WORLDWIDE wwPDB PROTEIN DATA BANK

Full wwPDB EM Validation Report ⓘ

Jul 1, 2025 – 11:02 am BST

PDB ID	:	9QFH / pdb_00009qfh
EMDB ID	:	EMD-53109
Title	:	The composite map of of the AMPAR complex GluA3- TARP gamma2 in the apo state.
Authors	:	Pokharna, A.; Krieger, J.; Greger, I.
Deposited on	:	2025-03-11
Resolution	:	2.90 Å(reported)

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

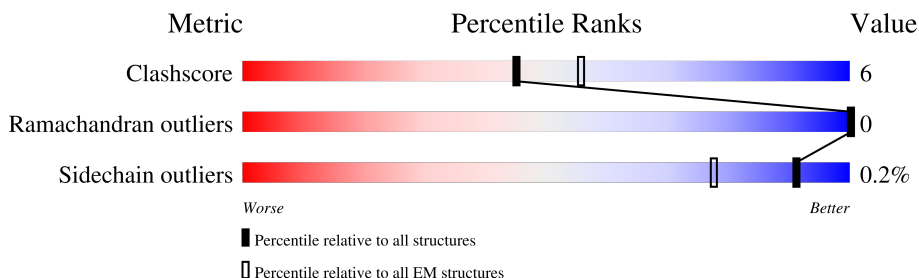|		
EMDB validation analysis	:	0.0.1.dev118
MolProbity	:	4-5-2 with Phenix2.0rc1
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.44

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 2.90 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		6
Ramachandran outliers		0
Sidechain outliers		0.2%

Worse   *Better*

▌ Percentile relative to all structures

▯ Percentile relative to all EM structures

Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	1170	55% 12% 34%
1	B	1170	54% 12% 34%
1	C	1170	56% 10% 34%
1	D	1170	55% 11% 34%
1	W	1170	12% 86%
1	X	1170	12% 86%
1	Y	1170	12% 86%
1	Z	1170	13% 86%

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2 Entry composition ⓘ

There is only 1 type of molecule in this entry. The entry contains 29625 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 Isoform Flip of Glutamate receptor 3,Voltage-dependent calcium channel gamma-2 subunit.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	774	Total 6127	C 3950	N 1024	O 1119	S 34	2	0
1	B	776	Total 6134	C 3954	N 1027	O 1119	S 34	1	0
1	C	777	Total 6100	C 3939	N 1022	O 1105	S 34	0	0
1	D	772	Total 6100	C 3936	N 1021	O 1110	S 33	1	0
1	W	165	Total 1292	C 856	N 212	O 214	S 10	0	0
1	X	165	Total 1295	C 857	N 212	O 216	S 10	0	0
1	Y	164	Total 1290	C 854	N 211	O 215	S 10	0	0
1	Z	166	Total 1287	C 848	N 212	O 217	S 10	0	0

There are 48 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	844	GLY	-	linker	UNP P19492
A	845	GLY	-	linker	UNP P19492
A	846	SER	-	linker	UNP P19492
A	847	GLY	-	linker	UNP P19492
A	848	SER	-	linker	UNP P19492
A	849	GLY	-	linker	UNP P19492
B	844	GLY	-	linker	UNP P19492
B	845	GLY	-	linker	UNP P19492
B	846	SER	-	linker	UNP P19492
B	847	GLY	-	linker	UNP P19492
B	848	SER	-	linker	UNP P19492
B	849	GLY	-	linker	UNP P19492
C	844	GLY	-	linker	UNP P19492

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Chain	Residue	Modelled	Actual	Comment	Reference
C	845	GLY	-	linker	UNP P19492
C	846	SER	-	linker	UNP P19492
C	847	GLY	-	linker	UNP P19492
C	848	SER	-	linker	UNP P19492
C	849	GLY	-	linker	UNP P19492
D	844	GLY	-	linker	UNP P19492
D	845	GLY	-	linker	UNP P19492
D	846	SER	-	linker	UNP P19492
D	847	GLY	-	linker	UNP P19492
D	848	SER	-	linker	UNP P19492
D	849	GLY	-	linker	UNP P19492
W	-4	GLY	-	linker	UNP P19492
W	-3	GLY	-	linker	UNP P19492
W	-2	SER	-	linker	UNP P19492
W	-1	GLY	-	linker	UNP P19492
W	0	SER	-	linker	UNP P19492
W	1	GLY	-	linker	UNP P19492
X	-4	GLY	-	linker	UNP P19492
X	-3	GLY	-	linker	UNP P19492
X	-2	SER	-	linker	UNP P19492
X	-1	GLY	-	linker	UNP P19492
X	0	SER	-	linker	UNP P19492
X	1	GLY	-	linker	UNP P19492
Y	-4	GLY	-	linker	UNP P19492
Y	-3	GLY	-	linker	UNP P19492
Y	-2	SER	-	linker	UNP P19492
Y	-1	GLY	-	linker	UNP P19492
Y	0	SER	-	linker	UNP P19492
Y	1	GLY	-	linker	UNP P19492
Z	-4	GLY	-	linker	UNP P19492
Z	-3	GLY	-	linker	UNP P19492
Z	-2	SER	-	linker	UNP P19492
Z	-1	GLY	-	linker	UNP P19492
Z	0	SER	-	linker	UNP P19492
Z	1	GLY	-	linker	UNP P19492

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: Isoform Flip of Glutamate receptor 3,Voltage-dependent calcium channel gamma-2 subunit
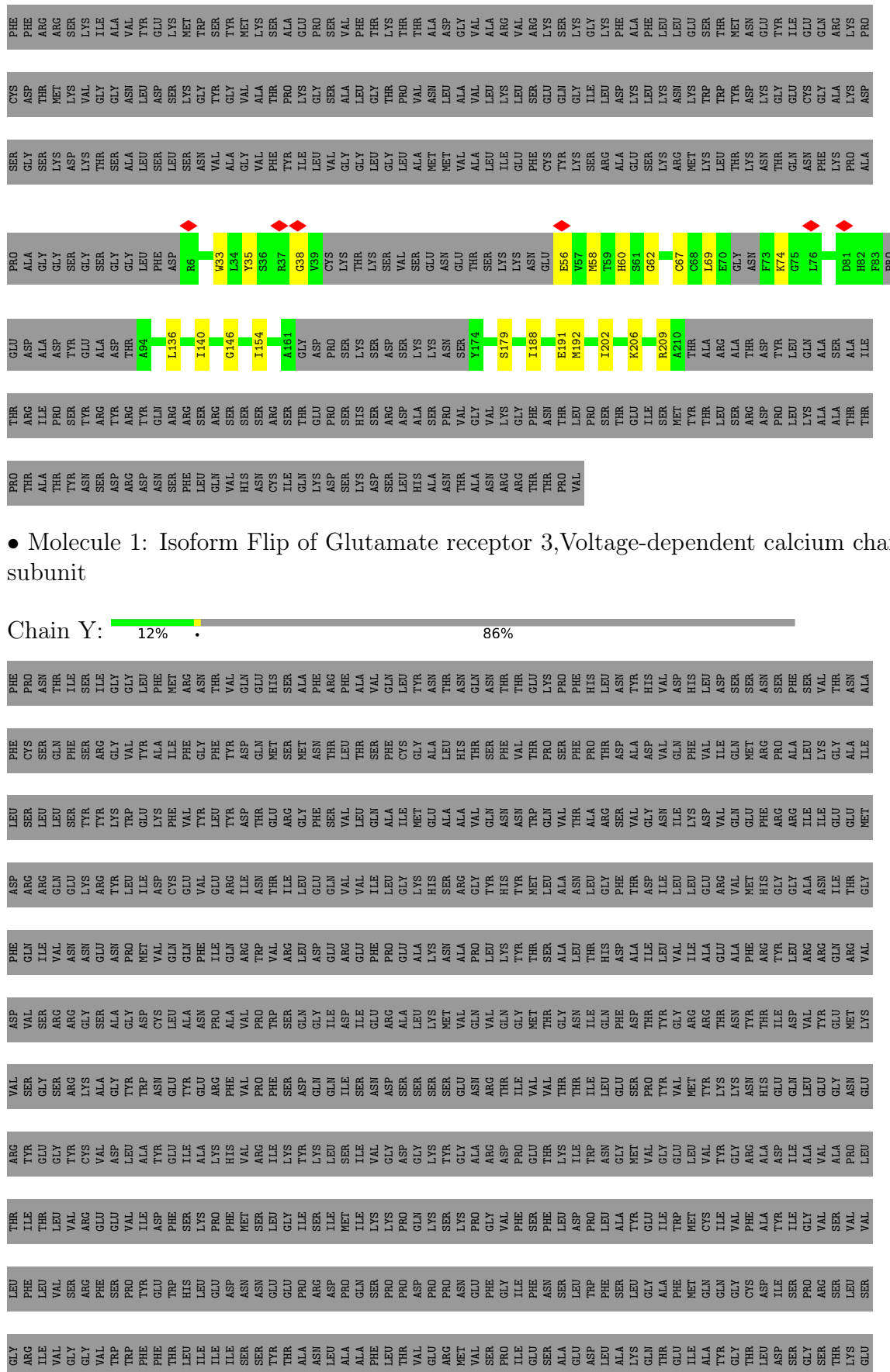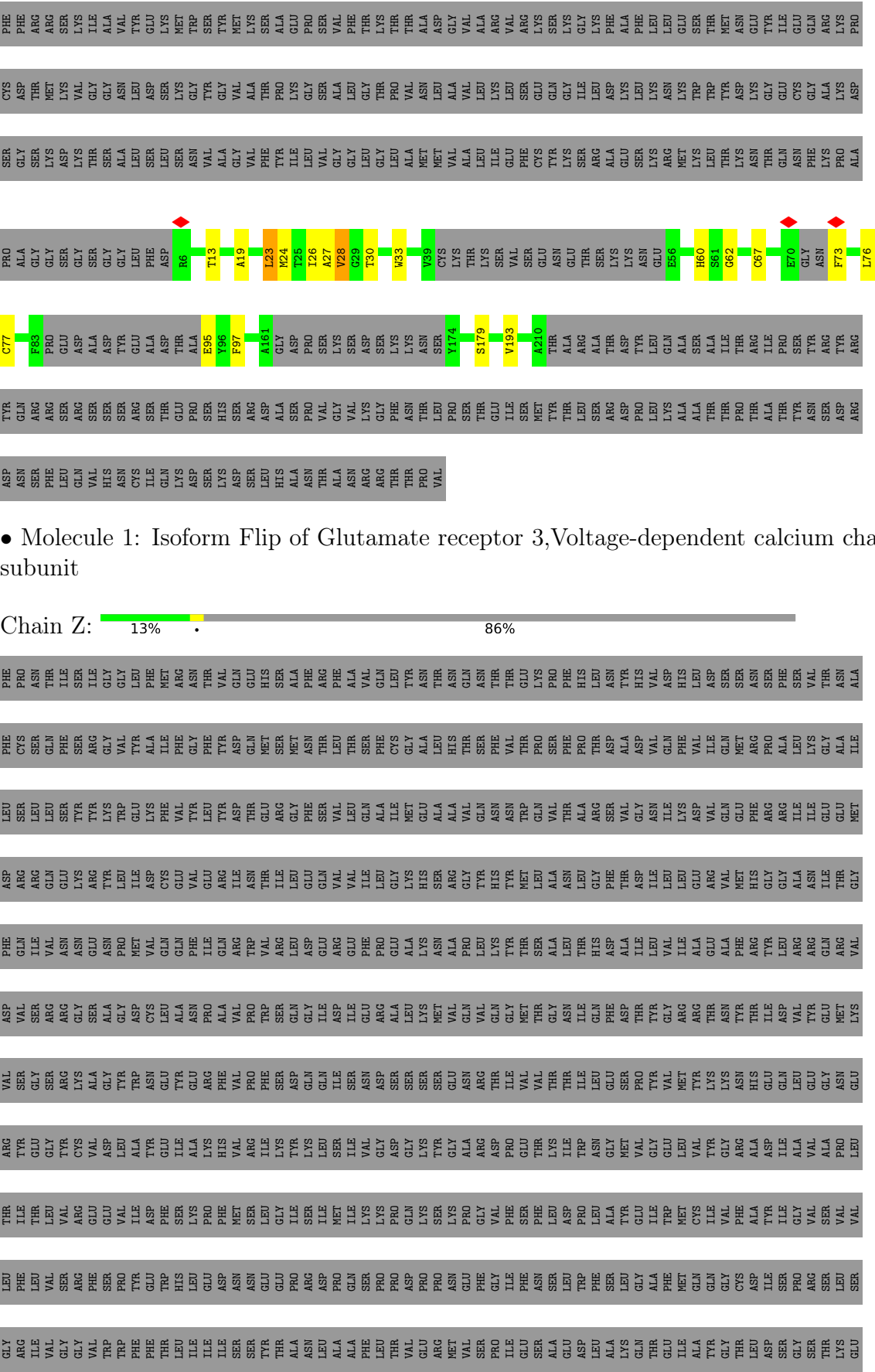
ARG THR THR PRO VAL

