



Full wwPDB EM Validation Report ⓘ

Jun 25, 2025 – 03:03 pm BST

PDB ID : 7YXX / pdb_00007yxx
EMDB ID : EMD-14368
Title : Cryo-EM structure of USP9X
Authors : Deme, J.C.; Halabelian, L.; Arrowsmith, C.H.; Lea, S.M.; Structural Genomics Consortium (SGC)
Deposited on : 2022-02-16
Resolution : 3.30 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
MolProbity : 4-5-2 with Phenix2.0rc1
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.44

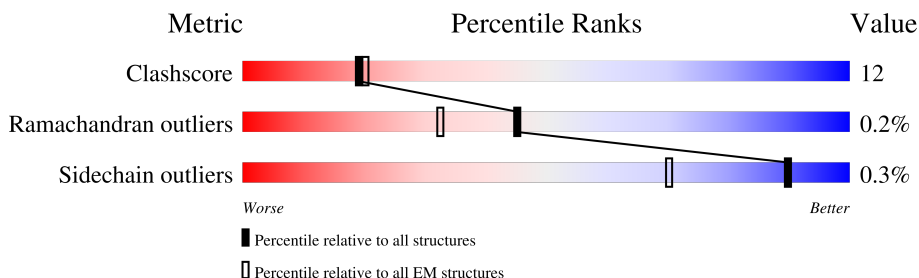
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.30 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 $\leq 5\%$. 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	2579	22% 49% 19% 32%
1	B	2579	33% 49% 19% 32%
1	C	2579	34% 48% 20% 32%

2 Entry composition

There is only 1 type of molecule in this entry. The entry contains 42357 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 Probable ubiquitin carboxyl-terminal hydrolase FAF-X.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	1754	Total 14155	C 9062	N 2426	O 2571	S 96	1	0
1	B	1754	Total 14155	C 9062	N 2426	O 2571	S 96	1	0
1	C	1741	Total 14047	C 8997	N 2407	O 2547	S 96	1	0

There are 75 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-17	MET	-	initiating methionine	UNP Q93008
A	-16	HIS	-	expression tag	UNP Q93008
A	-15	HIS	-	expression tag	UNP Q93008
A	-14	HIS	-	expression tag	UNP Q93008
A	-13	HIS	-	expression tag	UNP Q93008
A	-12	HIS	-	expression tag	UNP Q93008
A	-11	HIS	-	expression tag	UNP Q93008
A	-10	SER	-	expression tag	UNP Q93008
A	-9	SER	-	expression tag	UNP Q93008
A	-8	GLY	-	expression tag	UNP Q93008
A	-7	ARG	-	expression tag	UNP Q93008
A	-6	GLU	-	expression tag	UNP Q93008
A	-5	ASN	-	expression tag	UNP Q93008
A	-4	LEU	-	expression tag	UNP Q93008
A	-3	TYR	-	expression tag	UNP Q93008
A	-2	PHE	-	expression tag	UNP Q93008
A	-1	GLN	-	expression tag	UNP Q93008
A	0	GLY	-	expression tag	UNP Q93008
A	2555	ASP	-	expression tag	UNP Q93008
A	2556	TYR	-	expression tag	UNP Q93008
A	2557	LYS	-	expression tag	UNP Q93008
A	2558	ASP	-	expression tag	UNP Q93008
A	2559	ASP	-	expression tag	UNP Q93008
A	2560	ASP	-	expression tag	UNP Q93008

Continued on next page...

Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
A	2561	LYS	-	expression tag	UNP Q93008
B	-17	MET	-	initiating methionine	UNP Q93008
B	-16	HIS	-	expression tag	UNP Q93008
B	-15	HIS	-	expression tag	UNP Q93008
B	-14	HIS	-	expression tag	UNP Q93008
B	-13	HIS	-	expression tag	UNP Q93008
B	-12	HIS	-	expression tag	UNP Q93008
B	-11	HIS	-	expression tag	UNP Q93008
B	-10	SER	-	expression tag	UNP Q93008
B	-9	SER	-	expression tag	UNP Q93008
B	-8	GLY	-	expression tag	UNP Q93008
B	-7	ARG	-	expression tag	UNP Q93008
B	-6	GLU	-	expression tag	UNP Q93008
B	-5	ASN	-	expression tag	UNP Q93008
B	-4	LEU	-	expression tag	UNP Q93008
B	-3	TYR	-	expression tag	UNP Q93008
B	-2	PHE	-	expression tag	UNP Q93008
B	-1	GLN	-	expression tag	UNP Q93008
B	0	GLY	-	expression tag	UNP Q93008
B	2555	ASP	-	expression tag	UNP Q93008
B	2556	TYR	-	expression tag	UNP Q93008
B	2557	LYS	-	expression tag	UNP Q93008
B	2558	ASP	-	expression tag	UNP Q93008
B	2559	ASP	-	expression tag	UNP Q93008
B	2560	ASP	-	expression tag	UNP Q93008
B	2561	LYS	-	expression tag	UNP Q93008
C	-17	MET	-	initiating methionine	UNP Q93008
C	-16	HIS	-	expression tag	UNP Q93008
C	-15	HIS	-	expression tag	UNP Q93008
C	-14	HIS	-	expression tag	UNP Q93008
C	-13	HIS	-	expression tag	UNP Q93008
C	-12	HIS	-	expression tag	UNP Q93008
C	-11	HIS	-	expression tag	UNP Q93008
C	-10	SER	-	expression tag	UNP Q93008
C	-9	SER	-	expression tag	UNP Q93008
C	-8	GLY	-	expression tag	UNP Q93008
C	-7	ARG	-	expression tag	UNP Q93008
C	-6	GLU	-	expression tag	UNP Q93008
C	-5	ASN	-	expression tag	UNP Q93008
C	-4	LEU	-	expression tag	UNP Q93008
C	-3	TYR	-	expression tag	UNP Q93008
C	-2	PHE	-	expression tag	UNP Q93008

Continued on next page...

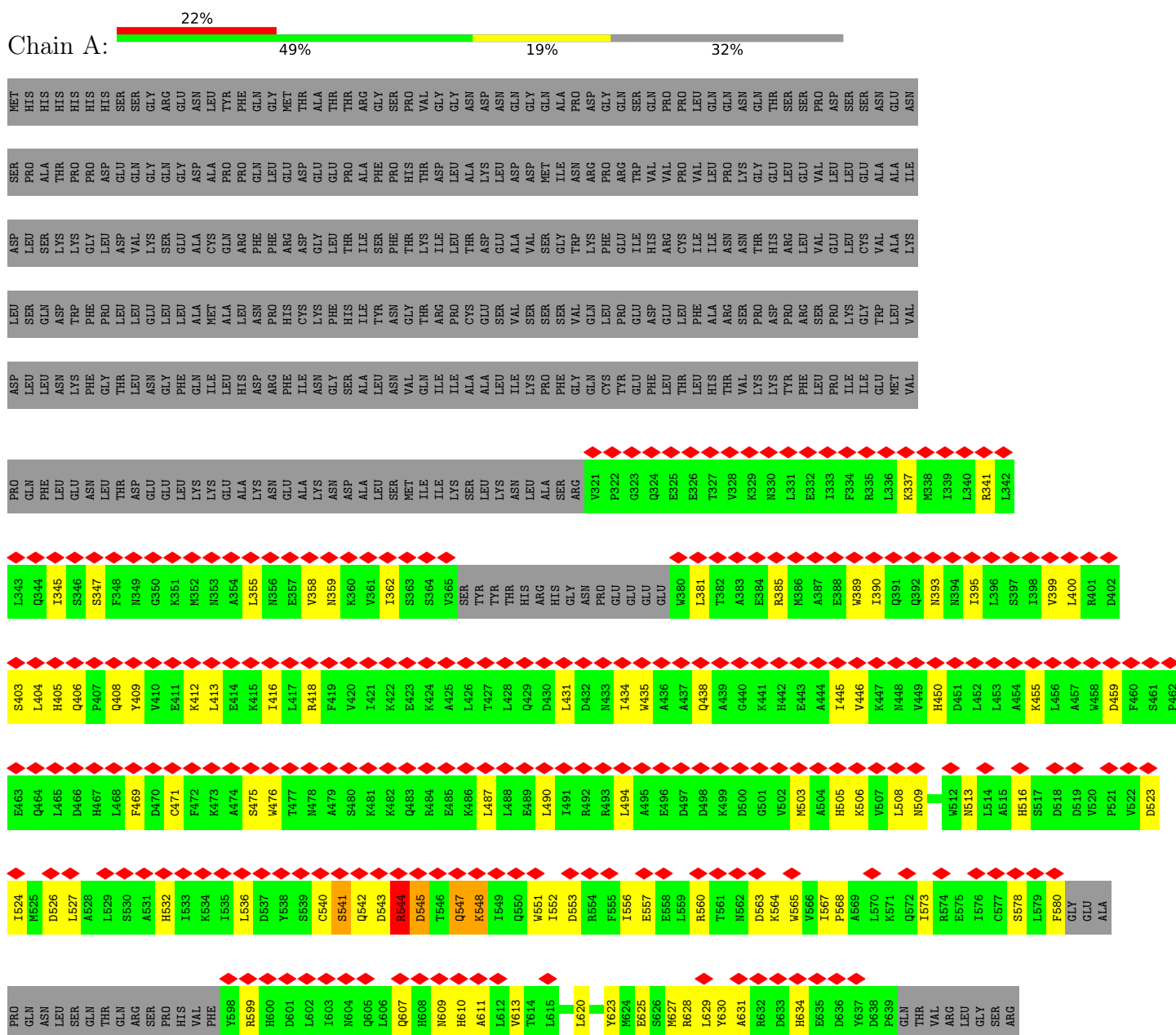
Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
C	-1	GLN	-	expression tag	UNP Q93008
C	0	GLY	-	expression tag	UNP Q93008
C	2555	ASP	-	expression tag	UNP Q93008
C	2556	TYR	-	expression tag	UNP Q93008
C	2557	LYS	-	expression tag	UNP Q93008
C	2558	ASP	-	expression tag	UNP Q93008
C	2559	ASP	-	expression tag	UNP Q93008
C	2560	ASP	-	expression tag	UNP Q93008
C	2561	LYS	-	expression tag	UNP Q93008

