



Full wwPDB EM Validation Report ⓘ

Mar 24, 2026 – 11:19 PM UTC

PDB ID : 8JU5 / pdb_00008ju5
EMDB ID : EMD-36659
Title : Structure of human TRPV4 with antagonist A1
Authors : Fan, J.; Lei, X.
Deposited on : 2023-06-24
Resolution : 3.74 Å(reported)

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

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

EMDB validation analysis : 0.0.1.dev132
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
Buster-report : wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDb archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

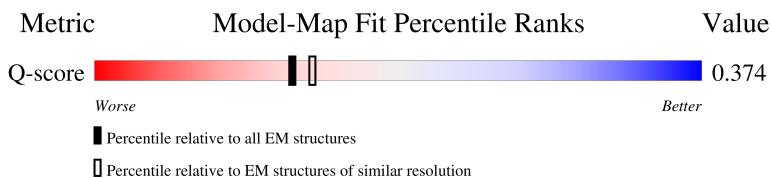
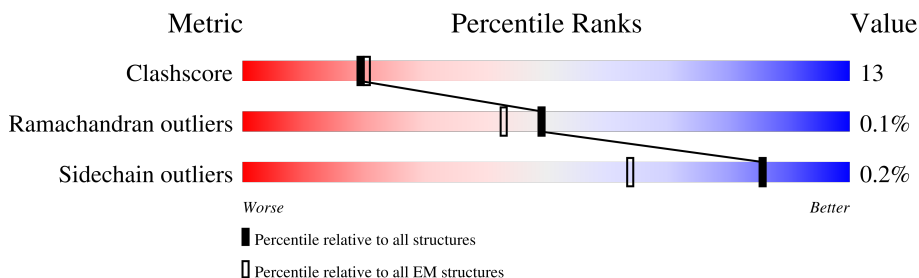
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.74 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)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
Q-score	-	25397	10346 (3.24 - 4.24)

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 $\leq 5\%$. 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	1144	10% 39% 13% 48%
1	B	1144	10% 40% 15% 46%
1	C	1144	11% 37% 14% 48%
1	D	1144	10% 37% 17% 46%

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
2	F3L	B	1201	-	-	X	-
2	F3L	D	1201	-	-	X	-

2 Entry composition [i](#)

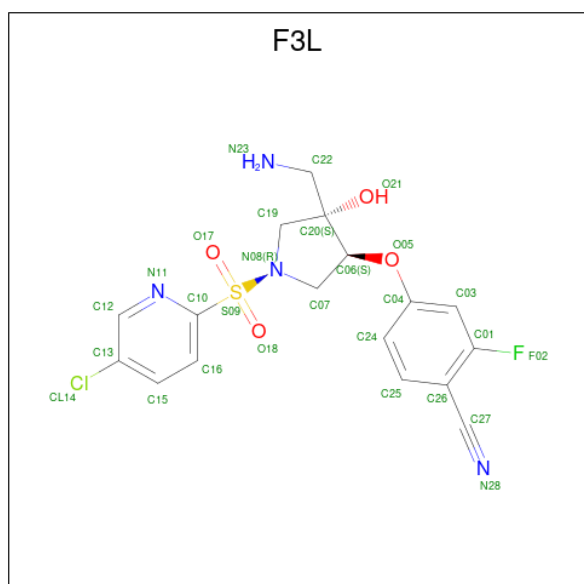
There are 2 unique types of molecules in this entry. The entry contains 19567 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 Transient receptor potential cation channel subfamily V member 4,3C-GFP.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	595	Total	C	N	O	S	0	0
			4762	3099	791	848	24		
1	D	622	Total	C	N	O	S	0	0
			4986	3248	825	887	26		
1	C	595	Total	C	N	O	S	0	0
			4765	3105	790	847	23		
1	B	623	Total	C	N	O	S	0	0
			4998	3254	829	888	27		

- Molecule 2 is 4-[(3 {S},4 {S})-4-(aminomethyl)-1-(5-chloranilpyridin-2-yl)sulfonyl-4-oxidanyl-pyrrolidin-3-yl]oxy-2-fluoranyl-benzenecarbonitrile (CCD ID: F3L) (formula: C₁₇H₁₆ClFN₄O₄S) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms							AltConf
2	D	1	Total	C	Cl	F	N	O	S	0
			28	17	1	1	4	4	1	

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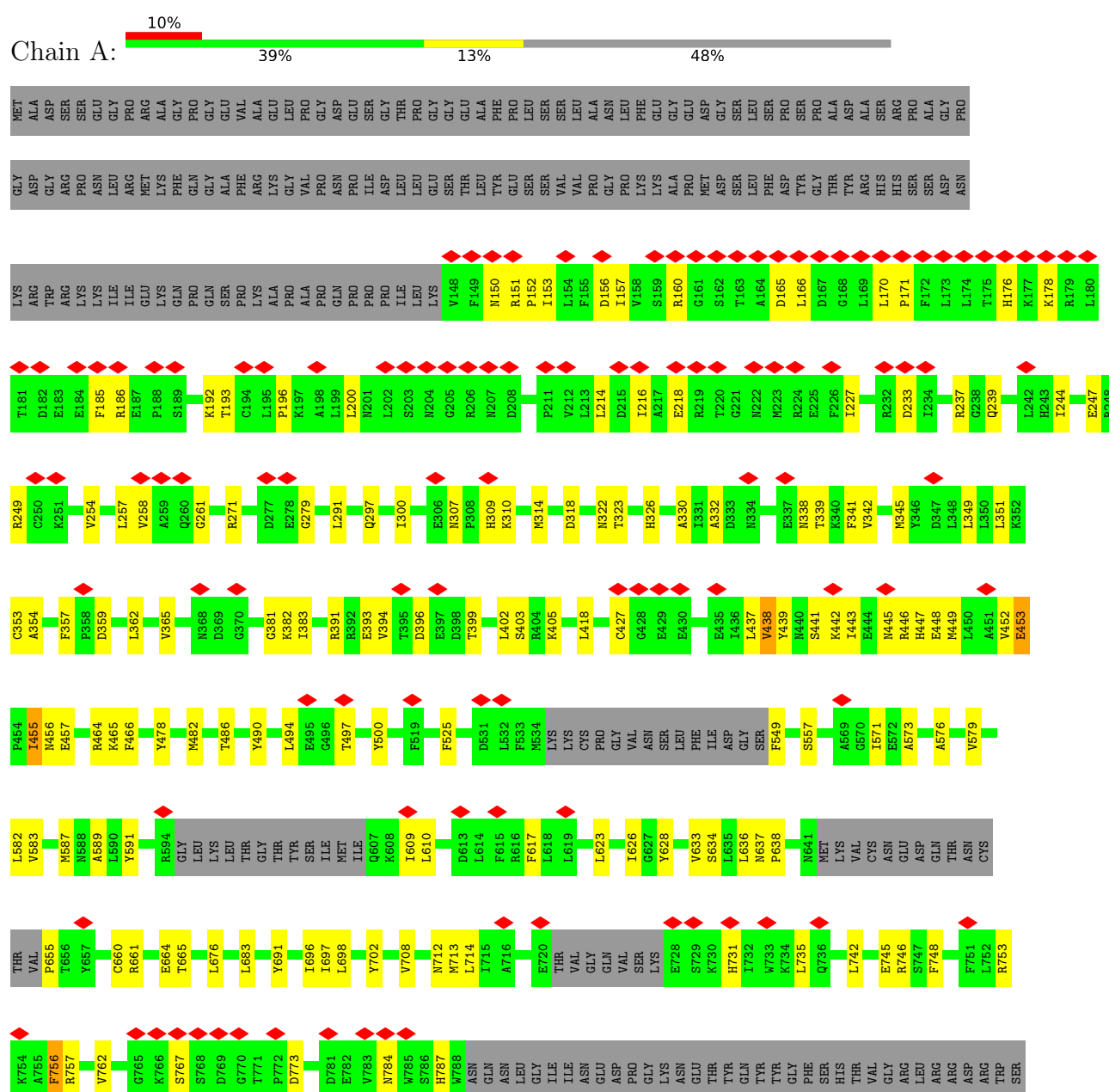
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Mol	Chain	Residues	Atoms							AltConf
			Total	C	Cl	F	N	O	S	
2	B	1	28	17	1	1	4	4	1	0

3 Residue-property plots

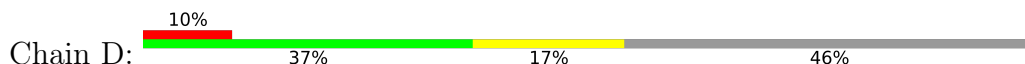
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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: Transient receptor potential cation channel subfamily V member 4,3C-GFP

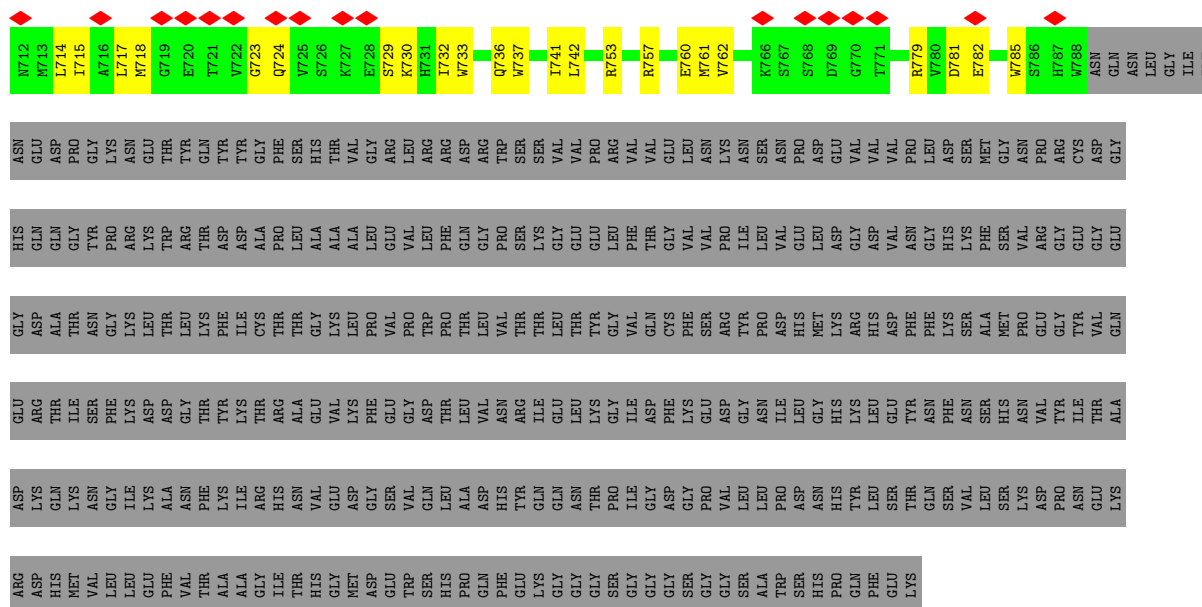


LYS	GLN	ILE	THR	LYS	SER
GLY	GLN	GLU	LEU	GLY	GLU
GLY	ASN	LEU	THR	THR	VAL
GLY	THR	LYS	TYR	GLY	ARG
SER	PRO	GLY	GLY	LEU	ARG
GLY	ILE	ILE	VAL	PHE	VAL
GLY	ASP	ASP	GLN	THR	VAL
GLY	ASP	PHE	CYS	GLY	GLU
SER	GLY	LYS	PHE	VAL	LEU
GLY	PRO	GLU	SER	VAL	ASN
GLY	VAL	ASP	ARG	PRO	LYS
SER	LEU	GLY	TYR	ILE	ASN
ALA	LEU	ASN	PRO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

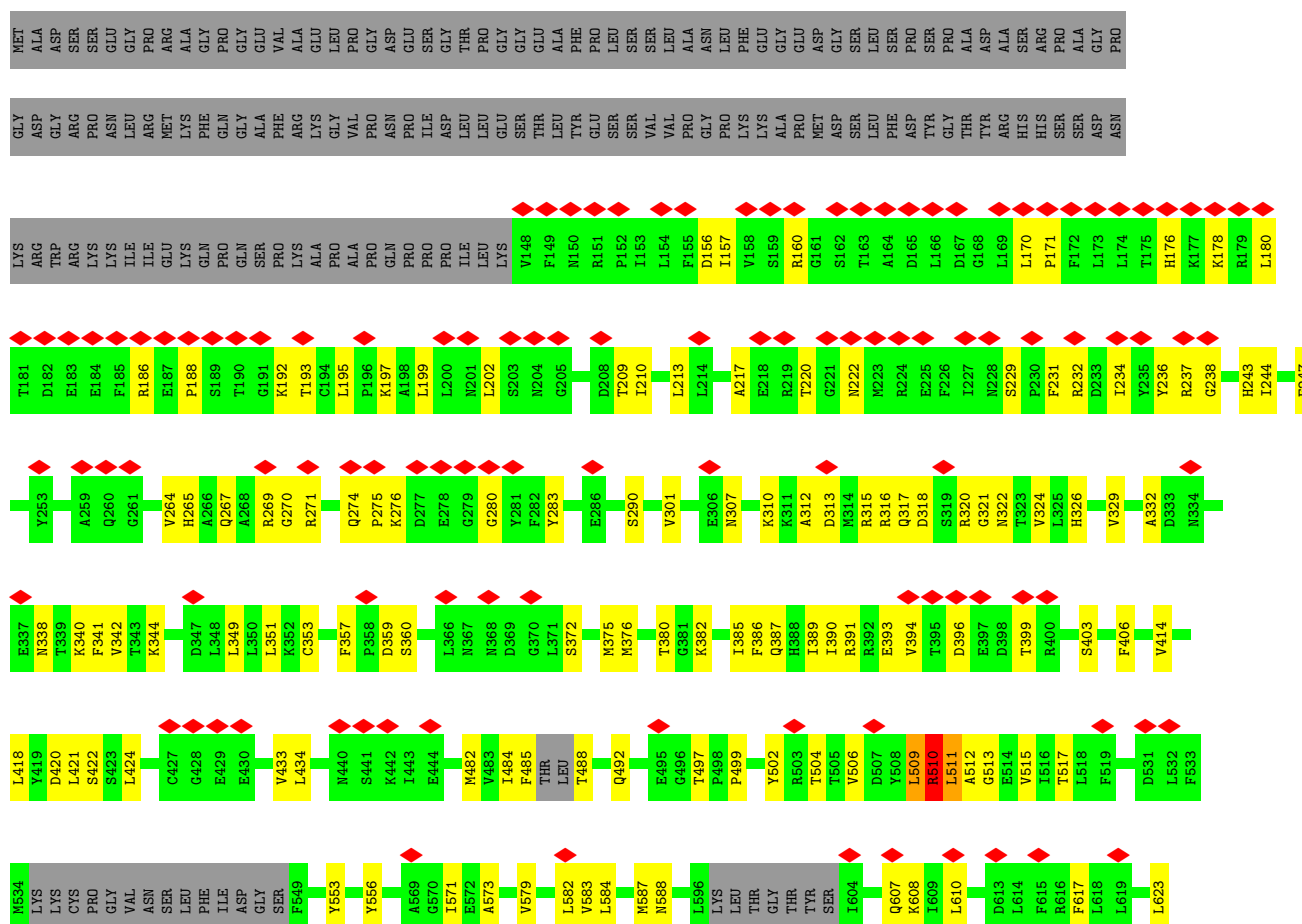
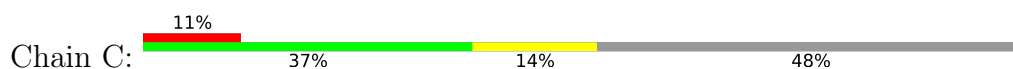
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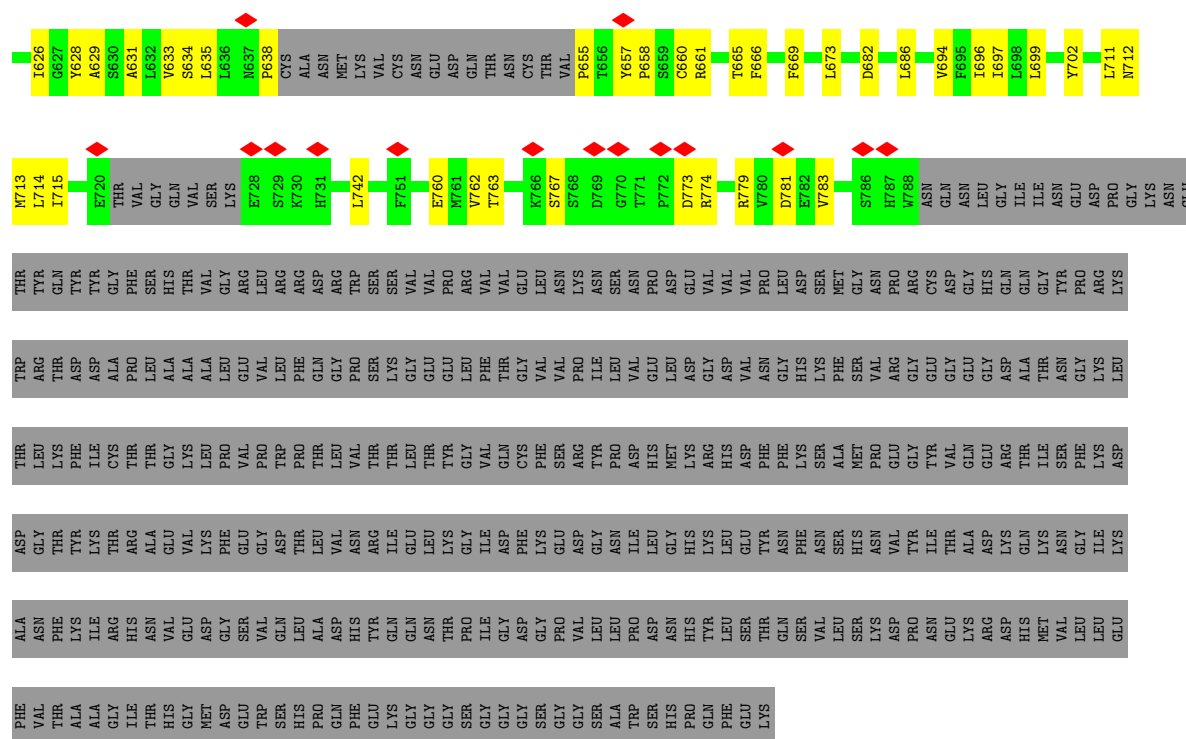