• Molecule 1: Isoform Flip of Glutamate receptor 3,Voltage-dependent calcium channel gamma-2 subunit

Chain B:

• Molecule 1: Isoform Flip of Glutamate receptor 3,Voltage-dependent calcium channel gamma-2 subunit

Chain C:

• Molecule 1: Isoform Flip of Glutamate receptor 3,Voltage-dependent calcium channel gamma-2 subunit

Chain D: 55%   11%   34%

S639 A640 L643 A644 K645 Q646 T647 E648 T653 E661 R664 Y671 E672 K673 M674 W675 M678 E682 V694 A695 R696 K699 L707 I716 R719 D723 A739 T740 P741 L746 K756 K767 N768 K769 D773 K774 G775 A779 LYS ASP SER

GLY SER LYS ASP LYS THR S789 V796 V799 F800 L803 R828 MET LYS LEU THR LYS SER VAL SER ASN THR GLN ASN PHE LYS PRO ALA GLY ALA GLY SER GLY LEU PHE ASP ARG GLY VAL GLN MET LEU LEU THR THR VAL GLY ALA PHE ALA ALA PHE SER LEU MET

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

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

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

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

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

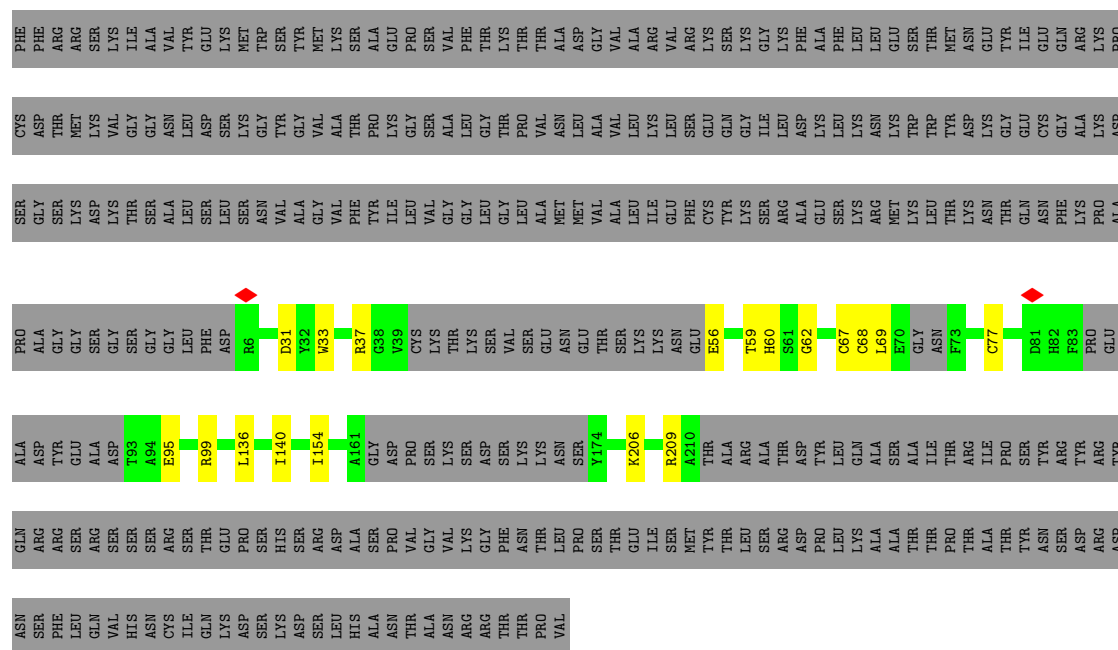• Molecule 1: Isoform Flip of Glutamate receptor 3,Voltage-dependent calcium channel gamma-2 subunit

Chain W: 12% · 86%

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

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

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

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

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

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

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

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

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

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

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

Row 1: PHE PHE ARG ARG SER LYS ILE ALA VAL TYR GLU LYS MET TRP SER MET LYS SER ALA GLU PRO SER VAL PHE THR LYS THR ALA ASP GLY VAL ALA ARG GLU VAL ARG LYS LYS SER LYS LYS PHE ALA PHE LEU LEU GLU GLU SER THR MET ASN GLN GLU ILE GLU GLN ARG LYS PRO

Row 2: CYS ASP THR MET LYS VAL GLY GLY ASN LEU ASP SER SER LYS GLY TYR GLY VAL ALA THR PRO LYS GLY SER ALA LEU GLY THR PRO VAL ASN LEU ALA VAL LEU LYS LEU SER GLU GLN ILE GLU LEU ASP LYS LYS LYS ASN LYS TRP TRP ASP LYS GLY GLU CYS GLY ALA LYS ASP

Row 3: SER GLY SER ASP LYS SER ALA LEU SER LEU SER ASN VAL ALA GLY VAL PHE TYR ILE LEU LEU VAL GLY GLY LEU GLY LEU ALA MET MET VAL ALA LEU ILE GLU PHE CYS TYR LYS SER ARG ALA GLU SER LYS ARG MET LYS LEU THR LYS ASN ALA ASN GLN ASN PHE LYS PRO ALA

Row 4: PRO ALA GLY GLY GLY SER GLY GLY LEU PHE ASP R6 M10 T13 W33 V39 CYS LYS THR LYS SER VAL SER GLU ASN GLU THR SER LYS LYS ASN GLU E56 V57 M58 T59 G62 R65 E70 GLY ASN F73 L76 C77 F83 PRO GLU ASP ALA ASP

Row 5: TYR GLU ALA ASP THR A94 E95 L120 C121 I122 L136 I140 I154 A161 GLY ASP PRO SER LYS SER ASP SER SER LYS LYS ASN SER Y174 F180 I188 M192 V193 K206 R209 A210 THR ALA ARG ALA THR ASP TYR LEU GLN ALA SER ALA ILE THR THR ARG ILE

Row 6: PRO SER TYR ARG TYR ARG GLN ARG ARG SER ARG SER SER ARG SER THR GLU PRO SER HIS SER ARG ASP ALA SER PRO VAL GLY VAL LYS GLY LYS ASN SER GLY PHE ASN THR LEU PRO SER THR GLU ILE SER MET TYR THR LEU SER ARG ASP PRO LEU LYS ALA ALA THR PRO THR ALA

Row 7: THR TYR ASN SER ASP ARG ASN SER PHE LEU GLN VAL HIS ASN CYS ILE GLN LYS ASP SER LYS ASP SER LEU HIS ALA ASN THR ALA ASN ARG ARG THR THR PRO VAL

• Molecule 1: Isoform Flip of Glutamate receptor 3,Voltage-dependent calcium channel gamma-2 subunit

Chain X:　12%　　　　　86%

Row 1: PHE PRO ASN THR ILE SER ILE GLY LEU PHE MET ARG ASN THR VAL GLN GLU HIS SER ALA PHE ARG PHE ALA VAL GLN LEU TYR ASN THR GLN ASN GLN ASN THR THR GLU LYS PRO PHE HIS LEU ASN TYR HIS VAL ASP HIS LEU ASP SER SER ASN SER PHE SER VAL THR ASN ALA

Row 2: PHE CYS SER GLN PHE SER ARG GLY VAL TYR ALA ILE PHE GLY PHE TYR ASP GLN MET SER MET ASN THR LEU THR SER PHE CYS GLY ALA LEU HIS THR SER PHE VAL THR PRO SER PHE PRO THR ASP ALA ASP VAL GLN PHE VAL ILE GLN MET ARG PRO ALA LEU LYS GLY ALA ILE

Row 3: LEU SER LEU LEU SER TYR TYR LYS TRP GLU LYS PHE VAL TYR LEU TYR ASP THR GLU ARG GLY PHE SER VAL LEU GLN ALA ILE MET GLU ALA ALA VAL GLN ASN ASN TRP GLN VAL THR ALA ARG SER VAL GLY ASN ILE LYS ASP VAL GLN GLU PHE ARG ARG ILE ILE GLU GLU MET

Row 4: ASP ARG ARG GLN LYS ARG TYR LEU ILE ASP CYS GLU VAL GLU ILE ASN THR ILE LEU GLU GLN VAL VAL LEU VAL GLY LYS HIS SER ARG GLY TYR HIS TYR MET LEU ALA ASN LEU GLY PHE THR ASP ILE LEU LEU GLU ARG VAL MET HIS GLY GLY ALA ASN ILE THR GLY

Row 5: PHE GLN ILE VAL ASN ASN GLU ASN PRO MET VAL GLN PHE ILE GLN ARG TRP ARG LEU ASP SER GLU ARG GLU ARG PRO GLU GLU ALA LYS ASN ALA PRO LEU LYS TYR THR SER ALA LEU THR HIS ASP ALA ILE LEU VAL ILE ALA GLU ALA PHE ARG TYR LEU ARG ARG GLN ARG VAL

Row 6: ASP VAL SER ARG GLY ALA GLY SER ALA ASP CYS LEU ALA ASN PRO ALA VAL PRO TRP SER GLN GLY ILE ASP ILE GLU ARG ALA LEU LYS MET VAL GLN VAL GLN GLY MET THR GLY ASN ILE GLN PHE ASP THR TYR GLY ARG ARG THR ASN TYR THR ILE ASP VAL TYR GLU MET LYS

Row 7: VAL SER GLY SER ARG LYS ALA GLY TYR TRP ASN GLU GLU ASP TYR GLU PHE VAL PRO GLU PHE SER ASP GLN GLN ILE ASN ASP SER SER SER GLU ASN ARG THR ILE VAL VAL THR THR ILE LEU GLU SER PRO TYR VAL MET TYR LYS ASN HIS GLU GLU LEU GLU GLY ASN GLU