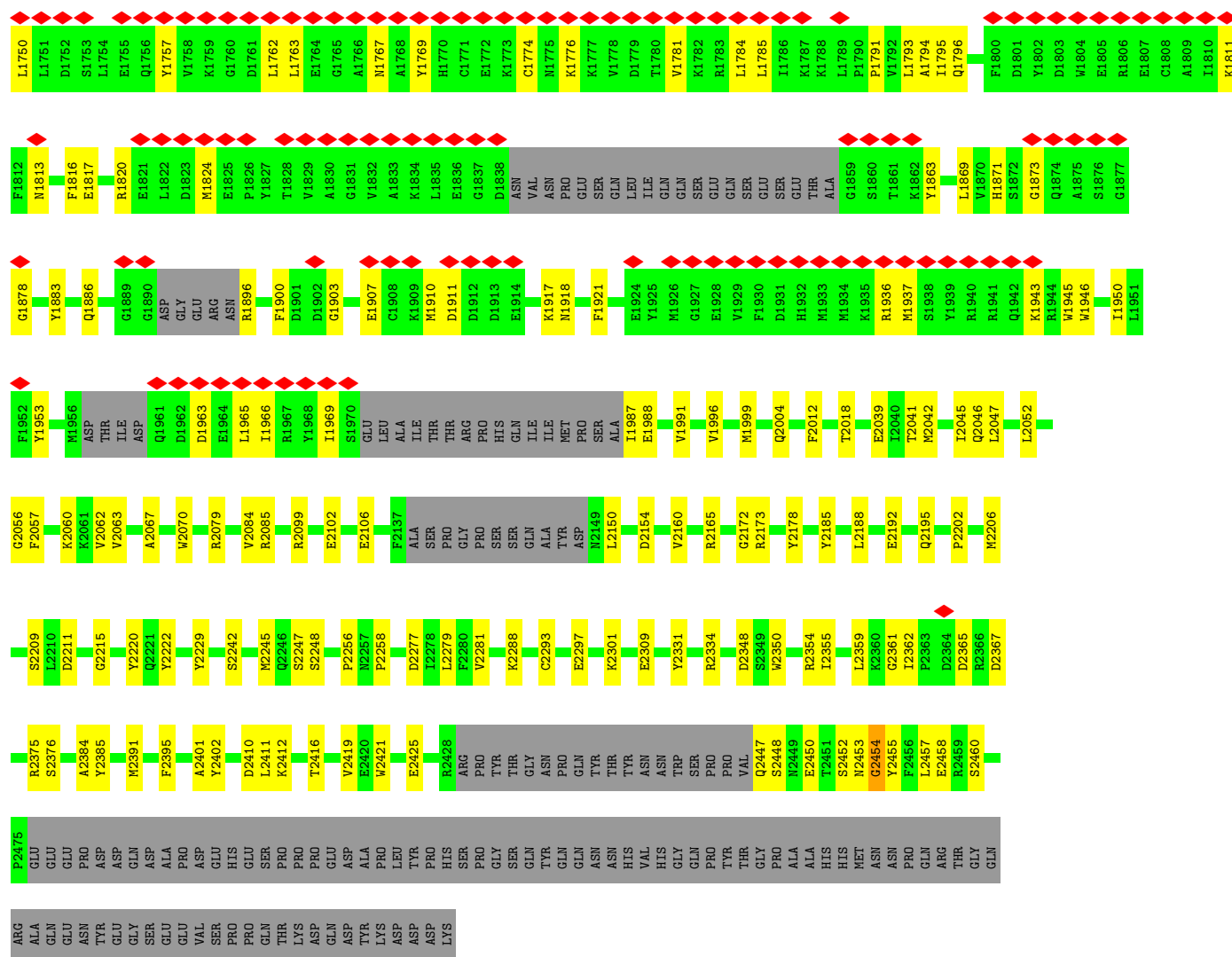
3 Residue-property plots

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: Probable ubiquitin carboxyl-terminal hydrolase FAF-X

