106:C:H5	1.83	0.42
1:a:580:G:C6	1:a:619:G:C6	3.07	0.42
1:a:982:A:H2'	1:a:983:C:C6	2.55	0.42
9:i:81:SER:OG	9:i:126:GLU:OE2	2.30	0.42
10:j:50:LEU:HD12	10:j:58:TYR:HB3	2.01	0.42
24:w:135:ARG:HB2	24:w:245:ARG:HD2	2.00	0.42
1:a:60:U:H2'	1:a:61:G:C8	2.53	0.42
1:a:320:G:HO2'	1:a:1418:G:HO2'	1.64	0.42
1:a:426:U:H2'	1:a:427:U:C6	2.55	0.42
1:a:832:U:H2'	1:a:833:C:H6	1.83	0.42
11:k:24:LYS:O	11:k:28:THR:HG22	2.19	0.42
14:n:11:ARG:O	14:n:45:THR:OG1	2.36	0.42
22:c:197:ASP:C	22:c:198:TYR:HD1	2.27	0.42
24:w:85:LEU:HD23	24:w:85:LEU:HA	1.86	0.42
24:w:131:ARG:HD2	24:w:250:TYR:OH	2.18	0.42
24:w:193:ASP:OD1	24:w:194:GLU:N	2.52	0.42
1:a:424:G:H2'	1:a:425:G:C8	2.54	0.42
1:a:737:U:OP1	1:a:802:G:O2'	2.37	0.42
1:a:1476:A:O2'	24:w:80:ARG:NH2	2.51	0.42
2:b:116:ILE:HA	2:b:119:LEU:HD12	2.01	0.42
2:b:144:LEU:HD13	2:b:181:ASN:HB3	2.00	0.42
1:a:1008:C:H2'	1:a:1009:C:C6	2.54	0.42
1:a:1104:G:N2	1:a:1105:U:O4	2.50	0.42
1:a:1116:U:O2'	1:a:1117:U:H5"	2.19	0.42
1:a:1148:U:H1'	2:b:48:ARG:HH21	1.83	0.42
2:b:167:LYS:HD2	2:b:167:LYS:C	2.44	0.42
4:d:41:LEU:HD21	4:d:89:ASP:OD1	2.20	0.42
12:l:106:ILE:HG13	12:l:106:ILE:H	1.70	0.42
18:r:69:GLY:H	18:r:96:LYS:NZ	2.18	0.42
24:w:94:GLU:O	24:w:99:ARG:NH1	2.52	0.42
1:a:30:A:N6	1:a:538:G:H1'	2.34	0.42
1:a:188:G:H2'	1:a:189:G:C8	2.55	0.42
1:a:1035:A:C6	1:a:1187:G:C5	3.08	0.42
1:a:1382:C:C2	1:a:1486:A:N6	2.88	0.42
14:n:15:MET:HE3	14:n:43:MET:SD	2.60	0.42
20:t:45:ILE:HD13	20:t:45:ILE:HA	1.88	0.42
1:a:232:G:H1'	1:a:262:G:H1	1.84	0.42
1:a:751:G:H2'	1:a:752:U:C6	2.54	0.42
1:a:800:U:H4'	1:a:801:G:OP2	2.20	0.42
1:a:988:C:O2'	1:a:1017:C:O2'	2.37	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1086:G:H2'	1:a:1087:C:C6	2.54	0.42
2:b:67:GLU:HB3	2:b:103:SER:HB2	2.02	0.42
4:d:106:LYS:HA	4:d:106:LYS:HD3	1.89	0.42
10:j:39:VAL:HG21	10:j:103:ILE:HD13	2.02	0.42
1:a:144:G:H2'	1:a:145:G:H8	1.83	0.42
1:a:264:U:H2'	1:a:265:G:O4'	2.19	0.42
1:a:1249:G:O2'	1:a:1250:A:O4'	2.34	0.42
2:b:173:ILE:HD12	2:b:183:VAL:CG2	2.50	0.42
4:d:134:ARG:O	4:d:138:GLN:HG2	2.19	0.42
12:l:115:GLU:OE1	12:l:115:GLU:HA	2.20	0.42
19:s:18:ARG:C	19:s:19:LYS:HD2	2.45	0.42
22:c:181:ILE:HD13	22:c:181:ILE:HA	1.91	0.42
1:a:940:A:C5	20:t:55:ARG:HG3	2.55	0.42
10:j:138:LEU:HB3	10:j:143:LYS:O	2.19	0.42
16:p:34:LYS:NZ	16:p:38:ASP:OD1	2.53	0.42
22:c:12:SER:HB3	22:c:208:ARG:HG2	2.01	0.42
1:a:136:G:C6	1:a:225:G:C5	3.07	0.42
1:a:163:G:H2'	1:a:164:G:C8	2.55	0.42
1:a:824:C:O2'	1:a:826:U:O4	2.38	0.42
24:w:124:PHE:CD1	24:w:125:PRO:HD2	2.55	0.42
24:w:222:GLY:HA2	24:w:244:ARG:HH21	1.84	0.42
1:a:581:U:H2'	1:a:582:U:H6	1.84	0.42
1:a:1123:G:C2	1:a:1124:G:H1'	2.55	0.42
1:a:1279:U:H1'	1:a:1280:C:H5	1.85	0.42
1:a:1510:G:H2'	1:a:1511:C:C6	2.55	0.42
14:n:15:MET:HE2	14:n:15:MET:HA	2.01	0.42
22:c:5:THR:HG23	22:c:7:LYS:H	1.85	0.42
23:x:59:ALA:O	23:x:63:LYS:HG2	2.20	0.42
1:a:487:C:H3'	1:a:488:C:H2'	2.02	0.41
1:a:1084:G:OP1	22:c:110:ARG:NH1	2.50	0.41
1:a:1208:A:H5"	14:n:115:ARG:HH21	1.85	0.41
13:m:49:LEU:HD23	13:m:49:LEU:HA	1.85	0.41
23:x:60:ARG:O	23:x:64:ARG:HB2	2.19	0.41
1:a:523:U:H2'	1:a:524:C:C6	2.56	0.41
1:a:1156:G:H2'	1:a:1157:A:H8	1.85	0.41
5:e:186:ILE:HG22	5:e:188:VAL:HB	2.01	0.41
10:j:72:LEU:HB3	10:j:78:VAL:HG12	2.02	0.41
22:c:186:ILE:HG13	22:c:186:ILE:O	2.20	0.41
1:a:560:C:H2'	1:a:561:G:O4'	2.20	0.41
1:a:955:G:H2'	1:a:956:A:C2	2.56	0.41
1:a:1005:G:C6	1:a:1006:U:O4	2.72	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1329:G:O2'	1:a:1356:G:O6	2.31	0.41
4:d:130:ARG:O	4:d:134:ARG:HG2	2.20	0.41
11:k:5:LYS:HE3	11:k:7:ARG:HH12	1.85	0.41
20:t:36:ARG:NH1	20:t:52:HIS:O	2.53	0.41
22:c:101:LEU:HB3	22:c:179:LEU:HD12	2.02	0.41
22:c:151:ILE:HG23	22:c:154:MET:HG3	2.03	0.41
1:a:309:G:H2'	1:a:310:G:H8	1.85	0.41
1:a:452:A:H2	17:q:47:SER:HB3	1.85	0.41
1:a:535:C:H2'	1:a:536:C:H6	1.86	0.41
1:a:1253:U:H2'	1:a:1254:G:O4'	2.20	0.41
17:q:17:GLN:HE21	17:q:41:HIS:CD2	2.39	0.41
1:a:771:G:O6	1:a:772:A:N6	2.53	0.41
1:a:831:A:C6	1:a:832:U:C4	3.09	0.41
1:a:1498:C:P	3:v:22:ARG:HH21	2.42	0.41
4:d:188:GLU:HB3	4:d:195:ARG:HD2	2.02	0.41
5:e:105:THR:HG23	5:e:108:MET:H	1.85	0.41
17:q:21:ILE:HG22	17:q:36:VAL:HG22	2.03	0.41
20:t:17:LYS:HB2	20:t:17:LYS:HE3	1.78	0.41
22:c:15:HIS:HB3	22:c:43:LEU:HD21	2.02	0.41
1:a:215:U:H4'	1:a:216:U:H5'	2.01	0.41
1:a:588:A:C2	1:a:589:A:H1'	2.55	0.41
2:b:31:LYS:HD2	2:b:31:LYS:C	2.46	0.41
4:d:37:ALA:O	4:d:40:LYS:HG2	2.21	0.41
15:o:47:MET:HE3	15:o:47:MET:HB3	1.87	0.41
16:p:70:VAL:HG12	16:p:78:TYR:HB2	2.02	0.41
1:a:437:U:H2'	1:a:438:U:O4'	2.21	0.41
1:a:589:A:C5	1:a:590:A:C8	3.08	0.41
1:a:689:A:H2'	1:a:690:G:H8	1.85	0.41
1:a:1028:G:OP1	15:o:4:LYS:N	2.38	0.41
1:a:1409:A:H2'	1:a:1410:C:C6	2.54	0.41
3:v:27:GLN:O	3:v:30:LYS:HG2	2.21	0.41
4:d:83:ALA:O	4:d:86:ILE:HG13	2.20	0.41
4:d:120:ALA:HB1	4:d:189:ALA:HB2	2.03	0.41
11:k:22:ALA:O	11:k:26:VAL:HG12	2.20	0.41
1:a:448:A:OP2	1:a:465:G:N2	2.36	0.41
1:a:788:C:H2'	1:a:789:G:O4'	2.20	0.41
1:a:1422:G:H2'	1:a:1423:U:C6	2.56	0.41
7:g:23:LEU:HD23	7:g:23:LEU:HA	1.91	0.41
14:n:69:ASP:OD1	14:n:70:LEU:N	2.53	0.41
1:a:148:A:C5	1:a:149:A:C8	3.09	0.41
1:a:149:A:C5	1:a:150:G:C8	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:231:G:H22	1:a:262:G:N2	2.18	0.41
1:a:397:A:H5'	1:a:398:C:OP1	2.20	0.41
1:a:731:U:H2'	1:a:732:G:O4'	2.20	0.41
1:a:821:C:C5	1:a:822:U:C2	3.09	0.41
