Full wwPDB EM Validation Report ⓘ

Jun 30, 2025 – 06:30 PM EDT

PDB ID	:	9E0X / pdb_00009e0x
EMDB ID	:	EMD-47373
Title	:	Cryo-EM structure of Phi dynein
Authors	:	Nguyen, K.H.V.; Kendrick, A.A.; Leschziner, A.E.
Deposited on	:	2024-10-20
Resolution	:	2.70 Å(reported)

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

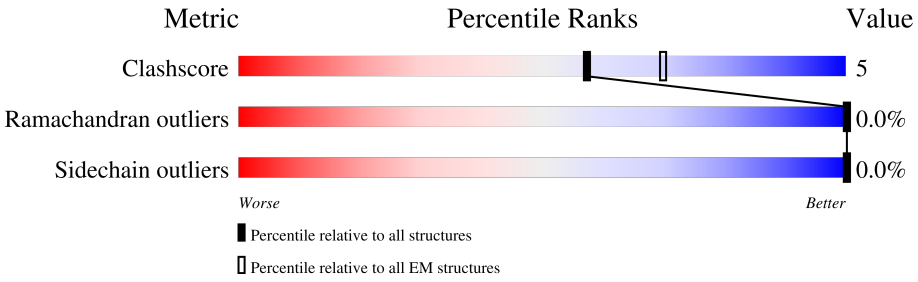
EMDB validation analysis	:	0.0.1.dev118
Mogul	:	2022.3.0, CSD as543be (2022)
MolProbity	:	4-5-2 with Phenix2.0rc1
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal 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 2.70 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	4843	22% 53% 7% 40%
1	B	4843	19% 52% 8% 40%

2 Entry composition (i)

There are 4 unique types of molecules in this entry. The entry contains 46234 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 Cytoplasmic dynein 1 heavy chain 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	2920	Total 23003	C 14686	N 3978	O 4227	S 112	0	0
1	B	2920	Total 23003	C 14686	N 3978	O 4227	S 112	0	0

There are 396 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-196	GLY	-	expression tag	UNP Q14204
A	-195	ASP	-	expression tag	UNP Q14204
A	-194	TYR	-	expression tag	UNP Q14204
A	-193	ASP	-	expression tag	UNP Q14204
A	-192	ILE	-	expression tag	UNP Q14204
A	-191	PRO	-	expression tag	UNP Q14204
A	-190	THR	-	expression tag	UNP Q14204
A	-189	THR	-	expression tag	UNP Q14204
A	-188	GLU	-	expression tag	UNP Q14204
A	-187	ASN	-	expression tag	UNP Q14204
A	-186	LEU	-	expression tag	UNP Q14204
A	-185	TYR	-	expression tag	UNP Q14204
A	-184	PHE	-	expression tag	UNP Q14204
A	-183	GLN	-	expression tag	UNP Q14204
A	-182	GLY	-	expression tag	UNP Q14204
A	-181	ASP	-	expression tag	UNP Q14204
A	-180	LYS	-	expression tag	UNP Q14204
A	-179	ASP	-	expression tag	UNP Q14204
A	-178	CYS	-	expression tag	UNP Q14204
A	-177	GLU	-	expression tag	UNP Q14204
A	-176	MET	-	expression tag	UNP Q14204
A	-175	LYS	-	expression tag	UNP Q14204
A	-174	ARG	-	expression tag	UNP Q14204
A	-173	THR	-	expression tag	UNP Q14204
A	-172	THR	-	expression tag	UNP Q14204
A	-171	LEU	-	expression tag	UNP Q14204

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Chain	Residue	Modelled	Actual	Comment	Reference
A	-170	ASP	-	expression tag	UNP Q14204
A	-169	SER	-	expression tag	UNP Q14204
A	-168	PRO	-	expression tag	UNP Q14204
A	-167	LEU	-	expression tag	UNP Q14204
A	-166	GLY	-	expression tag	UNP Q14204
A	-165	LYS	-	expression tag	UNP Q14204
A	-164	LEU	-	expression tag	UNP Q14204
A	-163	GLU	-	expression tag	UNP Q14204
A	-162	LEU	-	expression tag	UNP Q14204
A	-161	SER	-	expression tag	UNP Q14204
A	-160	GLY	-	expression tag	UNP Q14204
A	-159	CYS	-	expression tag	UNP Q14204
A	-158	GLU	-	expression tag	UNP Q14204
A	-157	GLN	-	expression tag	UNP Q14204
A	-156	GLY	-	expression tag	UNP Q14204
A	-155	LEU	-	expression tag	UNP Q14204
A	-154	HIS	-	expression tag	UNP Q14204
A	-153	ARG	-	expression tag	UNP Q14204
A	-152	ILE	-	expression tag	UNP Q14204
A	-151	ILE	-	expression tag	UNP Q14204
A	-150	PHE	-	expression tag	UNP Q14204
A	-149	LEU	-	expression tag	UNP Q14204
A	-148	GLY	-	expression tag	UNP Q14204
A	-147	LYS	-	expression tag	UNP Q14204
A	-146	GLY	-	expression tag	UNP Q14204
A	-145	THR	-	expression tag	UNP Q14204
A	-144	SER	-	expression tag	UNP Q14204
A	-143	ALA	-	expression tag	UNP Q14204
A	-142	ALA	-	expression tag	UNP Q14204
A	-141	ASP	-	expression tag	UNP Q14204
A	-140	ALA	-	expression tag	UNP Q14204
A	-139	VAL	-	expression tag	UNP Q14204
A	-138	GLU	-	expression tag	UNP Q14204
A	-137	VAL	-	expression tag	UNP Q14204
A	-136	PRO	-	expression tag	UNP Q14204
A	-135	ALA	-	expression tag	UNP Q14204
A	-134	PRO	-	expression tag	UNP Q14204
A	-133	ALA	-	expression tag	UNP Q14204
A	-132	ALA	-	expression tag	UNP Q14204
A	-131	VAL	-	expression tag	UNP Q14204
A	-130	LEU	-	expression tag	UNP Q14204
A	-129	GLY	-	expression tag	UNP Q14204

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Chain	Residue	Modelled	Actual	Comment	Reference
A	-128	GLY	-	expression tag	UNP Q14204
A	-127	PRO	-	expression tag	UNP Q14204
A	-126	GLU	-	expression tag	UNP Q14204
A	-125	PRO	-	expression tag	UNP Q14204
A	-124	LEU	-	expression tag	UNP Q14204
A	-123	MET	-	expression tag	UNP Q14204
A	-122	GLN	-	expression tag	UNP Q14204
A	-121	ALA	-	expression tag	UNP Q14204
A	-120	THR	-	expression tag	UNP Q14204
A	-119	ALA	-	expression tag	UNP Q14204
A	-118	TRP	-	expression tag	UNP Q14204
A	-117	LEU	-	expression tag	UNP Q14204
A	-116	ASN	-	expression tag	UNP Q14204
A	-115	ALA	-	expression tag	UNP Q14204
A	-114	TYR	-	expression tag	UNP Q14204
A	-113	PHE	-	expression tag	UNP Q14204
A	-112	HIS	-	expression tag	UNP Q14204
A	-111	GLN	-	expression tag	UNP Q14204
A	-110	PRO	-	expression tag	UNP Q14204
A	-109	GLU	-	expression tag	UNP Q14204
A	-108	ALA	-	expression tag	UNP Q14204
A	-107	ILE	-	expression tag	UNP Q14204
A	-106	GLU	-	expression tag	UNP Q14204
A	-105	GLU	-	expression tag	UNP Q14204
A	-104	PHE	-	expression tag	UNP Q14204
A	-103	PRO	-	expression tag	UNP Q14204
A	-102	VAL	-	expression tag	UNP Q14204
A	-101	PRO	-	expression tag	UNP Q14204
A	-100	ALA	-	expression tag	UNP Q14204
A	-99	LEU	-	expression tag	UNP Q14204
A	-98	HIS	-	expression tag	UNP Q14204
A	-97	HIS	-	expression tag	UNP Q14204
A	-96	PRO	-	expression tag	UNP Q14204
A	-95	VAL	-	expression tag	UNP Q14204
A	-94	PHE	-	expression tag	UNP Q14204
A	-93	GLN	-	expression tag	UNP Q14204
A	-92	GLN	-	expression tag	UNP Q14204
A	-91	GLU	-	expression tag	UNP Q14204
A	-90	SER	-	expression tag	UNP Q14204
A	-89	PHE	-	expression tag	UNP Q14204
A	-88	THR	-	expression tag	UNP Q14204
A	-87	ARG	-	expression tag	UNP Q14204

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Chain	Residue	Modelled	Actual	Comment	Reference
A	-86	GLN	-	expression tag	UNP Q14204
A	-85	VAL	-	expression tag	UNP Q14204
A	-84	LEU	-	expression tag	UNP Q14204
A	-83	TRP	-	expression tag	UNP Q14204
A	-82	LYS	-	expression tag	UNP Q14204
A	-81	LEU	-	expression tag	UNP Q14204
A	-80	LEU	-	expression tag	UNP Q14204
A	-79	LYS	-	expression tag	UNP Q14204
A	-78	VAL	-	expression tag	UNP Q14204
A	-77	VAL	-	expression tag	UNP Q14204
A	-76	LYS	-	expression tag	UNP Q14204
A	-75	PHE	-	expression tag	UNP Q14204
A	-74	GLY	-	expression tag	UNP Q14204
A	-73	GLU	-	expression tag	UNP Q14204
A	-72	VAL	-	expression tag	UNP Q14204
A	-71	ILE	-	expression tag	UNP Q14204
A	-70	SER	-	expression tag	UNP Q14204
A	-69	TYR	-	expression tag	UNP Q14204
A	-68	SER	-	expression tag	UNP Q14204
A	-67	HIS	-	expression tag	UNP Q14204
A	-66	LEU	-	expression tag	UNP Q14204
A	-65	ALA	-	expression tag	UNP Q14204
A	-64	ALA	-	expression tag	UNP Q14204
A	-63	LEU	-	expression tag	UNP Q14204
A	-62	ALA	-	expression tag	UNP Q14204
A	-61	GLY	-	expression tag	UNP Q14204
A	-60	ASN	-	expression tag	UNP Q14204
A	-59	PRO	-	expression tag	UNP Q14204
A	-58	ALA	-	expression tag	UNP Q14204
A	-57	ALA	-	expression tag	UNP Q14204
A	-56	THR	-	expression tag	UNP Q14204
A	-55	ALA	-	expression tag	UNP Q14204
A	-54	ALA	-	expression tag	UNP Q14204
A	-53	VAL	-	expression tag	UNP Q14204
A	-52	LYS	-	expression tag	UNP Q14204
A	-51	THR	-	expression tag	UNP Q14204
A	-50	ALA	-	expression tag	UNP Q14204
A	-49	LEU	-	expression tag	UNP Q14204
A	-48	SER	-	expression tag	UNP Q14204
A	-47	GLY	-	expression tag	UNP Q14204
A	-46	ASN	-	expression tag	UNP Q14204
A	-45	PRO	-	expression tag	UNP Q14204

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Chain	Residue	Modelled	Actual	Comment	Reference
A	-44	VAL	-	expression tag	UNP Q14204
A	-43	PRO	-	expression tag	UNP Q14204
A	-42	ILE	-	expression tag	UNP Q14204
A	-41	LEU	-	expression tag	UNP Q14204
A	-40	ILE	-	expression tag	UNP Q14204
A	-39	PRO	-	expression tag	UNP Q14204
A	-38	CYS	-	expression tag	UNP Q14204
A	-37	HIS	-	expression tag	UNP Q14204
A	-36	ARG	-	expression tag	UNP Q14204
A	-35	VAL	-	expression tag	UNP Q14204
A	-34	VAL	-	expression tag	UNP Q14204
A	-33	GLN	-	expression tag	UNP Q14204
A	-32	GLY	-	expression tag	UNP Q14204
A	-31	ASP	-	expression tag	UNP Q14204
A	-30	LEU	-	expression tag	UNP Q14204
A	-29	ASP	-	expression tag	UNP Q14204
A	-28	VAL	-	expression tag	UNP Q14204
A	-27	GLY	-	expression tag	UNP Q14204
A	-26	GLY	-	expression tag	UNP Q14204
A	-25	TYR	-	expression tag	UNP Q14204
A	-24	GLU	-	expression tag	UNP Q14204
A	-23	GLY	-	expression tag	UNP Q14204
A	-22	GLY	-	expression tag	UNP Q14204
A	-21	LEU	-	expression tag	UNP Q14204
A	-20	ALA	-	expression tag	UNP Q14204
A	-19	VAL	-	expression tag	UNP Q14204
A	-18	LYS	-	expression tag	UNP Q14204
A	-17	GLU	-	expression tag	UNP Q14204
A	-16	TRP	-	expression tag	UNP Q14204
A	-15	LEU	-	expression tag	UNP Q14204
A	-14	LEU	-	expression tag	UNP Q14204
A	-13	ALA	-	expression tag	UNP Q14204
A	-12	HIS	-	expression tag	UNP Q14204
A	-11	GLU	-	expression tag	UNP Q14204
A	-10	GLY	-	expression tag	UNP Q14204
A	-9	HIS	-	expression tag	UNP Q14204
A	-8	ARG	-	expression tag	UNP Q14204
A	-7	LEU	-	expression tag	UNP Q14204
A	-6	GLY	-	expression tag	UNP Q14204
A	-5	LYS	-	expression tag	UNP Q14204
A	-4	PRO	-	expression tag	UNP Q14204
A	-3	GLY	-	expression tag	UNP Q14204

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Chain	Residue	Modelled	Actual	Comment	Reference
A	-2	LEU	-	expression tag	UNP Q14204
A	-1	GLY	-	expression tag	UNP Q14204
A	0	GLY	-	expression tag	UNP Q14204
A	1	SER	-	expression tag	UNP Q14204
B	-196	GLY	-	expression tag	UNP Q14204
B	-195	ASP	-	expression tag	UNP Q14204
B	-194	TYR	-	expression tag	UNP Q14204
B	-193	ASP	-	expression tag	UNP Q14204
B	-192	ILE	-	expression tag	UNP Q14204
B	-191	PRO	-	expression tag	UNP Q14204
B	-190	THR	-	expression tag	UNP Q14204
B	-189	THR	-	expression tag	UNP Q14204
B	-188	GLU	-	expression tag	UNP Q14204
B	-187	ASN	-	expression tag	UNP Q14204
B	-186	LEU	-	expression tag	UNP Q14204
B	-185	TYR	-	expression tag	UNP Q14204
B	-184	PHE	-	expression tag	UNP Q14204
B	-183	GLN	-	expression tag	UNP Q14204
B	-182	GLY	-	expression tag	UNP Q14204
B	-181	ASP	-	expression tag	UNP Q14204
B	-180	LYS	-	expression tag	UNP Q14204
B	-179	ASP	-	expression tag	UNP Q14204
B	-178	CYS	-	expression tag	UNP Q14204
B	-177	GLU	-	expression tag	UNP Q14204
B	-176	MET	-	expression tag	UNP Q14204
B	-175	LYS	-	expression tag	UNP Q14204
B	-174	ARG	-	expression tag	UNP Q14204
B	-173	THR	-	expression tag	UNP Q14204
B	-172	THR	-	expression tag	UNP Q14204
B	-171	LEU	-	expression tag	UNP Q14204
B	-170	ASP	-	expression tag	UNP Q14204
B	-169	SER	-	expression tag	UNP Q14204
B	-168	PRO	-	expression tag	UNP Q14204
B	-167	LEU	-	expression tag	UNP Q14204
B	-166	GLY	-	expression tag	UNP Q14204
B	-165	LYS	-	expression tag	UNP Q14204
B	-164	LEU	-	expression tag	UNP Q14204
B	-163	GLU	-	expression tag	UNP Q14204
B	-162	LEU	-	expression tag	UNP Q14204
B	-161	SER	-	expression tag	UNP Q14204
B	-160	GLY	-	expression tag	UNP Q14204
B	-159	CYS	-	expression tag	UNP Q14204

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Chain	Residue	Modelled	Actual	Comment	Reference
B	-158	GLU	-	expression tag	UNP Q14204
B	-157	GLN	-	expression tag	UNP Q14204
B	-156	GLY	-	expression tag	UNP Q14204
B	-155	LEU	-	expression tag	UNP Q14204
B	-154	HIS	-	expression tag	UNP Q14204
B	-153	ARG	-	expression tag	UNP Q14204
B	-152	ILE	-	expression tag	UNP Q14204
B	-151	ILE	-	expression tag	UNP Q14204
B	-150	PHE	-	expression tag	UNP Q14204
B	-149	LEU	-	expression tag	UNP Q14204
B	-148	GLY	-	expression tag	UNP Q14204
B	-147	LYS	-	expression tag	UNP Q14204
B	-146	GLY	-	expression tag	UNP Q14204
B	-145	THR	-	expression tag	UNP Q14204
B	-144	SER	-	expression tag	UNP Q14204
B	-143	ALA	-	expression tag	UNP Q14204
B	-142	ALA	-	expression tag	UNP Q14204
B	-141	ASP	-	expression tag	UNP Q14204
B	-140	ALA	-	expression tag	UNP Q14204
B	-139	VAL	-	expression tag	UNP Q14204
B	-138	GLU	-	expression tag	UNP Q14204
B	-137	VAL	-	expression tag	UNP Q14204
B	-136	PRO	-	expression tag	UNP Q14204
B	-135	ALA	-	expression tag	UNP Q14204
B	-134	PRO	-	expression tag	UNP Q14204
B	-133	ALA	-	expression tag	UNP Q14204
B	-132	ALA	-	expression tag	UNP Q14204
B	-131	VAL	-	expression tag	UNP Q14204
B	-130	LEU	-	expression tag	UNP Q14204
B	-129	GLY	-	expression tag	UNP Q14204
B	-128	GLY	-	expression tag	UNP Q14204
B	-127	PRO	-	expression tag	UNP Q14204
B	-126	GLU	-	expression tag	UNP Q14204
B	-125	PRO	-	expression tag	UNP Q14204
B	-124	LEU	-	expression tag	UNP Q14204
B	-123	MET	-	expression tag	UNP Q14204
B	-122	GLN	-	expression tag	UNP Q14204
B	-121	ALA	-	expression tag	UNP Q14204
B	-120	THR	-	expression tag	UNP Q14204
B	-119	ALA	-	expression tag	UNP Q14204
B	-118	TRP	-	expression tag	UNP Q14204
B	-117	LEU	-	expression tag	UNP Q14204

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Chain	Residue	Modelled	Actual	Comment	Reference
B	-116	ASN	-	expression tag	UNP Q14204
B	-115	ALA	-	expression tag	UNP Q14204
B	-114	TYR	-	expression tag	UNP Q14204
B	-113	PHE	-	expression tag	UNP Q14204
B	-112	HIS	-	expression tag	UNP Q14204
B	-111	GLN	-	expression tag	UNP Q14204
B	-110	PRO	-	expression tag	UNP Q14204
B	-109	GLU	-	expression tag	UNP Q14204
B	-108	ALA	-	expression tag	UNP Q14204
B	-107	ILE	-	expression tag	UNP Q14204
B	-106	GLU	-	expression tag	UNP Q14204
B	-105	GLU	-	expression tag	UNP Q14204
B	-104	PHE	-	expression tag	UNP Q14204
B	-103	PRO	-	expression tag	UNP Q14204
B	-102	VAL	-	expression tag	UNP Q14204
B	-101	PRO	-	expression tag	UNP Q14204
B	-100	ALA	-	expression tag	UNP Q14204
B	-99	LEU	-	expression tag	UNP Q14204
B	-98	HIS	-	expression tag	UNP Q14204
B	-97	HIS	-	expression tag	UNP Q14204
B	-96	PRO	-	expression tag	UNP Q14204
B	-95	VAL	-	expression tag	UNP Q14204
B	-94	PHE	-	expression tag	UNP Q14204
B	-93	GLN	-	expression tag	UNP Q14204
B	-92	GLN	-	expression tag	UNP Q14204
B	-91	GLU	-	expression tag	UNP Q14204
B	-90	SER	-	expression tag	UNP Q14204
B	-89	PHE	-	expression tag	UNP Q14204
B	-88	THR	-	expression tag	UNP Q14204
B	-87	ARG	-	expression tag	UNP Q14204
B	-86	GLN	-	expression tag	UNP Q14204
B	-85	VAL	-	expression tag	UNP Q14204
B	-84	LEU	-	expression tag	UNP Q14204
B	-83	TRP	-	expression tag	UNP Q14204
B	-82	LYS	-	expression tag	UNP Q14204
B	-81	LEU	-	expression tag	UNP Q14204
B	-80	LEU	-	expression tag	UNP Q14204
B	-79	LYS	-	expression tag	UNP Q14204
B	-78	VAL	-	expression tag	UNP Q14204
B	-77	VAL	-	expression tag	UNP Q14204
B	-76	LYS	-	expression tag	UNP Q14204
B	-75	PHE	-	expression tag	UNP Q14204

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Chain	Residue	Modelled	Actual	Comment	Reference
B	-74	GLY	-	expression tag	UNP Q14204
B	-73	GLU	-	expression tag	UNP Q14204
B	-72	VAL	-	expression tag	UNP Q14204
B	-71	ILE	-	expression tag	UNP Q14204
B	-70	SER	-	expression tag	UNP Q14204
B	-69	TYR	-	expression tag	UNP Q14204
B	-68	SER	-	expression tag	UNP Q14204
B	-67	HIS	-	expression tag	UNP Q14204
B	-66	LEU	-	expression tag	UNP Q14204
B	-65	ALA	-	expression tag	UNP Q14204
B	-64	ALA	-	expression tag	UNP Q14204
B	-63	LEU	-	expression tag	UNP Q14204
B	-62	ALA	-	expression tag	UNP Q14204
B	-61	GLY	-	expression tag	UNP Q14204
B	-60	ASN	-	expression tag	UNP Q14204
B	-59	PRO	-	expression tag	UNP Q14204
B	-58	ALA	-	expression tag	UNP Q14204
B	-57	ALA	-	expression tag	UNP Q14204
B	-56	THR	-	expression tag	UNP Q14204
B	-55	ALA	-	expression tag	UNP Q14204
B	-54	ALA	-	expression tag	UNP Q14204
B	-53	VAL	-	expression tag	UNP Q14204
B	-52	LYS	-	expression tag	UNP Q14204
B	-51	THR	-	expression tag	UNP Q14204
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B	-49	LEU	-	expression tag	UNP Q14204
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B	-46	ASN	-	expression tag	UNP Q14204
B	-45	PRO	-	expression tag	UNP Q14204
B	-44	VAL	-	expression tag	UNP Q14204
B	-43	PRO	-	expression tag	UNP Q14204
B	-42	ILE	-	expression tag	UNP Q14204
B	-41	LEU	-	expression tag	UNP Q14204
B	-40	ILE	-	expression tag	UNP Q14204
B	-39	PRO	-	expression tag	UNP Q14204
B	-38	CYS	-	expression tag	UNP Q14204
B	-37	HIS	-	expression tag	UNP Q14204
B	-36	ARG	-	expression tag	UNP Q14204
B	-35	VAL	-	expression tag	UNP Q14204
B	-34	VAL	-	expression tag	UNP Q14204
B	-33	GLN	-	expression tag	UNP Q14204