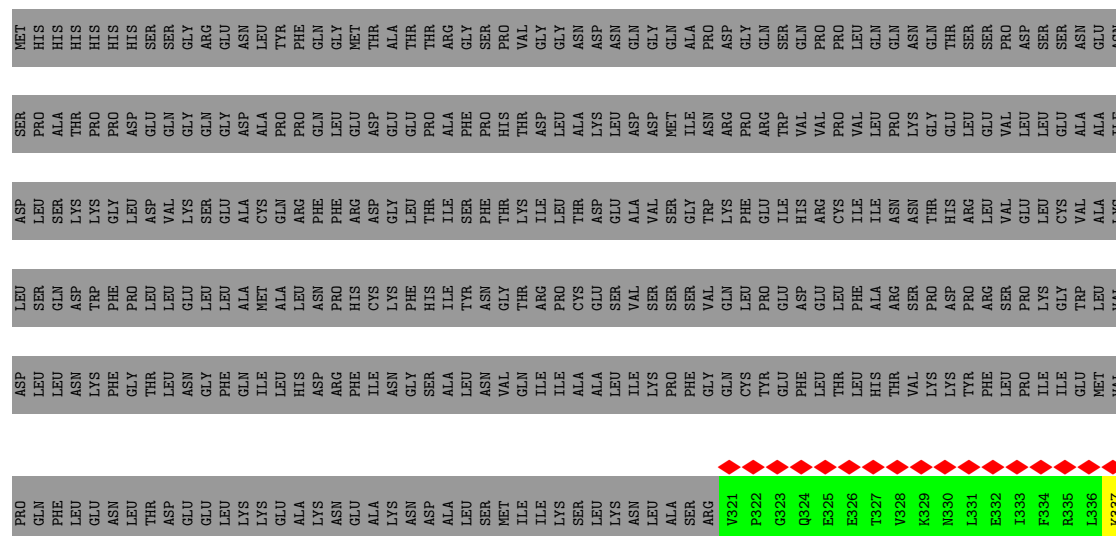


ASP		VAL		TTR		LEU		PHE		F720		E721																																																					
D1685	A1686	L1687	E1688	F1689	N1690	G1691	Y1692	L1693	V1694	K794	E795	I796	I797	T798	N799	L800	Q801	P802	R803	L804	Q805	V806	N807	Q808	V809	Y827	D828	C831	VAL	LEU	ASP	VAL	N748	C749	R750	E751	G752	K753	L754	V755	A756	K757	R758	R759	A760	V761	M762	M763	D764	D765	L766	E767	R776	V777	V778	I779	Q780	S781	N782	D783	D784	I785	R788	A789	I790
ASP		VAL		TTR		LEU		PHE		F720		E721																																																					
D1685	A1686	L1687	E1688	F1689	N1690	G1691	Y1692	L1693	V1694	K794	E795	I796	I797	T798	N799	L800	Q801	P802	R803	L804	Q805	V806	N807	Q808	V809	Y827	D828	C831	VAL	LEU	ASP	VAL	N748	C749	R750	E751	G752	K753	L754	V755	A756	K757	R758	R759	A760	V761	M762	M763	D764	D765	L766	E767	R776	V777	V778	I779	Q780	S781	N782	D783	D784	I785	R788	A789	I790
ASP		VAL		TTR		LEU		PHE		F720		E721																																																					
D1685	A1686	L1687	E1688	F1689	N1690	G1691	Y1692	L1693	V1694	K794	E795	I796	I797	T798	N799	L800	Q801	P802	R803	L804	Q805	V806	N807	Q808	V809	Y827	D828	C831	VAL	LEU	ASP	VAL	N748	C749	R750	E751	G752	K753	L754	V755	A756	K757	R758	R759	A760	V761	M762	M763	D764	D765	L766	E767	R776	V777	V778	I779	Q780	S781	N782	D783	D784	I785	R788	A789	I790
ASP		VAL		TTR		LEU		PHE		F720		E721																																																					
D1685	A1686	L1687	E1688	F1689	N1690	G1691	Y1692	L1693	V1694	K794	E795	I796	I797	T798	N799	L800	Q801	P802	R803	L804	Q805	V806	N807	Q808	V809	Y827	D828	C831	VAL	LEU	ASP	VAL	N748	C749	R750	E751	G752	K753	L754	V755	A756	K757	R758	R759	A760	V761	M762	M763	D764	D765	L766	E767	R776	V777	V778	I779	Q780	S781	N782	D783	D784	I785	R788	A789	I790
ASP		VAL		TTR		LEU		PHE		F720		E721																																																					
D1685	A1686	L1687	E1688	F1689	N1690	G1691	Y1692	L1693	V1694	K794	E795	I796	I797	T798	N799	L800	Q801	P802	R803	L804	Q805	V806	N807	Q808	V809	Y827	D828	C831	VAL	LEU	ASP	VAL	N748	C749	R750	E751	G752	K753	L754	V755	A756	K757	R758	R759	A760	V761	M762	M763	D764	D765	L766	E767	R776	V777	V778	I779	Q780	S781	N782	D783	D784	I785	R788	A789	I790
ASP		VAL		TTR		LEU		PHE		F720		E721																																																					
D1685	A1686	L1687	E1688	F1689	N1690	G1691	Y1692	L1693	V1694	K794	E795	I796	I797	T798	N799	L800	Q801	P802	R803	L804	Q805	V806	N807	Q808	V809	Y827	D828	C831	VAL	LEU	ASP	VAL	N748	C749	R750	E751	G752	K753	L754	V755	A756	K757	R758	R759	A760	V761	M762	M763	D764	D765	L766	E767	R776	V777	V778	I779	Q780	S781	N782	D783	D784	I785	R788	A789	I790
ASP		VAL		TTR		LEU		PHE		F720		E721																																																					
D1685	A1686	L1687	E1688	F1689	N1690	G1691	Y1692	L1693	V1694	K794	E795	I796	I797	T798	N799	L800	Q801	P802	R803	L804	Q805	V806	N807	Q808	V809	Y827	D828	C831	VAL	LEU	ASP	VAL	N748	C749	R750	E751	G752	K753	L754	V755	A756	K757	R758	R759	A760	V761	M762	M763	D764	D765	L766	E767	R776	V777	V778	I779	Q780	S781	N782	D783	D784	I785	R788	A789	I790
ASP		VAL		TTR		LEU		PHE		F720		E721																																																					
D1685	A1686	L1687	E1688	F1689	N1690	G1691	Y1692	L1693	V1694	K794	E795	I796	I797	T798	N799	L800	Q801	P802	R803	L804	Q805	V806	N807	Q808	V809	Y827	D828	C831	VAL	LEU	ASP	VAL	N748	C749	R750	E751	G752	K753	L754	V755	A756	K757	R758	R759	A760	V761	M762	M763	D764	D765	L766	E767	R776	V777	V778	I779	Q780	S781	N782	D783	D784	I785	R788	A789	I790
ASP		VAL		TTR		LEU		PHE		F720		E721																																																					
D1685	A1686	L1687	E1688	F1689	N1690	G1691	Y1692	L1693	V1694	K794	E795	I796	I797	T798	N799	L800	Q801	P802	R803	L804	Q805	V806	N807	Q808	V809	Y827	D828	C831	VAL	LEU	ASP	VAL	N748	C749	R750	E751	G752	K753	L754	V755	A756	K757	R758	R759	A760	V761	M762	M763	D764	D765	L766	E767	R776	V777	V778	I779	Q780	S781	N782	D783	D784	I785	R788	A789	I790
ASP		VAL		TTR		LEU		PHE		F720		E721																																																					
D1685	A1686	L1687	E1688	F1689	N1690	G1691	Y1692	L1693	V1694	K794	E795	I796	I797	T798	N799	L800	Q801	P802	R803	L804	Q805	V806	N807	Q808	V809	Y827	D828	C831	VAL	LEU	ASP	VAL	N748	C749	R750	E751	G752	K753	L754	V755	A756	K757	R758	R759	A760	V761	M762	M763	D764	D765	L766	E767	R776	V777	V778	I779	Q780	S781	N782	D783	D784	I785	R788	A789	I790
ASP		VAL		TTR		LEU		PHE		F720		E721																																																					
D1685	A1686	L1687	E1688	F1689	N1690	G1691	Y1692	L1693	V1694	K794	E795	I796	I797	T798	N799	L800	Q801	P802	R803	L804	Q805	V806	N807	Q808	V809	Y827	D828	C831	VAL	LEU	ASP	VAL	N748	C749	R750	E751	G752	K753	L754	V755	A756	K757	R758	R759	A760	V761	M762	M763	D764	D765	L766	E767	R776	V777	V778	I779	Q780	S781	N782	D783	D784	I785	R788	A789	I790
ASP		VAL		TTR		LEU		PHE		F720		E721																																																					
D1685	A1686	L1687	E1688	F1689	N1690	G1691	Y1692	L1693	V1694	K794	E795	I796	I797	T798	N799	L800	Q801	P802	R803	L804	Q805	V806	N807	Q808	V809	Y827	D828	C831	VAL	LEU	ASP	VAL	N748	C749	R750	E751	G752	K753	L754	V755	A756	K757	R758	R759	A760	V761	M762	M763	D764	D765	L766	E767	R776	V777	V778	I779	Q780	S781	N782	D783	D784	I785	R788	A789	I790
ASP		VAL		TTR		LEU		PHE		F720		E721																																																					
D1685	A1686	L1687	E1688	F1689	N1690	G1691	Y1692	L1693	V1694	K794	E795	I796	I797	T798	N799	L800	Q801	P802	R803	L804	Q805	V806	N807	Q808	V809	Y827	D828	C831	VAL	LEU	ASP	VAL	N748	C749	R750	E751	G752	K753	L754	V755	A756	K757	R758	R759	A760	V761	M762	M763	D764	D765	L766	E767	R776	V777	V778	I779	Q780	S781	N782	D783	D784	I785	R788	A789	I790
ASP		VAL		TTR		LEU		PHE		F720		E721																																																					
D1685	A1686	L1687	E1688	F1689	N1690	G1691	Y1692	L1693	V1694	K794	E795	I796	I797	T798	N799	L800	Q801	P802	R803	L804	Q805	V806	N807	Q808	V809	Y827	D828	C831	VAL	LEU	ASP	VAL	N748	C749	R750	E751	G752	K753	L754	V755	A756	K757	R758	R759	A760	V761	M762	M763	D764	D765	L766	E767	R776	V777	V778	I779	Q780	S781	N782	D783	D784	I785	R788	A789	I790
ASP		VAL		TTR		LEU		PHE		F720		E721																																																					
D1685	A1686	L1687	E1688	F1689	N1690	G1691	Y1692	L1693	V1694	K794	E795	I796	I797	T798	N799	L800	Q801	P802	R803	L804	Q805	V806	N807	Q808	V809	Y827	D828	C831	VAL	LEU	ASP	VAL	N748	C749	R750	E751	G752	K753	L754	V755	A756	K757	R758	R759	A760	V761	M762	M763	D764	D765	L766	E767	R776	V777	V778	I779	Q780	S781	N782	D783	D784	I785	R788	A789	I790
ASP		VAL		TTR		LEU		PHE		F720		E721																																																					
D1685	A1686	L1687	E1688	F1689	N1690	G1691	Y1692	L1693	V1694	K794	E795	I796	I797	T798	N799	L800	Q801	P802	R803	L804	Q805	V806	N807	Q808	V809	Y827	D828	C831	VAL	LEU	ASP	VAL	N748	C749	R750	E751	G752	K753	L754	V755	A756	K757	R758	R759	A760	V761	M762	M763	D764	D765	L766	E767	R776	V777	V778	I779	Q780	S781	N782	D783	D784	I785	R788	A789	I790
ASP		VAL		TTR		LEU		PHE		F720		E721																																																					
D1685	A1686	L1687	E1688	F1689	N1690	G1691	Y1692	L1693	V1694	K794	E795	I796	I797	T798	N799	L800	Q801	P802	R803	L804	Q805	V806	N807	Q808	V809	Y827	D828	C831	VAL	LEU	ASP	VAL	N748	C749	R750	E751	G752	K753	L754	V755	A756	K757	R758	R759	A760	V761	M762	M763	D764	D765	L766	E767	R776	V777	V778	I779	Q780	S781	N782	D783	D784	I785	R788	A789	I790
ASP		VAL		TTR		LEU		PHE		F720		E721																																																					
D1685	A1686	L1687	E1688	F1689	N1690	G1691	Y1692	L1693	V1694	K794	E795	I796	I797	T798	N799	L800	Q801	P802	R803	L804	Q805	V806	N807	Q808	V809	Y827	D828	C831	VAL	LEU	ASP	VAL	N748	C749	R750	E751	G752	K753	L754	V755	A756	K757	R758	R759	A760	V761	M762	M763	D764	D765	L766	E767	R776	V777	V778	I779	Q780	S781	N782	D783	D784	I785	R788	A789	I790
ASP		VAL		TTR		LEU		PHE		F720		E721																																																					
D1685	A1686	L1687	E1688	F1689	N1690	G1691	Y1692	L1693	V1694	K794	E795	I796	I797	T798	N799	L800	Q801	P802	R803	L804	Q805	V806	N807	Q808	V809	Y827	D828	C831	VAL	LEU	ASP	VAL	N748	C749	R750	E751	G752	K753	L754	V755	A756	K757	R758	R759	A760	V761	M762	M763	D764	D765	L766	E767	R776	V777	V778	I779	Q780	S781	N782	D783	D784	I785	R788	A789	I790
ASP		VAL		TTR		LEU		PHE		F720		E721																																																					
D1685	A1686	L1687	E1688	F1689	N1690	G1691	Y1692	L1693	V1694	K794	E795	I796	I797	T798	N799	L800	Q801	P802	R803	L804	Q805	V806	N807	Q808	V809	Y827	D828	C831	VAL	LEU	ASP	VAL	N748	C749	R750	E751	G752	K753	L754	V755	A756	K757	R758	R759	A760	V761	M762	M763	D764	D765	L766	E767	R776	V777	V778	I779	Q780	S781	N782	D783	D784	I785	R788	A789	I790
ASP		VAL		TTR		LEU																																																											