Row 8: ARG TYR GLU GLY TYR CYS VAL ASP LEU ALA TYR GLU ILE ALA LYS HIS VAL ARG ILE LYS TYR LYS LEU SER ILE VAL GLY ASP GLY LYS TYR GLY ALA ARG ASP PRO GLU THR LYS ILE TRP ASN GLY MET VAL GLY GLU LEU VAL TYR GLY ARG ALA ASP ILE ALA VAL ALA PRO LEU

Row 9: THR ILE THR LEU VAL ARG GLU GLU VAL ILE ASP PHE SER LYS PRO PHE MET SER LEU GLY ILE SER ILE MET ILE LYS LYS PRO GLN LYS SER LYS PRO GLY VAL PHE SER PHE LEU ASP PRO LEU ALA TYR GLU ILE TRP MET CYS ILE VAL PHE ALA TYR ILE GLY VAL SER VAL VAL

Row 10: LEU PHE LEU VAL SER ARG PHE SER PRO TYR GLU TRP HIS LEU GLU ASP ASN ASN GLU GLU PRO ARG ASP PRO GLN SER PRO PRO ASP PRO PRO ASN GLU PHE GLY ILE PHE ASN SER LEU TRP PHE SER LEU GLY ALA PHE MET GLN GLN GLY CYS ASP ILE SER PRO ARG SER LEU SER

Row 11: GLY ARG ILE VAL GLY GLY VAL TRP TRP PHE PHE THR LEU ILE ILE ILE SER SER TYR THR ALA ASN LEU ALA ALA PHE LEU THR VAL GLU ARG MET VAL SER PRO ILE GLU SER ALA GLU ASP LEU ALA LYS GLN THR GLU ILE ALA TYR GLY THR LEU ASP SER GLY SER THR LYS GLU

• Molecule 1: Isoform Flip of Glutamate receptor 3,Voltage-dependent calcium channel gamma-2 subunit

Chain Y:　12%　·　86%

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

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

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

PRO ALA GLY GLY GLY SER GLY SER GLY GLY LEU PHE ASP THR ALA GLU SER SER HIS ASN SER ARG ASP ALA SER PRO SER LYS ASP SER SER LYS ASN SER SER THR ALA ARG ALA ALA THR ARG ALA ILE THR ARG ILE PRO SER TYR ARG ARG TYR ARG
R6 T13 A19 L23 M24 T25 I26 A27 V28 G29 T30 W33 V39 CYS LYS THR LYS SER VAL SER GLU ASN GLU THR SER LYS ASN GLU E56 H60 S61 G62 C67 E70 GLY ASN F73 L76

C77 F83 PRO GLU ASP ALA ASP TYR GLU ALA ASP THR ALA E95 Y96 F97 A161 GLY ASP PRO SER LYS ASP SER LYS ASN SER Y174 S179 V193 A210 THR ALA ARG ALA THR ASP TYR LEU GLN ALA SER ALA ILE THR ARG ILE PRO SER ARG TYR ARG

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

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

• Molecule 1: Isoform Flip of Glutamate receptor 3,Voltage-dependent calcium channel gamma-2 subunit

Chain Z: 13%   •   86%

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

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

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

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

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

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

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

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

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

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

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

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

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

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

PRO ALA GLY GLY SER GLY SER GLY GLY LEU PHE ASP **R6** **D31** **Y32** **W33** **R37** **G38** **V39** CYS LYS THR LYS SER SER VAL SER GLU ASN GLU THR SER LYS LYS ASN GLU **E56** **T59** **H60** **S61** **G62** **C67** **C68** **L69** **E70** GLY ASN **F73** **C77** **D81** **H82** **F83** PRO GLU ASP

ALA ASP TYR GLU ALA ASP **T93** **A94** **E95** **R99** **L136** **I140** **I154** **A161** GLY ASP PRO SER LYS SER ASP SER LYS LYS ASN SER **Y174** **K206** **R209** **A210** THR ALA ARG ALA THR ASP TYR LEU GLN ALA SER ALA ILE THR ARG ILE PRO SER TYR ARG TYR ARG TYR

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

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

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	1184304	Depositor
Resolution determination method	OTHER	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose $(e^-/\text{Å}^2)$	40	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	2400	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	66.084	Depositor
Minimum map value	-0.766	Depositor
Average map value	1.744	Depositor
Map value standard deviation	1.309	Depositor
Recommended contour level	9	Depositor
Map size (Å)	422.912, 422.912, 422.912	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.826, 0.826, 0.826	Depositor

5　Model quality ⓘ

5.1　Standard geometry ⓘ

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$|Z| > 5$	RMSZ	#$|Z| > 5$
1	A	0.21	0/6269	0.39	2/8488 (0.0%)
1	B	0.25	0/6275	0.43	0/8495
1	C	0.20	0/6242	0.37	0/8456
1	D	0.21	0/6242	0.40	4/8451 (0.0%)
1	W	0.19	0/1321	0.29	0/1780
1	X	0.16	0/1324	0.30	0/1784
1	Y	0.24	0/1319	0.41	1/1777 (0.1%)
1	Z	0.15	0/1315	0.32	0/1774
All	All	0.21	0/30307	0.39	7/41005 (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 (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	D	587	ALA	N-CA-C	-8.15	100.73	111.24
1	Y	28	VAL	N-CA-C	-7.52	105.68	112.90
1	D	592	GLY	N-CA-C	5.55	118.51	111.85
1	A	576	GLY	CA-C-O	-5.39	116.65	122.47
1	D	433	GLU	O-C-N	-5.34	115.97	122.22
1	D	587	ALA	CB-CA-C	5.23	119.48	110.86
1	A	591	GLN	N-CA-C	-5.18	105.68	112.41

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	598	ARG	Sidechain

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	6127	0	5970	94	0
1	B	6134	0	5997	87	0
1	C	6100	0	5945	79	0
1	D	6100	0	5975	79	0
1	W	1292	0	1305	12	0
1	X	1295	0	1307	15	0
1	Y	1290	0	1302	11	0
1	Z	1287	0	1282	11	0
All	All	29625	0	29083	358	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 6.

