Full wwPDB EM Validation Report ⓘ

Jul 8, 2025 – 11:03 pm BST

PDB ID	:	9QWP / pdb_00009qwp
EMDB ID	:	EMD-53422
Title	:	Structure of the human RalGAP2 complex
Authors	:	Rasche, R.; Klink, B.U.; Gatsogiannis, C.; Kuemmel, D.
Deposited on	:	2025-04-15
Resolution	:	3.80 Å(reported)
Based on initial model	:	.

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:

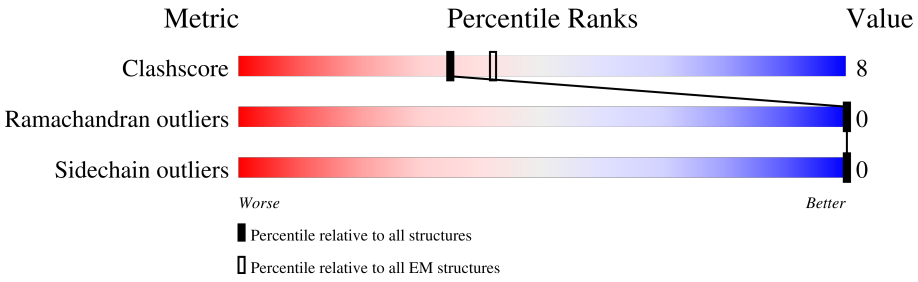
EMDB validation analysis	:	0.0.1.dev118
MolProbity	:	4-5-2 with Phenix2.0rc1
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline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

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 3.80 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)
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	1899	14% 57% 14% 29%
1	D	1899	97%
2	B	1528	11% 67% 14% 19%
2	C	1528	13% 36% 14% 50%

2 Entry composition (i)

There are 2 unique types of molecules in this entry. The entry contains 26997 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 Ral GTPase-activating protein subunit alpha-2.

Mol	Chain	Residues	Atoms	AltConf	Trace
1	A	1342	Total C N O S 10753 6947 1787 1953 66	0	0
1	D	49	Total C N O S 395 243 66 84 2	0	0

There are 54 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-25	MET	-	initiating methionine	UNP Q2PPJ7
A	-24	ASP	-	expression tag	UNP Q2PPJ7
A	-23	TYR	-	expression tag	UNP Q2PPJ7
A	-22	LYS	-	expression tag	UNP Q2PPJ7
A	-21	ASP	-	expression tag	UNP Q2PPJ7
A	-20	HIS	-	expression tag	UNP Q2PPJ7
A	-19	ASP	-	expression tag	UNP Q2PPJ7
A	-18	GLY	-	expression tag	UNP Q2PPJ7
A	-17	ASP	-	expression tag	UNP Q2PPJ7
A	-16	TYR	-	expression tag	UNP Q2PPJ7
A	-15	LYS	-	expression tag	UNP Q2PPJ7
A	-14	ASP	-	expression tag	UNP Q2PPJ7
A	-13	HIS	-	expression tag	UNP Q2PPJ7
A	-12	ASP	-	expression tag	UNP Q2PPJ7
A	-11	ILE	-	expression tag	UNP Q2PPJ7
A	-10	ASP	-	expression tag	UNP Q2PPJ7
A	-9	TYR	-	expression tag	UNP Q2PPJ7
A	-8	LYS	-	expression tag	UNP Q2PPJ7
A	-7	ASP	-	expression tag	UNP Q2PPJ7
A	-6	ASP	-	expression tag	UNP Q2PPJ7
A	-5	ASP	-	expression tag	UNP Q2PPJ7
A	-4	ASP	-	expression tag	UNP Q2PPJ7
A	-3	LYS	-	expression tag	UNP Q2PPJ7
A	-2	LEU	-	expression tag	UNP Q2PPJ7
A	-1	ALA	-	expression tag	UNP Q2PPJ7
A	0	ALA	-	expression tag	UNP Q2PPJ7

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Chain	Residue	Modelled	Actual	Comment	Reference
A	1	ALA	-	expression tag	UNP Q2PPJ7
D	-25	MET	-	initiating methionine	UNP Q2PPJ7
D	-24	ASP	-	expression tag	UNP Q2PPJ7
D	-23	TYR	-	expression tag	UNP Q2PPJ7
D	-22	LYS	-	expression tag	UNP Q2PPJ7
D	-21	ASP	-	expression tag	UNP Q2PPJ7
D	-20	HIS	-	expression tag	UNP Q2PPJ7
D	-19	ASP	-	expression tag	UNP Q2PPJ7
D	-18	GLY	-	expression tag	UNP Q2PPJ7
D	-17	ASP	-	expression tag	UNP Q2PPJ7
D	-16	TYR	-	expression tag	UNP Q2PPJ7
D	-15	LYS	-	expression tag	UNP Q2PPJ7
D	-14	ASP	-	expression tag	UNP Q2PPJ7
D	-13	HIS	-	expression tag	UNP Q2PPJ7
D	-12	ASP	-	expression tag	UNP Q2PPJ7
D	-11	ILE	-	expression tag	UNP Q2PPJ7
D	-10	ASP	-	expression tag	UNP Q2PPJ7
D	-9	TYR	-	expression tag	UNP Q2PPJ7
D	-8	LYS	-	expression tag	UNP Q2PPJ7
D	-7	ASP	-	expression tag	UNP Q2PPJ7
D	-6	ASP	-	expression tag	UNP Q2PPJ7
D	-5	ASP	-	expression tag	UNP Q2PPJ7
D	-4	ASP	-	expression tag	UNP Q2PPJ7
D	-3	LYS	-	expression tag	UNP Q2PPJ7
D	-2	LEU	-	expression tag	UNP Q2PPJ7
D	-1	ALA	-	expression tag	UNP Q2PPJ7
D	0	ALA	-	expression tag	UNP Q2PPJ7
D	1	ALA	-	expression tag	UNP Q2PPJ7

- Molecule 2 is a protein called Ral GTPase-activating protein subunit beta.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	1236	Total	C	N	O	S	0	0
			9773	6273	1658	1789	53		
2	C	767	Total	C	N	O	S	0	0
			6076	3931	1021	1091	33		

There are 68 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	-33	MET	-	initiating methionine	UNP Q86X10
B	-32	TYR	-	expression tag	UNP Q86X10

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Chain	Residue	Modelled	Actual	Comment	Reference
B	-31	PRO	-	expression tag	UNP Q86X10
B	-30	TYR	-	expression tag	UNP Q86X10
B	-29	ASP	-	expression tag	UNP Q86X10
B	-28	VAL	-	expression tag	UNP Q86X10
B	-27	PRO	-	expression tag	UNP Q86X10
B	-26	ASP	-	expression tag	UNP Q86X10
B	-25	TYR	-	expression tag	UNP Q86X10
B	-24	ALA	-	expression tag	UNP Q86X10
B	-23	GLY	-	expression tag	UNP Q86X10
B	-22	SER	-	expression tag	UNP Q86X10
B	-21	TYR	-	expression tag	UNP Q86X10
B	-20	PRO	-	expression tag	UNP Q86X10
B	-19	TYR	-	expression tag	UNP Q86X10
B	-18	ASP	-	expression tag	UNP Q86X10
B	-17	VAL	-	expression tag	UNP Q86X10
B	-16	PRO	-	expression tag	UNP Q86X10
B	-15	ASP	-	expression tag	UNP Q86X10
B	-14	TYR	-	expression tag	UNP Q86X10
B	-13	ALA	-	expression tag	UNP Q86X10
B	-12	GLY	-	expression tag	UNP Q86X10
B	-11	SER	-	expression tag	UNP Q86X10
B	-10	TYR	-	expression tag	UNP Q86X10
B	-9	PRO	-	expression tag	UNP Q86X10
B	-8	TYR	-	expression tag	UNP Q86X10
B	-7	ASP	-	expression tag	UNP Q86X10
B	-6	VAL	-	expression tag	UNP Q86X10
B	-5	PRO	-	expression tag	UNP Q86X10
B	-4	ASP	-	expression tag	UNP Q86X10
B	-3	TYR	-	expression tag	UNP Q86X10
B	-2	ALA	-	expression tag	UNP Q86X10
B	-1	GLY	-	expression tag	UNP Q86X10
B	0	SER	-	expression tag	UNP Q86X10
C	-33	MET	-	initiating methionine	UNP Q86X10
C	-32	TYR	-	expression tag	UNP Q86X10
C	-31	PRO	-	expression tag	UNP Q86X10
C	-30	TYR	-	expression tag	UNP Q86X10
C	-29	ASP	-	expression tag	UNP Q86X10
C	-28	VAL	-	expression tag	UNP Q86X10
C	-27	PRO	-	expression tag	UNP Q86X10
C	-26	ASP	-	expression tag	UNP Q86X10
C	-25	TYR	-	expression tag	UNP Q86X10
C	-24	ALA	-	expression tag	UNP Q86X10

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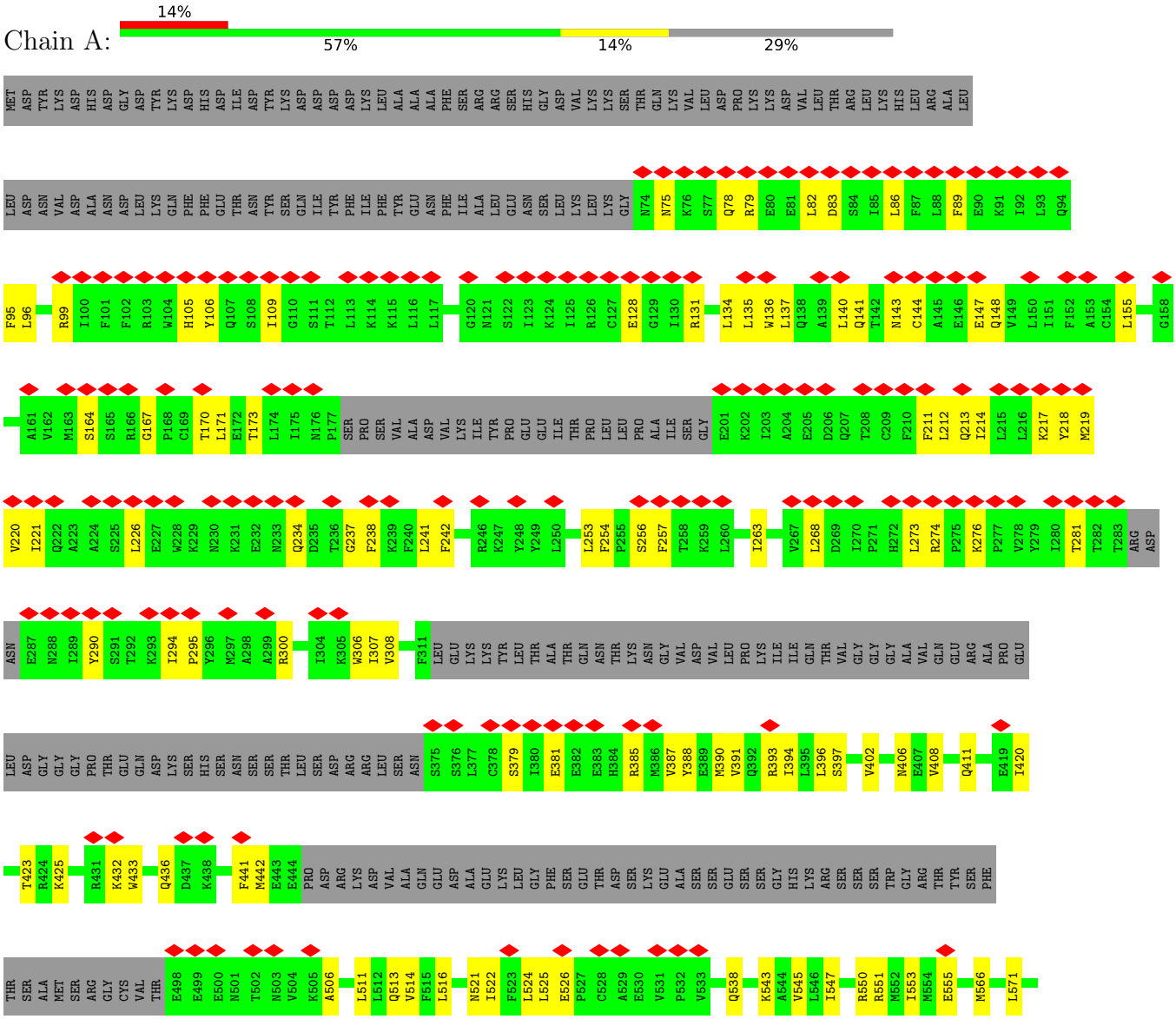
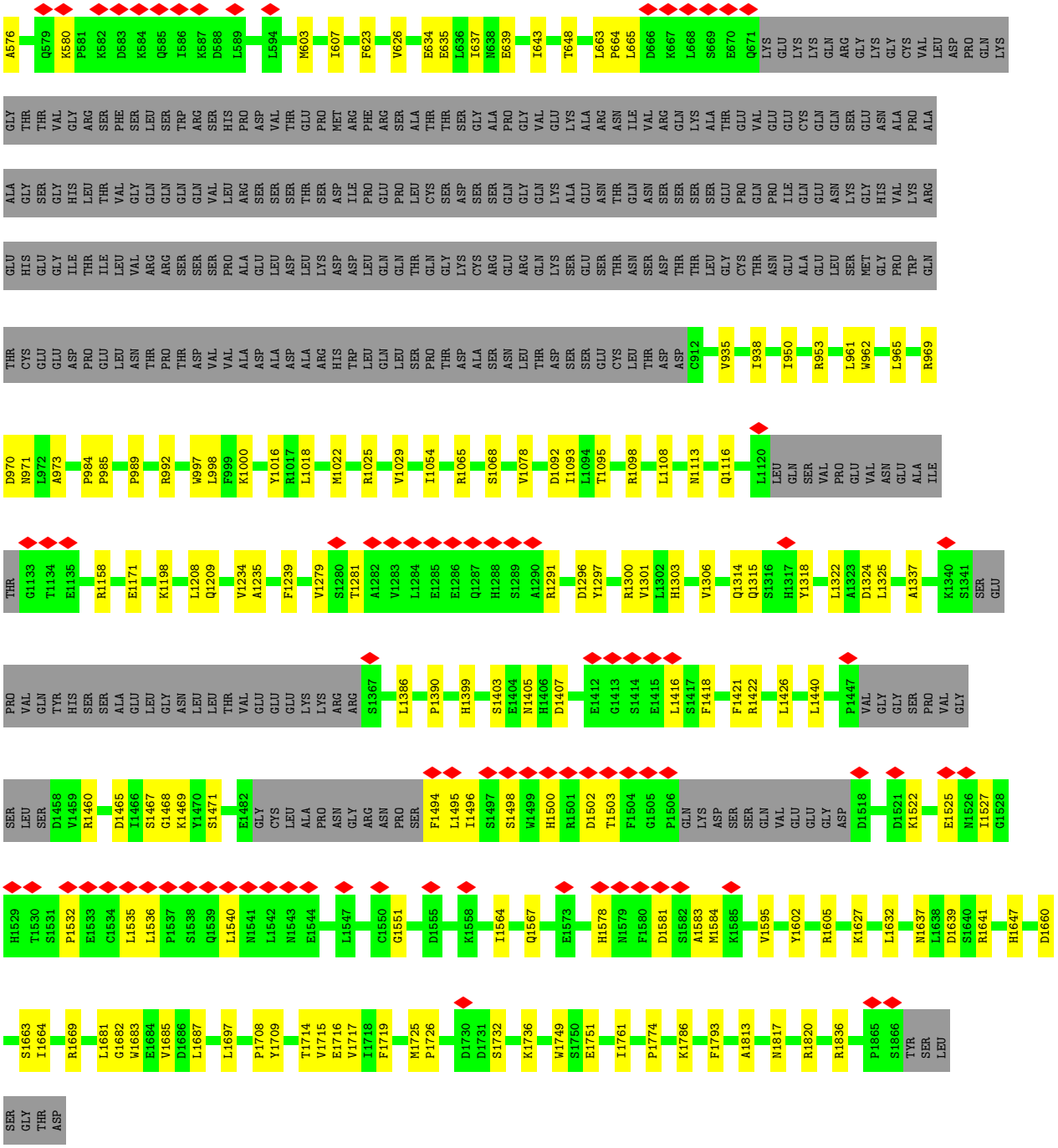
Chain	Residue	Modelled	Actual	Comment	Reference
C	-23	GLY	-	expression tag	UNP Q86X10
C	-22	SER	-	expression tag	UNP Q86X10
C	-21	TYR	-	expression tag	UNP Q86X10
C	-20	PRO	-	expression tag	UNP Q86X10
C	-19	TYR	-	expression tag	UNP Q86X10
C	-18	ASP	-	expression tag	UNP Q86X10
C	-17	VAL	-	expression tag	UNP Q86X10
C	-16	PRO	-	expression tag	UNP Q86X10
C	-15	ASP	-	expression tag	UNP Q86X10
C	-14	TYR	-	expression tag	UNP Q86X10
C	-13	ALA	-	expression tag	UNP Q86X10
C	-12	GLY	-	expression tag	UNP Q86X10
C	-11	SER	-	expression tag	UNP Q86X10
C	-10	TYR	-	expression tag	UNP Q86X10
C	-9	PRO	-	expression tag	UNP Q86X10
C	-8	TYR	-	expression tag	UNP Q86X10
C	-7	ASP	-	expression tag	UNP Q86X10
C	-6	VAL	-	expression tag	UNP Q86X10
C	-5	PRO	-	expression tag	UNP Q86X10
C	-4	ASP	-	expression tag	UNP Q86X10
C	-3	TYR	-	expression tag	UNP Q86X10
C	-2	ALA	-	expression tag	UNP Q86X10
C	-1	GLY	-	expression tag	UNP Q86X10
C	0	SER	-	expression tag	UNP Q86X10