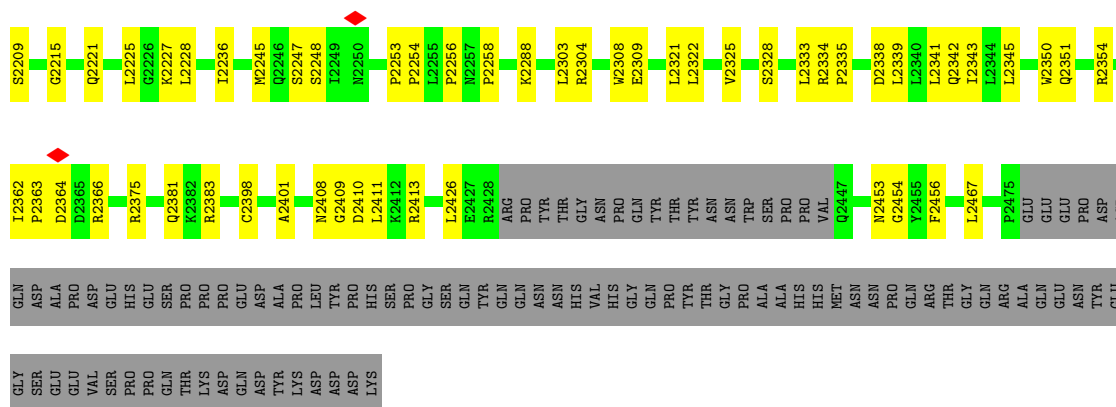
• Molecule 1: Probable ubiquitin carboxyl-terminal hydrolase FAF-X

Chain B:

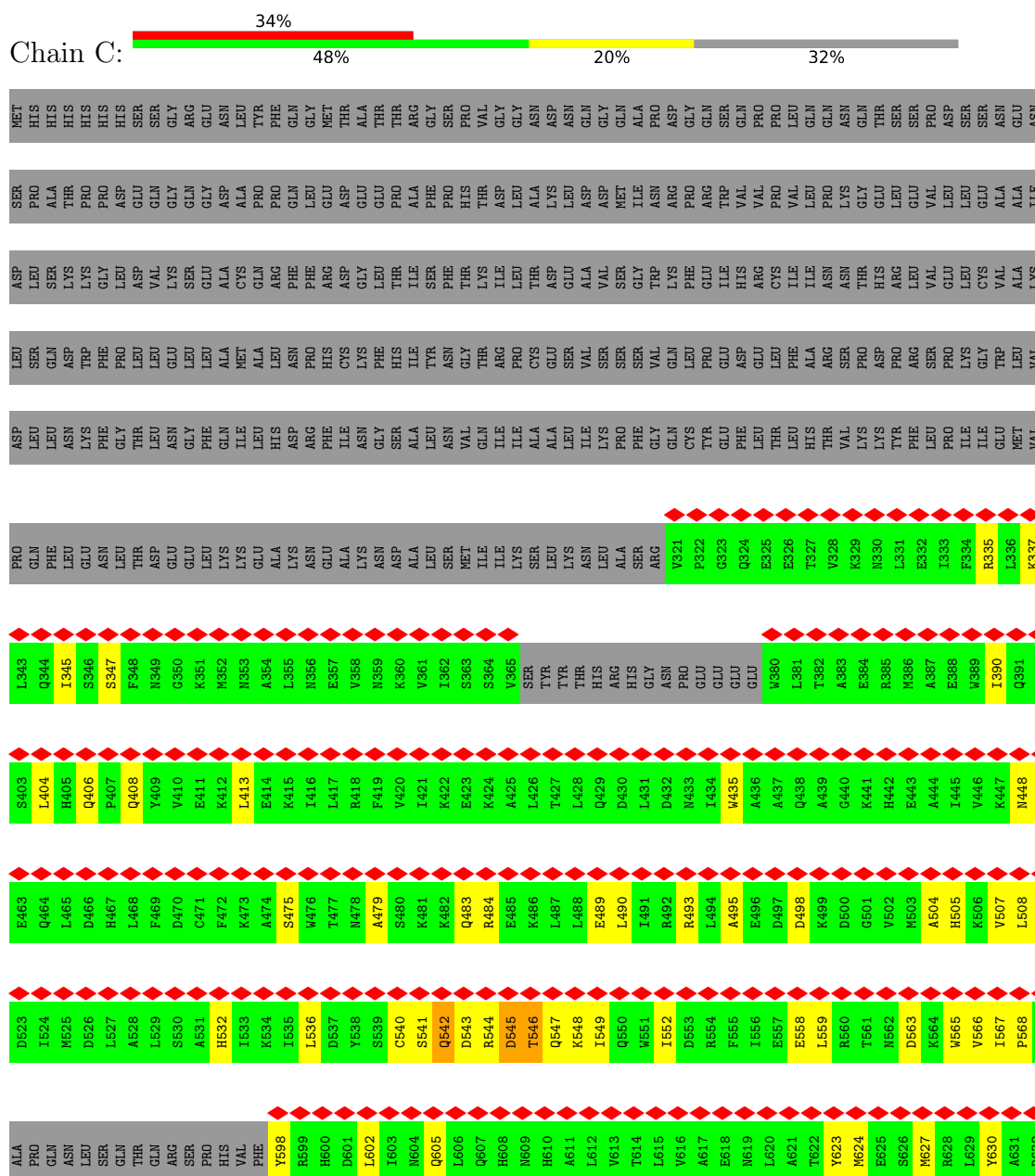




V2084	V2092	R2099	E2102	E2106	K2118	A2124	C2133	P2136	F2137	ALA	SER	PRO	GLY	TVR	M2013	P2027	P2028	L2034	A2037	M2042	I2045	Q2046	L2047	A2048	A2049	R2050	F2051	F2052	T2053	T2054	G2055	V2168	G2172	R2173	H2174	L2175	Y2178	V2183	M2184	P2202	M2206	L2207	V2208														
ARG	PRO	HIS	GLN	ILE	ILE	MET	PRO	SER	ALA	I1987	E1988	R1989	S1990	V1991	R1992	K1993	Q1997	M2003	Q2004	M2007	E2008	Y2009	F2010	Q2011	F2012	M2013	P2027	P2028	L2034	A2037	M2042	I2045	Q2046	L2047	A2048	A2049	R2050	F2051	F2052	T2053	T2054	G2055	V2168	G2172	R2173	H2174	L2175	Y2178	V2183	M2184	P2202	M2206	L2207	V2208			
M1910	D1911	D1912	D1913	E1914	E1915	M1916	K1917	F1921	G1922	G1923	E1924	Y1925	M1926	G1927	E1928	V1929	F1930	D1931	H1932	M1933	M1934	K1935	R1936	M1937	S1938	Y1939	R1940	R1941	Q1942	K1943	R1944	Y1945	Y1946	N1947	Y1953	M1956	ASP	THR	ILE	ASP	Q1961	D1962	D1963	E1964	L1965	I1966	R1967	Y1968	I1969	S1970	GLU	LEU	ALA	ILE	THR	THR	
ASN	PRO	GLU	SER	GLN	LEU	ILE	GLN	SER	GLU	SER	GLU	THR	ALA	G1859	S1860	T1861	K1862	Y1863	R1864	L1865	S1872	G1873	Q1874	A1875	S1876	G1877	G1878	H1879	I1884	I1885	Q1886	R1887	M1888	G1889	G1890	ASP	GLY	GLU	ARG	ASN	R1896	W1897	Y1898	D1901	D1902	D1903	D1904	V1905	T1906	E1907	C1908	K1909					
V1778	D1779	T1780	V1781	K1782	R1783	L1784	L1785	L1786	K1787	K1788	L1789	P1790	P1791	T1795	Q1796	L1797	K1798	R1799	F1800	D1801	Y1802	D1803	W1804	E1805	R1806	E1807	C1808	A1809	I1810	K1811	F1812	M1813	D1814	Y1815	F1816	E1817	R1820	E1821	L1822	D1823	M1824	E1825	P1826	Y1827	T1828	V1829	A1830	G1831	V1832	A1833	K1834	L1835	E1836	G1837	D1838	ASN	VAL
F1718	A1719	D1720	Q1721	K1722	I1723	C1724	Q1725	G1726	C1727	P1728	H1729	R1730	Y1731	E1732	C1733	E1734	E1735	S1736	F1737	T1738	E1739	L1740	M1741	V1742	D1743	I1744	R1745	M1746	H1747	Q1748	M1749	L1750	L1751	D1752	S1753	L1754	E1755	Q1756	Y1757	V1758	K1759	G1760	D1761	L1762	L1763	E1764	G1765	A1766	Y1769	C1771	E1772	K1773	C1774	M1775	K1776	K1777	
R1645	H1646	L1647	Q1648	F1651	G1652	H1653	L1654	Y1661	P1664	R1665	G1666	F1667	W1668	K1669	Q1670	F1671	L1672	L1673	W1674	G1675	E1676	P1677	V1678	N1679	L1680	R1681	E1682	Q1683	H1684	D1685	F1690	M1691	S1692	L1693	V1694	L1697	L1701	K1702	A1703	L1704	G1705	H1706	P1707	A1708	M1709	L1710	S1711	K1712	V1713	L1714	G1715	G1716	S1717				
Y1576	M1577	I1578	P1579	T1588	E1589	G1590	T1591	G1592	SER	ASP	VAL	ASP	ASP	ASP	MET	SER	GLY	ASP	GLU	LYS	ASP	ASN	GLU	SER	ASN	VAL	PRO	ARG	ASP	PHE	GLY	TYR	PRO	GLN	GLN	PHE	GLU	LYS	PRO	ALA	LEU	SER	K1632	T1633	E1634	D1635	R1636	K1637	E1638	V1643	L1644						
GLY	GLU	LEU	PRO	ALA	GLU	GLN	ALA	I1489	P1490	V1491	G1492	G1493	T1497	I1498	F1502	E1503	V1510	G1511	C1512	W1513	R1514	N1515	V1520	Y1527	T1531	A1532	I1533	T1534	T1535	C1536	L1539	T1540	G1541	K1554	G1555	F1556	V1557	G1558	L1559	K1560	M1561	A1562	G1563	A1564	T1565	C1566	Y1567	M1568	N1569	I1572							
W1406	L1407	K1408	I1409	I1410	R1411	D1412	D1413	K1415	E1423	E1424	T1425	I1426	L1427	E1428	G1429	H1430	L1431	G1432	V1433	T1434	K1435	E1436	L1437	F1440	Q1441	T1442	S1443	E1444	K1445	K1446	F1447	H1448	E1452	K1453	G1454	G1455	A1456	N1457	L1458	I1459	K1460	E1461	L1462	I1463	D1464	D1465	F1466	I1467	F1468	P1469	N1472	R1479	ASN				
L1321	H1322	C1323	K1326	T1327	V1328	R1329	Q1330	V1331	A1332	Q1333	E1334	Q1335	F1336	F1337	L1338	M1339	R1342	I1343	C1344	M1345	R1348	L1351	L1357	F1358	L1361	E1367	R1368	A1369	H1371	D1374	Y1375	F1376	T1377	L1378	L1379	R1380	H1381	N1384	Y1385	A1386	Y1387	N1388	S1389	M1390	N1395	L1399											
W1247	A1248	G1252	S1253	L1254	Q1255	L1256	V1257	F1258	S1259	P1260	N1261	E1262	E1263	I1264	T1265	K1266	I1267	Y1268	E1269	K1270	T1271	N1272	A1273	G1274	N1275	E1276	P1277	D1278	L1279	E1280	D1281	E1282	Q1283	C1285	C1286	E1287	E1290	V1291	L1294	A1297	L1298	A1305	L1306	K1307	E1309	K1310	Q1313	D1318	L1319	L1320							
ILE	ASN	GLN	VAL	THR	HIS	ASP	GLN	ALA	VAL	LEU	GLN	SER	ALA	LEU	GLN	SER	PRO	ASN	PRO	SER	SER	GLU	CYS	MET	LEU	ASN	ARG	VAL	SER	VAL	ARG	LEU	ALA	GLN	GLN	ILE	ASP	GLU	ALA	SER	ARG	Y1232	M1233	P1234	D1235	I1236	C1237	V1238	I1239	R1240	I1241	Q1243	I1244	T1245	I1246		