1:a:960:A:C8	1:a:961:C:H5	2.38	0.41
1:a:1105:U:C2	1:a:1107:G:C8	3.09	0.41
1:a:1221:U:C5	8:h:116:MET:HG2	2.56	0.41
2:b:171:ALA:HB3	2:b:185:LEU:HD11	2.02	0.41
4:d:24:ALA:HB1	4:d:27:GLN:HG2	2.03	0.41
4:d:68:HIS:CD2	4:d:103:LEU:HB2	2.56	0.41
6:f:36:TYR:CE1	6:f:66:ASP:HB3	2.56	0.41
9:i:54:ALA:HB2	9:i:59:SER:OG	2.21	0.41
12:l:23:LYS:HB3	12:l:23:LYS:HE2	1.88	0.41
12:l:33:LYS:HE2	12:l:35:THR:HG22	2.02	0.41
14:n:15:MET:HE1	14:n:45:THR:HA	2.03	0.41
22:c:27:MET:O	22:c:31:ILE:HG12	2.21	0.41
22:c:208:ARG:HE	22:c:208:ARG:HB2	1.58	0.41
24:w:141:MET:HE3	24:w:255:PRO:HA	2.02	0.41
24:w:174:LEU:HD23	24:w:175:TYR:N	2.36	0.41
1:a:1089:C:C2	1:a:1090:A:C8	3.09	0.41
2:b:50:GLU:OE2	2:b:62:VAL:HB	2.21	0.41
5:e:138:ILE:HB	5:e:175:ILE:HB	2.03	0.41
6:f:101:LEU:HD11	6:f:145:VAL:HG22	2.03	0.41
10:j:108:ILE:HD11	10:j:115:ARG:HB2	2.02	0.41
19:s:56:ASN:OD1	19:s:56:ASN:N	2.54	0.41
22:c:45:GLN:O	22:c:49:TYR:CD2	2.73	0.41
1:a:500:A:N1	1:a:516:C:H1'	2.36	0.40
1:a:743:G:H2'	1:a:744:C:C6	2.55	0.40
1:a:1517:C:H1'	24:w:111:TRP:HB3	2.02	0.40
2:b:116:ILE:HG22	2:b:120:LYS:HE3	2.03	0.40
15:o:4:LYS:HB2	15:o:4:LYS:HE3	1.87	0.40
15:o:46:GLU:OE1	15:o:47:MET:HG2	2.21	0.40
17:q:69:PRO:O	17:q:73:LEU:HG	2.22	0.40
22:c:69:PHE:HA	22:c:162:TRP:HD1	1.86	0.40
22:c:94:GLN:OE1	22:c:146:ARG:NE	2.47	0.40
1:a:535:C:H2'	1:a:536:C:C6	2.56	0.40
1:a:849:G:H2'	1:a:850:C:C6	2.56	0.40
1:a:1185:A:H2'	1:a:1186:U:O4'	2.21	0.40
1:a:1329:G:H5"	10:j:129:ARG:HG2	2.03	0.40
1:a:1385:C:H2'	1:a:1386:C:O4'	2.21	0.40
1:a:1411:A:H2'	1:a:1412:C:C6	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:g:16:GLU:HA	7:g:19:VAL:HG23	2.03	0.40
10:j:32:ARG:HG2	10:j:94:GLY:HA2	2.03	0.40
10:j:139:LYS:H	10:j:139:LYS:HG2	1.67	0.40
14:n:80:ARG:O	14:n:84:ILE:HG23	2.22	0.40
24:w:165:GLU:HB3	24:w:168:THR:OG1	2.22	0.40
8:h:86:GLN:HB2	8:h:148:ASN:HD22	1.86	0.40
8:h:113:GLU:HB3	8:h:118:GLU:HG2	2.02	0.40
13:m:83:ARG:HB3	13:m:98:ILE:HD11	2.04	0.40
1:a:120:G:H2'	1:a:121:U:C6	2.56	0.40
1:a:212:G:H2'	1:a:213:C:H6	1.86	0.40
1:a:313:A:H2'	1:a:314:C:C6	2.56	0.40
1:a:335:C:H2'	1:a:336:A:C8	2.56	0.40
1:a:503:A:C2	13:m:88:LYS:HB3	2.56	0.40
1:a:619:G:C2	1:a:620:A:C8	3.10	0.40
1:a:1000:U:H2'	1:a:1001:G:C8	2.56	0.40
1:a:1473:A:H2'	1:a:1474:C:C6	2.57	0.40
1:a:1486:A:H2	1:a:1489:G:N1	2.20	0.40
4:d:95:GLY:C	4:d:96:LYS:HG3	2.46	0.40
5:e:99:ARG:HA	5:e:99:ARG:HD3	1.74	0.40
17:q:14:ARG:HD3	17:q:14:ARG:HA	1.91	0.40
21:u:39:VAL:HG13	21:u:86:LEU:HD13	2.02	0.40
22:c:131:LYS:HB2	22:c:131:LYS:HE2	1.87	0.40
22:c:153:ASP:OD1	22:c:153:ASP:N	2.54	0.40
1:a:106:C:H2'	1:a:107:G:O4'	2.22	0.40
1:a:377:G:OP1	17:q:4:LYS:HD3	2.22	0.40
1:a:737:U:H2'	1:a:738:G:O4'	2.22	0.40
1:a:917:A:H2'	1:a:918:C:O4'	2.21	0.40
4:d:6:ASN:OD1	4:d:6:ASN:C	2.63	0.40
4:d:100:LEU:HD21	4:d:102:ILE:HB	2.03	0.40
7:g:43:TRP:O	7:g:60:TYR:HB2	2.21	0.40
10:j:31:ARG:HG2	10:j:36:VAL:HG22	2.04	0.40
13:m:7:LEU:O	13:m:11:GLY:N	2.54	0.40
22:c:97:LEU:N	22:c:100:MET:HE3	2.36	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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	
2	b	148/479 (31%)	143 (97%)	5 (3%)	0	100	100
3	v	29/33 (88%)	29 (100%)	0	0	100	100
4	d	205/275 (74%)	195 (95%)	10 (5%)	0	100	100
5	e	198/201 (98%)	189 (96%)	9 (4%)	0	100	100
6	f	166/214 (78%)	162 (98%)	4 (2%)	0	100	100
7	g	94/96 (98%)	90 (96%)	4 (4%)	0	100	100
8	h	151/156 (97%)	148 (98%)	3 (2%)	0	100	100
9	i	129/132 (98%)	126 (98%)	3 (2%)	0	100	100
10	j	124/150 (83%)	116 (94%)	8 (6%)	0	100	100
11	k	74/101 (73%)	71 (96%)	3 (4%)	0	100	100
12	l	113/138 (82%)	107 (95%)	6 (5%)	0	100	100
13	m	119/124 (96%)	112 (94%)	7 (6%)	0	100	100
14	n	114/124 (92%)	110 (96%)	4 (4%)	0	100	100
15	o	58/61 (95%)	52 (90%)	6 (10%)	0	100	100
16	p	86/89 (97%)	85 (99%)	1 (1%)	0	100	100
17	q	111/156 (71%)	105 (95%)	6 (5%)	0	100	100
18	r	92/98 (94%)	89 (97%)	3 (3%)	0	100	100
19	s	63/84 (75%)	61 (97%)	2 (3%)	0	100	100
20	t	80/93 (86%)	77 (96%)	3 (4%)	0	100	100
21	u	83/86 (96%)	83 (100%)	0	0	100	100
22	c	226/277 (82%)	211 (93%)	15 (7%)	0	100	100
23	x	9/11 (82%)	9 (100%)	0	0	100	100
24	w	253/264 (96%)	240 (95%)	13 (5%)	0	100	100
All	All	2725/3442 (79%)	2610 (96%)	115 (4%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2　Protein sidechains　(i)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	b	132/407 (32%)	131 (99%)	1 (1%)	79	88
3	v	29/31 (94%)	29 (100%)	0	100	100
4	d	170/212 (80%)	167 (98%)	3 (2%)	54	74
5	e	175/176 (99%)	173 (99%)	2 (1%)	70	83
6	f	123/147 (84%)	123 (100%)	0	100	100
7	g	85/85 (100%)	85 (100%)	0	100	100
8	h	129/132 (98%)	129 (100%)	0	100	100
9	i	107/108 (99%)	107 (100%)	0	100	100
10	j	102/125 (82%)	102 (100%)	0	100	100
11	k	73/90 (81%)	73 (100%)	0	100	100
12	l	89/105 (85%)	89 (100%)	0	100	100
13	m	102/105 (97%)	102 (100%)	0	100	100
14	n	99/104 (95%)	98 (99%)	1 (1%)	73	84
15	o	49/50 (98%)	49 (100%)	0	100	100
16	p	76/77 (99%)	76 (100%)	0	100	100
17	q	92/118 (78%)	92 (100%)	0	100	100
18	r	80/83 (96%)	79 (99%)	1 (1%)	65	81
19	s	55/72 (76%)	55 (100%)	0	100	100
20	t	73/84 (87%)	73 (100%)	0	100	100
21	u	69/70 (99%)	68 (99%)	1 (1%)	62	79
22	c	191/218 (88%)	191 (100%)	0	100	100
23	x	8/8 (100%)	8 (100%)	0	100	100
24	w	208/215 (97%)	207 (100%)	1 (0%)	86	93
All	All	2316/2822 (82%)	2306 (100%)	10 (0%)	88	95

