



# Full wwPDB EM Validation Report ⓘ

Oct 21, 2024 – 12:40 PM JST

PDB ID : 7EGI  
EMDB ID : EMD-31118  
Title : TFIID in rearranged conformation  
Authors : Chen, X.; Wu, Z.; Li, J.; Zhao, D.; Xu, Y.  
Deposited on : 2021-03-24  
Resolution : 9.82 Å(reported)

This is a Full wwPDB EM Validation Report for a publicly released PDB entry.

We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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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

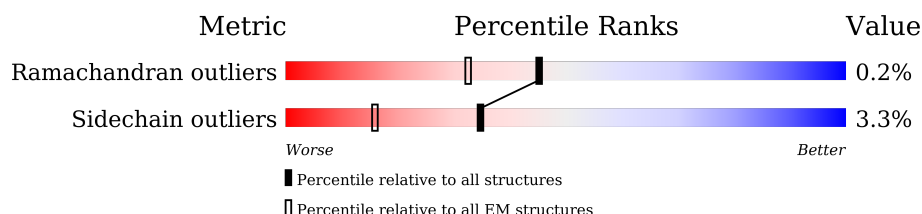
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*ELECTRON MICROSCOPY*

The reported resolution of this entry is 9.82 Å.

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





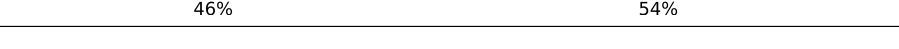




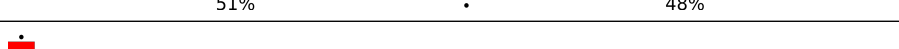





Metric	Whole archive (#Entries)	EM structures (#Entries)
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

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  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions  $\leq 5\%$ . The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion  $< 40\%$ ). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	1872	 27%      71%
2	B	1199	 79%      20%
3	D	1085	 17%      82%
3	d	1085	 14%      85%
4	E	800	 66%      32%
4	e	800	 9%      66%      33%
5	F	677	 58%      39%
5	f	677	 58%      40%
6	G	349	 7%      39%      59%

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Mol	Chain	Length	Quality of chain
7	H	310	
8	I	264	
8	i	264	
9	J	218	
9	j	218	
10	L	161	
10	l	161	
11	O	109	
12	P	339	
13	Q	376	
14	c	929	
15	k	211	
16	m	124	

## 2 Entry composition

There are 16 unique types of molecules in this entry. The entry contains 43358 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 Transcription initiation factor TFIID subunit 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	549	Total	C	N	O	S	0	0
			4505	2879	781	818	27		

- Molecule 2 is a protein called Transcription initiation factor TFIID subunit 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	963	Total	C	N	O	S	0	0
			7796	5011	1315	1412	58		

- Molecule 3 is a protein called Transcription initiation factor TFIID subunit 4.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	D	197	Total	C	N	O	S	0	0
			1614	997	302	310	5		
3	d	158	Total	C	N	O	S	0	0
			1307	814	238	252	3		

- Molecule 4 is a protein called Transcription initiation factor TFIID subunit 5.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	E	545	Total	C	N	O	S	0	0
			4359	2765	756	817	21		
4	e	539	Total	C	N	O	S	0	0
			4327	2746	748	814	19		

- Molecule 5 is a protein called Transcription initiation factor TFIID subunit 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	F	412	Total	C	N	O	S	0	0
			3143	1994	548	583	18		
5	f	403	Total	C	N	O	S	0	0
			3081	1954	533	576	18		

- Molecule 6 is a protein called Transcription initiation factor TFIID subunit 7.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	G	144	Total	C	N	O	S	0	0
			1171	742	215	210	4		

- Molecule 7 is a protein called Transcription initiation factor TFIID subunit 8.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	H	209	Total	C	N	O	S	0	0
			1622	1026	281	310	5		

- Molecule 8 is a protein called Transcription initiation factor TFIID subunit 9.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	I	120	Total	C	N	O	S	0	0
			959	610	166	177	6		
8	i	121	Total	C	N	O	S	0	0
			967	615	167	178	7		

- Molecule 9 is a protein called Transcription initiation factor TFIID subunit 10.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	J	90	Total	C	N	O	S	0	0
			720	466	115	135	4		
9	j	95	Total	C	N	O	S	0	0
			759	488	124	143	4		

- Molecule 10 is a protein called Transcription initiation factor TFIID subunit 12.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	L	76	Total	C	N	O	S	0	0
			622	388	109	122	3		
10	l	107	Total	C	N	O	S	0	0
			876	547	158	166	5		

- Molecule 11 is a protein called Transcription initiation factor IIA subunit 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	O	97	Total	C	N	O	S	0	0
			771	491	133	145	2		

- Molecule 12 is a protein called TATA-box-binding protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	P	177	Total	C	N	O	S	0	0
			1412	918	249	238	7		

- Molecule 13 is a protein called Transcription initiation factor IIA subunit 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	Q	101	Total	C	N	O	S	0	0
			827	524	139	160	4		

- Molecule 14 is a protein called Transcription initiation factor TFIID subunit 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	c	127	Total	C	N	O	S	0	0
			1011	638	174	193	6		

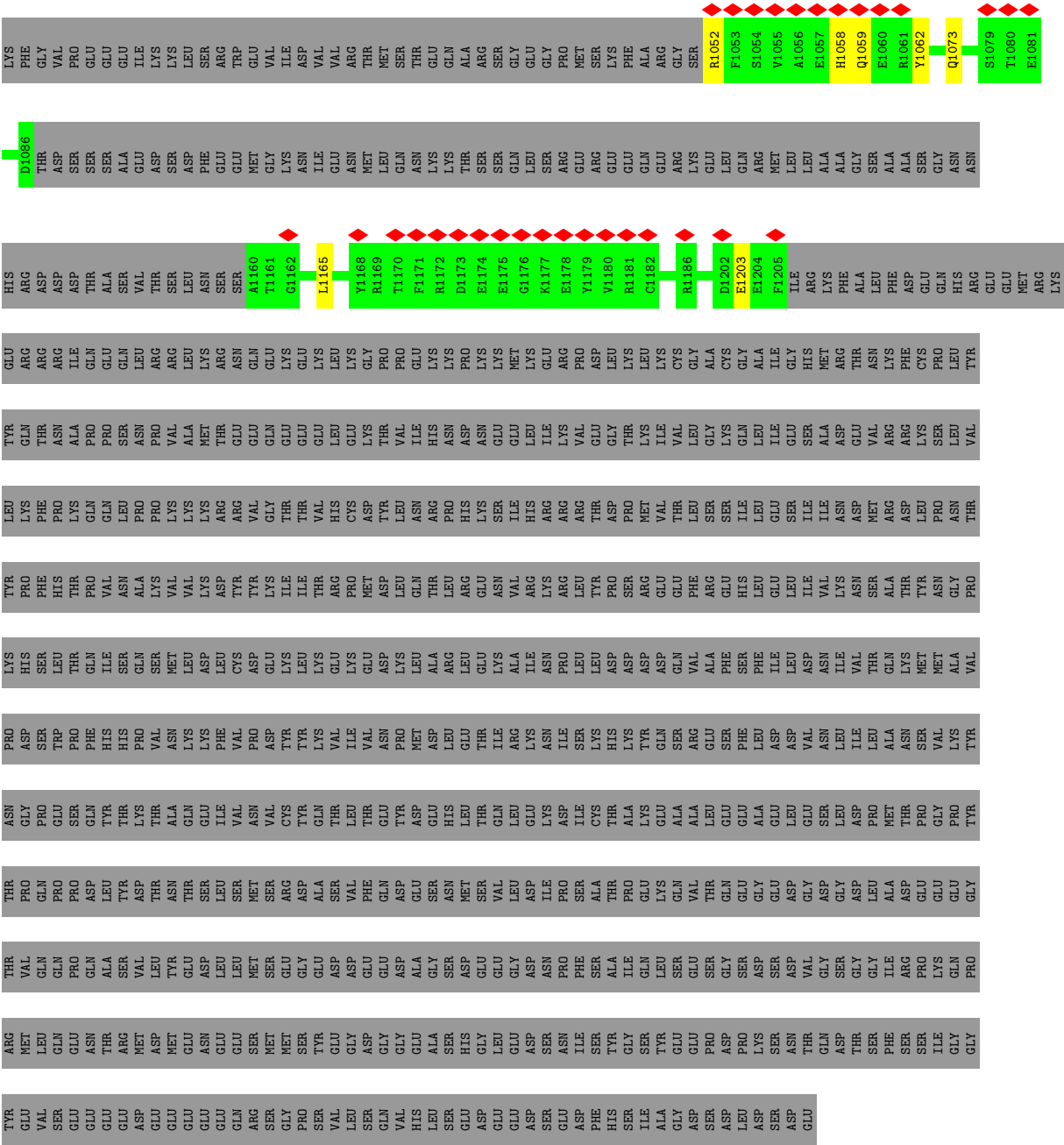
- Molecule 15 is a protein called Transcription initiation factor TFIID subunit 11.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	k	98	Total	C	N	O	S	0	0
			785	499	142	139	5		