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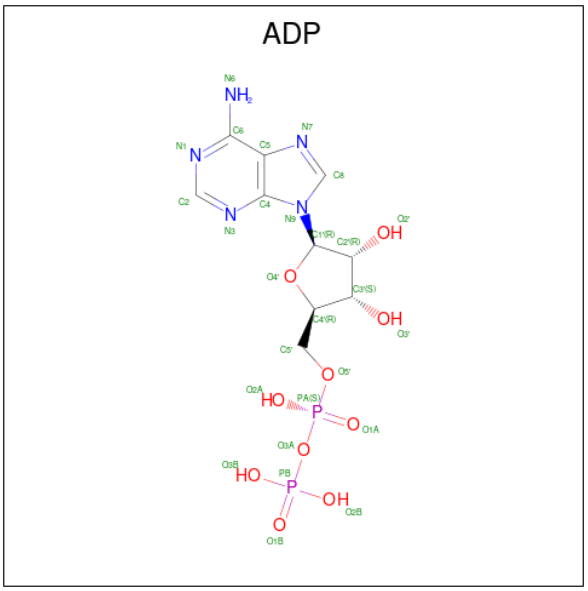
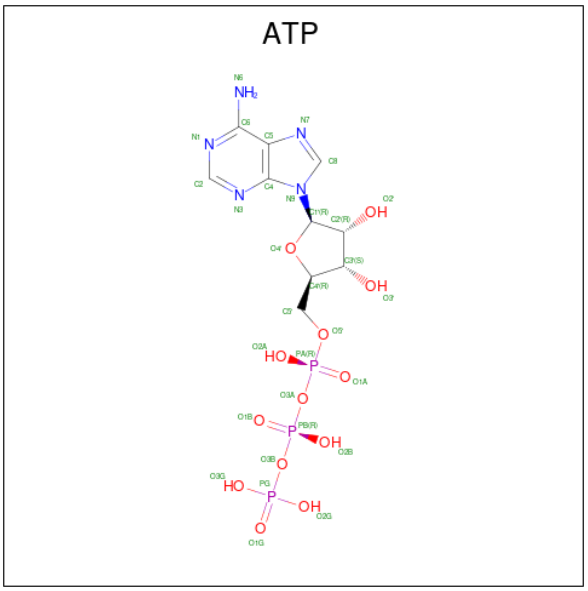
Chain	Residue	Modelled	Actual	Comment	Reference
B	-32	GLY	-	expression tag	UNP Q14204
B	-31	ASP	-	expression tag	UNP Q14204
B	-30	LEU	-	expression tag	UNP Q14204
B	-29	ASP	-	expression tag	UNP Q14204
B	-28	VAL	-	expression tag	UNP Q14204
B	-27	GLY	-	expression tag	UNP Q14204
B	-26	GLY	-	expression tag	UNP Q14204
B	-25	TYR	-	expression tag	UNP Q14204
B	-24	GLU	-	expression tag	UNP Q14204
B	-23	GLY	-	expression tag	UNP Q14204
B	-22	GLY	-	expression tag	UNP Q14204
B	-21	LEU	-	expression tag	UNP Q14204
B	-20	ALA	-	expression tag	UNP Q14204
B	-19	VAL	-	expression tag	UNP Q14204
B	-18	LYS	-	expression tag	UNP Q14204
B	-17	GLU	-	expression tag	UNP Q14204
B	-16	TRP	-	expression tag	UNP Q14204
B	-15	LEU	-	expression tag	UNP Q14204
B	-14	LEU	-	expression tag	UNP Q14204
B	-13	ALA	-	expression tag	UNP Q14204
B	-12	HIS	-	expression tag	UNP Q14204
B	-11	GLU	-	expression tag	UNP Q14204
B	-10	GLY	-	expression tag	UNP Q14204
B	-9	HIS	-	expression tag	UNP Q14204
B	-8	ARG	-	expression tag	UNP Q14204
B	-7	LEU	-	expression tag	UNP Q14204
B	-6	GLY	-	expression tag	UNP Q14204
B	-5	LYS	-	expression tag	UNP Q14204
B	-4	PRO	-	expression tag	UNP Q14204
B	-3	GLY	-	expression tag	UNP Q14204
B	-2	LEU	-	expression tag	UNP Q14204
B	-1	GLY	-	expression tag	UNP Q14204
B	0	GLY	-	expression tag	UNP Q14204
B	1	SER	-	expression tag	UNP Q14204

- Molecule 2 is ADENOSINE-5'-DIPHOSPHATE (CCD ID: ADP) (formula: $C_{10}H_{15}N_5O_{10}P_2$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
2	A	1	Total	C	N	O	P	0
			27	10	5	10	2	
2	A	1	Total	C	N	O	P	0
			27	10	5	10	2	
2	A	1	Total	C	N	O	P	0
			27	10	5	10	2	
2	B	1	Total	C	N	O	P	0
			27	10	5	10	2	
2	B	1	Total	C	N	O	P	0
			27	10	5	10	2	
2	B	1	Total	C	N	O	P	0
			27	10	5	10	2	

- Molecule 3 is ADENOSINE-5'-TRIPHOSPHATE (CCD ID: ATP) (formula: $C_{10}H_{16}N_5O_{13}P_3$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
3	A	1	Total	C	N	O	P	0
			31	10	5	13	3	
3	B	1	Total	C	N	O	P	0
			31	10	5	13	3	

- Molecule 4 is MAGNESIUM ION (CCD ID: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

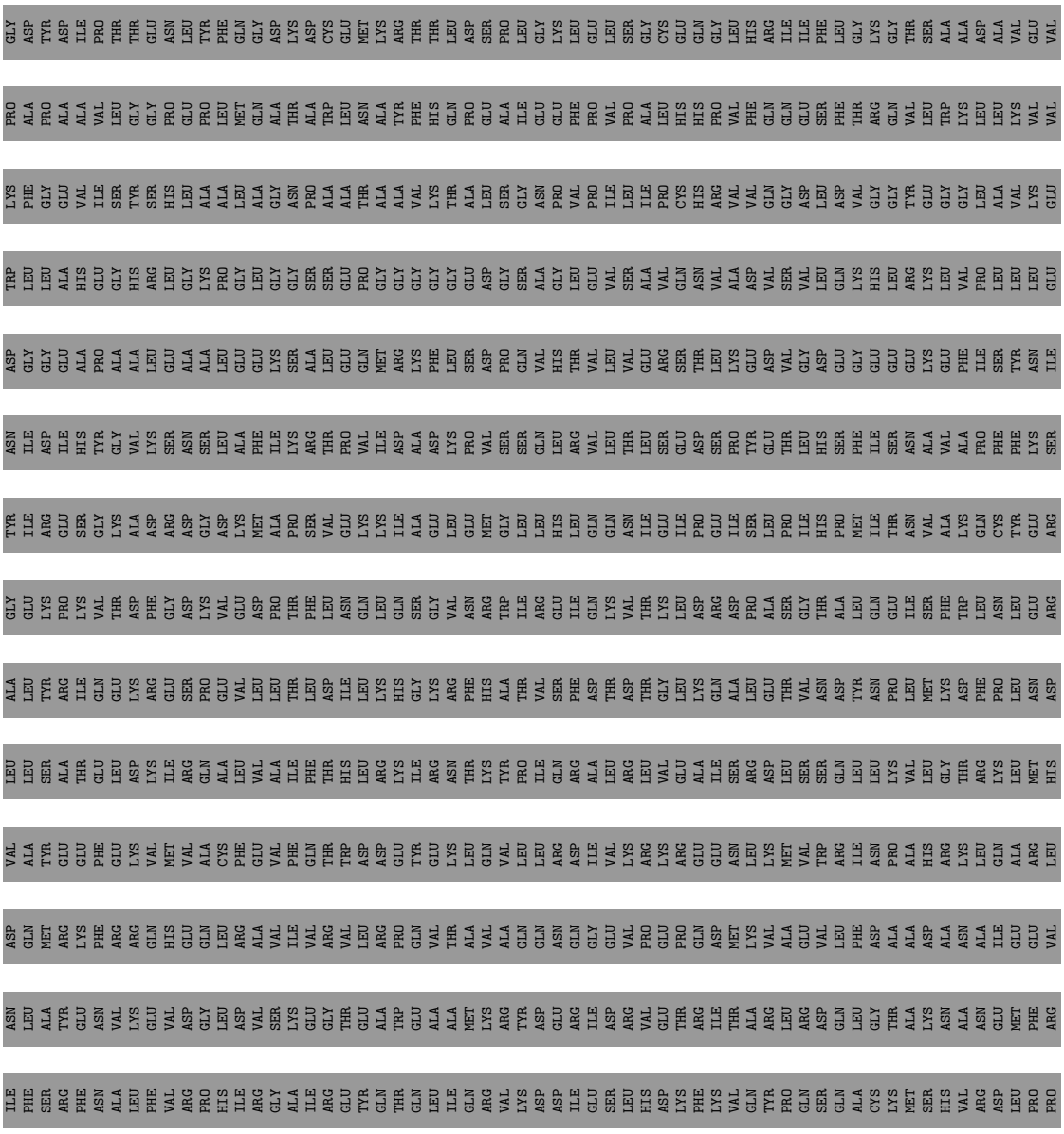
Mol	Chain	Residues	Atoms		AltConf
4	A	2	Total	Mg	0
			2	2	
4	B	2	Total	Mg	0
			2	2	

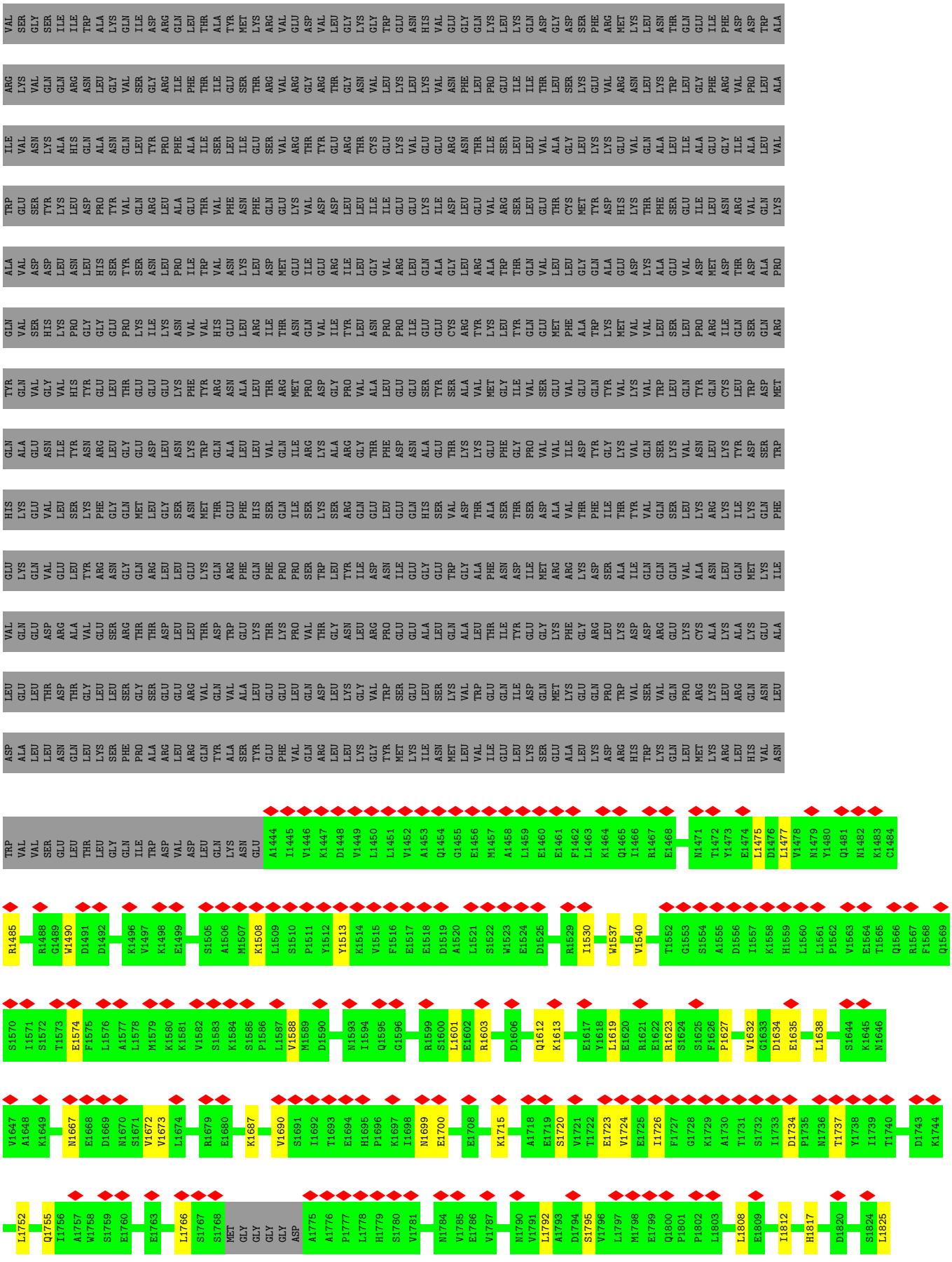
3 Residue-property plots (i)

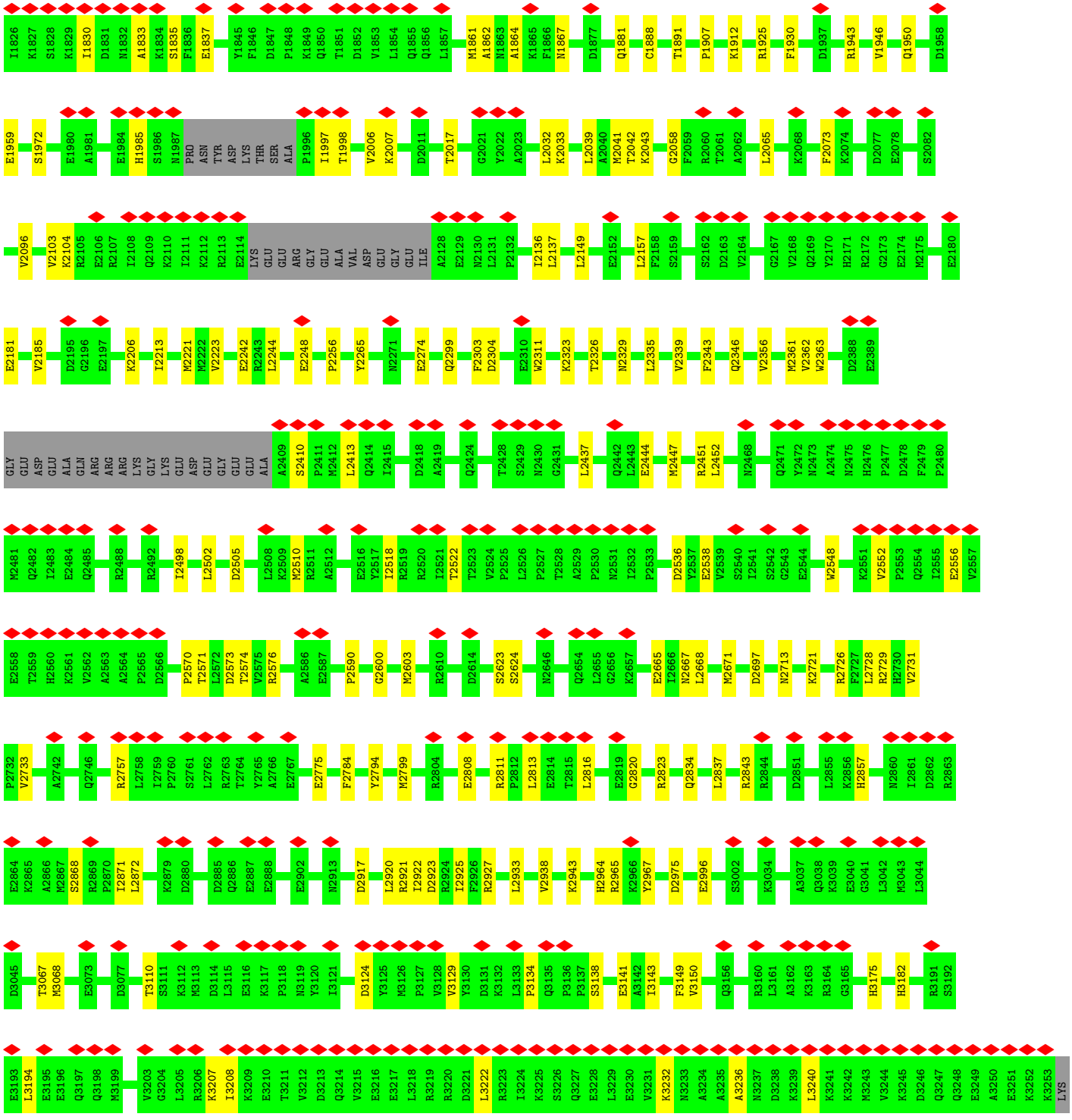
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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: Cytoplasmic dynein 1 heavy chain 1

Chain A:



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E1959 S1972 E1980 A1981 E1984 H1985 S1986 N1987 PRO ASN TYR ASP LYS THR SER ALA P1996 I1997 T1998 V2006 K2007 D2011 T2017 G2021 Y2022 A2023 L2032 K2033 L2039 A2040 M2041 T2042 K2043 G2058 F2059 R2060 T2061 A2062 L2065 K2068 F2073 K2074 D2077 E2078 S2082
V2096 V2103 K2104 R2105 E2106 R2107 I2108 Q2109 K2110 I2111 K2112 R2113 E2114 LYS GLU GLU ARG GLY GLU ALA VAL ASP GLU GLY GLU ILE A2128 E2129 N2130 L2131 P2132 I2136 L2137 L2149 E2152 L2157 F2158 S2159 S2162 D2163 V2164 G2167 V2168 Q2169 Y2170 H2171 R2172 G2173 E2174 M2175 E2180
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P2732 V2733 A2742 Q2746 R2757 L2758 I2759 P2760 S2761 L2762 R2763 T2764 Y2765 A2766 E2767 E2775 F2784 Y2794 M2799 R2804 E2808 R2811 P2812 L2813 E2814 T2815 L2816 E2819 G2820 R2823 Q2834 L2837 R2843 R2844 D2851 L2855 K2856 H2857 N2860 I2861 D2862 R2863
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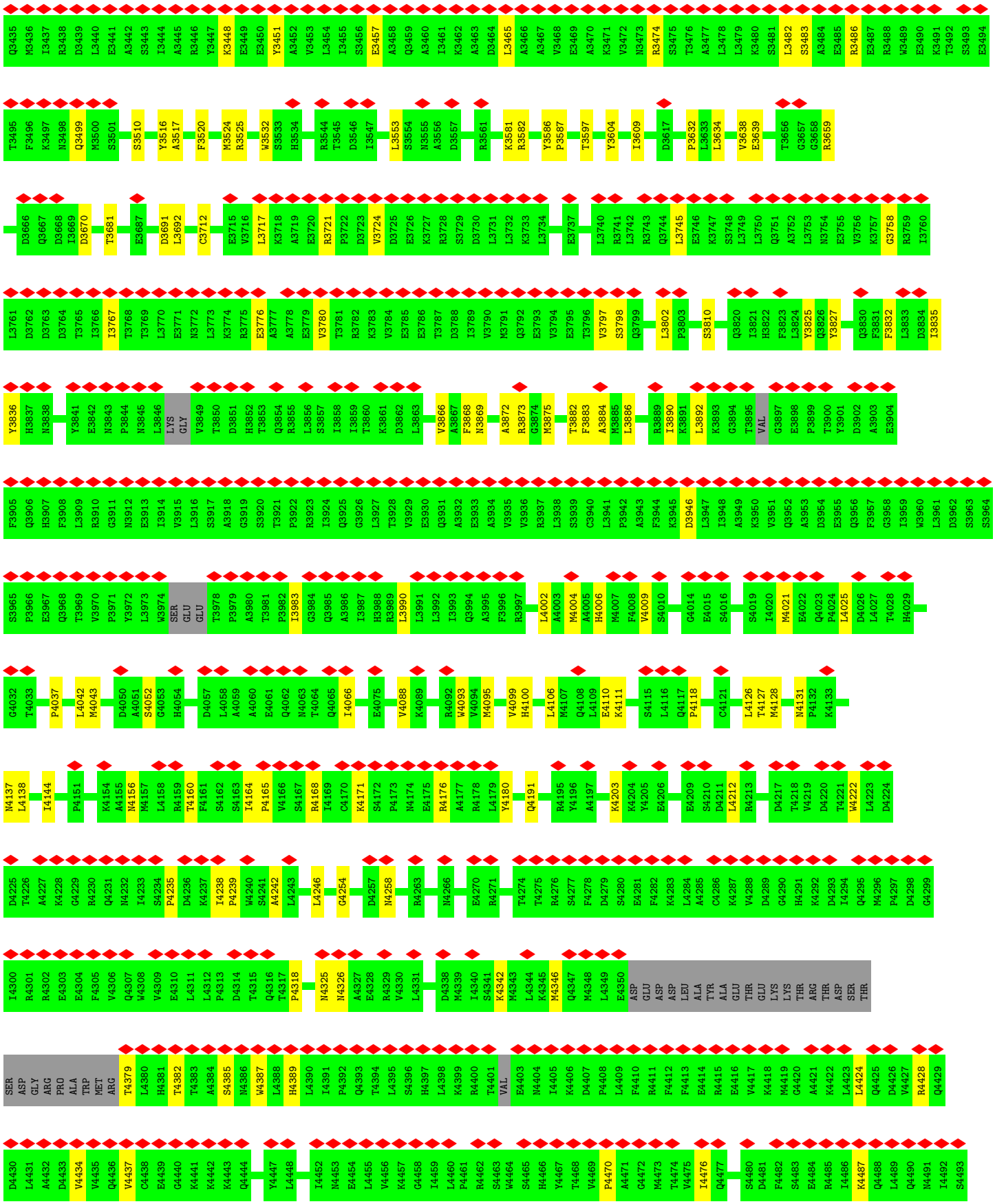
ALA ALA VAL LYS LEU ALA LEU GLU GLU SER ILE CYS LEU LEU LEU GLY GLU SER THR THR ASP TRP LYS GLN ILE ARG ARG SER ILE ILE MET ARG GLU ASN PHE ILE PRO THR ILE VAL ASN PHE SER ALA GLU GLU ILE SER ASP ALA ILE ARG GLU LYS MET MET LYS LYS ASN TYR MET SER ASN
PRO SER TYR ASN TYR GLU ILE VAL ASN ARG ALA SER LEU ALA CYS GLY PRO MET VAL LYS TRP ALA ILE ALA GLN LEU ASN TYR ALA ASP MET LEU LYS ARG VAL GLU PRO LEU ARG ASN GLU LEU GLN LYS LEU GLU ASP ASP ALA ILE LYS ASP ASN GLN GLN LYS ALA ASN GLU VAL GLU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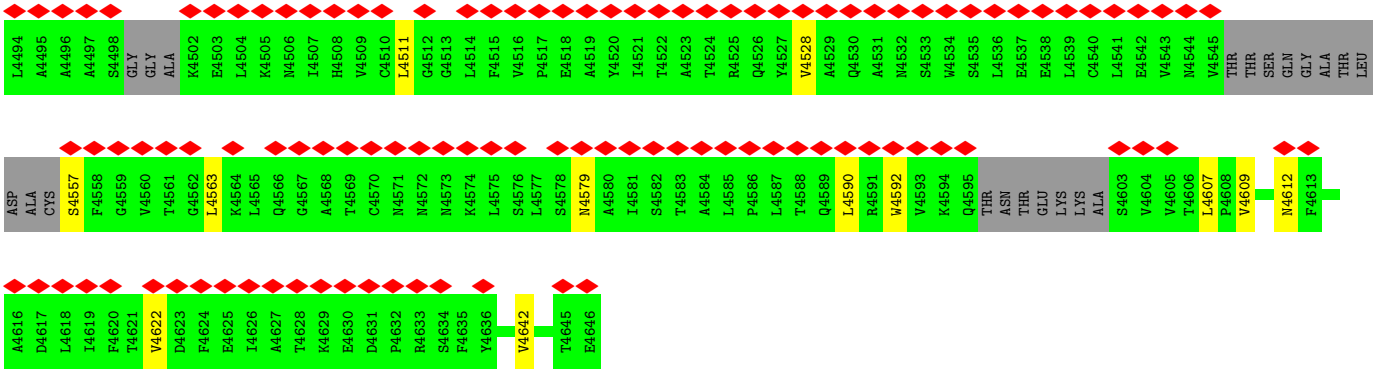
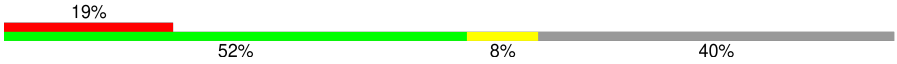
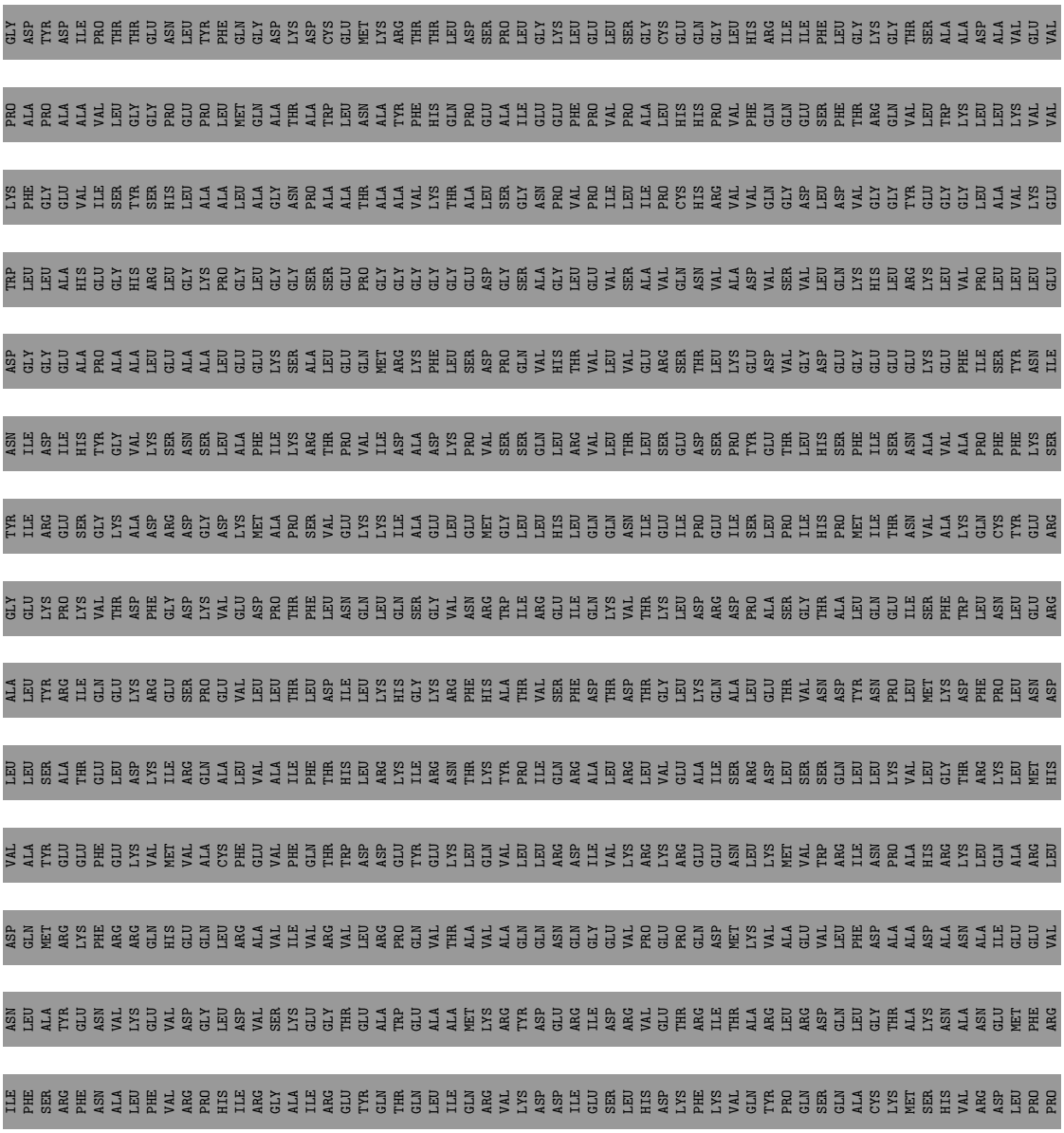
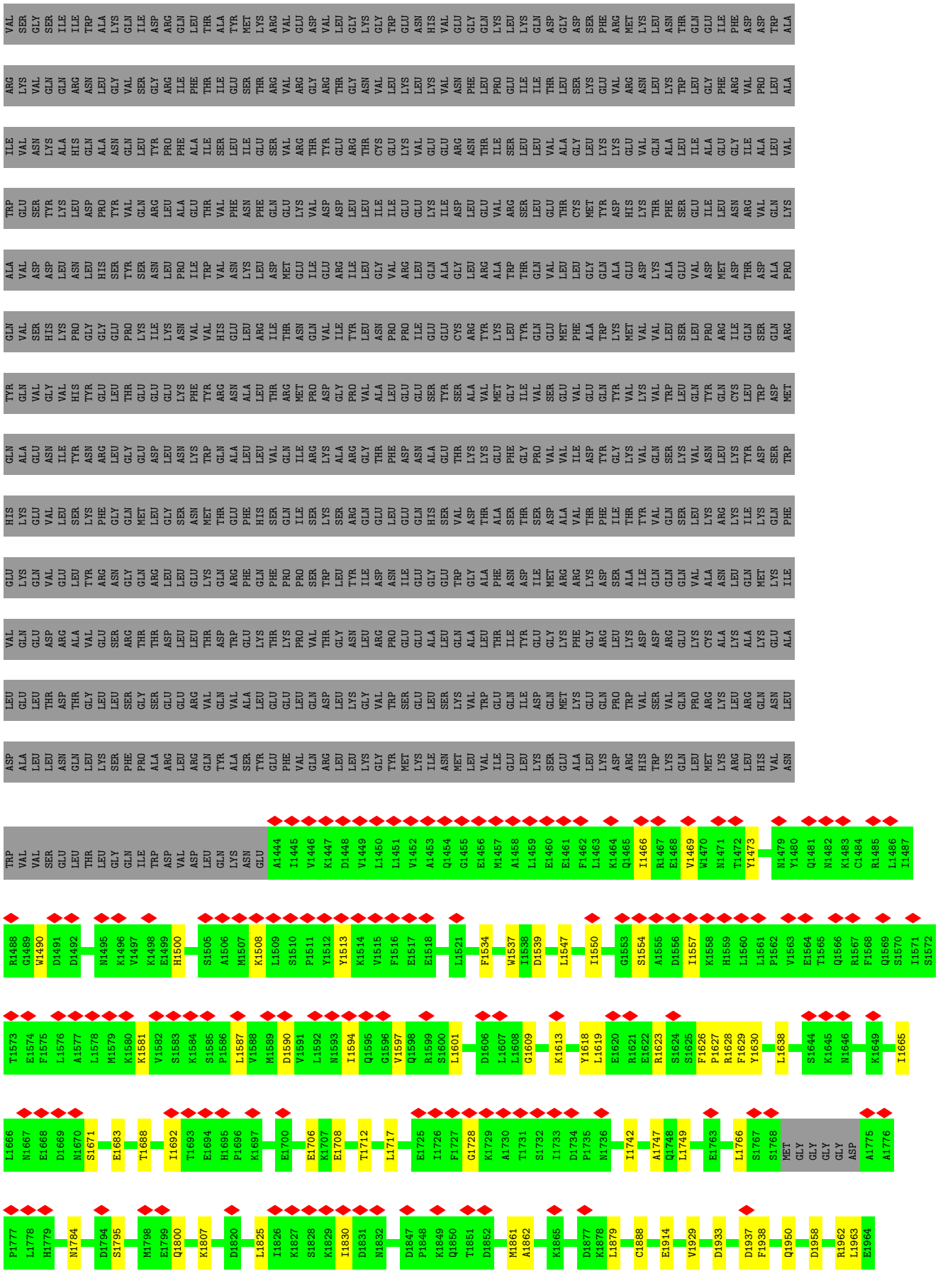


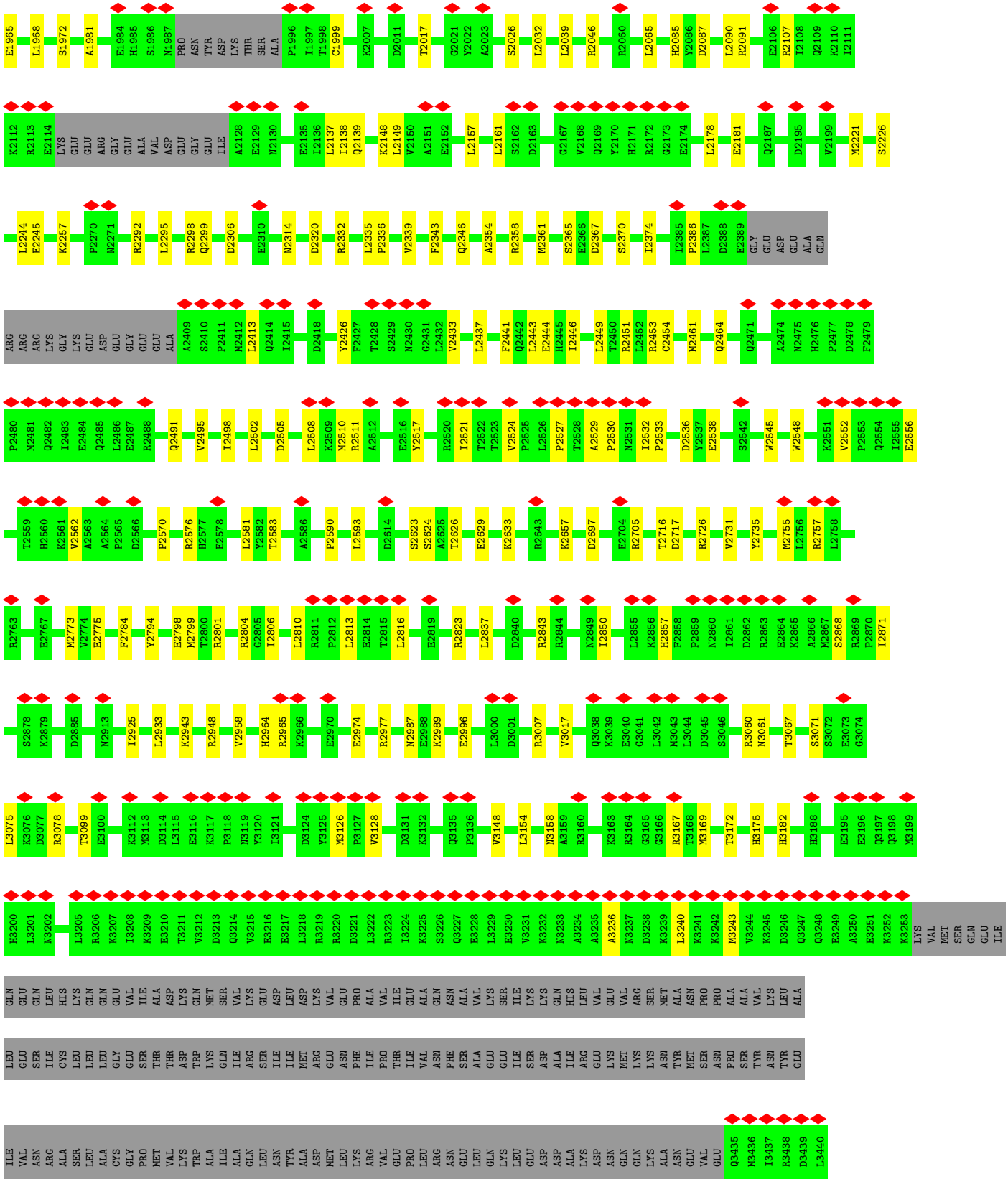
• Molecule 1: Cytoplasmic dynein 1 heavy chain 1

Chain B:





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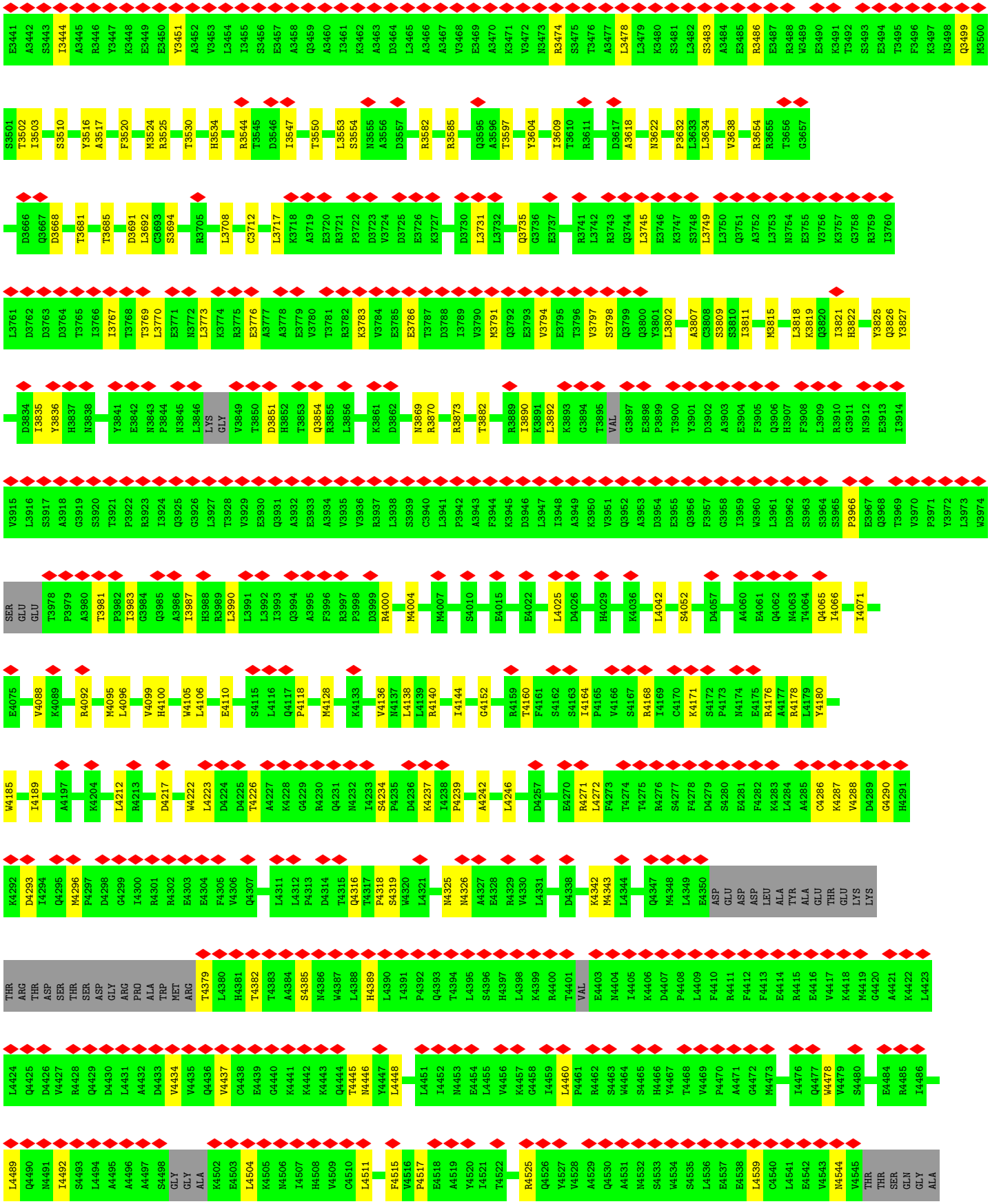
L3075 K3076 D3077 R3078 T3099 E3100 K3112 M3113 D3114 L3115 E3116 K3117 P3118 N3119 Y3120 I3121 D3124 Y3125 M3126 P3127 Y3128 D3131 K3132 Q3135 P3136 V3148 L3154 N3158 A3159 R3160 K3163 R3164 G3165 G3166 R3167 T3168 M3169 T3172 H3175 H3182 H3188 E3195 E3196 Q3197 Q3198 M3199
H3200 L3201 N3202 L3205 R3206 K3207 I3208 K3209 E3210 T3211 V3212 D3213 Q3214 V3215 E3216 E3217 L3218 R3219 R3220 D3221 L3222 R3223 I3224 K3225 S3226 Q3227 E3228 L3229 E3230 V3231 K3232 N3233 A3234 A3235 A3236 N3237 D3238 K3239 L3240 K3241 K3242 M3243 V3244 K3245 D3246 Q3247 Q3248 E3249 A3250 E3251 K3252 K3253 LYS VAL MET SER GLN GLU ILE
GLN GLU GLN LEU HIS LYS GLN GLN GLU VAL ILE ALA ASP LYS GLN MET SER VAL LYS GLU ASP LEU ASP LYS VAL GLU PRO ALA VAL ILE GLU ALA GLN ASN ALA VAL LYS SER ILE LYS LYS GLN HIS LEU VAL GLU VAL ARG SER MET ALA ASN PRO PRO ALA ALA VAL LEU ALA
LEU GLU SER ILE CYS LEU LEU LEU GLY GLU SER THR THR ASP TRP LYS GLN ILE ARG SER ILE ILE MET ARG GLU ASN PHE ILE PRO THR ILE VAL ASN PHE SER ALA GLU GLU ILE SER ASP ALA ILE ARG GLU LYS MET LYS LYS ASN TYR MET SER ASN PRO ALA ALA VAL LYS LEU ALA
ILE VAL ASN ARG ALA SER LEU ALA CYS GLY PRO MET VAL LYS TRP ALA ILE ALA GLN LEU ASN TYR ALA ASP MET LEU LYS ARG VAL LEU GLU LYS LEU GLU ASP ASP ALA LYS ASP ASN GLN LYS ALA ASN GLU VAL GLU Q3435 M3436 I3437 R3438 D3439 L3440