All (10) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	b	32	TYR
4	d	66	ASP
4	d	125	ASN
4	d	142	ARG
5	e	108	MET
5	e	139	ASP
14	n	56	LEU
18	r	94	LEU
21	u	45	ASP
24	w	131	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (13) such sidechains are listed below:

Mol	Chain	Res	Type
5	e	151	GLN
5	e	173	GLN
6	f	146	HIS
9	i	63	GLN
10	j	47	GLN
12	l	86	HIS
13	m	105	GLN
15	o	57	GLN
17	q	107	ASN
21	u	7	GLN
22	c	19	GLN
22	c	112	GLN
24	w	161	HIS

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	a	1514/1528 (99%)	266 (17%)	0

All (266) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	a	12	A
1	a	13	G
1	a	36	A

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Mol	Chain	Res	Type
1	a	43	G
1	a	51	C
1	a	52	U
1	a	55	A
1	a	58	C
1	a	59	A
1	a	82	U
1	a	86	G
1	a	87	G
1	a	93	C
1	a	116	A
1	a	117	C
1	a	126	G
1	a	128	U
1	a	146	A
1	a	160	C
1	a	192	G
1	a	193	C
1	a	200	U
1	a	210	A
1	a	211	A
1	a	216	U
1	a	217	U
1	a	220	G
1	a	231	G
1	a	243	A
1	a	245	C
1	a	247	G
1	a	251	G
1	a	252	U
1	a	266	G
1	a	267	C
1	a	279	A
1	a	280	C
1	a	281	G
1	a	289	G
1	a	329	A
1	a	330	C
1	a	332	G
1	a	344	A
1	a	345	C
1	a	347	G

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Mol	Chain	Res	Type
1	a	351	G
1	a	352	C
1	a	353	A
1	a	354	G
1	a	367	U
1	a	372	C
1	a	373	A
1	a	390	U
1	a	392	C
1	a	397	A
1	a	398	C
1	a	406	G
1	a	414	A
1	a	421	U
1	a	422	C
1	a	423	G
1	a	424	G
1	a	426	U
1	a	428	G
1	a	429	U
1	a	430	A
1	a	433	C
1	a	434	C
1	a	452	A
1	a	453	G
1	a	456	C
1	a	457	A
1	a	458	A
1	a	459	G
1	a	461	G
1	a	465	G
1	a	466	U
1	a	475	A
1	a	476	A
1	a	477	G
1	a	478	A
1	a	485	G
1	a	486	G
1	a	491	C
1	a	497	G
1	a	498	C
1	a	499	C

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Mol	Chain	Res	Type
1	a	501	G
1	a	507	G
1	a	509	G
1	a	511	U
1	a	512	A
1	a	513	A
1	a	515	A
1	a	519	A
1	a	520	G
1	a	527	A
1	a	539	A
1	a	542	U
1	a	544	C
1	a	552	A
1	a	553	A
1	a	556	A
1	a	557	G
1	a	576	C
1	a	612	U
1	a	613	G
1	a	629	G
1	a	633	A
1	a	645	G
1	a	666	U
1	a	668	G
1	a	683	G
1	a	701	G
1	a	702	G
1	a	703	U
1	a	711	G
1	a	729	A
1	a	735	G
1	a	761	A
1	a	765	G
1	a	772	A
1	a	773	U
1	a	774	A
1	a	789	G
1	a	793	U
1	a	794	A
1	a	795	A
1	a	796	A

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Mol	Chain	Res	Type
1	a	797	C
1	a	808	A
1	a	818	U
1	a	821	C
1	a	822	U
1	a	823	U
1	a	824	C
1	a	826	U
1	a	827	U
1	a	828	G
1	a	829	G
1	a	841	U
1	a	871	A
1	a	884	G
1	a	896	A
1	a	908	G
1	a	909	G
1	a	913	C
1	a	914	C
1	a	916	C
1	a	917	A
1	a	942	U
1	a	943	U
1	a	950	A
1	a	951	A
1	a	953	G
1	a	956	A
1	a	957	A
1	a	958	G
1	a	959	A
1	a	973	U
1	a	974	U
1	a	975	G
1	a	976	A
1	a	981	C
1	a	982	A
1	a	988	C
1	a	990	C
1	a	1007	U
1	a	1008	C
1	a	1011	U
1	a	1012	U

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Mol	Chain	Res	Type
1	a	1013	G
1	a	1014	U
1	a	1017	C
1	a	1020	G
1	a	1021	U
1	a	1022	G
1	a	1025	C
1	a	1033	G
1	a	1034	C
1	a	1036	U
1	a	1045	U
1	a	1074	G
1	a	1075	U
1	a	1081	A
1	a	1088	G
1	a	1104	G
1	a	1108	C
1	a	1110	A
1	a	1115	G
1	a	1116	U
1	a	1117	U
1	a	1118	A
1	a	1119	U
1	a	1120	G
1	a	1138	A
1	a	1140	U
1	a	1147	G
1	a	1148	U
1	a	1149	C
1	a	1150	A
1	a	1151	A
1	a	1162	G
1	a	1164	U
1	a	1165	G
1	a	1171	G
1	a	1176	C
1	a	1177	A
1	a	1178	A
1	a	1181	C
1	a	1182	A
1	a	1193	U
1	a	1194	A

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Mol	Chain	Res	Type
1	a	1195	U
1	a	1217	A
1	a	1231	A
1	a	1237	C
1	a	1238	U
1	a	1241	G
1	a	1249	G
1	a	1251	G
1	a	1261	A
1	a	1266	U
1	a	1267	U
1	a	1268	C
1	a	1283	U
1	a	1284	U
1	a	1285	C
1	a	1287	G
1	a	1302	C
1	a	1328	A
1	a	1329	G
1	a	1342	A
1	a	1343	G
1	a	1344	C
1	a	1345	A
1	a	1346	A
1	a	1347	C
1	a	1353	G
1	a	1357	A
1	a	1364	U
1	a	1381	A
1	a	1405	G
1	a	1424	G
1	a	1426	C
1	a	1429	A
1	a	1433	C
1	a	1434	U
1	a	1435	U
1	a	1436	G
1	a	1438	G
1	a	1440	A
1	a	1463	G
1	a	1476	A
1	a	1481	G

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Mol	Chain	Res	Type
1	a	1483	A
1	a	1488	G
1	a	1490	U
1	a	1501	G
1	a	1503	A
1	a	1504	G
1	a	1513	G
1	a	1514	G
1	a	1517	C
1	a	1518	A
1	a	1522	C

There are no RNA pucker outliers to report.