3 Residue-property plots (i)

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.

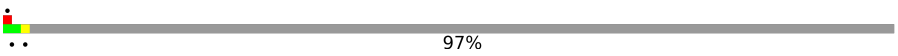
- Molecule 1: Ral GTPase-activating protein subunit alpha-2

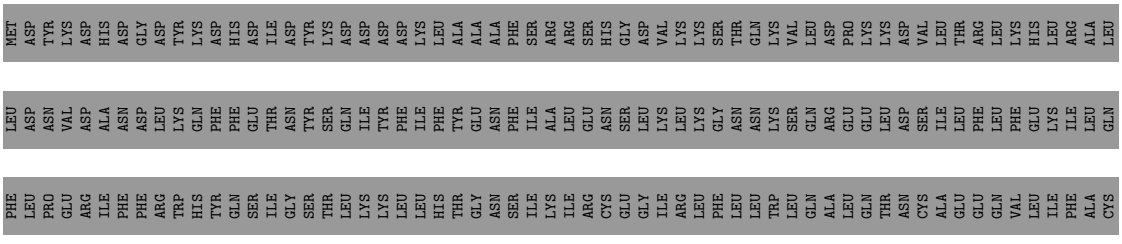




• Molecule 1: Ral GTPase-activating protein subunit alpha-2

Chain D:





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

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

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

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

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

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

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

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

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

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

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

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

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

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

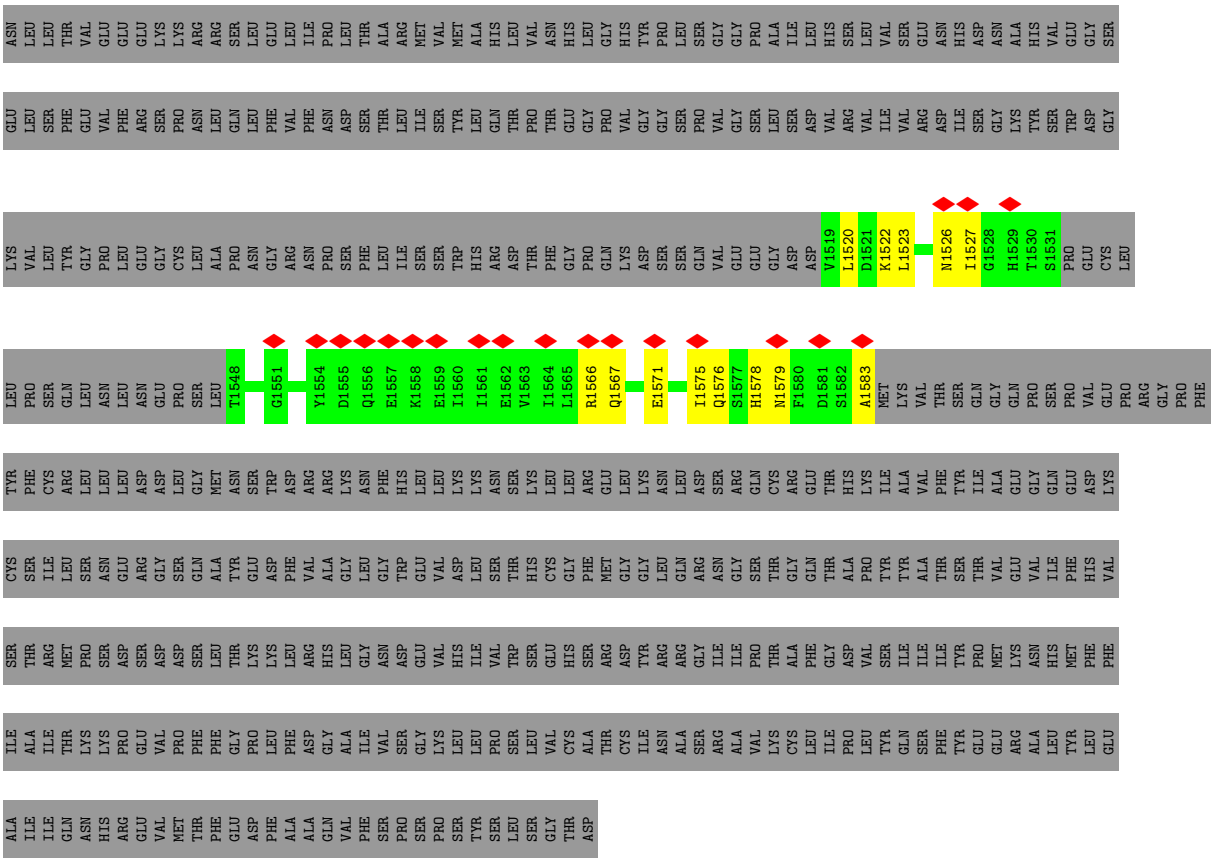
LEU ASN THR ILE ILE ARG HIS CYS PRO PRO ARG PHE PHE SER LEU GLY PHE PRO GLY PHE SER MET LEU VAL GLY ASP PHE ILE THR ALA ALA ALA ARG VAL LEU SER THR ASP ILE LEU THR ALA PRO ARG SER GLU ALA VAL THR VAL LEU GLY SER LEU VAL CYS PHE PRO ASN THR

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

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

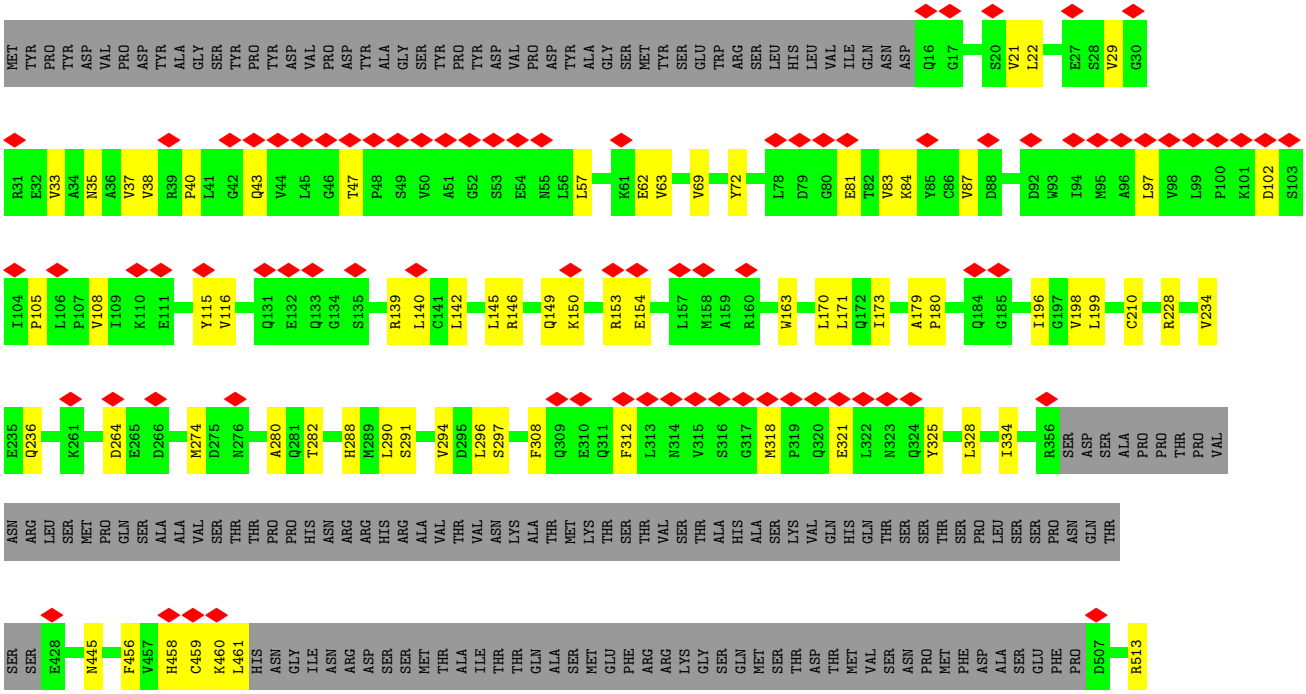
ALA THR VAL ALA PHE LEU LEU PRO SER ALA GLU TYR SER SER VAL GLU THR ASP LYS LYS PHE ILE VAL SER LEU LEU LEU CYS LEU LEU ASP TRP CYS MET ALA LEU PRO VAL SER VAL LEU LEU HIS PRO VAL SER THR ALA VAL LEU GLU GLU GLN HIS SER ALA ARG ALA PRO LEU

