



Full wwPDB EM Validation Report ⓘ

Mar 4, 2024 – 09:51 PM EST

PDB ID : 8UCQ
EMDB ID : EMD-42135
Title : CryoEM structure of Sec7 autoinhibited conformation
Authors : Brownfield, B.A.; Fromme, J.C.
Deposited on : 2023-09-27
Resolution : 3.70 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.dev70
MolProbity : 4.02b-467
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36

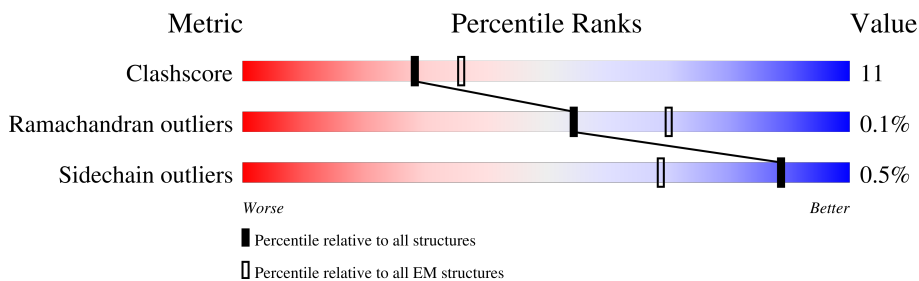
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.70 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	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

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

Mol	Chain	Length	Quality of chain
1	A	1937	
1	B	1937	

2 Entry composition i

There is only 1 type of molecule in this entry. The entry contains 19766 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 SEC7 domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	B	1232	9883	6351	1682	1793	57	0	0
1	A	1232	9883	6351	1682	1793	57	0	0

There are 306 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	-27	MET	-	initiating methionine	UNP A0A3S5CXE1
B	-26	GLU	-	expression tag	UNP A0A3S5CXE1
B	-25	GLN	-	expression tag	UNP A0A3S5CXE1
B	-24	LYS	-	expression tag	UNP A0A3S5CXE1
B	-23	LEU	-	expression tag	UNP A0A3S5CXE1
B	-22	ILE	-	expression tag	UNP A0A3S5CXE1
B	-21	SER	-	expression tag	UNP A0A3S5CXE1
B	-20	GLU	-	expression tag	UNP A0A3S5CXE1
B	-19	GLU	-	expression tag	UNP A0A3S5CXE1
B	-18	ASP	-	expression tag	UNP A0A3S5CXE1
B	-17	LEU	-	expression tag	UNP A0A3S5CXE1
B	-16	ASN	-	expression tag	UNP A0A3S5CXE1
B	-15	SER	-	expression tag	UNP A0A3S5CXE1
B	-14	ALA	-	expression tag	UNP A0A3S5CXE1
B	-13	VAL	-	expression tag	UNP A0A3S5CXE1
B	-12	ASP	-	expression tag	UNP A0A3S5CXE1
B	-11	HIS	-	expression tag	UNP A0A3S5CXE1
B	-10	HIS	-	expression tag	UNP A0A3S5CXE1
B	-9	HIS	-	expression tag	UNP A0A3S5CXE1
B	-8	HIS	-	expression tag	UNP A0A3S5CXE1
B	-7	HIS	-	expression tag	UNP A0A3S5CXE1
B	-6	HIS	-	expression tag	UNP A0A3S5CXE1
B	-5	ARG	-	expression tag	UNP A0A3S5CXE1
B	-4	ILE	-	expression tag	UNP A0A3S5CXE1
B	-3	PRO	-	expression tag	UNP A0A3S5CXE1
B	-2	GLY	-	expression tag	UNP A0A3S5CXE1

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Chain	Residue	Modelled	Actual	Comment	Reference
B	-1	LEU	-	expression tag	UNP A0A3S5CXE1
B	0	ILE	-	expression tag	UNP A0A3S5CXE1
B	1	ASN	-	expression tag	UNP A0A3S5CXE1
B	88	THR	SER	conflict	UNP A0A3S5CXE1
B	1787	LEU	-	expression tag	UNP A0A3S5CXE1
B	1788	VAL	-	expression tag	UNP A0A3S5CXE1
B	1789	VAL	-	expression tag	UNP A0A3S5CXE1
B	1790	GLU	-	expression tag	UNP A0A3S5CXE1
B	1791	LEU	-	expression tag	UNP A0A3S5CXE1
B	1792	LEU	-	expression tag	UNP A0A3S5CXE1
B	1793	GLY	-	expression tag	UNP A0A3S5CXE1
B	1794	LYS	-	expression tag	UNP A0A3S5CXE1
B	1795	ASP	-	expression tag	UNP A0A3S5CXE1
B	1796	LEU	-	expression tag	UNP A0A3S5CXE1
B	1797	GLY	-	expression tag	UNP A0A3S5CXE1
B	1798	GLN	-	expression tag	UNP A0A3S5CXE1
B	1799	ASP	-	expression tag	UNP A0A3S5CXE1
B	1800	LEU	-	expression tag	UNP A0A3S5CXE1
B	1801	ARG	-	expression tag	UNP A0A3S5CXE1
B	1802	ALA	-	expression tag	UNP A0A3S5CXE1
B	1803	ALA	-	expression tag	UNP A0A3S5CXE1
B	1804	LEU	-	expression tag	UNP A0A3S5CXE1
B	1805	LEU	-	expression tag	UNP A0A3S5CXE1
B	1806	LEU	-	expression tag	UNP A0A3S5CXE1
B	1807	VAL	-	expression tag	UNP A0A3S5CXE1
B	1808	LEU	-	expression tag	UNP A0A3S5CXE1
B	1809	ARG	-	expression tag	UNP A0A3S5CXE1
B	1810	ARG	-	expression tag	UNP A0A3S5CXE1
B	1811	VAL	-	expression tag	UNP A0A3S5CXE1
B	1812	GLY	-	expression tag	UNP A0A3S5CXE1
B	1813	GLU	-	expression tag	UNP A0A3S5CXE1
B	1814	VAL	-	expression tag	UNP A0A3S5CXE1
B	1815	GLY	-	expression tag	UNP A0A3S5CXE1
B	1816	LEU	-	expression tag	UNP A0A3S5CXE1
B	1817	GLY	-	expression tag	UNP A0A3S5CXE1
B	1818	ILE	-	expression tag	UNP A0A3S5CXE1
B	1819	GLU	-	expression tag	UNP A0A3S5CXE1
B	1820	GLY	-	expression tag	UNP A0A3S5CXE1
B	1821	MET	-	expression tag	UNP A0A3S5CXE1
B	1822	GLY	-	expression tag	UNP A0A3S5CXE1
B	1823	SER	-	expression tag	UNP A0A3S5CXE1
B	1824	GLY	-	expression tag	UNP A0A3S5CXE1

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Chain	Residue	Modelled	Actual	Comment	Reference
B	1825	GLY	-	expression tag	UNP A0A3S5CXE1
B	1826	ALA	-	expression tag	UNP A0A3S5CXE1
B	1827	ALA	-	expression tag	UNP A0A3S5CXE1
B	1828	ALA	-	expression tag	UNP A0A3S5CXE1
B	1829	ALA	-	expression tag	UNP A0A3S5CXE1
B	1830	ALA	-	expression tag	UNP A0A3S5CXE1
B	1831	ALA	-	expression tag	UNP A0A3S5CXE1
B	1832	ALA	-	expression tag	UNP A0A3S5CXE1
B	1833	GLY	-	expression tag	UNP A0A3S5CXE1
B	1834	ALA	-	expression tag	UNP A0A3S5CXE1
B	1835	ALA	-	expression tag	UNP A0A3S5CXE1
B	1836	ALA	-	expression tag	UNP A0A3S5CXE1
B	1837	ALA	-	expression tag	UNP A0A3S5CXE1
B	1838	SER	-	expression tag	UNP A0A3S5CXE1
B	1839	SER	-	expression tag	UNP A0A3S5CXE1
B	1840	GLY	-	expression tag	UNP A0A3S5CXE1
B	1841	GLN	-	expression tag	UNP A0A3S5CXE1
B	1842	GLY	-	expression tag	UNP A0A3S5CXE1
B	1843	ASN	-	expression tag	UNP A0A3S5CXE1
B	1844	GLY	-	expression tag	UNP A0A3S5CXE1
B	1845	ASN	-	expression tag	UNP A0A3S5CXE1
B	1846	GLY	-	expression tag	UNP A0A3S5CXE1
B	1847	ALA	-	expression tag	UNP A0A3S5CXE1
B	1848	ALA	-	expression tag	UNP A0A3S5CXE1
B	1849	ALA	-	expression tag	UNP A0A3S5CXE1
B	1850	ALA	-	expression tag	UNP A0A3S5CXE1
B	1851	ALA	-	expression tag	UNP A0A3S5CXE1
B	1852	ALA	-	expression tag	UNP A0A3S5CXE1
B	1853	ASP	-	expression tag	UNP A0A3S5CXE1
B	1854	SER	-	expression tag	UNP A0A3S5CXE1
B	1855	GLU	-	expression tag	UNP A0A3S5CXE1
B	1856	ARG	-	expression tag	UNP A0A3S5CXE1
B	1857	ARG	-	expression tag	UNP A0A3S5CXE1
B	1858	SER	-	expression tag	UNP A0A3S5CXE1
B	1859	SER	-	expression tag	UNP A0A3S5CXE1
B	1860	VAL	-	expression tag	UNP A0A3S5CXE1
B	1861	LEU	-	expression tag	UNP A0A3S5CXE1
B	1862	SER	-	expression tag	UNP A0A3S5CXE1
B	1863	VAL	-	expression tag	UNP A0A3S5CXE1
B	1864	PRO	-	expression tag	UNP A0A3S5CXE1
B	1865	SER	-	expression tag	UNP A0A3S5CXE1
B	1866	GLY	-	expression tag	UNP A0A3S5CXE1

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Chain	Residue	Modelled	Actual	Comment	Reference
B	1867	PRO	-	expression tag	UNP A0A3S5CXE1
B	1868	ARG	-	expression tag	UNP A0A3S5CXE1
B	1869	HIS	-	expression tag	UNP A0A3S5CXE1
B	1870	THR	-	expression tag	UNP A0A3S5CXE1
B	1871	PRO	-	expression tag	UNP A0A3S5CXE1
B	1872	SER	-	expression tag	UNP A0A3S5CXE1
B	1873	MET	-	expression tag	UNP A0A3S5CXE1
B	1874	ASP	-	expression tag	UNP A0A3S5CXE1
B	1875	SER	-	expression tag	UNP A0A3S5CXE1
B	1876	LEU	-	expression tag	UNP A0A3S5CXE1
B	1877	ASN	-	expression tag	UNP A0A3S5CXE1
B	1878	ASP	-	expression tag	UNP A0A3S5CXE1
B	1879	ASP	-	expression tag	UNP A0A3S5CXE1
B	1880	PRO	-	expression tag	UNP A0A3S5CXE1
B	1881	SER	-	expression tag	UNP A0A3S5CXE1
B	1882	ARG	-	expression tag	UNP A0A3S5CXE1
B	1883	GLN	-	expression tag	UNP A0A3S5CXE1
B	1884	VAL	-	expression tag	UNP A0A3S5CXE1
B	1885	MET	-	expression tag	UNP A0A3S5CXE1
B	1886	GLY	-	expression tag	UNP A0A3S5CXE1
B	1887	LYS	-	expression tag	UNP A0A3S5CXE1
B	1888	ALA	-	expression tag	UNP A0A3S5CXE1
B	1889	GLU	-	expression tag	UNP A0A3S5CXE1
B	1890	GLN	-	expression tag	UNP A0A3S5CXE1
B	1891	LYS	-	expression tag	UNP A0A3S5CXE1
B	1892	LEU	-	expression tag	UNP A0A3S5CXE1
B	1893	ILE	-	expression tag	UNP A0A3S5CXE1
B	1894	SER	-	expression tag	UNP A0A3S5CXE1
B	1895	GLU	-	expression tag	UNP A0A3S5CXE1
B	1896	GLU	-	expression tag	UNP A0A3S5CXE1
B	1897	ASP	-	expression tag	UNP A0A3S5CXE1
B	1898	LEU	-	expression tag	UNP A0A3S5CXE1
B	1899	ASN	-	expression tag	UNP A0A3S5CXE1
B	1900	SER	-	expression tag	UNP A0A3S5CXE1
B	1901	ALA	-	expression tag	UNP A0A3S5CXE1
B	1902	VAL	-	expression tag	UNP A0A3S5CXE1
B	1903	ASP	-	expression tag	UNP A0A3S5CXE1
B	1904	HIS	-	expression tag	UNP A0A3S5CXE1
B	1905	HIS	-	expression tag	UNP A0A3S5CXE1
B	1906	HIS	-	expression tag	UNP A0A3S5CXE1
B	1907	HIS	-	expression tag	UNP A0A3S5CXE1
B	1908	HIS	-	expression tag	UNP A0A3S5CXE1