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-37561. 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 ⓘ
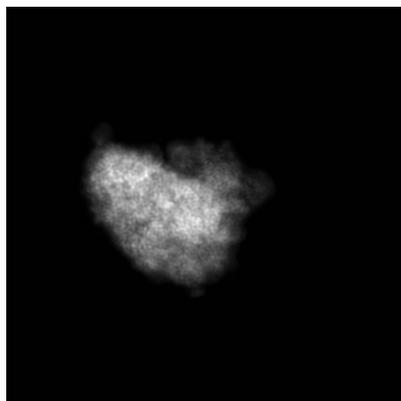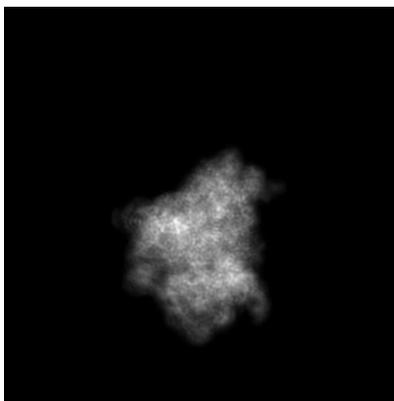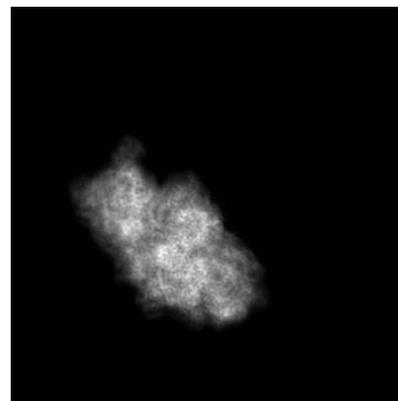
6.1.1 Primary map

X Y Z

6.1.2 Raw map

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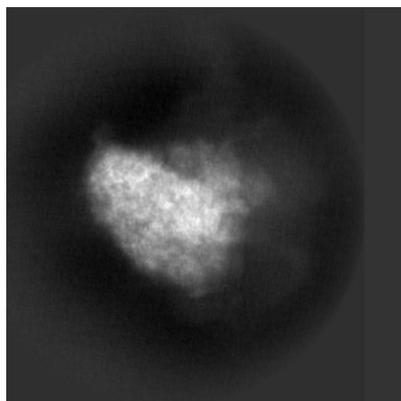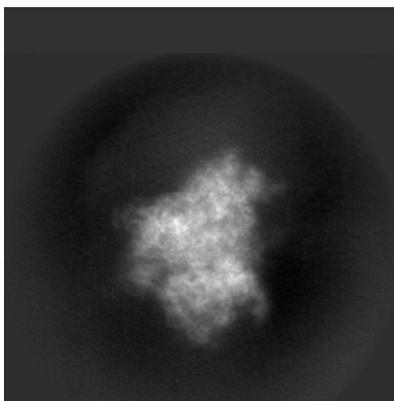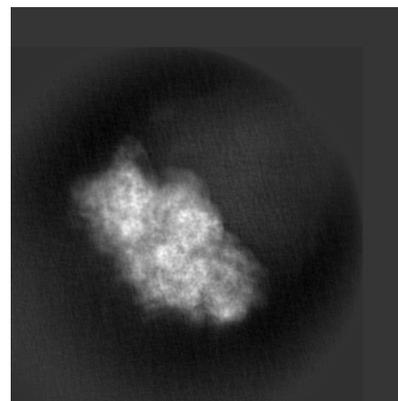
The images above show the map projected in three orthogonal directions.

6.2 Central slices ⓘ
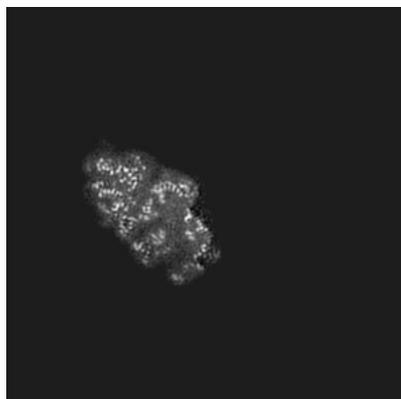
6.2.1 Primary map
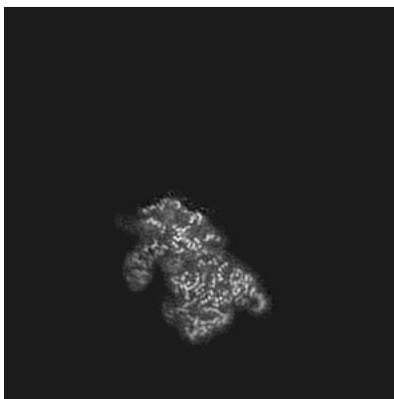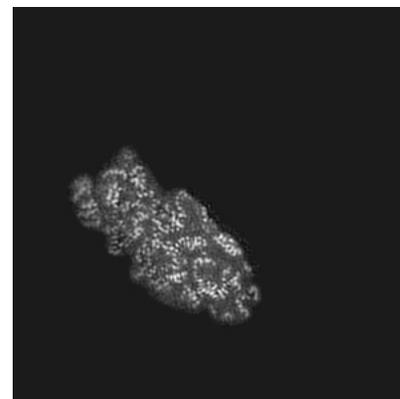
| X Index: 190 | Y Index: 190 | Z Index: 190 |

6.2.2 Raw map
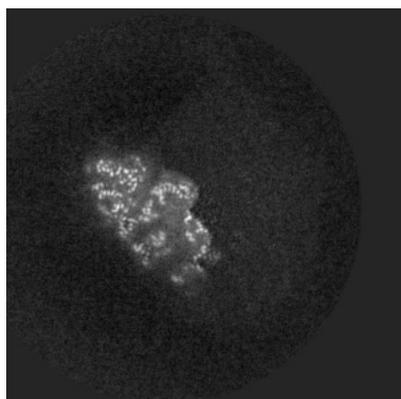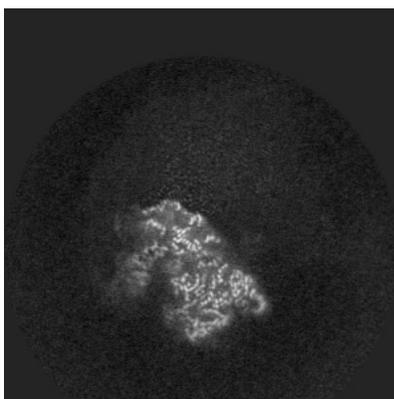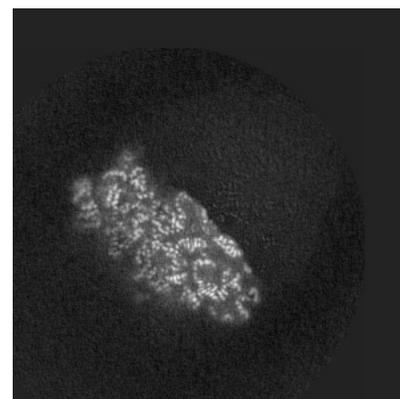
| X Index: 190 | Y Index: 190 | Z Index: 190 |

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

6.3 Largest variance slices ⓘ

6.3.1 Primary map
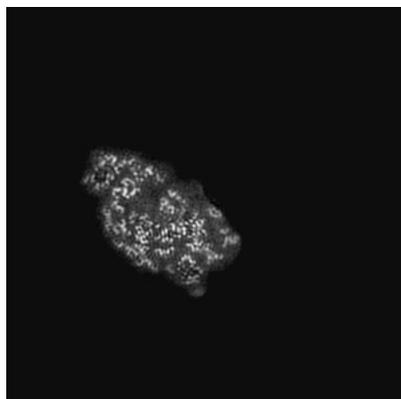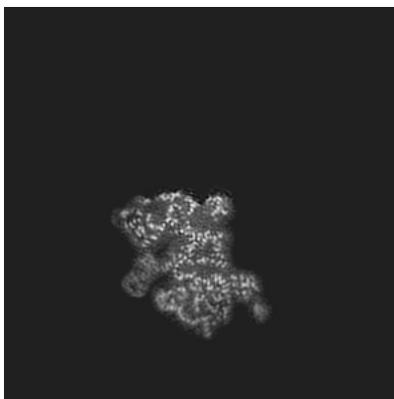
X Index: 171	Y Index: 174	Z Index: 204
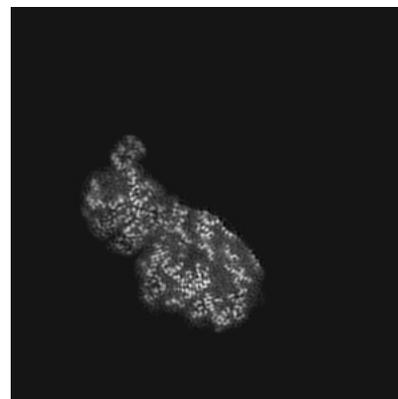
6.3.2 Raw map
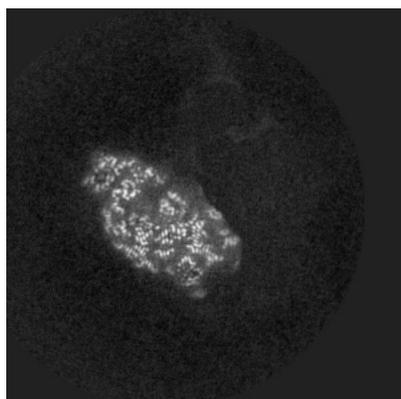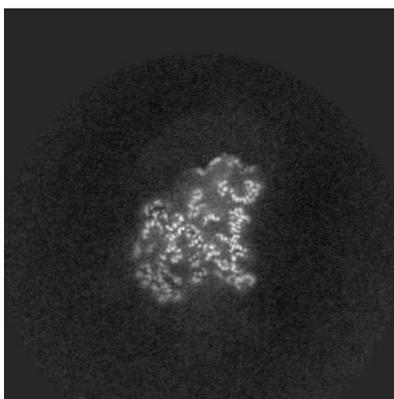
X Index: 171	Y Index: 133	Z Index: 204
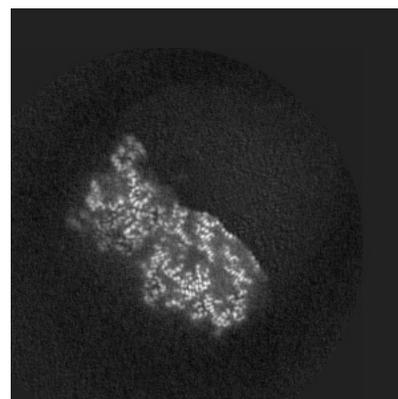
The images above show the largest variance slices of the map in three orthogonal directions.