All (358) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:554:HIS:CE1	1:X:209:ARG:HE	2.00	0.80
1:X:38:GLY:O	1:X:56:GLU:HA	1.87	0.74
1:B:640:ALA:HB1	1:B:674:MET:HE1	1.69	0.72
1:D:640:ALA:HB1	1:D:674:MET:HE1	1.72	0.72
1:C:653:THR:HG22	1:C:707:LEU:HB2	1.74	0.69
1:A:229:LEU:HD11	1:A:360:MET:HE3	1.72	0.69
1:B:653:THR:HG22	1:B:707:LEU:HB2	1.75	0.69
1:B:402:ILE:HG12	1:B:465:MET:HE2	1.74	0.69
1:A:288:VAL:HG13	1:A:333:VAL:HG11	1.76	0.68
1:A:455[A]:ARG:HH21	1:A:462:TRP:HE1	1.41	0.67
1:D:585:LEU:O	1:D:589:MET:HG2	1.95	0.66
1:A:50:LEU:HD13	1:A:58:VAL:HG22	1.77	0.66
1:D:288:VAL:HG13	1:D:333:VAL:HG21	1.77	0.66
1:Z:60:HIS:NE2	1:Z:67:CYS:SG	2.69	0.65
1:C:205:VAL:HG13	1:C:210:LYS:HB2	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Y:60:HIS:NE2	1:Y:67:CYS:SG	2.70	0.65
1:A:205:VAL:HG13	1:A:210:LYS:HB2	1.79	0.65
1:B:769:LYS:HA	1:B:773:ASP:HB2	1.77	0.64
1:D:522:PRO:O	1:D:623:ASN:ND2	2.30	0.64
1:B:588:PHE:HA	1:B:613:THR:CG2	2.28	0.63
1:C:406:PRO:HA	1:C:409:MET:HE3	1.80	0.63
1:X:188:ILE:HG22	1:X:192:MET:HE2	1.80	0.63
1:C:50:LEU:HD13	1:C:58:VAL:HG22	1.81	0.63
1:B:613:THR:O	1:B:617:ILE:HG13	1.99	0.62
1:B:720:LYS:HE3	1:B:776:GLU:HB3	1.81	0.62
1:C:288:VAL:HG13	1:C:333:VAL:HG11	1.81	0.62
1:C:458:GLU:O	1:D:188:ARG:NH2	2.32	0.62
1:D:644:ALA:HB1	1:D:673:LYS:HE3	1.79	0.62
1:A:585:LEU:O	1:A:589:MET:HG2	1.99	0.62
1:A:653:THR:HG22	1:A:707:LEU:HB2	1.82	0.62
1:C:229:LEU:HD11	1:C:360:MET:HE3	1.81	0.62
1:C:239:ILE:HB	1:C:360:MET:HB3	1.83	0.61
1:B:469:LEU:HD22	1:B:741:PRO:HD3	1.83	0.61
1:A:633:MET:HE2	1:C:633:MET:HE2	1.83	0.60
1:A:115:PRO:HG3	1:A:244:ILE:HG21	1.83	0.60
1:C:124:LEU:HD21	1:C:357:VAL:HG21	1.84	0.60
1:A:469:LEU:HD22	1:A:741:PRO:HD3	1.82	0.60
1:B:256:ILE:HD11	1:B:275:LEU:HD22	1.82	0.60
1:D:769:LYS:HA	1:D:773:ASP:HB2	1.82	0.60
1:X:33:TRP:CD1	1:X:179:SER:HG	2.18	0.60
1:B:661:GLU:OE1	1:B:664:ARG:NH2	2.34	0.59
1:W:33:TRP:HB2	1:W:62:GLY:HA2	1.84	0.59
1:C:408:VAL:HG11	1:C:446:ILE:HD11	1.84	0.59
1:C:769:LYS:HA	1:C:773:ASP:HB2	1.83	0.59
1:B:549:SER:HB3	1:B:552:GLU:HG2	1.84	0.59
1:X:33:TRP:HB2	1:X:62:GLY:HA2	1.84	0.59
1:D:469:LEU:HD22	1:D:741:PRO:HD3	1.84	0.58
1:A:648:GLU:HG2	1:A:649:ILE:HG13	1.85	0.58
1:A:554:HIS:CE1	1:X:209:ARG:HH21	2.22	0.58
1:B:588:PHE:HA	1:B:613:THR:HG23	1.83	0.58
1:A:239:ILE:HB	1:A:360:MET:HB3	1.86	0.58
1:A:322:GLN:OE1	1:A:322:GLN:N	2.34	0.58
1:A:500:LEU:HD12	1:A:709:GLU:HB2	1.85	0.58
1:C:399:VAL:HG23	1:C:442:TYR:HB2	1.86	0.58
1:B:522:PRO:O	1:B:623:ASN:ND2	2.36	0.57
1:B:643:LEU:HA	1:B:646:GLN:HE21	1.70	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:629:THR:HG22	1:C:633:MET:HE3	1.86	0.57
1:A:632:ARG:HE	1:D:630:VAL:HB	1.68	0.57
1:D:255:PHE:O	1:D:259:TRP:HB3	2.03	0.57
1:D:546:SER:HB3	1:D:573:ASN:HD21	1.70	0.57
1:D:193:CYS:O	1:D:221:ASN:ND2	2.38	0.57
1:C:115:PRO:HG3	1:C:244:ILE:HG21	1.87	0.57
1:B:288:VAL:HG13	1:B:333:VAL:HG21	1.85	0.56
1:D:438:VAL:HG11	1:D:746:LEU:HD23	1.87	0.56
1:Y:33:TRP:HB2	1:Y:62:GLY:HA2	1.86	0.56
1:B:371:TRP:HD1	1:B:377:PHE:HB2	1.71	0.56
1:B:437:HIS:CD2	1:B:756:LYS:HE3	2.40	0.56
1:C:11:LEU:HD22	1:C:50:LEU:HD23	1.87	0.56
1:A:719:ARG:HH21	1:A:776:GLU:HG3	1.68	0.56
1:C:491:ILE:HD12	1:C:739:ALA:HB1	1.87	0.56
1:Y:19:ALA:O	1:Y:23:LEU:HB2	2.05	0.56
1:D:256:ILE:HD11	1:D:275:LEU:HD22	1.86	0.56
1:C:403:LEU:HG	1:C:446:ILE:HD12	1.86	0.56
1:C:762:ILE:HG12	1:C:765:LYS:HE3	1.88	0.55
1:A:491:ILE:HD12	1:A:739:ALA:HB1	1.89	0.55
1:B:255:PHE:O	1:B:259:TRP:HB3	2.06	0.55
1:C:546:SER:HB3	1:C:573:ASN:HD21	1.71	0.55
1:A:641:GLU:HG3	1:A:670:VAL:HG21	1.88	0.55
1:D:653:THR:HG22	1:D:707:LEU:HB2	1.87	0.55
1:B:491:ILE:HD12	1:B:739:ALA:HB1	1.89	0.55
1:B:694:VAL:HG21	1:B:716:ILE:HD13	1.87	0.55
1:Y:30:THR:HG1	1:Y:179:SER:HG	1.54	0.55
1:A:11:LEU:HD22	1:A:50:LEU:HD23	1.87	0.55
1:A:661:GLU:OE2	1:A:664:ARG:NH2	2.39	0.55
1:B:449:ASP:HB2	1:B:451:LYS:NZ	2.22	0.55
1:C:397:ILE:O	1:C:442:TYR:HA	2.07	0.55
1:D:694:VAL:HG21	1:D:716:ILE:HD13	1.89	0.55
1:C:322:GLN:OE1	1:C:322:GLN:N	2.35	0.54
1:B:193:CYS:O	1:B:221:ASN:ND2	2.40	0.54
1:B:303:VAL:HA	1:B:322:GLN:HG2	1.88	0.54
1:Z:33:TRP:HB2	1:Z:62:GLY:HA2	1.90	0.54
1:B:812:MET:HE3	1:B:816:ILE:HD12	1.89	0.53
1:X:202:ILE:O	1:X:206:LYS:HG3	2.08	0.53
1:C:250:PRO:O	1:C:254:GLN:HG3	2.08	0.53
1:D:229:LEU:HD22	1:D:239:ILE:HD13	1.89	0.53
1:D:371:TRP:HD1	1:D:377:PHE:HB2	1.73	0.53
1:D:233:MET:HB2	1:D:360:MET:HE2	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:334:GLN:HA	1:A:342:ILE:O	2.09	0.53
1:A:585:LEU:HD11	1:A:589:MET:HE2	1.91	0.53
1:B:585:LEU:O	1:B:589:MET:HG2	2.09	0.53
1:D:252:VAL:HG13	1:D:338:MET:HE3	1.91	0.52
1:D:589:MET:O	1:D:591:GLN:HG2	2.09	0.52
1:W:136:LEU:O	1:W:140:ILE:HG12	2.09	0.52
1:A:720:LYS:HG3	1:A:776:GLU:HB3	1.90	0.52
1:B:106:ASP:OD1	1:B:349:ARG:NH2	2.31	0.52
1:C:756:LYS:O	1:C:760:GLN:HG3	2.09	0.52
1:D:129:LYS:O	1:D:188:ARG:NH1	2.41	0.52
1:D:491:ILE:HD12	1:D:739:ALA:HB1	1.90	0.52
1:B:546:SER:HB3	1:B:573:ASN:HD21	1.75	0.52
1:C:117:LEU:HD11	1:C:222:LEU:HG	1.92	0.52
1:D:124:LEU:HD21	1:D:357:VAL:HG21	1.91	0.52
1:B:200:THR:O	1:B:204:GLN:HG2	2.10	0.52
1:B:600:LEU:O	1:B:604:ILE:HG13	2.08	0.52
1:A:250:PRO:O	1:A:254:GLN:HG3	2.09	0.52
1:B:417:LEU:HD23	1:B:421:GLU:HB3	1.91	0.52
1:A:608:VAL:HG11	1:B:806:GLY:HA3	1.90	0.52
1:B:229:LEU:HD22	1:B:239:ILE:HD13	1.91	0.52
1:Z:59:THR:HG22	1:Z:68:CYS:HA	1.90	0.52
1:B:670:VAL:HG22	1:B:674:MET:HE3	1.92	0.51
1:W:65:ARG:HD2	1:W:77:CYS:HB3	1.92	0.51
1:X:35:TYR:HB3	1:X:58:MET:HE1	1.93	0.51
1:B:124:LEU:HD21	1:B:357:VAL:HG21	1.92	0.51
1:C:641:GLU:OE1	1:C:641:GLU:N	2.41	0.51
1:A:182:ASP:OD2	1:A:210:LYS:NZ	2.33	0.51
1:A:575:PHE:CZ	1:A:595:ILE:HG13	2.45	0.51
1:C:637:ILE:HG21	1:C:643:LEU:HG	1.91	0.51
1:B:233:MET:HB2	1:B:360:MET:HE2	1.92	0.51
1:C:585:LEU:O	1:C:589:MET:HG2	2.11	0.51
1:D:200:THR:O	1:D:204:GLN:HG2	2.10	0.51
1:D:414:HIS:HA	1:D:417:LEU:HD12	1.93	0.51
1:A:180:GLU:HG3	1:A:181:MET:HE2	1.93	0.50
1:A:372:ASN:OD1	1:A:373:GLU:N	2.44	0.50
1:A:211:HIS:HD2	1:A:235:GLY:HA3	1.76	0.50
1:X:60:HIS:NE2	1:X:67:CYS:SG	2.84	0.50
1:C:165:VAL:HB	1:C:174:PHE:HE1	1.75	0.50
1:B:466:VAL:HG21	1:B:487:ARG:HD3	1.93	0.50
1:B:585:LEU:HD11	1:B:589:MET:HE2	1.93	0.50
1:A:16:THR:HG23	1:A:19:GLU:HB2	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Y:13:THR:HG23	1:Y:193:VAL:HG13	1.92	0.50
1:C:280:ALA:HA	1:C:338:MET:HE3	1.94	0.50
1:C:547:ARG:NH2	1:C:573:ASN:O	2.38	0.50
1:D:210:LYS:O	1:D:217:TYR:OH	2.22	0.50
1:C:694:VAL:HG21	1:C:716:ILE:HD13	1.93	0.50
1:D:549:SER:O	1:D:552:GLU:HG2	2.12	0.50
1:C:334:GLN:HA	1:C:342:ILE:O	2.12	0.49
1:C:639:SER:OG	1:C:642:ASP:OD1	2.22	0.49
1:A:124:LEU:HD21	1:A:357:VAL:HG21	1.94	0.49
1:B:498:MET:HE2	1:B:767:LYS:HD3	1.94	0.49
1:B:507:LYS:HG2	1:B:508:LYS:N	2.27	0.49
1:X:136:LEU:O	1:X:140:ILE:HG12	2.12	0.49
1:A:803:LEU:HA	1:D:608:VAL:CG1	2.42	0.49
1:B:670:VAL:O	1:B:674:MET:HG3	2.13	0.49
1:A:769:LYS:HA	1:A:773:ASP:HB2	1.94	0.49
1:Z:206:LYS:HG2	1:Z:209:ARG:HH21	1.77	0.49
1:A:694:VAL:HG21	1:A:716:ILE:HD13	1.93	0.49
1:C:16:THR:HG23	1:C:19:GLU:HB2	1.93	0.49
1:C:399:VAL:HG13	1:C:476:ILE:HG23	1.95	0.49
1:C:211:HIS:HD2	1:C:235:GLY:HA3	1.78	0.49
1:A:583:PHE:CE1	1:A:597:PRO:HD3	2.47	0.49
1:A:719:ARG:NH2	1:A:776:GLU:HG3	2.27	0.49
1:A:767:LYS:O	1:A:771:TRP:HB2	2.13	0.49
1:A:117:LEU:HD11	1:A:222:LEU:HG	1.95	0.48
1:B:403:LEU:HD23	1:B:408:VAL:HG12	1.95	0.48
1:D:547:ARG:NH2	1:D:573:ASN:O	2.46	0.48
1:C:89:CYS:SG	1:C:96:PHE:HB2	2.53	0.48
1:D:255:PHE:O	1:D:259:TRP:CB	2.61	0.48
1:D:723:ASP:OD1	1:D:723:ASP:N	2.47	0.48
1:A:522:PRO:O	1:A:623:ASN:ND2	2.44	0.48
1:C:608:VAL:CG1	1:D:803:LEU:HA	2.43	0.48
1:Y:26:ILE:HG22	1:Y:26:ILE:O	2.12	0.48
1:D:303:VAL:HA	1:D:322:GLN:HG2	1.96	0.48
1:C:461:ILE:HG12	1:D:132:LYS:HE3	1.96	0.48
1:D:529:MET:HE1	1:W:180:PHE:HZ	1.78	0.48
1:A:165:VAL:HB	1:A:174:PHE:HE1	1.79	0.48
1:D:102:PRO:HA	1:D:112:GLN:HG2	1.95	0.48
1:Y:24:MET:O	1:Y:28:VAL:HG23	2.14	0.48
1:D:498:MET:HE2	1:D:767:LYS:HD3	1.95	0.47
1:A:610:TRP:HB3	1:B:589:MET:HB3	1.96	0.47
1:B:210:LYS:O	1:B:217:TYR:OH	2.22	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:124:LEU:HD11	1:A:357:VAL:HG11	1.97	0.47
1:C:522:PRO:HG2	1:C:620:TYR:CE1	2.49	0.47
1:D:202:LEU:HA	1:D:205:VAL:HG22	1.96	0.47
1:B:202:LEU:HA	1:B:205:VAL:HG22	1.96	0.47
1:C:113:MET:HB3	1:C:113:MET:HE3	1.78	0.47
1:D:23:PHE:CE1	1:D:286:ILE:HD11	2.49	0.47
1:A:63:CYS:SG	1:B:313:LEU:HD13	2.55	0.47
1:B:485:LEU:HD22	1:C:756:LYS:HG2	1.96	0.47
1:B:641:GLU:O	1:B:645:LYS:HG3	2.15	0.47