L622	P538	L434	A354	C250	T181	LYS	GLY
M625	G639	E435	A354	R251	D182	ARG	ASP
Y628	N641	L436	S360	Y253	E183	TRP	ALA
L635	S642	V438	E363	E255	E184	LYS	ARG
P638	F644	N440	L366	L256	F185	LYS	ASN
CYS	K442	S441	N367	L257	E187	ILE	LEU
ALA	I443	I443	G370	V258	P188	GLU	ARG
ASN	D546	E444	L371	G261	S189	LYS	MET
ASN	G547	R445	S372	A268	L195	GLN	ALA
MET	S548	R446	M375	R269	P196	PRO	GLY
VAL	F549	M449	K379	F273	K197	GLN	GLY
GLY	K551	E453	T380	D277	A198	PRO	VAL
ASN	L552	P454	G381	F284	L200	ALA	GLY
ASP	Y553	I455	K382	G285	N201	VAL	LEU
GLN	S557	M456	F386	E286	E202	ALA	PRO
THR	S563	Y472	T395	E296	T209	GLN	ASP
ASN	A564	I473	D396	L289	R206	PRO	GLY
CYS	A565	N474	E391	L291	G205	PRO	ASP
THR	L566	V475	R392	P298	N207	ILE	GLY
V654	I571	V476	V394	L402	T209	LEU	THR
S659	L575	T486	T395	E306	I210	LYS	GLY
G660	R661	L487	D396	N307	E217	VAL	THR
D662	A576	T488	E397	D313	E218	F155	LEU
S663	V577	A489	E397	D318	R219	F155	ALA
L670	A578	Y490	D398	S319	G221	PRO	GLY
L671	V579	Y491	L402	N322	N222	LYS	GLY
L674	L582	Q492	S403	T323	M223	ALA	GLY
T677	V583	L494	F406	V324	E225	GLY	GLY
M680	M587	E495	K407	A332	F226	ASP	ASP
S688	N588	G496	D408	D333	S229	LEU	LEU
V694	Y591	T497	W409	R336	P230	THR	LEU
L698	F592	P498	A410	E337	F231	TYR	PRO
L699	T593	P499	Y411	N338	R232	THR	ALA
V700	R594	D507	G412	V414	G168	TYR	ASP
T701	G595	R510	P413	S416	L169	ARG	ALA
Y702	L596	L518	S417	R336	D233	ARG	ALA
I703	K597	F519	L418	E337	G235	HIS	SER
I704	Y602	F525	L421	N338	R232	ARG	ARG
L705	S603	K630	L424	K340	I234	ARG	ALA
T706	I604	D531	D425	K341	I242	HIS	SER
F707	M605	L532	T426	V342	E245	ARG	ARG
Y708	Y605	F532	C427	T343	K246	HIS	PRO
L709	K608	F533	G428	K344	I177	ARG	ARG
L710	I609	M534	E429	M345	L240	ASP	GLY
L711	D613	K535	E430	L350	L242	ASP	GLY
		K536			I243	ASN	PRO
		C537			I244		
					A245		
					I246		
					E247		
					K178		
					R179		
					P248		
					P249		

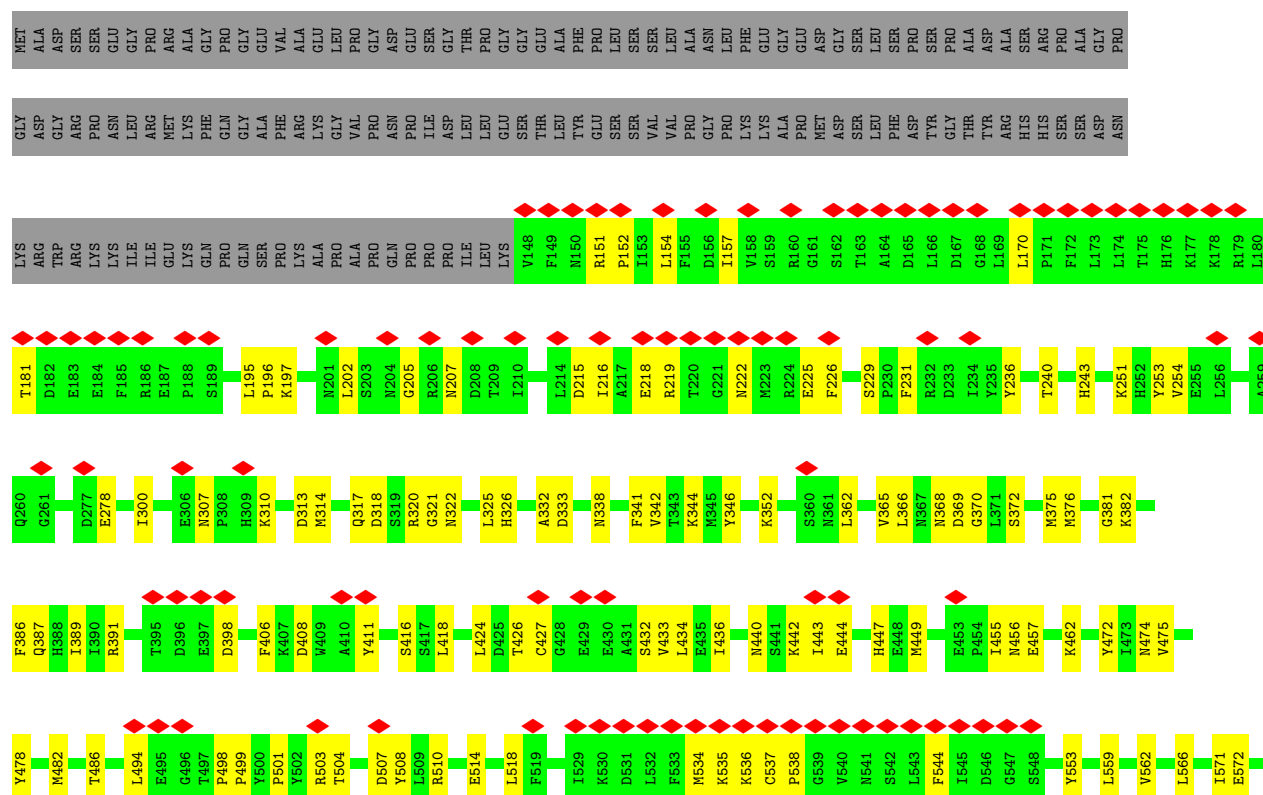
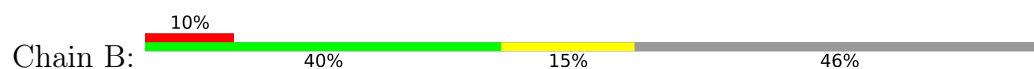


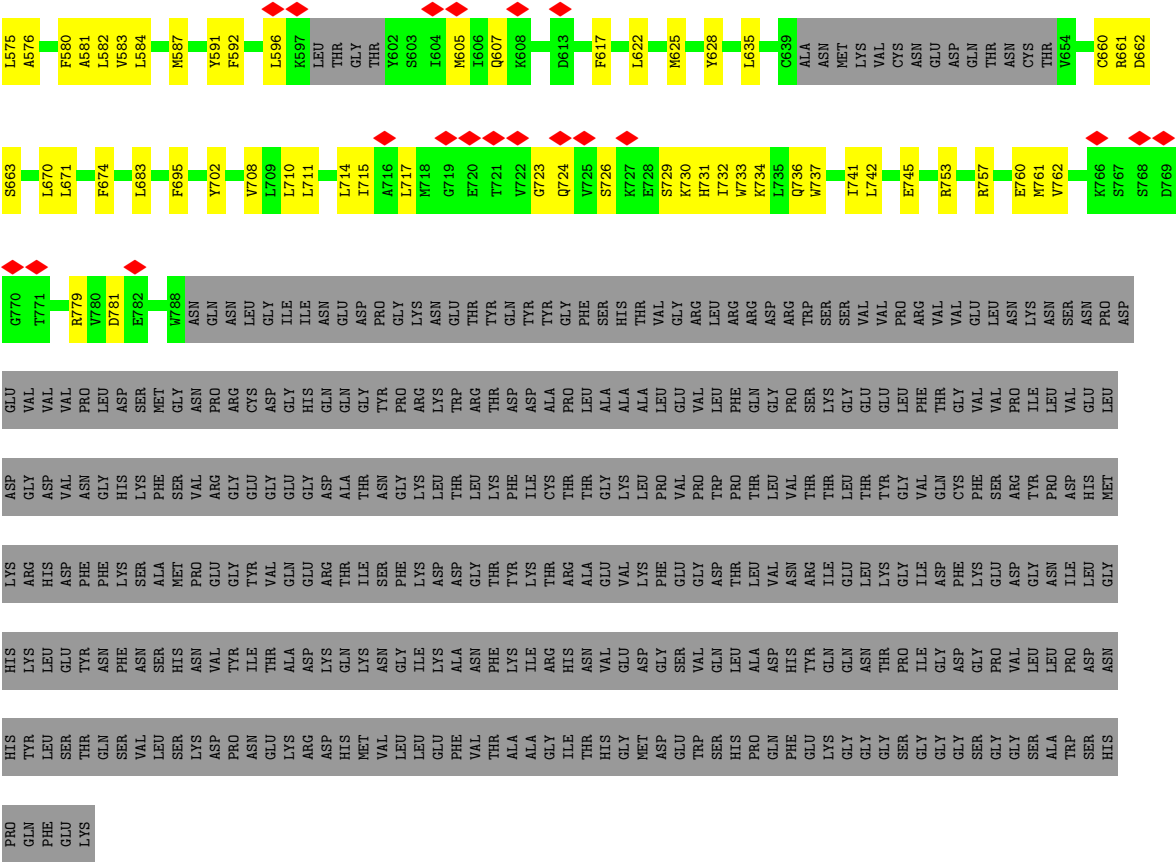
● Molecule 1: Transient receptor potential cation channel subfamily V member 4,3C-GFP





• Molecule 1: Transient receptor potential cation channel subfamily V member 4,3C-GFP





4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	102087	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 ($e^-/\text{\AA}^2$)	60	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	2.409	Depositor
Minimum map value	-1.682	Depositor
Average map value	0.012	Depositor
Map value standard deviation	0.091	Depositor
Recommended contour level	0.45	Depositor
Map size (Å)	266.24, 266.24, 266.24	wwPDB
Map dimensions	256, 256, 256	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.04, 1.04, 1.04	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: F3L

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	0.18	0/4871	0.43	3/6608 (0.0%)
1	B	0.12	0/5115	0.34	0/6936
1	C	0.15	0/4874	0.41	2/6610 (0.0%)
1	D	0.13	0/5103	0.36	0/6921
All	All	0.15	0/19963	0.39	5/27075 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	1

There are no bond length outliers.

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed($^{\circ}$)	Ideal($^{\circ}$)
1	C	655	PRO	N-CA-CB	6.73	110.40	103.00
1	A	655	PRO	N-CA-CB	6.73	110.40	103.00
1	A	609	ILE	N-CA-C	-5.43	108.56	113.71
1	A	455	ILE	N-CA-C	-5.32	106.99	111.56
1	C	510	ARG	CA-C-O	-5.02	115.10	120.42

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	453	GLU	Peptide

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	4762	0	4780	109	0
1	B	4998	0	5052	124	0
1	C	4765	0	4781	143	0
1	D	4986	0	5036	148	0
2	B	28	0	0	12	0
2	D	28	0	0	12	0
All	All	19567	0	19649	492	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 13.