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Chain	Residue	Modelled	Actual	Comment	Reference
B	1909	HIS	-	expression tag	UNP A0A3S5CXE1
A	-27	MET	-	initiating methionine	UNP A0A3S5CXE1
A	-26	GLU	-	expression tag	UNP A0A3S5CXE1
A	-25	GLN	-	expression tag	UNP A0A3S5CXE1
A	-24	LYS	-	expression tag	UNP A0A3S5CXE1
A	-23	LEU	-	expression tag	UNP A0A3S5CXE1
A	-22	ILE	-	expression tag	UNP A0A3S5CXE1
A	-21	SER	-	expression tag	UNP A0A3S5CXE1
A	-20	GLU	-	expression tag	UNP A0A3S5CXE1
A	-19	GLU	-	expression tag	UNP A0A3S5CXE1
A	-18	ASP	-	expression tag	UNP A0A3S5CXE1
A	-17	LEU	-	expression tag	UNP A0A3S5CXE1
A	-16	ASN	-	expression tag	UNP A0A3S5CXE1
A	-15	SER	-	expression tag	UNP A0A3S5CXE1
A	-14	ALA	-	expression tag	UNP A0A3S5CXE1
A	-13	VAL	-	expression tag	UNP A0A3S5CXE1
A	-12	ASP	-	expression tag	UNP A0A3S5CXE1
A	-11	HIS	-	expression tag	UNP A0A3S5CXE1
A	-10	HIS	-	expression tag	UNP A0A3S5CXE1
A	-9	HIS	-	expression tag	UNP A0A3S5CXE1
A	-8	HIS	-	expression tag	UNP A0A3S5CXE1
A	-7	HIS	-	expression tag	UNP A0A3S5CXE1
A	-6	HIS	-	expression tag	UNP A0A3S5CXE1
A	-5	ARG	-	expression tag	UNP A0A3S5CXE1
A	-4	ILE	-	expression tag	UNP A0A3S5CXE1
A	-3	PRO	-	expression tag	UNP A0A3S5CXE1
A	-2	GLY	-	expression tag	UNP A0A3S5CXE1
A	-1	LEU	-	expression tag	UNP A0A3S5CXE1
A	0	ILE	-	expression tag	UNP A0A3S5CXE1
A	1	ASN	-	expression tag	UNP A0A3S5CXE1
A	88	THR	SER	conflict	UNP A0A3S5CXE1
A	1787	LEU	-	expression tag	UNP A0A3S5CXE1
A	1788	VAL	-	expression tag	UNP A0A3S5CXE1
A	1789	VAL	-	expression tag	UNP A0A3S5CXE1
A	1790	GLU	-	expression tag	UNP A0A3S5CXE1
A	1791	LEU	-	expression tag	UNP A0A3S5CXE1
A	1792	LEU	-	expression tag	UNP A0A3S5CXE1
A	1793	GLY	-	expression tag	UNP A0A3S5CXE1
A	1794	LYS	-	expression tag	UNP A0A3S5CXE1
A	1795	ASP	-	expression tag	UNP A0A3S5CXE1
A	1796	LEU	-	expression tag	UNP A0A3S5CXE1
A	1797	GLY	-	expression tag	UNP A0A3S5CXE1

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Chain	Residue	Modelled	Actual	Comment	Reference
A	1798	GLN	-	expression tag	UNP A0A3S5CXE1
A	1799	ASP	-	expression tag	UNP A0A3S5CXE1
A	1800	LEU	-	expression tag	UNP A0A3S5CXE1
A	1801	ARG	-	expression tag	UNP A0A3S5CXE1
A	1802	ALA	-	expression tag	UNP A0A3S5CXE1
A	1803	ALA	-	expression tag	UNP A0A3S5CXE1
A	1804	LEU	-	expression tag	UNP A0A3S5CXE1
A	1805	LEU	-	expression tag	UNP A0A3S5CXE1
A	1806	LEU	-	expression tag	UNP A0A3S5CXE1
A	1807	VAL	-	expression tag	UNP A0A3S5CXE1
A	1808	LEU	-	expression tag	UNP A0A3S5CXE1
A	1809	ARG	-	expression tag	UNP A0A3S5CXE1
A	1810	ARG	-	expression tag	UNP A0A3S5CXE1
A	1811	VAL	-	expression tag	UNP A0A3S5CXE1
A	1812	GLY	-	expression tag	UNP A0A3S5CXE1
A	1813	GLU	-	expression tag	UNP A0A3S5CXE1
A	1814	VAL	-	expression tag	UNP A0A3S5CXE1
A	1815	GLY	-	expression tag	UNP A0A3S5CXE1
A	1816	LEU	-	expression tag	UNP A0A3S5CXE1
A	1817	GLY	-	expression tag	UNP A0A3S5CXE1
A	1818	ILE	-	expression tag	UNP A0A3S5CXE1
A	1819	GLU	-	expression tag	UNP A0A3S5CXE1
A	1820	GLY	-	expression tag	UNP A0A3S5CXE1
A	1821	MET	-	expression tag	UNP A0A3S5CXE1
A	1822	GLY	-	expression tag	UNP A0A3S5CXE1
A	1823	SER	-	expression tag	UNP A0A3S5CXE1
A	1824	GLY	-	expression tag	UNP A0A3S5CXE1
A	1825	GLY	-	expression tag	UNP A0A3S5CXE1
A	1826	ALA	-	expression tag	UNP A0A3S5CXE1
A	1827	ALA	-	expression tag	UNP A0A3S5CXE1
A	1828	ALA	-	expression tag	UNP A0A3S5CXE1
A	1829	ALA	-	expression tag	UNP A0A3S5CXE1
A	1830	ALA	-	expression tag	UNP A0A3S5CXE1
A	1831	ALA	-	expression tag	UNP A0A3S5CXE1
A	1832	ALA	-	expression tag	UNP A0A3S5CXE1
A	1833	GLY	-	expression tag	UNP A0A3S5CXE1
A	1834	ALA	-	expression tag	UNP A0A3S5CXE1
A	1835	ALA	-	expression tag	UNP A0A3S5CXE1
A	1836	ALA	-	expression tag	UNP A0A3S5CXE1
A	1837	ALA	-	expression tag	UNP A0A3S5CXE1
A	1838	SER	-	expression tag	UNP A0A3S5CXE1
A	1839	SER	-	expression tag	UNP A0A3S5CXE1

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Chain	Residue	Modelled	Actual	Comment	Reference
A	1840	GLY	-	expression tag	UNP A0A3S5CXE1
A	1841	GLN	-	expression tag	UNP A0A3S5CXE1
A	1842	GLY	-	expression tag	UNP A0A3S5CXE1
A	1843	ASN	-	expression tag	UNP A0A3S5CXE1
A	1844	GLY	-	expression tag	UNP A0A3S5CXE1
A	1845	ASN	-	expression tag	UNP A0A3S5CXE1
A	1846	GLY	-	expression tag	UNP A0A3S5CXE1
A	1847	ALA	-	expression tag	UNP A0A3S5CXE1
A	1848	ALA	-	expression tag	UNP A0A3S5CXE1
A	1849	ALA	-	expression tag	UNP A0A3S5CXE1
A	1850	ALA	-	expression tag	UNP A0A3S5CXE1
A	1851	ALA	-	expression tag	UNP A0A3S5CXE1
A	1852	ALA	-	expression tag	UNP A0A3S5CXE1
A	1853	ASP	-	expression tag	UNP A0A3S5CXE1
A	1854	SER	-	expression tag	UNP A0A3S5CXE1
A	1855	GLU	-	expression tag	UNP A0A3S5CXE1
A	1856	ARG	-	expression tag	UNP A0A3S5CXE1
A	1857	ARG	-	expression tag	UNP A0A3S5CXE1
A	1858	SER	-	expression tag	UNP A0A3S5CXE1
A	1859	SER	-	expression tag	UNP A0A3S5CXE1
A	1860	VAL	-	expression tag	UNP A0A3S5CXE1
A	1861	LEU	-	expression tag	UNP A0A3S5CXE1
A	1862	SER	-	expression tag	UNP A0A3S5CXE1
A	1863	VAL	-	expression tag	UNP A0A3S5CXE1
A	1864	PRO	-	expression tag	UNP A0A3S5CXE1
A	1865	SER	-	expression tag	UNP A0A3S5CXE1
A	1866	GLY	-	expression tag	UNP A0A3S5CXE1
A	1867	PRO	-	expression tag	UNP A0A3S5CXE1
A	1868	ARG	-	expression tag	UNP A0A3S5CXE1
A	1869	HIS	-	expression tag	UNP A0A3S5CXE1
A	1870	THR	-	expression tag	UNP A0A3S5CXE1
A	1871	PRO	-	expression tag	UNP A0A3S5CXE1
A	1872	SER	-	expression tag	UNP A0A3S5CXE1
A	1873	MET	-	expression tag	UNP A0A3S5CXE1
A	1874	ASP	-	expression tag	UNP A0A3S5CXE1
A	1875	SER	-	expression tag	UNP A0A3S5CXE1
A	1876	LEU	-	expression tag	UNP A0A3S5CXE1
A	1877	ASN	-	expression tag	UNP A0A3S5CXE1
A	1878	ASP	-	expression tag	UNP A0A3S5CXE1
A	1879	ASP	-	expression tag	UNP A0A3S5CXE1
A	1880	PRO	-	expression tag	UNP A0A3S5CXE1
A	1881	SER	-	expression tag	UNP A0A3S5CXE1

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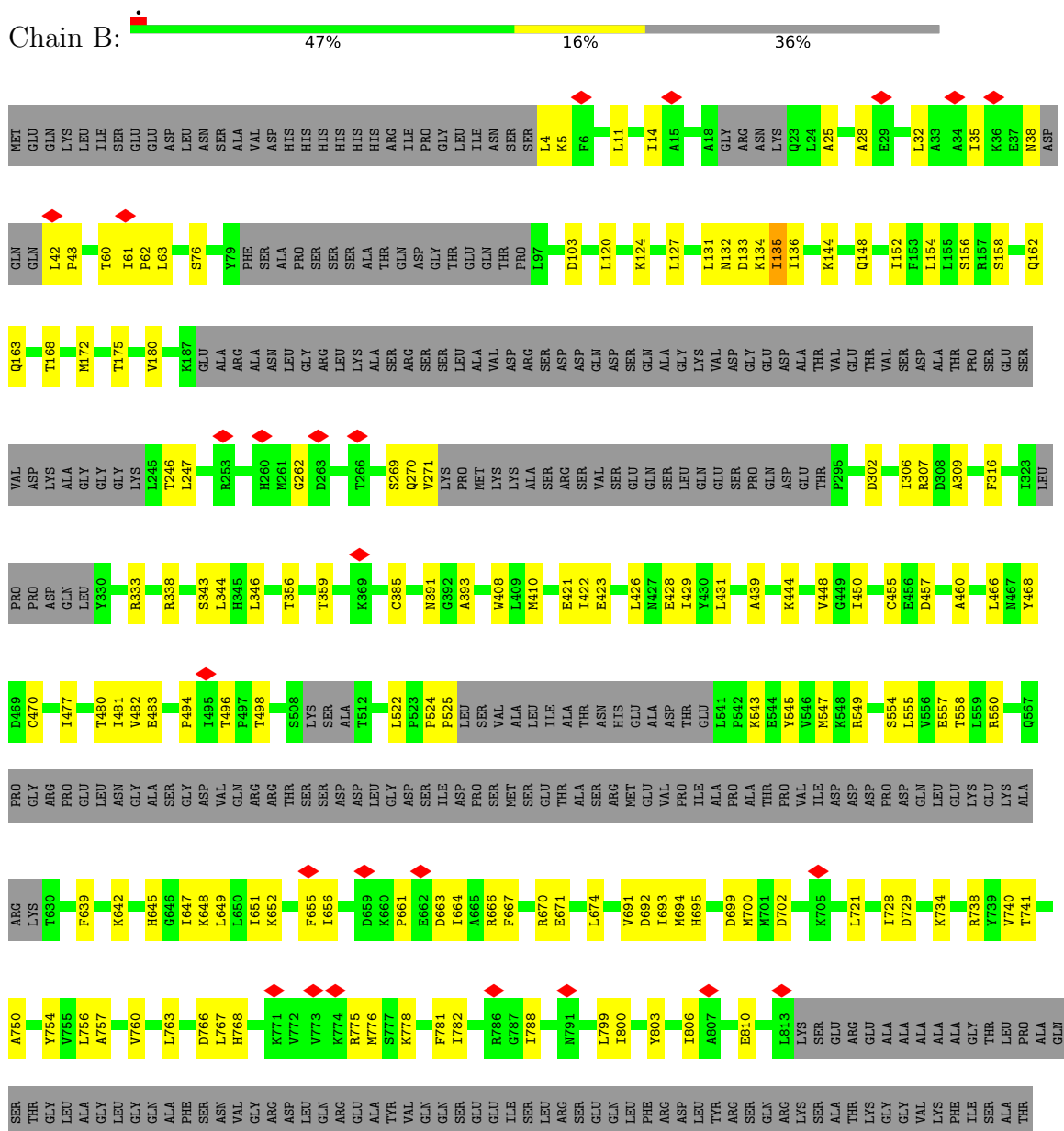
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Chain	Residue	Modelled	Actual	Comment	Reference
A	1882	ARG	-	expression tag	UNP A0A3S5CXE1
A	1883	GLN	-	expression tag	UNP A0A3S5CXE1
A	1884	VAL	-	expression tag	UNP A0A3S5CXE1
A	1885	MET	-	expression tag	UNP A0A3S5CXE1
A	1886	GLY	-	expression tag	UNP A0A3S5CXE1
A	1887	LYS	-	expression tag	UNP A0A3S5CXE1
A	1888	ALA	-	expression tag	UNP A0A3S5CXE1
A	1889	GLU	-	expression tag	UNP A0A3S5CXE1
A	1890	GLN	-	expression tag	UNP A0A3S5CXE1
A	1891	LYS	-	expression tag	UNP A0A3S5CXE1
A	1892	LEU	-	expression tag	UNP A0A3S5CXE1
A	1893	ILE	-	expression tag	UNP A0A3S5CXE1
A	1894	SER	-	expression tag	UNP A0A3S5CXE1
A	1895	GLU	-	expression tag	UNP A0A3S5CXE1
A	1896	GLU	-	expression tag	UNP A0A3S5CXE1
A	1897	ASP	-	expression tag	UNP A0A3S5CXE1
A	1898	LEU	-	expression tag	UNP A0A3S5CXE1
A	1899	ASN	-	expression tag	UNP A0A3S5CXE1
A	1900	SER	-	expression tag	UNP A0A3S5CXE1
A	1901	ALA	-	expression tag	UNP A0A3S5CXE1
A	1902	VAL	-	expression tag	UNP A0A3S5CXE1
A	1903	ASP	-	expression tag	UNP A0A3S5CXE1
A	1904	HIS	-	expression tag	UNP A0A3S5CXE1
A	1905	HIS	-	expression tag	UNP A0A3S5CXE1
A	1906	HIS	-	expression tag	UNP A0A3S5CXE1
A	1907	HIS	-	expression tag	UNP A0A3S5CXE1
A	1908	HIS	-	expression tag	UNP A0A3S5CXE1
A	1909	HIS	-	expression tag	UNP A0A3S5CXE1