E3441 A3442 S3443 I3444 A3445 R3446 Y3447 K3448 E3449 E3450 Y3451 A3452 V3453 L3454 I3455 S3456 E3457 A3458 Q3459 A3460 I3461 K3462 A3463 D3464 L3465 A3466 A3467 V3468 E3469 A3470 K3471 V3472 N3473 R3474 S3475 T3476 A3477 L3478 L3479 K3480 S3481 L3482 S3483 A3484 E3485 R3486 E3487 R3488 W3489 E3490 K3491 T3492 S3493 E3494 T3495 F3496 K3497 N3498 Q3499 M3500
S3501 T3502 I3503 S3510 Y3516 A3517 F3520 M3524 R3525 T3530 H3534 R3544 T3545 D3546 I3547 T3550 L3553 S3554 N3555 A3556 D3557 R3582 R3585 Q3595 A3596 T3597 Y3604 I3609 T3610 R3611 D3617 A3618 N3622 P3632 L3633 L3634 V3638 R3654 R3655 T3656 G3657
D3666 Q3667 D3668 T3681 T3685 D3691 L3692 C3693 S3694 R3705 L3708 C3712 L3717 K3718 A3719 E3720 R3721 P3722 D3723 V3724 D3725 E3726 K3727 D3730 L3731 L3732 Q3735 G3736 E3737 R3741 L3742 R3743 Q3744 L3745 E3746 K3747 S3748 L3749 L3750 Q3751 A3752 L3753 N3754 E3755 V3756 K3757 G3758 R3759 I3760
L3761 D3762 D3763 D3764 T3765 I3766 I3767 T3768 T3769 L3770 E3771 N3772 L3773 K3774 R3775 E3776 A3777 A3778 E3779 V3780 T3781 R3782 K3783 V3784 E3785 E3786 T3787 D3788 I3789 V3790 M3791 Q3792 E3793 V3794 E3795 T3796 V3797 S3798 Q3799 Q3800 Y3801 L3802 A3807 C3808 S3809 S3810 I3811 M3815 L3818 K3819 Q3820 I3821 H3822 Y3825 Q3826 Y3827
D3834 I3835 Y3836 H3837 N3838 Y3841 E3842 N3843 P3844 N3845 L3846 LYS GLY V3849 T3850 D3851 H3852 T3853 Q3854 R3855 L3856 K3861 D3862 N3869 R3870 R3873 T3882 R3889 I3890 K3891 L3892 K3893 G3894 T3895 VAL G3897 E3898 P3899 T3900 Y3901 D3902 A3903 E3904 F3905 Q3906 H3907 F3908 L3909 R3910 G3911 N3912 E3913 I3914
V3915 L3916 S3917 A3918 G3919 S3920 T3921 P3922 R3923 I3924 Q3925 G3926 L3927 T3928 V3929 E3930 Q3931 A3932 E3933 A3934 V3935 V3936 R3937 L3938 S3939 C3940 L3941 P3942 A3943 F3944 K3945 D3946 L3947 I3948 A3949 K3950 V3951 Q3952 A3953 D3954 E3955 Q3956 F3957 G3958 I3959 W3960 L3961 D3962 S3963 S3964 S3965 P3966 E3967 Q3968 T3969 V3970 P3971 Y3972 L3973 W3974
SER GLU GLU T3978 P3979 A3980 T3981 P3982 I3983 G3984 Q3985 A3986 I3987 H3988 R3989 L3990 L3991 L3992 I3993 Q3994 A3995 F3996 R3997 P3998 D3999 R4000 M4004 M4007 S4010 E4015 E4022 L4025 D4026 H4029 K4036 L4042 S4052 D4057 A4060 E4061 Q4062 N4063 T4064 Q4065 I4066 I4071
E4075 V4088 K4089 R4092 M4095 L4096 V4099 H4100 W4105 L4106 E4110 S4115 L4116 Q4117 P4118 M4128 K4133 V4136 N4137 L4138 L4139 R4140 I4144 G4152 R4159 T4160 F4161 S4162 S4163 I4164 P4165 V4166 S4167 R4168 I4169 C4170 K4171 S4172 P4173 N4174 E4175 R4176 A4177 R4178 K4179 Y4180
W4185 I4189 A4197 K4204 L4212 R4213 D4217 W4222 L4223 D4224 D4225 T4226 A4227 K4228 G4229 R4230 Q4231 N4232 I4233 S4234 P4235 D4236 K4237 I4238 P4239 A4242 L4246 D4257 E4270 R4271 L4272 F4273 T4274 T4275 R4276 S4277 F4278 D4279 S4280 E4281 F4282 K4283 L4284 A4285 C4286 K4287 V4288 D4289 G4290 H4291
K4292 D4293 I4294 Q4295 M4296 P4297 D4298 G4299 I4300 R4301 R4302 E4303 E4304 F4305 V4306 Q4307 L4311 L4312 P4313 D4314 T4315 Q4316 T4317 P4318 S4319 W4320 L4321 N4325 N4326 A4327 E4328 R4329 V4330 L4331 D4338 K4342 M4343 L4344 Q4347 M4348 L4349 E4350 ASP GLU ASP ASP LEU ALA TYR ALA GLU THR GLU LYS LYS
THR ARG THR ASP SER THR SER ASP GLY ARG PRO ALA TRP MET ARG T4379 L4380 H4381 T4382 T4383 A4384 S4385 N4386 W4387 L4388 H4389 L4390 I4391 P4392 Q4393 T4394 L4395 S4396 H4397 L4398 K4399 R4400 T4401 VAL E4403 N4404 I4405 K4406 D4407 P4408 L4409 F4410 R4411 F4412 F4413 E4414 R4415 E4416 V4417 K4418 M4419 G4420 A4421 K4422 L4423
L4424 Q4425 D4426 V4427 R4428 Q4429 D4430 L4431 A4432 D4433 V4434 V4435 Q4436 V4437 C4438 E4439 G4440 K4441 K4442 K4443 Q4444 T4445 N4446 Y4447 L4448 L4451 I4452 N4453 E4454 L4455 V4456 K4457 G4458 I4459 L4460 P4461 R4462 S4463 W4464 S4465 H4466 Y4467 T4468 V4469 P4470 A4471 G4472 M4473 I4476 Q4477 W4478 V4479 S4480 E4484 R4485 I4486
L4489 Q4490 N4491 I4492 S4493 L4494 A4495 A4496 A4497 S4498 GLY GLY ALA K4502 E4503 L4504 K4505 N4506 K4507 H4508 V4509 C4510 L4511 F4515 V4516 P4517 E4518 A4519 Y4520 I4521 T4522 R4525 Q4526 Y4527 V4528 A4529 Q4530 A4531 W4532 S4533 W4534 S4535 L4536 E4537 E4538 L4539 C4540 L4541 E4542 V4543 N4544 V4545 THR THR SER GLN GLY ALA


THR LEU ASP ALA CYS S4557 F4558 G4559 V4560 T4561 G4562 A4568 T4569 C4570 N4571 N4572 N4573 K4574 L4575 S4576 N4579 A4580 I4581 S4582 T4583 A4584 L4585 P4586 L4587 T4588 Q4589 L4590 R4591 W4592 V4593 K4594 Q4595 THR ASN THR GLU LYS LYS ALA S4603 V4604 V4605 V4609 Y4610 L4611 A4616 D4617 L4618 I4619 F4620
D4623 F4624 E4625 I4626 A4627 T4628 K4629 E4630 D4631 P4632 R4633 Y4636 E4637 V4642 T4645 E4646

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	161043	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 ($e^-/Å^2$)	55	Depositor
Minimum defocus (nm)	610	Depositor
Maximum defocus (nm)	3250	Depositor
Magnification	Not provided	
Image detector	FEI FALCON IV (4k x 4k)	Depositor
Maximum map value	2.420	Depositor
Minimum map value	-1.263	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.064	Depositor
Recommended contour level	0.406	Depositor
Map size (Å)	329.12, 329.12, 329.12	wwPDB
Map dimensions	352, 352, 352	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.935, 0.935, 0.935	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: ATP, ADP, MG

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	0.15	0/23476	0.35	0/31857
1	B	0.15	0/23476	0.34	0/31857
All	All	0.15	0/46952	0.35	0/63714

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

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	23003	0	22807	196	0
1	B	23003	0	22807	229	0
2	A	81	0	36	1	0
2	B	81	0	36	0	0
3	A	31	0	12	0	0
3	B	31	0	12	0	0
4	A	2	0	0	0	0
4	B	2	0	0	0	0
All	All	46234	0	45710	423	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 5.