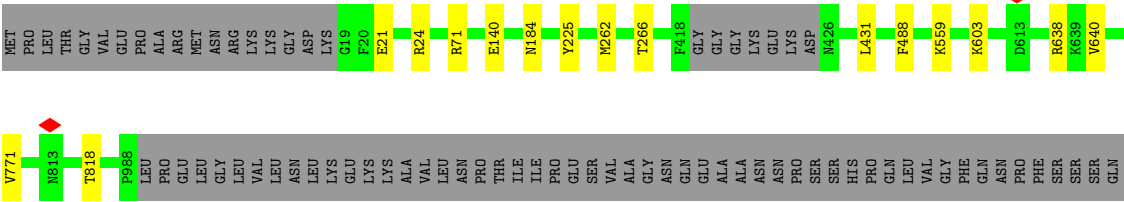
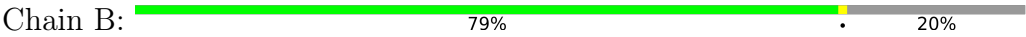
- Molecule 16 is a protein called Transcription initiation factor TFIID subunit 13.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	m	87	Total	C	N	O	S	0	0
			724	456	131	131	6		





● Molecule 2: Transcription initiation factor TFIID subunit 2





LYS	HIS	LYS	HIS	LYS	HIS	LYS	HIS	ASP	SER	LYS	GLU	LYS	ASP	GLU	PRO	PHE	THR	PHE	SER	SER	PRO	ALA	SER	GLY	ARG	SER	ILE	ARG	SER	PRO	SER	LEU	LYS	ASP
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- Molecule 3: Transcription initiation factor TFIID subunit 4

Chain D:  17% 82%

HIS	VALL	SER	Gly	Ser	Pro	Ala	Gly	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Arg	Arg	Pro	Gly	Gly	Gly	Pro	Gln	Arg	Pro	Pro	Pro	Pro	Leu	Val	Ala
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[illegible][illegible]