All (492) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:502:TYR:CE1	1:C:511:LEU:HD22	1.64	1.32
1:C:502:TYR:CE2	1:C:511:LEU:HD21	1.75	1.19
1:C:502:TYR:CZ	1:C:511:LEU:HD22	1.86	1.10
1:D:550:GLN:HG2	2:D:1201:F3L:O18	1.51	1.10
1:C:502:TYR:CZ	1:C:511:LEU:CD2	2.37	1.08
1:C:502:TYR:CG	1:C:511:LEU:HD23	1.92	1.04
1:C:502:TYR:CE1	1:C:511:LEU:CD2	2.41	1.04
1:C:502:TYR:CE2	1:C:511:LEU:CD2	2.40	1.03
1:C:502:TYR:CD2	1:C:511:LEU:CD2	2.48	0.96
1:C:502:TYR:CD1	1:C:511:LEU:CD2	2.49	0.95
1:A:549:PHE:N	1:A:591:TYR:HH	1.63	0.94
1:A:745:GLU:O	1:A:753:ARG:NH2	2.03	0.92
1:D:474:ASN:ND2	2:D:1201:F3L:C27	2.32	0.91
1:C:502:TYR:CG	1:C:511:LEU:CD2	2.54	0.89
1:C:315:ARG:HH12	1:C:353:CYS:HB2	1.35	0.89
1:A:753:ARG:O	1:A:757:ARG:HG3	1.74	0.88
1:B:474:ASN:HB2	2:B:1201:F3L:N28	1.86	0.88
1:C:502:TYR:CD2	1:C:511:LEU:HD21	2.07	0.86
1:C:502:TYR:CD1	1:C:511:LEU:HD22	2.11	0.85
1:C:509:LEU:HD12	1:C:509:LEU:O	1.79	0.82
1:D:544:PHE:O	1:D:736:GLN:NE2	2.12	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:437:LEU:O	1:A:439:TYR:N	2.13	0.81
1:D:474:ASN:CB	2:D:1201:F3L:N28	2.45	0.79
1:D:474:ASN:HB2	2:D:1201:F3L:N28	1.97	0.79
1:C:502:TYR:CD1	1:C:511:LEU:HD23	2.14	0.78
1:A:239:GLN:NE2	1:B:411:TYR:OH	2.17	0.76
1:D:443:ILE:HA	1:D:446:ARG:HD2	1.68	0.74
1:C:510:ARG:HG2	1:C:510:ARG:HH21	1.54	0.73
1:B:424:LEU:HA	1:B:433:VAL:HG12	1.72	0.72
1:A:249:ARG:NH1	1:A:297:GLN:OE1	2.23	0.72
1:A:661:ARG:HB2	1:A:665:THR:HG21	1.70	0.72
1:C:180:LEU:HD12	1:C:186:ARG:HH22	1.56	0.71
1:D:671:LEU:HD23	1:C:696:ILE:HD12	1.72	0.71
1:B:474:ASN:ND2	2:B:1201:F3L:C27	2.54	0.71
1:B:544:PHE:O	1:B:736:GLN:NE2	2.22	0.71
1:C:406:PHE:HB2	1:C:418:LEU:HB3	1.73	0.70
1:C:760:GLU:OE2	1:C:779:ARG:NH1	2.26	0.69
1:C:243:HIS:O	1:C:247:GLU:HB2	1.92	0.69
1:B:440:ASN:HD21	1:B:535:LYS:HD3	1.57	0.68
1:D:474:ASN:ND2	2:D:1201:F3L:N28	2.40	0.68
1:B:254:VAL:HG11	1:B:300:ILE:HD12	1.74	0.68
1:C:267:GLN:OE1	1:C:269:ARG:NH2	2.26	0.68
1:C:315:ARG:HH21	1:C:357:PHE:HD2	1.42	0.67
1:A:351:LEU:HD21	1:A:394:VAL:HG11	1.75	0.67
1:D:518:LEU:HD11	1:D:564:ALA:HB2	1.77	0.67
1:A:391:ARG:NH1	1:A:453:GLU:OE2	2.27	0.67
1:D:333:ASP:OD1	1:D:338:ASN:ND2	2.23	0.67
1:A:332:ALA:HB2	1:A:342:VAL:HG21	1.76	0.66
1:A:486:THR:HA	1:A:582:LEU:HD11	1.77	0.66
1:A:151:ARG:NH1	1:A:186:ARG:O	2.28	0.66
1:D:298:PRO:HG3	1:D:345:MET:HE1	1.75	0.66
1:B:591:TYR:HE2	2:B:1201:F3L:C16	2.09	0.66
1:B:474:ASN:CB	2:B:1201:F3L:N28	2.56	0.66
1:A:676:LEU:HD12	1:A:683:LEU:HD11	1.78	0.66
1:D:474:ASN:CG	2:D:1201:F3L:N28	2.53	0.66
1:C:509:LEU:HD12	1:C:509:LEU:C	2.19	0.66
1:B:534:MET:HG2	1:B:535:LYS:H	1.59	0.66
1:C:157:ILE:HG12	1:C:160:ARG:HH21	1.62	0.65
1:C:180:LEU:HB2	1:C:222:ASN:HD21	1.62	0.65
1:A:227:ILE:HG21	1:A:257:LEU:HD11	1.78	0.64
1:A:696:ILE:HD12	1:B:671:LEU:HD23	1.78	0.64
1:C:714:LEU:HD12	1:B:711:LEU:HD12	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:375:MET:HE3	1:B:436:ILE:HD12	1.80	0.64
1:C:638:PRO:HD2	1:C:661:ARG:HG2	1.81	0.63
1:A:486:THR:HG22	1:A:582:LEU:HD21	1.81	0.63
1:C:351:LEU:HD11	1:C:394:VAL:HG21	1.78	0.63
1:A:466:PHE:HB2	1:A:756:PHE:CE1	2.34	0.63
1:A:150:ASN:H	1:A:153:ILE:HD12	1.63	0.62
1:B:406:PHE:HB2	1:B:418:LEU:HB3	1.81	0.62
1:D:732:ILE:HG23	1:D:736:GLN:HE22	1.63	0.62
1:D:375:MET:HE3	1:D:436:ILE:HD12	1.82	0.62
1:B:442:LYS:HG3	1:B:444:GLU:HG2	1.82	0.62
1:A:576:ALA:HB1	1:D:694:VAL:HG11	1.81	0.62
1:B:559:LEU:HD22	1:B:581:ALA:HB2	1.80	0.62
1:A:466:PHE:HB2	1:A:756:PHE:CZ	2.35	0.62
1:C:307:ASN:ND2	1:C:310:LYS:O	2.33	0.62
1:C:584:LEU:HA	1:C:587:MET:HE2	1.82	0.61
1:C:484:ILE:O	1:C:488:THR:N	2.33	0.61
1:C:607:GLN:HG2	1:C:608:LYS:H	1.65	0.61
1:D:354:ALA:HB2	1:D:402:LEU:HD11	1.83	0.61
1:D:434:LEU:HG	1:D:742:LEU:HD11	1.83	0.61
1:C:661:ARG:HB2	1:C:665:THR:HG21	1.82	0.61
1:C:434:LEU:HG	1:C:742:LEU:HD11	1.81	0.61
1:A:418:LEU:HD23	1:A:762:VAL:HG21	1.83	0.61
1:D:350:LEU:HG	1:D:402:LEU:HD13	1.81	0.61
1:D:406:PHE:HB2	1:D:418:LEU:HB3	1.83	0.60
1:D:427:CYS:HB2	1:D:757:ARG:HH21	1.67	0.60
1:D:662:ASP:OD1	1:D:663:SER:N	2.33	0.60
1:B:381:GLY:HA2	1:B:449:MET:HE1	1.83	0.60
1:D:434:LEU:HD13	1:D:455:ILE:HD12	1.84	0.60
1:A:339:THR:HA	1:A:342:VAL:HG12	1.82	0.60
1:B:434:LEU:HD13	1:B:455:ILE:HD12	1.84	0.59
1:C:264:VAL:HB	1:C:312:ALA:HB2	1.84	0.59
1:D:418:LEU:HD21	1:D:762:VAL:HG11	1.85	0.59
1:C:318:ASP:OD1	1:C:322:ASN:N	2.36	0.59
1:D:170:LEU:HD21	1:D:216:ILE:HG12	1.83	0.58
1:D:415:TYR:N	1:D:782:GLU:O	2.30	0.58
1:A:338:ASN:HA	1:A:341:PHE:CE1	2.39	0.58
1:A:427:CYS:SG	1:A:757:ARG:CD	2.92	0.58
1:C:633:VAL:HG12	1:C:661:ARG:HH11	1.69	0.58
1:B:418:LEU:HD21	1:B:762:VAL:HG11	1.85	0.58
1:C:510:ARG:HH21	1:C:510:ARG:CG	2.16	0.58
1:C:329:VAL:HG22	1:C:385:ILE:HG12	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:502:TYR:CZ	1:C:511:LEU:HD21	2.13	0.58
1:B:387:GLN:OE1	1:B:391:ARG:NH2	2.37	0.58
1:A:157:ILE:HG21	1:A:166:LEU:HB3	1.85	0.58
1:B:711:LEU:O	1:B:715:ILE:HD12	2.03	0.58
1:D:591:TYR:OH	2:D:1201:F3L:C03	2.52	0.57
1:C:420:ASP:OD1	1:C:421:LEU:N	2.37	0.57
1:A:427:CYS:SG	1:A:757:ARG:HD3	2.45	0.57
1:A:748:PHE:HB2	1:A:753:ARG:HH21	1.69	0.57
1:C:301:VAL:HG11	1:C:349:LEU:HD21	1.87	0.57
1:B:426:THR:O	1:B:753:ARG:NH2	2.38	0.57
1:A:178:LYS:HD2	1:A:185:PHE:HZ	1.70	0.56
1:A:753:ARG:O	1:A:757:ARG:CG	2.50	0.56
1:C:502:TYR:HE1	1:C:510:ARG:NH1	2.04	0.56
1:B:426:THR:HG22	1:B:432:SER:HB3	1.87	0.56
1:D:207:ASN:O	1:D:253:TYR:OH	2.23	0.56
1:A:452:VAL:HG22	1:A:453:GLU:H	1.70	0.56
1:B:215:ASP:O	1:B:219:ARG:HG2	2.05	0.56
1:D:596:LEU:O	1:D:733:TRP:NE1	2.39	0.55
1:B:366:LEU:HB3	1:B:370:GLY:HA2	1.88	0.55
1:D:424:LEU:HD12	1:D:455:ILE:HD11	1.87	0.55
1:A:698:LEU:HD22	1:B:583:VAL:HG21	1.89	0.55
1:D:625:MET:HG2	1:D:670:LEU:HD11	1.88	0.55
1:D:680:MET:HE1	1:C:682:ASP:HA	1.89	0.55
1:B:494:LEU:HD22	1:B:575:LEU:HD22	1.86	0.55
1:B:486:THR:HA	1:B:582:LEU:HD11	1.89	0.55
1:D:229:SER:HB3	1:D:231:PHE:CE1	2.42	0.55
1:D:486:THR:HA	1:D:582:LEU:HD11	1.89	0.55
1:B:760:GLU:OE2	1:B:779:ARG:NH1	2.39	0.55
1:A:307:ASN:ND2	1:A:310:LYS:O	2.40	0.55
1:D:729:SER:O	1:D:730:LYS:HG2	2.07	0.55
1:C:195:LEU:HD13	1:C:213:LEU:HD11	1.88	0.55
1:B:726:SER:HB3	1:B:729:SER:HB2	1.88	0.55
1:A:583:VAL:HG12	1:A:587:MET:HE1	1.89	0.55
1:C:265:HIS:NE2	1:C:313:ASP:OD1	2.33	0.55
1:A:393:GLU:HA	1:A:403:SER:HB2	1.89	0.54
1:B:536:LYS:HG2	1:B:537:CYS:H	1.72	0.54
1:A:456:ASN:OD1	1:A:457:GLU:N	2.41	0.54
1:C:553:TYR:HA	1:C:556:TYR:HB3	1.87	0.54
1:B:278:GLU:OE1	1:B:320:ARG:NH2	2.36	0.54
1:C:338:ASN:HA	1:C:341:PHE:CE1	2.42	0.54
1:B:507:ASP:OD1	1:B:510:ARG:NH1	2.35	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:453:GLU:O	1:A:455:ILE:N	2.40	0.54
1:B:434:LEU:HG	1:B:742:LEU:HD11	1.88	0.54
1:B:474:ASN:ND2	2:B:1201:F3L:C01	2.70	0.54
1:A:447:HIS:HB2	1:A:731:HIS:CE1	2.42	0.54
1:D:474:ASN:HD22	2:D:1201:F3L:C27	2.14	0.54
1:D:255:GLU:HG2	1:D:303:TYR:CZ	2.42	0.54
1:B:553:TYR:CE1	2:B:1201:F3L:C16	2.90	0.54
1:B:566:LEU:HB3	1:B:571:ILE:HB	1.89	0.54
1:C:290:SER:HA	1:C:324:VAL:HG23	1.89	0.54
1:C:357:PHE:CE2	1:C:359:ASP:HB3	2.43	0.54
1:B:231:PHE:HB2	1:B:236:TYR:O	2.08	0.54
1:B:596:LEU:O	1:B:733:TRP:NE1	2.41	0.54
1:B:662:ASP:OD1	1:B:663:SER:N	2.41	0.53
1:A:494:LEU:HB3	1:D:638:PRO:HG3	1.90	0.53
1:B:456:ASN:OD1	1:B:734:LYS:NZ	2.41	0.53
1:A:157:ILE:HG12	1:A:160:ARG:HH21	1.74	0.53
1:D:440:ASN:HD21	1:D:535:LYS:HD3	1.72	0.53
1:B:628:TYR:CE2	1:B:702:TYR:HB2	2.44	0.53
1:C:180:LEU:O	1:C:186:ARG:NH1	2.41	0.53
1:C:767:SER:OG	1:C:773:ASP:OD1	2.27	0.53
1:D:318:ASP:OD1	1:D:322:ASN:N	2.42	0.53
1:B:625:MET:HG2	1:B:670:LEU:HD11	1.91	0.53
1:C:607:GLN:HA	1:C:610:LEU:HD13	1.90	0.53
1:C:511:LEU:HD12	1:C:511:LEU:O	2.09	0.53
1:C:482:MET:HA	1:C:482:MET:HE2	1.91	0.52
1:B:617:PHE:HZ	1:B:710:LEU:HD23	1.74	0.52
1:D:507:ASP:OD1	1:D:510:ARG:NH1	2.36	0.52
1:A:323:THR:HG22	1:A:326:HIS:ND1	2.23	0.52
1:A:571:ILE:HG22	1:A:573:ALA:H	1.74	0.52
1:C:396:ASP:OD1	1:C:399:THR:OG1	2.27	0.52
1:A:427:CYS:SG	1:A:757:ARG:HD2	2.49	0.52
1:A:638:PRO:HG3	1:B:494:LEU:HB2	1.92	0.52
1:D:670:LEU:HG	1:C:696:ILE:HD13	1.91	0.52
1:C:351:LEU:HD21	1:C:394:VAL:HG11	1.91	0.52
1:D:553:TYR:HE2	2:D:1201:F3L:C12	2.23	0.52
1:D:534:MET:HG2	1:D:535:LYS:H	1.74	0.52
1:C:329:VAL:HG13	1:C:385:ILE:HG21	1.92	0.52
1:D:488:THR:O	1:D:492:GLN:HG3	2.11	0.51
1:D:490:TYR:HA	1:C:634:SER:HB2	1.92	0.51
1:A:628:TYR:CE2	1:A:702:TYR:HB2	2.45	0.51
1:A:696:ILE:HD13	1:B:670:LEU:HG	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:274:GLN:OE1	1:C:320:ARG:NH2	2.35	0.51
1:C:380:THR:HG22	1:C:382:LYS:HE3	1.93	0.51
1:B:325:LEU:HB3	1:B:346:TYR:HE1	1.75	0.51
1:D:760:GLU:OE2	1:D:779:ARG:NH1	2.37	0.51
1:C:628:TYR:CE2	1:C:702:TYR:HB2	2.45	0.51
1:D:537:CYS:N	1:D:538:PRO:HD3	2.26	0.51
1:C:617:PHE:CE2	1:C:713:MET:HB2	2.46	0.51
1:A:186:ARG:HB3	1:A:193:THR:HG22	1.92	0.51
1:A:247:GLU:HB2	1:A:291:LEU:HD21	1.93	0.51
1:D:258:VAL:HG11	1:D:303:TYR:HE2	1.75	0.51
1:D:381:GLY:HA2	1:D:449:MET:HE1	1.93	0.51
1:D:628:TYR:CE2	1:D:702:TYR:HB2	2.46	0.51
1:C:234:ILE:HB	1:C:271:ARG:HH12	1.76	0.51
1:D:457:GLU:OE2	1:D:457:GLU:N	2.44	0.50
1:C:556:TYR:CE1	1:C:582:LEU:HD22	2.46	0.50
1:B:591:TYR:CE2	2:B:1201:F3L:C16	2.93	0.50
1:D:426:THR:O	1:D:753:ARG:NH2	2.45	0.50
1:C:658:PRO:HA	1:C:669:PHE:HZ	1.76	0.50
1:D:439:TYR:HB3	1:D:535:LYS:HE2	1.93	0.50
1:D:711:LEU:O	1:D:715:ILE:HD12	2.11	0.50
1:C:283:TYR:OH	1:C:322:ASN:ND2	2.43	0.50
1:B:559:LEU:HA	1:B:562:VAL:HG12	1.93	0.50
1:D:231:PHE:HB2	1:D:236:TYR:O	2.12	0.50
1:C:511:LEU:HD12	1:C:511:LEU:C	2.36	0.50
1:B:537:CYS:N	1:B:538:PRO:HD3	2.26	0.50
1:D:410:ALA:HB1	1:D:415:TYR:HD2	1.76	0.50
1:C:510:ARG:CG	1:C:510:ARG:NH2	2.72	0.50
1:C:188:PRO:O	1:C:232:ARG:NH2	2.45	0.50
1:B:660:CYS:SG	1:B:661:ARG:N	2.84	0.50
1:A:362:LEU:O	1:A:365:VAL:HG12	2.11	0.50
1:A:497:THR:HG23	1:A:500:TYR:H	1.76	0.50
1:D:289:LEU:HD11	1:D:301:VAL:HG13	1.94	0.50
1:D:332:ALA:HB2	1:D:342:VAL:HG11	1.94	0.50
1:D:416:SER:HA	1:D:781:ASP:HA	1.93	0.50
1:B:362:LEU:O	1:B:365:VAL:HG12	2.11	0.49
1:D:699:LEU:O	1:D:703:ILE:HD12	2.12	0.49
1:A:482:MET:HE2	1:A:482:MET:HA	1.94	0.49
1:B:307:ASN:ND2	1:B:310:LYS:H	2.09	0.49
1:B:215:ASP:O	1:B:218:GLU:HG2	2.12	0.49
1:D:579:VAL:HG13	1:C:631:ALA:HB1	1.95	0.49
1:C:485:PHE:CG	1:C:582:LEU:HD12	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:457:GLU:N	1:B:457:GLU:OE2	2.46	0.49
1:B:607:GLN:NE2	1:B:733:TRP:HB2	2.27	0.49
1:B:372:SER:HB3	1:B:375:MET:HG2	1.95	0.49
1:D:583:VAL:O	1:D:587:MET:HG3	2.13	0.49
1:B:501:PRO:HB3	1:B:503:ARG:NH2	2.26	0.49
1:D:617:PHE:CE1	1:D:709:LEU:HG	2.48	0.48
1:B:761:MET:HA	1:B:761:MET:HE2	1.95	0.48
1:A:176:HIS:HB3	1:A:178:LYS:HE2	1.95	0.48
1:D:553:TYR:CE2	2:D:1201:F3L:C13	2.96	0.48
1:C:217:ALA:O	1:C:220:THR:OG1	2.27	0.48
1:C:372:SER:H	1:C:375:MET:HE2	1.77	0.48
1:D:659:SER:HA	1:D:688:SER:HA	1.95	0.48
1:C:229:SER:HB3	1:C:231:PHE:CE1	2.47	0.48
1:B:344:LYS:HE2	1:B:344:LYS:HA	1.94	0.48
1:A:465:LYS:NZ	1:A:757:ARG:O	2.46	0.48
1:D:622:LEU:HD12	1:C:697:ILE:HG12	1.95	0.48
1:B:318:ASP:OD1	1:B:322:ASN:N	2.47	0.48
1:B:346:TYR:HE2	1:B:389:ILE:HG12	1.79	0.48
1:B:553:TYR:HE1	2:B:1201:F3L:C16	2.27	0.48
1:C:387:GLN:O	1:C:391:ARG:HG2	2.14	0.48
1:A:525:PHE:HB2	1:A:557:SER:HB2	1.96	0.48
1:D:546:ASP:HA	1:D:594:ARG:HH22	1.78	0.48