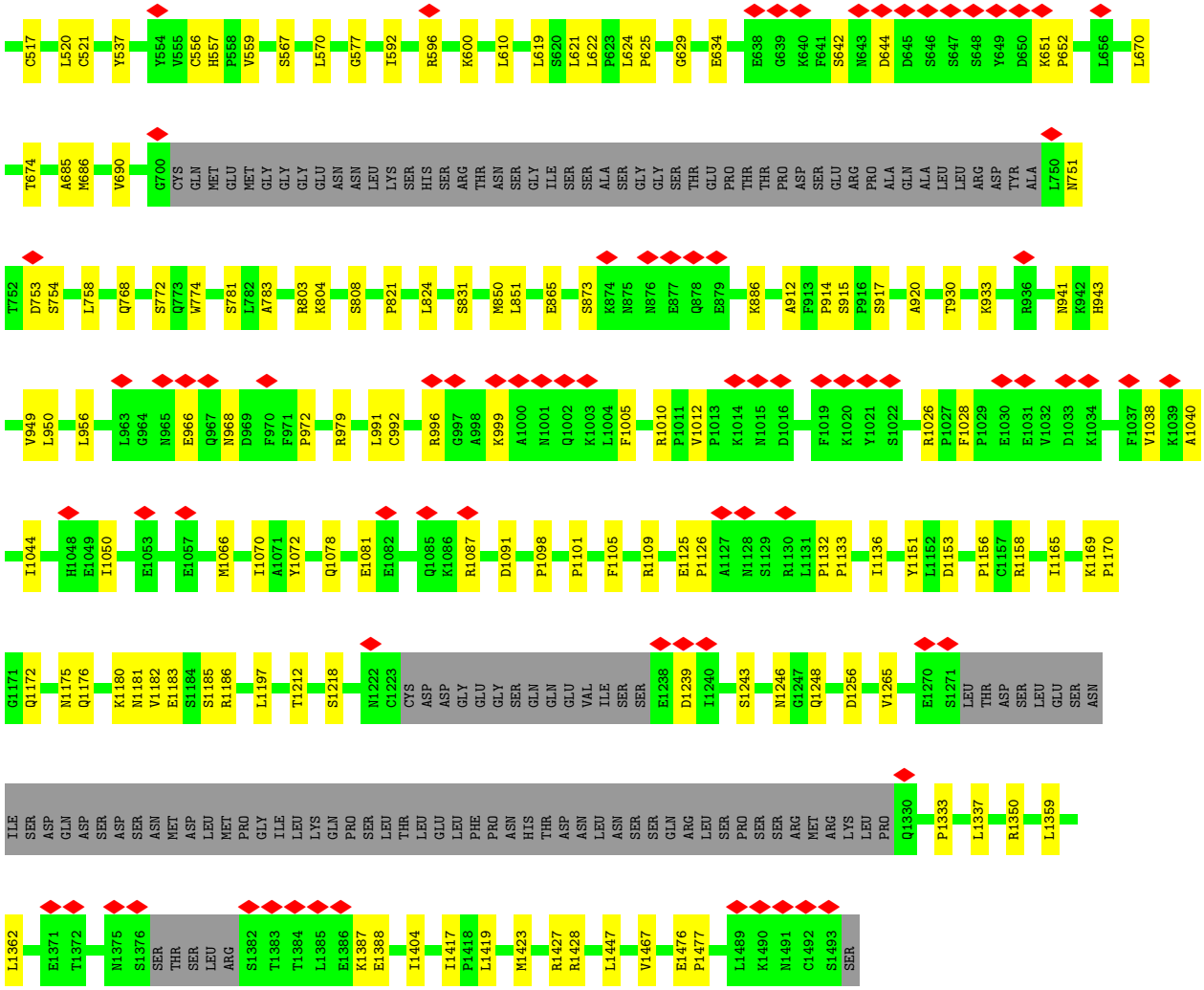
LEU ASP TYR ILE TYR ARG VAL LEU HIS CYS CYS VAL CYS GLY SER SER THR TYR THR GLN GLN SER HIS TYR ILE LEU THR LEU ALA ASP LEU SER SER THR ASP TYR ASP PRO PHE LEU PRO LEU ALA ASN VAL LYS SER SER GLU PRO VAL GLN TYR HIS SER SER ALA GLU LEU GLY



• Molecule 2: Ral GTPase-activating protein subunit beta

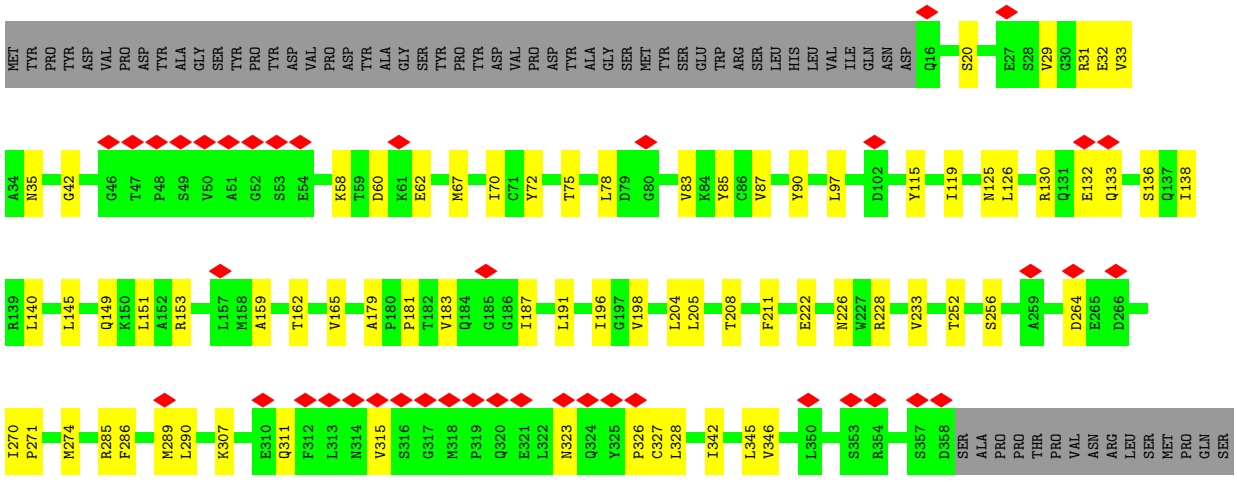
Chain B:

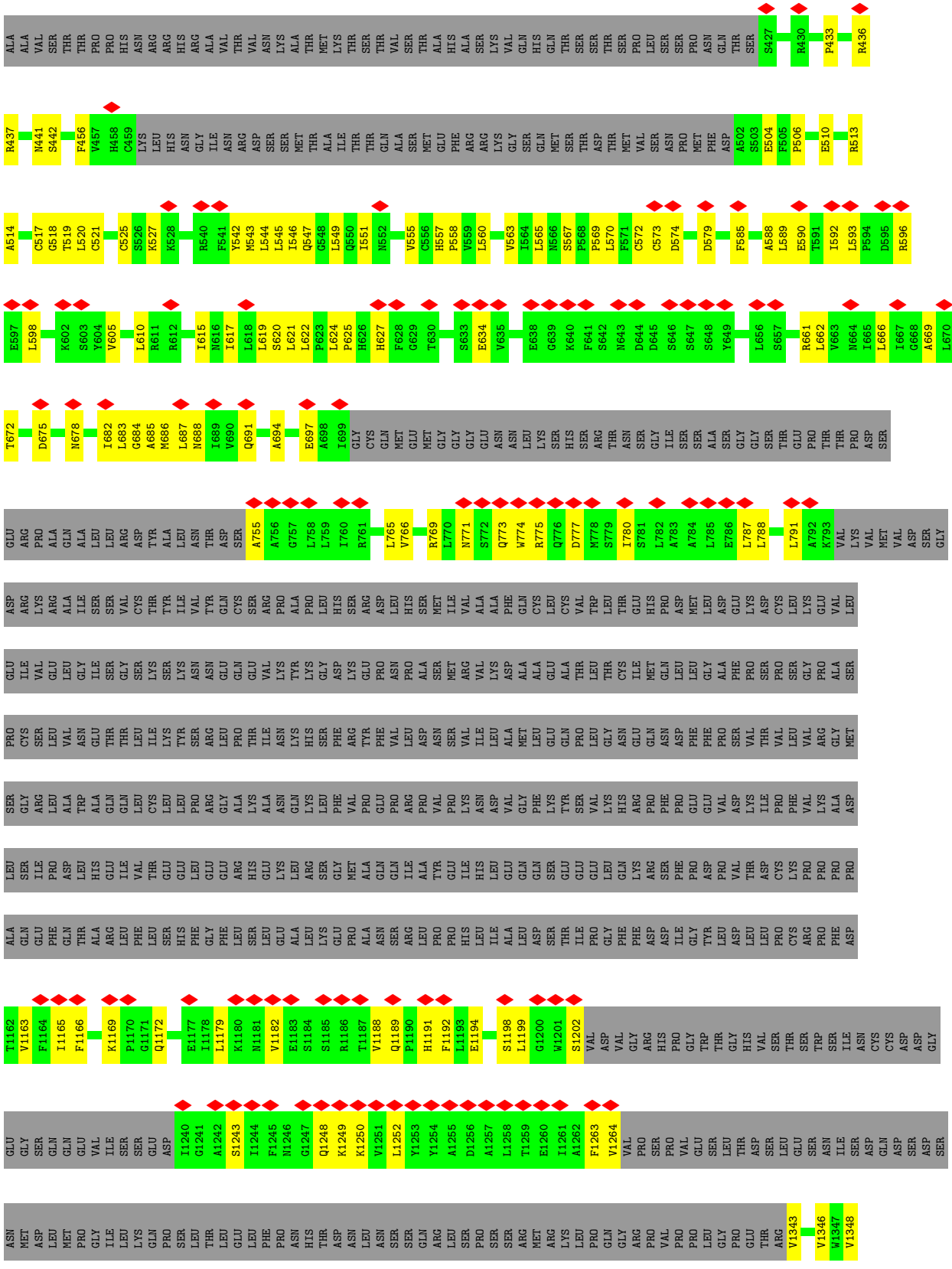




• Molecule 2: Ral GTPase-activating protein subunit beta

Chain C:

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S427 R430 P433 R436
R437 N441 S442 F456 V457 H458 C459 LYS LEU HIS ASN GLY ILE ASN ARG ASP SER SER MET THR ALA ILE THR THR GLN ALA SER MET GLU PHE ARG ARG LYS GLY SER GLN MET SER THR ASP THR MET VAL SER ASN PRO MET PHE ASP
A502 S503 E504 F505 P506 E510 R513
A514 C517 G518 T519 L520 C521 C525 S526 K527 K528 R540 F541 Y542 M543 L544 L545 I546 Q547 G548 L549 Q550 I551 M552 V555 C556 H557 P558 V559 L560 V563 I564 L565 M566 S567 P568 P569 L570 F571 C572 C573 D574 D579 F585 A588 L589 E590 T591 I592 L593 P594 D595 R596
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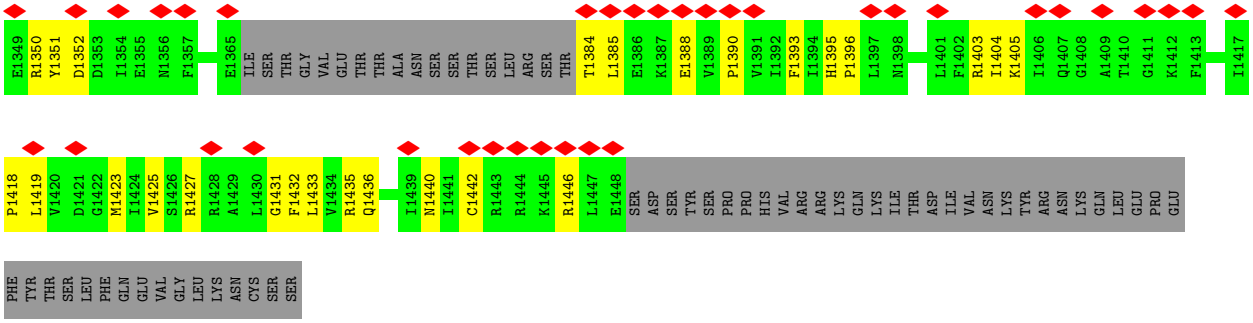
T672 D675 N678 I682 L683 G684 A685 M686 L687 N688 I689 V690 Q691 A694 E697 A698 I699 GLY CYS GLN MET GLU MET GLY GLY GLY GLU ASN ASN LEU LYS SER HIS SER ARG THR ASN SER GLY ILE SER SER ALA SER GLY GLY SER THR GLU PRO THR THR PRO ASP SER
GLU ARG PRO ALA GLN ALA LEU LEU ARG ASP TYR ALA LEU ASN THR ASP SER A755 A756 G757 L758 L759 I760 R761 L765 V766 R769 L770 N771 S772 Q773 W774 R775 Q776 D777 M778 S779 I780 S781 L782 A783 A784 L785 E786 L787 L788 L791 A792 K793 VAL LYS VAL MET VAL ASP SER GLY
ASP ARG LYS ARG ALA ILE SER SER VAL CYS THR TYR ILE VAL TYR GLN CYS SER ARG PRO ALA PRO LEU HIS SER ARG ASP LEU HIS SER MET ILE VAL ALA ALA PHE GLN CYS LEU CYS VAL TRP LEU THR GLU HIS PRO ASP MET LEU ASP GLU LYS ASP CYS LEU LYS GLU VAL LEU
GLU ILE VAL GLU LEU GLY ILE SER GLY SER LYS SER LYS ASN ASN GLU GLN GLU VAL LYS TYR LYS GLY ASP LYS GLU PRO ASN PRO ALA SER MET ARG VAL LYS ASP ALA ALA GLU ALA THR LEU THR CYS ILE MET GLN LEU LEU GLY ALA PHE PRO SER PRO SER GLY PRO ALA SER
PRO CYS SER LEU VAL ASN GLU THR THR LEU ILE LYS TYR SER ARG LEU PRO THR ILE ASN LYS HIS SER PHE ARG TYR PHE VAL LEU ASP ASN SER VAL ILE LEU ALA MET LEU GLU GLN PRO LEU GLY ASN GLU GLN ASN ASP PHE PHE PRO SER VAL THR VAL LEU VAL ARG GLY MET
SER GLY ARG LEU ALA TRP ALA GLN GLN LEU CYS LEU LEU PRO PRO ARG GLY ALA LYS ALA ASN GLN LYS LEU PHE VAL PRO GLU PRO ARG PRO VAL PRO LYS ASN ASP VAL GLY PHE LYS TYR SER VAL HIS ARG PRO PHE PRO GLU GLU VAL ASP LYS ILE PRO PHE VAL LYS ALA ASP
LEU SER ILE PRO ASP LEU HIS GLU ILE VAL THR GLU GLU LEU GLU GLU ARG HIS GLU LYS LEU ARG SER GLY MET ALA GLN GLN ILE ALA TYR GLU ILE HIS LEU GLU GLN GLN SER GLU GLU GLU LEU GLN LYS ARG SER PHE PRO ASP PRO VAL THR ASP CYS LYS PRO PRO PRO PRO
ALA GLN GLU PHE GLN THR ALA ARG LEU PHE LEU SER HIS PHE GLY PHE LEU SER LEU GLU ALA LEU SER THR LYS GLU PRO ALA ASN SER ARG LEU PRO PRO HIS LEU ILE ALA LEU ASP SER THR ILE PRO GLY PHE PHE ASP ASP ILE GLY TYR LEU ASP LEU LEU PRO CYS ARG PRO PHE ASP
T1162 V1163 F1164 I1165 F1166 K1169 P1170 G1171 Q1172 E1177 I1178 L1179 K1180 N1181 V1182 E1183 S1184 S1185 R1186 T1187 V1188 Q1189 P1190 H1191 F1192 L1193 E1194 S1198 L1199 G1200 W1201 S1202 VAL ASP VAL GLY ARG HIS PRO GLY TRP THR GLY HIS VAL SER THR SER TRP SER ILE ASN CYS CYS ASP ASP GLY
GLU GLY SER GLN GLN GLU VAL ILE SER SER GLU ASP I1240 G1241 A1242 S1243 I1244 F1245 N1246 G1247 Q1248 K1249 K1250 V1251 L1252 Y1253 Y1254 A1255 D1256 A1257 L1258 T1259 E1260 I1261 A1262 F1263 V1264 VAL PRO SER PRO VAL GLU SER LEU THR ASP SER SER LEU GLU SER SER ASN ILE SER ASP GLN ASP SER ASP SER
ASN MET ASP LEU MET PRO GLY ILE LEU LYS GLN PRO SER LEU THR LEU GLU GLU LEU PHE PRO ASN HIS THR ASP ASN ALA LEU ASN SER SER GLN ARG LEU SER PRO SER SER ARG MET ARG LYS LEU PRO GLN GLY ARG PRO VAL PRO PRO LEU GLY PRO GLU THR ARG V1343 V1346 W1347 V1348