• Molecule 1: Probable ubiquitin carboxyl-terminal hydrolase FAF-X



ARG	LEU	GLY	SER	ARG	TYR	SER	H650	V651	Q652	E653	V654	Q655	E656	R657	L658	N659	F660	L661	R662	F663	L664	L665	K666	D667	G668	Q669	L670	V671	L672	C673	A674	P675	Q676	A677	K678	Q679	I680	V681	K682	C683	L684	A685	E686	N687	A688	V689	Y690	L691	C692	D693	R694	E695	A696	C697	F698	K699	W700	Y701	S702		
K703	L704	M705	G706	D707	E708	P709	D710	L711	D712	P713	D714	E715	N716	K717	D718	F719	F720	E721	S722	N723	V724	L725	Q726	G668	L727	Q669	D728	P729	S730	L731	L732	T733	E734	N735	G736	M737	K738	C739	F740	E741	R742	F743	F744	K745	A746	A688	V747	N748	C749	R750	E751	G752	K753	L754	V755	A756	K757	R758	R759	Y761	M762
M763	D764	D765	L766	E767	L768	I769	G770	D771	L771	D772	Y773	L774	W775	R776	V777	V778	I779	Q780	S781	D782	D783	D784	I785	A786	S787	R788	A789	I790	D791	L792	L793	K794	E795	I796	Y797	T798	N799	L800	G801	P802	R803	L804	Q805	V806	A746	N807	Q808	V809	I810	I811	H812	E813	D814	F815	I816	Q817	S818	C819	F820	D821	R822
L823	K824	A825	S826	Y827	D828	T829	L830	C831	VAL	LEU	ASP	GLY	ASP	GLN	LYS	ASP	ASP	SER	ASN	VAL	C842	A843	R844	Q845	E846	A847	V848	R849	M850	V851	R852	V853	L854	T855	V856	L857	R858	E859	Y860	I861	N862	E863	C864	D865	S866	ASP	TYR	GLY	HIS	GLY	GLU	GLU	LEU	ASP							
GLY	LYS	HIS	ASP	ARG	SER	PHE	VAL	VAL	ARG	GLN	ASN	GLY	ASP	GLN	LYS	VAL	ASP	ASP	THR	LEU	VAL	TRP	SER	HIS	THR	ASN	THR	ILE	GLY	SER	VAL	ARG	CYS	V853	L854	T855	V856	L857	R858	E859	Y860	I861	N862	E863	C864	D865	S866	ASP	TYR	GLY	HIS	GLY	GLU	GLU	LEU	ASP					
PRO	ALA	ASP	GLY	ARG	LYS	LEU	ILE	GLN	LEU	ASN	LYS	ASP	GLN	SER	VAL	ILE	THR	ALA	LYS	THR	LEU	TRP	THR	GLN	SER	SER	ILE	ASN	PRO	SER	VAL	ASP	THR	GLY	ASP	THR	GLY	ALA	ASN	HIS	LYS	THR	ASP	GLY	ASP	VAL	GLY	PRO	ASN	PRO	GLU	VAL									
GLU	SER	CYS	LEU	PRO	GLY	VAL	ILE	MET	S1012	L1013	H1014	P1015	R1016	Y1017	I1018	S1019	F1020	W1022	Q1023	V1024	A1025	D1026	L1027	L1031	N1032	M1033	P1034	P1035	L1036	R1037	D1038	G1039	A1040	R1041	V1042	L1043	M1044	K1045	L1046	M1047	P1048	D1050	S1051	T1052	T1053	T1054	E1055	L1056	R1058	A1059	C1060	L1062	D1063	H1064							
A1065	K1066	LEU	GLY	SER	SER	PRO	SER	L1076	D1077	S1078	L1079	F1081	G1082	P1083	S1084	A1085	S1086	Q1087	Y1090	L1091	T1092	E1093	V1094	A1095	Y1096	A1097	L1098	L1099	M1100	P1101	ALA	GLY	ALA	PRO	LEU	ALA	ASP	S1110	S1111	D1112	F1113	Q1114	F1115	H1116	L1117	L1118	K1119	S1120	G1121	G1122	L1123	P1124	L1125								
V1126	M1129	L1130	T1131	R1132	M1133	N1134	F1135	L1136	P1137	M1138	A1139	D1140	E1141	T1142	R1144	R1145	G1146	A1147	Y1148	L1149	M1150	A1151	L1152	K1153	I1154	A1155	K1156	L1157	L1158	L1159	T1160	A1161	I1162	G1163	Y1164	G1165	HIS	VAL	ARG	ALA	VAL	ALA	ALA	GLU	ALA	ALA	CYS	GLN	PRO	MET	THR	GLN									
ILE	ASN	GLN	VAL	THR	HIS	ASP	GLN	ALA	VAL	VAL	GLN	SER	ALA	GLN	LEU	SER	GLN	ILE	PRO	ASN	PRO	SER	SER	CYS	MET	LEU	ARG	ALA	GLN	ILE	ASP	ALA	ASP	ARG	Y1232	M1233	P1234	D1235	V1238	I1239	R1240	A1241	I1242	Q1243	K1244	I1245	I1246	W1247													
A1248	S1253	L1254	Q1255	L1256	V1257	P1260	N1261	E1262	E1263	I1264	T1265	Y1268	E1269	K1270	T1271	N1272	A1273	G1274	D1278	L1279	E1280	D1281	E1282	Q1283	C1286	E1287	E1290	V1291	M1292	T1293	L1294	C1295	F1296	A1297	L1298	I1299	A1302	S1307	K1308	E1309	Q1313	T1314	F1315	L1316	I1317	D1318	L1319	L1320	C1323												
H1324	S1325	T1327	V1328	R1329	Q1330	V1331	A1332	Q1333	E1334	Q1335	F1336	M1339	R1342	C1343	R1348	F1353	I1354	T1355	L1356	L1357	F1358	T1359	V1360	L1361	G1362	S1363	R1366	A1369	K1370	H1371	D1374	Y1375	F1376	T1377	L1378	L1379	R1380	H1381	L1382	L1383	A1386	Y1387	N1388	S1389	N1390	I1391	I1404	K1408													
D1412	D1413	V1414	K1415	I1426	L1427	H1430	G1432	V1433	T1434	K1436	E1437	L1438	Q1441	K1445	L1446	F1447	E1452	A1456	N1457	L1458	I1459	L1462	I1467	Y1474	M1478	R1479	ASN	GLY	M1292	GLY	LEU	PRO	ALA	GLU	GLN	ALA	I1489	P1490	V1491	I1498	N1499	A1500	G1501	F1502	ASP	VAL	ASP	ASP	ASP	MET											
L1508	N1515	V1520	D1521	S1522	L1523	T1524	E1525	M1526	Y1527	T1531	A1532	I1533	T1534	E1537	A1538	L1539	T1540	E1541	V1548	R1551	K1554	G1555	F1556	L1559	K1560	N1561	A1562	G1563	A1564	T1565	C1566	Y1567	Q1573	Q1574	I1585	I1588	E1589	G1590	T1591	G1592	SER	ASP	VAL	ASP	ASP	ASP	MET														

WORLDWIDE
PDB
PROTEIN DATA BANK

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	330000	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 ($e^-/\text{\AA}^2$)	56.7	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	1.330	Depositor
Minimum map value	-0.608	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.034	Depositor
Recommended contour level	0.221	Depositor
Map size (Å)	372.73602, 372.73602, 372.73602	wwPDB
Map dimensions	448, 448, 448	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.8320001, 0.8320001, 0.8320001	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	0.15	0/14461	0.35	3/19559 (0.0%)
1	B	0.16	0/14461	0.39	0/19559
1	C	0.16	0/14351	0.38	2/19411 (0.0%)
All	All	0.16	0/43273	0.37	5/58529 (0.0%)

There are no bond length outliers.

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2402	TYR	N-CA-C	-6.54	107.17	114.62
1	C	2404	ILE	N-CA-C	-5.41	107.16	111.81
1	C	1902	ASP	CB-CA-C	-5.36	110.37	116.54
1	A	1258	PHE	CA-C-N	5.09	131.86	121.48
1	A	1258	PHE	C-N-CA	5.09	131.86	121.48

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	14155	0	14051	346	0
1	B	14155	0	14051	350	0
1	C	14047	0	13957	366	0
All	All	42357	0	42059	1054	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 12.

All (1054) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2413:ARG:O	1:C:2416:THR:HG22	1.31	1.24
1:C:1521:ASP:O	1:C:1524:THR:HG22	1.38	1.20
1:B:540:CYS:HB2	1:B:544:ARG:HA	1.29	1.07
1:C:1789:LEU:HB3	1:C:1863:TYR:OH	1.58	1.02
1:A:1265:THR:HA	1:A:1268:TYR:CD2	2.02	0.95
1:A:1264:ILE:HG22	1:A:1268:TYR:CZ	2.04	0.92
1:A:1265:THR:HA	1:A:1268:TYR:HD2	1.34	0.88
1:A:1264:ILE:HG22	1:A:1268:TYR:OH	1.73	0.87
1:C:2416:THR:HG23	1:C:2417:TRP:N	1.93	0.83
1:A:545:ASP:HB2	1:A:580:PHE:HE1	1.41	0.83
1:C:1248:ALA:HB1	1:C:1254:LEU:HA	1.62	0.81
1:A:1320:LEU:HD11	1:A:1333:GLN:HB3	1.62	0.80
1:A:406:GLN:HE21	1:A:408:GLN:HE22	1.31	0.79
1:A:846:GLU:HA	1:A:849:ARG:HD3	1.65	0.78
1:C:2049:ALA:HB1	1:C:2092:VAL:HG11	1.64	0.78
1:B:1653:HIS:HD2	1:B:1991:VAL:HG22	1.49	0.77
1:C:1376:PHE:HB3	1:C:1380:ARG:HH12	1.46	0.77
1:A:721:GLU:HA	1:A:725:LEU:HD12	1.66	0.77
1:C:2413:ARG:O	1:C:2416:THR:CG2	2.25	0.76
1:C:543:ASP:HB3	1:C:547:GLN:NE2	2.00	0.76
1:B:1368:ARG:HB3	1:B:1371:HIS:HB3	1.66	0.76
1:C:1041:ARG:HA	1:C:1044:MET:HE3	1.67	0.75
1:A:1333:GLN:HG2	1:A:1374:ASP:HB3	1.67	0.75
1:B:1917:LYS:HA	1:B:1921:PHE:HB2	1.66	0.75
1:B:557:GLU:HA	1:B:560:ARG:HD3	1.69	0.75
1:A:1811:LYS:NZ	1:A:1945:TRP:O	2.20	0.75
1:A:607:GLN:HA	1:A:611:ALA:HA	1.69	0.74
1:B:540:CYS:HB2	1:B:544:ARG:CA	2.12	0.74
1:C:406:GLN:HE21	1:C:408:GLN:HE22	1.33	0.74
1:A:1446:LYS:O	1:A:1515:ASN:ND2	2.20	0.74
1:C:2416:THR:HG23	1:C:2417:TRP:H	1.50	0.73
1:C:1033:MET:HG3	1:C:1035:PRO:HD2	1.69	0.73
1:B:2304:ARG:NH2	1:B:2342:GLN:OE1	2.21	0.73
1:C:858:ARG:HH22	1:C:1039:GLY:HA2	1.52	0.73
1:B:1444:GLU:O	1:B:1448:HIS:N	2.20	0.73
1:B:858:ARG:HH22	1:B:1039:GLY:HA2	1.54	0.72
1:A:545:ASP:HB2	1:A:580:PHE:CE1	2.23	0.72