All (423) 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:3712:CYS:HG	1:A:3836:TYR:HH	1.10	0.96
1:B:3712:CYS:HG	1:B:3836:TYR:HH	1.30	0.78
1:B:4052:SER:HA	1:B:4095:MET:HE1	1.69	0.74
1:A:1612:GLN:NE2	1:A:1635:GLU:OE1	2.22	0.73
1:A:2410:SER:HB3	1:A:2413:LEU:HD23	1.72	0.70
1:A:2221:MET:HG2	1:A:2343:PHE:HB2	1.73	0.68
1:A:4052:SER:HA	1:A:4095:MET:HE1	1.76	0.68
1:B:1933:ASP:OD2	1:B:2314:ASN:ND2	2.28	0.67
1:B:4326:ASN:ND2	1:B:4579:ASN:O	2.28	0.67
1:A:3517:ALA:HB1	1:A:3525:ARG:HG2	1.76	0.66
1:A:2042:THR:HG22	1:A:2043:LYS:HG3	1.78	0.66
1:A:2872:LEU:HD12	1:A:2920:LEU:HD12	1.76	0.65
1:B:2461:MET:HG2	1:B:2583:THR:HG21	1.79	0.65
1:A:3798:SER:O	1:A:3802:LEU:HB2	1.96	0.65
1:B:2346:GLN:HB2	1:B:2726:ARG:HD3	1.80	0.64
1:B:3517:ALA:HB1	1:B:3525:ARG:HG2	1.79	0.63
1:A:4088:VAL:HG13	1:A:4118:PRO:HA	1.80	0.63
1:A:1912:LYS:HG2	1:A:2041:MET:HG3	1.79	0.63
1:A:1623:ARG:NH1	1:A:1632:VAL:O	2.30	0.63
1:A:4043:MET:HB2	1:A:4127:THR:HG22	1.81	0.63
1:A:4066:ILE:HG22	1:A:4093:TRP:HB2	1.80	0.63
1:A:1475:LEU:HG	1:A:1588:VAL:HG22	1.81	0.62
1:B:4286:CYS:HA	1:B:4293:ASP:HA	1.81	0.62
1:B:2453:ARG:NH2	1:B:2505:ASP:OD2	2.32	0.62
1:B:1581:LYS:HE3	1:B:1594:ILE:HD12	1.82	0.62
1:A:1734:ASP:HB3	1:A:1737:THR:HG22	1.81	0.62
1:A:3810:SER:HB3	1:A:3890:ILE:HD12	1.81	0.62
1:A:3639:GLU:OE2	1:A:4111:LYS:NZ	2.31	0.61
1:B:1554:SER:HB2	1:B:1557:ILE:HD11	1.80	0.61
1:A:2346:GLN:HB2	1:A:2726:ARG:HD2	1.82	0.61
1:A:2242:GLU:HG3	1:A:2248:GLU:HA	1.83	0.61
1:B:4611:LEU:HB2	1:B:4619:ILE:HD11	1.83	0.60
1:B:3712:CYS:SG	1:B:3836:TYR:OH	2.49	0.60
1:A:3873:ARG:NH2	1:A:4021:MET:SD	2.63	0.60
1:B:2221:MET:HG2	1:B:2343:PHE:HB2	1.83	0.60
1:B:3638:VAL:HG12	1:B:3681:THR:HB	1.84	0.60
1:A:3483:SER:HA	1:A:3486:ARG:HG2	1.84	0.60
1:B:4042:LEU:HD11	1:B:4144:ILE:HG12	1.83	0.59
1:A:2823:ARG:NH2	1:A:2868:SER:OG	2.36	0.59
1:A:2573:ASP:OD1	1:A:2576:ARG:NH2	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3638:VAL:HG12	1:A:3681:THR:HB	1.84	0.59
1:A:1825:LEU:HG	1:A:1830:ILE:HD11	1.84	0.59
1:A:4160:THR:HG23	1:A:4212:LEU:HD21	1.83	0.59
1:A:1623:ARG:NH2	1:A:1634:ASP:OD1	2.35	0.59
1:B:3966:PRO:HD2	1:B:4000:ARG:HG3	1.85	0.59
1:B:2437:LEU:HD21	1:B:2451:ARG:HG3	1.85	0.58
1:A:3882:THR:HG21	1:A:4342:LYS:HD3	1.85	0.58
1:B:4544:ASN:HA	1:B:4573:ASN:HD21	1.68	0.58
1:A:4239:PRO:HB2	1:A:4242:ALA:HB3	1.86	0.58
1:A:4424:LEU:HD21	1:A:4428:ARG:HH21	1.69	0.58
1:B:4088:VAL:HG13	1:B:4118:PRO:HA	1.84	0.58
1:B:3818:LEU:HB3	1:B:3825:TYR:HE2	1.69	0.58
1:B:3798:SER:O	1:B:3802:LEU:HB2	2.04	0.58
1:B:2181:GLU:HG3	1:B:2244:LEU:HG	1.86	0.57
1:A:2536:ASP:OD1	1:A:2576:ARG:NH1	2.37	0.57
1:A:2304:ASP:OD1	1:A:2726:ARG:NH2	2.36	0.57
1:B:3483:SER:HA	1:B:3486:ARG:HG2	1.86	0.57
1:B:4185:TRP:HD1	1:B:4272:LEU:HD21	1.70	0.57
1:B:2245:GLU:OE1	1:B:2298:ARG:NH2	2.37	0.57
1:B:2562:VAL:HG21	1:B:2755:MET:HB3	1.87	0.57
1:A:3892:LEU:HD21	1:A:3983:ILE:HG21	1.86	0.57
1:B:1965:GLU:HG2	1:B:2026:SER:HB2	1.85	0.57
1:B:4271:ARG:HH21	1:B:4272:LEU:HD13	1.70	0.57
1:B:2717:ASP:O	1:B:4446:ASN:ND2	2.35	0.57
1:B:3499:GLN:HA	1:B:3502:THR:HG22	1.87	0.56
1:B:3236:ALA:HB1	1:B:3451:TYR:HE1	1.69	0.56
1:A:1888:CYS:HB2	1:A:2041:MET:HE1	1.87	0.56
1:B:3243:MET:HE1	1:B:3444:ILE:HG23	1.86	0.56
1:A:3597:THR:HG23	1:A:3634:LEU:HD21	1.87	0.56
1:B:4042:LEU:HB2	1:B:4128:MET:HE1	1.87	0.56
1:A:2181:GLU:HG3	1:A:2244:LEU:HG	1.88	0.56
1:B:4234:SER:HB2	1:B:4237:LYS:HG2	1.87	0.56
1:B:3827:TYR:O	1:B:4140:ARG:NH1	2.38	0.56
1:B:1627:PRO:HB3	1:B:1950:GLN:HB3	1.86	0.55
1:A:2938:VAL:O	1:A:2943:LYS:NZ	2.40	0.55
1:A:4037:PRO:HB2	1:A:4118:PRO:HG2	1.88	0.55
1:A:4470:PRO:HB3	1:A:4612:ASN:HD22	1.71	0.55
1:B:2823:ARG:HH22	1:B:2868:SER:HG	1.55	0.55
1:A:4171:LYS:HD3	1:A:4176:ARG:HH22	1.71	0.55
1:B:2299:GLN:HB2	1:B:2339:VAL:HG22	1.89	0.55
1:A:1530:ILE:HD11	1:A:1588:VAL:HG12	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2058:GLY:O	1:A:2104:LYS:NZ	2.32	0.55
1:A:1985:HIS:HA	1:A:1997:ILE:HD13	1.89	0.55
1:B:1933:ASP:OD1	1:B:1962:ARG:NH2	2.40	0.55
1:B:4100:HIS:HB3	1:B:4128:MET:HB2	1.87	0.55
1:B:4287:LYS:O	1:B:4319:SER:OG	2.24	0.55
1:B:1929:VAL:O	1:B:2332:ARG:NH1	2.39	0.54
1:B:1825:LEU:HG	1:B:1830:ILE:HD11	1.89	0.54
1:B:3892:LEU:HD21	1:B:3983:ILE:HG21	1.90	0.54
1:A:4235:PRO:HA	1:A:4238:ILE:HD12	1.88	0.54
1:B:2091:ARG:NH1	1:B:2320:ASP:OD1	2.41	0.54
1:B:3474:ARG:HD3	1:B:3767:ILE:HG21	1.89	0.54
1:B:4434:VAL:HB	1:B:4448:LEU:HD11	1.90	0.54
1:B:4318:PRO:HG2	1:B:4325:ASN:HA	1.89	0.54
1:B:4525:ARG:NH2	1:B:4539:LEU:O	2.38	0.54
1:A:2556:GLU:OE1	1:A:2757:ARG:NH2	2.40	0.54
1:A:3240:LEU:HD21	1:B:3243:MET:HE2	1.90	0.54
1:A:1477:LEU:HB3	1:A:1485:ARG:HB3	1.89	0.53
1:B:2536:ASP:OD1	1:B:2576:ARG:NH1	2.41	0.53
1:B:1766:LEU:HD22	1:B:1830:ILE:HG21	1.90	0.53
1:A:3129:VAL:HG21	1:A:3149:PHE:HB2	1.90	0.53
1:A:3208:ILE:HD11	1:A:3482:LEU:HB3	1.90	0.53
1:B:2335:LEU:HD12	1:B:2336:PRO:HD2	1.90	0.53
1:B:3520:PHE:HB3	1:B:3524:MET:HB3	1.91	0.53
1:A:4222:TRP:HE1	1:A:4246:LEU:HD13	1.72	0.53
1:B:4271:ARG:NH1	1:B:4637:GLU:OE2	2.42	0.53
1:A:3872:ALA:HA	1:A:3875:MET:HG2	1.89	0.52
1:A:4609:VAL:HG22	1:A:4642:VAL:HB	1.91	0.52
1:A:4326:ASN:ND2	1:A:4579:ASN:O	2.43	0.52
1:B:1623:ARG:HD3	1:B:1630:TYR:HA	1.91	0.52
1:B:1861:MET:HG3	1:B:1862:ALA:H	1.74	0.52
1:A:4557:SER:N	1:A:4590:LEU:O	2.42	0.52
1:B:2138:ILE:HD12	1:B:2161:LEU:HD22	1.91	0.52
1:B:3835:ILE:HG12	1:B:3870:ARG:HD2	1.91	0.52
1:B:2837:LEU:O	1:B:2843:ARG:NH1	2.42	0.52
1:B:2581:LEU:HD11	1:B:2593:LEU:HD21	1.92	0.52
1:B:3158:ASN:ND2	1:B:3169:MET:O	2.38	0.52
1:B:4492:ILE:HG23	1:B:4504:LEU:HD11	1.92	0.52
1:A:2552:VAL:HG21	1:A:2570:PRO:HB2	1.92	0.52
1:A:3868:PHE:HA	1:A:3883:PHE:HE2	1.74	0.52
1:B:2943:LYS:HE2	1:B:3067:THR:HG23	1.91	0.52
1:B:3618:ALA:O	1:B:3622:ASN:ND2	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2775:GLU:OE1	1:B:2857:HIS:NE2	2.40	0.52
1:A:4318:PRO:HG2	1:A:4325:ASN:HA	1.92	0.52
1:B:1537:TRP:HE3	1:B:1601:LEU:HD11	1.74	0.52
1:B:3882:THR:HG23	1:B:4343:MET:HE2	1.90	0.52
1:A:1537:TRP:HE3	1:A:1601:LEU:HD11	1.75	0.51
1:A:1792:LEU:HB3	1:A:1812:ILE:HG12	1.91	0.51
1:B:3007:ARG:HD3	1:B:3017:VAL:HG11	1.93	0.51
1:A:3717:LEU:HD11	1:A:3797:VAL:HG11	1.92	0.51
1:A:4099:VAL:HG22	1:A:4128:MET:HB3	1.92	0.51
1:B:1929:VAL:H	1:B:2332:ARG:HH22	1.58	0.51
1:A:4110:GLU:HG3	1:A:4138:LEU:HA	1.91	0.51
1:B:4110:GLU:HG3	1:B:4138:LEU:HA	1.93	0.51
1:B:2925:ILE:HG21	1:B:2933:LEU:HD13	1.91	0.51
1:B:3981:THR:HG22	1:B:3983:ILE:H	1.75	0.51
1:A:3886:LEU:HD11	1:A:4346:MET:HE3	1.92	0.51
1:B:2629:GLU:HG3	1:B:2633:LYS:HE2	1.93	0.51
1:B:4178:ARG:HE	1:B:4296:MET:HE2	1.76	0.51
1:A:4203:LYS:NZ	1:A:4258:ASN:OD1	2.40	0.51
1:B:2798:GLU:OE1	1:B:2801:ARG:NH1	2.43	0.51
1:B:2989:LYS:NZ	1:B:3061:ASN:OD1	2.43	0.51
1:A:3138:SER:OG	1:A:3141:GLU:OE1	2.20	0.51
1:B:3510:SER:HB3	1:B:3553:LEU:HD21	1.93	0.51
1:B:4071:ILE:HG13	1:B:4099:VAL:HG12	1.93	0.50
1:A:3835:ILE:HD11	1:A:3866:VAL:HG12	1.93	0.50
1:B:3983:ILE:O	1:B:3987:ILE:HD12	2.12	0.50
1:B:1958:ASP:HA	1:B:2017:THR:HB	1.92	0.50
1:A:2837:LEU:O	1:A:2843:ARG:NH1	2.44	0.50
1:A:1943:ARG:NH1	1:A:2329:ASN:O	2.44	0.50
1:A:2665:GLU:HB3	1:A:2668:LEU:HD12	1.94	0.50
1:B:2107:ARG:NH2	1:B:2139:GLN:OE1	2.45	0.50
1:B:2433:VAL:HG22	1:B:2498:ILE:HD11	1.93	0.50
1:A:1817:HIS:CE1	1:A:1881:GLN:HG2	2.47	0.50
1:A:4434:VAL:HA	1:A:4437:VAL:HG22	1.94	0.50
1:A:4099:VAL:HG11	1:A:4126:LEU:HB2	1.93	0.50
1:B:3182:HIS:NE2	1:B:3582:ARG:O	2.43	0.50
1:B:3604:TYR:HB2	1:B:3609:ILE:HD11	1.93	0.50
1:B:4099:VAL:HB	1:B:4106:LEU:HD21	1.93	0.50
1:A:1972:SER:HB2	1:A:2032:LEU:HB2	1.94	0.50
1:B:4096:LEU:HD13	1:B:4105:TRP:HH2	1.76	0.50
1:A:4387:TRP:HE1	1:A:4476:ILE:HD13	1.77	0.49
1:B:3811:ILE:HD13	1:B:3890:ILE:HD13	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3597:THR:HG23	1:B:3634:LEU:HD21	1.95	0.49
1:A:2603:MET:HE1	2:A:4803:ADP:C5	2.46	0.49
1:A:3510:SER:HB3	1:A:3553:LEU:HD21	1.94	0.49
1:B:3821:ILE:HD13	1:B:4342:LYS:HD2	1.93	0.49
1:B:3478:LEU:HD13	1:B:3770:LEU:HD13	1.95	0.49
1:B:4511:LEU:HD22	1:B:4517:PRO:HB3	1.94	0.49
1:A:4164:ILE:HD13	1:A:4180:TYR:HD2	1.78	0.49
1:B:3825:TYR:HB2	1:B:3827:TYR:CZ	2.48	0.49
1:A:3236:ALA:HB1	1:A:3451:TYR:HE1	1.78	0.49
1:B:3499:GLN:O	1:B:3503:ILE:HG12	2.12	0.49
1:A:4137:ASN:OD1	1:A:4138:LEU:N	2.46	0.49
1:B:1550:ILE:HD11	1:B:1618:TYR:HE2	1.78	0.49
1:A:1766:LEU:HG	1:A:1830:ILE:HG21	1.94	0.48
1:A:2181:GLU:O	1:A:2185:VAL:HG22	2.13	0.48
1:A:3659:ARG:NE	1:A:3670:ASP:OD1	2.46	0.48
1:A:4379:THR:O	1:A:4382:THR:OG1	2.29	0.48
1:A:2213:ILE:HD12	1:A:2362:VAL:HG22	1.94	0.48
1:A:3721:ARG:HB3	1:A:3724:VAL:HB	1.94	0.48
1:B:3769:THR:O	1:B:3773:LEU:HG	2.14	0.48
1:B:3818:LEU:HB3	1:B:3825:TYR:CE2	2.48	0.48
1:B:3869:ASN:O	1:B:3873:ARG:HG2	2.13	0.48
1:B:4239:PRO:HB2	1:B:4242:ALA:HB3	1.96	0.48
1:A:3124:ASP:N	1:A:3124:ASP:OD2	2.45	0.48
1:A:3207:LYS:NZ	1:A:3758:GLY:O	2.46	0.48
1:A:2671:MET:HG3	1:A:2721:LYS:HD2	1.96	0.48
1:A:3520:PHE:HB3	1:A:3524:MET:HB3	1.96	0.48
1:A:4156:ASN:ND2	1:A:4191:GLN:OE1	2.46	0.48
1:B:2149:LEU:HD11	1:B:2157:LEU:HD13	1.95	0.48
1:A:3474:ARG:HD3	1:A:3767:ILE:HG21	1.96	0.48
1:B:2508:LEU:HA	1:B:2511:ARG:HG2	1.96	0.48
1:B:3807:ALA:O	1:B:3811:ILE:HG12	2.13	0.48
1:A:2775:GLU:OE1	1:A:2857:HIS:NE2	2.41	0.47
1:B:2441:PHE:HD1	1:B:2449:LEU:HD23	1.79	0.47
1:B:2538:GLU:HB2	1:B:2548:TRP:CE2	2.49	0.47
1:B:3745:LEU:HD13	1:B:3776:GLU:HB2	1.95	0.47
1:A:3990:LEU:HA	1:A:4004:MET:HG2	1.96	0.47
1:B:2964:HIS:ND1	1:B:2965:ARG:O	2.37	0.47
1:B:3749:LEU:HD12	1:B:3773:LEU:HD13	1.96	0.47
1:A:3832:PHE:O	1:A:3835:ILE:HG22	2.13	0.47
1:B:3654:ARG:NH2	1:B:3668:ASP:OD1	2.47	0.47
1:A:2444:GLU:HB3	1:A:2510:MET:HE3	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1963:LEU:HB3	1:B:1968:LEU:HD13	1.96	0.47
1:B:2046:ARG:HG2	1:B:2090:LEU:HD13	1.97	0.47
1:A:1907:PRO:O	1:A:1912:LYS:NZ	2.48	0.47
1:A:3691:ASP:OD1	1:A:3692:LEU:N	2.47	0.47
1:B:1539:ASP:OD2	1:B:2292:ARG:NH2	2.48	0.47
1:B:2087:ASP:O	1:B:2148:LYS:NZ	2.48	0.47
1:B:2590:PRO:HB2	1:B:2731:VAL:HG12	1.97	0.47
1:B:3609:ILE:HG12	1:B:3632:PRO:HB2	1.97	0.47
1:B:3825:TYR:OH	1:B:4342:LYS:NZ	2.48	0.47
1:B:4222:TRP:HE1	1:B:4246:LEU:HD12	1.80	0.47
1:A:2964:HIS:ND1	1:A:2965:ARG:O	2.38	0.47
1:B:1508:LYS:HG2	1:B:1513:TYR:CZ	2.50	0.47
1:B:1628:ARG:NH2	1:B:1706:GLU:OE2	2.46	0.47
1:A:1792:LEU:HD13	1:A:1812:ILE:HA	1.96	0.47
1:B:1671:SER:HA	1:B:1692:ILE:HB	1.96	0.47
1:B:3071:SER:O	1:B:3075:LEU:HB2	2.14	0.47
1:B:3851:ASP:HB2	1:B:3854:GLN:HG2	1.97	0.47
1:A:2922:ILE:HG12	1:A:2933:LEU:HD21	1.96	0.47
1:B:3544:ARG:HH21	1:B:3547:ILE:HD13	1.80	0.47
1:B:4065:GLN:HB3	1:B:4092:ARG:HH21	1.79	0.46
1:A:2816:LEU:HD11	1:A:2820:GLY:HA3	1.98	0.46
1:B:1609:GLY:O	1:B:1613:LYS:HG2	2.15	0.46
1:B:2464:GLN:HG2	1:B:2583:THR:HG23	1.97	0.46
1:B:1490:TRP:HZ3	1:B:1534:PHE:HB3	1.79	0.46
1:B:2784:PHE:HB2	1:B:2794:TYR:HE2	1.80	0.46
1:B:4489:LEU:HD11	1:B:4515:PHE:HE2	1.81	0.46
1:A:4487:LYS:HB2	1:A:4487:LYS:HE3	1.75	0.46
1:B:2370:SER:O	1:B:2374:ILE:HD12	2.15	0.46
1:B:3815:MET:HA	1:B:3818:LEU:HD12	1.97	0.46
1:B:3731:LEU:HD21	1:B:3786:GLU:HG3	1.97	0.46
1:A:3232:LYS:NZ	1:A:3457:GLU:OE1	2.43	0.46
1:A:3869:ASN:O	1:A:3873:ARG:HG2	2.15	0.46
1:B:3126:MET:HG3	1:B:3128:VAL:HG23	1.98	0.46
1:B:2226:SER:HB2	1:B:2726:ARG:HD2	1.98	0.46
1:B:3717:LEU:HD11	1:B:3797:VAL:HG11	1.97	0.46
1:A:2943:LYS:HE2	1:A:3067:THR:HG23	1.97	0.46
1:B:1469:VAL:O	1:B:1473:TYR:HB2	2.16	0.46
1:B:2444:GLU:HG2	1:B:2510:MET:HE1	1.98	0.46
1:B:4575:LEU:HD11	1:B:4624:PHE:HD2	1.81	0.46
1:A:3194:LEU:HD11	1:A:3499:GLN:HG3	1.98	0.46
1:A:4042:LEU:HD12	1:A:4144:ILE:HG12	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4164:ILE:HD13	1:B:4180:TYR:HD2	1.81	0.46
1:B:2454:CYS:HB3	1:B:2502:LEU:HD12	1.98	0.45
1:B:3990:LEU:HA	1:B:4004:MET:HG2	1.98	0.45
1:A:1627:PRO:HB3	1:A:1950:GLN:HB3	1.98	0.45
1:A:3609:ILE:HG12	1:A:3632:PRO:HB2	1.98	0.45
1:B:3530:THR:HG22	1:B:3534:HIS:CE1	2.52	0.45
1:A:2799:MET:HB3	1:A:2799:MET:HE3	1.80	0.45
1:B:4379:THR:O	1:B:4382:THR:OG1	2.33	0.45
1:A:4511:LEU:HD12	1:A:4563:LEU:HD21	1.99	0.45
1:B:2552:VAL:HG21	1:B:2570:PRO:HB2	1.98	0.45
1:A:1795:SER:HB2	1:A:1808:LEU:HD21	1.97	0.45
1:B:4434:VAL:HA	1:B:4437:VAL:HG22	1.99	0.45
1:A:4528:VAL:HG11	1:A:4592:TRP:HB2	1.99	0.45
1:B:2623:SER:OG	1:B:2624:SER:N	2.50	0.45
1:B:2755:MET:HE1	1:B:2810:LEU:HD12	1.97	0.45
1:B:1665:ILE:HD11	1:B:1683:GLU:HB2	1.97	0.45
1:A:1613:LYS:NZ	1:A:2274:GLU:OE2	2.45	0.45
1:A:1861:MET:HB3	1:A:1864:ALA:HB3	1.98	0.45
1:B:4160:THR:HG23	1:B:4212:LEU:HD21	1.97	0.45
1:A:2623:SER:OG	1:A:2624:SER:N	2.50	0.45
1:A:3946:ASP:OD1	1:A:3946:ASP:N	2.45	0.45
1:A:3581:LYS:HG3	1:A:3582:ARG:HG3	1.99	0.45
1:B:2987:ASN:OD1	1:B:3060:ARG:NH2	2.50	0.45
1:B:4066:ILE:HD11	1:B:4095:MET:HB2	1.98	0.45
1:A:4100:HIS:HB2	1:A:4131:ASN:HD22	1.80	0.44
1:B:1717:LEU:HA	1:B:1749:LEU:HD11	1.98	0.44
1:A:3134:PRO:HG2	1:A:3141:GLU:HG2	1.99	0.44
1:B:2365:SER:OG	1:B:2367:ASP:OD1	2.30	0.44
1:B:3099:THR:HG23	1:B:3148:VAL:HG11	1.98	0.44
1:B:3873:ARG:NH1	1:B:4025:LEU:HD23	2.32	0.44
1:A:1998:THR:HG22	1:A:2007:LYS:HA	1.99	0.44
1:A:2571:THR:H	1:A:2574:THR:HB	1.82	0.44
1:B:1981:ALA:HB2	1:B:1999:CYS:HB3	1.99	0.44
1:A:1766:LEU:HD23	1:A:1833:ALA:HA	1.99	0.44
1:A:2784:PHE:HB2	1:A:2794:TYR:HE2	1.83	0.44
1:B:1742:ILE:HG23	1:B:1807:LYS:HD2	2.00	0.44
1:B:3826:GLN:HG3	1:B:4136:VAL:HG13	1.99	0.44
1:A:2923:ASP:OD2	1:A:2927:ARG:NH1	2.51	0.44
1:A:3776:GLU:O	1:A:3780:VAL:HG23	2.17	0.44
1:B:2813:LEU:HD23	1:B:2816:LEU:HG	1.99	0.44
1:B:3811:ILE:HG22	1:B:3815:MET:HE3	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1673:VAL:HB	1:A:1690:VAL:HG22	2.00	0.44
1:A:1699:ASN:OD1	1:A:1700:GLU:N	2.51	0.44
1:A:1720:SER:O	1:A:1724:VAL:HG23	2.17	0.44
1:A:2697:ASP:OD1	1:A:2697:ASP:N	2.48	0.44
1:A:3110:THR:HG21	1:A:3143:ILE:HD11	1.99	0.44
1:B:1594:ILE:HG13	1:B:1597:VAL:HG21	2.00	0.44
1:A:1687:LYS:HG3	1:A:1715:LYS:HD2	1.99	0.44
1:A:2505:ASP:HB3	1:A:2733:VAL:HG13	2.00	0.44
1:A:2538:GLU:HB3	1:A:2548:TRP:CE2	2.52	0.44
1:A:2590:PRO:HB2	1:A:2731:VAL:HG12	1.99	0.44
1:A:3884:ALA:HB1	1:A:4009:VAL:HG11	1.98	0.44
1:A:1667:ASN:HB2	1:A:1672:VAL:HB	2.00	0.44
1:A:4607:LEU:N	1:A:4622:VAL:O	2.44	0.44
1:B:2716:THR:HG23	1:B:4445:THR:HA	1.99	0.44
1:A:3745:LEU:HD11	1:A:3776:GLU:HB3	2.01	0.43
1:B:1466:ILE:HG23	1:B:1500:HIS:HD2	1.82	0.43
1:B:2773:MET:HB3	1:B:2799:MET:HE1	2.00	0.43
1:A:3448:LYS:HE3	1:B:3240:LEU:HD13	1.99	0.43
1:B:3175:HIS:CD2	1:B:3585:ARG:HH22	2.36	0.43
1:A:1835:SER:OG	1:A:1837:GLU:OE1	2.34	0.43
1:A:2667:ASN:ND2	1:A:2713:ASN:O	2.50	0.43
1:A:2808:GLU:HA	1:A:2811:ARG:HE	1.83	0.43
1:B:1888:CYS:HA	1:B:2039:LEU:HD22	2.00	0.43
1:A:1490:TRP:CH2	1:A:1537:TRP:HD1	2.36	0.43
1:A:1508:LYS:HG2	1:A:1513:TYR:CZ	2.53	0.43
1:A:1861:MET:HG3	1:A:1862:ALA:H	1.83	0.43
1:A:2967:TYR:OH	1:A:2975:ASP:OD2	2.29	0.43
1:B:2623:SER:H	1:B:2626:THR:HG1	1.63	0.43
1:B:3735:GLN:HG2	1:B:3783:LYS:HE2	1.99	0.43
1:A:2323:LYS:HB3	1:A:2335:LEU:HB3	2.00	0.43
1:B:3550:THR:O	1:B:3554:SER:OG	2.31	0.43
1:B:4171:LYS:HD3	1:B:4176:ARG:HH22	1.83	0.43
1:A:1867:ASN:O	1:A:1925:ARG:NH1	2.44	0.43
1:B:2657:LYS:O	1:B:2705:ARG:NH1	2.49	0.43
1:A:1752:LEU:HA	1:A:1755:GLN:HE21	1.82	0.43
1:A:2299:GLN:HB2	1:A:2339:VAL:HG22	2.00	0.43
1:A:2447:MET:HB3	1:A:2728:LEU:HD21	2.01	0.43
1:B:1547:LEU:HD23	1:B:1547:LEU:HA	1.87	0.43
1:B:2354:ALA:O	1:B:2358:ARG:HD3	2.19	0.43
1:B:2295:LEU:HD23	1:B:2295:LEU:HA	1.91	0.43
1:A:2437:LEU:HD21	1:A:2451:ARG:HG3	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2452:LEU:HB3	1:A:2729:ARG:HG3	2.01	0.43
1:B:3172:THR:HG21	1:B:3694:SER:HB3	2.01	0.43
1:A:1959:GLU:N	1:A:2017:THR:O	2.52	0.43
1:A:2996:GLU:HB3	1:A:3068:MET:HB3	2.01	0.43
1:B:2085:HIS:HB2	1:B:2361:MET:HE2	2.01	0.43
1:B:3791:MET:HA	1:B:3794:VAL:HG12	1.99	0.43
1:B:4168:ARG:NH2	1:B:4217:ASP:OD1	2.50	0.43
1:B:3770:LEU:HD23	1:B:3773:LEU:HD12	2.01	0.42
1:B:1601:LEU:HD23	1:B:1601:LEU:HA	1.83	0.42
1:B:1619:LEU:HD23	1:B:1619:LEU:HA	1.86	0.42
1:A:1574:GLU:OE1	1:A:1603:ARG:NH1	2.52	0.42
1:A:1930:PHE:HA	1:A:2326:THR:HG21	2.00	0.42
1:B:4460:LEU:HD21	1:B:4478:TRP:CG	2.54	0.42
1:A:2039:LEU:HD12	1:A:4254:GLY:HA2	2.02	0.42
1:B:2527:PRO:HD3	1:B:2545:TRP:CD1	2.54	0.42
1:B:2804:ARG:HD2	1:B:2804:ARG:HA	1.85	0.42
1:B:3822:HIS:O	1:B:3822:HIS:ND1	2.52	0.42
1:B:4609:VAL:HG22	1:B:4642:VAL:HB	2.01	0.42
1:A:3182:HIS:NE2	1:A:3582:ARG:O	2.43	0.42
1:A:3222:LEU:HD12	1:A:3465:LEU:HD23	2.00	0.42
1:A:4002:LEU:O	1:A:4006:HIS:ND1	2.49	0.42
1:B:2257:LYS:HG3	1:B:2306:ASP:HB2	2.00	0.42
1:B:4385:SER:O	1:B:4389:HIS:ND1	2.52	0.42
1:B:1728:GLY:O	1:B:1784:ASN:ND2	2.52	0.42
1:A:1540:VAL:HG21	1:A:1601:LEU:HD22	2.00	0.42
1:B:1688:THR:OG1	1:B:1708:GLU:OE1	2.37	0.42
1:A:2917:ASP:OD2	1:A:2921:ARG:NH2	2.50	0.42
1:B:1587:LEU:HB2	1:B:1590:ASP:HB2	2.02	0.42
1:B:2996:GLU:HB2	1:B:3078:ARG:HH22	1.85	0.42
1:B:3691:ASP:OD1	1:B:3692:LEU:N	2.53	0.42
1:A:2033:LYS:HB2	1:A:2033:LYS:HE3	1.84	0.42
1:B:2697:ASP:N	1:B:2697:ASP:OD1	2.53	0.42
1:B:3717:LEU:HD23	1:B:3717:LEU:HA	1.94	0.42
1:A:2103:VAL:HG23	1:A:2136:ILE:HG23	2.01	0.42
1:B:2449:LEU:HD12	1:B:2453:ARG:HH21	1.85	0.42
1:B:2556:GLU:HB3	1:B:2757:ARG:HH22	1.84	0.42
1:B:3819:LYS:HD2	1:B:3826:GLN:HE22	1.85	0.42
1:B:4223:LEU:HA	1:B:4226:THR:HG22	2.02	0.42
1:A:2356:VAL:HG13	1:A:2361:MET:HE3	2.01	0.41
1:A:3825:TYR:HB2	1:A:3827:TYR:CZ	2.54	0.41
1:B:4460:LEU:HD21	1:B:4478:TRP:CD1	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2149:LEU:HD11	1:A:2157:LEU:HD22	2.01	0.41
1:A:1946:VAL:HB	1:A:2006:VAL:HG21	2.01	0.41
1:A:2813:LEU:HD21	1:A:2816:LEU:HD13	2.02	0.41
1:B:3175:HIS:HB3	1:B:3516:TYR:HE1	1.84	0.41
1:A:2065:LEU:HD22	1:A:2137:LEU:HD22	2.03	0.41
1:A:2073:PHE:HZ	1:A:2096:VAL:HG21	1.85	0.41
1:A:4099:VAL:HB	1:A:4106:LEU:HD21	2.01	0.41
1:B:2529:ALA:HA	1:B:2530:PRO:HD3	1.95	0.41
1:B:1795:SER:O	1:B:1800:GLN:NE2	2.52	0.41
1:B:2974:GLU:OE1	1:B:2977:ARG:NH1	2.53	0.41
1:A:2600:GLY:HA3	1:A:2603:MET:HE2	2.03	0.41
1:A:2925:ILE:HG21	1:A:2933:LEU:HD13	2.02	0.41
1:B:1708:GLU:OE2	1:B:1712:THR:OG1	2.39	0.41
1:B:2948:ARG:HG2	1:B:2958:VAL:HG11	2.01	0.41
1:B:4288:VAL:HG12	1:B:4290:GLY:H	1.86	0.41
1:A:1490:TRP:CZ2	1:A:1537:TRP:HD1	2.39	0.41
1:A:2265:TYR:OH	1:A:2311:TRP:O	2.25	0.41
1:B:2178:LEU:HA	1:B:2244:LEU:HD11	2.02	0.41
1:B:3167:ARG:HH21	1:B:3685:THR:HB	1.85	0.41
1:A:2256:PRO:HG3	1:A:2303:PHE:HD1	1.84	0.41
1:A:3586:TYR:HA	1:A:3587:PRO:HD3	1.92	0.41
1:A:4385:SER:O	1:A:4389:HIS:ND1	2.54	0.41
1:B:1638:LEU:HD23	1:B:1638:LEU:HA	1.82	0.41
1:B:1937:ASP:OD1	1:B:1938:PHE:N	2.53	0.41
1:B:3154:LEU:HG	1:B:3516:TYR:CD1	2.56	0.41
1:A:3150:VAL:HG22	1:A:3532:TRP:CD1	2.56	0.41
1:A:3604:TYR:HB2	1:A:3609:ILE:HD11	2.01	0.41
1:A:3873:ARG:HH11	1:A:4025:LEU:HD23	1.86	0.41
1:B:2517:TYR:CE1	1:B:2521:ILE:HD12	2.56	0.41
1:B:2532:ILE:HA	1:B:2533:PRO:HD3	1.91	0.41
1:A:1601:LEU:HA	1:A:1601:LEU:HD23	1.81	0.41
1:A:4165:PRO:HG2	1:A:4168:ARG:HB3	2.01	0.41
1:B:1747:ALA:HA	1:B:1807:LYS:HG3	2.02	0.41
1:B:1972:SER:HB2	1:B:2032:LEU:HB2	2.02	0.41
1:B:2446:ILE:HD11	1:B:2735:TYR:CG	2.56	0.41
1:A:1891:THR:HG21	1:A:2039:LEU:HB2	2.03	0.40
1:A:2223:VAL:HG13	1:A:2363:TRP:HE3	1.86	0.40
1:A:2498:ILE:O	1:A:2502:LEU:HB2	2.21	0.40
1:A:2834:GLN:HE21	1:A:2843:ARG:HB3	1.85	0.40
1:A:3175:HIS:HB3	1:A:3516:TYR:HE1	1.86	0.40
1:B:2443:LEU:HB3	1:B:2510:MET:SD	2.61	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1466:ILE:HG12	1:B:1500:HIS:CD2	2.55	0.40
1:B:2755:MET:HE1	1:B:2806:ILE:HG22	2.04	0.40
1:B:3708:LEU:HD23	1:B:3809:SER:HA	2.02	0.40
1:A:2518:ILE:O	1:A:2522:THR:HG22	2.21	0.40
1:B:1626:PHE:HB3	1:B:1629:PHE:CD2	2.57	0.40
1:B:1879:LEU:HD11	1:B:1914:GLU:HB3	2.03	0.40
1:B:2065:LEU:HD22	1:B:2137:LEU:HD22	2.03	0.40
1:B:2386:PRO:HB3	1:B:2413:LEU:HB2	2.03	0.40
1:B:2495:VAL:HG21	1:B:2524:VAL:HG11	2.03	0.40
1:A:1619:LEU:HD21	1:A:1638:LEU:HD23	2.03	0.40
1:B:2426:TYR:OH	1:B:2491:GLN:NE2	2.54	0.40
1:B:4152:GLY:HA2	1:B:4316:GLN:NE2	2.36	0.40
1:A:1723:GLU:HA	1:A:1726:ILE:HG12	2.03	0.40
1:A:2206:LYS:HA	1:A:2206:LYS:HD2	1.91	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	2892/4843 (60%)	2806 (97%)	85 (3%)	1 (0%)	100	100
1	B	2892/4843 (60%)	2819 (98%)	72 (2%)	1 (0%)	100	100
All	All	5784/9686 (60%)	5625 (97%)	157 (3%)	2 (0%)	100	100

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	2871	ILE
1	B	2871	ILE

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	2472/4279 (58%)	2472 (100%)	0	100 100
1	B	2472/4279 (58%)	2470 (100%)	2 (0%)	92 98
All	All	4944/8558 (58%)	4942 (100%)	2 (0%)	100 100

All (2) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	2850	ILE
1	B	4189	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (60) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	1736	ASN
1	A	1748	GLN
1	A	1755	GLN
1	A	1817	HIS
1	A	1863	ASN
1	A	1894	GLN
1	A	1922	GLN
1	A	1950	GLN
1	A	1976	GLN
1	A	1985	HIS
1	A	2005	GLN
1	A	2314	ASN
1	A	2464	GLN
1	A	2485	GLN
1	A	2646	ASN
1	A	2827	HIS
1	A	2886	GLN
1	A	2960	GLN
1	A	2998	ASN
1	A	3092	ASN

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Mol	Chain	Res	Type
1	A	3158	ASN
1	A	3622	ASN
1	A	3667	GLN
1	A	3792	GLN
1	A	3800	GLN
1	A	3830	GLN
1	A	3843	ASN
1	A	3865	GLN
1	A	4023	GLN
1	A	4063	ASN
1	A	4156	ASN
1	A	4436	GLN
1	A	4453	ASN
1	A	4566	GLN
1	B	1500	HIS
1	B	1598	GLN
1	B	1670	ASN
1	B	1736	ASN
1	B	1818	GLN
1	B	2215	GLN
1	B	2485	GLN
1	B	2621	ASN
1	B	3014	ASN
1	B	3057	GLN
1	B	3069	ASN
1	B	3152	GLN
1	B	3498	ASN
1	B	3526	GLN
1	B	3535	HIS
1	B	3667	GLN
1	B	3830	GLN
1	B	4023	GLN
1	B	4078	ASN
1	B	4098	ASN
1	B	4436	GLN
1	B	4488	GLN
1	B	4506	ASN
1	B	4508	HIS
1	B	4526	GLN
1	B	4566	GLN

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

Of 12 ligands modelled in this entry, 4 are monoatomic - leaving 8 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
2	ADP	A	4801	4	24,29,29	0.86	0	29,45,45	1.24	2 (6%)
2	ADP	B	4803	-	24,29,29	0.92	0	29,45,45	1.20	2 (6%)
2	ADP	B	4804	-	24,29,29	0.89	0	29,45,45	1.18	2 (6%)
2	ADP	A	4803	-	24,29,29	0.92	1 (4%)	29,45,45	1.21	2 (6%)
2	ADP	A	4804	-	24,29,29	0.88	0	29,45,45	1.19	2 (6%)
3	ATP	B	4802	4	28,33,33	0.67	0	34,52,52	0.61	1 (2%)
2	ADP	B	4801	4	24,29,29	0.87	0	29,45,45	1.23	2 (6%)
3	ATP	A	4802	4	28,33,33	0.66	0	34,52,52	0.61	1 (2%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	ADP	A	4801	4	-	1/12/32/32	0/3/3/3
2	ADP	B	4803	-	-	2/12/32/32	0/3/3/3
2	ADP	B	4804	-	-	2/12/32/32	0/3/3/3
2	ADP	A	4803	-	-	1/12/32/32	0/3/3/3
2	ADP	A	4804	-	-	3/12/32/32	0/3/3/3
3	ATP	B	4802	4	-	2/18/38/38	0/3/3/3
2	ADP	B	4801	4	-	3/12/32/32	0/3/3/3
3	ATP	A	4802	4	-	3/18/38/38	0/3/3/3

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	4803	ADP	O4'-C1'	2.10	1.43	1.40

All (14) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	A	4801	ADP	N3-C2-N1	-3.92	123.35	128.67
2	A	4803	ADP	N3-C2-N1	-3.84	123.46	128.67
2	B	4803	ADP	N3-C2-N1	-3.76	123.57	128.67
2	B	4801	ADP	N3-C2-N1	-3.72	123.62	128.67
2	A	4804	ADP	N3-C2-N1	-3.69	123.67	128.67
2	B	4804	ADP	N3-C2-N1	-3.60	123.79	128.67
2	B	4801	ADP	C4-C5-N7	-2.62	106.56	109.34
2	B	4804	ADP	C4-C5-N7	-2.60	106.59	109.34
2	A	4804	ADP	C4-C5-N7	-2.54	106.65	109.34
2	A	4801	ADP	C4-C5-N7	-2.52	106.67	109.34
2	B	4803	ADP	C4-C5-N7	-2.42	106.78	109.34
2	A	4803	ADP	C4-C5-N7	-2.39	106.81	109.34
3	B	4802	ATP	C5-C6-N6	2.33	123.86	120.31
3	A	4802	ATP	C5-C6-N6	2.30	123.82	120.31

There are no chirality outliers.