E1349 R1350 Y1351 D1352 D1363 I1354 E1355 N1356 F1357 E1365 ILE SER THR GLY VAL GLU THR THR ALA ASN SER SER THR SER LEU ARG SER THR T1384 L1385 E1386 K1387 E1388 V1389 P1390 V1391 I1392 F1393 I1394 H1395 P1396 L1397 N1398 L1401 F1402 R1403 I1404 K1405 I1406 Q1407 G1408 A1409 T1410 G1411 K1412 F1413 I1417
P1418 L1419 V1420 D1421 G1422 M1423 T1424 V1425 S1426 R1427 R1428 A1429 L1430 G1431 F1432 L1433 V1434 R1435 Q1436 I1439 N1440 I1441 C1442 R1443 R1444 K1445 R1446 L1447 E1448 SER ASP SER TYR SER PRO PRO HIS VAL ARG ARG LYS GLN LYS ILE THR ASP ILE VAL ASN LYS TYR ARG ASN LYS GLN LEU GLU PRO GLU
PHE TYR THR SER LEU PHE GLN GLU VAL GLY LEU LYS ASN CYS SER SER

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	420975	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	60	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	4200	Depositor
Magnification	215000	Depositor
Image detector	FEI FALCON IV (4k x 4k)	Depositor
Maximum map value	56.165	Depositor
Minimum map value	-27.712	Depositor
Average map value	0.002	Depositor
Map value standard deviation	1.065	Depositor
Recommended contour level	9.13	Depositor
Map size (Å)	417.59998, 417.59998, 417.59998	wwPDB
Map dimensions	360, 360, 360	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.16, 1.16, 1.16	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	0.10	0/11005	0.25	0/14943
1	D	0.07	0/399	0.27	0/537
2	B	0.11	0/10003	0.25	0/13597
2	C	0.11	0/6212	0.28	1/8442 (0.0%)
All	All	0.11	0/27619	0.26	1/37519 (0.0%)

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	C	518	GLY	N-CA-C	-5.21	106.33	112.64

There are no chirality outliers.

There are no planarity outliers.

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	10753	0	10811	168	0
1	D	395	0	369	10	0
2	B	9773	0	9893	134	0
2	C	6076	0	6208	137	0
All	All	26997	0	27281	421	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 8.