1:A:328:ARG:O	1:A:332:MET:HG2	2.15	0.47
1:B:252:VAL:HG13	1:B:338:MET:HE3	1.96	0.47
1:X:69:LEU:O	1:X:74:LYS:HE3	2.15	0.47
1:B:719:ARG:NH1	1:B:775:GLY:HA2	2.29	0.47
1:C:670:VAL:O	1:C:674:MET:HG3	2.15	0.47
1:D:334:GLN:HA	1:D:342:ILE:O	2.16	0.46
1:D:522:PRO:HG2	1:D:620:TYR:CE1	2.50	0.46
1:Z:37:ARG:HG2	1:Z:56:GLU:OE2	2.16	0.46
1:B:755:LEU:O	1:B:759:GLU:HG2	2.14	0.46
1:A:89:CYS:SG	1:A:96:PHE:HB2	2.55	0.46
1:A:254:GLN:HA	1:A:257:GLN:HG2	1.96	0.46
1:C:767:LYS:O	1:C:771:TRP:HB2	2.16	0.46
1:D:106:ASP:OD1	1:D:349:ARG:NH2	2.32	0.46
1:D:574:GLU:HB2	1:D:595:ILE:HD13	1.98	0.46
1:B:587:ALA:HA	1:C:591:GLN:NE2	2.31	0.46
1:B:723:ASP:OD1	1:B:723:ASP:N	2.48	0.46
1:Y:73:PHE:CG	1:Y:76:LEU:HD12	2.51	0.46
1:B:23:PHE:CE1	1:B:286:ILE:HD11	2.50	0.46
1:B:767:LYS:O	1:B:771:TRP:HB2	2.16	0.46
1:A:211:HIS:CD2	1:A:235:GLY:HA3	2.51	0.46
1:C:762:ILE:HA	1:C:765:LYS:HG2	1.98	0.46
1:X:146:GLY:HA3	1:X:191:GLU:OE2	2.16	0.46
1:A:219:LEU:HD13	1:A:227:ILE:HD13	1.97	0.45
1:A:522:PRO:HG2	1:A:620:TYR:CE1	2.51	0.45
1:B:239:ILE:HB	1:B:360:MET:HB3	1.98	0.45
1:Z:136:LEU:O	1:Z:140:ILE:HG12	2.15	0.45
1:A:796:VAL:O	1:A:799:VAL:HG12	2.17	0.45
1:A:698:ARG:HG2	1:A:723:ASP:OD2	2.16	0.45
1:A:641:GLU:H	1:A:641:GLU:CD	2.25	0.45
1:W:73:PHE:HD2	1:W:76:LEU:HB2	1.81	0.45
1:A:554:HIS:CE1	1:X:209:ARG:NE	2.79	0.45
1:A:573:ASN:OD1	1:A:575:PHE:HB2	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:803:LEU:HD12	1:D:608:VAL:HG12	1.99	0.45
1:D:239:ILE:HB	1:D:360:MET:HB3	1.97	0.45
1:C:219:LEU:HD13	1:C:227:ILE:HD13	1.98	0.45
1:B:255:PHE:O	1:B:259:TRP:CB	2.64	0.45
1:C:124:LEU:HD11	1:C:357:VAL:HG11	1.98	0.45
1:D:719:ARG:NH1	1:D:775:GLY:HA2	2.31	0.45
1:A:812:MET:HE2	1:A:812:MET:HB3	1.94	0.44
1:W:188:ILE:O	1:W:192:MET:HG3	2.17	0.44
1:A:554:HIS:HE1	1:X:209:ARG:HE	1.59	0.44
1:A:646:GLN:HB2	1:A:648:GLU:OE1	2.18	0.44
1:C:538:VAL:HG21	1:C:609:TRP:CE3	2.52	0.44
1:Z:67:CYS:HB3	1:Z:77:CYS:SG	2.56	0.44
1:C:696:ARG:HG2	1:C:704:PHE:CD2	2.52	0.44
1:B:328:ARG:HG2	1:B:332:MET:HE2	2.00	0.44
1:B:407:TYR:HB3	1:B:427:CYS:SG	2.58	0.44
1:A:113:MET:HG3	1:A:285:ALA:HB2	2.00	0.44
1:A:627:PHE:CE1	1:B:789:SER:HB3	2.52	0.44
1:D:671:TYR:HD1	1:D:674:MET:HE3	1.83	0.44
1:B:604:ILE:O	1:B:608:VAL:HG22	2.18	0.44
1:C:62:PHE:CE2	1:C:88:PHE:HB3	2.53	0.44
1:D:674:MET:O	1:D:678:MET:HG3	2.17	0.44
1:D:320:TRP:HH2	1:D:326:ILE:HD12	1.82	0.44
1:D:211:HIS:ND1	1:D:235:GLY:HA3	2.33	0.44
1:D:800:PHE:HB3	1:Z:154:ILE:HD13	2.00	0.44
1:B:153:ALA:HA	1:B:158:TRP:HB2	2.00	0.44
1:C:206:VAL:HA	1:C:211:HIS:ND1	2.33	0.44
1:B:211:HIS:ND1	1:B:235:GLY:HA3	2.33	0.43
1:C:63:CYS:SG	1:D:313:LEU:HD13	2.58	0.43
1:B:453:GLY:HA2	1:B:463:ASN:O	2.18	0.43
1:C:211:HIS:CD2	1:C:235:GLY:HA3	2.52	0.43
1:D:6:ILE:HG23	1:D:71:TYR:CD1	2.53	0.43
1:A:224:PHE:HD2	1:A:243:GLN:HE21	1.66	0.43
1:A:414:HIS:HA	1:A:417:LEU:HD12	2.00	0.43
1:C:577:ILE:O	1:C:581:LEU:HG	2.18	0.43
1:A:101:PHE:HA	1:A:114:ARG:HD2	2.01	0.43
1:B:522:PRO:HG2	1:B:620:TYR:CE1	2.52	0.43
1:C:254:GLN:HA	1:C:257:GLN:HG2	1.99	0.43
1:D:508:LYS:HG2	1:D:723:ASP:C	2.44	0.43
1:A:190:LEU:HD11	1:A:220:ALA:HB2	2.00	0.43
1:A:413:ASN:OD1	1:A:413:ASN:N	2.51	0.43
1:D:796:VAL:O	1:D:799:VAL:HG12	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:610:TRP:CZ3	1:B:586:GLY:HA2	2.54	0.43
1:D:269:GLU:O	1:D:269:GLU:HG3	2.19	0.43
1:A:547:ARG:NH2	1:A:573:ASN:O	2.46	0.43
1:B:2:PHE:HA	1:B:3:PRO:HD3	1.94	0.43
1:B:601:SER:O	1:B:605:VAL:HG23	2.19	0.43
1:C:333:VAL:HG22	1:C:335:VAL:HG13	2.00	0.43
1:A:614:LEU:HD11	1:B:617:ILE:HD13	2.00	0.43
1:A:800:PHE:HB3	1:W:154:ILE:HD13	2.00	0.43
1:B:10:GLY:HA2	1:B:74:PHE:O	2.19	0.43
1:A:303:VAL:HA	1:A:322:GLN:HG2	2.00	0.42
1:B:334:GLN:HA	1:B:342:ILE:O	2.19	0.42
1:B:356:ASP:HB3	1:B:367:LYS:HE2	2.01	0.42
1:B:375:GLU:HB3	1:B:378:VAL:HG23	2.00	0.42
1:A:6:ILE:HD12	1:A:41:PHE:CE1	2.54	0.42
1:B:269:GLU:O	1:B:269:GLU:HG3	2.19	0.42
1:B:320:TRP:HH2	1:B:326:ILE:HD12	1.84	0.42
1:D:397:ILE:O	1:D:442:TYR:HA	2.20	0.42
1:D:664:ARG:HG3	1:D:675:TRP:CZ2	2.54	0.42
1:A:117:LEU:HD21	1:A:222:LEU:HD21	2.00	0.42
1:B:661:GLU:HG3	1:B:665:ARG:NH1	2.34	0.42
1:C:599:SER:O	1:C:603:ARG:HG3	2.19	0.42
1:A:538:VAL:HG21	1:A:609:TRP:CE3	2.54	0.42
1:B:6:ILE:HG23	1:B:71:TYR:CD1	2.54	0.42
1:B:632:ARG:H	1:C:632:ARG:HH21	1.67	0.42
1:B:800:PHE:HB3	1:X:154:ILE:HD13	2.00	0.42
1:C:409:MET:N	1:C:424:GLU:O	2.51	0.42
1:D:696:ARG:HA	1:D:699:LYS:HE3	2.01	0.42
1:A:206:VAL:HA	1:A:211:HIS:ND1	2.35	0.42
1:D:10:GLY:HA2	1:D:74:PHE:O	2.20	0.42
1:D:153:ALA:HA	1:D:158:TRP:HB2	2.00	0.42
1:W:206:LYS:HG2	1:W:209:ARG:HH21	1.84	0.42
1:A:333:VAL:HG22	1:A:335:VAL:HG13	2.00	0.42
1:B:115:PRO:HG2	1:B:244:ILE:HG21	2.01	0.42
1:B:117:LEU:HD23	1:B:355:ILE:HD13	2.02	0.42
1:C:117:LEU:HD21	1:C:222:LEU:HD21	2.00	0.42
1:D:643:LEU:HA	1:D:646:GLN:HE21	1.84	0.42
1:Z:95:GLU:HG3	1:Z:99:ARG:HD2	2.01	0.42
1:A:74:PHE:CE1	1:A:99:PRO:HD3	2.55	0.42
1:C:303:VAL:HA	1:C:322:GLN:HG2	2.01	0.42
1:C:414:HIS:HA	1:C:417:LEU:HB2	2.00	0.42
1:C:455:ARG:NH2	1:D:187:LYS:HG3	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Y:95:GLU:HG3	1:Y:97:PHE:H	1.84	0.42
1:A:206:VAL:HG11	1:A:231:ARG:HD3	2.02	0.42
1:A:62:PHE:CE2	1:A:88:PHE:HB3	2.55	0.41
1:A:177:ILE:O	1:A:181:MET:HG2	2.19	0.41
1:Y:67:CYS:HB3	1:Y:77:CYS:HA	2.02	0.41
1:B:538:VAL:HG21	1:B:609:TRP:CE3	2.55	0.41
1:B:796:VAL:O	1:B:799:VAL:HG12	2.20	0.41
1:C:629:THR:O	1:C:633:MET:HG3	2.20	0.41
1:D:661:GLU:OE2	1:D:664:ARG:NH2	2.47	0.41
1:Y:27:ALA:O	1:Y:33:TRP:NE1	2.51	0.41
1:Z:60:HIS:ND1	1:Z:69:LEU:HD21	2.35	0.41
1:A:451:LYS:HD2	1:A:463:ASN:ND2	2.36	0.41
1:B:664:ARG:HD3	1:B:675:TRP:CZ2	2.56	0.41
1:C:411:LYS:HE3	1:C:423:TYR:O	2.20	0.41
1:D:117:LEU:HD23	1:D:355:ILE:HD13	2.01	0.41
1:A:495:LYS:HG2	1:A:751:ASN:OD1	2.20	0.41
1:C:522:PRO:O	1:C:623:ASN:ND2	2.44	0.41
1:D:356:ASP:HB3	1:D:367:LYS:HE2	2.01	0.41
1:A:643:LEU:O	1:A:646:GLN:NE2	2.48	0.41
1:D:12:PHE:O	1:D:49:HIS:HA	2.20	0.41
1:W:13:THR:HG23	1:W:193:VAL:HG13	2.02	0.41
1:A:803:LEU:HA	1:D:608:VAL:HG11	2.03	0.41
1:B:402:ILE:CG1	1:B:465:MET:HE2	2.47	0.41
1:A:78:ASP:OD1	1:A:79:GLN:N	2.49	0.41
1:A:208:LEU:HB3	1:A:210:LYS:HG2	2.03	0.41
1:A:255:PHE:O	1:A:259:TRP:HB2	2.21	0.41
1:B:111:ILE:HG13	1:B:111:ILE:O	2.21	0.41
1:C:6:ILE:HD12	1:C:41:PHE:CE1	2.56	0.41
1:C:455:ARG:HH21	1:D:187:LYS:HG3	1.85	0.41
1:C:655:ASP:HA	1:C:686:PHE:HB3	2.03	0.41
1:D:18:GLN:HG2	1:D:279:SER:OG	2.21	0.41
1:W:57:VAL:O	1:W:59:THR:HG23	2.21	0.41
1:W:120:LEU:HD23	1:W:120:LEU:HA	1.93	0.41
1:A:485:LEU:HD22	1:D:756:LYS:HG2	2.03	0.41
1:B:401:THR:HG22	1:B:478:VAL:O	2.21	0.41
1:C:661:GLU:HG3	1:C:665:ARG:HE	1.85	0.41
1:A:5:THR:OG1	1:A:44:ASN:OD1	2.40	0.40
1:C:180:GLU:HG3	1:C:181:MET:CE	2.52	0.40
1:D:165:VAL:HB	1:D:174:PHE:HE1	1.86	0.40
1:D:399:VAL:HG13	1:D:476:ILE:HG23	2.03	0.40
1:A:23:PHE:CE1	1:A:286:ILE:HD11	2.55	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:23:PHE:CE1	1:C:286:ILE:HD11	2.57	0.40
1:C:411:LYS:HD2	1:C:417:LEU:HD13	2.04	0.40
1:C:748:THR:HB	1:C:749:PRO:HD3	2.03	0.40
1:C:459:THR:HA	1:D:188:ARG:NH1	2.36	0.40
1:D:50:LEU:HD22	1:D:58:VAL:HA	2.03	0.40
1:Z:31:ASP:HA	1:Z:62:GLY:HA3	2.04	0.40
1:A:370:TYR:HD1	1:A:380:PHE:HE2	1.70	0.40
1:B:455:ARG:HD2	1:B:460:LYS:HE3	2.03	0.40
1:C:190:LEU:HD11	1:C:220:ALA:HB2	2.03	0.40
1:D:2:PHE:HA	1:D:3:PRO:HD3	1.93	0.40
1:W:10:MET:CE	1:W:122:ILE:HG23	2.52	0.40
1:A:585:LEU:CD1	1:A:589:MET:HE2	2.51	0.40
1:C:407:TYR:HB3	1:C:427:CYS:SG	2.61	0.40
1:D:89:CYS:SG	1:D:96:PHE:HB2	2.61	0.40
1:D:370:TYR:O	1:D:377:PHE:HA	2.22	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	760/1170 (65%)	742 (98%)	18 (2%)	0	100	100
1	B	761/1170 (65%)	743 (98%)	18 (2%)	0	100	100
1	C	761/1170 (65%)	745 (98%)	16 (2%)	0	100	100
1	D	759/1170 (65%)	745 (98%)	14 (2%)	0	100	100
1	W	155/1170 (13%)	152 (98%)	3 (2%)	0	100	100
1	X	155/1170 (13%)	153 (99%)	2 (1%)	0	100	100
1	Y	154/1170 (13%)	151 (98%)	3 (2%)	0	100	100
1	Z	156/1170 (13%)	153 (98%)	3 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
All	All	3661/9360 (39%)	3584 (98%)	77 (2%)	0	100 100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	644/1005 (64%)	642 (100%)	2 (0%)	91 97
1	B	647/1005 (64%)	647 (100%)	0	100 100
1	C	636/1005 (63%)	635 (100%)	1 (0%)	92 98
1	D	643/1005 (64%)	641 (100%)	2 (0%)	91 97
1	W	133/1005 (13%)	133 (100%)	0	100 100
1	X	134/1005 (13%)	134 (100%)	0	100 100
1	Y	134/1005 (13%)	133 (99%)	1 (1%)	81 94
1	Z	131/1005 (13%)	131 (100%)	0	100 100
All	All	3102/8040 (39%)	3096 (100%)	6 (0%)	91 98