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

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

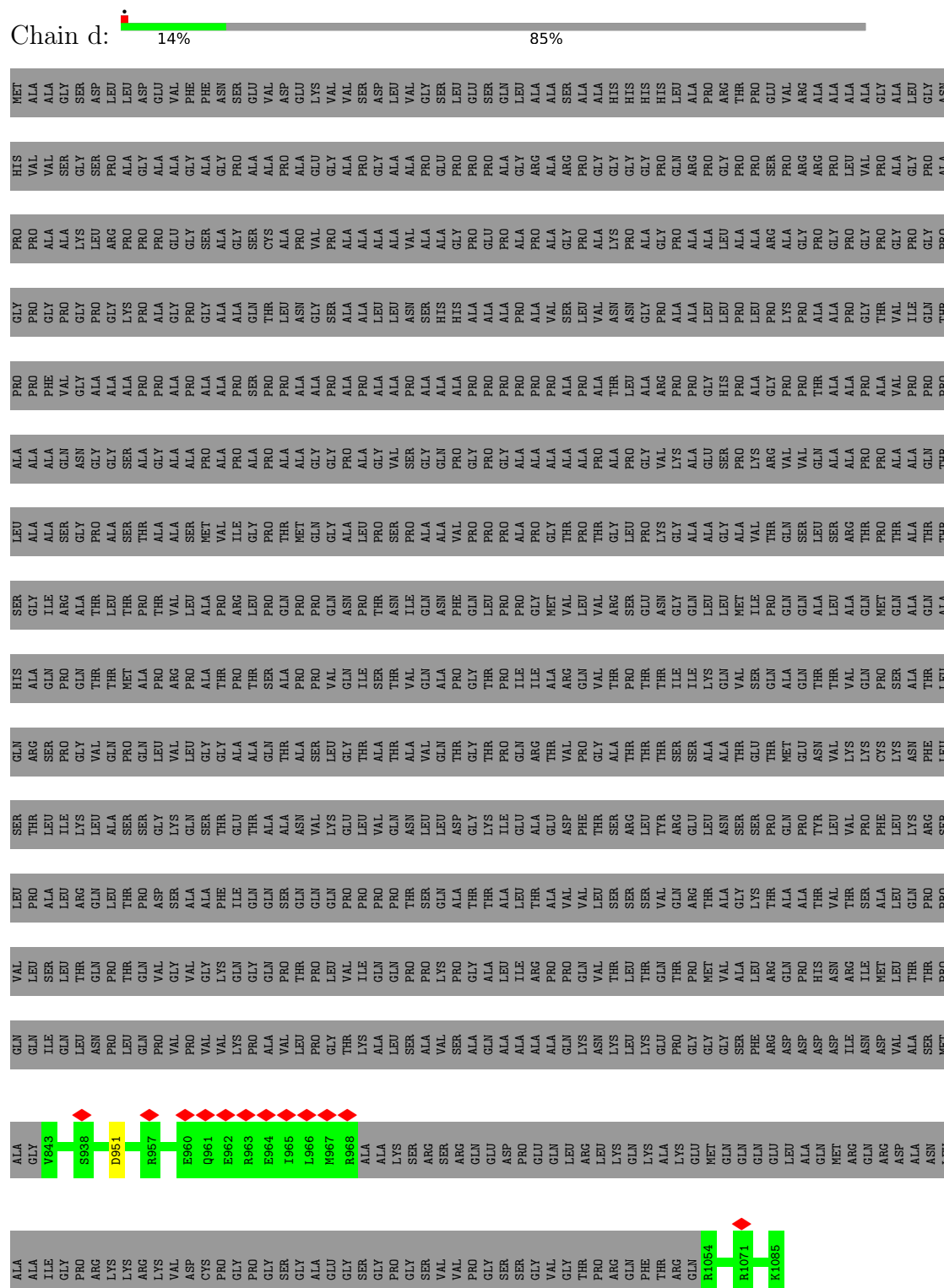
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VAL	LEU	LEU	LEU	GLN	PRO	THR	GLN	GLY	GLY	LYS	GLN	GLN	LEU	VAL	ILE	ILE	GLN	PRO	PRO	PRO	LYS	GLY	ALA	LEU	ILE	ARG	PRO	PRO	GLN	VAL	THR	THR	GLN	THR	PRO	MET	VAL	ALA	LEU	ARG	GLN	PRO	GLN	HIS	ASN	ARG	ILE	MET	LEU	THR	THR	PRO
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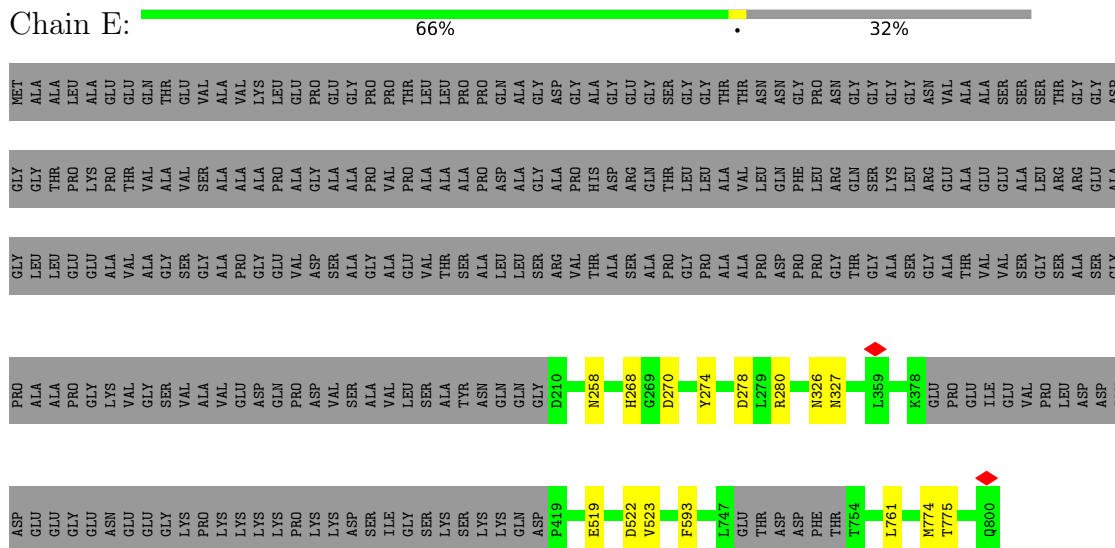
Gln	Gln	Ile	Gln	Leu	Asn	Pro	Leu	Gln	Pro	Val	Val	Lys	Pro	Ala	Val	Leu	Pro	Ser	Ala	Val	Ser	Ala	Gln	Ala	Ala	Ala	Ala	Gln	Lys	Asn	Lys	Leu	Lys	Glu	Pro	Gly	Gly	Ser	Phe	Arg	Asp	Asp	Asp	Tle	Asn	Asp	V837	M844
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S846	E847	E848	S849	A850	R851	L852	L853	A854	T855	N856	F858	LEU	VAL	GLY	THR	LEU	THR	ARG	SER	CYS	LYS	ASP	GLU	T871	K945	I953	E960	I965	L984	Q994	E995	Q998	M999	R1000	Q1001	R1002	D1003	N1005	L1006	T1007	A1008	L1009	I1012	GLY	PRO	ARG	LYS	LYS	LYS	ALA	PRO
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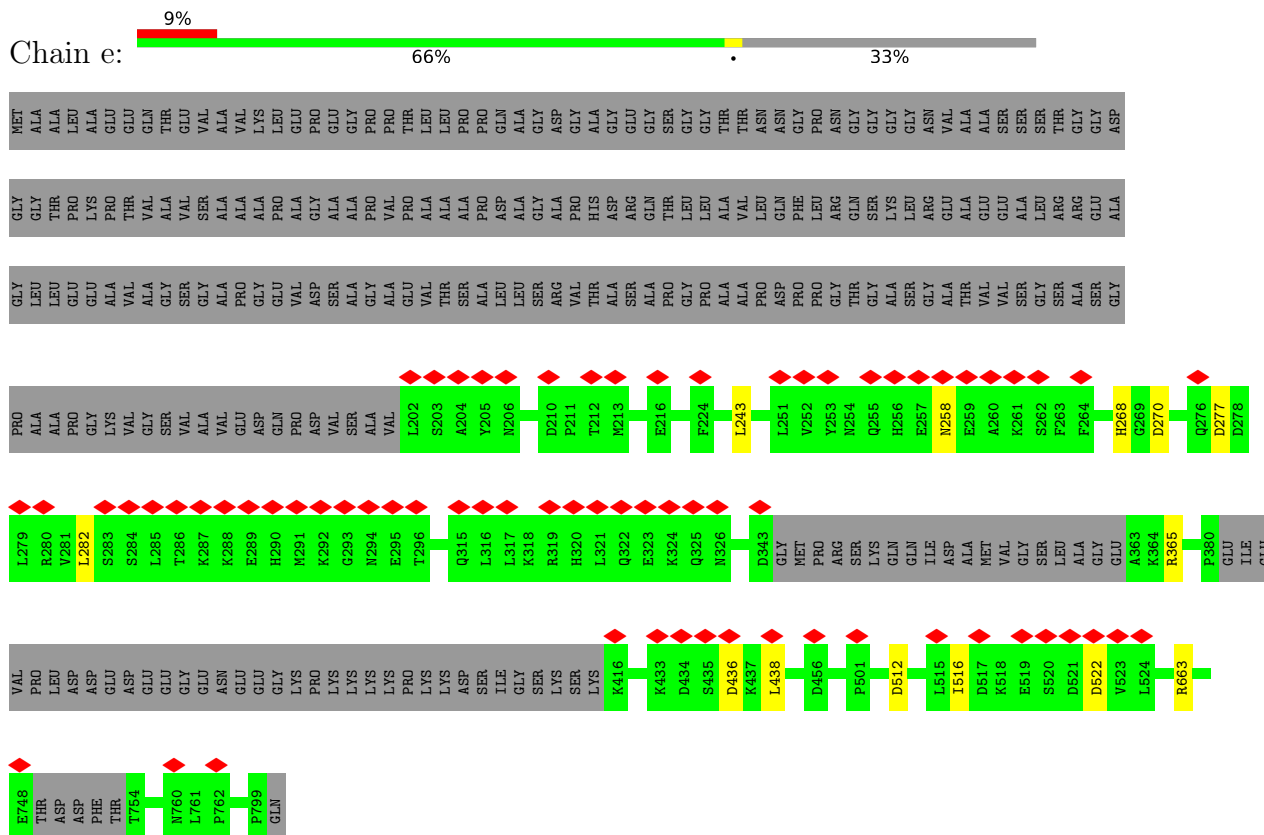
- Molecule 3: Transcription initiation factor TFIID subunit 4



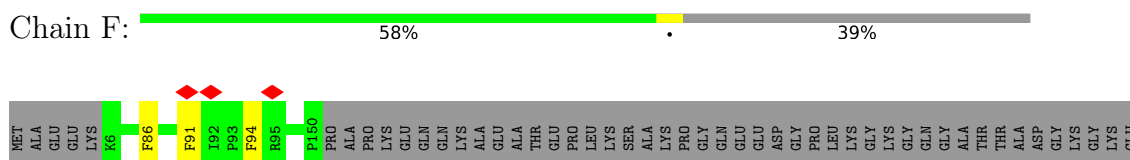
- Molecule 4: Transcription initiation factor TFIID subunit 5



- Molecule 4: Transcription initiation factor TFIID subunit 5



- Molecule 5: Transcription initiation factor TFIID subunit 6











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

- Molecule 15: Transcription initiation factor TFIID subunit 11

Chain k:  46% 54%

[illegible]

- Molecule 16: Transcription initiation factor TFIID subunit 13

Chain m: 