All (421) 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:648:THR:HG21	1:A:961:LEU:HD11	1.68	0.74
1:A:1708:PRO:HG2	1:A:1719:PHE:HB2	1.70	0.73
2:C:619:LEU:HD21	2:C:1423:MET:HG3	1.71	0.72
1:A:1647:HIS:HB2	1:A:1717:VAL:HG22	1.70	0.71
1:A:1465:ASP:O	1:A:1836:ARG:NH1	2.23	0.71
2:B:325:TYR:HB2	2:B:328:LEU:HD23	1.72	0.71
2:B:1133:PRO:HD2	2:B:1136:ILE:HD11	1.73	0.70
1:A:442:MET:HB3	1:A:511:LEU:HD13	1.74	0.70
1:A:1426:LEU:HD13	1:A:1440:LEU:HD12	1.74	0.69
1:A:1567:GLN:NE2	2:B:634:GLU:OE1	2.27	0.68
1:A:135:LEU:HD11	1:A:221:ILE:HD11	1.76	0.68
2:B:228:ARG:NH1	2:B:291:SER:OG	2.27	0.68
2:C:567:SER:HB2	2:C:570:LEU:HB2	1.75	0.67
2:B:517:CYS:O	2:B:521:CYS:HB2	1.95	0.67
1:A:1416:LEU:HB3	1:A:1632:LEU:HD11	1.76	0.66
2:C:543:MET:O	2:C:547:GLN:NE2	2.29	0.66
1:A:86:LEU:HD13	1:A:128:GLU:HG2	1.77	0.65
2:C:1442:CYS:SG	2:C:1446:ARG:NH1	2.71	0.64
1:A:1725:MET:HB2	1:A:1736:LYS:HE2	1.79	0.64
2:B:1087:ARG:NH2	2:B:1091:ASP:OD2	2.30	0.64
2:C:590:GLU:HG3	2:C:661:ARG:HE	1.63	0.64
2:C:222:GLU:O	2:C:226:ASN:ND2	2.30	0.64
1:A:433:TRP:HB3	1:A:442:MET:HE1	1.79	0.63
1:A:522:ILE:HG21	1:A:545:VAL:HG21	1.79	0.63
2:B:145:LEU:HD22	2:B:198:VAL:HG11	1.80	0.63
2:B:87:VAL:HG21	2:B:140:LEU:HD22	1.81	0.63
1:A:89:PHE:HZ	1:A:109:ILE:HG23	1.64	0.62
2:C:1393:PHE:HB2	2:C:1405:LYS:HB3	1.81	0.62
2:C:149:GLN:OE1	2:C:153:ARG:NH2	2.32	0.62
2:C:622:LEU:HD13	2:C:662:LEU:HD21	1.82	0.62
1:A:1751:GLU:HG2	1:A:1774:PRO:HG2	1.82	0.62
2:B:1026:ARG:NH1	2:B:1028:PHE:O	2.34	0.61
1:A:83:ASP:HA	1:A:86:LEU:HD12	1.82	0.61
2:C:1163:VAL:O	2:C:1264:VAL:N	2.33	0.60
1:A:226:LEU:HD11	1:A:234:GLN:HE21	1.66	0.60
1:A:1498:SER:HA	1:A:1503:THR:HG21	1.83	0.60
1:A:1000:LYS:HB2	2:B:1050:ILE:HD11	1.84	0.60
1:A:1116:GLN:O	2:B:1072:TYR:OH	2.15	0.60
1:A:1669:ARG:NH1	2:B:1012:VAL:O	2.31	0.60
1:A:665:LEU:H	1:A:971:ASN:ND2	2.00	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:318:MET:HG3	2:B:321:GLU:HG2	1.85	0.59
1:D:1576:GLN:HA	1:D:1579:ASN:HB2	1.82	0.59
2:B:621:LEU:HA	2:B:624:LEU:HD23	1.84	0.59
2:B:1165:ILE:HB	2:B:1265:VAL:HG22	1.85	0.59
2:C:621:LEU:HA	2:C:624:LEU:HD13	1.84	0.59
2:B:873:SER:OG	2:B:886:LYS:NZ	2.36	0.59
2:C:1350:ARG:NH2	2:C:1352:ASP:OD2	2.36	0.59
2:B:1170:PRO:HG3	2:B:1350:ARG:HG3	1.85	0.58
2:C:573:CYS:SG	2:C:574:ASP:N	2.69	0.58
2:C:589:LEU:HD23	2:C:592:ILE:HD11	1.85	0.58
1:A:128:GLU:OE1	1:A:131:ARG:NH1	2.36	0.58
2:C:769:ARG:O	2:C:773:GLN:N	2.36	0.58
1:A:1113:ASN:ND2	1:A:1171:GLU:OE1	2.36	0.58
1:A:1584:MET:HB3	2:B:1427:ARG:HH12	1.69	0.58
1:A:294:ILE:HD12	1:A:295:PRO:HD2	1.85	0.58
1:A:1386:LEU:O	2:B:1109:ARG:NH2	2.37	0.57
2:B:21:VAL:HG23	2:C:62:GLU:HG2	1.86	0.57
2:B:972:PRO:HG2	2:B:991:LEU:HD23	1.86	0.57
2:C:1432:PHE:O	2:C:1435:ARG:HG2	2.04	0.57
2:B:142:LEU:HD13	2:B:146:ARG:HH21	1.69	0.57
2:B:831:SER:HB3	2:B:1447:LEU:HD21	1.87	0.57
2:B:966:GLU:HG3	2:B:968:ASN:H	1.70	0.57
2:C:687:LEU:HD21	2:C:1418:PRO:HA	1.87	0.57
2:B:996:ARG:HA	2:B:999:LYS:HG3	1.87	0.56
2:B:1183:GLU:HA	2:B:1243:SER:HB3	1.87	0.56
2:C:433:PRO:HB2	2:C:437:ARG:HD3	1.88	0.56
2:C:596:ARG:NH1	2:C:672:THR:OG1	2.38	0.56
2:B:619:LEU:HD12	2:B:685:ALA:HB2	1.88	0.56
1:A:1407:ASP:OD2	1:A:1460:ARG:NH1	2.38	0.56
2:C:456:PHE:HE1	2:C:544:LEU:HB2	1.71	0.56
1:A:134:LEU:HD21	1:A:211:PHE:HE1	1.70	0.56
1:A:1065:ARG:NH1	1:A:1068:SER:OG	2.34	0.56
1:A:212:LEU:HD21	1:A:306:TRP:CE2	2.40	0.56
2:B:163:TRP:CG	2:B:210:CYS:HG	2.23	0.56
2:B:196:ILE:HG23	2:B:236:GLN:HG3	1.88	0.56
2:C:1385:LEU:HD13	2:C:1388:GLU:HG3	1.88	0.56
1:A:1687:LEU:HD21	1:A:1697:LEU:HD13	1.88	0.56
2:C:622:LEU:HD11	2:C:666:LEU:HD22	1.87	0.56
1:D:1522:LYS:O	1:D:1526:ASN:ND2	2.38	0.56
1:A:973:ALA:HB2	1:A:985:PRO:HD3	1.89	0.55
1:A:1281:THR:OG1	1:A:1324:ASP:O	2.19	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1078:VAL:HG13	1:A:1108:LEU:HD23	1.88	0.55
2:C:683:LEU:HD22	2:C:787:LEU:HD22	1.89	0.55
2:C:1404:ILE:HG21	2:C:1419:LEU:HD21	1.87	0.55
2:B:619:LEU:HD21	2:B:1423:MET:HG3	1.88	0.55
2:B:40:PRO:HG3	2:C:29:VAL:HG21	1.88	0.55
1:A:213:GLN:OE1	1:A:217:LYS:NZ	2.38	0.55
2:B:274:MET:HE1	2:B:282:THR:HG21	1.89	0.55
1:A:220:VAL:HB	1:A:387:VAL:HB	1.88	0.54
2:B:234:VAL:HG21	2:B:334:ILE:HG23	1.89	0.54
2:C:766:VAL:HG22	2:C:774:TRP:HZ3	1.72	0.54
1:A:135:LEU:HD21	1:A:218:TYR:HB3	1.89	0.54
2:C:159:ALA:O	2:C:162:THR:OG1	2.25	0.54
1:A:571:LEU:HD22	1:A:626:VAL:HG11	1.90	0.54
2:B:517:CYS:HA	2:B:520:LEU:HB2	1.89	0.54
2:C:669:ALA:HA	2:C:672:THR:HG22	1.90	0.54
1:A:637:ILE:HG13	1:A:950:ILE:HG23	1.90	0.54
2:B:33:VAL:HG23	2:C:33:VAL:HG22	1.89	0.54
2:B:458:HIS:HD1	2:B:513:ARG:HD2	1.72	0.54
2:B:950:LEU:HD13	2:B:956:LEU:HD13	1.90	0.54
2:C:1425:VAL:HG11	2:C:1433:LEU:HD23	1.90	0.54
1:A:274:ARG:NH2	1:A:521:ASN:O	2.38	0.53
2:B:108:VAL:HA	2:B:115:TYR:HD2	1.73	0.53
1:A:1578:HIS:NE2	1:A:1581:ASP:OD2	2.42	0.53
2:B:642:SER:OG	2:B:644:ASP:OD1	2.25	0.53
2:B:1038:VAL:HG23	2:B:1040:ALA:H	1.73	0.53
2:C:596:ARG:NH1	2:C:672:THR:O	2.41	0.53
1:A:274:ARG:HH12	1:A:521:ASN:HB3	1.72	0.53
1:A:1564:ILE:HG23	2:B:577:GLY:HA3	1.90	0.53
2:C:788:LEU:HD23	2:C:791:LEU:HD12	1.90	0.53
2:C:1165:ILE:HD11	2:C:1263:PHE:HB3	1.91	0.53
1:A:164:SER:OG	1:A:167:GLY:O	2.26	0.53
1:A:219:MET:HG2	1:A:238:PHE:HD1	1.71	0.53
2:C:697:GLU:HG2	2:C:755:ALA:HB3	1.89	0.53
2:C:1436:GLN:O	2:C:1440:ASN:ND2	2.36	0.53
2:C:563:VAL:O	2:C:567:SER:OG	2.24	0.53
2:C:204:LEU:HD13	2:C:270:ILE:HG13	1.90	0.53
2:C:627:HIS:O	1:D:1578:HIS:NE2	2.41	0.53
2:C:1252:LEU:HB2	2:C:1263:PHE:HB2	1.91	0.53
2:B:821:PRO:HD2	2:B:824:LEU:HD12	1.90	0.53
2:B:930:THR:HA	2:B:933:LYS:HE3	1.91	0.52
2:C:437:ARG:NH2	2:C:527:LYS:O	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:242:PHE:HE1	1:A:306:TRP:HH2	1.57	0.52
2:C:1198:SER:O	2:C:1435:ARG:NH2	2.42	0.52
1:A:1399:HIS:CD2	1:A:1468:GLY:HA3	2.44	0.52
1:A:1527:ILE:HD11	2:B:280:ALA:HB1	1.91	0.52
2:C:20:SER:HB3	2:C:72:TYR:HB2	1.91	0.52
2:C:585:PHE:O	2:C:589:LEU:N	2.31	0.52
1:A:571:LEU:HD21	1:A:623:PHE:HD1	1.74	0.52
1:A:1209:GLN:HE22	1:A:1820:ARG:HH12	1.56	0.52
1:A:1399:HIS:NE2	1:A:1467:SER:O	2.43	0.52
1:A:1418:PHE:HE2	1:A:1422:ARG:HH21	1.57	0.52
2:B:57:LEU:HA	2:B:62:GLU:HG2	1.91	0.52
2:B:1404:ILE:HG13	2:B:1419:LEU:HD11	1.90	0.52
2:C:31:ARG:O	2:C:35:ASN:ND2	2.43	0.52
1:A:1749:TRP:HE1	1:A:1751:GLU:HG3	1.75	0.52
2:C:126:LEU:O	2:C:130:ARG:NH2	2.43	0.52
2:C:565:LEU:HD11	2:C:605:VAL:HG21	1.90	0.52
1:A:1469:LYS:NZ	1:A:1639:ASP:OD2	2.43	0.51
2:C:32:GLU:HA	2:C:35:ASN:HD21	1.74	0.51
2:C:771:ASN:O	2:C:775:ARG:NH1	2.43	0.51
2:C:133:GLN:HG3	2:C:136:SER:H	1.75	0.51
1:A:992:ARG:NH2	1:A:1029:VAL:O	2.44	0.51
2:C:87:VAL:HG21	2:C:140:LEU:HG	1.92	0.51
2:B:920:ALA:O	2:B:1158:ARG:NH2	2.43	0.51
2:B:979:ARG:NH1	2:B:1153:ASP:OD1	2.44	0.51
1:A:970:ASP:OD1	1:A:1025:ARG:NH2	2.41	0.51
2:C:342:ILE:HD13	2:C:345:LEU:HD21	1.93	0.51
2:C:510:GLU:HG2	2:C:513:ARG:HH22	1.76	0.51
1:A:75:ASN:H	1:A:78:GLN:HB3	1.76	0.51
2:B:865:GLU:OE2	2:B:886:LYS:NZ	2.38	0.51
2:B:1387:LYS:NZ	2:B:1388:GLU:OE2	2.44	0.51
2:B:1066:MET:O	2:B:1070:ILE:HG12	2.11	0.51
2:B:43:GLN:O	2:B:47:THR:OG1	2.17	0.50
1:A:1403:SER:OG	1:A:1405:ASN:OD1	2.26	0.50
2:C:769:ARG:O	2:C:774:TRP:N	2.44	0.50
2:C:60:ASP:OD1	2:C:115:TYR:OH	2.30	0.50
2:C:228:ARG:NH1	2:C:290:LEU:O	2.44	0.50
1:A:1158:ARG:NH1	1:A:1337:ALA:O	2.36	0.50
1:A:1660:ASP:OD1	1:A:1663:SER:OG	2.21	0.50
2:C:90:TYR:HD1	2:C:119:ILE:HG23	1.75	0.50
1:A:268:LEU:HD21	1:A:514:VAL:HG12	1.93	0.50
1:A:170:THR:H	1:A:173:THR:HG22	1.77	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:308:PHE:O	2:B:312:PHE:N	2.42	0.49
2:B:517:CYS:O	2:B:521:CYS:CB	2.59	0.49
2:C:517:CYS:O	2:C:521:CYS:HB2	2.12	0.49
2:C:619:LEU:HA	2:C:622:LEU:HD23	1.94	0.49
1:A:137:LEU:HD11	1:A:241:LEU:HD11	1.92	0.49
1:A:263:ILE:HG21	1:A:506:ALA:HB1	1.93	0.49
1:A:1500:HIS:HE1	2:B:1197:LEU:HG	1.76	0.49
1:A:1714:THR:HG23	1:A:1715:VAL:HG23	1.93	0.49
2:B:97:LEU:HD11	2:B:116:VAL:HG21	1.92	0.49
1:A:140:LEU:HG	1:A:143:ASN:HB2	1.94	0.49
1:A:1494:PHE:HD2	1:A:1496:ILE:HD13	1.78	0.49
2:C:545:LEU:HD13	2:C:585:PHE:HZ	1.76	0.49
2:C:1249:LYS:HG3	2:C:1250:LYS:HG2	1.93	0.49
1:A:997:TRP:HE1	2:B:1044:ILE:HA	1.77	0.49
1:A:1602:TYR:HD1	1:A:1605:ARG:HH21	1.59	0.49
2:B:1185:SER:O	2:B:1186:ARG:HG2	2.13	0.49
2:C:1163:VAL:HB	2:C:1263:PHE:HA	1.94	0.49
2:C:1343:VAL:HG12	2:C:1390:PRO:HG2	1.93	0.49
2:C:346:VAL:HG11	2:C:519:THR:HG23	1.93	0.49
2:B:768:GLN:O	2:B:772:SER:OG	2.27	0.49
1:A:281:THR:HA	1:A:290:TYR:CD1	2.48	0.48
1:A:1421:PHE:HD2	1:A:1627:LYS:HB3	1.78	0.48
1:A:1637:ASN:OD1	1:A:1641:ARG:NH1	2.46	0.48
2:C:565:LEU:HD21	2:C:610:LEU:HA	1.95	0.48
1:A:1813:ALA:O	1:A:1817:ASN:ND2	2.38	0.48
2:B:567:SER:HB2	2:B:570:LEU:HB2	1.95	0.48
1:A:551:ARG:NH1	1:A:555:GLU:OE1	2.46	0.48
1:A:1471:SER:OG	2:B:992:CYS:O	2.32	0.48
1:D:1575:ILE:O	1:D:1579:ASN:N	2.47	0.48
2:C:183:VAL:HG12	2:C:326:PRO:HD2	1.96	0.48
2:B:22:LEU:HB3	2:B:72:TYR:CG	2.49	0.48
2:B:622:LEU:O	2:B:625:PRO:HD2	2.14	0.48
2:B:1078:GLN:O	2:B:1081:GLU:HG3	2.14	0.47
1:A:1390:PRO:HB2	2:B:1101:PRO:HA	1.96	0.47
1:A:106:TYR:OH	1:A:147:GLU:OE2	2.31	0.47
2:B:81:GLU:HA	2:B:84:LYS:HD3	1.96	0.47
1:A:393:ARG:O	1:A:397:SER:HB3	2.13	0.47
1:A:663:LEU:HB3	1:A:971:ASN:ND2	2.30	0.47
2:C:78:LEU:H	2:C:132:GLU:HG3	1.80	0.47
2:C:138:ILE:HG23	2:C:191:LEU:HD21	1.97	0.47
2:C:205:LEU:O	2:C:208:THR:OG1	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:579:ASP:OD1	2:C:579:ASP:N	2.45	0.47
2:C:1199:LEU:HD23	2:C:1431:GLY:HA2	1.95	0.47
2:C:572:CYS:SG	2:C:1403:ARG:NH1	2.88	0.47
1:A:1300:ARG:HH11	1:A:1318:TYR:HA	1.80	0.47
2:C:589:LEU:HB3	2:C:593:LEU:HD12	1.97	0.47
2:C:686:MET:HE3	2:C:686:MET:HB3	1.85	0.47
1:A:276:LYS:HB3	1:A:526:GLU:HB2	1.97	0.47
1:A:1786:LYS:HD3	1:A:1793:PHE:HE1	1.80	0.46
2:B:915:SER:HG	2:B:917:SER:HG	1.63	0.46
2:C:90:TYR:CD1	2:C:119:ILE:HG23	2.50	0.46
1:A:1584:MET:O	2:B:1427:ARG:NH1	2.49	0.46
2:B:108:VAL:HA	2:B:115:TYR:CD2	2.50	0.46
1:A:1595:VAL:HG12	2:B:914:PRO:HD2	1.97	0.46
1:A:1583:ALA:O	2:B:1428:ARG:NE	2.49	0.46
2:C:75:THR:HG22	2:C:125:ASN:HB3	1.97	0.46
2:C:307:LYS:O	2:C:311:GLN:N	2.41	0.46
2:C:688:ASN:O	2:C:691:GLN:HG3	2.15	0.46
1:A:307:ILE:HG21	1:A:408:VAL:HG11	1.98	0.46
2:C:675:ASP:HB3	2:C:678:ASN:HB2	1.97	0.46
2:C:1432:PHE:HA	2:C:1435:ARG:NE	2.31	0.46
1:D:1575:ILE:HG22	1:D:1579:ASN:ND2	2.30	0.46
2:B:57:LEU:HD23	2:B:63:VAL:HA	1.97	0.46
1:A:1495:LEU:HD12	1:A:1500:HIS:CD2	2.51	0.46
2:B:458:HIS:HA	2:B:461:LEU:HB2	1.97	0.46
2:B:783:ALA:HB1	2:B:1417:ILE:HG21	1.98	0.46
2:B:1212:THR:HG22	2:B:1218:SER:HB3	1.98	0.46
2:C:311:GLN:HA	2:C:315:VAL:HB	1.98	0.46
1:A:390:MET:HG3	1:A:393:ARG:HH22	1.82	0.45
1:A:1208:LEU:HD23	1:A:1208:LEU:HA	1.82	0.45
1:A:1536:LEU:HG	1:A:1540:LEU:HB3	1.96	0.45
2:C:264:ASP:OD1	2:C:264:ASP:N	2.45	0.45
2:C:555:VAL:HG12	2:C:557:HIS:HD2	1.81	0.45
2:C:621:LEU:HD22	2:C:624:LEU:HD22	1.98	0.45
1:A:1682:GLY:O	2:B:1010:ARG:NH2	2.48	0.45
1:A:1709:TYR:OH	1:A:1716:GLU:OE2	2.27	0.45
2:C:1427:ARG:NH1	1:D:1583:ALA:O	2.49	0.45
1:A:402:VAL:O	1:A:406:ASN:ND2	2.38	0.45
1:A:1522:LYS:O	1:A:1525:GLU:HG3	2.17	0.45
2:B:57:LEU:HD13	2:B:105:PRO:HG3	1.99	0.45
1:A:109:ILE:HG21	1:A:136:TRP:CE3	2.51	0.45
1:A:1092:ASP:HA	1:A:1098:ARG:HH22	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:228:ARG:HG2	2:B:290:LEU:HD11	1.98	0.45
2:B:670:LEU:HD22	2:B:686:MET:SD	2.57	0.45
2:C:617:ILE:O	2:C:620:SER:OG	2.34	0.45
1:A:1532:PRO:HA	1:A:1535:LEU:HD23	1.99	0.45
2:B:1169:LYS:HB2	2:B:1172:GLN:NE2	2.31	0.45
2:C:560:LEU:HA	2:C:563:VAL:HG22	1.97	0.45
2:C:1194:GLU:O	2:C:1198:SER:N	2.47	0.45
2:B:651:LYS:NZ	2:B:652:PRO:O	2.50	0.45
2:C:1163:VAL:HG13	2:C:1343:VAL:HG23	1.99	0.45
1:A:1297:TYR:HA	1:A:1300:ARG:HD2	1.99	0.45
2:B:690:VAL:HG22	2:B:758:LEU:HG	1.99	0.45
1:A:396:LEU:HD13	1:A:441:PHE:HB2	1.99	0.45
1:A:969:ARG:HD3	1:A:989:PRO:HD2	1.99	0.45
1:A:1726:PRO:O	1:A:1732:SER:OG	2.35	0.45
2:B:294:VAL:O	2:B:297:SER:OG	2.32	0.44
2:C:211:PHE:HZ	2:C:285:ARG:HG3	1.83	0.44
1:A:432:LYS:O	1:A:436:GLN:HB3	2.16	0.44
1:A:550:ARG:O	1:A:553:ILE:HG22	2.17	0.44
2:B:619:LEU:HD21	2:B:1423:MET:HA	1.99	0.44
2:B:1125:GLU:HA	2:B:1133:PRO:HG3	1.99	0.44
2:C:542:TYR:O	2:C:546:ILE:HG12	2.17	0.44
1:A:89:PHE:CZ	1:A:109:ILE:HD12	2.52	0.44
1:A:96:LEU:HD23	1:A:99:ARG:HG3	2.00	0.44
2:B:83:VAL:HG23	2:B:84:LYS:HD2	1.98	0.44
2:B:556:CYS:HB2	2:B:559:VAL:HG12	2.00	0.44
2:C:162:THR:HA	2:C:165:VAL:HG22	2.00	0.44
1:A:576:ALA:O	1:A:580:LYS:NZ	2.45	0.44
1:A:1016:TYR:HE2	1:A:1054:ILE:HD12	1.83	0.44
2:C:1348:VAL:O	2:C:1396:PRO:HD2	2.18	0.44
1:A:79:ARG:O	1:A:82:LEU:HG	2.18	0.44
1:A:543:LYS:O	1:A:547:ILE:HG12	2.17	0.44
2:B:1239:ASP:OD1	2:B:1239:ASP:N	2.49	0.44
2:B:1246:ASN:HD21	2:B:1248:GLN:NE2	2.16	0.44
2:B:1359:LEU:HD12	2:B:1362:LEU:HD11	1.99	0.44
2:C:145:LEU:HD22	2:C:198:VAL:HG21	2.00	0.44
2:C:615:ILE:HD12	2:C:682:ILE:HD11	2.00	0.44
1:A:1235:ALA:HB3	1:A:1325:LEU:HD11	2.00	0.43
2:B:1156:PRO:HD2	2:B:1337:LEU:HD11	2.00	0.43
1:A:962:TRP:CZ2	1:A:1022:MET:HA	2.54	0.43
2:B:1158:ARG:NH1	2:B:1256:ASP:O	2.51	0.43
1:A:95:PHE:HB3	1:A:96:LEU:HD12	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1126:PRO:HD3	2:B:1133:PRO:HG3	2.00	0.43
2:C:323:ASN:HA	2:C:328:LEU:HD11	2.00	0.43
1:A:998:LEU:HD21	1:A:1018:LEU:HD23	2.00	0.43
1:A:1502:ASP:N	1:A:1502:ASP:OD1	2.51	0.43
2:B:171:LEU:HD23	2:B:199:LEU:HD11	2.01	0.43
2:C:598:LEU:HD23	2:C:610:LEU:HD23	2.01	0.43
2:C:694:ALA:O	2:C:697:GLU:HG3	2.19	0.43
1:A:603:MET:HB3	1:A:643:ILE:HD12	2.00	0.43
1:A:1296:ASP:OD1	1:A:1300:ARG:NE	2.47	0.43
2:C:97:LEU:HD23	2:C:151:LEU:HD11	2.00	0.43
2:C:777:ASP:HB3	2:C:780:ILE:HB	2.00	0.43
1:A:105:HIS:O	1:A:109:ILE:HG12	2.19	0.43
2:C:181:PRO:HB3	2:C:327:CYS:HB3	2.01	0.43
1:A:402:VAL:HG22	1:A:441:PHE:HE1	1.84	0.43
2:B:596:ARG:HH22	2:B:674:THR:HG23	1.84	0.43
2:B:949:VAL:HB	2:B:1136:ILE:HB	2.00	0.43
2:C:504:GLU:HB3	2:C:506:PRO:HD2	2.00	0.43
1:A:134:LEU:HD21	1:A:211:PHE:CE1	2.52	0.43
2:B:264:ASP:OD1	2:B:264:ASP:N	2.52	0.43
2:B:296:LEU:HD13	2:B:334:ILE:HG22	2.00	0.43
2:B:1181:ASN:OD1	2:B:1182:VAL:N	2.52	0.43
2:B:1476:GLU:HB2	2:B:1477:PRO:HD3	2.00	0.43
2:C:78:LEU:HB2	2:C:132:GLU:HB2	2.01	0.43
2:C:187:ILE:O	2:C:191:LEU:HB2	2.19	0.43
2:C:1169:LYS:HB2	2:C:1172:GLN:NE2	2.34	0.43
1:A:254:PHE:HB3	1:A:257:PHE:HB2	2.01	0.43
2:B:37:VAL:HG21	2:B:69:VAL:HG21	1.99	0.43
2:C:42:GLY:HA3	2:C:85:TYR:CG	2.54	0.43
2:C:58:LYS:N	2:C:62:GLU:OE1	2.37	0.43
1:A:226:LEU:HD21	1:A:234:GLN:HG3	2.01	0.42
2:C:256:SER:OG	2:C:436:ARG:NH1	2.50	0.42
1:A:1234:VAL:HG13	1:A:1301:VAL:HG21	1.99	0.42
2:B:445:ASN:OD1	2:B:537:TYR:OH	2.22	0.42
2:B:803:ARG:HB3	2:B:850:MET:HE1	2.01	0.42
2:C:634:GLU:HG2	1:D:1566:ARG:HG3	2.01	0.42
1:A:273:LEU:HD23	1:A:524:LEU:HB3	2.02	0.42
1:A:420:ILE:O	1:A:423:THR:OG1	2.35	0.42
2:C:208:THR:HG21	2:C:271:PRO:HG2	2.01	0.42
2:C:549:LEU:HB3	2:C:588:ALA:HB2	2.01	0.42
2:C:1351:TYR:HB2	2:C:1395:HIS:CD2	2.54	0.42
1:A:381:GLU:HB2	1:A:385:ARG:HE	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:941:ASN:HD21	2:B:943:HIS:HB2	1.84	0.42
2:B:996:ARG:HD2	2:B:999:LYS:HD2	2.02	0.42
2:B:1132:PRO:HG3	2:B:1467:VAL:HG11	2.00	0.42
2:B:1180:LYS:O	2:B:1183:GLU:HG3	2.20	0.42
2:C:179:ALA:HB1	2:C:307:LYS:HG2	2.01	0.42
1:A:253:LEU:HD21	1:A:300:ARG:HA	2.02	0.42
2:B:1151:TYR:CZ	2:B:1333:PRO:HB2	2.54	0.42
2:C:625:PRO:HG2	2:C:662:LEU:HD22	2.01	0.42
2:C:1189:GLN:HG3	2:C:1191:HIS:H	1.84	0.42
1:A:635:GLU:O	1:A:639:GLU:HG2	2.20	0.42
2:B:149:GLN:HG2	2:B:153:ARG:HH12	1.85	0.42
2:B:170:LEU:HD23	2:B:173:ILE:HD11	2.02	0.42
2:C:78:LEU:HD13	2:C:83:VAL:HG21	2.02	0.42
2:C:196:ILE:HG21	2:C:233:VAL:HA	2.01	0.42
2:C:441:ASN:OD1	2:C:442:SER:N	2.53	0.42
2:C:684:GLY:O	2:C:687:LEU:HG	2.20	0.42
2:C:1166:PHE:HD2	2:C:1346:VAL:HG22	1.84	0.42
1:A:141:GLN:HE22	1:A:237:GLY:HA2	1.84	0.42
1:A:308:VAL:HG11	1:A:425:LYS:HB3	2.02	0.42
1:A:935:VAL:HA	1:A:938:ILE:HG12	2.02	0.42
1:A:1314:GLN:O	1:A:1315:GLN:HG2	2.19	0.42
2:B:774:TRP:O	2:B:781:SER:OG	2.37	0.42
2:C:619:LEU:HD12	2:C:685:ALA:HB2	2.02	0.42
1:D:1567:GLN:O	1:D:1571:GLU:HG2	2.20	0.42
1:A:516:LEU:HD22	1:A:566:MET:HE2	2.02	0.42
1:A:984:PRO:HA	1:A:985:PRO:HD3	1.93	0.42
2:B:557:HIS:CE1	2:B:600:LYS:HD2	2.54	0.42
2:B:592:ILE:HD11	2:B:610:LEU:HG	2.02	0.42
2:C:252:THR:OG1	1:D:1520:LEU:HD13	2.19	0.42
1:A:238:PHE:HD2	1:A:394:ILE:HG21	1.85	0.42
1:A:665:LEU:H	1:A:971:ASN:HD21	1.66	0.42
1:A:1536:LEU:HD21	2:B:288:HIS:CE1	2.55	0.42
2:C:517:CYS:HA	2:C:520:LEU:HB2	2.02	0.42
2:C:551:ILE:HD12	2:C:555:VAL:HG13	2.01	0.42
1:D:1523:LEU:O	1:D:1527:ILE:HG12	2.20	0.42
2:B:102:ASP:OD1	2:B:102:ASP:N	2.53	0.41
1:A:144:CYS:HB2	1:A:148:GLN:HB2	2.02	0.41
1:A:1595:VAL:HG13	2:B:912:ALA:HA	2.02	0.41
1:A:1664:ILE:HD13	1:A:1761:ILE:HD11	2.00	0.41
1:A:1681:LEU:HB3	1:A:1719:PHE:CE2	2.55	0.41
2:C:286:PHE:HA	2:C:289:MET:HG2	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1551:GLY:HA2	2:B:460:LYS:HD3	2.02	0.41
1:A:217:LYS:HA	1:A:220:VAL:HG22	2.02	0.41
1:A:607:ILE:HG13	1:A:643:ILE:HD11	2.03	0.41
1:A:634:GLU:OE2	1:A:953:ARG:NH1	2.53	0.41
1:A:1239:PHE:CG	1:A:1322:LEU:HD11	2.56	0.41
1:A:1279:VAL:O	1:A:1291:ARG:NH2	2.53	0.41
1:A:1683:TRP:CD2	2:B:1098:PRO:HG3	2.55	0.41
2:B:625:PRO:O	2:B:629:GLY:N	2.53	0.41
1:A:513:GLN:O	1:A:516:LEU:HG	2.20	0.41
1:A:1465:ASP:OD1	1:A:1465:ASP:N	2.53	0.41
2:B:1151:TYR:CE1	2:B:1333:PRO:HB2	2.56	0.41
2:C:514:ALA:HB2	2:C:558:PRO:HB2	2.01	0.41
2:C:1243:SER:OG	2:C:1248:GLN:HB2	2.19	0.41
1:A:525:LEU:HB3	1:A:538:GLN:NE2	2.36	0.41
1:A:664:PRO:HD2	1:A:971:ASN:OD1	2.20	0.41
1:A:1300:ARG:NH1	1:A:1318:TYR:HA	2.35	0.41
2:B:972:PRO:HG3	2:B:1105:PHE:CD1	2.56	0.41
2:C:765:LEU:O	2:C:769:ARG:HG2	2.20	0.41
1:A:379:SER:HB2	1:A:385:ARG:HG3	2.01	0.41
1:A:965:LEU:HD12	1:A:989:PRO:HB3	2.02	0.41
2:C:1188:VAL:HB	2:C:1192:PHE:HD2	1.85	0.41
2:B:751:ASN:O	2:B:754:SER:OG	2.24	0.41
2:B:851:LEU:HD23	2:B:851:LEU:HA	1.87	0.41
2:B:1175:ASN:OD1	2:B:1176:GLN:N	2.53	0.41
2:C:208:THR:HG22	2:C:274:MET:HG2	2.02	0.41
1:A:1198:LYS:HA	1:A:1198:LYS:HD3	1.87	0.41
2:B:150:LYS:O	2:B:154:GLU:HG2	2.20	0.41
2:C:589:LEU:HA	2:C:592:ILE:HG12	2.03	0.41
2:C:1179:LEU:HA	2:C:1182:VAL:HG12	2.02	0.41
1:A:256:SER:HB3	1:A:411:GLN:HE22	1.86	0.41
1:A:1093:ILE:HG22	1:A:1095:THR:H	1.86	0.41
2:B:753:ASP:OD1	2:B:753:ASP:N	2.54	0.41
2:C:1202:SER:HB2	2:C:1252:LEU:HD13	2.03	0.41
1:A:214:ILE:HD13	1:A:217:LYS:NZ	2.37	0.40
1:A:648:THR:HG21	1:A:961:LEU:CD1	2.46	0.40
2:B:35:ASN:HA	2:B:38:VAL:HG12	2.02	0.40
1:A:155:LEU:HA	1:A:171:LEU:HD12	2.03	0.40
1:A:254:PHE:HE1	1:A:300:ARG:HB3	1.87	0.40
2:B:29:VAL:O	2:B:33:VAL:HG12	2.22	0.40
2:B:804:LYS:NZ	2:B:808:SER:OG	2.46	0.40
2:B:1169:LYS:HB2	2:B:1172:GLN:CD	2.46	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:1384:THR:HG23	2:C:1385:LEU:HD22	2.02	0.40
1:A:388:TYR:HA	1:A:391:VAL:HG22	2.02	0.40
1:A:1422:ARG:HD3	1:A:1422:ARG:HA	1.92	0.40
2:B:456:PHE:HA	2:B:459:CYS:HB3	2.03	0.40
1:A:1303:HIS:HA	1:A:1306:VAL:HG12	2.03	0.40
1:A:1685:VAL:HG12	2:B:1005:PHE:HZ	1.87	0.40
2:C:67:MET:HA	2:C:70:ILE:HG12	2.03	0.40
2:C:545:LEU:HD13	2:C:585:PHE:CZ	2.55	0.40
1:A:263:ILE:H	1:A:263:ILE:HD12	1.86	0.40
2:B:139:ARG:O	2:B:142:LEU:HG	2.22	0.40
2:B:179:ALA:N	2:B:180:PRO:HD2	2.37	0.40
2:C:525:CYS:HB3	2:C:569:PRO:HG2	2.03	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	1320/1899 (70%)	1274 (96%)	46 (4%)	0	100	100
1	D	45/1899 (2%)	44 (98%)	1 (2%)	0	100	100
2	B	1222/1528 (80%)	1186 (97%)	36 (3%)	0	100	100
2	C	751/1528 (49%)	719 (96%)	32 (4%)	0	100	100
All	All	3338/6854 (49%)	3223 (97%)	115 (3%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains (i)