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

6.4.1 Primary map
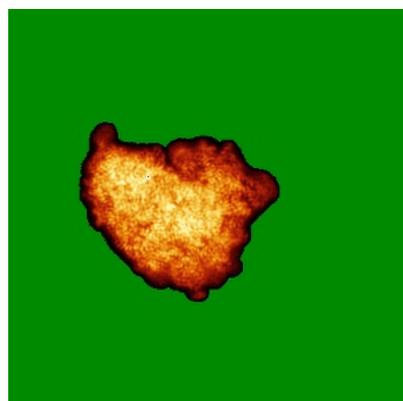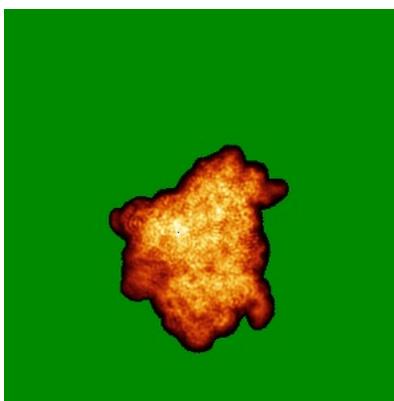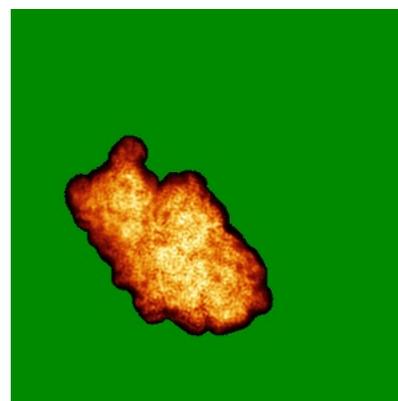
| X | Y | Z |

6.4.2 Raw map

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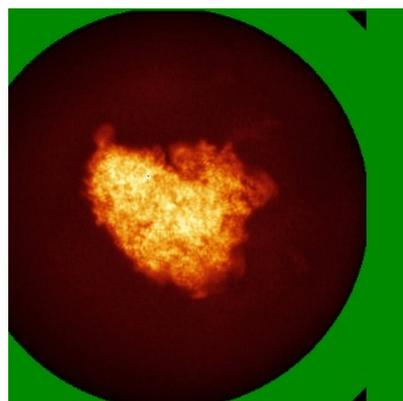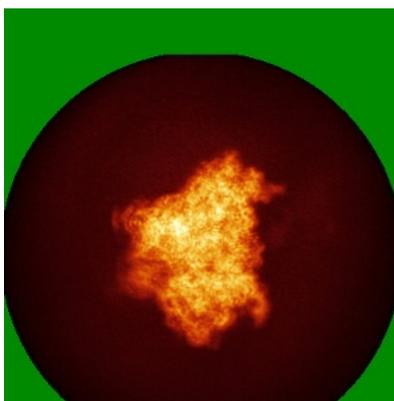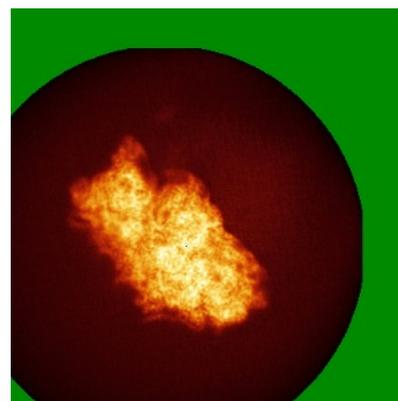
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views ⓘ

6.5.1 Primary map

| X | Y | Z |
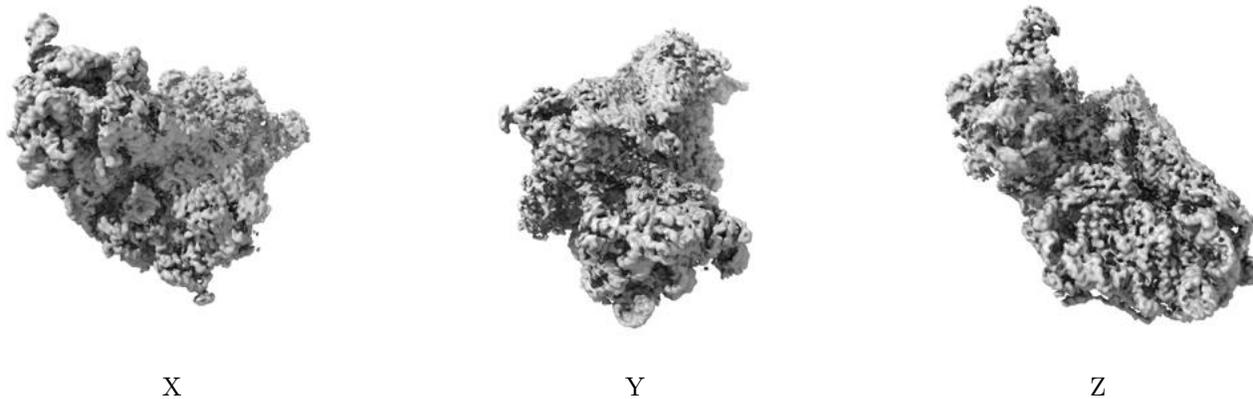
The images above show the 3D surface view of the map at the recommended contour level 0.04. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map

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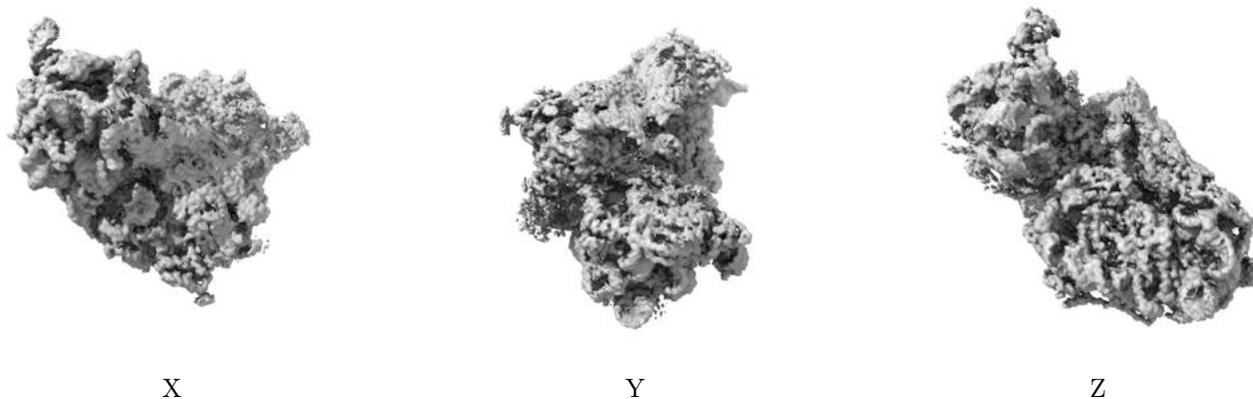
These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