3 Residue-property plots

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

- Molecule 1: SEC7 domain-containing protein



ALA	VAL	GLN	THR	ARG	THR	S1338	F1343	F1344	F1345	P1346	V1347	L1348	F1349	A1350	F1351	H1352	D1353	VAL	LEU	MET	THR	GLY	GLU	ASP	LEU	GLU	VAL	R1364	S1365	N1366	M1369	V1370	F1371	F1372	L1375	L1376	R1377	V1378	G1379	GLY	ASP	PHE	PRO	PRO	GLU	F1386	Q1394	P1397	I1398	F1399	MET	VAL	LEU			
ARG	SER	PRO	GLU	MET	THR	ASN	ALA	ASN	LEU	ASN	HIS	GLU	GLU	LEU	SER	T1423	T1424	M1425	R1430	N1431	T1437	HIS	TYR	PHE	ASP	ALA	LEU	E1444	Y1445	H1446	L1447	R1449	D1448	F1450	L1454	T1458	C1459	GLN	GLU	ASN	ASN	THR	T1465	A1466	R1467	C1472	L1473	K1483	PHE							
THR	ALA	GLU	H1488	K1491	T1492	V1493	C1497	E1498	L1499	F1500	T1504	ALA	TYR	GLN	LEU	PHE	ALA	THR	ILE	ASN	SER	ALA	THR	ALA	SER	LEU	SER	PRO	PRO	ALA	THR	GLY	LEU	LEU	GLY	PRO	PRO	SER	PRO	THR	ALA	ALA	THR	ALA	THR	ALA	PRO	VAL	ASP	GLY	LYS	SER	LEU	GLN	GLM	ILE
ASN	GLY	VAL	THR	ASN	GLY	GLM	THR	PRO	GLY	ALA	ASN	PRO	ALA	ASN	ASP	ALA	ASP	GLY	ASN	THR	ALA	ALA	ALA	ALA	ASP	ALA	SER	ALA	ALA	THR	GLM	GLN	GLY	GLM	GLY	PRO	ALA	ALA	GLN	GLM	THR	LEU	GLU	GLU	PHE	ALA	PRO	PRO	ASN	ASN	PRO	LEU	GLM	GLM		
PRO	VAL	VAL	THR	ALA	ALA	ARG	ARG	PHE	PHE	ASN	R1623	Q1631	L1641	V1647	E1655	L1656	L1657	M1660	K1664	F1667	F1673	N1674	A1675	LYS	ASP	LEU	ARG	MET	ARG	ARG	LEU	TRP	ARG	GLY	PHE	MET	LYS	PRO	PRO	ASN	LEU	L1896	Q1697	K1698	S1700											
Y1706	V1707	L1710	F1714	GLY	ASP	THR	ALA	PRO	ASP	ARG	GLY	S1724	E1729	A1730	A1731	L1732	V1733	P1734	D1738	R1741	G1742	A1745	L1746	D1747	D1748	E1749	V1765	Y1769	A1770	A1771	R1774	F1777	H1780	I1781	R1782	V1788	L1791	L1792	D1795	Q1798	R1801															
L1804	L1805	L1808	R1809	R1810	E1813	V1814	G1817	ILE	GLU	GLY	MET	GLY	SER	GLN	VAL	GLY	MET	GLY	LYS	ALA	ALA	ALA	ALA	ALA	ALA	ALA	ALA	ALA	ALA	ALA	ALA	ALA	ALA	ALA	ASP	SER	GLU	ARG	ARG	SER	SER	VAL	LEU	SER	VAL	PRO	SER	GLY								
PRO	ARG	HIS	THR	PRO	SER	MET	ASP	SER	LEU	ASN	ASP	PRO	GLY	SER	VAL	MET	GLY	LYS	ALA	ALA	GLN	LYS	LEU	ILE	SER	GLU	GLU	ASP	LEU	ASN	SER	VAL	VAL	HIS	HIS	HIS	HIS	HIS	HIS	HIS	HIS	HIS	HIS	HIS	HIS	HIS	HIS	HIS	HIS	HIS	HIS	HIS	HIS	HIS	HIS	

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	196888	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TALOS ARCTICA	Depositor
Voltage (kV)	200	Depositor
Electron dose ($e^-/\text{\AA}^2$)	55.6	Depositor
Minimum defocus (nm)	600	Depositor
Maximum defocus (nm)	2200	Depositor
Magnification	63000	Depositor
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	195.124	Depositor
Minimum map value	-93.830	Depositor
Average map value	0.002	Depositor
Map value standard deviation	1.374	Depositor
Recommended contour level	41.0	Depositor
Map size (Å)	848.11053, 848.11053, 848.11053	wwPDB
Map dimensions	487, 487, 487	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.7415, 1.7415, 1.7415	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	0.25	0/10050	0.47	1/13560 (0.0%)
1	B	0.27	0/10050	0.49	0/13560
All	All	0.26	0/20100	0.48	1/27120 (0.0%)

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	522	LEU	CA-CB-CG	5.35	127.60	115.30

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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	9883	0	10037	202	0
1	B	9883	0	10037	220	0
All	All	19766	0	20074	419	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 11.