MET	ALA	ASP	GLU	GLU	ASP	PRO	PHE	GLU	GLU	GLU	ASN	GLU	GLU	ILE	GLY	GLY	GLY	ALA	GLU	GLY	GLN	GLY	LYS	R28	L31	D55	E58	R77	E84	I90	R91	K92	D93	R114	LYS	ALA	PHE	ASP	GLU	ALA	ASN	TYR	GLY	SEP
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## 4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	64496	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ( $e^-/\text{\AA}^2$ )	50	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.040	Depositor
Minimum map value	-0.012	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.002	Depositor
Recommended contour level	0.01	Depositor
Map size (Å)	432.0, 432.0, 432.0	wwPDB
Map dimensions	320, 320, 320	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.35, 1.35, 1.35	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	0.50	0/4621	0.67	0/6240
2	B	0.46	0/7993	0.60	0/10836
3	D	0.43	0/1628	0.53	0/2178
3	d	0.39	0/1321	0.53	0/1772
4	E	0.39	0/4465	0.59	0/6045
4	e	0.43	0/4433	0.59	0/6004
5	F	0.48	0/3201	0.69	0/4347
5	f	0.40	0/3140	0.63	0/4268
6	G	0.51	0/1190	0.62	0/1601
7	H	0.49	0/1662	0.67	0/2272
8	I	0.27	0/981	0.47	0/1332
8	i	0.29	0/989	0.46	0/1343
9	J	0.57	0/736	0.69	0/998
9	j	0.53	0/775	0.63	0/1049
10	L	0.48	0/630	0.71	0/852
10	l	0.44	0/888	0.55	0/1194
11	O	0.34	0/781	0.62	0/1061
12	P	0.46	0/1438	0.57	0/1935
13	Q	0.36	0/842	0.63	0/1134
14	c	0.39	0/1035	0.54	0/1406
15	k	0.30	0/799	0.47	0/1070
16	m	0.59	0/733	0.64	0/977
All	All	0.44	0/44281	0.61	0/59914

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

### 5.2 Too-close contacts [i](#)

Due to software issues we are unable to calculate clashes - this section is therefore empty.

## 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	
1	A	533/1872 (28%)	514 (96%)	18 (3%)	1 (0%)	44	78
2	B	959/1199 (80%)	912 (95%)	47 (5%)	0	100	100
3	D	191/1085 (18%)	182 (95%)	9 (5%)	0	100	100
3	d	154/1085 (14%)	150 (97%)	4 (3%)	0	100	100
4	E	539/800 (67%)	515 (96%)	23 (4%)	1 (0%)	44	78
4	e	531/800 (66%)	482 (91%)	48 (9%)	1 (0%)	44	78
5	F	408/677 (60%)	390 (96%)	17 (4%)	1 (0%)	44	78
5	f	399/677 (59%)	383 (96%)	16 (4%)	0	100	100
6	G	138/349 (40%)	135 (98%)	3 (2%)	0	100	100
7	H	207/310 (67%)	193 (93%)	13 (6%)	1 (0%)	25	64
8	I	118/264 (45%)	115 (98%)	3 (2%)	0	100	100
8	i	119/264 (45%)	115 (97%)	4 (3%)	0	100	100
9	J	86/218 (39%)	82 (95%)	4 (5%)	0	100	100
9	j	91/218 (42%)	85 (93%)	4 (4%)	2 (2%)	5	29
10	L	74/161 (46%)	72 (97%)	2 (3%)	0	100	100
10	l	105/161 (65%)	100 (95%)	5 (5%)	0	100	100
11	O	95/109 (87%)	86 (90%)	9 (10%)	0	100	100
12	P	175/339 (52%)	165 (94%)	9 (5%)	1 (1%)	22	60
13	Q	97/376 (26%)	89 (92%)	8 (8%)	0	100	100
14	c	125/929 (14%)	116 (93%)	9 (7%)	0	100	100
15	k	96/211 (46%)	91 (95%)	5 (5%)	0	100	100
16	m	85/124 (68%)	82 (96%)	3 (4%)	0	100	100
All	All	5325/12228 (44%)	5054 (95%)	263 (5%)	8 (0%)	45	78

All (8) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
4	E	523	VAL
4	e	522	ASP
9	j	124	GLU
5	F	411	VAL
9	j	177	LYS
12	P	251	LEU
7	H	155	ASP
1	A	498	PRO

### 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	487/1665 (29%)	448 (92%)	39 (8%)	10	29
2	B	876/1083 (81%)	860 (98%)	16 (2%)	54	71
3	D	175/815 (22%)	167 (95%)	8 (5%)	23	44
3	d	146/815 (18%)	145 (99%)	1 (1%)	81	87
4	E	478/657 (73%)	464 (97%)	14 (3%)	37	56
4	e	475/657 (72%)	463 (98%)	12 (2%)	42	61
5	F	328/574 (57%)	311 (95%)	17 (5%)	19	40
5	f	322/574 (56%)	314 (98%)	8 (2%)	42	61
6	G	132/322 (41%)	124 (94%)	8 (6%)	15	37
7	H	178/270 (66%)	173 (97%)	5 (3%)	38	57
8	I	106/235 (45%)	106 (100%)	0	100	100
8	i	107/235 (46%)	107 (100%)	0	100	100
9	J	79/154 (51%)	72 (91%)	7 (9%)	8	25
9	j	83/154 (54%)	82 (99%)	1 (1%)	67	78
10	L	71/141 (50%)	66 (93%)	5 (7%)	12	32
10	l	98/141 (70%)	97 (99%)	1 (1%)	73	82
11	O	84/98 (86%)	84 (100%)	0	100	100
12	P	153/293 (52%)	151 (99%)	2 (1%)	65	77

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
13	Q	91/324 (28%)	89 (98%)	2 (2%)	47	65
14	c	113/833 (14%)	111 (98%)	2 (2%)	54	71
15	k	87/182 (48%)	87 (100%)	0	100	100
16	m	80/106 (76%)	73 (91%)	7 (9%)	8	25
All	All	4749/10328 (46%)	4594 (97%)	155 (3%)	35	52

All (155) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	341	TRP
1	A	353	LEU
1	A	395	ASP
1	A	397	LEU
1	A	400	GLU
1	A	404	MET
1	A	408	LEU
1	A	415	ILE
1	A	416	TRP
1	A	417	ASP
1	A	419	GLU
1	A	468	PHE
1	A	470	ILE
1	A	475	LEU
1	A	481	GLU
1	A	491	MET
1	A	500	LEU
1	A	501	THR
1	A	502	LEU
1	A	505	ASN
1	A	511	LEU
1	A	639	LEU
1	A	661	GLU
1	A	667	THR
1	A	711	ASP
1	A	727	THR
1	A	730	PHE
1	A	821	ARG
1	A	828	GLU
1	A	843	ARG
1	A	943	LYS
1	A	970	ASN

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Mol	Chain	Res	Type
1	A	1052	ARG
1	A	1058	HIS
1	A	1059	GLN
1	A	1062	TYR
1	A	1073	GLN
1	A	1165	LEU
1	A	1203	GLU
2	B	21	GLU
2	B	24	ARG
2	B	71	ARG
2	B	140	GLU
2	B	184	ASN
2	B	225	TYR
2	B	262	MET
2	B	266	THR
2	B	431	LEU
2	B	488	PHE
2	B	559	LYS
2	B	603	LYS
2	B	638	ARG
2	B	640	VAL
2	B	771	VAL
2	B	818	THR
3	D	945	LYS
3	D	953	ILE
3	D	960	GLU
3	D	965	ILE
3	D	984	LEU
3	D	1000	ARG
3	D	1002	ARG
3	D	1006	LEU
4	E	258	ASN
4	E	268	HIS
4	E	270	ASP
4	E	274	TYR
4	E	278	ASP
4	E	280	ARG
4	E	326	ASN
4	E	327	ASN
4	E	519	GLU
4	E	522	ASP
4	E	593	PHE