6.6 Mask visualisation ⓘ

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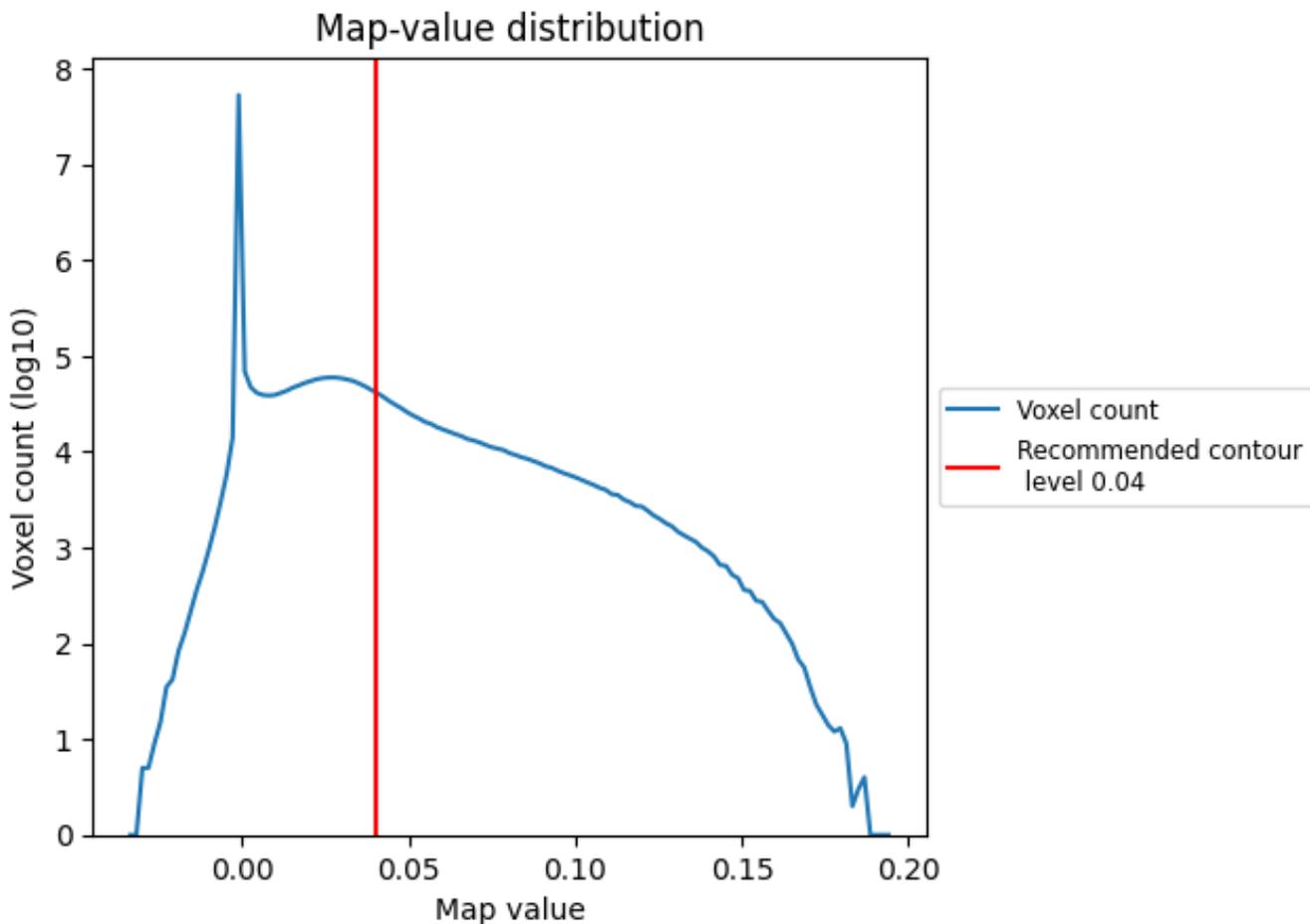
The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

7.2 Volume estimate ⓘ
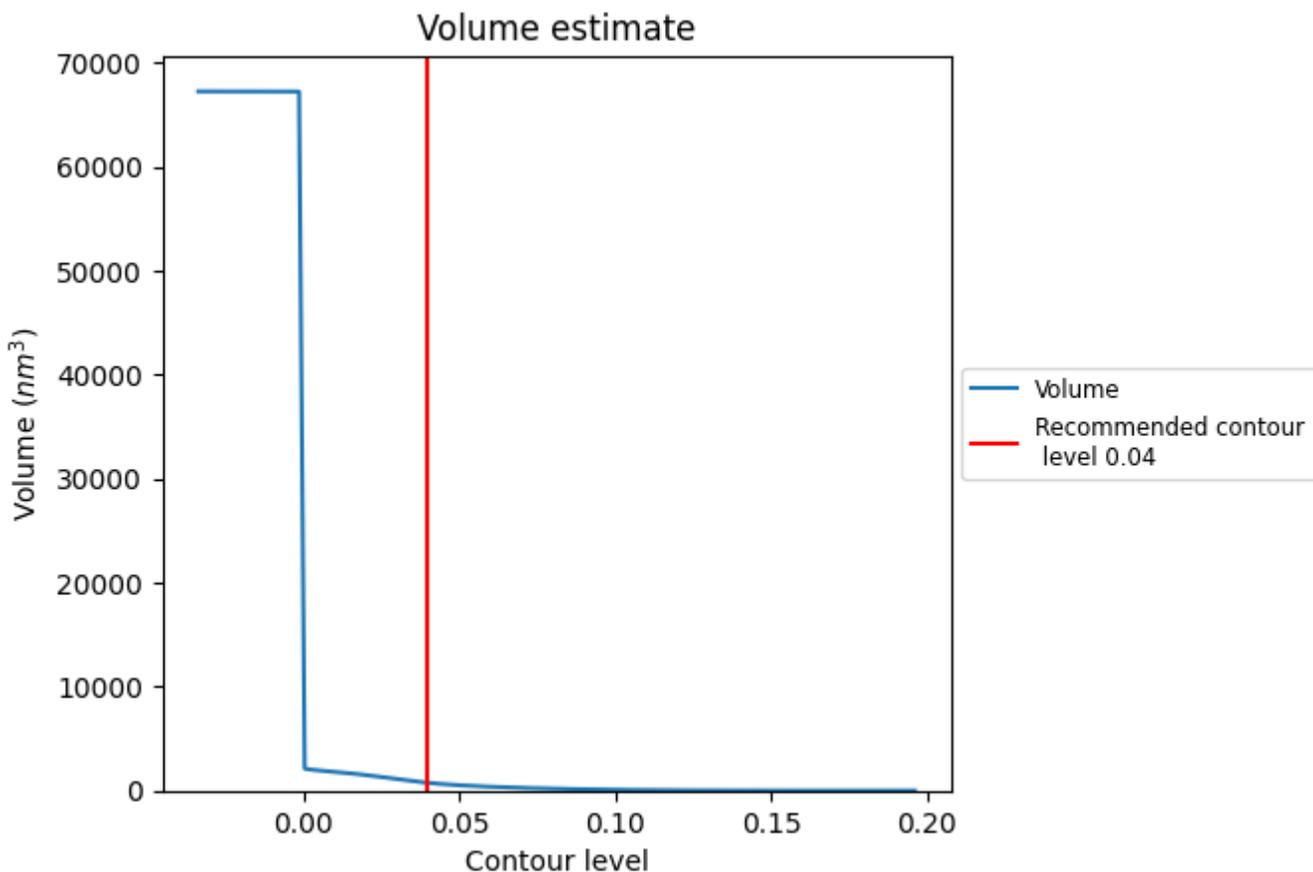
The volume at the recommended contour level is 753 nm^3; this corresponds to an approximate mass of 681 kDa.