All (419) 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:B:651:ILE:HD12	1:B:656:ILE:HG21	1.67	0.77
1:B:1351:PHE:HB3	1:B:1371:PHE:HB2	1.71	0.73
1:A:1351:PHE:HB3	1:A:1371:PHE:HB2	1.71	0.73
1:B:156:SER:HB3	1:B:162:GLN:HG3	1.71	0.72
1:B:1493:VAL:HG21	1:B:1655:GLU:HB3	1.70	0.72
1:A:1282:MET:SD	1:A:1283:ARG:NH1	2.64	0.71
1:B:760:VAL:HG23	1:B:806:ILE:HD11	1.73	0.70
1:B:958:LEU:HA	1:B:964:MET:HE1	1.74	0.70
1:A:1493:VAL:HG21	1:A:1655:GLU:HB3	1.72	0.70
1:A:734:LYS:HG2	1:A:1177:LEU:HD11	1.73	0.69
1:B:663:ASP:OD1	1:B:666:ARG:NH1	2.26	0.69
1:A:945:ARG:NH1	1:A:986:LEU:O	2.26	0.68
1:A:760:VAL:HG23	1:A:806:ILE:HD11	1.74	0.68
1:B:1375:LEU:HD22	1:B:1431:ASN:HB3	1.75	0.68
1:A:656:ILE:HD12	1:A:664:ILE:HA	1.77	0.67
1:B:1223:SER:H	1:B:1265:GLN:HG2	1.60	0.67
1:B:1299:ILE:HA	1:B:1343:PHE:HZ	1.60	0.67
1:A:651:ILE:HD12	1:A:656:ILE:HG21	1.78	0.66
1:B:1348:LEU:O	1:B:1352:HIS:ND1	2.27	0.66
1:A:482:VAL:HG12	1:A:905:PHE:HE2	1.60	0.66
1:A:724:GLU:HB2	1:A:727:LYS:HG3	1.77	0.65
1:A:333:ARG:HG2	1:A:525:PRO:HB2	1.79	0.65
1:A:1070:LYS:HG3	1:A:1074:ARG:HH12	1.61	0.65
1:A:1101:GLU:OE1	1:A:1112:ARG:NH1	2.30	0.64
1:A:156:SER:HB3	1:A:162:GLN:HG3	1.78	0.64
1:A:638:VAL:HG11	1:A:649:LEU:HD21	1.77	0.64
1:B:333:ARG:HG2	1:B:525:PRO:HB2	1.78	0.64
1:B:38:ASN:HB3	1:B:42:LEU:HD13	1.79	0.64
1:B:131:LEU:HD21	1:B:175:THR:HG21	1.80	0.64
1:A:1294:THR:HA	1:A:1297:SER:HB3	1.79	0.64
1:B:1347:VAL:O	1:B:1351:PHE:HB2	1.98	0.64
1:A:32:LEU:HA	1:A:35:ILE:HD12	1.80	0.64
1:A:934:LYS:HG2	1:A:945:ARG:HG2	1.79	0.63
1:A:1302:MET:O	1:A:1305:THR:OG1	2.16	0.63
1:A:1078:ASN:OD1	1:A:1081:ASN:ND2	2.32	0.62
1:B:775:ARG:HE	1:B:776:MET:H	1.46	0.62
1:A:1674:ASN:ND2	1:A:1699:GLU:OE1	2.32	0.61
1:B:134:LYS:HA	1:B:271:VAL:H	1.65	0.61
1:B:393:ALA:HB2	1:B:429:ILE:HG23	1.82	0.61
1:A:1223:SER:H	1:A:1265:GLN:HG2	1.65	0.61
1:B:1729:GLU:OE2	1:B:1780:HIS:NE2	2.33	0.61
1:A:1375:LEU:HD22	1:A:1431:ASN:HB3	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:639:PHE:HB3	1:B:674:LEU:HD11	1.83	0.60
1:A:439:ALA:HB3	1:A:444:LYS:HE3	1.83	0.60
1:A:431:LEU:HD11	1:A:481:ILE:HG22	1.83	0.60
1:B:734:LYS:HG2	1:B:1177:LEU:HD11	1.82	0.60
1:B:1474:GLN:HG2	1:B:1633:LEU:HD11	1.84	0.60
1:B:1792:LEU:HD21	1:A:1808:LEU:HD21	1.84	0.59
1:A:333:ARG:O	1:A:338:ARG:NH2	2.34	0.59
1:B:1775:ASP:OD1	1:B:1776:ALA:N	2.35	0.59
1:B:1738:ASP:OD1	1:B:1741:ARG:NH2	2.36	0.59
1:A:344:LEU:HD11	1:A:391:ASN:HD21	1.68	0.59
1:A:1079:THR:HA	1:A:1082:LEU:HD13	1.83	0.59
1:B:1200:VAL:HG13	1:B:1243:ILE:HD11	1.85	0.59
1:B:35:ILE:HG23	1:B:42:LEU:HD11	1.85	0.58
1:A:393:ALA:HB2	1:A:429:ILE:HG23	1.84	0.58
1:A:35:ILE:HG23	1:A:42:LEU:HD11	1.84	0.58
1:A:262:GLY:HA2	1:A:307:ARG:HH21	1.68	0.58
1:B:729:ASP:OD1	1:B:754:TYR:OH	2.21	0.58
1:B:431:LEU:HD11	1:B:481:ILE:HG22	1.85	0.58
1:B:1433:ILE:HD12	1:B:1476:LEU:HB2	1.85	0.58
1:B:1101:GLU:OE1	1:B:1112:ARG:NH1	2.37	0.58
1:A:897:MET:O	1:A:902:TRP:NE1	2.36	0.58
1:B:1808:LEU:HD21	1:A:1792:LEU:HD21	1.85	0.58
1:A:366:ARG:NH2	1:A:371:ASN:O	2.32	0.58
1:B:262:GLY:HA2	1:B:307:ARG:HH21	1.68	0.57
1:B:1079:THR:HA	1:B:1082:LEU:HD13	1.86	0.57
1:B:1674:ASN:ND2	1:B:1699:GLU:OE1	2.35	0.57
1:A:413:TYR:HE1	1:A:516:TRP:HE1	1.52	0.57
1:B:439:ALA:HB3	1:B:444:LYS:HE3	1.85	0.57
1:B:1660:MET:HB3	1:B:1706:TYR:CE1	2.40	0.57
1:A:1345:PHE:HB2	1:A:1346:PRO:HD3	1.87	0.57
1:A:136:ILE:N	1:A:269:SER:O	2.29	0.57
1:B:423:GLU:HB2	1:B:468:TYR:CE2	2.40	0.57
1:A:663:ASP:OD1	1:A:666:ARG:NH1	2.38	0.57
1:B:482:VAL:HG12	1:B:905:PHE:HE2	1.69	0.57
1:B:1078:ASN:OD1	1:B:1081:ASN:ND2	2.35	0.57
1:B:1626:SER:O	1:B:1630:LEU:HG	2.04	0.57
1:B:134:LYS:HG3	1:B:135:ILE:HD12	1.86	0.56
1:B:903:MET:SD	1:B:903:MET:N	2.78	0.56
1:A:1348:LEU:O	1:A:1352:HIS:ND1	2.38	0.56
1:B:1707:VAL:HG11	1:B:1765:VAL:HG22	1.87	0.56
1:A:1738:ASP:OD1	1:A:1741:ARG:NH2	2.39	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:483:GLU:HA	1:A:905:PHE:CZ	2.40	0.56
1:B:522:LEU:O	1:B:524:PRO:HD3	2.06	0.55
1:B:1447:LEU:HA	1:B:1450:PHE:CZ	2.40	0.55
1:A:670:ARG:NH1	1:A:671:GLU:OE1	2.39	0.55
1:A:1423:THR:OG1	1:A:1424:THR:N	2.37	0.55
1:B:1467:ARG:HE	1:B:1471:ASN:HD21	1.53	0.55
1:B:1345:PHE:HB2	1:B:1346:PRO:HD3	1.87	0.55
1:B:148:GLN:O	1:B:152:ILE:HD12	2.06	0.55
1:A:1444:GLU:HA	1:A:1447:LEU:HD13	1.88	0.55
1:A:522:LEU:O	1:A:524:PRO:HD3	2.06	0.55
1:A:1398:ILE:HG13	1:A:1454:LEU:HD11	1.88	0.55
1:A:1707:VAL:HG21	1:A:1765:VAL:HG22	1.88	0.55
1:B:545:TYR:OH	1:B:549:ARG:NH1	2.40	0.54
1:A:1149:GLY:HA3	1:A:1193:VAL:HG22	1.89	0.54
1:A:1769:TYR:HB3	1:A:1777:PHE:HE1	1.73	0.54
1:A:694:MET:SD	1:A:734:LYS:HD2	2.48	0.54
1:A:903:MET:HG3	1:A:944:PRO:HG3	1.89	0.54
1:B:555:LEU:HD13	1:B:909:LEU:HD11	1.89	0.54
1:B:333:ARG:O	1:B:338:ARG:NH2	2.41	0.54
1:B:1796:LEU:HB2	1:B:1800:LEU:HD22	1.90	0.54
1:B:695:HIS:CE1	1:B:734:LYS:HZ3	2.25	0.53
1:B:423:GLU:HB2	1:B:468:TYR:HE2	1.71	0.53
1:A:545:TYR:OH	1:A:549:ARG:NH1	2.42	0.53
1:B:691:VAL:O	1:B:734:LYS:NZ	2.42	0.53
1:A:423:GLU:HB2	1:A:468:TYR:HE2	1.74	0.53
1:A:1788:VAL:HA	1:A:1791:LEU:HD23	1.90	0.53
1:B:973:LYS:HD3	1:B:1068:VAL:HG22	1.91	0.53
1:A:134:LYS:HG3	1:A:135:ILE:HD12	1.90	0.53
1:B:778:LYS:HE2	1:B:800:ILE:HA	1.90	0.53
1:A:1377:ARG:O	1:A:1377:ARG:NH1	2.41	0.52
1:B:1282:MET:HG2	1:B:1283:ARG:HG2	1.91	0.52
1:B:466:LEU:HD21	1:B:893:HIS:HE1	1.74	0.52
1:A:38:ASN:HB3	1:A:42:LEU:HD13	1.89	0.52
1:B:302:ASP:O	1:B:306:ILE:HG12	2.09	0.52
1:B:1305:THR:OG1	1:B:1306:PRO:HD3	2.09	0.52
1:A:56:THR:HG1	1:A:108:CYS:HG	1.47	0.52
1:A:1459:CYS:HB3	1:A:1473:LEU:HD13	1.91	0.52
1:B:1660:MET:HB3	1:B:1706:TYR:HE1	1.75	0.52
1:A:920:ASP:OD1	1:A:920:ASP:N	2.42	0.52
1:A:76:SER:OG	1:A:132:ASN:ND2	2.43	0.52
1:A:1798:GLN:OE1	1:A:1801:ARG:NH1	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:135:ILE:H	1:B:270:GLN:HG2	1.74	0.51
1:A:60:THR:OG1	1:A:63:LEU:HB3	2.10	0.51
1:A:898:PHE:HE2	1:A:941:LEU:HA	1.74	0.51
1:A:1449:ARG:NH1	1:A:1450:PHE:HB3	2.26	0.51
1:A:134:LYS:HA	1:A:271:VAL:H	1.74	0.51
1:B:172:MET:HA	1:B:175:THR:HG22	1.91	0.51
1:B:934:LYS:HG2	1:B:945:ARG:HB2	1.91	0.51
1:A:721:LEU:HD12	1:A:728:ILE:HG12	1.92	0.51
1:A:1660:MET:HB3	1:A:1706:TYR:HE1	1.75	0.51
1:A:1500:PHE:HE1	1:A:1631:GLN:HE22	1.59	0.51
1:B:1207:LEU:O	1:B:1211:ILE:HG12	2.10	0.51
1:B:1766:LEU:HD12	1:B:1807:VAL:HG11	1.91	0.51
1:A:768:HIS:NE2	1:A:806:ILE:O	2.32	0.51
1:A:455:CYS:SG	1:A:558:THR:OG1	2.69	0.51
1:B:1433:ILE:CD1	1:B:1476:LEU:HB2	2.41	0.51
1:A:776:MET:O	1:A:803:TYR:OH	2.29	0.51
1:A:1667:PHE:HE1	1:A:1699:GLU:HG3	1.76	0.50
1:B:670:ARG:NH1	1:B:671:GLU:OE1	2.44	0.50
1:B:694:MET:SD	1:B:734:LYS:HD2	2.52	0.50
1:A:11:LEU:HD23	1:A:14:ILE:HD11	1.94	0.50
1:A:894:VAL:O	1:A:898:PHE:N	2.44	0.50
1:A:1199:ASN:HB3	1:A:1202:VAL:HB	1.93	0.50
1:B:905:PHE:O	1:B:908:THR:OG1	2.22	0.50
1:A:645:HIS:HA	1:A:648:LYS:HE2	1.94	0.50
1:A:778:LYS:HZ1	1:A:799:LEU:HB3	1.75	0.50
1:B:1070:LYS:HG3	1:B:1074:ARG:HH12	1.76	0.50
1:A:522:LEU:O	1:A:522:LEU:HD12	2.12	0.50
1:A:1710:LEU:HD23	1:A:1732:LEU:HB2	1.94	0.50
1:B:156:SER:OG	1:B:158:SER:OG	2.29	0.50
1:B:246:THR:OG1	1:B:428:GLU:OE2	2.29	0.50
1:B:1444:GLU:HA	1:B:1447:LEU:HD13	1.94	0.50
1:B:1710:LEU:HD23	1:B:1732:LEU:HB2	1.93	0.50
1:A:778:LYS:HE3	1:A:782:ILE:HD11	1.94	0.50
1:B:1792:LEU:HD11	1:A:1805:LEU:HB2	1.94	0.49
1:A:143:LEU:HD12	1:A:311:LEU:HB3	1.93	0.49
1:A:994:LEU:HD21	1:A:1090:PHE:HE1	1.76	0.49
1:B:496:THR:HG22	1:B:498:THR:HG22	1.93	0.49
1:B:691:VAL:O	1:B:695:HIS:ND1	2.45	0.49
1:A:396:VAL:HG13	1:A:399:VAL:HB	1.93	0.49
1:A:345:HIS:CE1	1:A:521:VAL:HG11	2.47	0.49
1:B:385:CYS:SG	1:B:421:GLU:HG2	2.52	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:645:HIS:HA	1:B:648:LYS:HG2	1.93	0.49
1:A:423:GLU:HB2	1:A:468:TYR:CE2	2.46	0.49
1:A:1302:MET:O	1:A:1306:PRO:HD3	2.12	0.49
1:B:120:LEU:HD21	1:B:124:LYS:HE2	1.94	0.49
1:B:647:ILE:O	1:B:651:ILE:HG12	2.12	0.49
1:B:1667:PHE:CE2	1:B:1703:ALA:HB2	2.48	0.49
1:B:410:MET:HG2	1:B:422:ILE:HD11	1.94	0.49
1:A:103:ASP:OD1	1:A:144:LYS:NZ	2.42	0.49
1:B:494:PRO:HG3	1:B:545:TYR:HB2	1.94	0.49
1:B:1168:SER:O	1:B:1172:MET:HG2	2.13	0.49
1:A:751:ASP:OD1	1:A:752:THR:N	2.45	0.49
1:B:1497:CYS:SG	1:B:1662:LEU:HD11	2.53	0.48
1:A:557:GLU:OE2	1:A:560:ARG:NH1	2.47	0.48
1:B:61:ILE:HB	1:B:62:PRO:HD3	1.95	0.48
1:B:778:LYS:HE3	1:B:782:ILE:HD11	1.95	0.48
1:B:455:CYS:SG	1:B:554:SER:OG	2.71	0.48
1:A:426:LEU:HB3	1:A:431:LEU:HD23	1.95	0.48
1:B:136:ILE:N	1:B:269:SER:O	2.35	0.48
1:A:1299:ILE:HG12	1:A:1343:PHE:CE2	2.48	0.48
1:B:1648:TYR:CZ	1:B:1712:ARG:HG2	2.48	0.48
1:B:1706:TYR:CE2	1:B:1735:LEU:HG	2.49	0.48
1:B:1794:LYS:HE2	1:B:1794:LYS:HB3	1.64	0.48
1:A:320:SER:O	1:A:340:LYS:NZ	2.47	0.48
1:B:103:ASP:OD1	1:B:144:LYS:NZ	2.43	0.48
1:A:120:LEU:HD21	1:A:124:LYS:HE2	1.96	0.48
1:A:156:SER:OG	1:A:158:SER:OG	2.26	0.48
1:B:133:ASP:OD1	1:B:134:LYS:N	2.46	0.48
1:B:455:CYS:SG	1:B:558:THR:OG1	2.72	0.48
1:B:898:PHE:CE1	1:B:944:PRO:HG2	2.49	0.48
1:B:11:LEU:HA	1:B:14:ILE:HG12	1.94	0.47
1:B:344:LEU:HD11	1:B:391:ASN:ND2	2.28	0.47
1:A:1338:SER:O	1:A:1338:SER:OG	2.32	0.47
1:B:691:VAL:HG12	1:B:695:HIS:CE1	2.49	0.47
1:B:1470:SER:HB3	1:B:1633:LEU:HD23	1.96	0.47
1:B:1663:LEU:HD21	1:B:1705:THR:OG1	2.13	0.47
1:B:1709:ILE:O	1:B:1713:MET:HE3	2.14	0.47
1:B:934:LYS:HE3	1:B:986:LEU:HD12	1.96	0.47
1:A:778:LYS:HE2	1:A:800:ILE:HA	1.96	0.47
1:A:1458:ILE:HD11	1:A:1473:LEU:HB2	1.96	0.47
1:B:778:LYS:HZ1	1:B:799:LEU:C	2.18	0.47
1:A:18:ALA:HA	1:A:25:ALA:HB2	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1095:THR:HG23	1:B:1144:HIS:HB2	1.96	0.47
1:B:1458:ILE:HD11	1:B:1473:LEU:HB2	1.96	0.47
1:B:1804:LEU:HA	1:B:1807:VAL:HG12	1.96	0.47
1:A:448:VAL:HG21	1:A:547:MET:SD	2.55	0.47