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Mol	Chain	Res	Type
4	E	761	LEU
4	E	774	MET
4	E	775	THR
5	F	86	PHE
5	F	91	PHE
5	F	94	PHE
5	F	258	ARG
5	F	261	THR
5	F	271	VAL
5	F	280	ILE
5	F	301	VAL
5	F	317	LEU
5	F	326	HIS
5	F	332	PHE
5	F	340	ILE
5	F	348	THR
5	F	354	ARG
5	F	368	THR
5	F	397	GLN
5	F	427	LEU
6	G	41	ASP
6	G	81	ASP
6	G	143	VAL
6	G	147	ARG
6	G	153	LYS
6	G	181	TRP
6	G	182	GLU
6	G	183	ILE
7	H	27	ASP
7	H	33	ARG
7	H	36	THR
7	H	155	ASP
7	H	161	LYS
9	J	116	LEU
9	J	123	LEU
9	J	156	SER
9	J	164	SER
9	J	174	CYS
9	J	177	LYS
9	J	192	LYS
10	L	79	ASP
10	L	104	ARG

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Mol	Chain	Res	Type
10	L	108	SER
10	L	113	VAL
10	L	114	LYS
12	P	193	ASN
12	P	280	PHE
13	Q	57	ASP
13	Q	331	THR
14	c	24	ASP
14	c	106	VAL
3	d	951	ASP
4	e	243	LEU
4	e	258	ASN
4	e	268	HIS
4	e	270	ASP
4	e	277	ASP
4	e	282	LEU
4	e	365	ARG
4	e	436	ASP
4	e	438	LEU
4	e	512	ASP
4	e	516	ILE
4	e	663	ARG
5	f	253	TYR
5	f	261	THR
5	f	272	VAL
5	f	322	ASP
5	f	323	VAL
5	f	326	HIS
5	f	356	THR
5	f	421	ASP
9	j	114	THR
10	l	114	LYS
16	m	31	LEU
16	m	55	ASP
16	m	58	GLU
16	m	77	ARG
16	m	84	GLU
16	m	90	ILE
16	m	91	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (74) such sidechains are listed below:



Mol	Chain	Res	Type
1	A	401	ASN
1	A	472	ASN
1	A	489	GLN
1	A	590	GLN
1	A	860	ASN
1	A	896	GLN
2	B	30	HIS
2	B	176	HIS
2	B	183	GLN
2	B	184	ASN
2	B	235	HIS
2	B	348	GLN
2	B	432	HIS
2	B	439	HIS
2	B	450	GLN
2	B	509	ASN
2	B	644	GLN
2	B	652	GLN
2	B	750	GLN
2	B	813	ASN
2	B	882	HIS
2	B	908	GLN
2	B	916	ASN
3	D	875	GLN
3	D	936	GLN
3	D	956	GLN
3	D	976	GLN
3	D	1053	GLN
4	E	254	ASN
4	E	256	HIS
4	E	258	ASN
4	E	268	HIS
4	E	327	ASN
4	E	351	GLN
4	E	616	HIS
4	E	640	ASN
4	E	758	HIS
4	E	800	GLN
5	F	59	HIS
5	F	79	ASN
5	F	89	GLN
5	F	119	ASN
5	F	221	GLN

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Mol	Chain	Res	Type
5	F	270	ASN
5	F	273	GLN
5	F	275	ASN
6	G	48	HIS
7	H	145	HIS
8	I	21	GLN
8	I	38	GLN
8	I	98	GLN
9	J	210	ASN
10	L	117	GLN
11	O	27	GLN
11	O	31	GLN
12	P	189	ASN
12	P	193	ASN
13	Q	37	GLN
3	d	912	ASN
3	d	943	GLN
3	d	1069	ASN
4	e	246	HIS
4	e	294	ASN
4	e	336	HIS
4	e	616	HIS
5	f	325	ASN
8	i	81	GLN
9	j	160	GLN
9	j	173	HIS
10	l	73	ASN
10	l	105	HIS
10	l	119	HIS
16	m	70	HIS
16	m	107	ASN

### 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 [i](#)

There are no oligosaccharides in this entry.

## 5.6 Ligand geometry [i](#)

There are no ligands in this entry.

## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

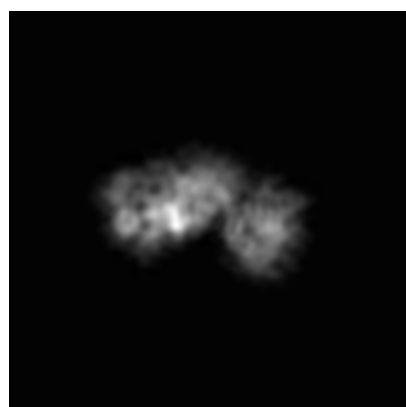
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-31118. These allow visual inspection of the internal detail of the map and identification of artifacts.

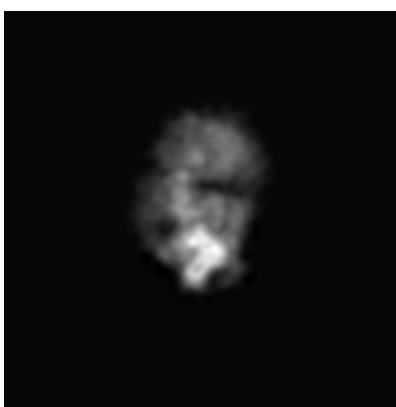
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

### 6.1 Orthogonal projections [i](#)

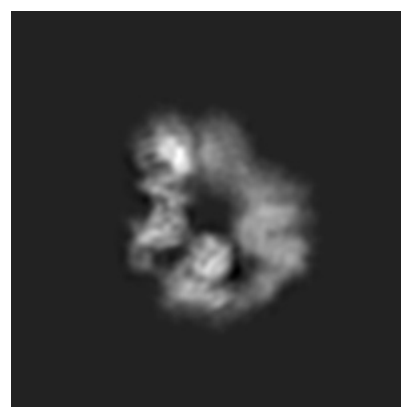
#### 6.1.1 Primary map



X



Y

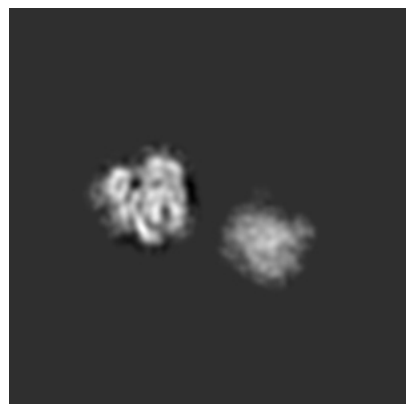


Z

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

### 6.2 Central slices [i](#)

#### 6.2.1 Primary map



X Index: 160



Y Index: 160



Z Index: 160

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

## 6.3 Largest variance slices [i](#)

### 6.3.1 Primary map



X Index: 132



Y Index: 133

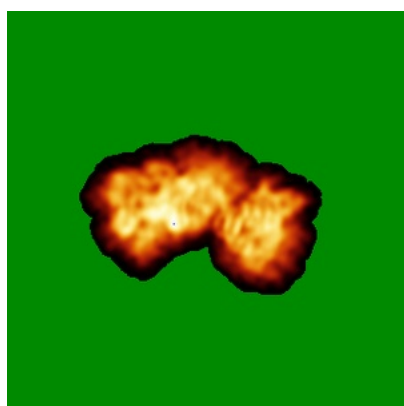


Z Index: 155

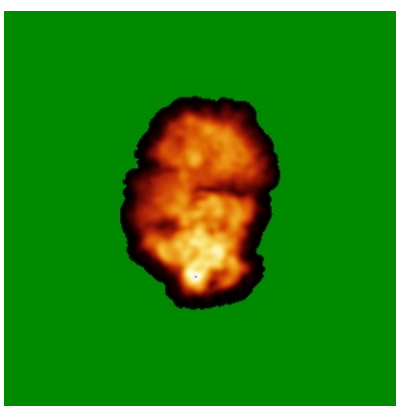
The images above show the largest variance slices of the map in three orthogonal directions.