All (6) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	574	GLU
1	A	595	ILE
1	C	591	GLN
1	D	434	ILE
1	D	590	GLN
1	Y	23	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (37) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	33	ASN

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Mol	Chain	Res	Type
1	A	157	ASN
1	A	247	ASN
1	A	437	HIS
1	A	554	HIS
1	A	730	ASN
1	A	760	GLN
1	A	768	ASN
1	B	28	GLN
1	B	46	HIS
1	B	108	GLN
1	B	204	GLN
1	B	221	ASN
1	B	283	HIS
1	B	336	GLN
1	B	341	ASN
1	B	414	HIS
1	C	33	ASN
1	C	42	HIS
1	C	591	GLN
1	C	768	ASN
1	D	46	HIS
1	D	108	GLN
1	D	159	GLN
1	D	204	GLN
1	D	221	ASN
1	D	283	HIS
1	D	336	GLN
1	D	341	ASN
1	D	760	GLN
1	W	79	GLN
1	W	82	HIS
1	W	205	HIS
1	Y	205	HIS
1	Z	82	HIS
1	Z	149	ASN
1	Z	205	HIS

5.3.3　RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5　Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6　Ligand geometry ⓘ

There are no ligands in this entry.

5.7　Other polymers ⓘ

There are no such residues in this entry.

5.8　Polymer linkage issues ⓘ

There are no chain breaks in this entry.

6 Map visualisation ⓘ

This section contains visualisations of the EMDB entry EMD-53109. These allow visual inspection of the internal detail of the map and identification of artifacts.

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

6.1 Orthogonal projections ⓘ

6.1.1 Primary map

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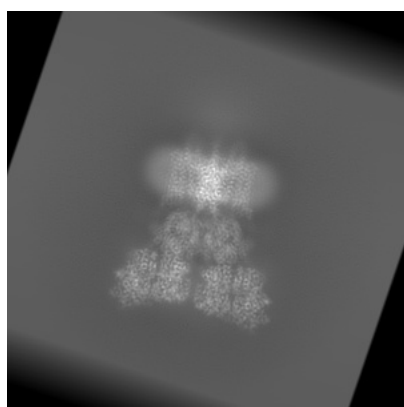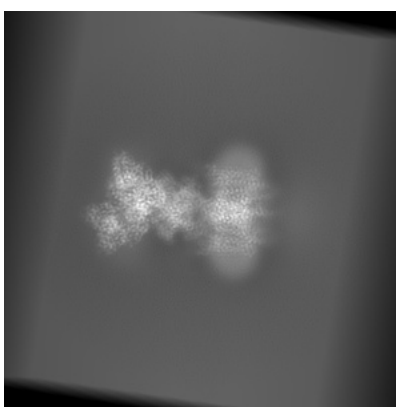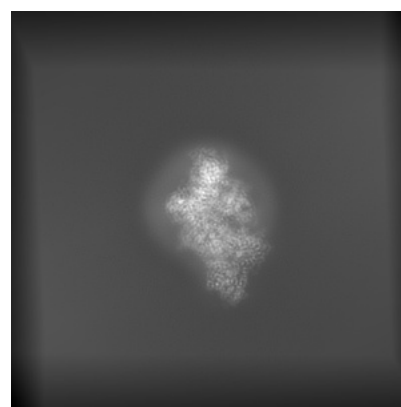
The images above show the map projected in three orthogonal directions.

6.2 Central slices ⓘ
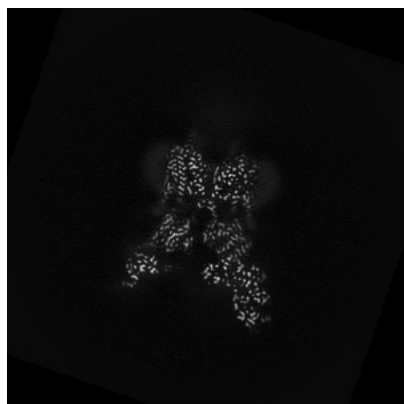
6.2.1 Primary map
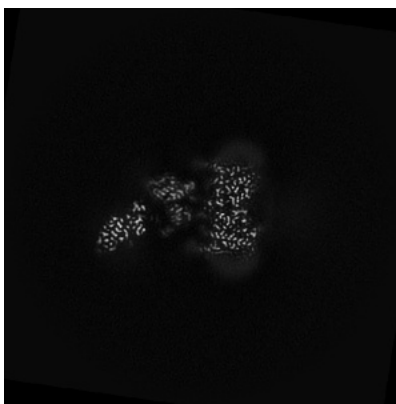
| X Index: 256 | Y Index: 256 | Z Index: 256 |
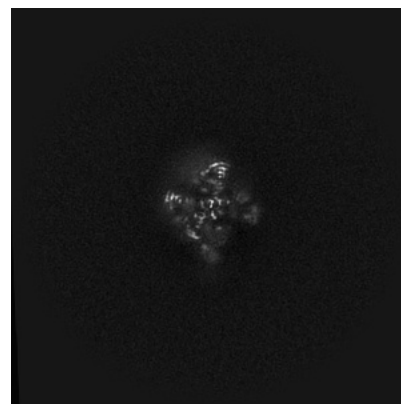
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices ⓘ
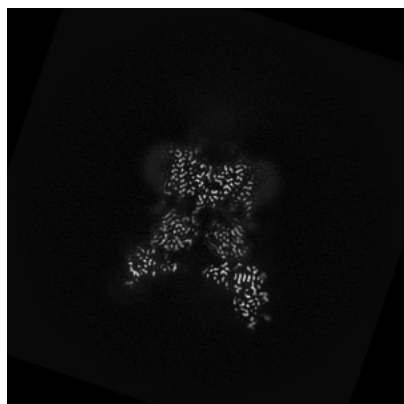
6.3.1 Primary map
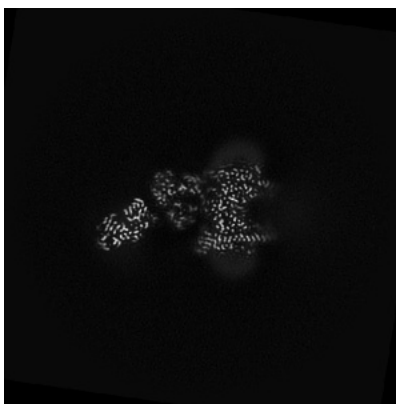
| X Index: 259 | Y Index: 267 | Z Index: 171 |

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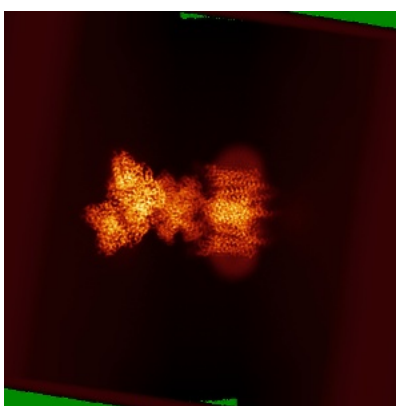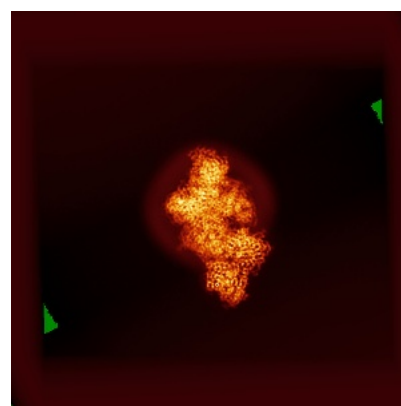
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views ⓘ