1:A:778:LYS:HZ2	1:A:781:PHE:HD2	1.62	0.47
1:B:692:ASP:HA	1:B:695:HIS:HD1	1.78	0.47
1:B:721:LEU:HD12	1:B:728:ILE:HG12	1.96	0.47
1:B:1788:VAL:HA	1:B:1791:LEU:HD23	1.95	0.47
1:B:557:GLU:OE2	1:B:560:ARG:NH1	2.48	0.47
1:B:1338:SER:HA	1:B:1341:GLU:HG2	1.95	0.47
1:B:1652:PRO:HB2	1:B:1655:GLU:HG2	1.95	0.47
1:A:61:ILE:HB	1:A:62:PRO:HD3	1.97	0.47
1:A:1305:THR:OG1	1:A:1306:PRO:HD3	2.15	0.47
1:A:1804:LEU:HG	1:A:1808:LEU:HD23	1.97	0.47
1:B:522:LEU:O	1:B:522:LEU:HD12	2.14	0.47
1:A:740:VAL:HG21	1:A:750:ALA:HA	1.97	0.47
1:A:1770:ALA:HA	1:A:1810:ARG:HH11	1.79	0.47
1:B:702:ASP:OD1	1:B:702:ASP:N	2.47	0.46
1:B:935:ILE:HD11	1:B:941:LEU:HB3	1.96	0.46
1:A:736:ALA:HB1	1:A:753:PRO:HG2	1.97	0.46
1:B:953:LYS:HG3	1:B:996:CYS:SG	2.56	0.46
1:B:1253:GLN:O	1:B:1257:THR:OG1	2.24	0.46
1:B:1298:VAL:HG13	1:B:1299:ILE:N	2.31	0.46
1:A:1095:THR:HG23	1:A:1144:HIS:HB2	1.98	0.46
1:A:410:MET:HG2	1:A:422:ILE:HD11	1.98	0.46
1:B:42:LEU:HG	1:B:43:PRO:HD3	1.98	0.46
1:B:1641:LEU:HD11	1:B:1647:VAL:HG21	1.98	0.46
1:A:42:LEU:HG	1:A:43:PRO:HD3	1.96	0.46
1:A:166:GLN:NE2	1:A:523:PRO:HD2	2.30	0.46
1:A:351:LEU:HB3	1:A:409:LEU:HD13	1.97	0.46
1:A:702:ASP:HA	1:A:738:ARG:HH21	1.81	0.46
1:A:1200:VAL:HG13	1:A:1243:ILE:HD11	1.96	0.46
1:B:767:LEU:HA	1:B:775:ARG:NH2	2.31	0.46
1:A:1714:PHE:HZ	1:A:1729:GLU:HB2	1.80	0.46
1:A:768:HIS:CG	1:A:810:GLU:HB2	2.51	0.46
1:B:316:PHE:O	1:B:343:SER:OG	2.34	0.46
1:A:247:LEU:N	1:A:428:GLU:OE2	2.47	0.46
1:B:994:LEU:HD21	1:B:1090:PHE:HE1	1.81	0.46
1:A:639:PHE:HB3	1:A:674:LEU:HD11	1.98	0.46
1:A:702:ASP:OD1	1:A:702:ASP:N	2.49	0.46
1:B:661:PRO:HB3	1:B:693:ILE:HA	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:756:LEU:HD13	1:B:788:ILE:HD11	1.97	0.45
1:B:757:ALA:HA	1:B:760:VAL:HG12	1.98	0.45
1:A:1298:VAL:HG13	1:A:1299:ILE:N	2.32	0.45
1:B:895:GLY:O	1:B:898:PHE:HB3	2.16	0.45
1:B:909:LEU:HD23	1:B:909:LEU:H	1.81	0.45
1:B:1280:LYS:HB2	1:B:1350:ALA:HB1	1.97	0.45
1:A:729:ASP:HB2	1:A:1130:VAL:HG13	1.97	0.45
1:B:655:PHE:CD2	1:B:667:PHE:HB2	2.51	0.45
1:B:1236:ALA:C	1:B:1237:ARG:HD2	2.37	0.45
1:A:994:LEU:HD21	1:A:1090:PHE:CE1	2.51	0.45
1:B:1181:LYS:NZ	1:B:1185:ASP:OD2	2.38	0.45
1:A:132:ASN:OD1	1:A:133:ASP:N	2.49	0.45
1:A:1483:LYS:HE2	1:A:1483:LYS:HB2	1.84	0.45
1:B:1398:ILE:HG13	1:B:1454:LEU:HD11	1.99	0.45
1:B:466:LEU:O	1:B:470:CYS:HB2	2.16	0.45
1:A:410:MET:O	1:A:414:MET:HB2	2.17	0.45
1:A:1366:ASN:HA	1:A:1369:ASN:HD21	1.81	0.45
1:A:1664:LYS:HD3	1:A:1706:TYR:CE2	2.51	0.45
1:B:76:SER:OG	1:B:132:ASN:ND2	2.50	0.45
1:B:740:VAL:HG21	1:B:750:ALA:HA	1.99	0.45
1:A:934:LYS:HE3	1:A:986:LEU:HD12	1.99	0.45
1:A:1733:VAL:HG21	1:A:1780:HIS:CE1	2.52	0.45
1:B:482:VAL:HG12	1:B:905:PHE:CE2	2.52	0.45
1:A:1697:LYS:NZ	1:A:1700:SER:OG	2.45	0.45
1:B:131:LEU:HD23	1:B:131:LEU:HA	1.77	0.45
1:B:483:GLU:HA	1:B:905:PHE:CZ	2.52	0.45
1:A:425:PHE:HD1	1:A:429:ILE:HD12	1.82	0.45
1:A:1168:SER:HA	1:A:1186:PHE:HE2	1.82	0.45
1:A:1236:ALA:C	1:A:1237:ARG:HD2	2.37	0.44
1:B:426:LEU:O	1:B:431:LEU:HB2	2.18	0.44
1:A:935:ILE:HD11	1:A:941:LEU:HB3	1.98	0.44
1:B:457:ASP:HB3	1:B:460:ALA:HB3	2.00	0.44
1:B:448:VAL:HG21	1:B:547:MET:SD	2.58	0.44
1:A:134:LYS:HB2	1:A:270:GLN:HB3	1.99	0.44
1:A:656:ILE:HD11	1:A:667:PHE:HB3	1.99	0.44
1:B:180:VAL:HG21	1:B:309:ALA:HB2	2.00	0.44
1:B:1366:ASN:HA	1:B:1369:ASN:HD21	1.81	0.44
1:A:1207:LEU:O	1:A:1211:ILE:HG12	2.17	0.44
1:B:154:LEU:HD12	1:B:338:ARG:HH11	1.82	0.44
1:B:25:ALA:O	1:B:28:ALA:N	2.50	0.44
1:B:994:LEU:HD21	1:B:1090:PHE:CE1	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1180:PHE:O	1:B:1223:SER:OG	2.24	0.44
1:A:68:LEU:HD23	1:A:105:ILE:HG12	1.99	0.44
1:B:32:LEU:HA	1:B:35:ILE:HD12	2.00	0.44
1:B:894:VAL:O	1:B:898:PHE:N	2.47	0.44
1:A:1813:GLU:HA	1:A:1817:GLY:HA3	2.00	0.44
1:B:60:THR:OG1	1:B:63:LEU:HB3	2.18	0.44
1:B:766:ASP:OD1	1:B:775:ARG:NH2	2.45	0.44
1:A:1220:ASN:HA	1:A:1222:ARG:NH1	2.32	0.44
1:A:1273:VAL:HA	1:A:1276:THR:HG22	1.99	0.44
1:A:1423:THR:N	1:A:1425:MET:SD	2.91	0.44
1:A:1430:ARG:NH2	1:A:1472:CYS:SG	2.91	0.44
1:B:4:LEU:HD23	1:B:4:LEU:HA	1.90	0.43
1:B:1230:GLY:HA2	1:B:1233:THR:HG22	2.00	0.43
1:A:344:LEU:HD21	1:A:391:ASN:ND2	2.33	0.43
1:B:738:ARG:HA	1:B:741:THR:HG22	2.00	0.43
1:B:691:VAL:HG12	1:B:695:HIS:HE1	1.82	0.43
1:A:496:THR:HG22	1:A:498:THR:HG22	2.01	0.43
1:B:477:ILE:O	1:B:481:ILE:HG23	2.19	0.43
1:B:1369:ASN:O	1:B:1372:PHE:N	2.52	0.43
1:B:1697:LYS:NZ	1:B:1700:SER:OG	2.39	0.43
1:B:1761:VAL:O	1:B:1765:VAL:HG23	2.18	0.43
1:A:973:LYS:HD3	1:A:1068:VAL:HG22	2.00	0.43
1:B:4:LEU:HB3	1:B:5:LYS:H	1.55	0.43
1:B:899:ASP:O	1:B:903:MET:HE1	2.18	0.43
1:B:1467:ARG:NE	1:B:1471:ASN:HD21	2.16	0.43
1:A:338:ARG:NH2	1:A:525:PRO:O	2.51	0.43
1:A:639:PHE:CD1	1:A:674:LEU:HD11	2.53	0.43
1:A:683:LEU:HD22	1:A:694:MET:HB2	2.00	0.43
1:B:11:LEU:HD23	1:B:14:ILE:HD11	1.99	0.43
1:B:466:LEU:HD21	1:B:893:HIS:CE1	2.52	0.43
1:B:1069:ILE:HA	1:B:1072:VAL:HG12	2.00	0.43
1:B:1394:GLN:O	1:B:1397:PRO:HD2	2.18	0.43
1:A:295:PRO:HB2	1:A:296:GLU:H	1.60	0.43
1:A:981:THR:HG23	1:A:982:GLU:HG2	2.01	0.43
1:A:58:SER:O	1:A:64:THR:OG1	2.37	0.43
1:B:903:MET:SD	1:B:944:PRO:HG3	2.59	0.43
1:B:356:THR:HA	1:B:359:THR:HG22	2.01	0.43
1:B:1290:GLN:O	1:B:1294:THR:HG22	2.18	0.43
1:B:1742:GLY:O	1:B:1746:LEU:HG	2.18	0.43
1:A:1298:VAL:HG13	1:A:1299:ILE:H	1.84	0.43
1:B:699:ASP:OD1	1:B:738:ARG:NH1	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1736:CYS:HB3	1:B:1769:TYR:OH	2.18	0.42
1:B:649:LEU:HA	1:B:652:LYS:HZ3	1.83	0.42
1:B:768:HIS:CG	1:B:810:GLU:HB2	2.54	0.42
1:A:320:SER:OG	1:A:391:ASN:ND2	2.53	0.42
1:A:1194:MET:HE2	1:A:1235:ALA:HA	2.00	0.42
1:B:316:PHE:CZ	1:B:346:LEU:HD13	2.54	0.42
1:B:767:LEU:HA	1:B:767:LEU:HD23	1.88	0.42
1:A:316:PHE:CZ	1:A:346:LEU:HD13	2.54	0.42
1:A:1777:PHE:HD2	1:A:1814:VAL:HG21	1.84	0.42
1:A:703:PHE:HA	1:A:706:LYS:HD3	2.01	0.42
1:B:1114:TYR:CE1	1:B:1118:LYS:HE2	2.55	0.42
1:A:1491:LYS:HE2	1:A:1491:LYS:HB2	1.85	0.42
1:A:1657:LEU:HA	1:A:1660:MET:HB2	2.01	0.42
1:B:247:LEU:N	1:B:428:GLU:OE2	2.46	0.42
1:A:156:SER:OG	1:A:161:ASN:HB2	2.20	0.42
1:B:163:GLN:HE22	1:B:522:LEU:HD22	1.83	0.42
1:B:702:ASP:HA	1:B:738:ARG:HH21	1.83	0.42
1:B:1807:VAL:O	1:B:1811:VAL:HG23	2.20	0.42
1:A:1114:TYR:CE1	1:A:1118:LYS:HE2	2.54	0.42
1:B:477:ILE:O	1:B:480:THR:HG22	2.19	0.42
1:B:1766:LEU:HB3	1:B:1803:ALA:HB1	2.02	0.42
1:B:1302:MET:O	1:B:1306:PRO:HD3	2.20	0.42
1:A:462:VAL:HG11	1:A:565:TRP:CD1	2.55	0.42
1:A:1282:MET:O	1:A:1283:ARG:HD3	2.19	0.42
1:B:642:LYS:HB3	1:B:645:HIS:CD2	2.55	0.41
1:B:952:LEU:HD23	1:B:952:LEU:HA	1.83	0.41
1:B:981:THR:HG23	1:B:982:GLU:HG2	2.02	0.41
1:B:1449:ARG:CZ	1:B:1450:PHE:HD1	2.33	0.41
1:B:1623:ARG:O	1:B:1626:SER:OG	2.24	0.41
1:A:1667:PHE:CE1	1:A:1699:GLU:HG3	2.56	0.41
1:B:994:LEU:HD12	1:B:1094:LEU:HD13	2.02	0.41
1:B:1087:ILE:HD11	1:B:1126:ASN:HD21	1.85	0.41
1:A:466:LEU:HD21	1:A:893:HIS:HE1	1.85	0.41
1:B:132:ASN:HB3	1:B:134:LYS:O	2.20	0.41
1:B:1371:PHE:O	1:B:1374:THR:HG22	2.20	0.41
1:A:466:LEU:HD21	1:A:893:HIS:CE1	2.55	0.41
1:A:554:SER:O	1:A:558:THR:N	2.47	0.41
1:A:1394:GLN:O	1:A:1397:PRO:HD2	2.19	0.41
1:A:1742:GLY:O	1:A:1746:LEU:HG	2.19	0.41
1:B:1667:PHE:HD1	1:B:1668:LEU:HD12	1.86	0.41
1:A:131:LEU:HD21	1:A:175:THR:HG21	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:166:GLN:HE22	1:A:523:PRO:HD2	1.84	0.41
1:A:180:VAL:HG21	1:A:309:ALA:HB2	2.01	0.41
1:A:1447:LEU:HA	1:A:1450:PHE:CZ	2.55	0.41
1:B:956:ALA:HB1	1:B:958:LEU:HD23	2.02	0.41
1:A:11:LEU:HA	1:A:14:ILE:HG12	2.03	0.41
1:A:148:GLN:O	1:A:152:ILE:HD12	2.21	0.41
1:A:482:VAL:HG12	1:A:905:PHE:CE2	2.48	0.41
1:A:637:LYS:HA	1:A:640:ASN:HD22	1.84	0.41
1:A:1087:ILE:HD11	1:A:1126:ASN:ND2	2.34	0.41
1:A:1641:LEU:HD11	1:A:1647:VAL:HG21	2.02	0.41
1:B:763:LEU:HD22	1:B:781:PHE:CD1	2.56	0.41
1:B:1740:ILE:HD13	1:B:1740:ILE:HA	1.91	0.41
1:B:1813:GLU:HA	1:B:1817:GLY:HA3	2.01	0.41
1:A:778:LYS:NZ	1:A:799:LEU:HB3	2.35	0.41
1:A:1146:ASN:HB3	1:A:1192:HIS:CE1	2.56	0.41
1:B:172:MET:O	1:B:175:THR:HG22	2.21	0.41
1:A:172:MET:H	1:A:172:MET:HG2	1.73	0.41
1:A:781:PHE:CE2	1:A:799:LEU:HD12	2.55	0.41
1:B:127:LEU:HD22	1:B:168:THR:HG22	2.02	0.41
1:B:408:TRP:HB2	1:B:450:ILE:HG23	2.03	0.41
1:B:543:LYS:O	1:B:547:MET:HB2	2.20	0.41
1:B:1202:VAL:O	1:B:1206:VAL:HG23	2.21	0.41
1:B:1733:VAL:N	1:B:1734:PRO:HD2	2.36	0.41
1:A:4:LEU:HD23	1:A:4:LEU:HA	1.91	0.41
1:A:639:PHE:HD1	1:A:674:LEU:HD11	1.86	0.41
1:A:1168:SER:HA	1:A:1186:PHE:CE2	2.56	0.41
1:A:385:CYS:SG	1:A:421:GLU:HG2	2.61	0.41
1:A:637:LYS:HA	1:A:640:ASN:ND2	2.36	0.41
1:A:758:TYR:HA	1:A:761:ILE:HG22	2.03	0.41
1:B:664:ILE:HD13	1:B:693:ILE:HD13	2.03	0.40
1:B:666:ARG:HA	1:B:700:MET:HE1	2.02	0.40
1:B:1188:LYS:HE2	1:B:1188:LYS:HB2	1.94	0.40
1:A:738:ARG:HA	1:A:741:THR:HG22	2.04	0.40
1:B:656:ILE:HD11	1:B:667:PHE:CB	2.51	0.40
1:B:903:MET:HG3	1:B:944:PRO:HG3	2.02	0.40
1:B:246:THR:OG1	1:B:247:LEU:N	2.54	0.40
1:B:1706:TYR:HE2	1:B:1735:LEU:HG	1.86	0.40
1:B:1733:VAL:HG21	1:B:1780:HIS:CE1	2.57	0.40
1:A:56:THR:OG1	1:A:108:CYS:SG	2.60	0.40
1:A:895:GLY:O	1:A:898:PHE:HB3	2.21	0.40
1:A:898:PHE:CZ	1:A:944:PRO:HG2	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:763:LEU:HD21	1:B:803:TYR:CD2	2.56	0.40
1:B:1372:PHE:CE1	1:B:1428:ALA:HB2	2.56	0.40
1:A:475:ASP:OD1	1:A:476:ASN:N	2.54	0.40
1:A:524:PRO:HB2	1:A:525:PRO:HD3	2.04	0.40
1:A:543:LYS:O	1:A:547:MET:HB2	2.22	0.40
1:A:1377:ARG:HA	1:A:1377:ARG:HD2	1.83	0.40
1:A:1710:LEU:HB3	1:A:1732:LEU:HD13	2.03	0.40
1:A:1733:VAL:N	1:A:1734:PRO:HD2	2.37	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	1178/1937 (61%)	1139 (97%)	38 (3%)	1 (0%)	51	83
1	B	1178/1937 (61%)	1133 (96%)	44 (4%)	1 (0%)	51	83
All	All	2356/3874 (61%)	2272 (96%)	82 (4%)	2 (0%)	54	83