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

### 6.4.1 Primary map



X



Y

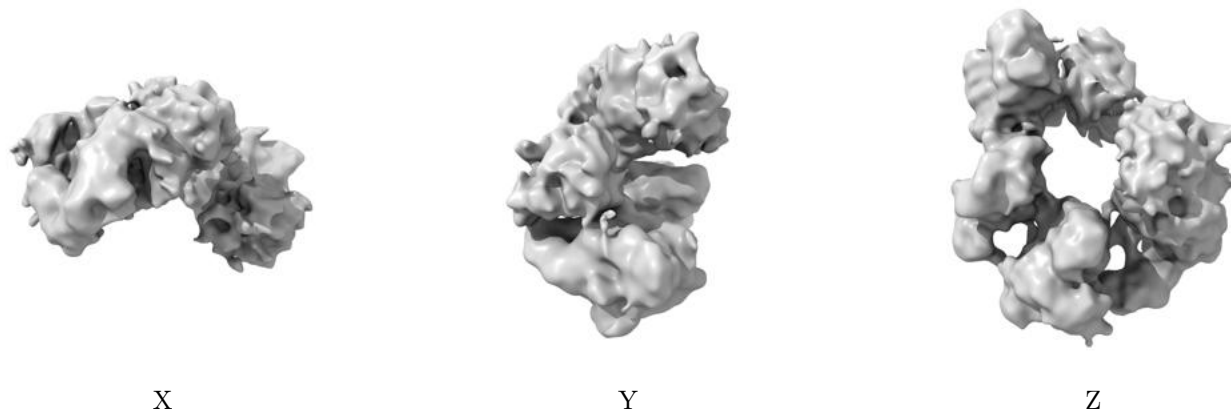


Z

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

## 6.5 Orthogonal surface views [i](#)

### 6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.01. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

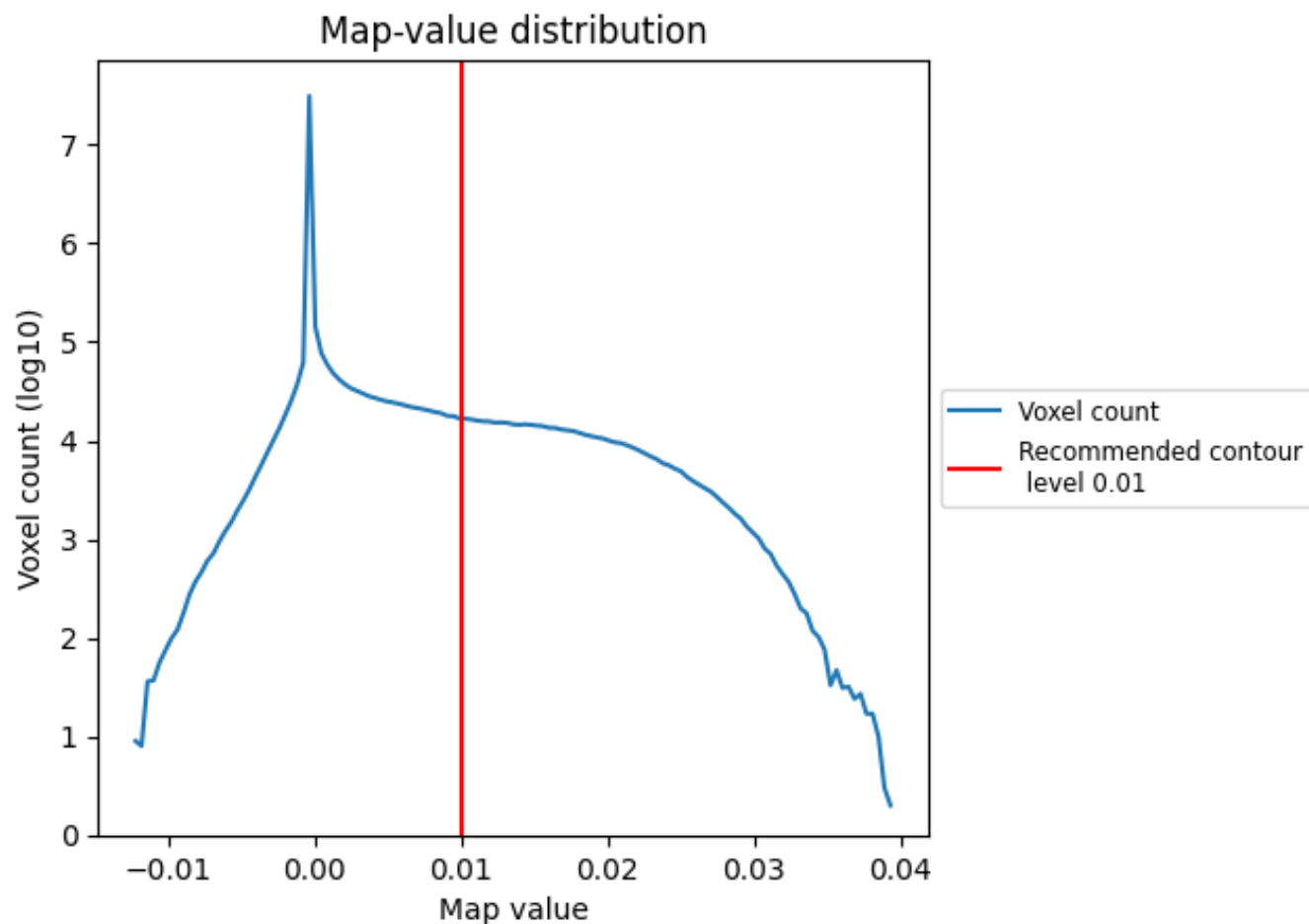
## 6.6 Mask visualisation [i](#)