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

entries.

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	1207/1694 (71%)	1207 (100%)	0	100	100
1	D	45/1694 (3%)	45 (100%)	0	100	100
2	B	1108/1369 (81%)	1108 (100%)	0	100	100
2	C	685/1369 (50%)	685 (100%)	0	100	100
All	All	3045/6126 (50%)	3045 (100%)	0	100	100

There are no protein residues with a non-rotameric sidechain to report.

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (35) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	143	ASN
1	A	234	GLN
1	A	262	ASN
1	A	410	HIS
1	A	411	GLN
1	A	971	ASN
1	A	1148	ASN
1	A	1154	ASN
1	A	1338	ASN
1	A	1385	HIS
1	A	1441	GLN
1	A	1658	GLN
1	A	1667	ASN
1	A	1739	HIS
2	B	55	ASN
2	B	288	HIS
2	B	557	HIS
2	B	643	ASN
2	B	678	ASN
2	B	830	HIS
2	B	1222	ASN
2	B	1248	GLN
2	B	1375	ASN
2	C	35	ASN
2	C	230	HIS
2	C	276	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	C	281	GLN
2	C	298	ASN
2	C	323	ASN
2	C	557	HIS
2	C	627	HIS
2	C	1246	ASN
1	D	1526	ASN
1	D	1568	ASN
1	D	1579	ASN

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates

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.