1:D:531:ASP:HB2	1:D:536:LYS:HD2	1.96	0.48
1:A:579:VAL:HG11	1:D:635:LEU:HD11	1.96	0.48
1:D:443:ILE:HD12	1:D:443:ILE:H	1.78	0.48
1:D:215:ASP:O	1:D:219:ARG:HG2	2.14	0.48
1:C:274:GLN:O	1:C:280:GLY:HA3	2.14	0.48
1:B:474:ASN:ND2	1:B:592:PHE:HE1	2.11	0.48
1:A:381:GLY:HA3	1:A:443:ILE:HD11	1.96	0.47
1:D:206:ARG:HH22	1:D:252:HIS:HB2	1.78	0.47
1:A:160:ARG:NH2	1:A:165:ASP:OD2	2.47	0.47
1:D:332:ALA:O	1:D:382:LYS:NZ	2.39	0.47
1:C:332:ALA:HB2	1:C:342:VAL:HG11	1.96	0.47
1:B:514:GLU:O	1:B:518:LEU:HG	2.15	0.47
1:D:195:LEU:HB3	1:D:196:PRO:HD3	1.96	0.47
1:D:718:MET:HE2	1:C:711:LEU:HD21	1.95	0.47
1:C:502:TYR:CD2	1:C:511:LEU:HD23	2.23	0.47
1:B:472:TYR:HA	1:B:475:VAL:HG12	1.96	0.47
1:A:383:ILE:HD13	1:A:448:GLU:HG3	1.96	0.47
1:A:438:VAL:HG12	1:A:446:ARG:HG2	1.96	0.47
1:A:696:ILE:HD11	1:B:674:PHE:HB2	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:408:ASP:OD2	1:B:779:ARG:NH2	2.41	0.47
1:A:691:TYR:OH	1:B:572:GLU:OE2	2.17	0.47
1:B:317:GLN:HB3	1:B:321:GLY:HA2	1.97	0.47
1:B:332:ALA:O	1:B:382:LYS:NZ	2.36	0.47
1:D:761:MET:HE2	1:D:761:MET:HA	1.96	0.47
1:D:224:ARG:NH1	1:D:225:GLU:OE1	2.47	0.47
1:C:315:ARG:NH1	1:C:353:CYS:HB2	2.18	0.47
1:A:445:ASN:HB2	1:A:449:MET:SD	2.55	0.47
1:D:718:MET:SD	1:B:715:ILE:HG13	2.55	0.47
1:A:314:MET:SD	1:A:353:CYS:HB3	2.55	0.46
1:D:398:ASP:OD1	1:D:398:ASP:N	2.47	0.46
1:B:474:ASN:ND2	2:B:1201:F3L:C26	2.78	0.46
1:A:254:VAL:HG11	1:A:300:ILE:HD12	1.98	0.46
1:A:391:ARG:HG3	1:A:405:LYS:HD3	1.96	0.46
1:D:269:ARG:NH1	1:D:319:SER:OG	2.48	0.46
1:C:638:PRO:HG3	1:C:660:CYS:HB3	1.96	0.46
1:C:781:ASP:OD1	1:C:781:ASP:N	2.44	0.46
1:D:222:ASN:O	1:D:226:PHE:N	2.48	0.46
1:D:303:TYR:O	1:D:307:ASN:HB3	2.15	0.46
1:C:237:ARG:H	1:C:270:GLY:HA2	1.81	0.46
1:C:511:LEU:HD13	1:C:511:LEU:HA	1.73	0.46
1:C:553:TYR:HE1	1:C:588:ASN:HB3	1.80	0.46
1:B:447:HIS:CG	1:B:731:HIS:HB3	2.51	0.46
1:A:396:ASP:OD1	1:A:396:ASP:N	2.48	0.46
1:A:345:MET:HE2	1:A:345:MET:HB2	1.85	0.46
1:C:414:VAL:HA	1:C:783:VAL:HG22	1.97	0.46
1:B:434:LEU:HD23	1:B:742:LEU:HD21	1.98	0.46
1:B:723:GLY:O	1:B:724:GLN:CB	2.64	0.46
1:D:197:LYS:HD2	1:D:197:LYS:HA	1.69	0.46
1:C:344:LYS:HE3	1:C:344:LYS:HB2	1.80	0.46
1:B:474:ASN:CG	2:B:1201:F3L:C27	2.88	0.46
1:A:318:ASP:OD1	1:A:322:ASN:N	2.49	0.45
1:A:691:TYR:CD2	1:B:576:ALA:HB2	2.51	0.45
1:D:394:VAL:HG12	1:D:403:SER:HB2	1.97	0.45
1:C:332:ALA:O	1:C:382:LYS:HD2	2.16	0.45
1:A:633:VAL:HA	1:A:636:LEU:HD13	1.97	0.45
1:B:222:ASN:O	1:B:226:PHE:N	2.47	0.45
1:B:462:LYS:NZ	1:B:745:GLU:OE1	2.42	0.45
1:D:215:ASP:HA	1:D:218:GLU:OE2	2.17	0.45
1:C:326:HIS:CE1	1:C:376:MET:HE2	2.52	0.45
1:D:472:TYR:HA	1:D:475:VAL:HG12	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:553:TYR:CE2	2:D:1201:F3L:CL14	3.07	0.45
1:A:192:LYS:HG3	1:A:196:PRO:HB2	1.99	0.45
1:D:674:PHE:HB2	1:C:696:ILE:HD11	1.99	0.45
1:D:714:LEU:HD21	1:B:714:LEU:HD21	1.99	0.45
1:C:209:THR:HG22	1:C:213:LEU:HD23	1.98	0.45
1:C:763:THR:OG1	1:C:774:ARG:NH1	2.49	0.45
1:B:504:THR:O	1:B:508:TYR:N	2.45	0.45
1:A:623:LEU:HA	1:A:626:ILE:HG22	1.98	0.45
1:D:563:SER:OG	1:D:577:VAL:HG23	2.16	0.45
1:D:723:GLY:O	1:D:724:GLN:CB	2.64	0.45
1:B:314:MET:HE1	1:B:352:LYS:HB3	1.99	0.45
1:A:254:VAL:O	1:A:258:VAL:HG12	2.17	0.45
1:C:359:ASP:CG	1:C:360:SER:H	2.25	0.45
1:C:657:TYR:HB2	1:C:658:PRO:HD3	1.98	0.45
1:B:386:PHE:HE1	1:B:433:VAL:HG21	1.81	0.45
1:D:494:LEU:HD11	1:D:575:LEU:HD23	1.98	0.45
1:D:553:TYR:CE2	2:D:1201:F3L:C12	3.00	0.45
1:C:418:LEU:HD21	1:C:762:VAL:HG11	1.98	0.45
1:B:202:LEU:HD21	1:B:205:GLY:HA2	1.97	0.45
1:A:767:SER:OG	1:A:773:ASP:OD1	2.34	0.44
1:D:704:ILE:O	1:D:708:VAL:HG23	2.17	0.44
1:D:290:SER:HA	1:D:324:VAL:HG23	2.00	0.44
1:D:441:SER:O	1:D:446:ARG:NH1	2.50	0.44
1:C:579:VAL:HG11	1:B:635:LEU:HD11	1.98	0.44
1:B:474:ASN:ND2	2:B:1201:F3L:F02	2.37	0.44
1:C:210:ILE:HD13	1:C:213:LEU:HD21	2.00	0.44
1:B:478:TYR:OH	1:B:482:MET:HE3	2.18	0.44
1:A:271:ARG:HH21	1:A:279:GLY:HA3	1.82	0.44
1:A:330:ALA:O	1:A:382:LYS:NZ	2.50	0.44
1:A:617:PHE:CE1	1:A:713:MET:HG2	2.53	0.44
1:D:240:THR:HG23	1:D:242:LEU:H	1.82	0.44
1:C:629:ALA:HB2	1:C:673:LEU:HD22	2.00	0.44
1:B:416:SER:HA	1:B:781:ASP:HA	1.99	0.44
1:B:443:ILE:HD12	1:B:443:ILE:H	1.82	0.44
1:C:176:HIS:HB3	1:C:178:LYS:HE2	2.00	0.44
1:C:340:LYS:HD3	1:C:340:LYS:HA	1.64	0.44
1:B:332:ALA:HB2	1:B:342:VAL:HG11	1.99	0.44
1:B:683:LEU:H	1:B:683:LEU:HD23	1.82	0.44
1:C:275:PRO:HG3	1:C:283:TYR:CE2	2.52	0.44
1:C:482:MET:HE1	1:C:582:LEU:HD13	2.00	0.44
1:A:442:LYS:C	1:A:446:ARG:HH21	2.26	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:250:CYS:O	1:D:254:VAL:HG23	2.17	0.44
1:D:536:LYS:HG2	1:D:537:CYS:H	1.83	0.44
1:B:732:ILE:HG23	1:B:736:GLN:HE22	1.83	0.44
1:A:357:PHE:CE2	1:A:359:ASP:HB3	2.52	0.43
1:D:268:ALA:HB1	1:D:273:PHE:CD2	2.52	0.43
1:C:317:GLN:CG	1:C:321:GLY:HA2	2.48	0.43
1:B:427:CYS:SG	1:B:757:ARG:NE	2.88	0.43
1:A:441:SER:C	1:A:442:LYS:HD3	2.43	0.43
1:D:218:GLU:HG3	1:D:219:ARG:HD3	2.00	0.43
1:D:737:TRP:CE2	1:D:741:ILE:HD11	2.54	0.43
1:C:313:ASP:OD1	1:C:316:ARG:HB2	2.18	0.43
1:A:697:ILE:HG12	1:B:622:LEU:HD12	2.00	0.43
1:D:242:LEU:O	1:D:246:ILE:HG12	2.18	0.43
1:D:440:ASN:ND2	1:D:535:LYS:HD3	2.33	0.43
1:D:498:PRO:HA	1:D:499:PRO:HD3	1.88	0.43
1:B:583:VAL:O	1:B:587:MET:HG3	2.18	0.43
1:D:188:PRO:HA	1:D:232:ARG:HH21	1.84	0.43
1:D:313:ASP:N	1:D:313:ASP:OD1	2.50	0.43
1:C:488:THR:O	1:C:492:GLN:HG2	2.18	0.43
1:C:712:ASN:HA	1:C:715:ILE:HG22	2.00	0.43
1:A:637:ASN:HB3	1:A:660:CYS:HA	2.00	0.43
1:D:206:ARG:HE	1:D:206:ARG:HA	1.82	0.43
1:D:434:LEU:HD23	1:D:742:LEU:HD21	1.99	0.43
1:D:566:LEU:HB3	1:D:571:ILE:HB	2.00	0.43
1:B:737:TRP:CE2	1:B:741:ILE:HD11	2.53	0.43
1:A:170:LEU:HD12	1:A:216:ILE:HA	2.00	0.43
1:D:474:ASN:ND2	1:D:592:PHE:HE1	2.17	0.43
1:C:510:ARG:HG2	1:C:510:ARG:NH2	2.29	0.43
1:B:580:PHE:O	1:B:584:LEU:HD23	2.19	0.43
1:B:240:THR:HG22	1:B:243:HIS:ND1	2.33	0.43
1:B:398:ASP:OD1	1:B:398:ASP:N	2.49	0.43
1:A:466:PHE:CB	1:A:756:PHE:CZ	3.01	0.43
1:D:215:ASP:O	1:D:218:GLU:HG2	2.19	0.43
1:D:473:ILE:HA	1:D:476:VAL:HG22	2.01	0.43
1:C:504:THR:HG22	1:C:506:VAL:H	1.84	0.43
1:C:686:LEU:HD11	1:C:699:LEU:HD22	2.01	0.43
1:C:714:LEU:HD22	1:B:708:VAL:HG22	2.01	0.43
1:A:151:ARG:HB3	1:A:152:PRO:HD3	2.00	0.43
1:A:156:ASP:O	1:A:160:ARG:HG2	2.18	0.43
1:B:154:LEU:HA	1:B:157:ILE:HG22	2.01	0.43
1:B:207:ASN:O	1:B:253:TYR:OH	2.35	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:313:ASP:OD1	1:B:313:ASP:N	2.50	0.42
1:A:170:LEU:HB3	1:A:171:PRO:HD3	2.00	0.42
1:A:714:LEU:HD21	1:D:708:VAL:HG22	2.01	0.42
1:A:784:ASN:HB3	1:A:787:HIS:CD2	2.54	0.42
1:D:240:THR:HG22	1:D:243:HIS:ND1	2.35	0.42
1:B:229:SER:HB3	1:B:231:PHE:CE1	2.54	0.42
1:D:284:PHE:CZ	1:D:291:LEU:HD12	2.54	0.42
1:D:609:ILE:HD13	1:D:717:LEU:HD22	2.01	0.42
1:C:420:ASP:OD1	1:C:422:SER:N	2.52	0.42
1:C:513:GLY:O	1:C:517:THR:HG23	2.20	0.42
1:C:244:ILE:HA	1:C:247:GLU:HB3	2.02	0.42
1:C:386:PHE:HA	1:C:389:ILE:HG22	2.00	0.42
1:A:549:PHE:N	1:A:591:TYR:OH	2.41	0.42
1:D:732:ILE:CG2	1:D:736:GLN:HE22	2.30	0.42
1:C:170:LEU:HB3	1:C:171:PRO:HD3	2.02	0.42
1:C:485:PHE:CD2	1:C:582:LEU:HD12	2.55	0.42
1:B:181:THR:HG22	1:B:222:ASN:HD21	1.85	0.42
1:B:338:ASN:HA	1:B:341:PHE:CE1	2.54	0.42
1:D:286:GLU:HB2	1:D:318:ASP:HB2	2.02	0.42
1:C:156:ASP:O	1:C:160:ARG:HG3	2.19	0.42
1:C:386:PHE:CZ	1:C:390:ILE:HD11	2.55	0.42
1:B:222:ASN:OD1	1:B:225:GLU:HB3	2.20	0.42
1:B:635:LEU:HD22	1:B:695:PHE:HD1	1.84	0.42
1:A:742:LEU:O	1:A:746:ARG:HG3	2.19	0.42
1:D:408:ASP:OD2	1:D:779:ARG:NH2	2.45	0.42
1:D:785:TRP:CD1	1:C:341:PHE:HZ	2.37	0.42
1:C:571:ILE:HG22	1:C:573:ALA:H	1.85	0.42
1:B:195:LEU:HB3	1:B:196:PRO:HD3	2.02	0.42
1:B:326:HIS:HB3	1:B:376:MET:HE1	2.01	0.42
1:A:464:ARG:HA	1:A:464:ARG:HD3	1.75	0.41
1:A:178:LYS:HD2	1:A:185:PHE:CZ	2.54	0.41
1:D:367:ASN:OD1	1:D:371:LEU:N	2.54	0.41
1:D:698:LEU:O	1:D:701:THR:OG1	2.37	0.41
1:C:186:ARG:HE	1:C:193:THR:HG22	1.85	0.41
1:B:368:ASN:OD1	1:B:369:ASP:N	2.52	0.41
1:A:233:ASP:O	1:A:237:ARG:HG2	2.20	0.41
1:A:261:GLY:HA3	1:A:309:HIS:CE1	2.54	0.41
1:D:210:ILE:HD13	1:D:253:TYR:OH	2.21	0.41
1:D:674:PHE:CB	1:C:696:ILE:HD11	2.50	0.41
1:C:635:LEU:HD21	1:C:694:VAL:HG13	2.02	0.41
1:D:421:LEU:HD12	1:D:424:LEU:HB2	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:525:PHE:HB2	1:D:557:SER:HB3	2.02	0.41
1:D:552:LEU:HD23	1:D:588:ASN:OD1	2.20	0.41
1:D:602:TYR:O	1:D:605:MET:HG3	2.20	0.41
1:C:497:THR:OG1	1:C:499:PRO:HD2	2.21	0.41
1:C:512:ALA:O	1:C:515:VAL:N	2.53	0.41
1:C:579:VAL:O	1:C:583:VAL:HG23	2.20	0.41
1:A:610:LEU:HD23	1:A:610:LEU:H	1.85	0.41
1:D:244:ILE:O	1:D:248:ARG:HG2	2.21	0.41
1:A:617:PHE:CZ	1:A:713:MET:HG2	2.56	0.41
1:A:634:SER:O	1:B:575:LEU:HD21	2.21	0.41
1:D:371:LEU:HD21	1:D:379:LYS:HD3	2.01	0.41
1:D:438:VAL:O	1:D:446:ARG:NH2	2.39	0.41
1:B:151:ARG:HH22	1:B:152:PRO:HG3	1.86	0.41
1:B:170:LEU:HD21	1:B:216:ILE:HG12	2.03	0.41
1:A:200:LEU:HD12	1:A:244:ILE:HG21	2.02	0.41
1:A:664:GLU:N	1:A:664:GLU:OE1	2.54	0.41
1:A:708:VAL:HG22	1:B:717:LEU:HD11	2.02	0.41
1:D:413:PRO:HB3	1:D:785:TRP:CE2	2.56	0.41
1:C:231:PHE:O	1:C:237:ARG:HD2	2.21	0.41
1:A:214:LEU:O	1:A:218:GLU:OE1	2.39	0.41
1:A:396:ASP:OD2	1:A:399:THR:OG1	2.38	0.41
1:A:490:TYR:O	1:D:661:ARG:NH2	2.52	0.41
1:D:363:GLU:OE2	1:D:392:ARG:NH1	2.54	0.41
1:D:366:LEU:HD23	1:D:370:GLY:HA2	2.02	0.41
1:D:494:LEU:HD23	1:D:494:LEU:HA	1.93	0.41
1:D:594:ARG:HD3	1:D:736:GLN:HB3	2.02	0.41
1:C:317:GLN:HG3	1:C:321:GLY:HA2	2.03	0.41
1:B:333:ASP:OD1	1:B:338:ASN:ND2	2.32	0.41
1:B:251:LYS:HA	1:B:254:VAL:HG12	2.02	0.41
1:B:498:PRO:HA	1:B:499:PRO:HD3	1.85	0.41
1:A:446:ARG:HD2	1:A:735:LEU:HD11	2.03	0.40
1:A:712:ASN:HB3	1:B:605:MET:HE2	2.04	0.40
1:D:200:LEU:HD12	1:D:244:ILE:HG21	2.02	0.40
1:C:192:LYS:HD2	1:C:197:LYS:HD2	2.03	0.40
1:C:623:LEU:HA	1:C:626:ILE:HG22	2.03	0.40
1:A:354:ALA:HB2	1:A:402:LEU:HD11	2.04	0.40
1:D:435:GLU:OE2	1:D:436:ILE:HG13	2.21	0.40
1:C:234:ILE:HB	1:C:271:ARG:NH1	2.36	0.40
1:C:236:TYR:O	1:C:238:GLY:N	2.54	0.40
1:C:393:GLU:HA	1:C:403:SER:HB2	2.03	0.40
1:C:424:LEU:HA	1:C:433:VAL:HB	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:229:SER:HB3	1:B:231:PHE:HE1	1.86	0.40
1:B:501:PRO:HA	1:B:503:ARG:NH1	2.36	0.40
1:A:478:TYR:HE2	1:A:589:ALA:HB2	1.85	0.40
1:D:195:LEU:O	1:D:199:LEU:HD23	2.21	0.40
1:D:680:MET:HE2	1:D:680:MET:HB3	1.90	0.40
1:C:313:ASP:OD1	1:C:313:ASP:N	2.54	0.40
1:B:474:ASN:CG	2:B:1201:F3L:N28	2.80	0.40
1:A:249:ARG:HG2	1:A:297:GLN:CD	2.46	0.40
1:A:349:LEU:HD12	1:A:349:LEU:HA	1.96	0.40
1:D:340:LYS:O	1:D:344:LYS:HG2	2.21	0.40
1:D:372:SER:HB3	1:D:375:MET:HG2	2.02	0.40
1:D:386:PHE:CE2	1:D:390:ILE:HD11	2.57	0.40
1:D:677:THR:HG23	1:D:706:THR:HG21	2.04	0.40
1:D:732:ILE:O	1:D:736:GLN:OE1	2.40	0.40
1:C:199:LEU:O	1:C:202:LEU:HG	2.20	0.40
1:C:276:LYS:HA	1:C:280:GLY:O	2.22	0.40
1:B:197:LYS:HD2	1:B:197:LYS:HA	1.89	0.40
1:D:153:ILE:O	1:D:157:ILE:HG12	2.21	0.40
1:C:485:PHE:CD1	1:C:582:LEU:HD12	2.57	0.40
1:C:633:VAL:HG21	1:C:666:PHE:HD1	1.86	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	585/1144 (51%)	545 (93%)	39 (7%)	1 (0%)	43	71
1	B	617/1144 (54%)	571 (92%)	45 (7%)	1 (0%)	43	71
1	C	583/1144 (51%)	543 (93%)	40 (7%)	0	100	100
1	D	616/1144 (54%)	568 (92%)	48 (8%)	0	100	100
All	All	2401/4576 (52%)	2227 (93%)	172 (7%)	2 (0%)	49	78