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 ⓘ
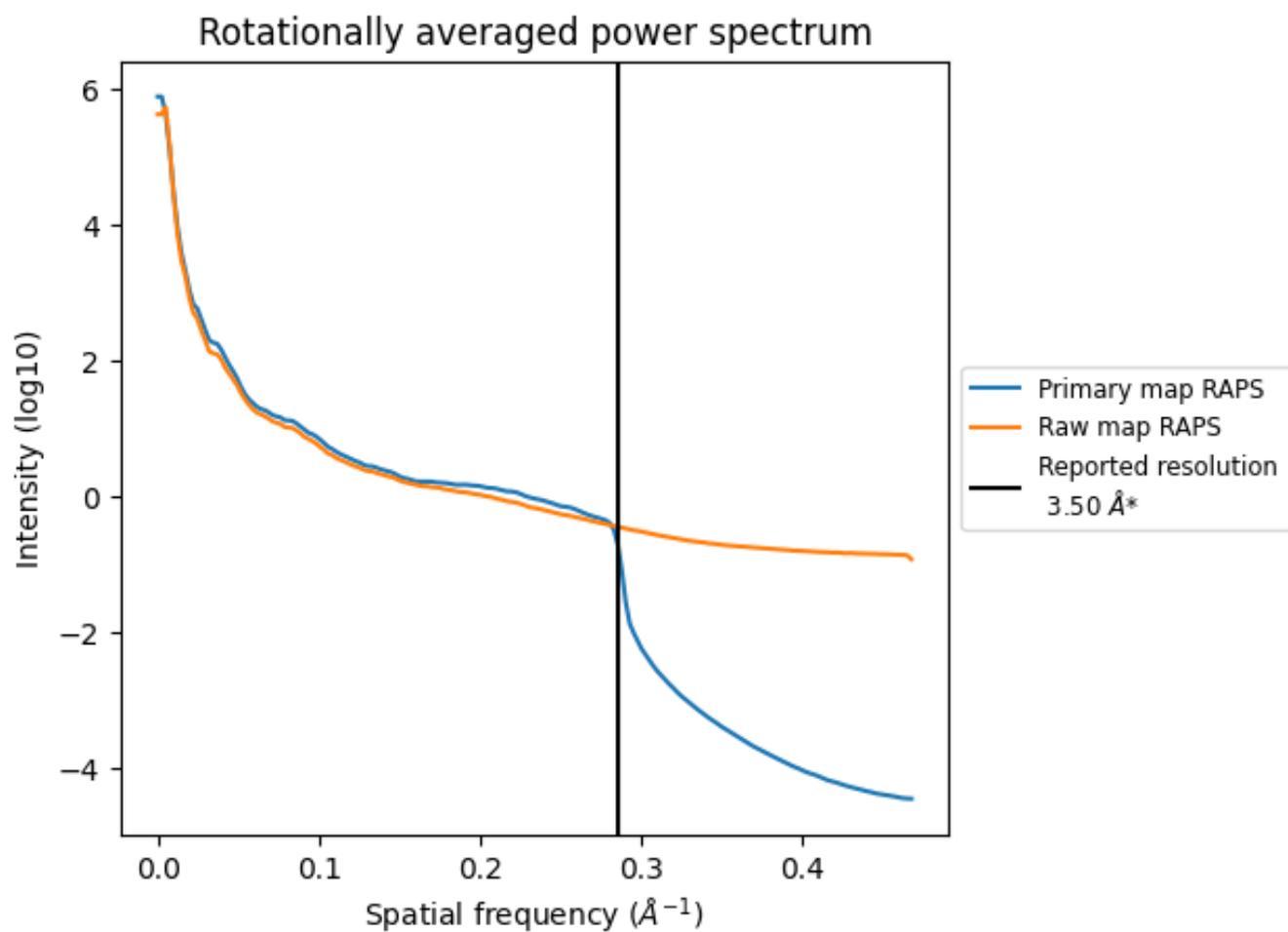
*Reported resolution corresponds to spatial frequency of 0.286 Å^{-1}

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 ⓘ
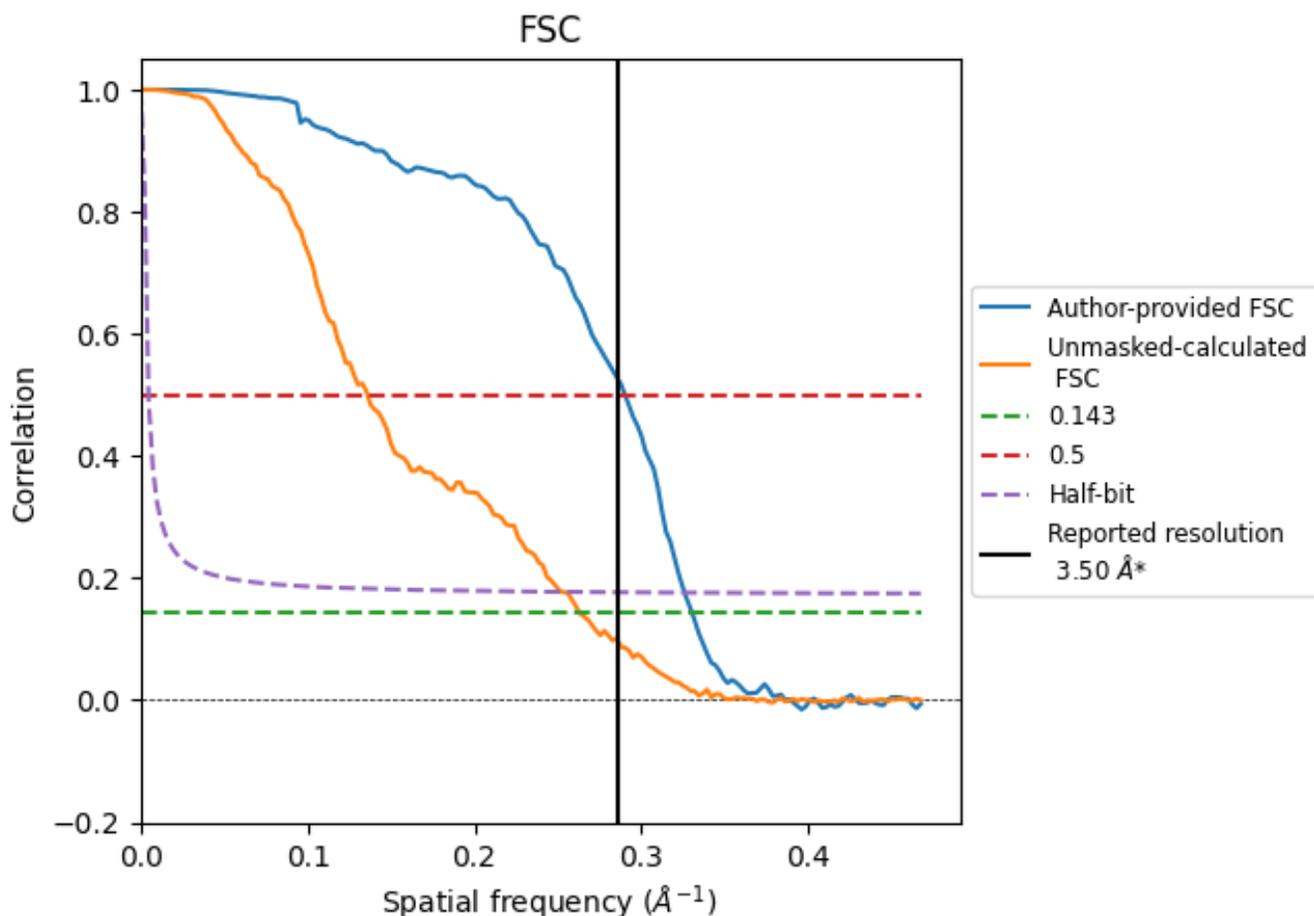
*Reported resolution corresponds to spatial frequency of 0.286 $Å^{-1}$

8.2 Resolution estimates (i)

Resolution estimate (Å)	Estimation criterion (FSC cut-off)			
	0.143	0.5	Half-bit	Other
Reported by author	-	-	-	3.50
Author-provided FSC curve	3.03	3.45	3.07	-
Unmasked-calculated*	3.80	7.35	3.96	-

*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-37561 and PDB model 8WI9. Per-residue inclusion information can be found in section 3 on page 8.

9.1   Map-model overlay ⓘ


X   Y   Z
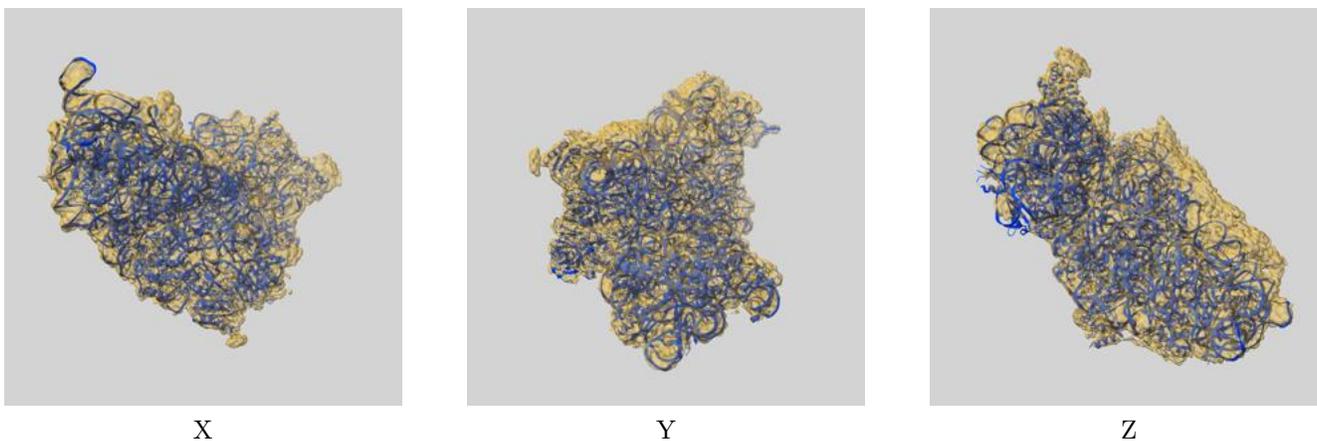
The images above show the 3D surface view of the map at the recommended contour level 0.04 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model ⓘ