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	135	ILE
1	A	135	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	1089/1657 (66%)	1083 (99%)	6 (1%)	86	93
1	B	1089/1657 (66%)	1085 (100%)	4 (0%)	91	95
All	All	2178/3314 (66%)	2168 (100%)	10 (0%)	89	94

All (10) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	1181	LYS
1	B	1282	MET
1	B	1623	ARG
1	B	1774	ARG
1	A	1181	LYS
1	A	1283	ARG
1	A	1449	ARG
1	A	1467	ARG
1	A	1623	ARG
1	A	1774	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (3) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	132	ASN
1	A	166	GLN
1	A	391	ASN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

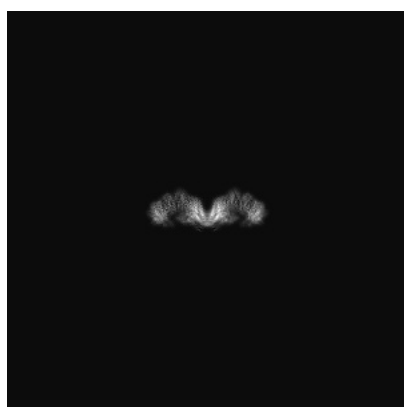
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-42135. These allow visual inspection of the internal detail of the map and identification of artifacts.

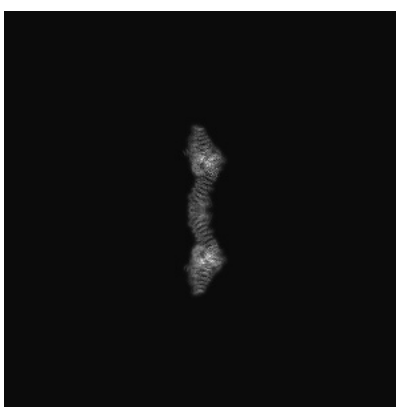
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

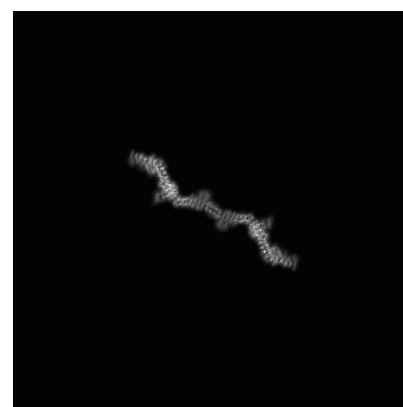
6.1.1 Primary map



X



Y

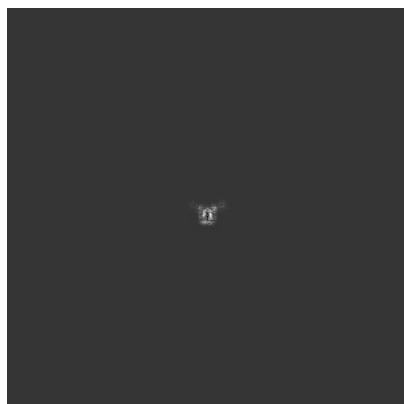


Z

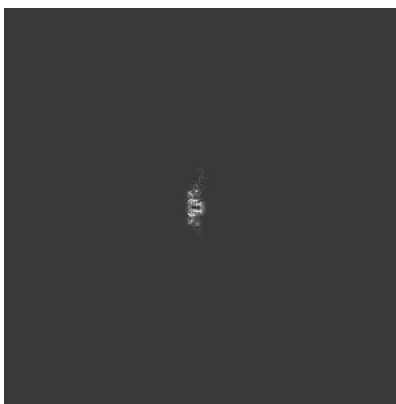
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

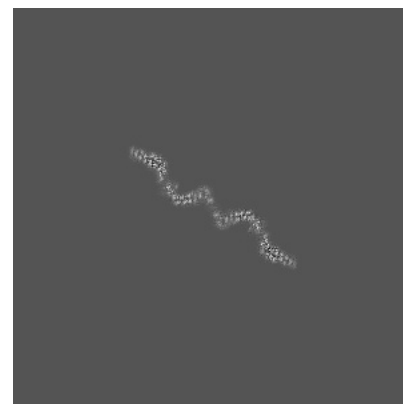
6.2.1 Primary map



X Index: 243



Y Index: 243

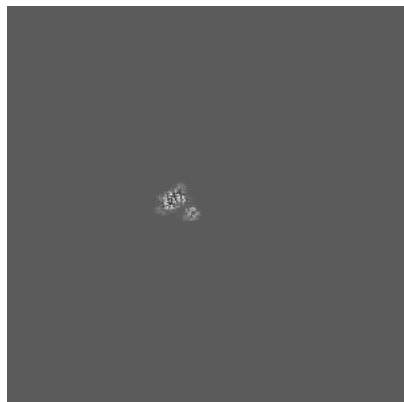


Z Index: 243

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

6.3 Largest variance slices [i](#)

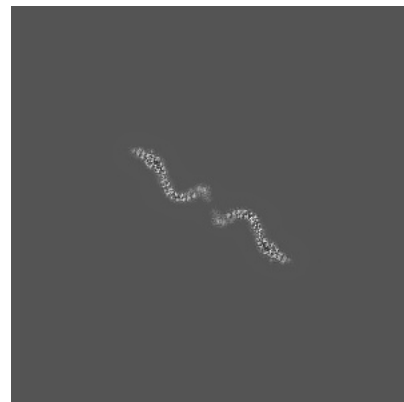
6.3.1 Primary map



X Index: 305



Y Index: 231

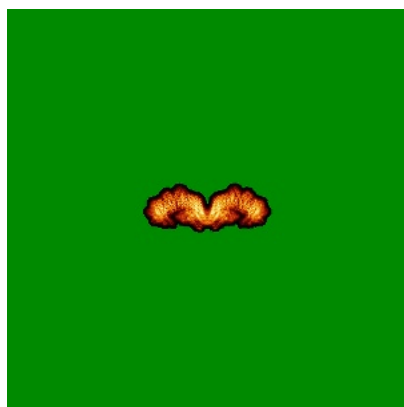


Z Index: 246

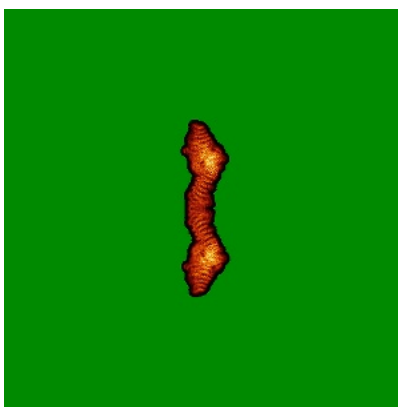
The images above show the largest variance slices of the map in three orthogonal directions.