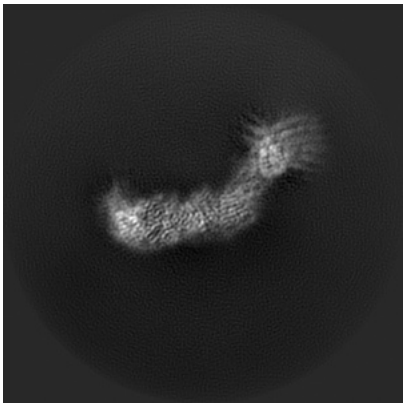
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-53422. These allow visual inspection of the internal detail of the map and identification of artifacts.

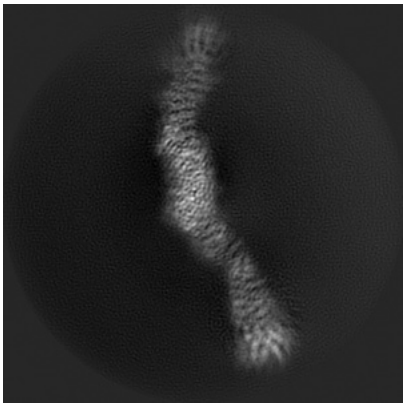
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

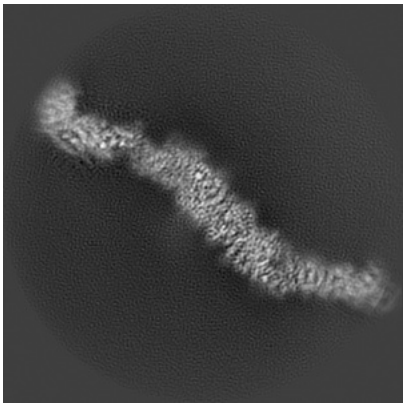
6.1.1 Primary map



X



Y

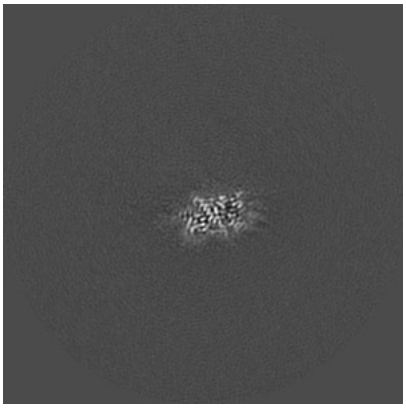


Z

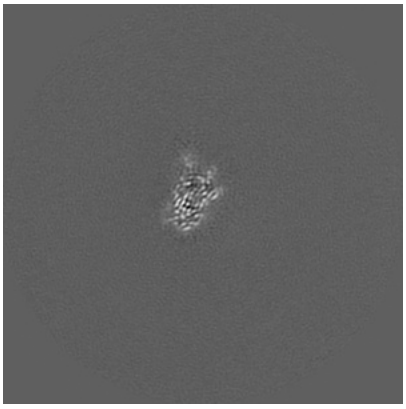
The images above show the map projected in three orthogonal directions.

6.2 Central slices

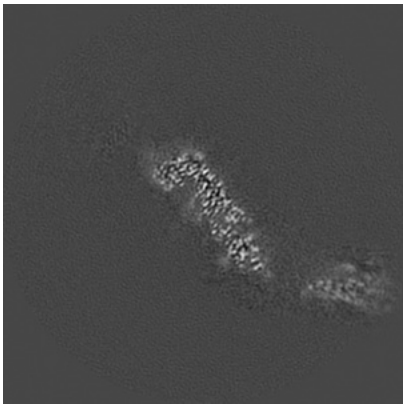
6.2.1 Primary map



X Index: 180



Y Index: 180

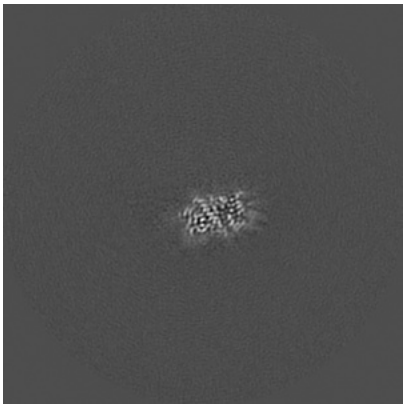


Z Index: 180

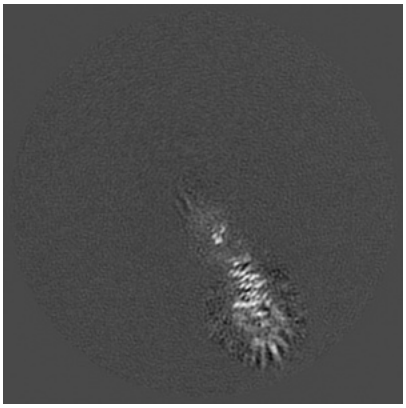
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

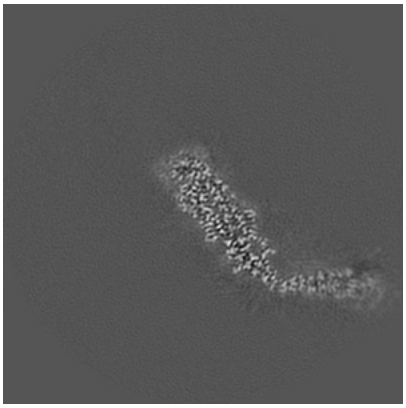
6.3.1 Primary map



X Index: 179



Y Index: 232

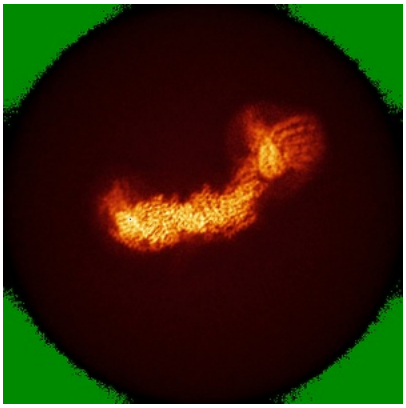


Z Index: 170

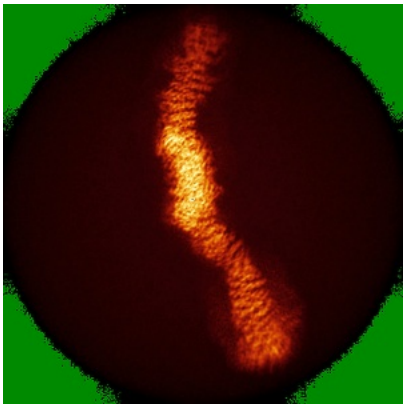
The images above show the largest variance slices of the map in three orthogonal directions.

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

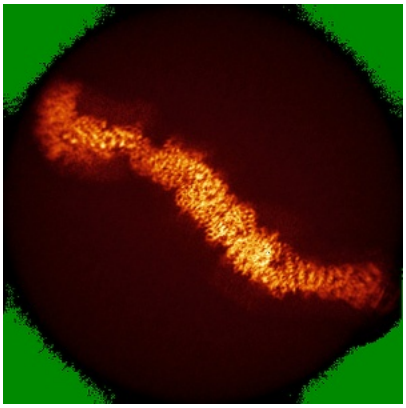
6.4.1 Primary map



X



Y



Z

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

6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 9.13. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

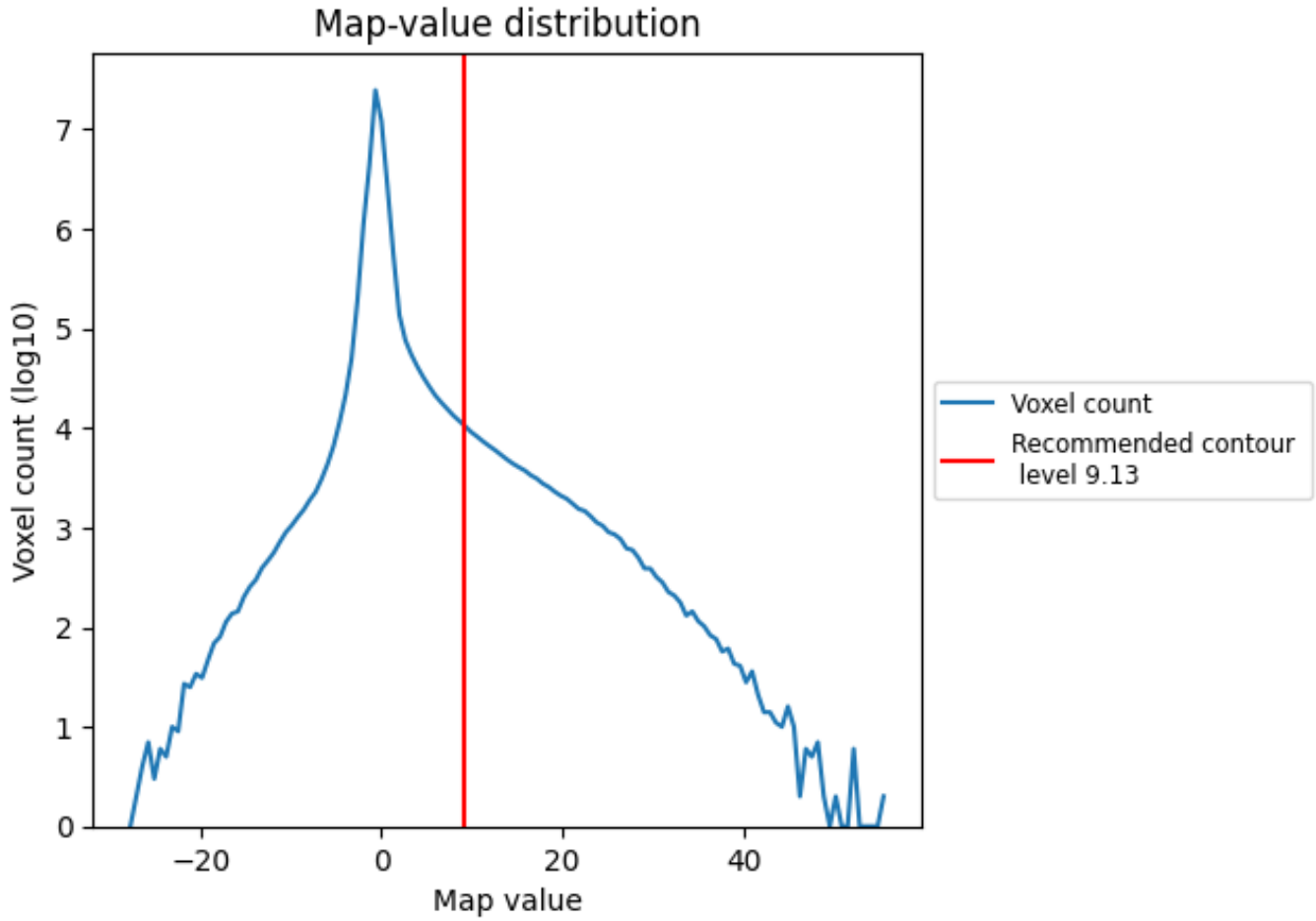
6.6 Mask visualisation (i)

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

7 Map analysis

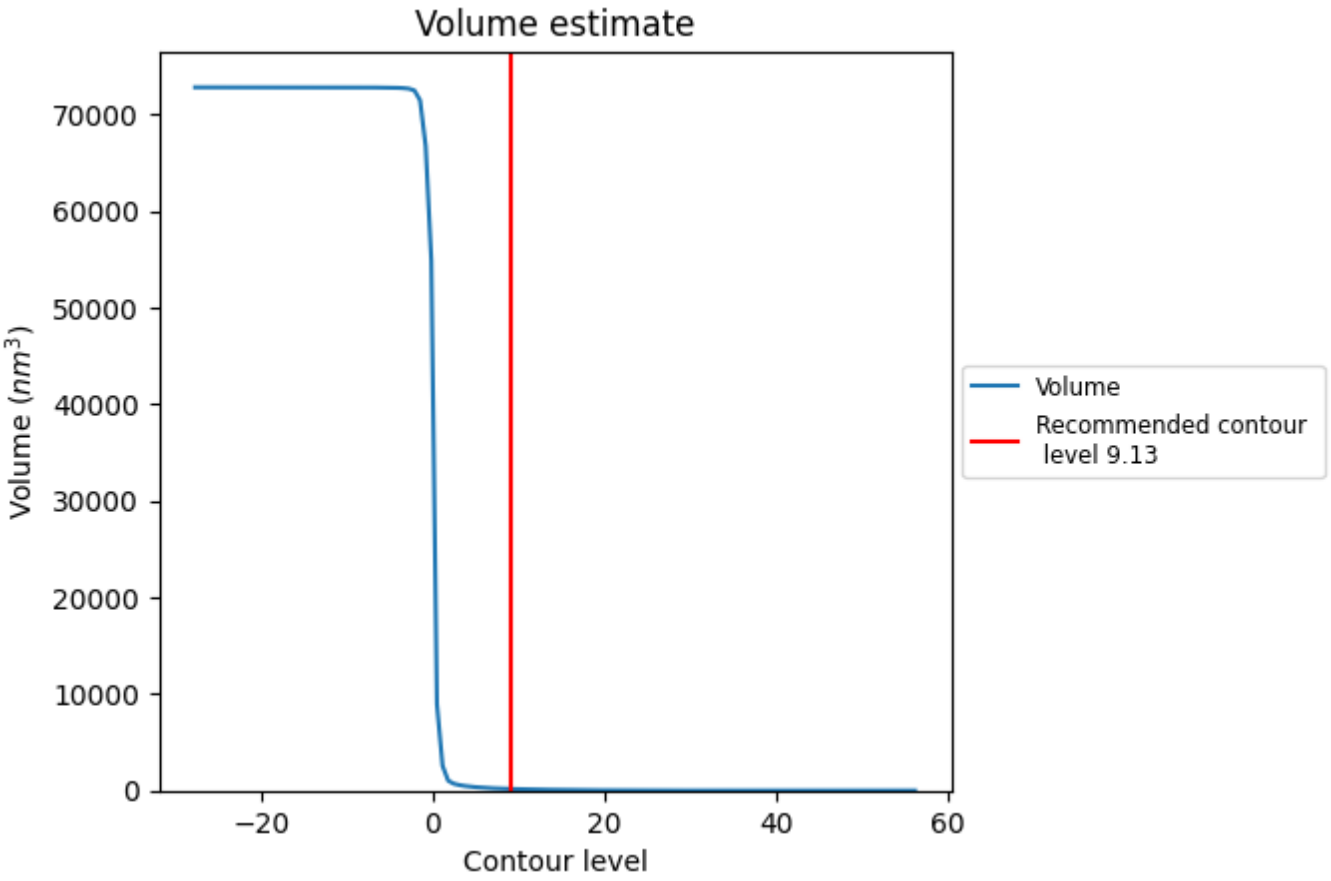
This section contains the results of statistical analysis of the map.