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	438	VAL
1	B	730	LYS

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	515/991 (52%)	514 (100%)	1 (0%)	87	86
1	B	546/991 (55%)	546 (100%)	0	100	100
1	C	514/991 (52%)	511 (99%)	3 (1%)	78	79
1	D	544/991 (55%)	544 (100%)	0	100	100
All	All	2119/3964 (54%)	2115 (100%)	4 (0%)	85	86

All (4) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	756	PHE
1	C	509	LEU
1	C	510	ARG
1	C	511	LEU

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

Mol	Chain	Res	Type
1	A	239	GLN
1	A	274	GLN
1	A	447	HIS
1	D	252	HIS
1	D	302	ASN
1	D	401	HIS
1	D	474	ASN
1	C	309	HIS
1	C	368	ASN

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Mol	Chain	Res	Type
1	C	474	ASN
1	C	528	ASN
1	B	201	ASN
1	B	309	HIS
1	B	474	ASN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

2 ligands are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
2	F3L	D	1201	-	29,30,30	7.60	25 (86%)	32,45,45	2.97	12 (37%)
2	F3L	B	1201	-	29,30,30	7.61	25 (86%)	32,45,45	3.13	12 (37%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	F3L	D	1201	-	-	4/19/36/36	0/3/3/3
2	F3L	B	1201	-	-	2/19/36/36	0/3/3/3

All (50) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	1201	F3L	C19-N08	14.19	1.64	1.48
2	D	1201	F3L	C19-N08	13.95	1.64	1.48
2	B	1201	F3L	C07-N08	-13.42	1.33	1.48
2	D	1201	F3L	C07-N08	-13.41	1.33	1.48
2	B	1201	F3L	C10-N11	10.71	1.49	1.33
2	D	1201	F3L	C10-N11	10.62	1.49	1.33
2	D	1201	F3L	C03-C04	9.79	1.55	1.39
2	D	1201	F3L	C25-C24	9.78	1.54	1.38
2	D	1201	F3L	C16-C10	9.78	1.54	1.37
2	D	1201	F3L	C19-C20	-9.77	1.37	1.54
2	B	1201	F3L	C25-C24	9.76	1.54	1.38
2	B	1201	F3L	C16-C10	9.75	1.54	1.37
2	D	1201	F3L	C25-C26	9.74	1.55	1.40
2	B	1201	F3L	C25-C26	9.74	1.55	1.40
2	B	1201	F3L	C19-C20	-9.66	1.37	1.54
2	B	1201	F3L	C03-C04	9.62	1.54	1.39
2	B	1201	F3L	C10-S09	9.51	1.86	1.78
2	D	1201	F3L	C03-C01	9.47	1.54	1.37
2	D	1201	F3L	C10-S09	9.25	1.86	1.78
2	B	1201	F3L	C03-C01	9.22	1.53	1.37
2	D	1201	F3L	C26-C01	8.37	1.53	1.38
2	B	1201	F3L	C26-C01	8.26	1.53	1.38
2	B	1201	F3L	C12-N11	8.24	1.51	1.34
2	D	1201	F3L	C12-N11	8.11	1.51	1.34
2	D	1201	F3L	C24-C04	8.00	1.53	1.38
2	B	1201	F3L	C24-C04	7.96	1.53	1.38
2	D	1201	F3L	C16-C15	7.60	1.51	1.38
2	B	1201	F3L	C16-C15	7.56	1.51	1.38
2	B	1201	F3L	C12-C13	7.55	1.53	1.38
2	D	1201	F3L	C12-C13	7.55	1.53	1.38
2	D	1201	F3L	C15-C13	6.98	1.50	1.38
2	B	1201	F3L	C15-C13	6.90	1.50	1.38
2	D	1201	F3L	C26-C27	6.64	1.53	1.44
2	B	1201	F3L	S09-N08	6.53	1.72	1.63
2	B	1201	F3L	C26-C27	6.53	1.53	1.44
2	D	1201	F3L	S09-N08	6.17	1.72	1.63
2	B	1201	F3L	C22-C20	4.92	1.60	1.56

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	D	1201	F3L	C22-C20	4.88	1.60	1.56
2	B	1201	F3L	O21-C20	-4.88	1.36	1.44
2	D	1201	F3L	O21-C20	-4.74	1.36	1.44
2	B	1201	F3L	O18-S09	3.19	1.46	1.43
2	D	1201	F3L	O18-S09	3.13	1.46	1.43
2	D	1201	F3L	O17-S09	3.05	1.46	1.43
2	D	1201	F3L	C07-C06	3.02	1.60	1.53
2	B	1201	F3L	O17-S09	3.01	1.46	1.43
2	D	1201	F3L	O05-C04	2.99	1.44	1.38
2	B	1201	F3L	C07-C06	2.92	1.59	1.53
2	B	1201	F3L	O05-C04	2.92	1.43	1.38
2	B	1201	F3L	C13-CL14	2.11	1.79	1.74
2	D	1201	F3L	C13-CL14	2.03	1.79	1.74

All (24) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	1201	F3L	O18-S09-O17	-11.78	101.20	119.59
2	D	1201	F3L	O18-S09-O17	-11.30	101.95	119.59
2	D	1201	F3L	O17-S09-N08	5.27	111.64	106.69
2	B	1201	F3L	C16-C10-N11	-5.24	119.81	125.39
2	B	1201	F3L	O17-S09-N08	5.24	111.61	106.69
2	D	1201	F3L	O18-S09-N08	5.12	111.50	106.69
2	B	1201	F3L	O18-S09-N08	5.11	111.49	106.69
2	D	1201	F3L	C16-C10-N11	-4.89	120.19	125.39
2	B	1201	F3L	S09-C10-N11	4.50	120.51	114.70
2	D	1201	F3L	S09-C10-N11	3.82	119.63	114.70
2	B	1201	F3L	C07-N08-C19	-3.81	102.72	110.03
2	D	1201	F3L	C07-N08-C19	-3.60	103.13	110.03
2	B	1201	F3L	C07-N08-S09	3.31	124.65	119.59
2	B	1201	F3L	C03-C01-C26	-2.85	119.53	122.89
2	B	1201	F3L	C19-N08-S09	2.72	124.56	119.96
2	D	1201	F3L	O17-S09-C10	2.67	112.08	107.52
2	D	1201	F3L	C03-C01-C26	-2.58	119.85	122.89
2	D	1201	F3L	O18-S09-C10	2.47	111.73	107.52
2	D	1201	F3L	C07-N08-S09	2.39	123.24	119.59
2	B	1201	F3L	C20-C22-N23	-2.36	109.21	114.77
2	D	1201	F3L	C20-C22-N23	-2.33	109.29	114.77
2	B	1201	F3L	O17-S09-C10	2.23	111.32	107.52
2	D	1201	F3L	C19-N08-S09	2.22	123.71	119.96
2	B	1201	F3L	C25-C26-C01	2.05	120.01	117.59

There are no chirality outliers.