6.5.1 Primary map

X   Y   Z
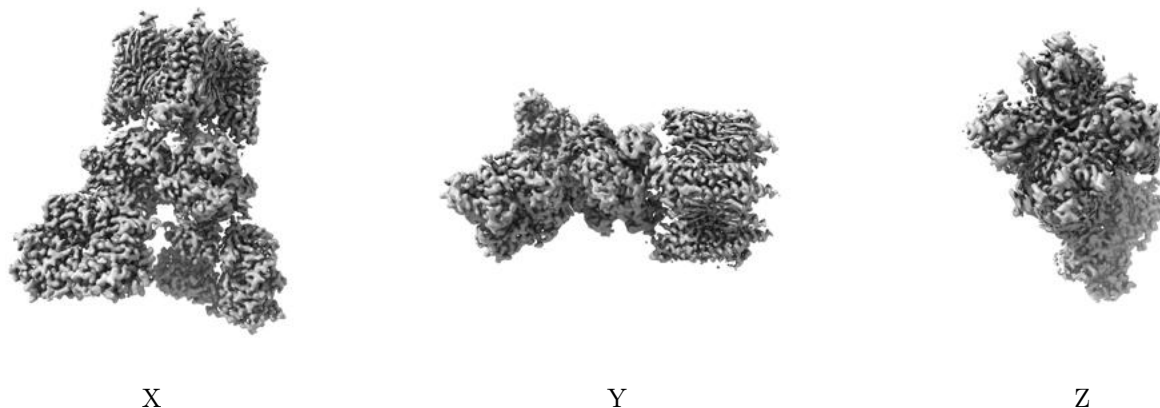
The images above show the 3D surface view of the map at the recommended contour level 9.0. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

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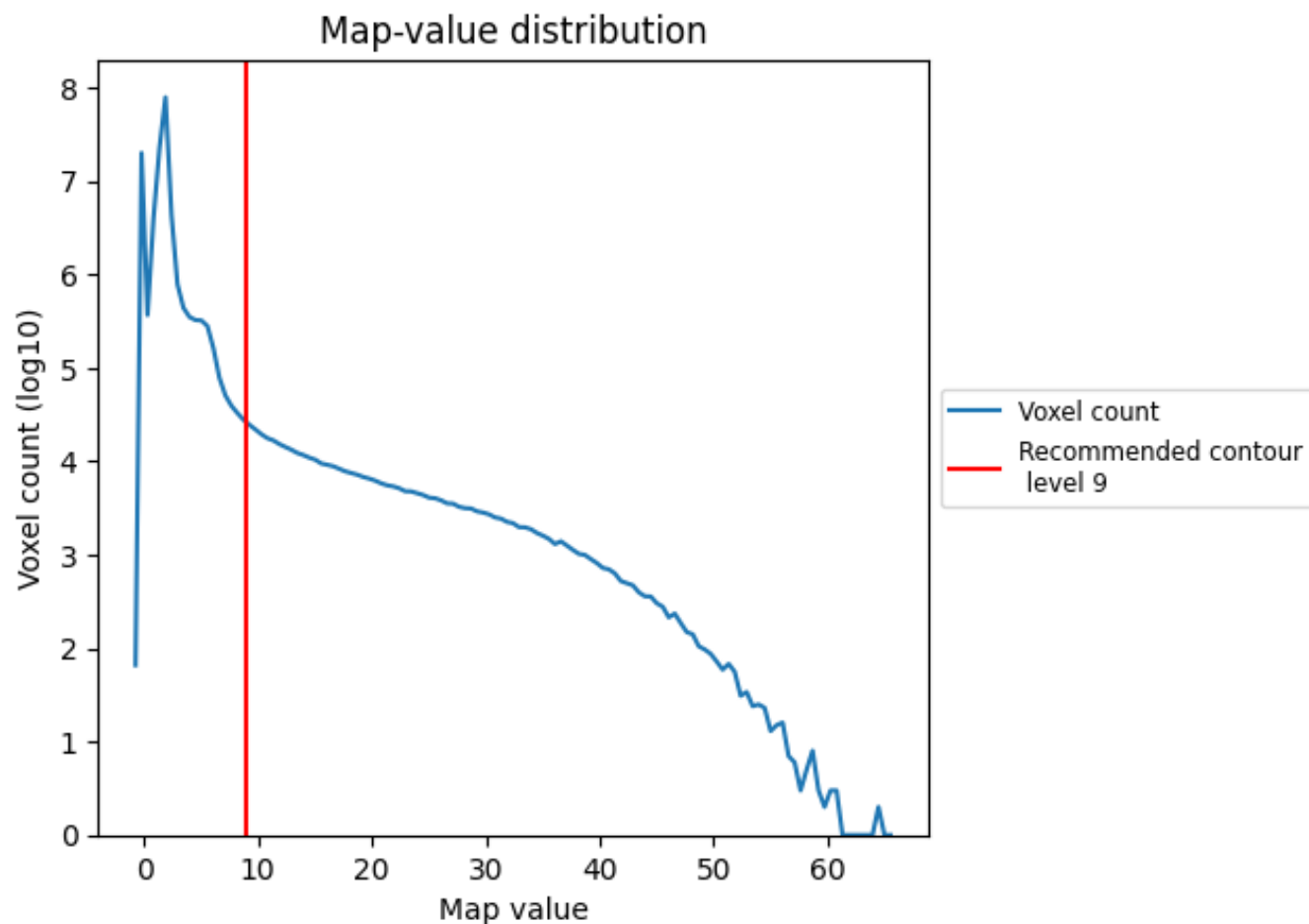
The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

7.2　Volume estimate ⓘ
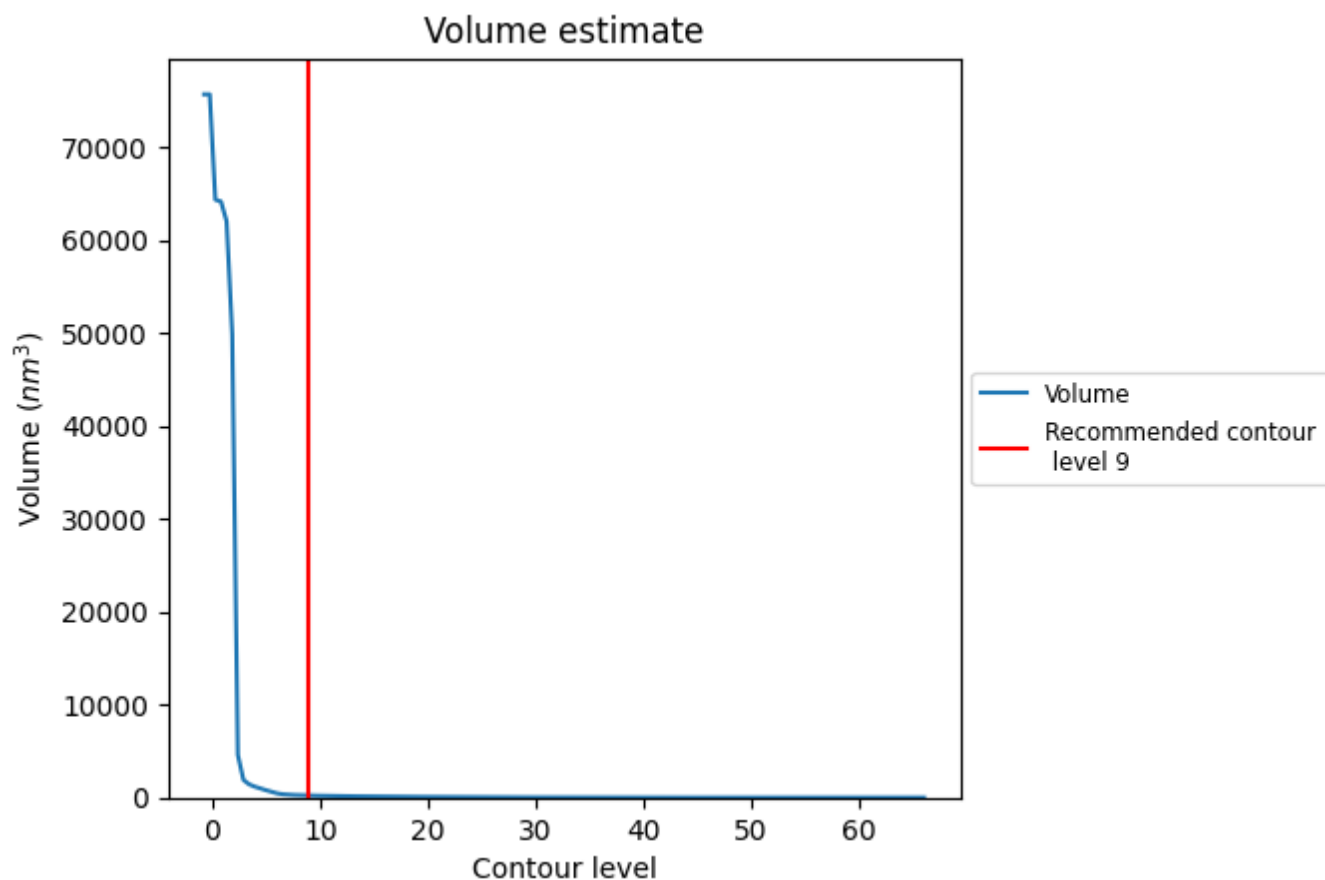
The volume at the recommended contour level is 222 nm^3; this corresponds to an approximate mass of 200 kDa.

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 ⓘ
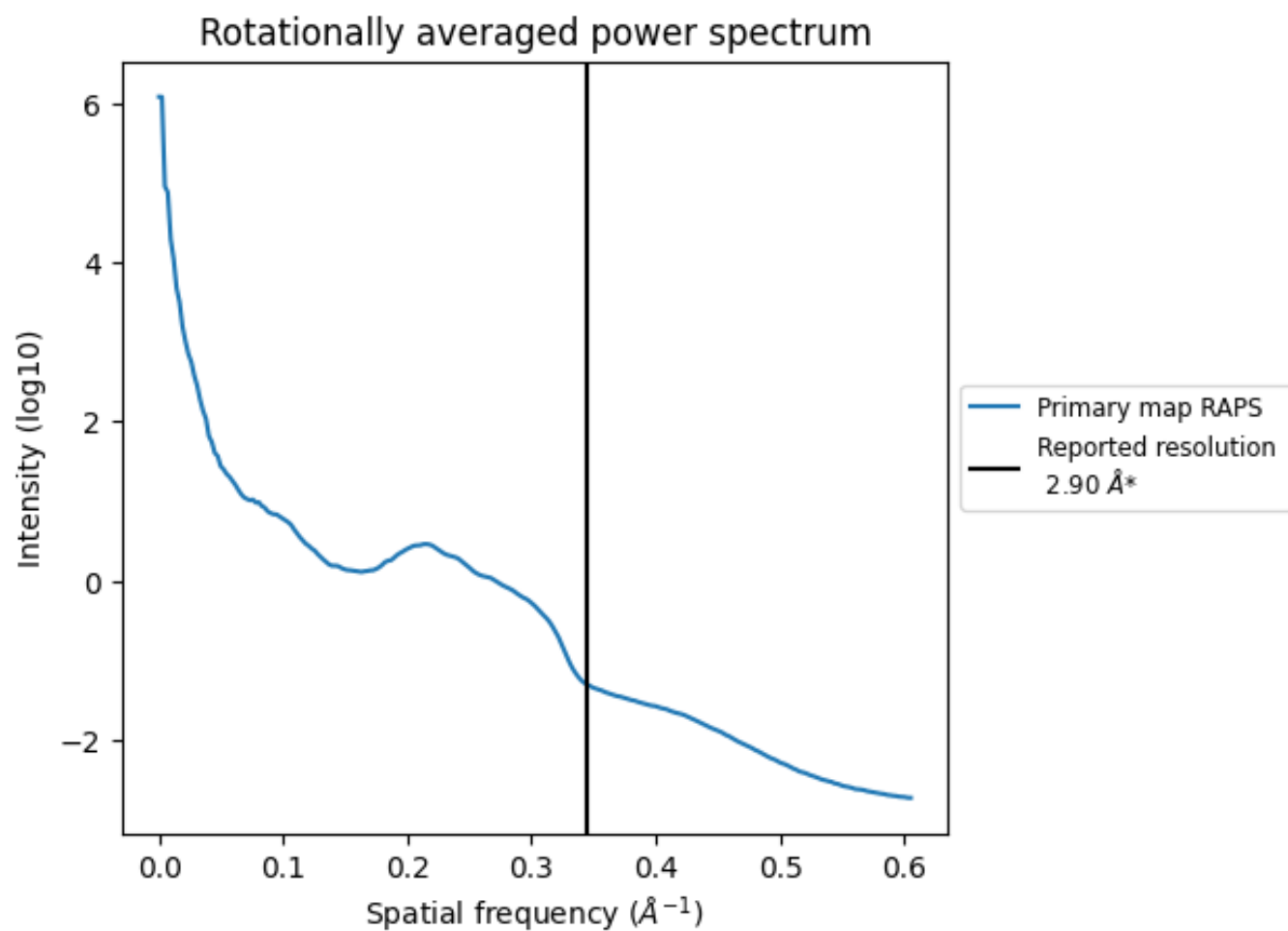
*Reported resolution corresponds to spatial frequency of 0.345 Å^{-1}