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.

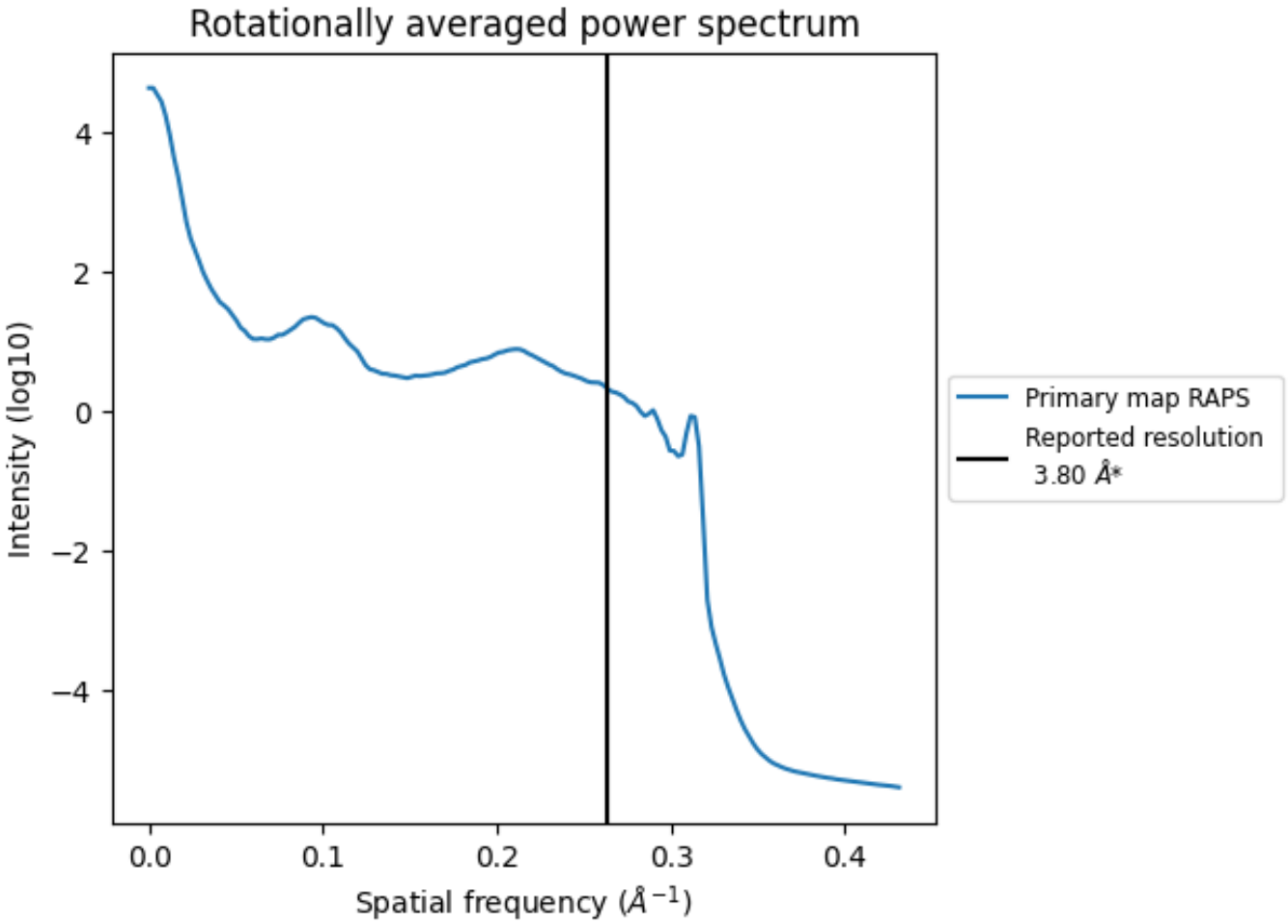
7.2 Volume estimate



The volume at the recommended contour level is 166 nm^3; this corresponds to an approximate mass of 150 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 (i)



*Reported resolution corresponds to spatial frequency of 0.263 Å^{-1}

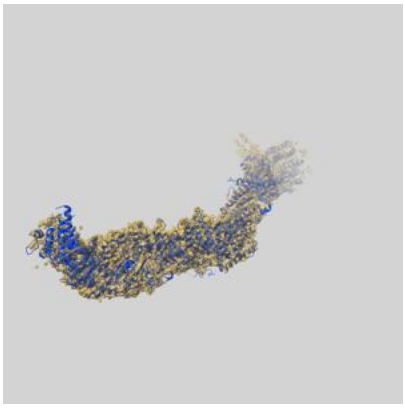
8 Fourier-Shell correlation (i)

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

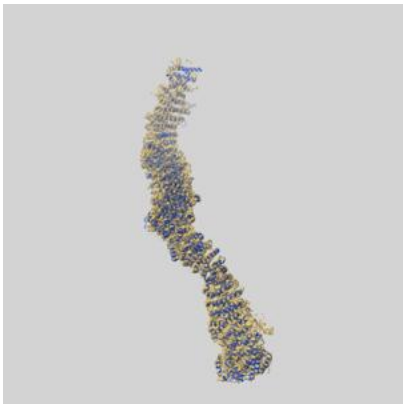
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-53422 and PDB model 9QWP. Per-residue inclusion information can be found in section 3 on page 7.

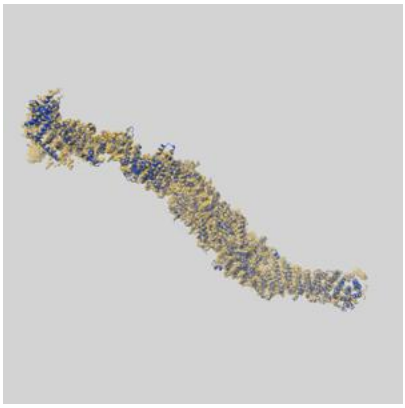
9.1 Map-model overlay



X



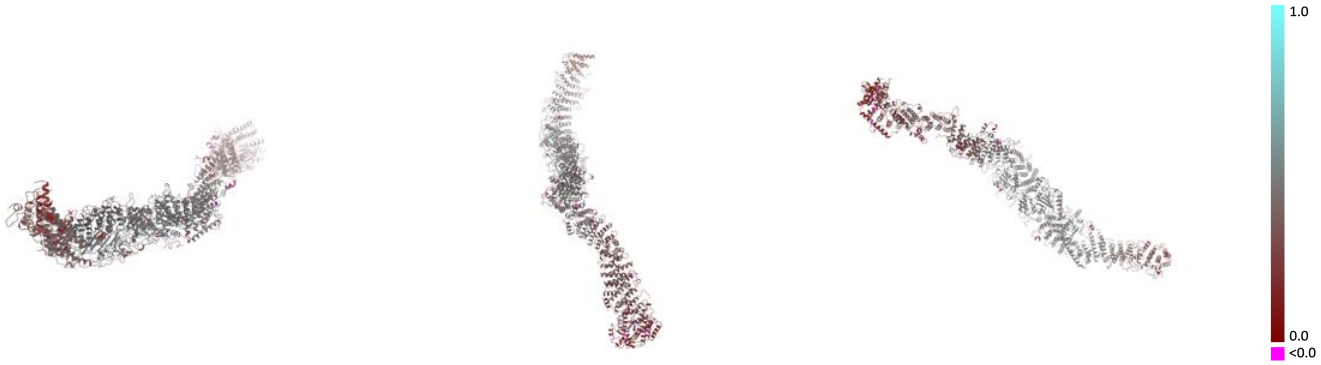
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 9.13 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.

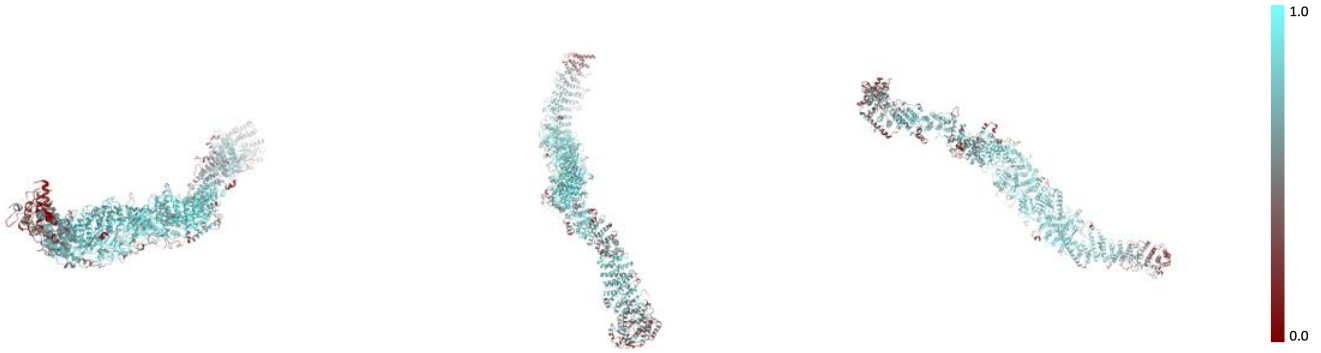
9.2 Q-score mapped to coordinate model (i)



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.

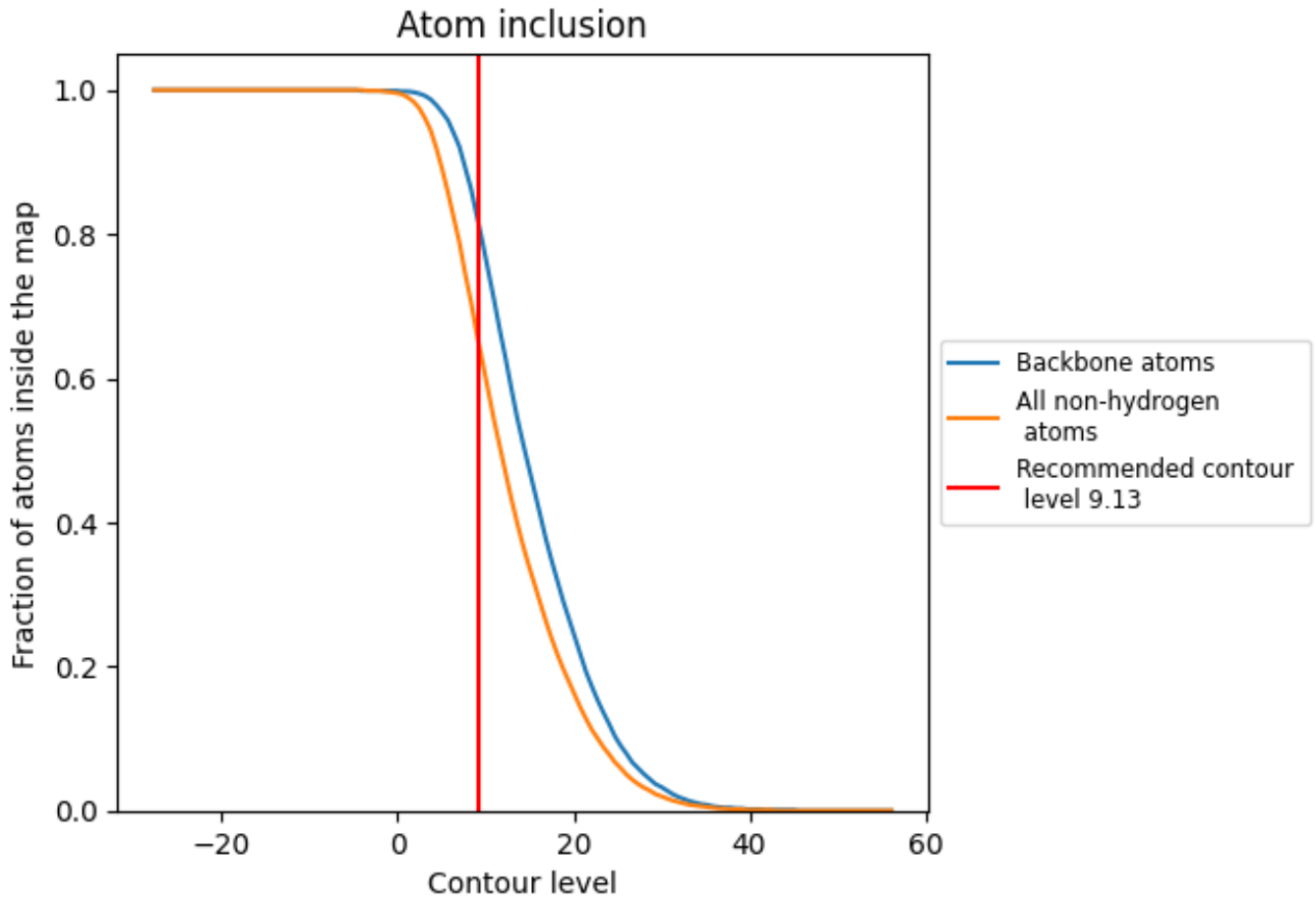
9.3 Atom inclusion mapped to coordinate model (i)



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 (9.13).

9.4 Atom inclusion (i)



At the recommended contour level, 82% of all backbone atoms, 65% 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 (9.13) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6530	0.3860
A	0.6570	0.4090
B	0.7140	0.4270
C	0.5640	0.2890
D	0.4220	0.2340