All (6) torsion outliers are listed below:

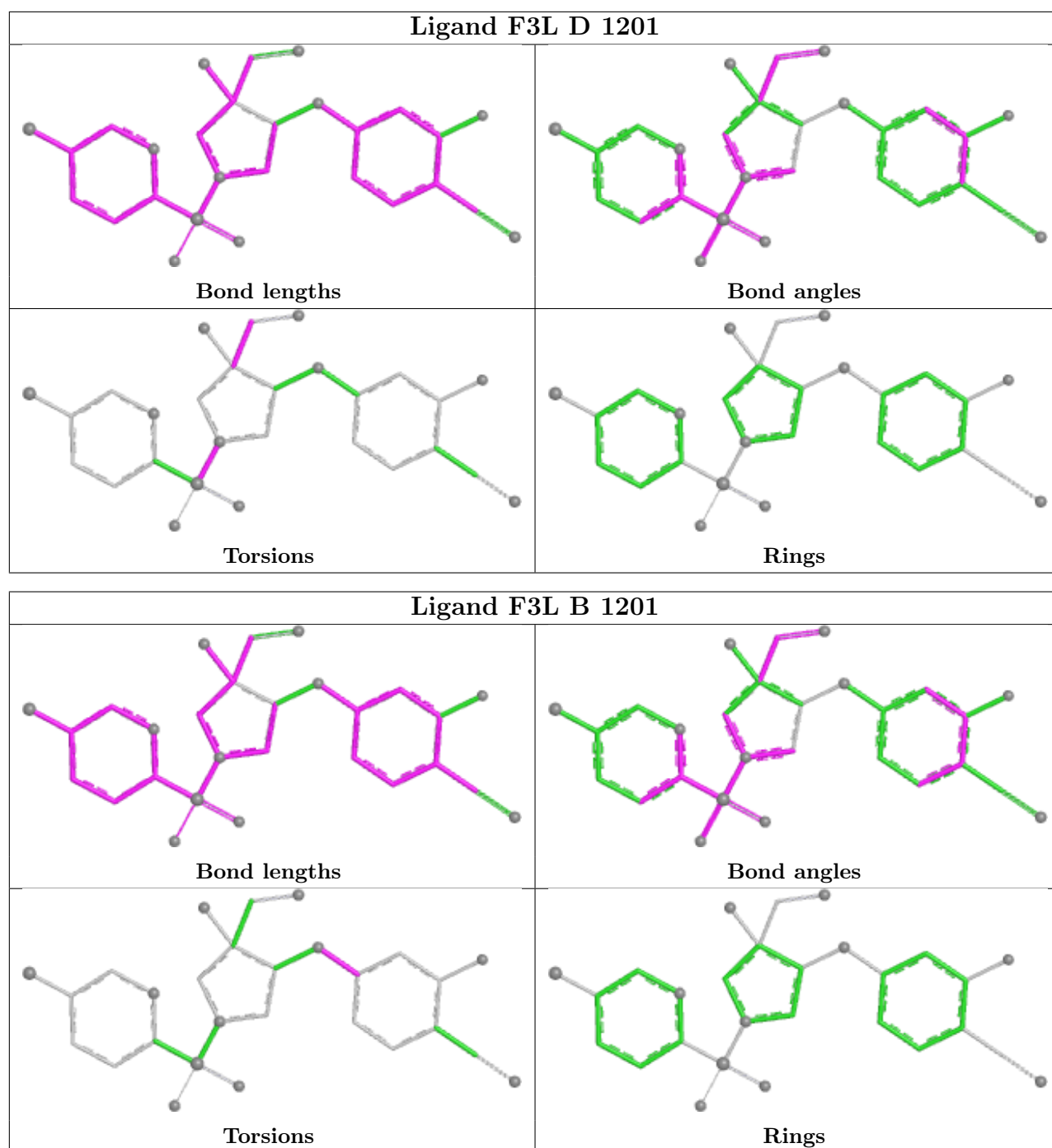
Mol	Chain	Res	Type	Atoms
2	D	1201	F3L	O21-C20-C22-N23
2	D	1201	F3L	C07-N08-S09-O18
2	D	1201	F3L	C19-N08-S09-O18
2	D	1201	F3L	C07-N08-S09-C10
2	B	1201	F3L	C24-C04-O05-C06
2	B	1201	F3L	C03-C04-O05-C06

There are no ring outliers.

2 monomers are involved in 24 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	D	1201	F3L	12	0
2	B	1201	F3L	12	0

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



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.

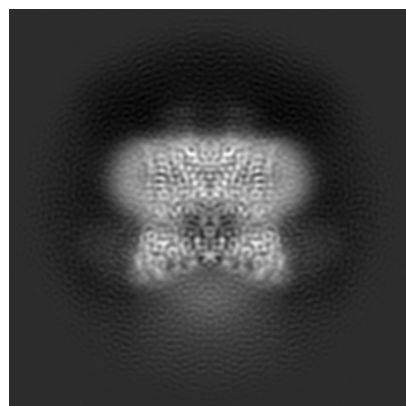
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-36659. These allow visual inspection of the internal detail of the map and identification of artifacts.

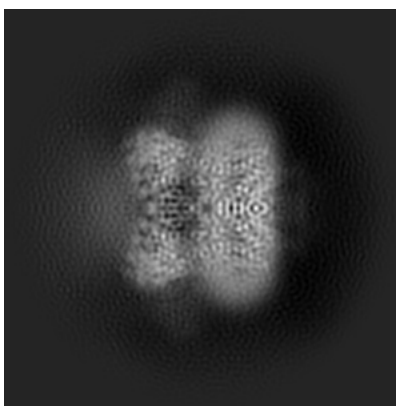
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

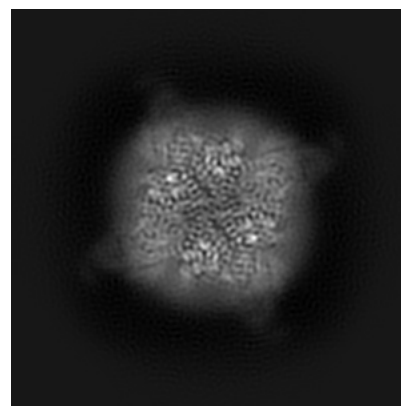
6.1.1 Primary map



X

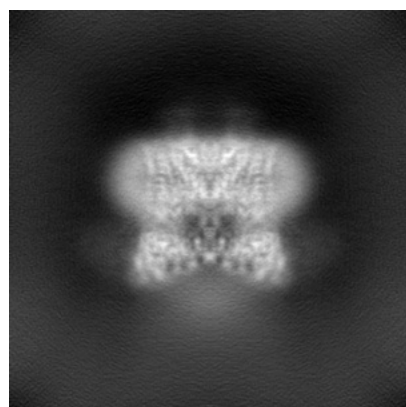


Y

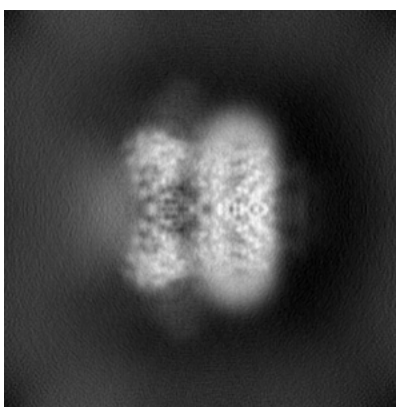


Z

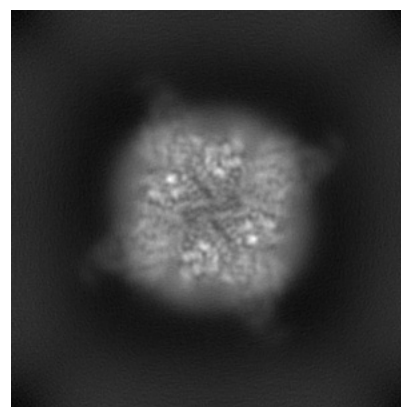
6.1.2 Raw map



X



Y

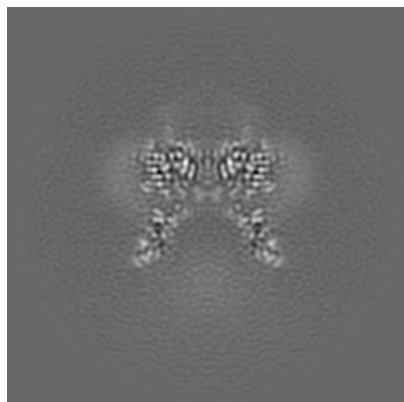


Z

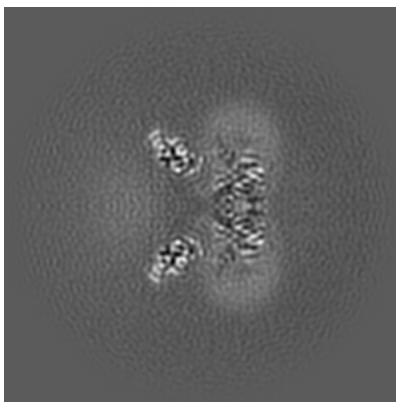
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

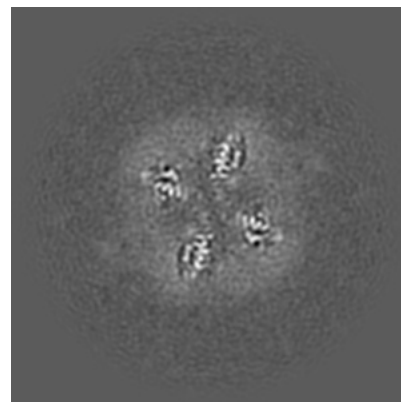
6.2.1 Primary map



X Index: 128

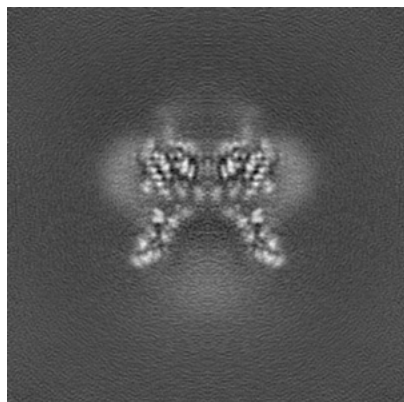


Y Index: 128

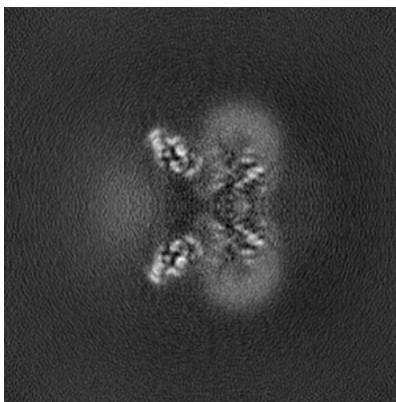


Z Index: 128

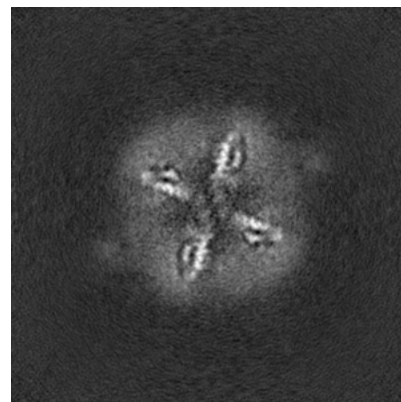
6.2.2 Raw map



X Index: 128



Y Index: 128

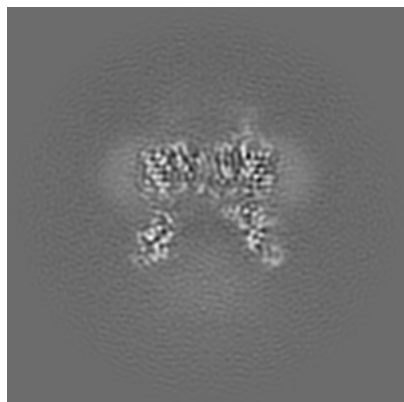


Z Index: 128

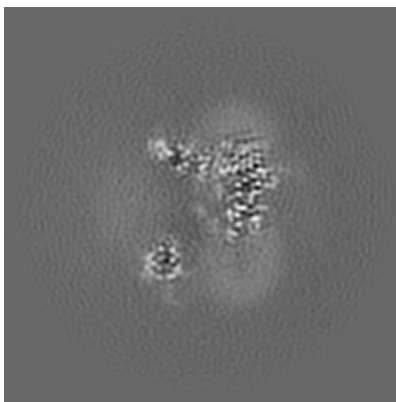
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

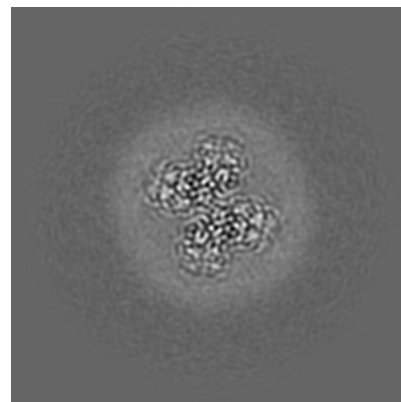
6.3.1 Primary map



X Index: 130

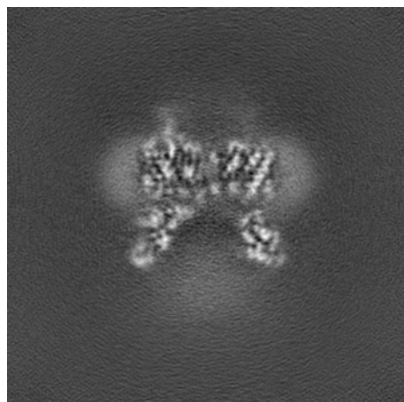


Y Index: 118

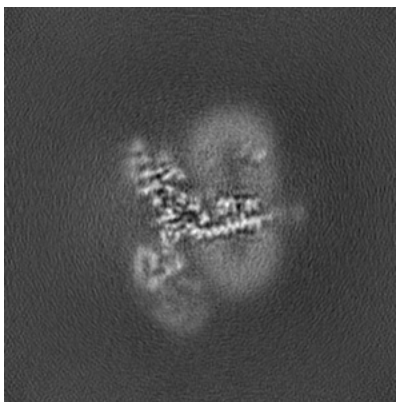


Z Index: 157

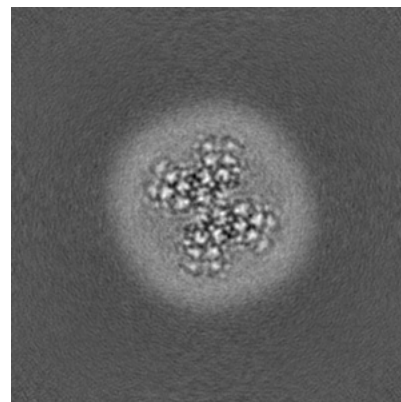
6.3.2 Raw map



X Index: 126



Y Index: 98

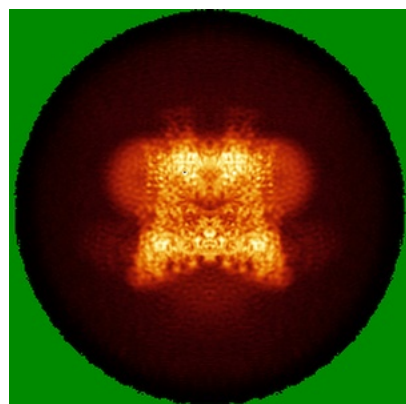


Z Index: 157

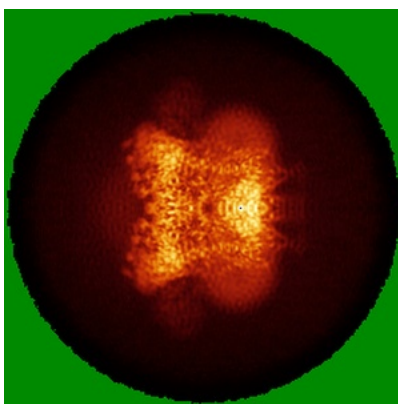
The images above show the largest variance slices of the map in three orthogonal directions.