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

## 7 Map analysis [i](#)

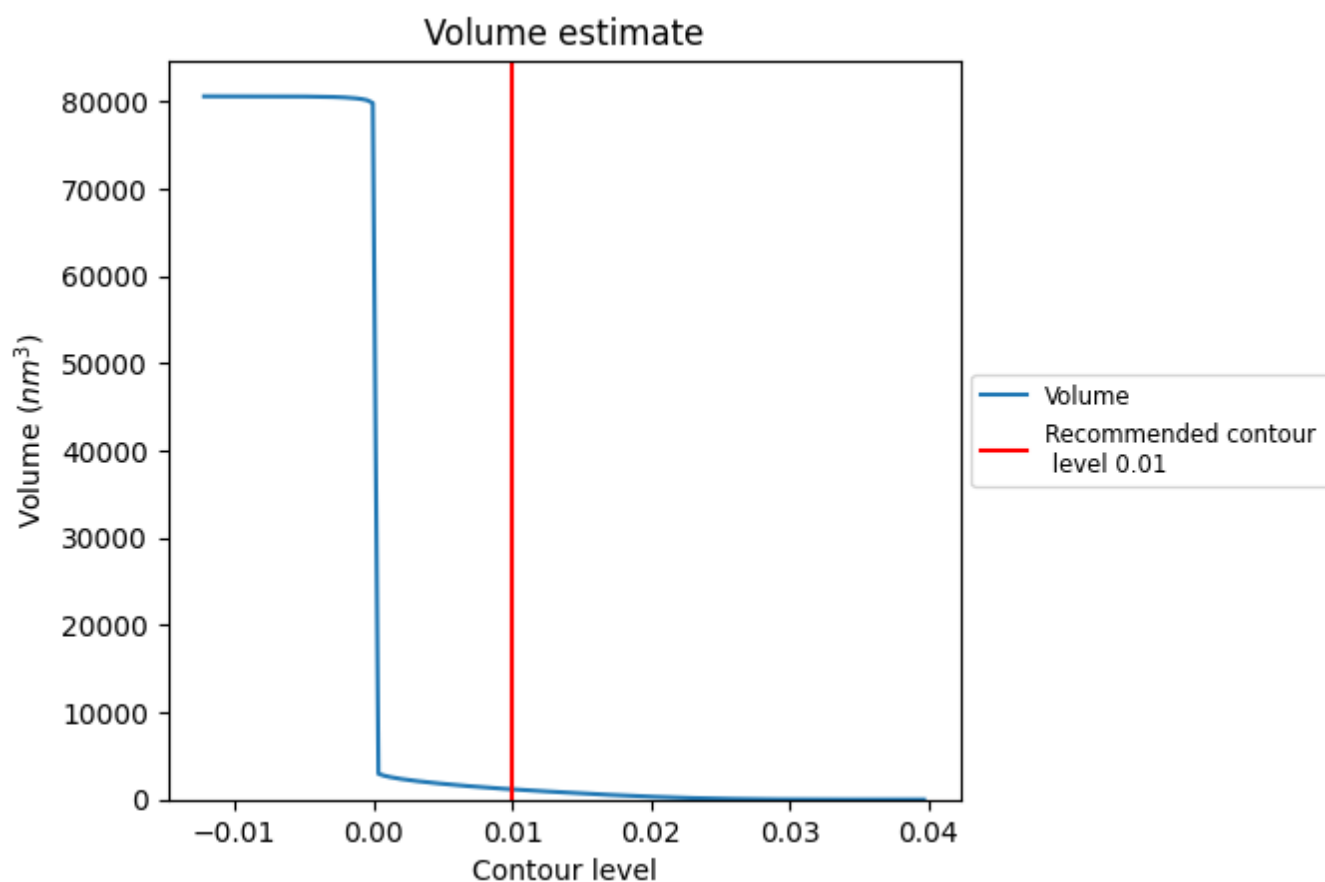
This section contains the results of statistical analysis of the map.

### 7.1 Map-value distribution [i](#)



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

## 7.2 Volume estimate [i](#)

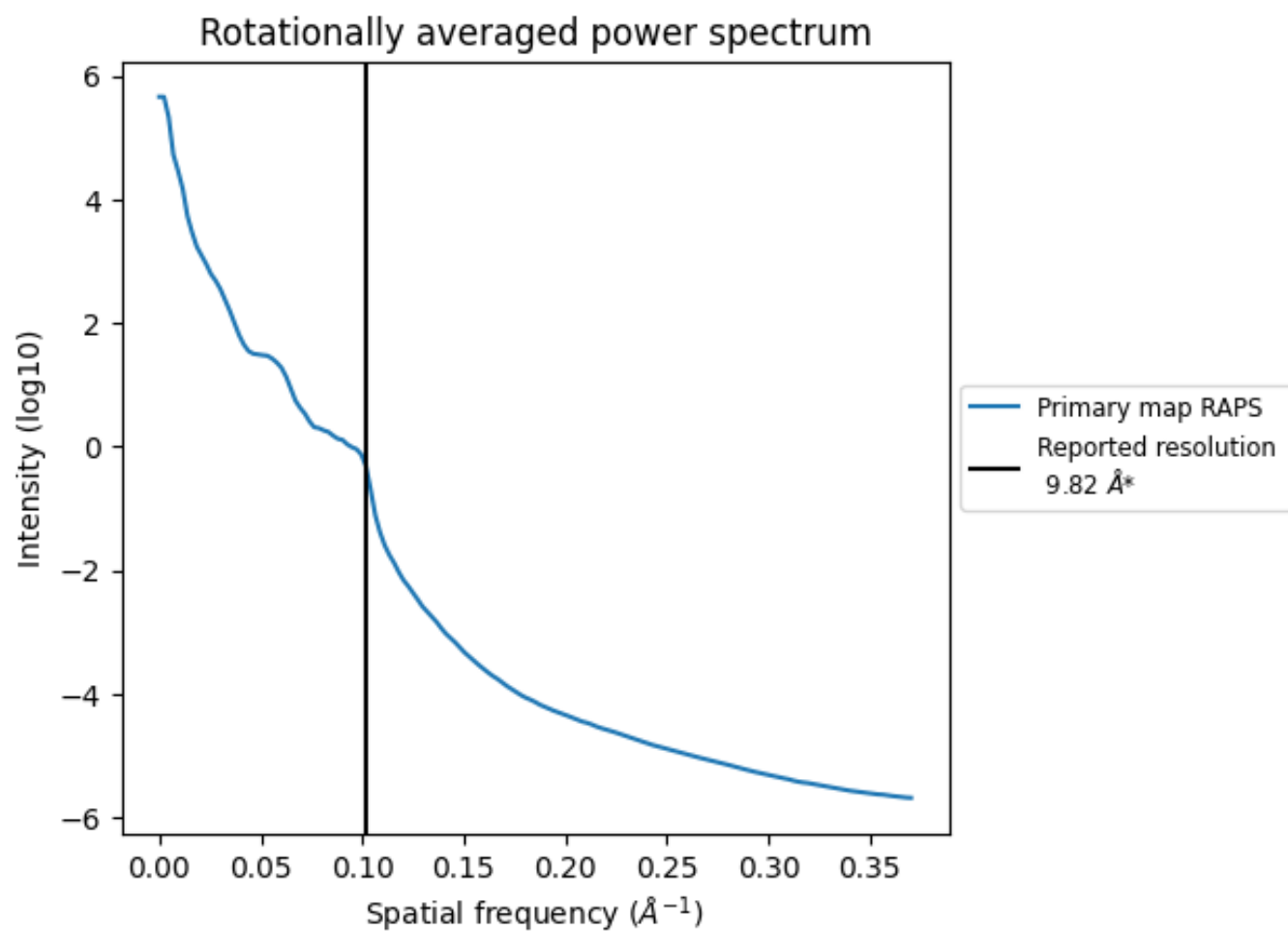


The volume at the recommended contour level is 1175 nm<sup>3</sup>; this corresponds to an approximate mass of 1062 kDa.

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 0.102 Å<sup>-1</sup>

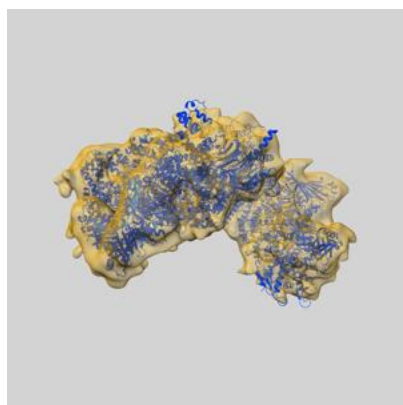
## 8 Fourier-Shell correlation ⓘ

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

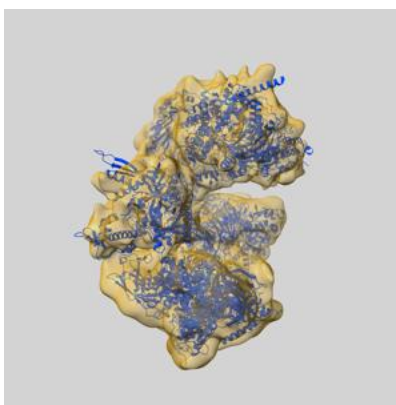
## 9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-31118 and PDB model 7EGI. Per-residue inclusion information can be found in section [3](#) on page [7](#).