All (17) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	B	4801	ADP	C5'-O5'-PA-O3A
2	A	4804	ADP	O4'-C4'-C5'-O5'
2	A	4804	ADP	C3'-C4'-C5'-O5'
2	B	4804	ADP	O4'-C4'-C5'-O5'
2	B	4804	ADP	C3'-C4'-C5'-O5'

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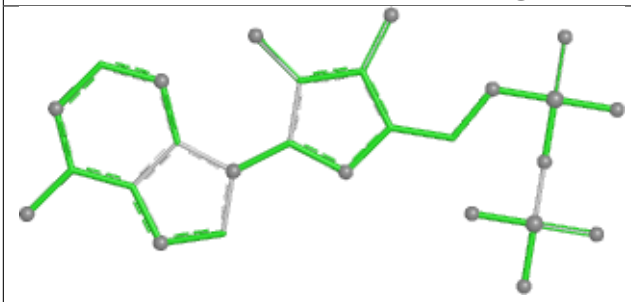
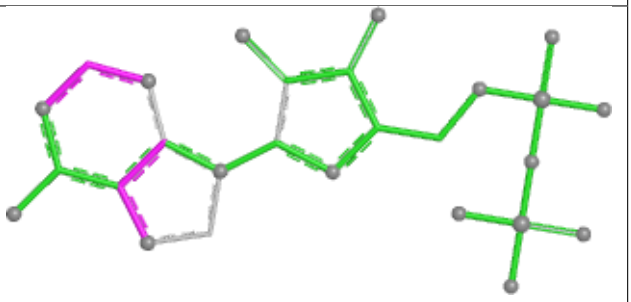
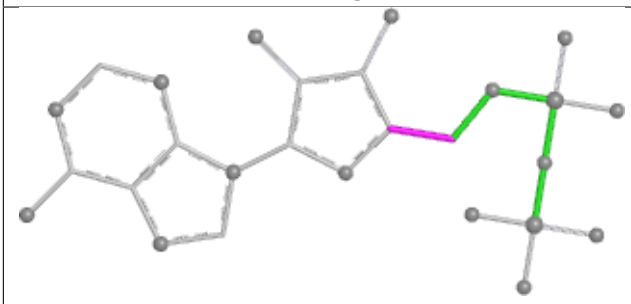
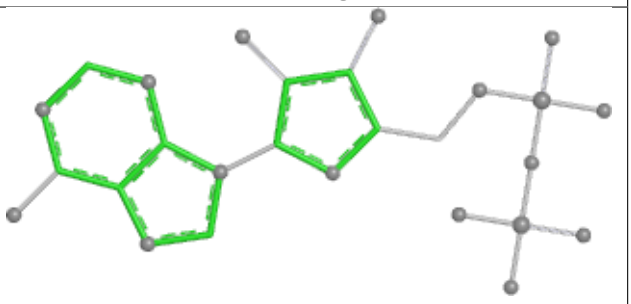
Mol	Chain	Res	Type	Atoms
2	B	4801	ADP	O4'-C4'-C5'-O5'
2	A	4801	ADP	O4'-C4'-C5'-O5'
2	B	4803	ADP	PB-O3A-PA-O2A
3	A	4802	ATP	PB-O3A-PA-O1A
2	A	4804	ADP	C5'-O5'-PA-O1A
2	A	4803	ADP	PB-O3A-PA-O2A
3	A	4802	ATP	PG-O3B-PB-O2B
3	B	4802	ATP	PG-O3B-PB-O1B
3	B	4802	ATP	PG-O3B-PB-O2B
2	B	4801	ADP	C3'-C4'-C5'-O5'
2	B	4803	ADP	PB-O3A-PA-O1A
3	A	4802	ATP	PB-O3A-PA-O2A

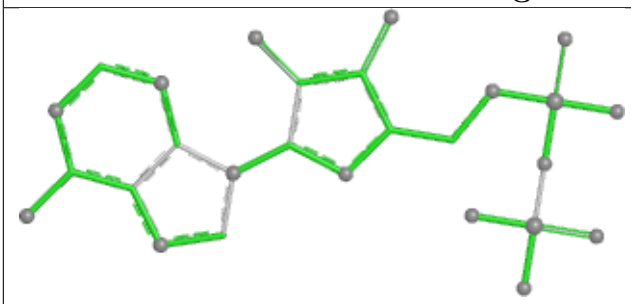
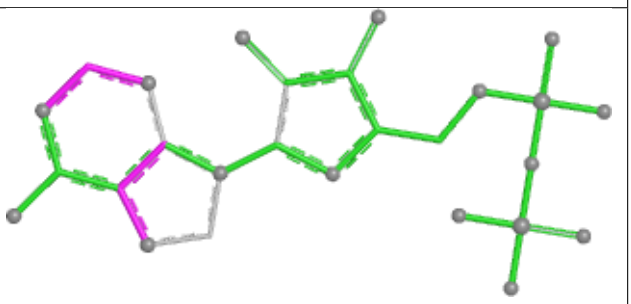
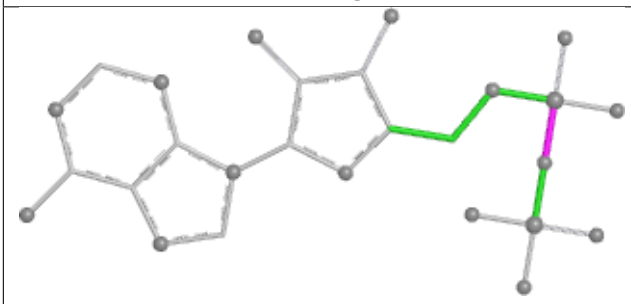
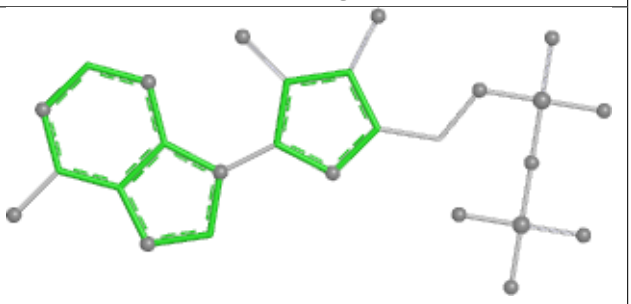
There are no ring outliers.

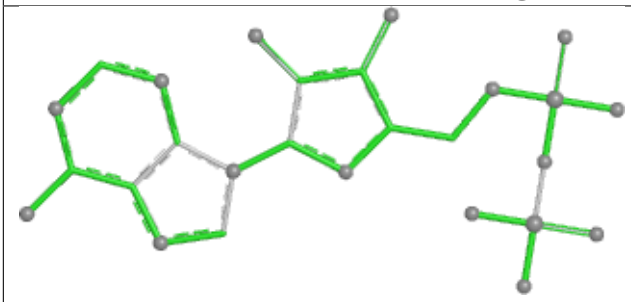
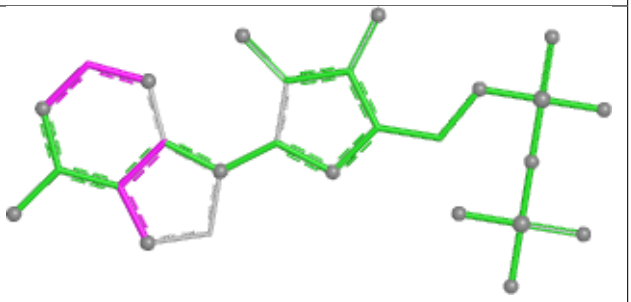
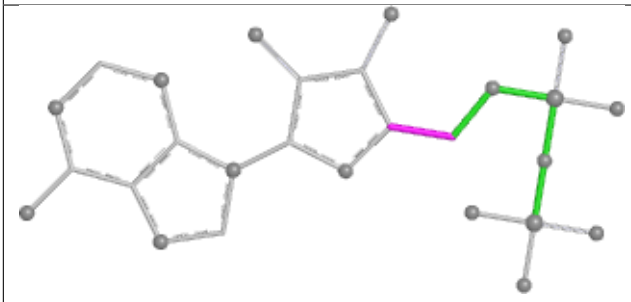
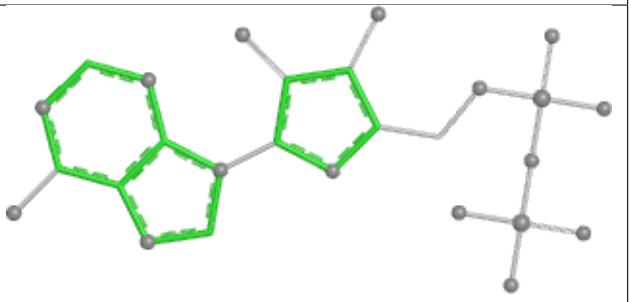
1 monomer is involved in 1 short contact:

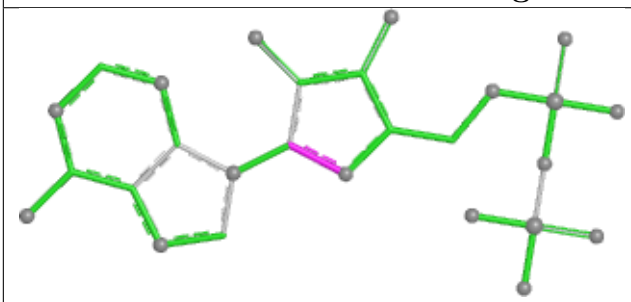
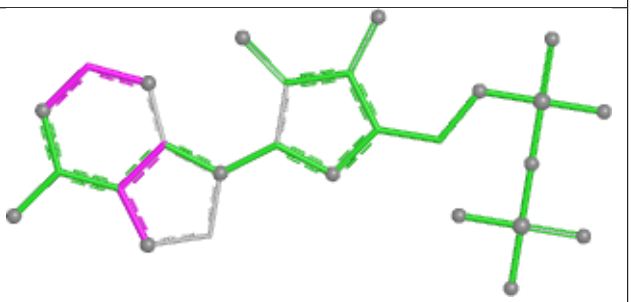
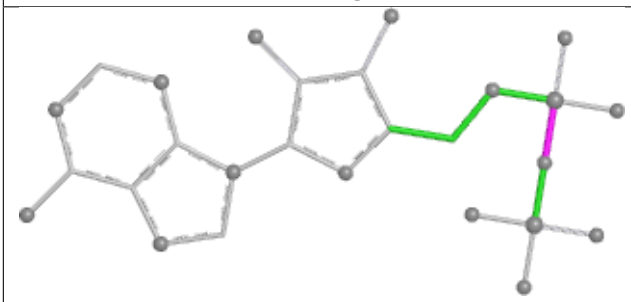
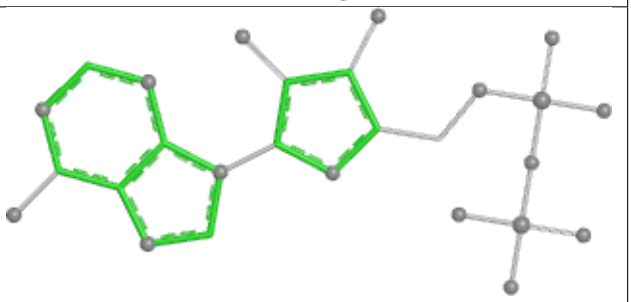
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	4803	ADP	1	0

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

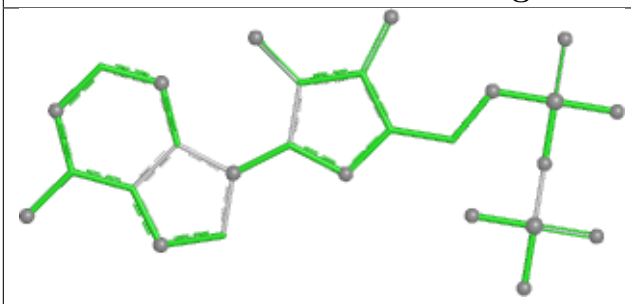
Ligand ADP A 4801	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand ADP B 4803	
 Bond lengths	 Bond angles
 Torsions	 Rings

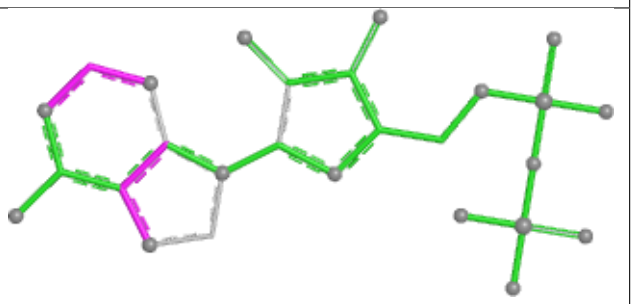
Ligand ADP B 4804	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand ADP A 4803	
 Bond lengths	 Bond angles
 Torsions	 Rings