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

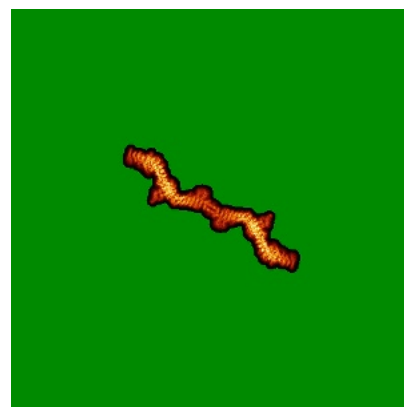
6.4.1 Primary map



X



Y

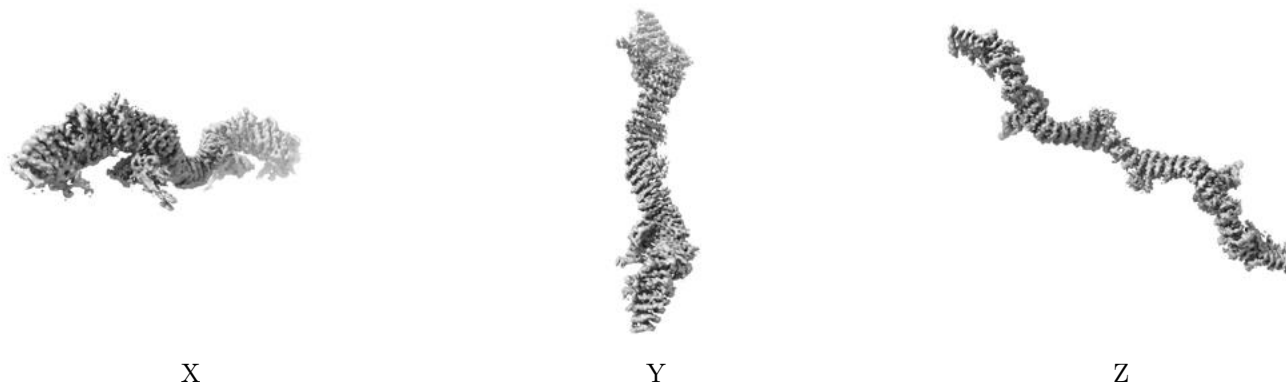


Z

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

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 41.0. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

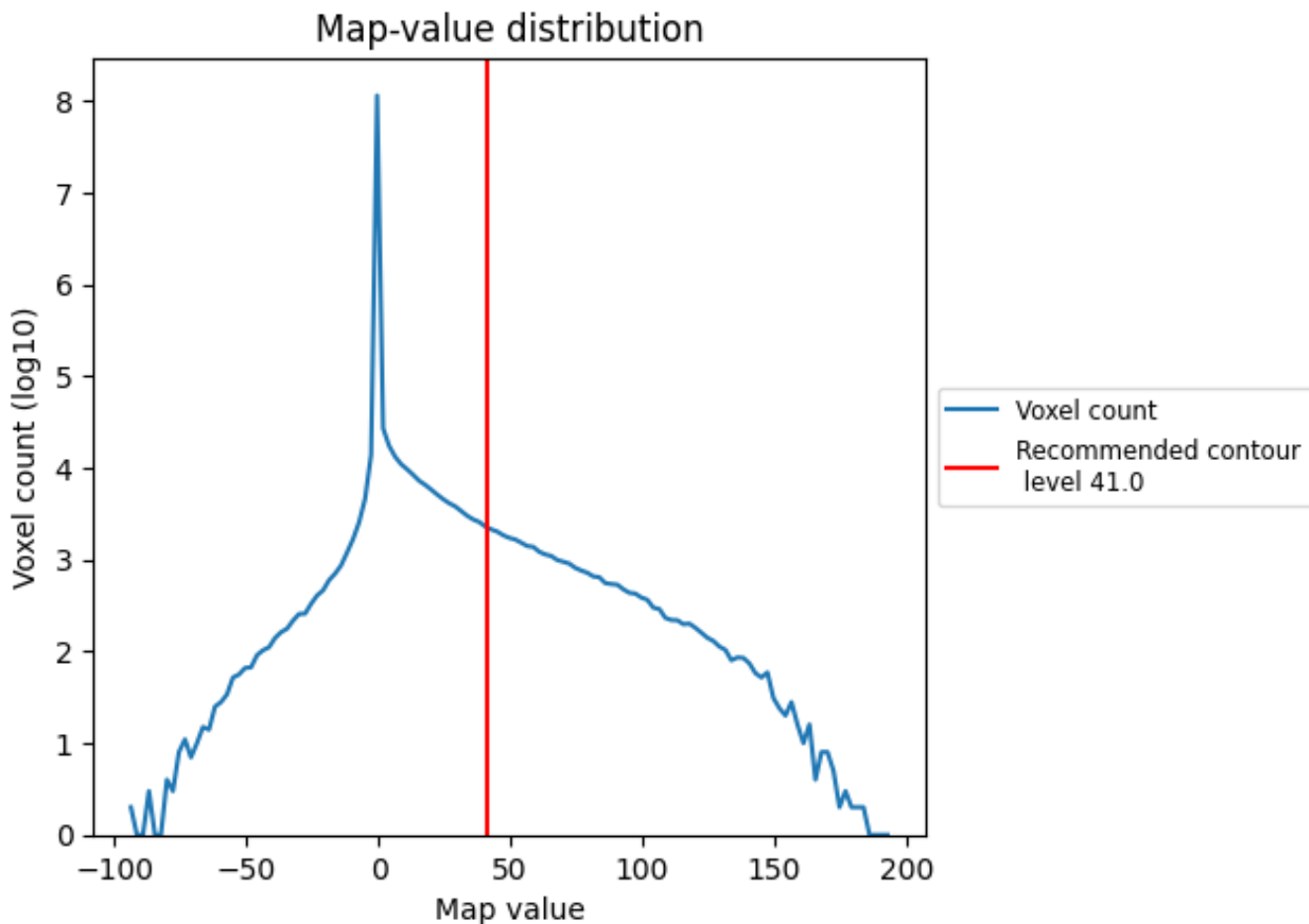
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

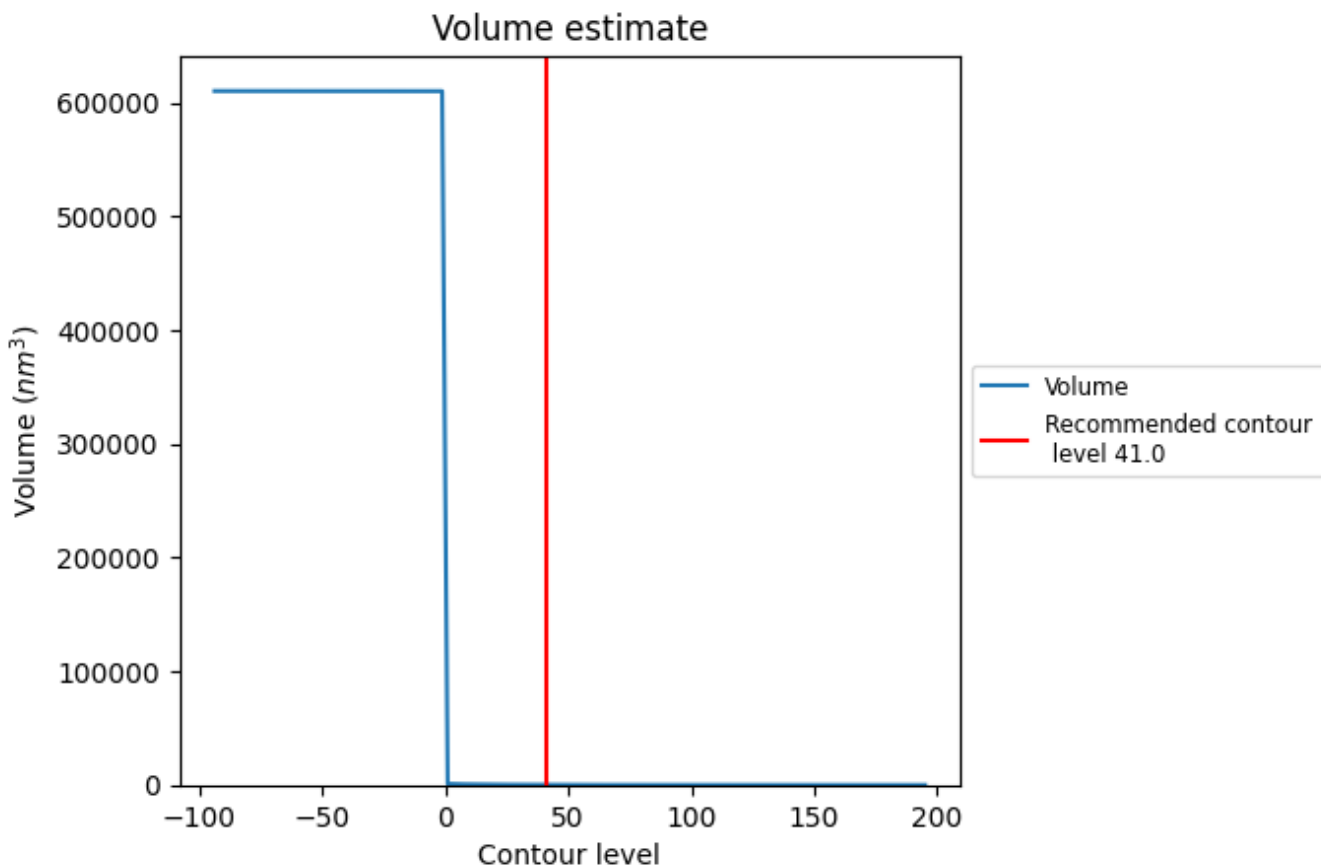
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

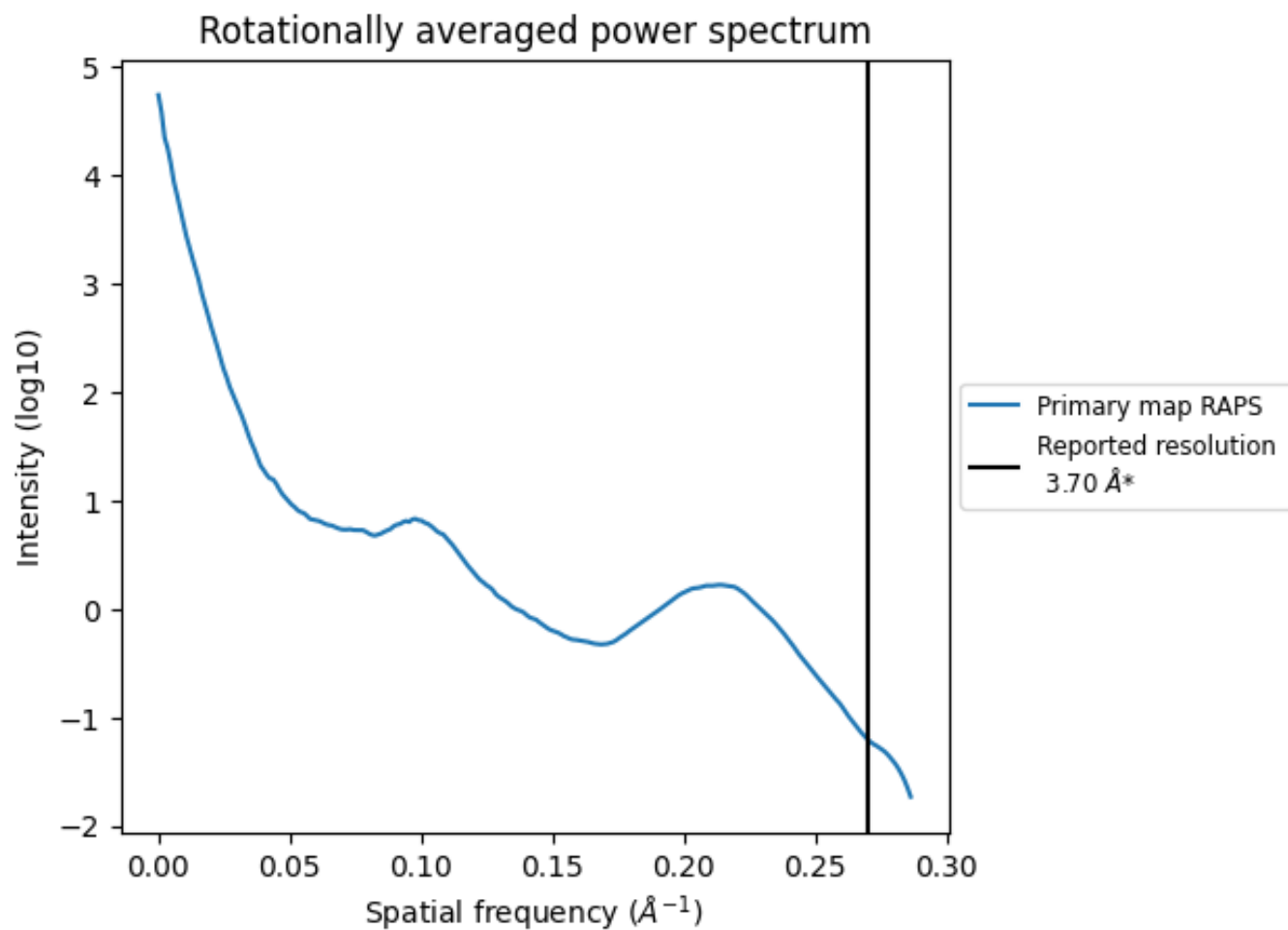
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 170 nm^3 ; this corresponds to an approximate mass of 154 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