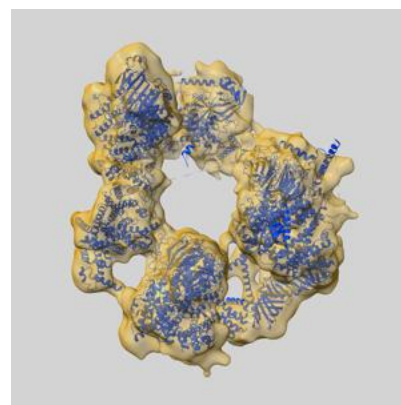
### 9.1 Map-model overlay [i](#)



X



Y



Z

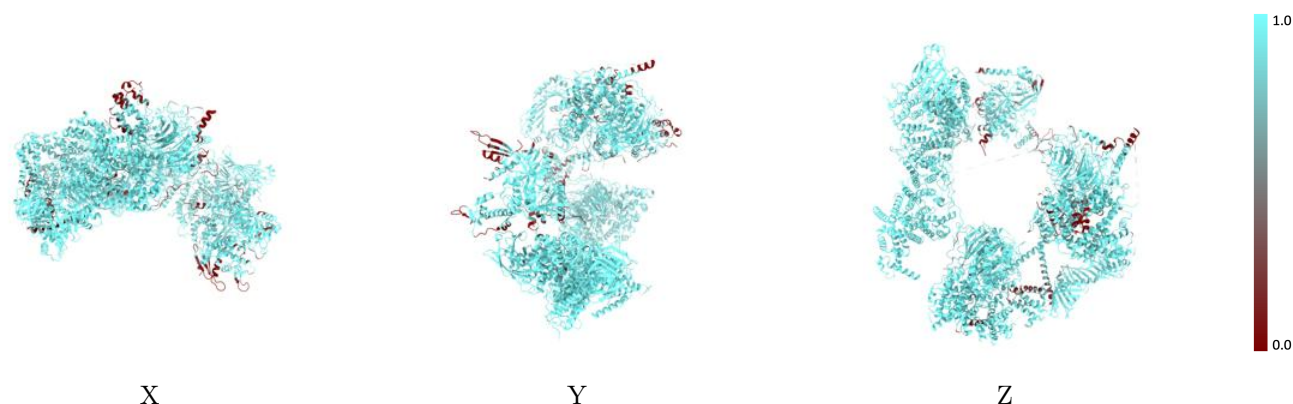
The images above show the 3D surface view of the map at the recommended contour level 0.01 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



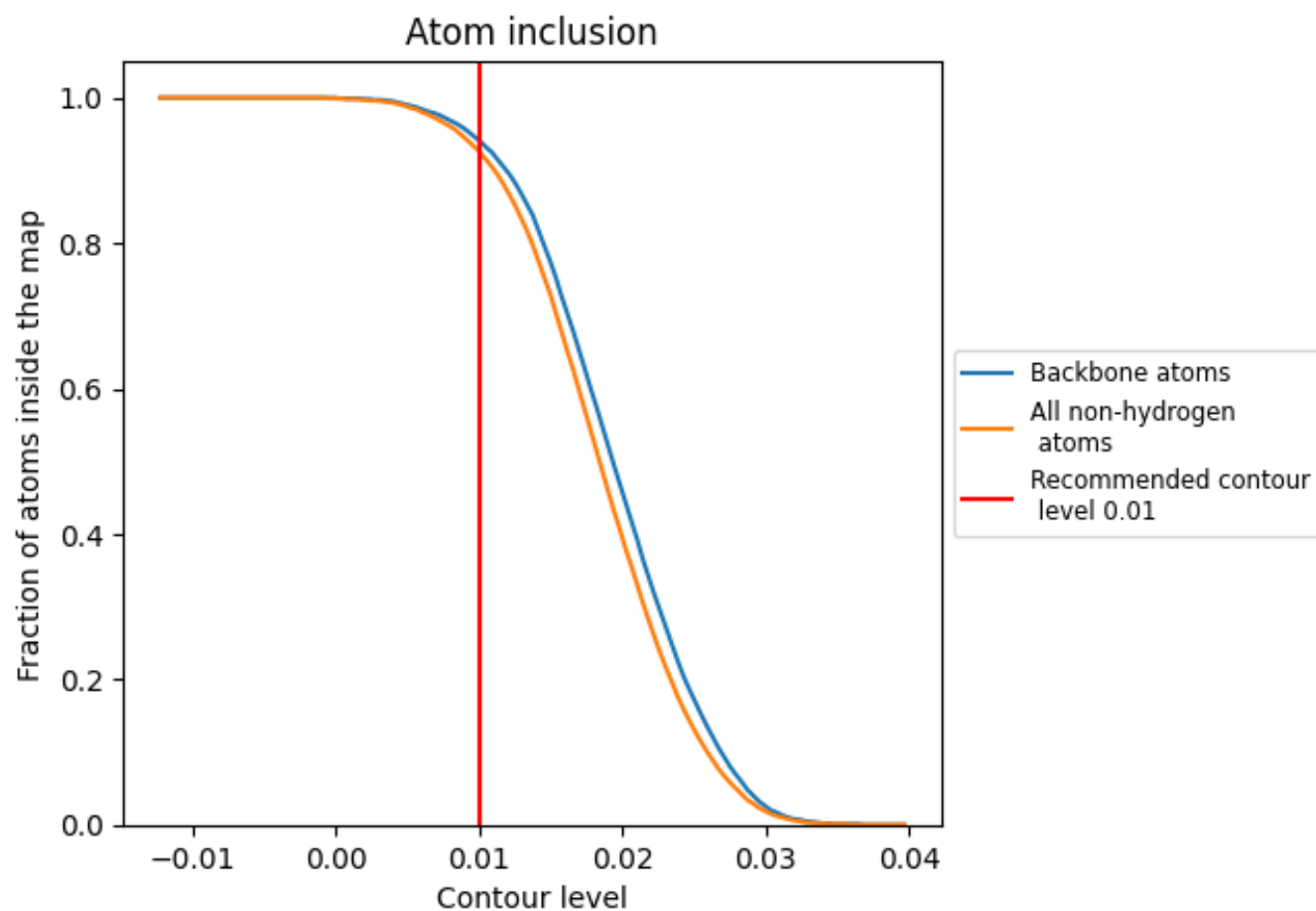
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

## 9.3 Atom inclusion mapped to coordinate model [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.01).















































## 9.4 Atom inclusion [i](#)



At the recommended contour level, 94% of all backbone atoms, 93% of all non-hydrogen atoms, are inside the map.

## 9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.01) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9270	 0.0790
A	 0.8380	 0.0620
B	 0.9800	 0.0950
D	 0.8530	 0.0940
E	 0.9730	 0.0850
F	 0.9700	 0.1150
G	 0.8270	 0.0320
H	 0.9720	 0.1260
I	 0.9710	 0.1130
J	 0.9960	 0.1020
L	 0.9760	 0.1130
O	 0.7740	 0.0740
P	 0.9650	 0.0700
Q	 0.8870	 0.0520
c	 0.8690	 0.0420
d	 0.9030	 0.0490
e	 0.8480	 0.0310
f	 0.9590	 0.0980
i	 0.9780	 0.0700
j	 0.9660	 0.0590
k	 0.8960	 0.0510
l	 0.9700	 0.0740
m	 0.9500	 0.0700