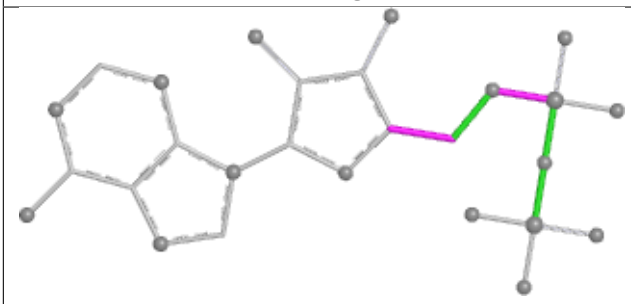
Ligand ADP A 4804



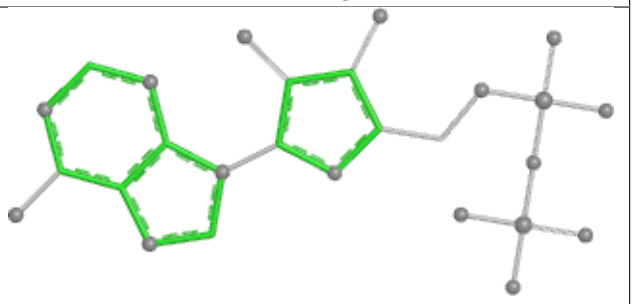
Bond lengths



Bond angles

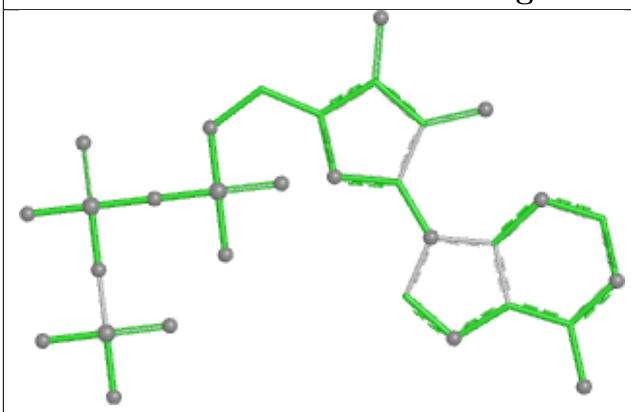


Torsions

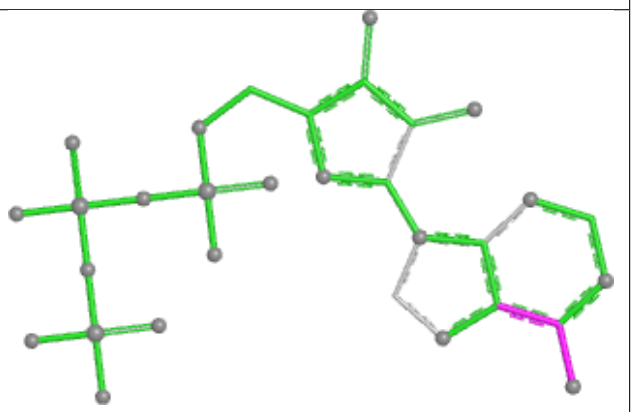


Rings

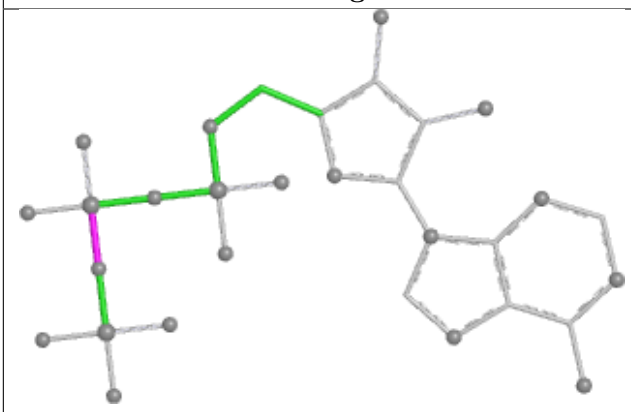
Ligand ATP B 4802



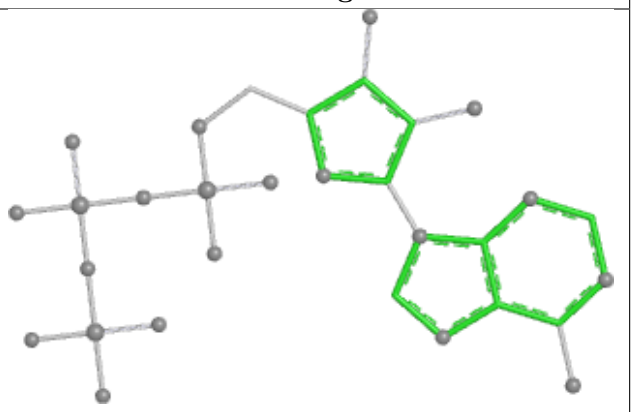
Bond lengths



Bond angles

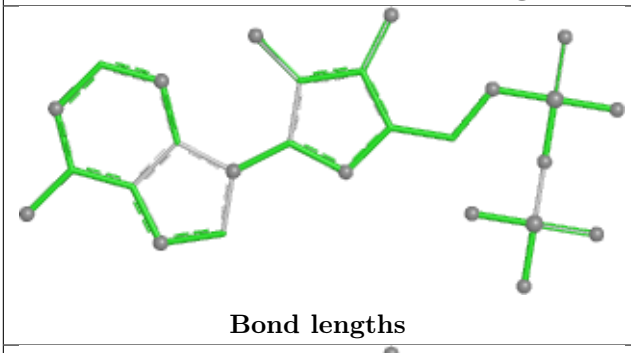


Torsions

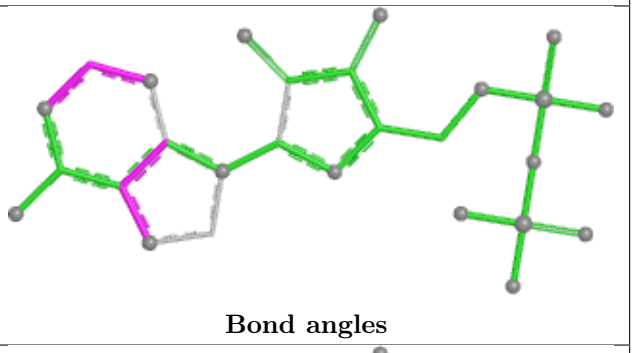


Rings

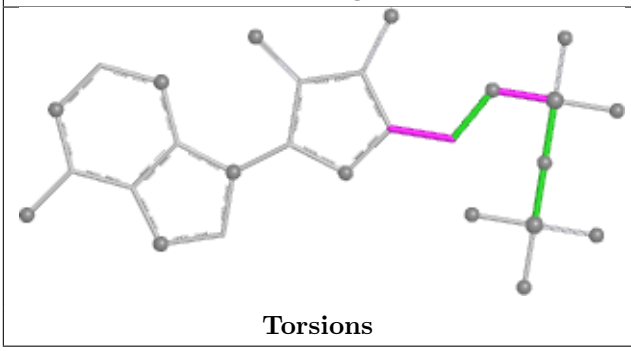
Ligand ADP B 4801



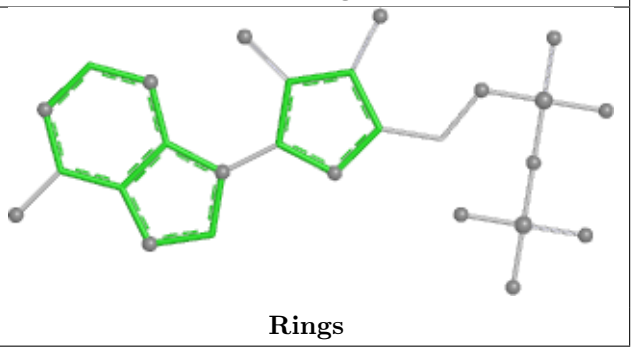
Bond lengths



Bond angles

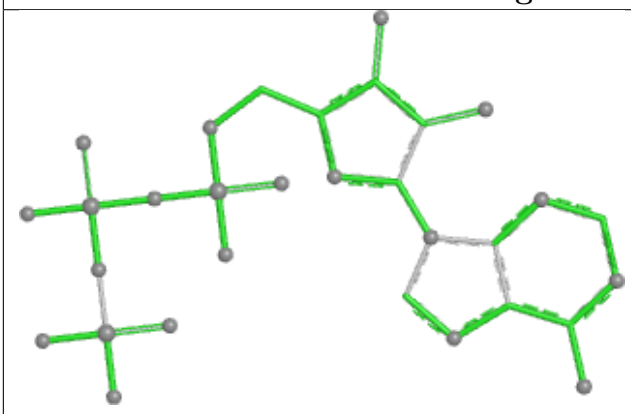


Torsions

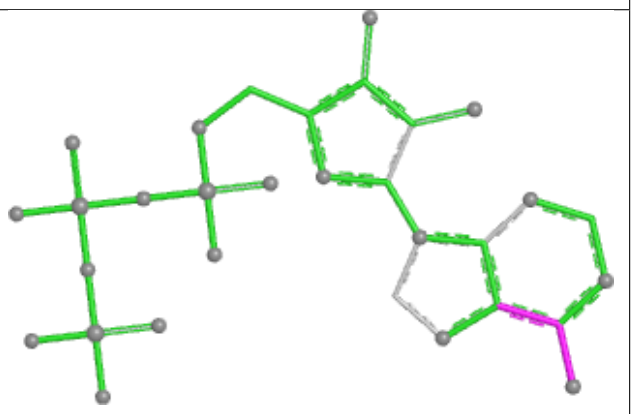


Rings

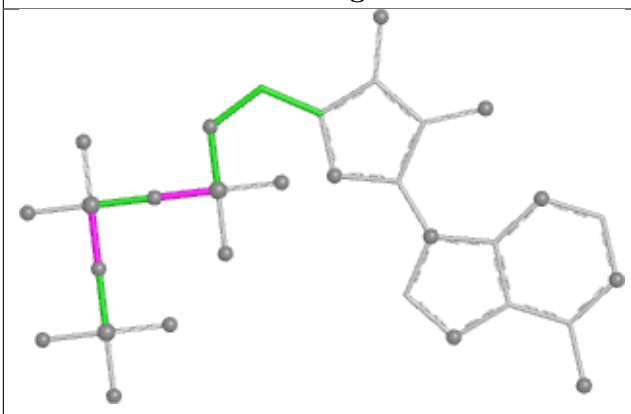
Ligand ATP A 4802



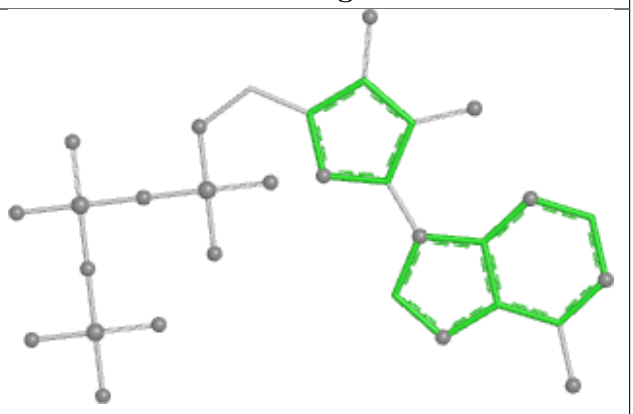
Bond lengths



Bond angles



Torsions



Rings

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

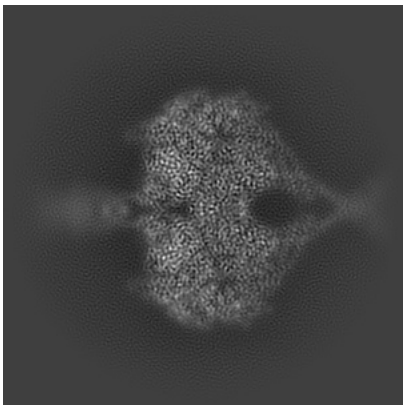
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-47373. These allow visual inspection of the internal detail of the map and identification of artifacts.

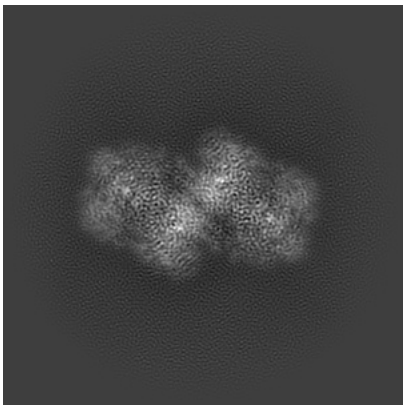
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

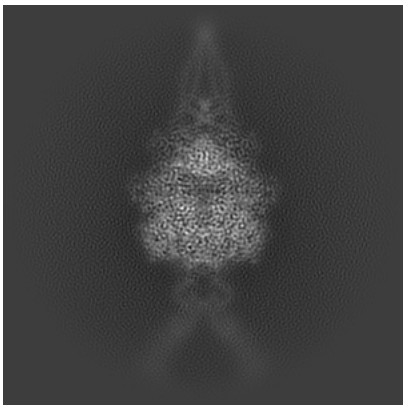
6.1.1 Primary map



X

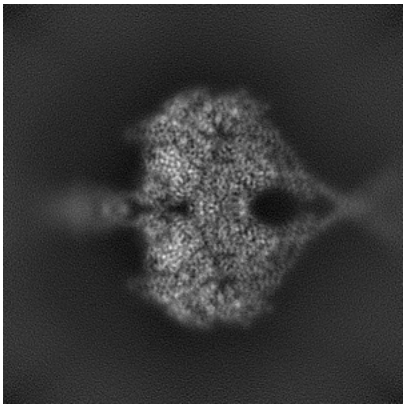


Y

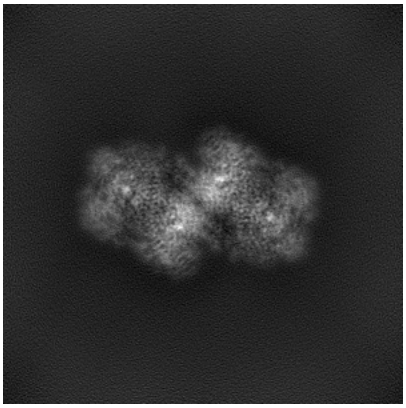


Z

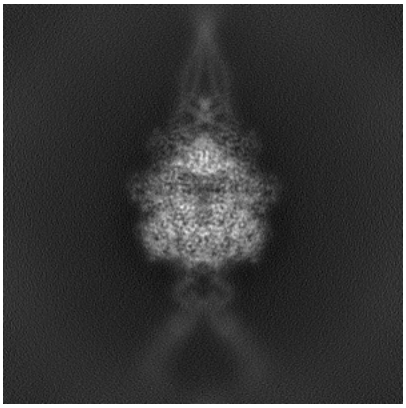
6.1.2 Raw map



X



Y

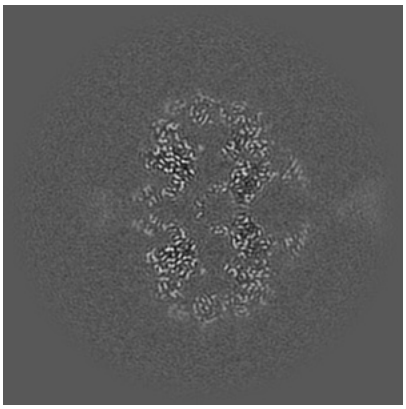


Z

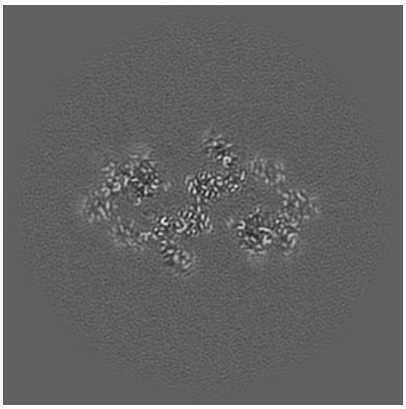
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

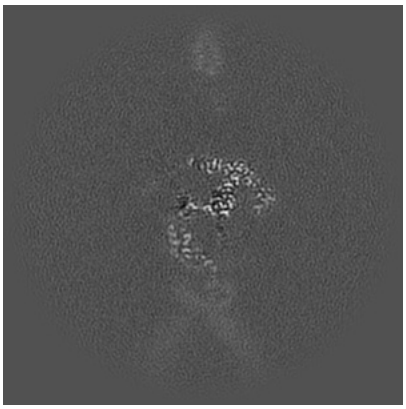
6.2.1 Primary map



X Index: 176

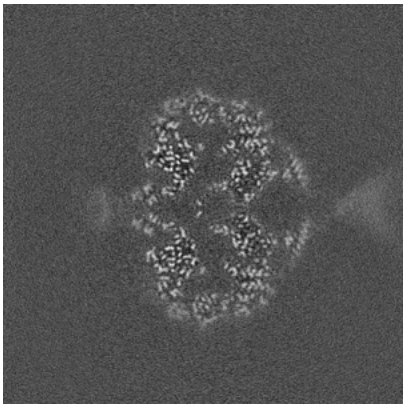


Y Index: 176

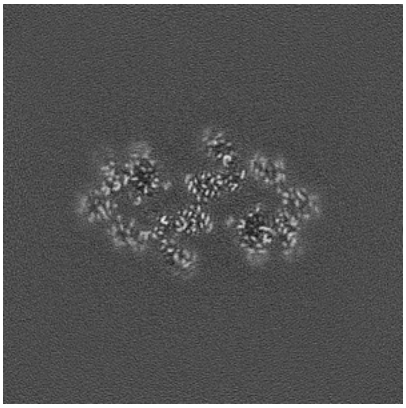


Z Index: 176

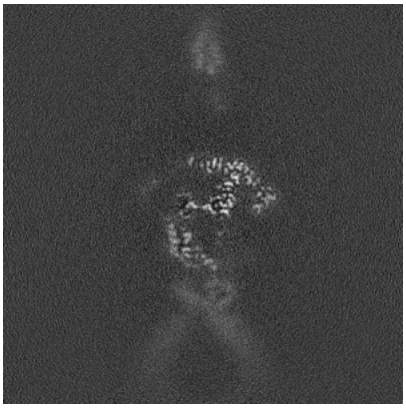
6.2.2 Raw map



X Index: 176



Y Index: 176

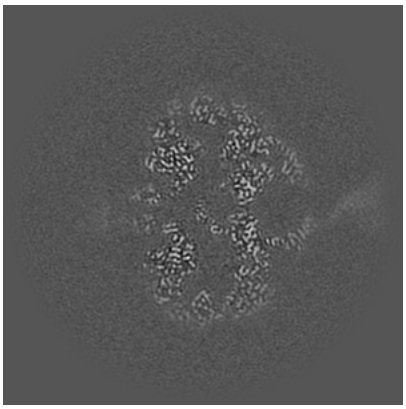


Z Index: 176

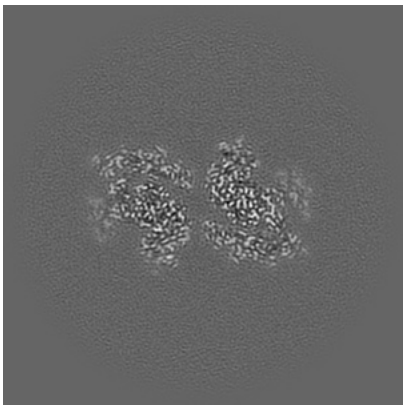
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

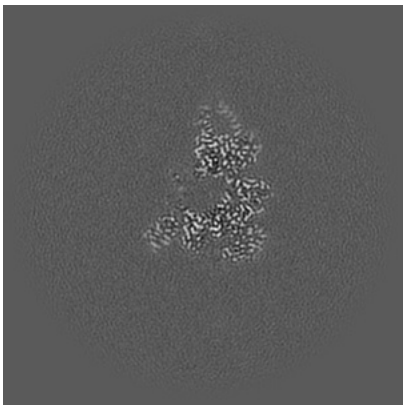
6.3.1 Primary map



X Index: 174

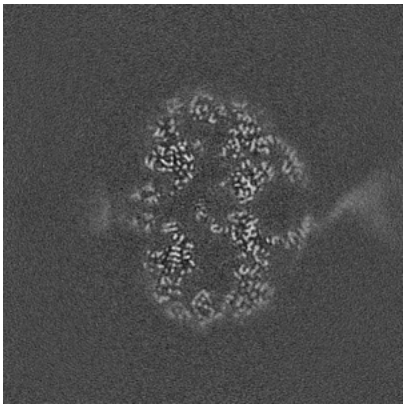


Y Index: 153

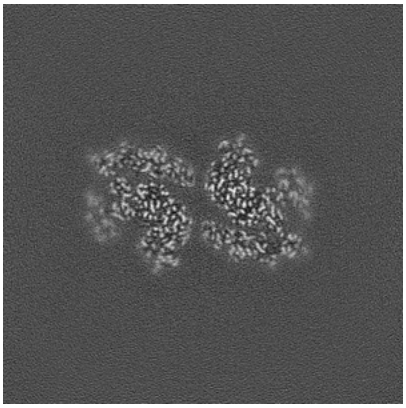


Z Index: 203

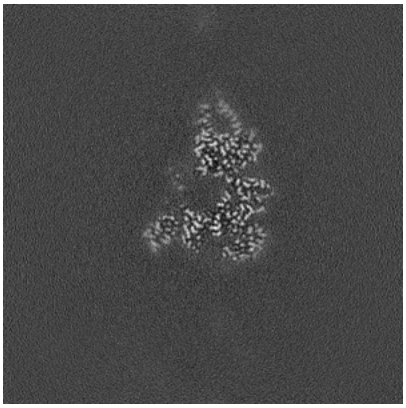
6.3.2 Raw map



X Index: 174



Y Index: 154

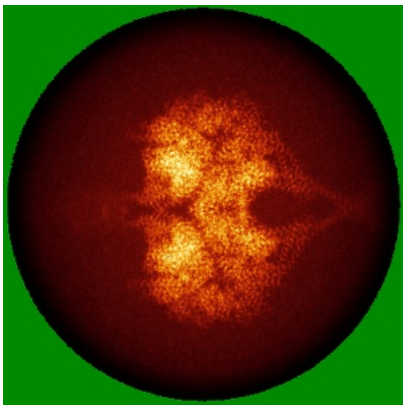


Z Index: 203

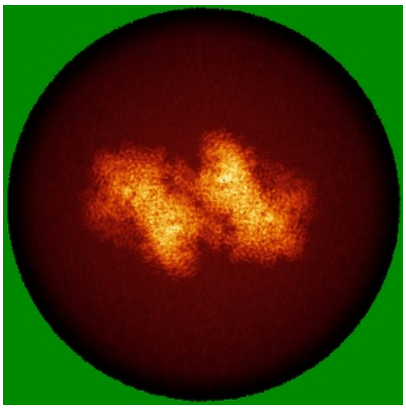
The images above show the largest variance slices of the map in three orthogonal directions.

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

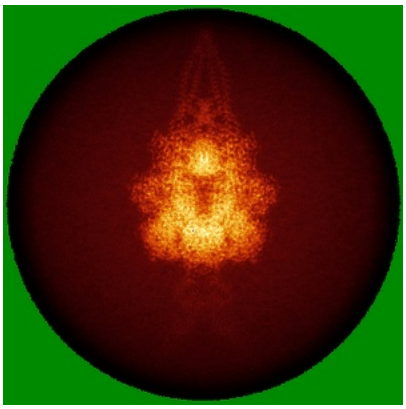
6.4.1 Primary map



X

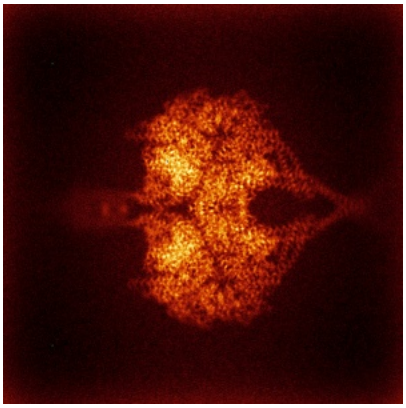


Y

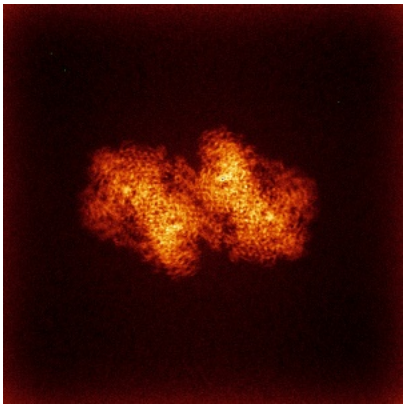


Z

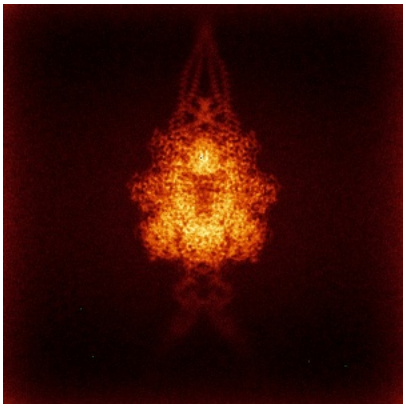
6.4.2 Raw map



X



Y

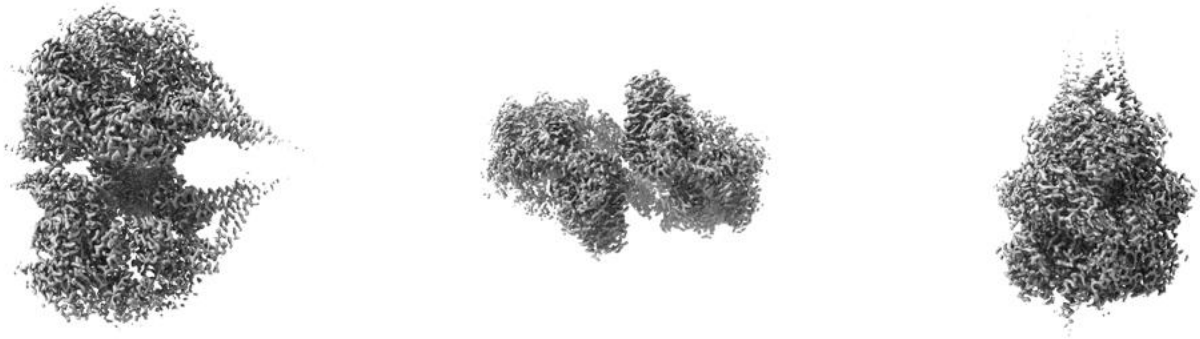


Z

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

6.5 Orthogonal surface views (i)

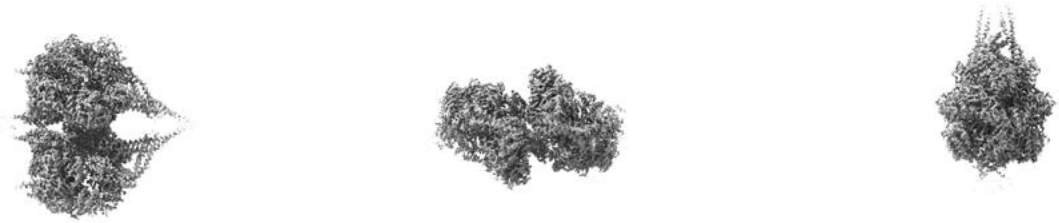
6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.406. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



X Y Z

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

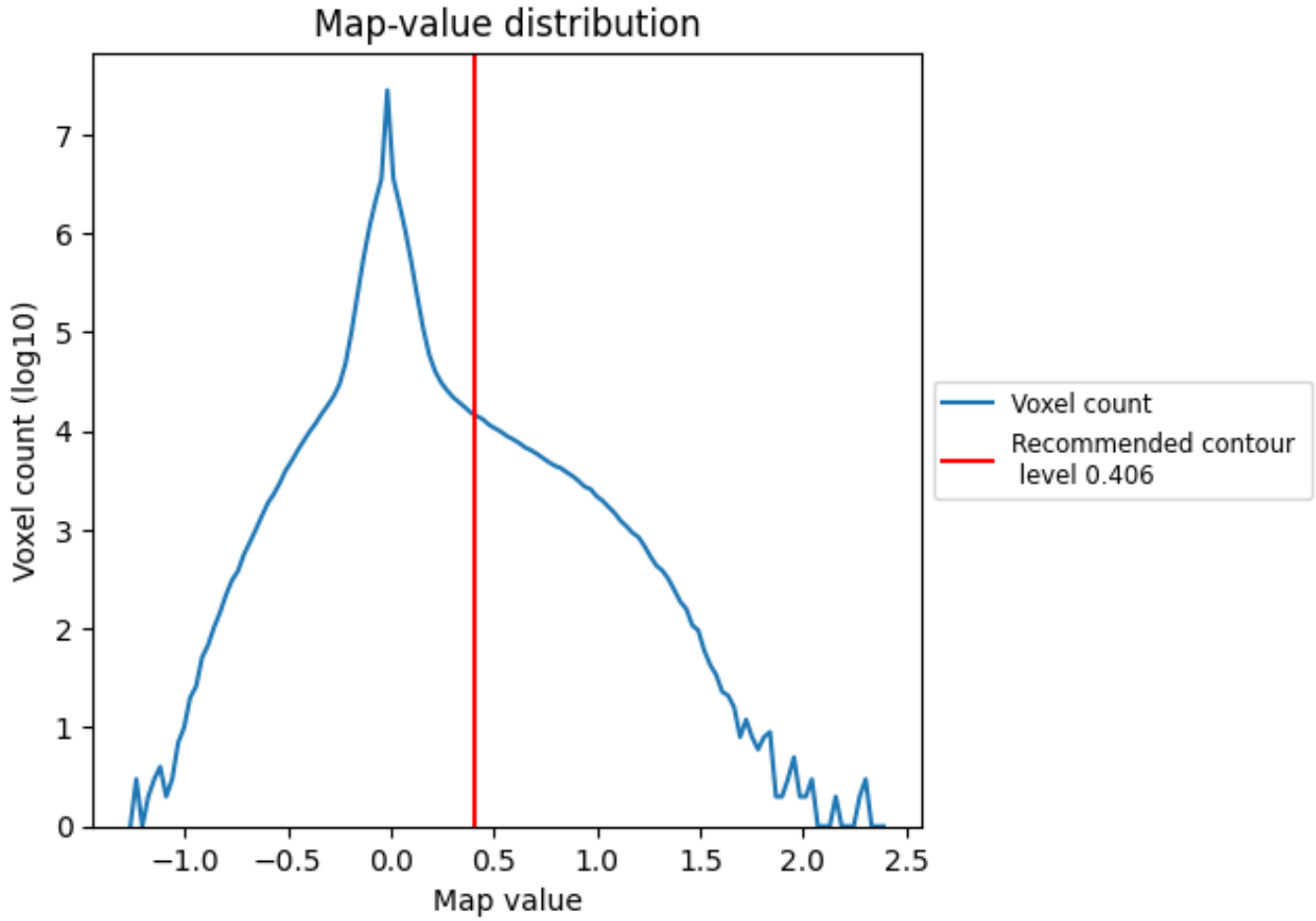
6.6 Mask visualisation (i)