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

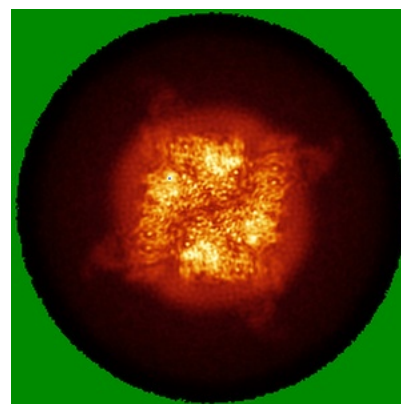
6.4.1 Primary map



X

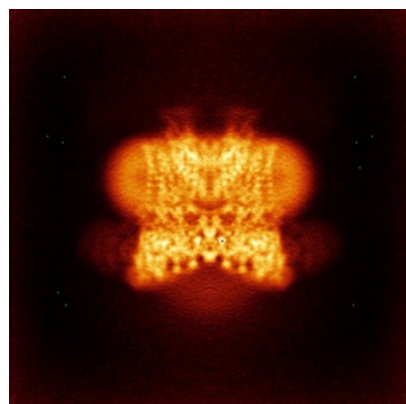


Y

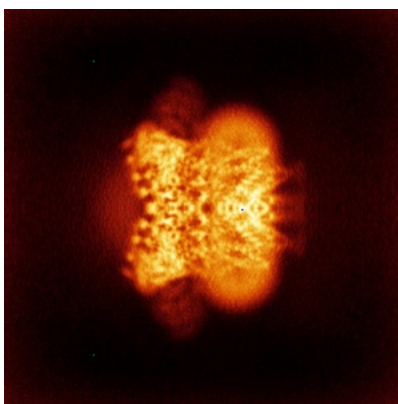


Z

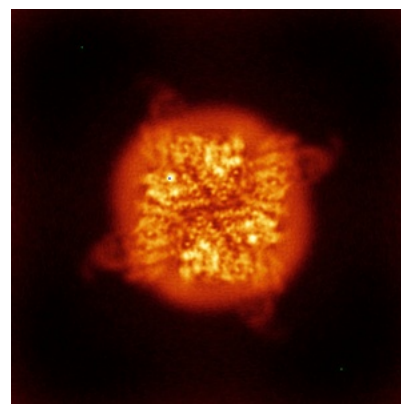
6.4.2 Raw map



X



Y

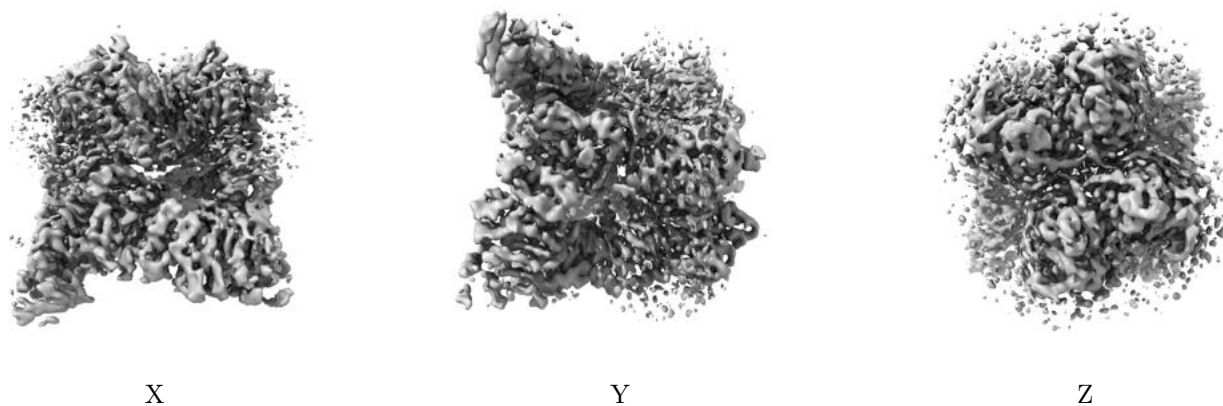


Z

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

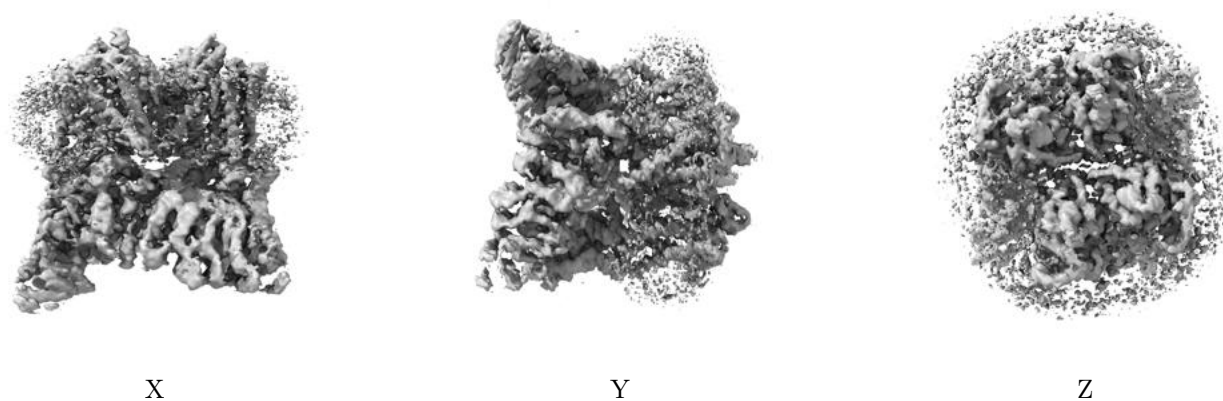
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.45. 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



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

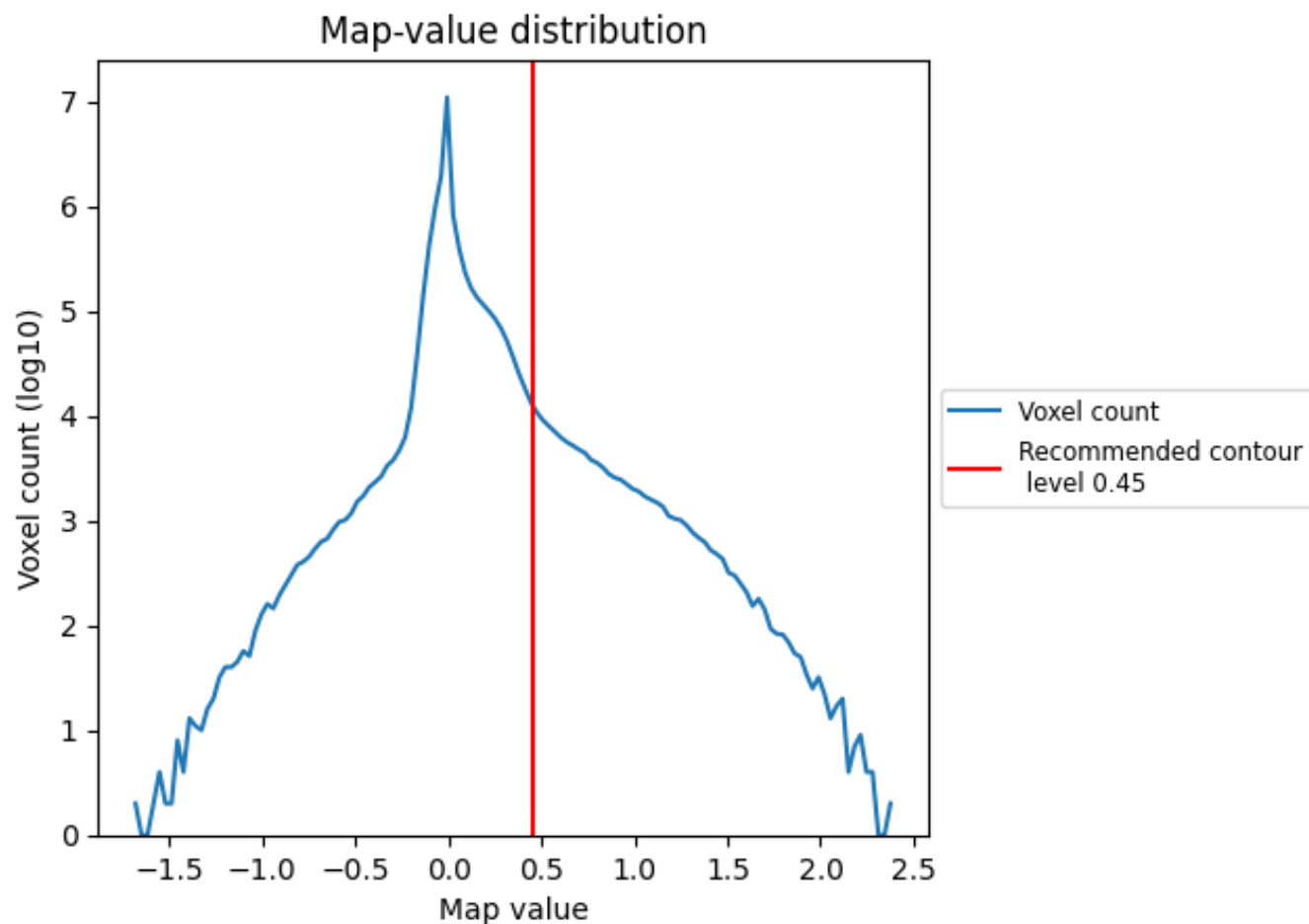
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

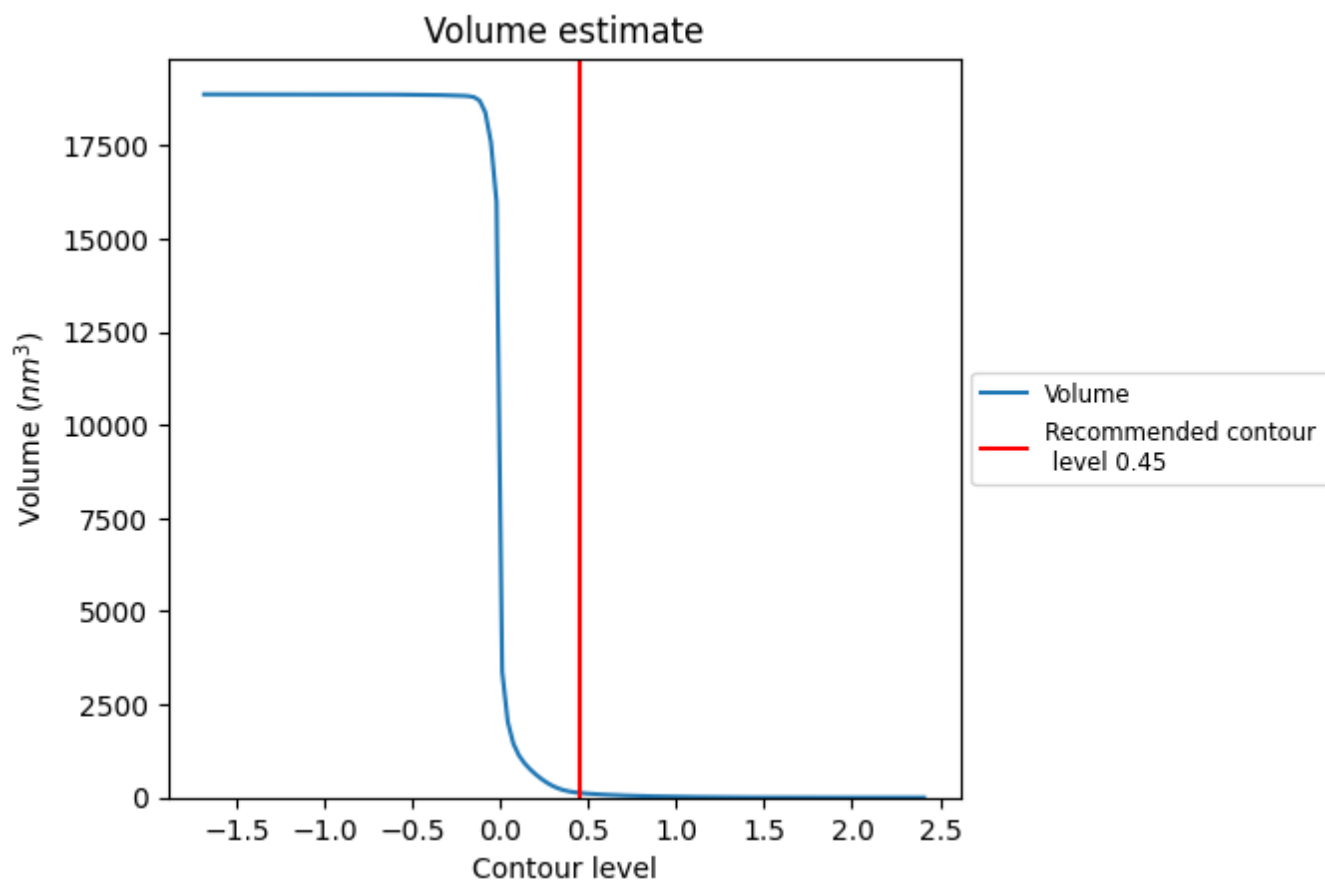
This section contains the results of statistical analysis of the map.

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.