8 Fourier-Shell correlation ⓘ

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

9 Map-model fit ⓘ

This section contains information regarding the fit between EMDB map EMD-53109 and PDB model 9QFH. Per-residue inclusion information can be found in section 3 on page 5.

9.1 Map-model overlay ⓘ

| X | Y | Z |
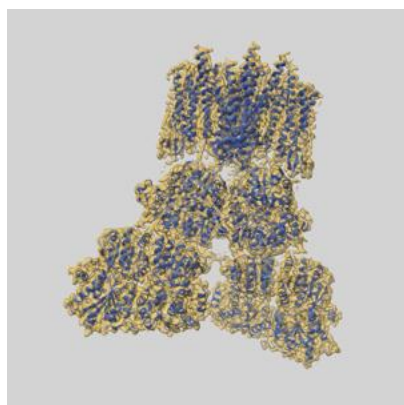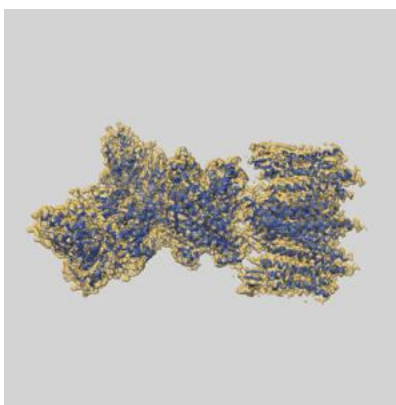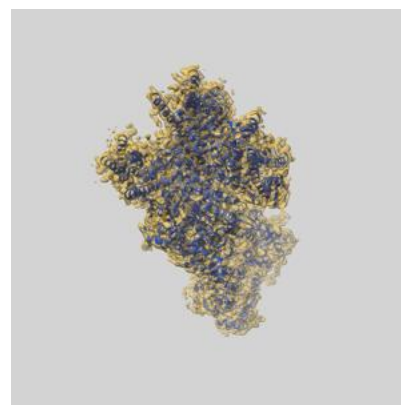
The images above show the 3D surface view of the map at the recommended contour level 9.0 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2　Q-score mapped to coordinate model　ⓘ

X　　　　　　　　　　　Y　　　　　　　　　　　Z
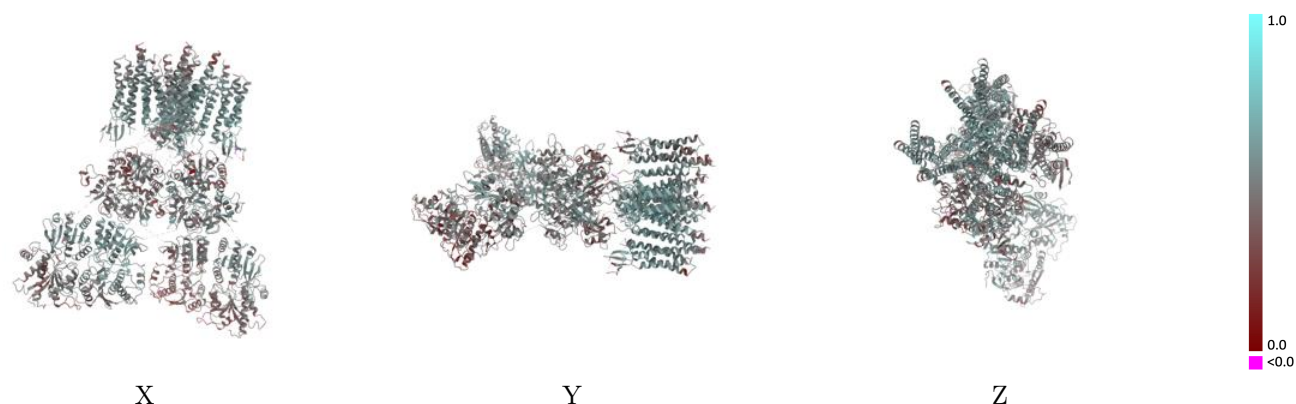
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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
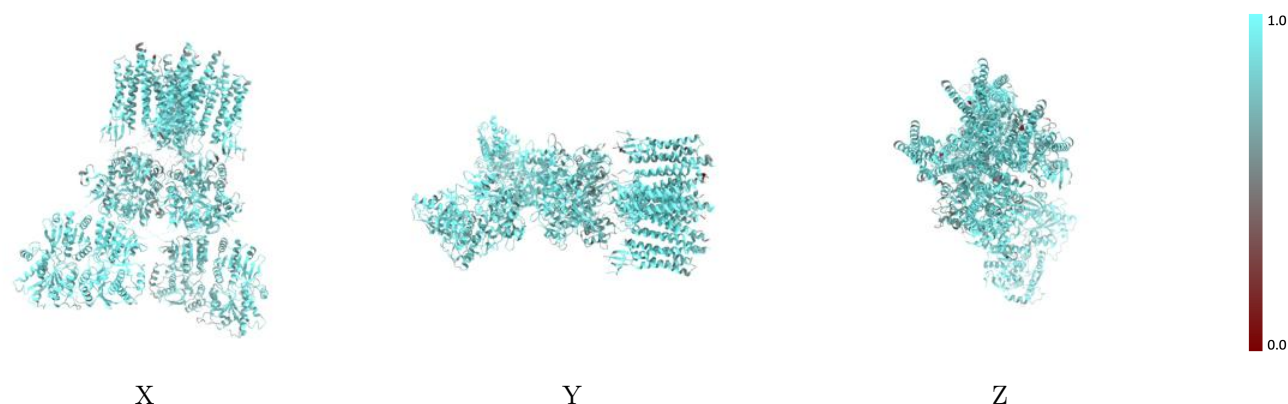
The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (9).

WORLDWIDE
wwPDB
PROTEIN DATA BANK
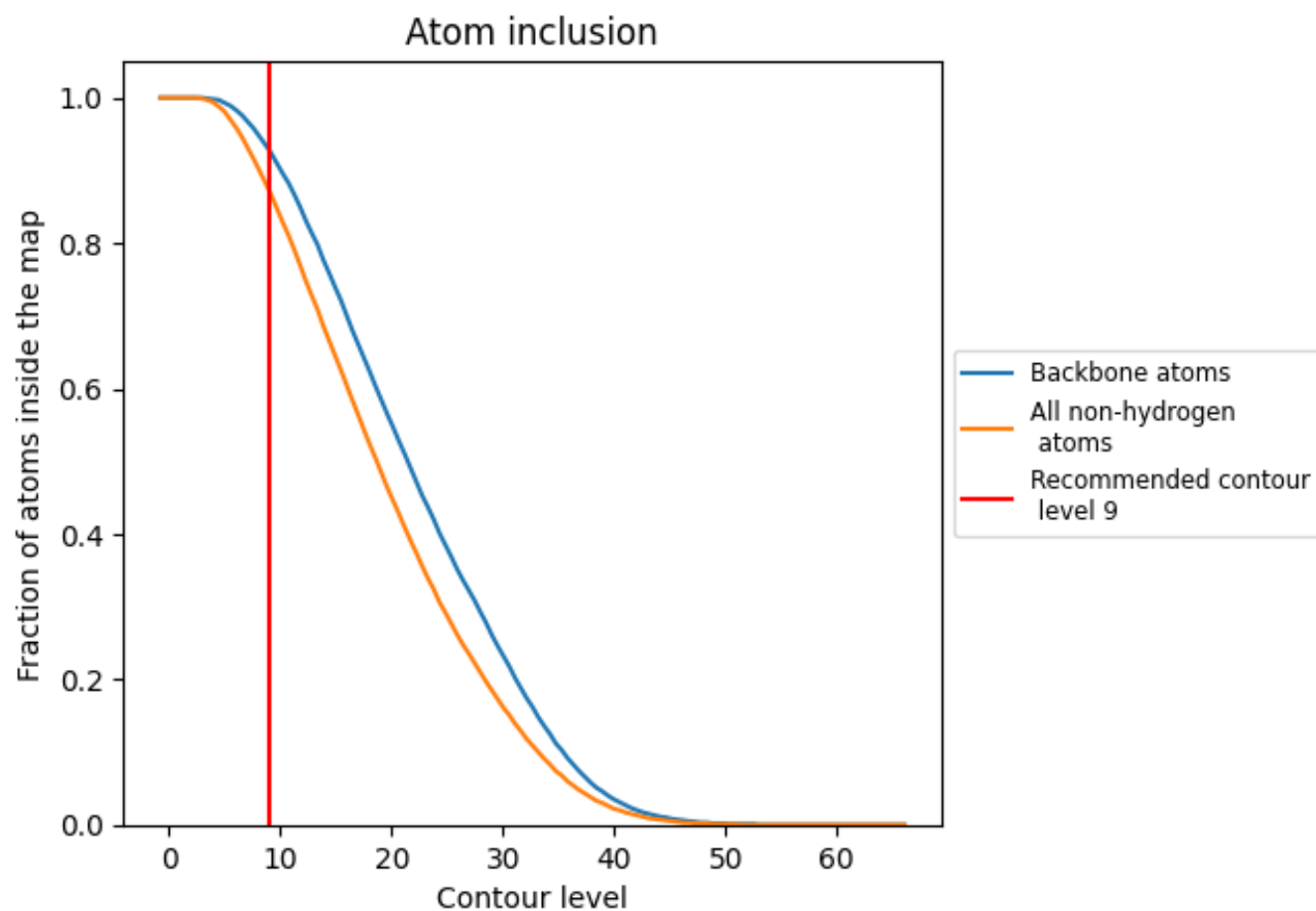
9.4　Atom inclusion ⓘ

At the recommended contour level, 93% of all backbone atoms, 87% 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 (9) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8720	0.4820
A	0.8800	0.4750
B	0.8940	0.5110
C	0.8690	0.4920
D	0.8380	0.4220
W	0.8810	0.5090
X	0.8440	0.4650
Y	0.9080	0.5500
Z	0.8990	0.5420

1.0

0.0
<0.0