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

7 Map analysis

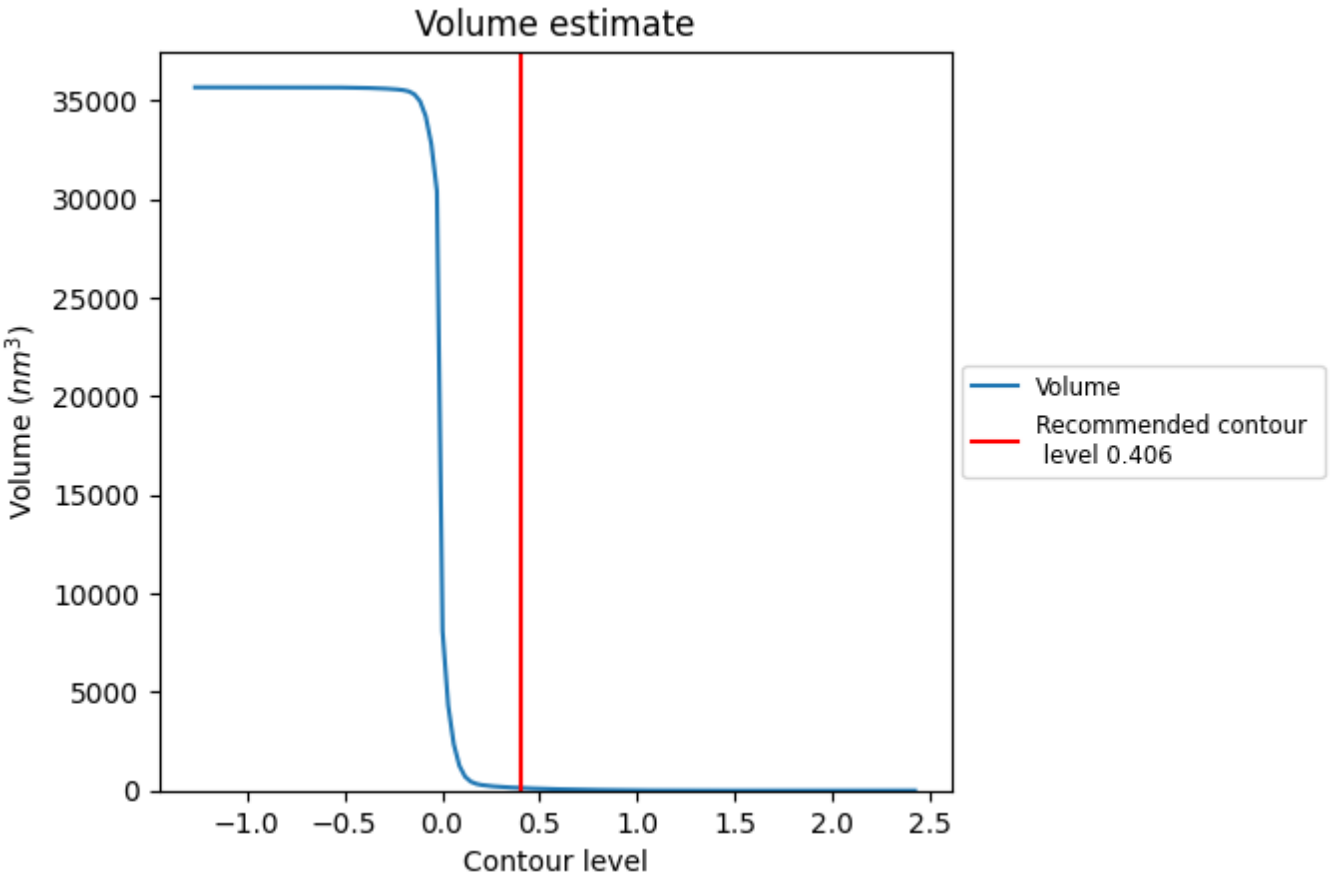
This section contains the results of statistical analysis of the map.

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.

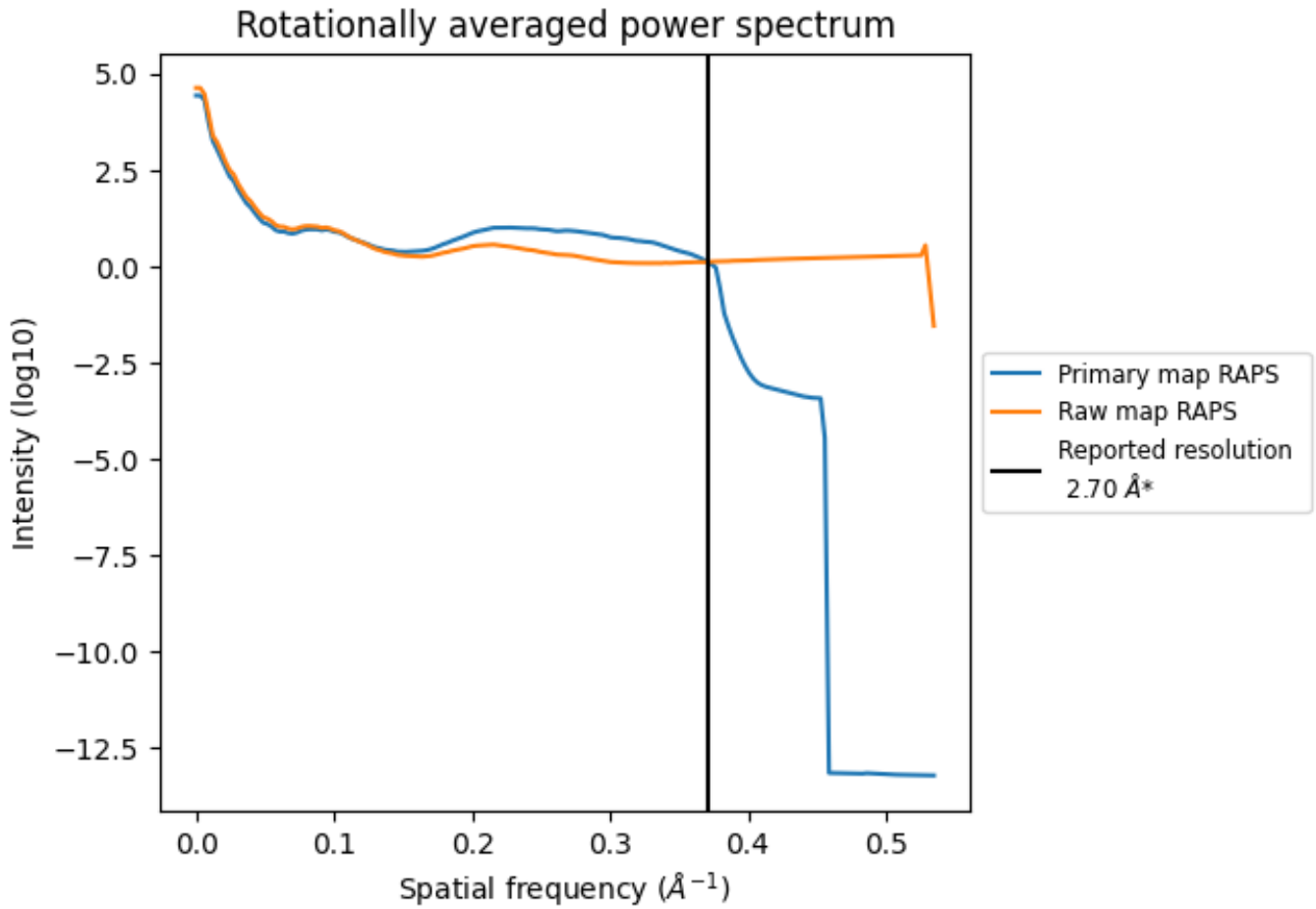
7.2 Volume estimate



The volume at the recommended contour level is 130 nm^3; this corresponds to an approximate mass of 117 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)

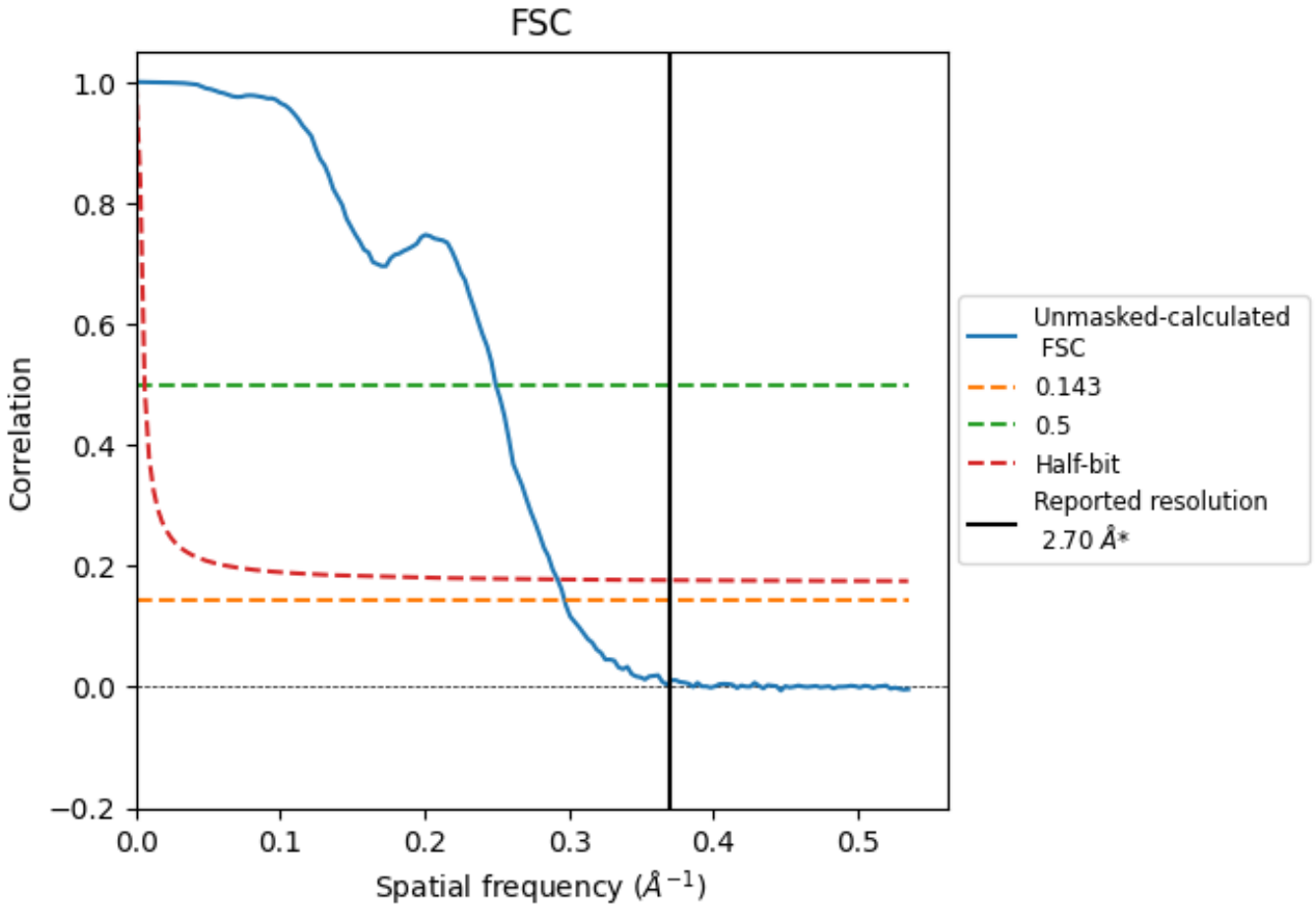


*Reported resolution corresponds to spatial frequency of 0.370 $Å^{-1}$

8 Fourier-Shell correlation

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.370 Å^{-1}

8.2 Resolution estimates (i)

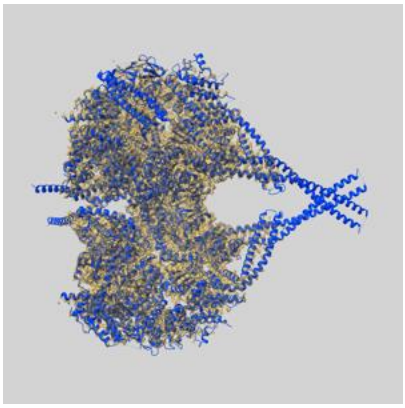
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.70	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	3.37	4.01	3.43

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.37 differs from the reported value 2.7 by more than 10 %

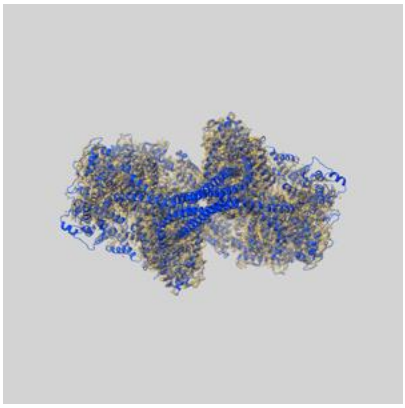
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-47373 and PDB model 9E0X. Per-residue inclusion information can be found in section 3 on page 15.

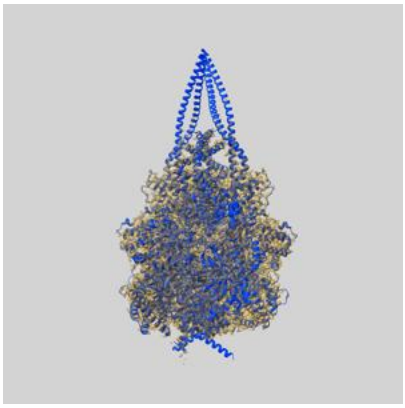
9.1 Map-model overlay



X



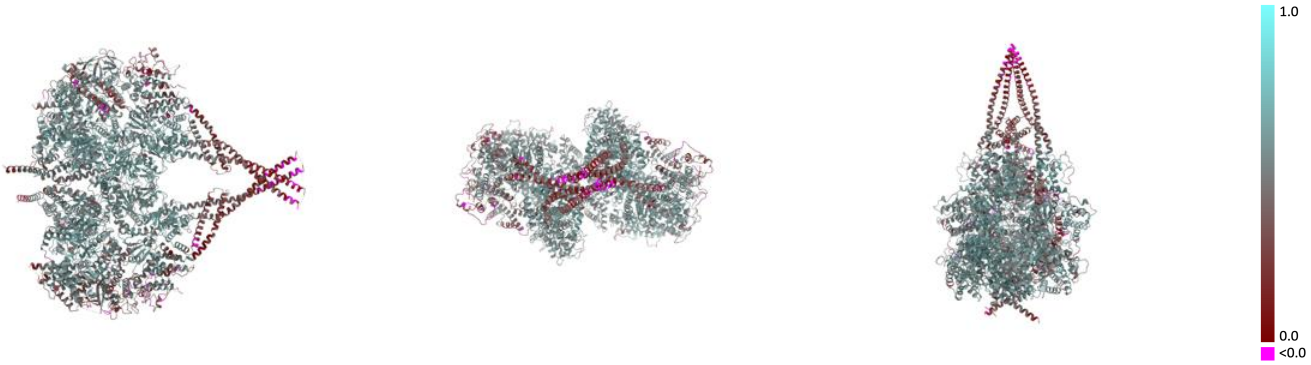
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.406 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.

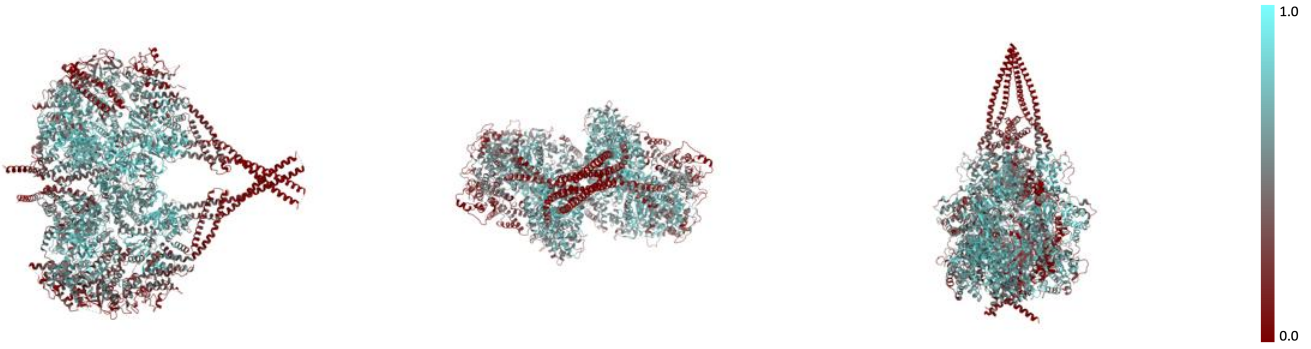
9.2 Q-score mapped to coordinate model (i)



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.

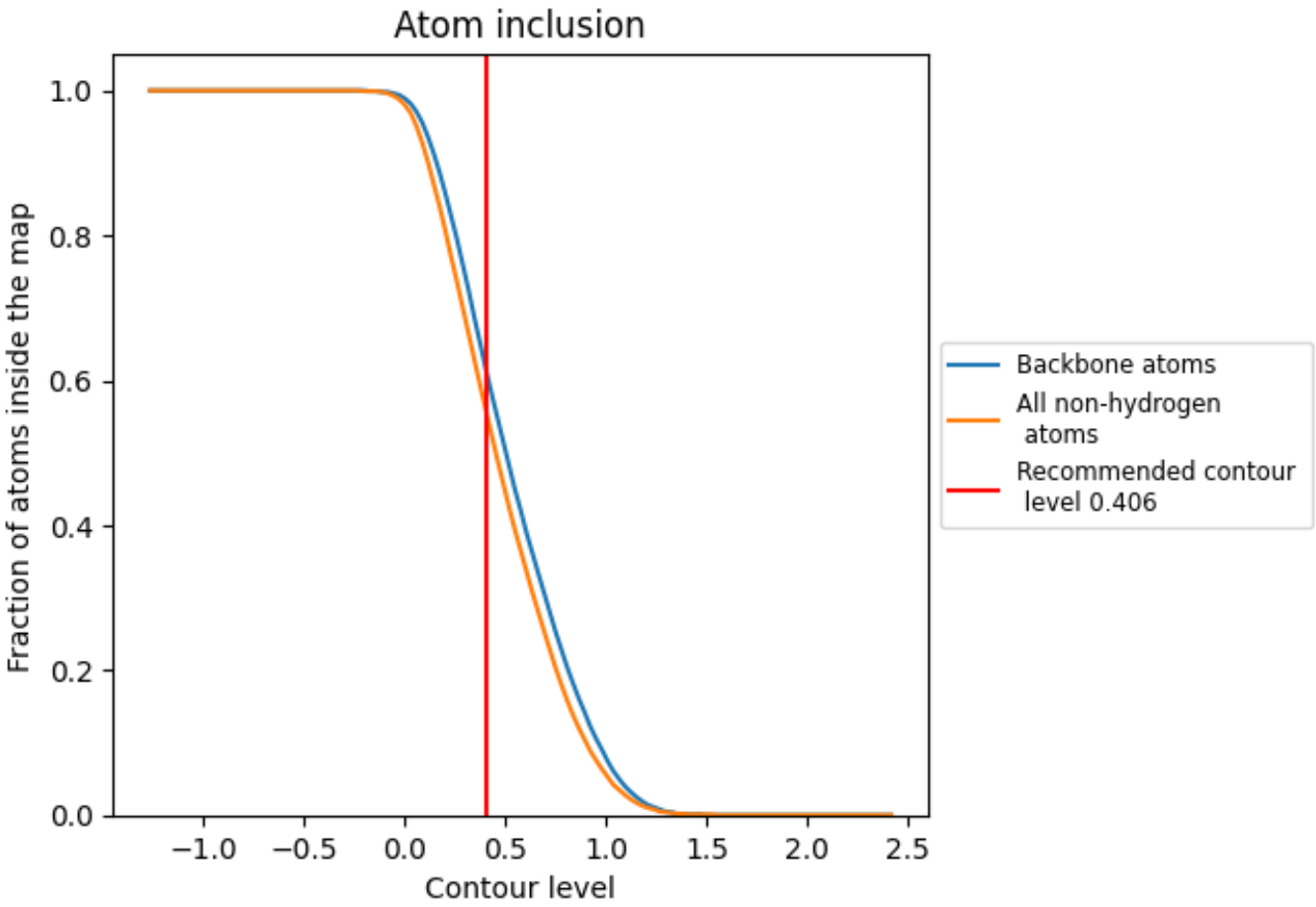
9.3 Atom inclusion mapped to coordinate model (i)



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 (0.406).

9.4 Atom inclusion (i)



At the recommended contour level, 62% of all backbone atoms, 56% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary (i)

The table lists the average atom inclusion at the recommended contour level (0.406) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.5580	0.5210
A	0.5330	0.5070
B	0.5820	0.5340