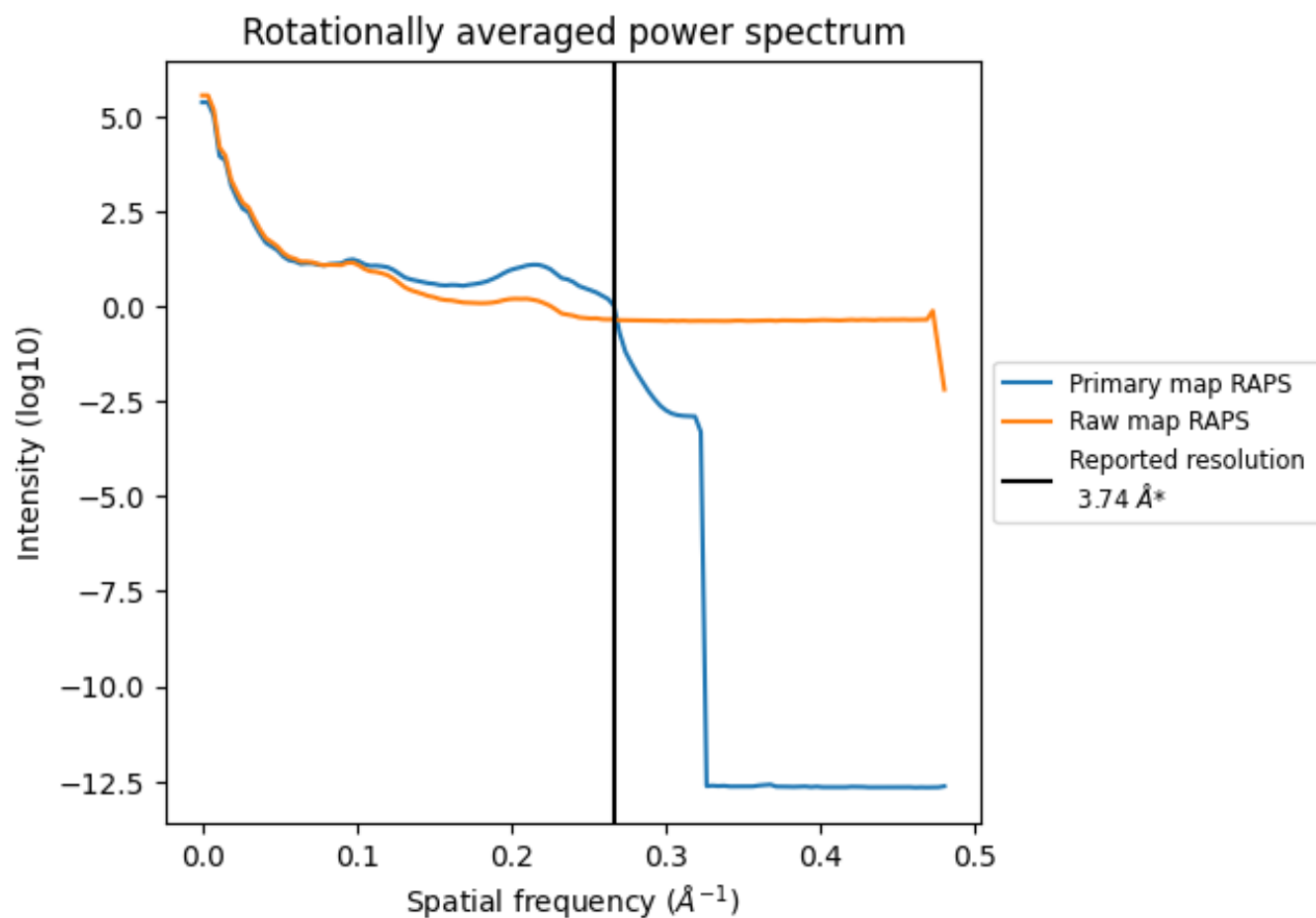
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 126 nm³; this corresponds to an approximate mass of 114 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 ⓘ

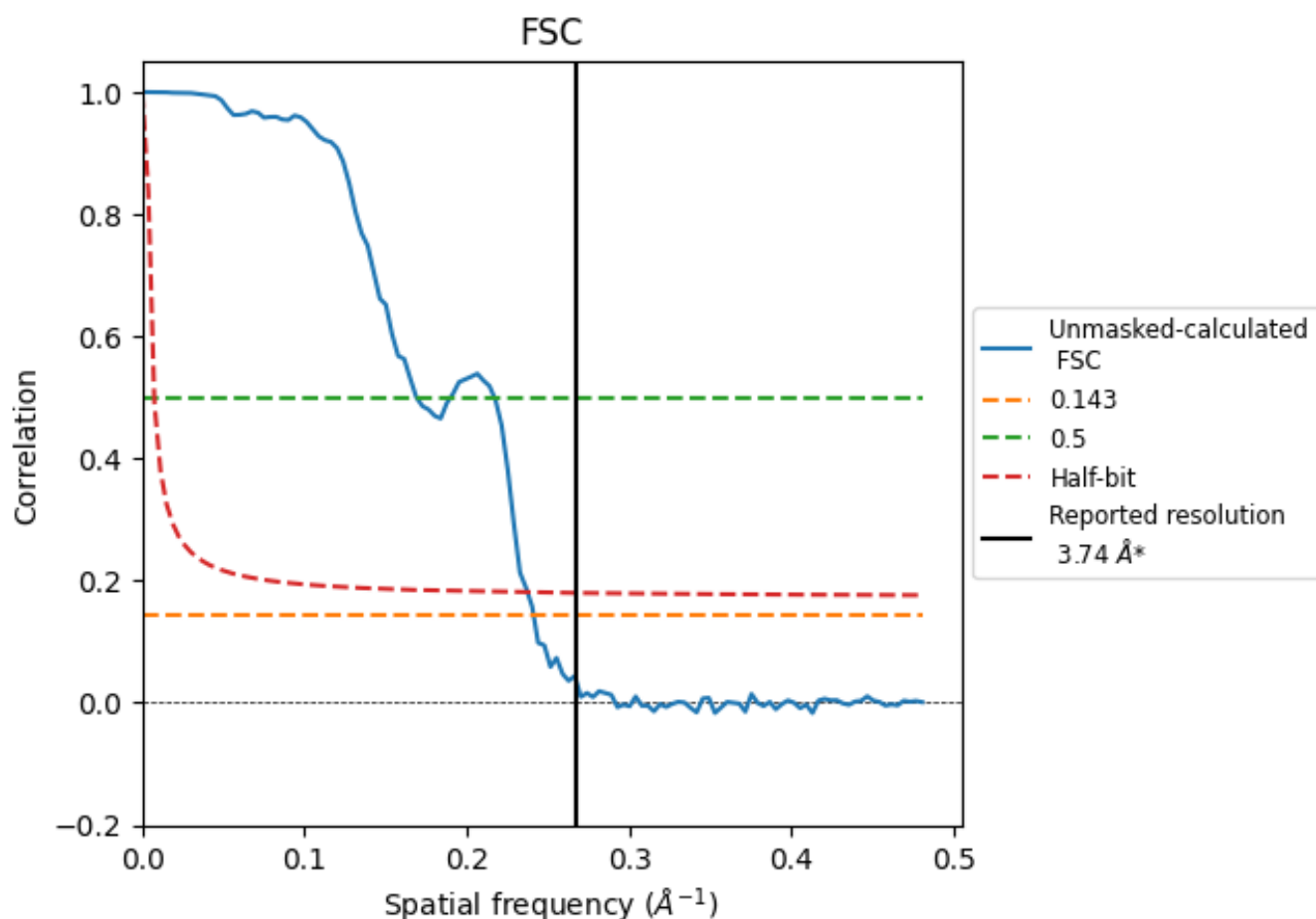


*Reported resolution corresponds to spatial frequency of 0.267 Å⁻¹

8 Fourier-Shell correlation [i](#)

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 [i](#)



*Reported resolution corresponds to spatial frequency of 0.267 Å⁻¹

8.2 Resolution estimates [i](#)

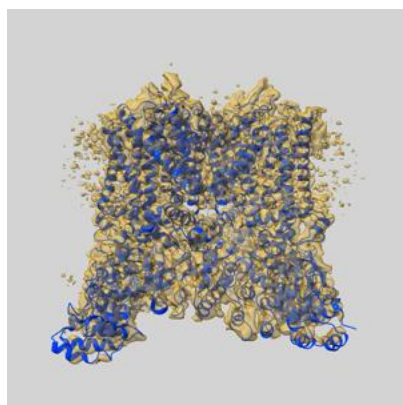
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.74	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	4.14	5.92	4.21

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.14 differs from the reported value 3.74 by more than 10 %

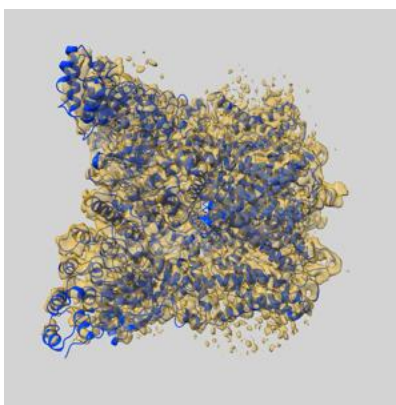
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-36659 and PDB model 8JU5. Per-residue inclusion information can be found in [section 3](#) on [page 6](#).

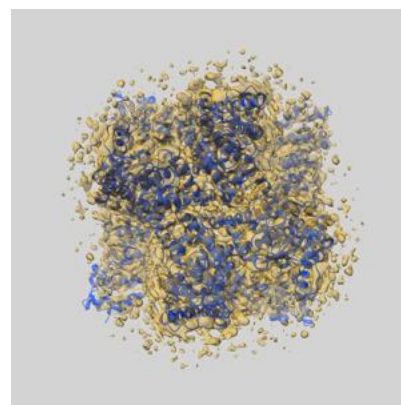
9.1 Map-model overlay [i](#)



X



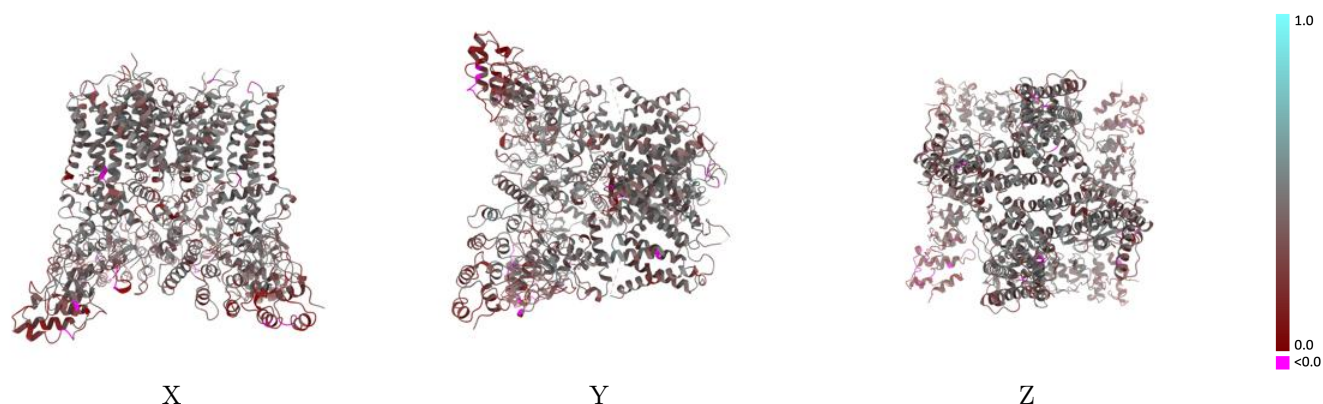
Y



Z

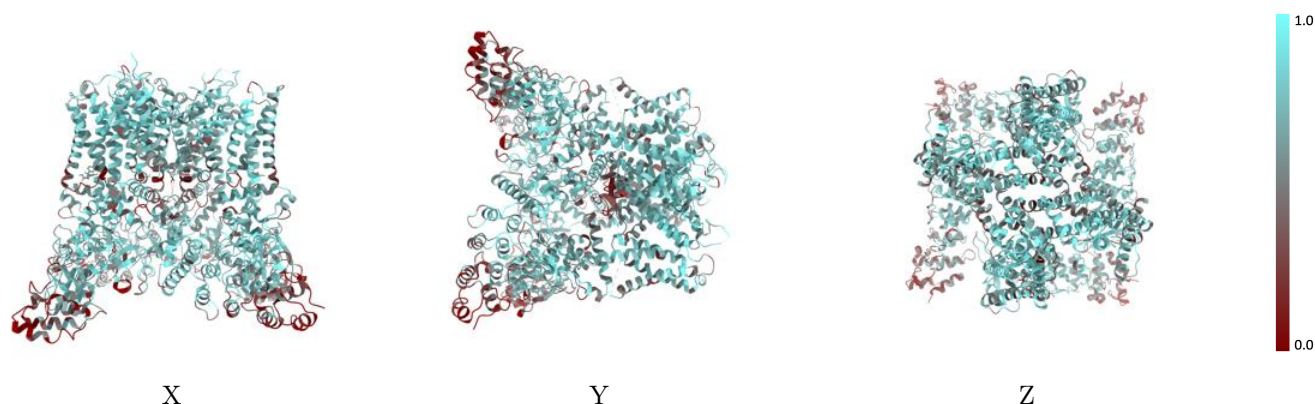
The images above show the 3D surface view of the map at the recommended contour level 0.45 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



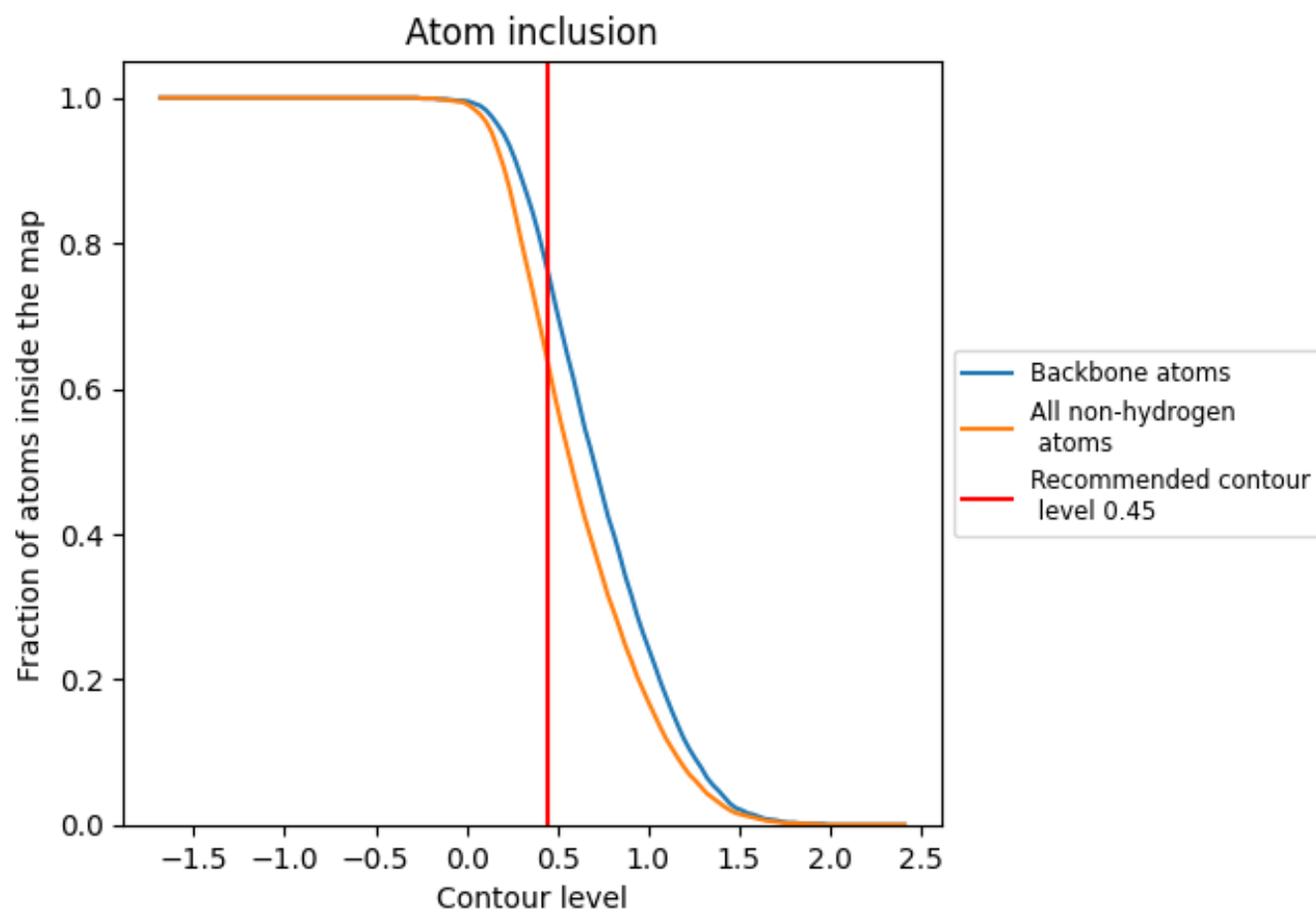
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.45).

9.4 Atom inclusion [i](#)



At the recommended contour level, 76% of all backbone atoms, 63% 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 (0.45) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6320	0.3740
A	0.6350	0.3680
B	0.6460	0.3940
C	0.6020	0.3390
D	0.6450	0.3900