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1475:LEU:HD11	1:A:1526:MET:HA	1.70	0.72
1:B:1820:ARG:NH2	1:B:1911:ASP:O	2.22	0.72
1:B:1379:LEU:HD22	1:B:1433:VAL:HG22	1.71	0.71
1:B:1577:MET:HG3	1:B:1884:ILE:HG21	1.71	0.71
1:B:2007:MET:SD	1:B:2011:GLN:NE2	2.64	0.71
1:B:406:GLN:HE21	1:B:408:GLN:HE22	1.37	0.70
1:B:546:THR:HG23	1:B:547:GLN:OE1	1.91	0.70
1:C:729:PRO:HG3	1:C:776:ARG:HG3	1.72	0.70
1:C:1556:PHE:HB3	1:C:1905:VAL:HG11	1.73	0.70
1:A:547:GLN:HB2	1:A:551:TRP:CD1	2.25	0.70
1:B:1286:CYS:HB2	1:B:1331:VAL:HG11	1.74	0.70
1:B:1380:ARG:HH22	1:B:1428:GLU:HG3	1.57	0.70
1:C:630:TYR:HD2	1:C:634:HIS:HB2	1.57	0.70
1:C:1863:TYR:HB3	1:C:1953:TYR:HB3	1.74	0.70
1:B:1333:GLN:HE22	1:B:1377:THR:HB	1.57	0.70
1:A:1326:LYS:HG3	1:A:1329:ARG:HH12	1.57	0.69
1:B:2334:ARG:NH1	1:B:2338:ASP:OD1	2.25	0.69
1:A:2453:ASN:ND2	1:A:2458:GLU:OE2	2.26	0.69
1:B:547:GLN:CD	1:B:547:GLN:H	2.01	0.69
1:B:2209:SER:O	1:B:2288:LYS:NZ	2.23	0.69
1:C:624:MET:HE1	1:C:684:LEU:HG	1.74	0.69
1:A:1863:TYR:HB3	1:A:1953:TYR:HB3	1.74	0.69
1:B:543:ASP:O	1:B:546:THR:N	2.23	0.69
1:C:2030:GLN:NE2	1:C:2032:HIS:O	2.25	0.68
1:B:1707:PRO:HB3	1:B:1969:ILE:HD12	1.74	0.68
1:A:2211:ASP:OD2	1:C:2250:ASN:ND2	2.27	0.68
1:A:1264:ILE:CG2	1:A:1268:TYR:OH	2.40	0.68
1:B:536:LEU:HD23	1:B:546:THR:HG21	1.74	0.68
1:A:779:ILE:O	1:A:849:ARG:NH1	2.27	0.67
1:C:1244:LYS:HG3	1:C:1261:ASN:HD21	1.59	0.67
1:B:845:GLN:OE1	1:B:849:ARG:NH1	2.28	0.67
1:B:1811:LYS:NZ	1:B:1945:TRP:O	2.28	0.67
1:C:1446:LYS:O	1:C:1515:ASN:ND2	2.28	0.67
1:B:1333:GLN:HG3	1:B:1378:LEU:HG	1.77	0.67
1:B:540:CYS:CB	1:B:544:ARG:O	2.43	0.67
1:C:1377:THR:HG22	1:C:1381:HIS:NE2	2.09	0.67
1:C:1326:LYS:HG3	1:C:1329:ARG:HH22	1.60	0.66
1:C:2118:LYS:HG2	1:C:2184:MET:HE1	1.77	0.66
1:A:737:MET:HE3	1:A:785:ILE:HD12	1.77	0.66
1:C:489:GLU:OE2	1:C:493:ARG:NH1	2.28	0.66
1:C:1524:THR:CG2	1:C:1525:GLU:OE1	2.43	0.66

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1863:TYR:HB3	1:B:1953:TYR:HB3	1.78	0.66
1:C:1459:ILE:HG22	1:C:1508:LEU:HD13	1.76	0.66
1:A:2102:GLU:HA	1:A:2106:GLU:HB2	1.78	0.66
1:B:2007:MET:O	1:B:2011:GLN:NE2	2.28	0.66
1:C:2090:HIS:NE2	1:C:2133:CYS:SG	2.66	0.66
1:A:1037:ARG:NH1	1:A:1142:GLU:OE2	2.28	0.66
1:A:2067:ALA:HA	1:A:2070:TRP:HD1	1.61	0.66
1:A:2447:GLN:N	1:A:2458:GLU:OE1	2.28	0.66
1:A:1520:VAL:HG22	1:A:2047:LEU:HD13	1.78	0.66
1:C:1917:LYS:HA	1:C:1921:PHE:HB2	1.77	0.66
1:C:2202:PRO:O	1:C:2206:MET:HG3	1.95	0.66
1:C:2416:THR:CG2	1:C:2417:TRP:N	2.59	0.66
1:B:1321:LEU:HB3	1:B:1368:ARG:HG3	1.77	0.66
1:C:2089:ALA:HA	1:C:2093:LEU:HD12	1.78	0.66
1:C:1144:ARG:HG2	1:C:1145:ARG:HH22	1.61	0.66
1:A:1099:LEU:HD13	1:A:1157:LEU:HD11	1.78	0.66
1:B:1464:ASP:O	1:B:1472:ASN:ND2	2.29	0.66
1:B:1145:ARG:HG2	1:B:1254:LEU:HD13	1.78	0.65
1:B:540:CYS:HB3	1:B:544:ARG:O	1.96	0.65
1:A:1099:LEU:HD22	1:A:1114:GLN:HG3	1.77	0.65
1:C:2416:THR:CG2	1:C:2417:TRP:H	2.08	0.65
1:A:543:ASP:HB2	1:A:547:GLN:HE22	1.62	0.65
1:A:545:ASP:O	1:A:548:LYS:HB2	1.96	0.65
1:C:390:ILE:HG23	1:C:395:ILE:HB	1.78	0.64
1:C:1357:LEU:HB3	1:C:1375:TYR:OH	1.97	0.64
1:C:1037:ARG:NH1	1:C:1142:GLU:OE2	2.30	0.64
1:C:2304:ARG:HD3	1:C:2342:GLN:HB3	1.79	0.64
1:A:762:MET:SD	1:A:763:MET:N	2.71	0.64
1:A:1452:GLU:O	1:A:1457:ASN:ND2	2.29	0.64
1:A:1918:ASN:O	1:A:1946:TRP:NE1	2.30	0.64
1:A:2242:SER:HA	1:A:2245:MET:HE2	1.79	0.64
1:B:532:HIS:NE2	1:B:536:LEU:HD11	2.13	0.64
1:B:2118:LYS:HG2	1:B:2184:MET:HE1	1.80	0.64
1:A:858:ARG:HH22	1:A:1039:GLY:HA2	1.63	0.64
1:B:543:ASP:OD2	1:B:547:GLN:CD	2.41	0.63
1:B:2343:ILE:HG22	1:B:2354:ARG:HD3	1.79	0.63
1:A:1264:ILE:O	1:A:1268:TYR:CD2	2.51	0.63
1:B:737:MET:HE3	1:B:785:ILE:HD12	1.80	0.63
1:C:1588:ILE:HG21	1:C:1644:LEU:HD21	1.79	0.63
1:A:763:MET:HE1	1:A:804:LEU:HD22	1.79	0.63
1:B:543:ASP:CG	1:B:546:THR:HA	2.23	0.63