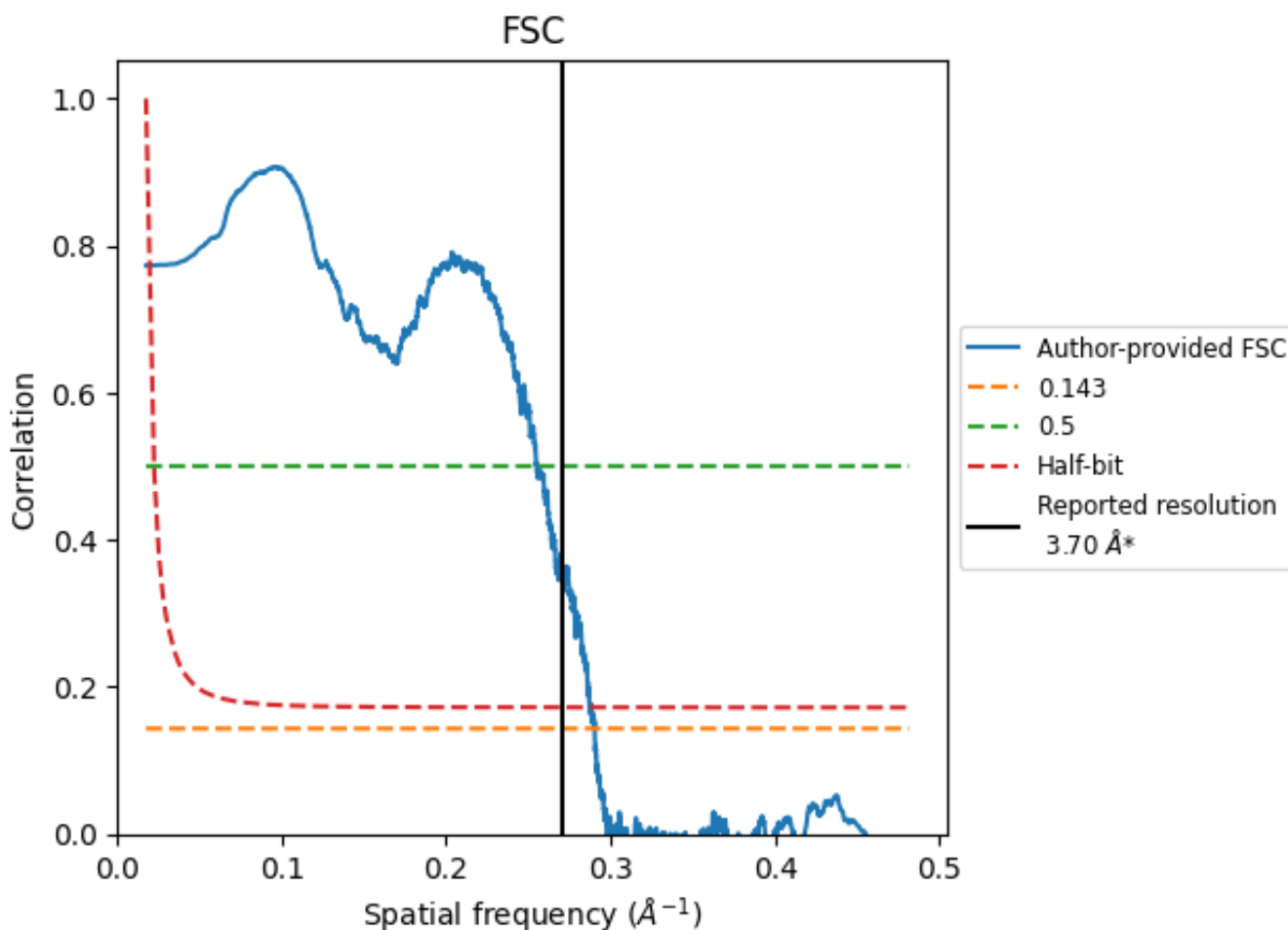


*Reported resolution corresponds to spatial frequency of 0.270 Å⁻¹

8 Fourier-Shell correlation [\(i\)](#)

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

8.1 FSC [\(i\)](#)



*Reported resolution corresponds to spatial frequency of 0.270 Å⁻¹

8.2 Resolution estimates [i](#)

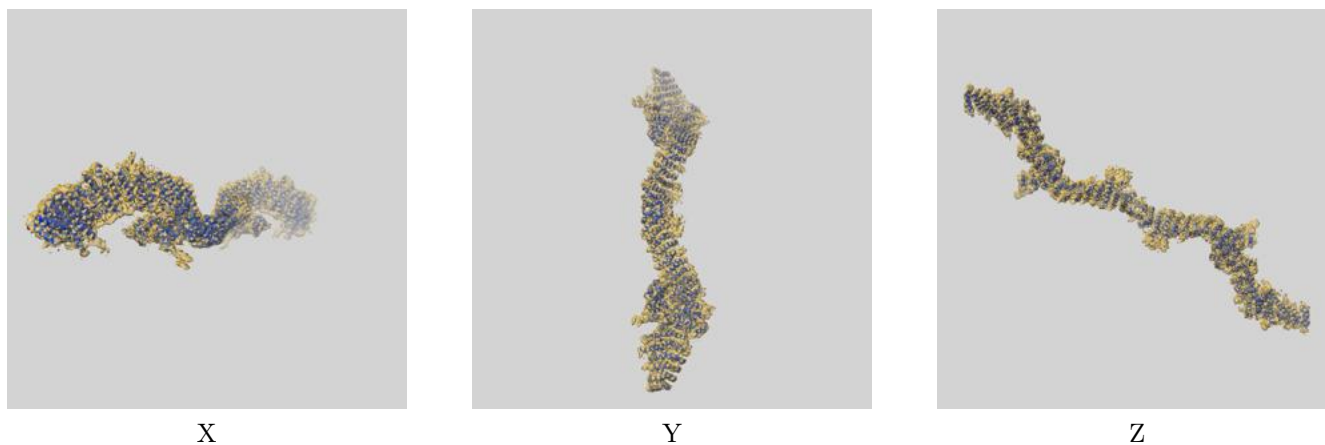
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.70	-	-
Author-provided FSC curve	3.44	3.92	3.48
Unmasked-calculated*	-	-	-

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

9 Map-model fit [i](#)

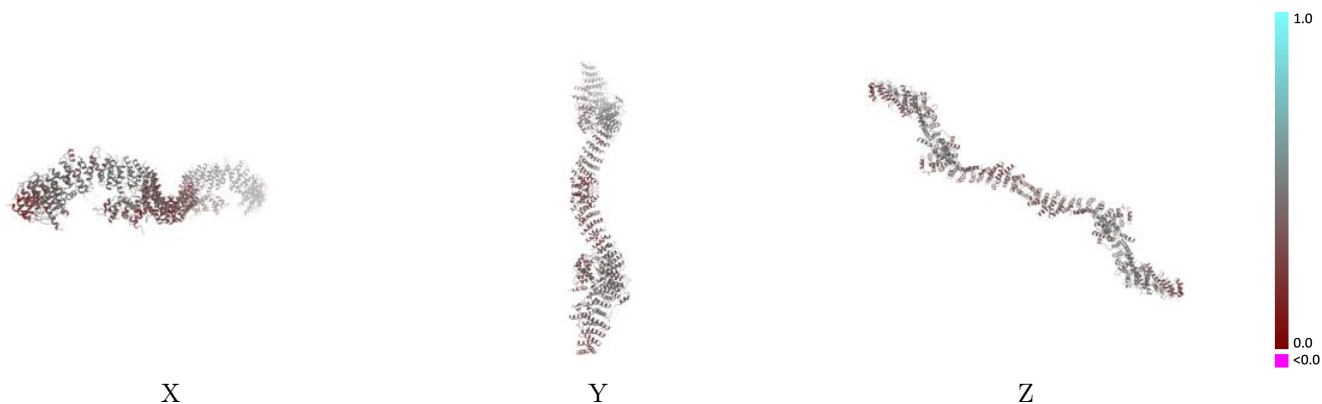
This section contains information regarding the fit between EMDB map EMD-42135 and PDB model 8UCQ. Per-residue inclusion information can be found in section [3](#) on page [11](#).

9.1 Map-model overlay [i](#)



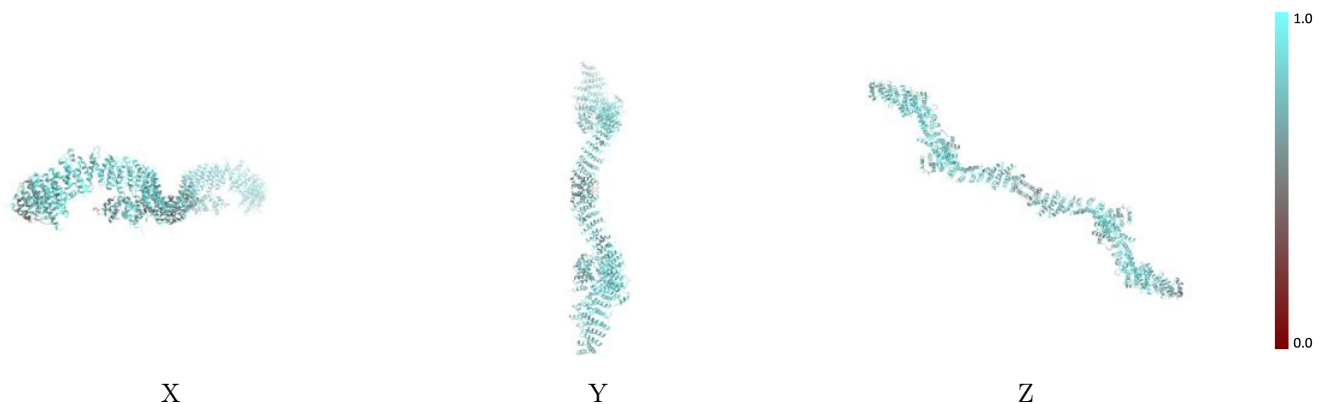
The images above show the 3D surface view of the map at the recommended contour level 41.0 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



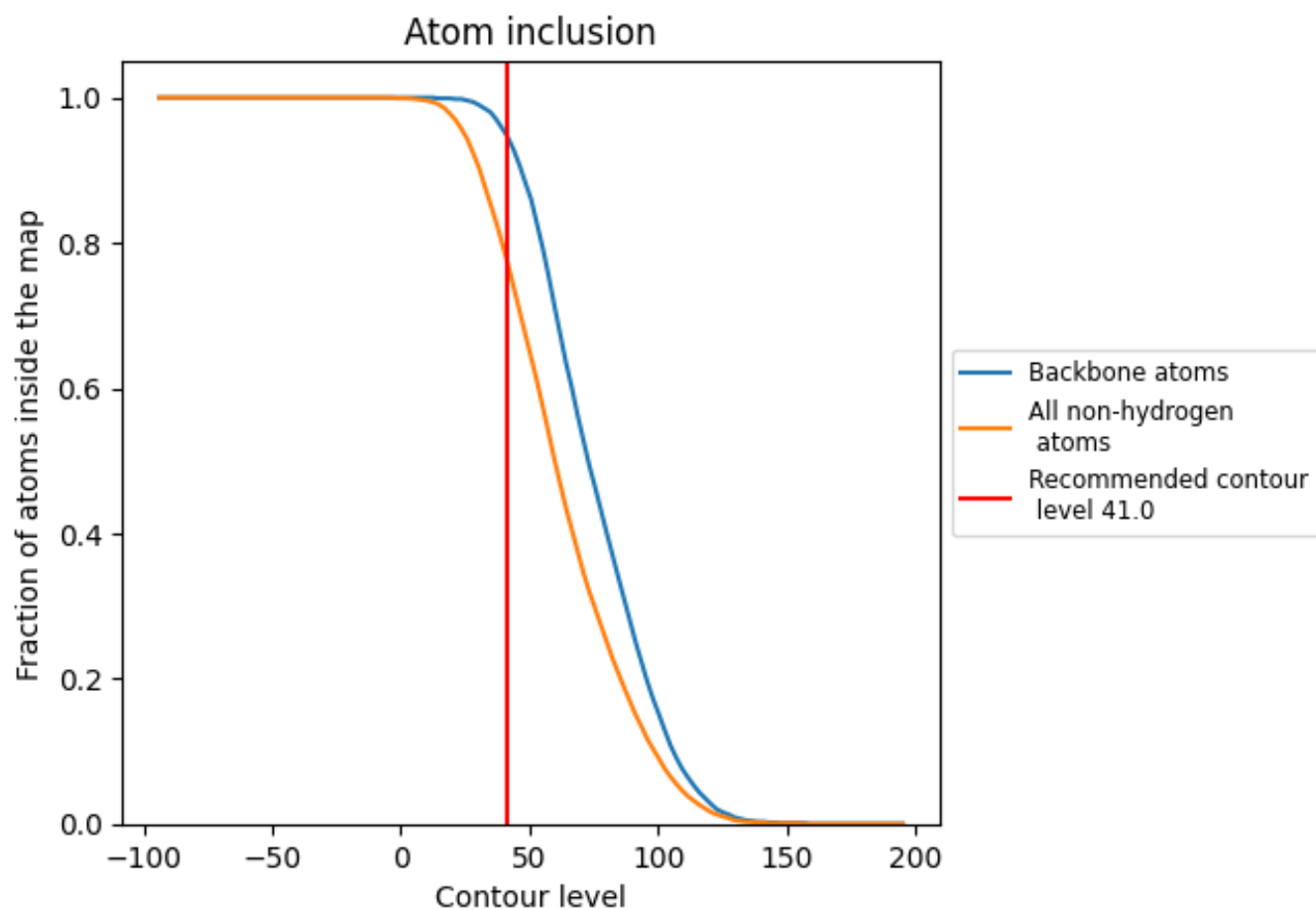
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (41.0).







9.4 Atom inclusion [i](#)



At the recommended contour level, 95% of all backbone atoms, 78% 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 (41.0) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7780	 0.4040
A	 0.7860	 0.3950
B	 0.7710	 0.4120