X	Y	Z
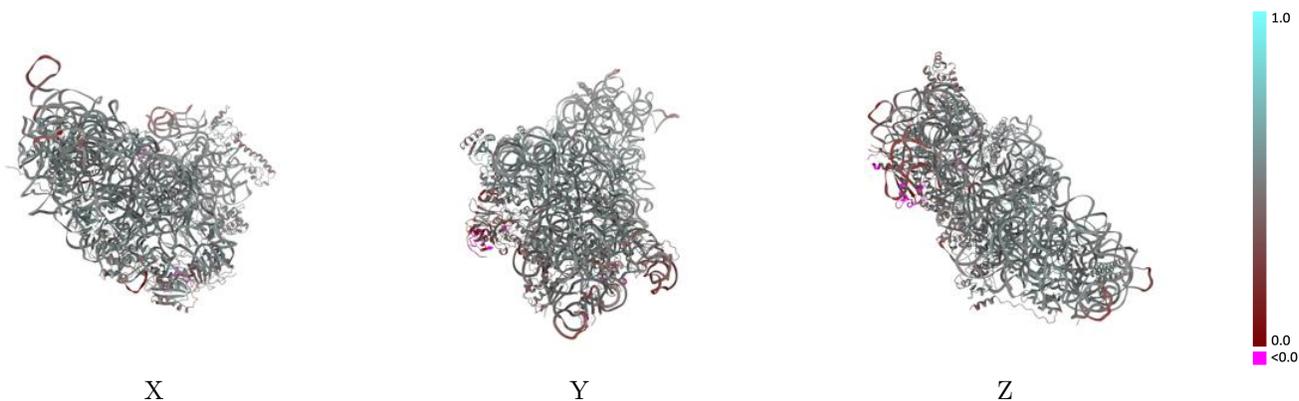
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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
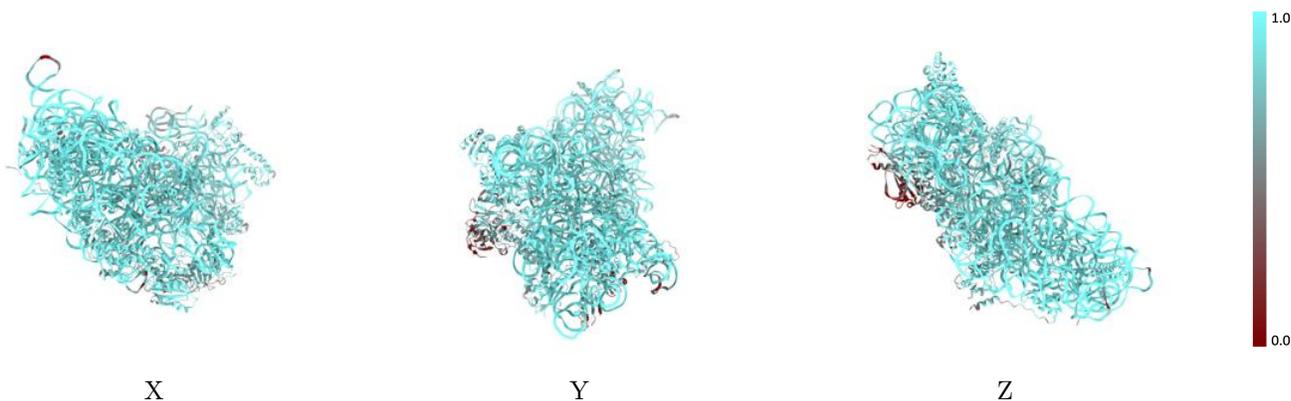
The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.04).

9.4   Atom inclusion ⓘ
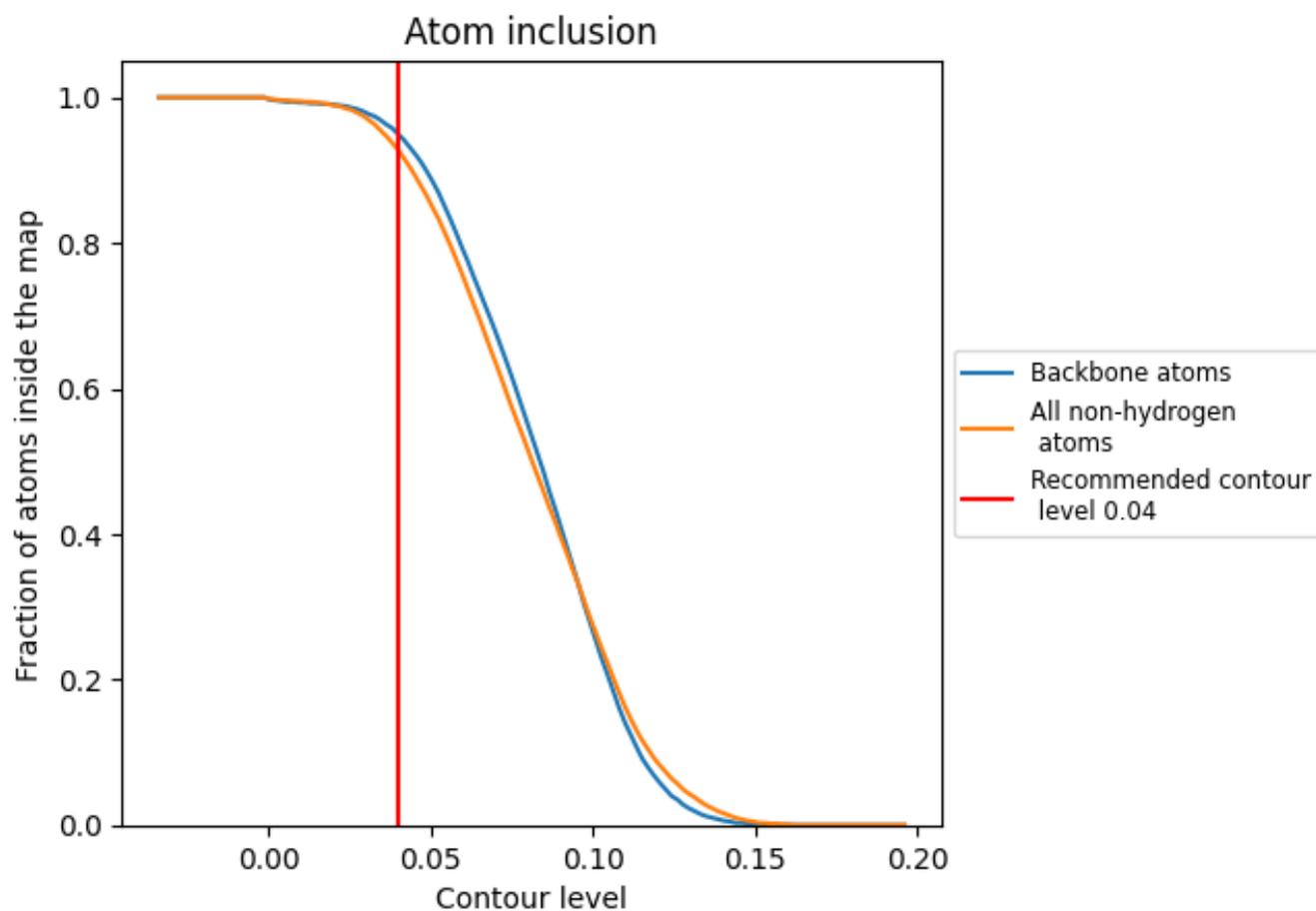
At the recommended contour level, 95% of all backbone atoms, 93% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary (i)

The table lists the average atom inclusion at the recommended contour level (0.04) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.9280	0.4770
a	0.9830	0.4880
b	0.4490	0.2600
c	0.8170	0.4180
d	0.5850	0.3930
e	0.9080	0.4940
f	0.9170	0.5110
g	0.9000	0.4860
h	0.9090	0.4780
i	0.9610	0.5240
j	0.8870	0.4630
k	0.6900	0.4280
l	0.9510	0.5100
m	0.9610	0.5300
n	0.9360	0.4660
o	0.8750	0.4840
p	0.9450	0.5040
q	0.9040	0.5030
r	0.9590	0.5180
s	0.9290	0.4890
t	0.9020	0.4800
u	0.9580	0.5090
v	0.9920	0.5000
w	0.7770	0.4190
x	0.7700	0.3980

1.0

0.0
<0.0