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1057:LEU:HD13	1:C:1079:LEU:HD13	1.80	0.63
1:C:2102:GLU:HA	1:C:2106:GLU:HB2	1.80	0.63
1:B:702:SER:O	1:B:742:ARG:NH1	2.31	0.63
1:C:567:ILE:HG13	1:C:653:GLU:HG2	1.79	0.63
1:C:780:GLN:OE1	1:C:849:ARG:NH2	2.27	0.63
1:A:1283:GLN:O	1:A:1286:CYS:N	2.31	0.63
1:A:2359:LEU:HD22	1:A:2391:MET:HE2	1.80	0.63
1:C:1687:LEU:HD11	1:C:1739:THR:HG21	1.81	0.63
1:C:2209:SER:O	1:C:2288:LYS:NZ	2.30	0.63
1:A:1917:LYS:HA	1:A:1921:PHE:HB2	1.81	0.63
1:C:1099:LEU:HD22	1:C:1114:GLN:HG3	1.82	0.62
1:C:1099:LEU:HD13	1:C:1157:LEU:HD11	1.81	0.62
1:C:1873:GLY:HA3	1:C:1878:GLY:HA2	1.81	0.62
1:A:662:ARG:HB2	1:A:700:TRP:HE1	1.64	0.62
1:B:536:LEU:HD13	1:B:548:LYS:HE3	1.80	0.62
1:A:1245:ILE:HD13	1:A:1257:VAL:HG21	1.82	0.62
1:B:2045:ILE:HG21	1:B:2084:VAL:HG13	1.82	0.62
1:A:1543:GLU:HB3	1:A:2060:LYS:HG2	1.82	0.62
1:C:1863:TYR:HE1	1:C:1955:ARG:HD3	1.64	0.62
1:A:1557:VAL:HB	1:A:1654:LEU:HG	1.81	0.61
1:A:609:ASN:OD1	1:A:610:HIS:ND1	2.32	0.61
1:A:764:ASP:HB2	1:A:803:ARG:HH21	1.65	0.61
1:B:805:GLN:O	1:B:808:GLN:NE2	2.33	0.61
1:A:2041:THR:HG22	1:A:2084:VAL:HG21	1.83	0.61
1:C:800:LEU:HD11	1:C:808:GLN:HG3	1.82	0.61
1:A:780:GLN:OE1	1:A:849:ARG:NH2	2.29	0.61
1:B:548:LYS:HZ3	1:B:580:PHE:HB2	1.65	0.61
1:B:1560:LYS:O	1:B:1569:ASN:ND2	2.32	0.61
1:A:1824:MET:HG3	1:A:1863:TYR:CE2	2.35	0.61
1:C:1363:SER:O	1:C:1366:ARG:N	2.30	0.61
1:C:1441:GLN:HB3	1:C:1445:LYS:HB2	1.82	0.61
1:B:1414:VAL:HG21	1:B:1491:VAL:HG22	1.83	0.61
1:A:418:ARG:NH1	1:A:459:ASP:OD2	2.33	0.61
1:B:1443:SER:O	1:B:1514:ARG:NH2	2.34	0.61
1:A:540:CYS:HA	1:A:544:ARG:HG3	1.83	0.61
1:A:1156:LYS:HE3	1:A:1287:GLU:HB2	1.83	0.61
1:B:2245:MET:HE1	1:B:2308:TRP:HD1	1.66	0.61
1:A:1467:ILE:HG21	1:A:1502:PHE:CE1	2.36	0.60
1:B:545:ASP:HB2	1:B:580:PHE:CD1	2.36	0.60
1:A:802:PRO:O	1:A:803:ARG:HD3	2.02	0.60
1:B:2168:VAL:HG13	1:B:2175:LEU:HD11	1.82	0.60

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:548:LYS:HG3	1:A:580:PHE:CG	2.36	0.60
1:B:1124:PRO:HG3	1:B:1233:MET:HE1	1.83	0.60
1:C:662:ARG:NH2	1:C:665:LEU:O	2.32	0.60
1:A:1824:MET:HG3	1:A:1863:TYR:HE2	1.66	0.60
1:C:1356:LEU:O	1:C:1359:THR:HB	2.01	0.60
1:A:523:ASP:OD1	1:A:524:ILE:HD12	2.01	0.60
1:A:2297:GLU:HG3	1:A:2301:LYS:HE3	1.84	0.60
1:A:2375:ARG:NH1	1:C:2364:ASP:OD2	2.35	0.60
1:B:545:ASP:HB2	1:B:580:PHE:HD1	1.67	0.60
1:B:1159:LEU:HA	1:B:1162:ILE:HG22	1.84	0.60
1:C:2406:GLN:OE1	1:C:2412:LYS:NZ	2.34	0.60
1:A:2209:SER:O	1:A:2288:LYS:NZ	2.33	0.60
1:B:542:GLN:H	1:B:542:GLN:CD	2.09	0.60
1:B:2013:MET:HE1	1:B:2047:LEU:HG	1.84	0.60
1:C:695:GLU:OE1	1:C:735:ASN:ND2	2.33	0.59
1:A:1264:ILE:O	1:A:1268:TYR:CE2	2.55	0.59
1:B:1333:GLN:NE2	1:B:1377:THR:HB	2.16	0.59
1:C:1701:LEU:O	1:C:1706:HIS:N	2.34	0.59
1:C:1999:MET:SD	1:C:2002:ARG:NH1	2.62	0.59
1:A:2355:ILE:HD13	1:A:2401:ALA:HB2	1.84	0.59
1:B:390:ILE:HG23	1:B:395:ILE:HB	1.83	0.59
1:C:1361:LEU:C	1:C:1363:SER:H	2.09	0.59
1:A:547:GLN:HB2	1:A:551:TRP:NE1	2.16	0.59
1:B:1885:ILE:O	1:B:1887:ARG:NH1	2.35	0.59
1:C:1707:PRO:HB3	1:C:1969:ILE:HD12	1.83	0.59
1:B:1498:ILE:HD12	1:B:2003:MET:HE1	1.83	0.59
1:C:1336:PHE:HA	1:C:1339:MET:HE2	1.83	0.59
1:C:1694:VAL:HA	1:C:1710:LEU:HD22	1.82	0.59
1:B:493:ARG:NH2	1:B:496:GLU:OE1	2.36	0.59
1:C:1333:GLN:HG3	1:C:1378:LEU:HD12	1.84	0.59
1:A:802:PRO:C	1:A:803:ARG:HD3	2.28	0.59
1:B:577:CYS:O	1:B:599:ARG:NE	2.35	0.59
1:C:741:GLU:HG2	1:C:792:LEU:HD11	1.84	0.58
1:C:1123:LEU:HD21	1:C:1234:PRO:HD3	1.83	0.58
1:B:2183:VAL:HG21	1:B:2227:LYS:HD2	1.85	0.58
1:B:2325:VAL:HA	1:B:2333:LEU:HD11	1.84	0.58
1:A:509:ASN:O	1:A:513:ASN:ND2	2.36	0.58
1:A:1123:LEU:HD23	1:A:1124:PRO:HD3	1.84	0.58
1:A:1592:GLY:HA2	1:A:1645:ARG:HD3	1.84	0.58
1:A:544:ARG:O	1:A:547:GLN:HG2	2.03	0.58
1:A:672:LEU:HB3	1:A:711:LEU:HG	1.86	0.58

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:390:ILE:HG23	1:A:395:ILE:HB	1.84	0.58
1:B:543:ASP:OD2	1:B:547:GLN:N	2.37	0.58
1:B:1326:LYS:HG3	1:B:1329:ARG:HH22	1.68	0.58
1:B:541:SER:CA	1:B:544:ARG:HH21	2.16	0.58
1:B:1318:ASP:HA	1:B:1322:HIS:HB2	1.85	0.58
1:B:2351:GLN:NE2	1:B:2398:CYS:SG	2.77	0.58
1:B:1334:GLU:HA	1:B:1337:PHE:HD2	1.68	0.57
1:B:1437:LEU:HD12	1:B:1440:PHE:HD2	1.69	0.57
1:B:567:ILE:HG22	1:B:571:LYS:NZ	2.19	0.57
1:B:1323:CYS:O	1:B:1371:HIS:NE2	2.25	0.57
1:C:1653:HIS:CD2	1:C:1991:VAL:HG22	2.39	0.57
1:A:1824:MET:CG	1:A:1863:TYR:CE2	2.88	0.57
1:A:413:LEU:HD12	1:A:416:ILE:HD11	1.86	0.57
1:A:1034:PRO:HA	1:A:1037:ARG:HH12	1.68	0.57
1:A:1441:GLN:HB3	1:A:1445:LYS:HB2	1.86	0.57
1:A:1714:LEU:HD11	1:A:1794:ALA:HB2	1.86	0.57
1:B:345:ILE:HG22	1:B:347:SER:H	1.69	0.57
1:B:1664:PRO:HB2	1:B:1667:PHE:HB3	1.86	0.57
1:C:495:ALA:HB2	1:C:507:VAL:HG11	1.86	0.57
1:C:737:MET:HE3	1:C:785:ILE:HD12	1.85	0.57
1:A:405:HIS:HA	1:A:445:ILE:HG22	1.87	0.57
1:A:494:LEU:HB3	1:A:503:MET:HE2	1.86	0.57
1:B:2225:LEU:HD23	1:B:2228:LEU:HD13	1.87	0.57
1:C:1653:HIS:HD2	1:C:1991:VAL:HG22	1.68	0.57
1:C:1924:GLU:HG2	1:C:1943:LYS:HG2	1.87	0.57
1:A:1445:LYS:C	1:A:1447:PHE:H	2.12	0.57
1:A:1577:MET:HE2	1:A:1886:GLN:HA	1.87	0.57
1:A:1713:VAL:HA	1:A:1791:PRO:HD2	1.87	0.57
1:B:1369:ALA:HA	1:B:1426:ILE:HD11	1.87	0.57
1:B:1554:LYS:NZ	1:B:1898:TYR:OH	2.29	0.57
1:C:1585:ILE:O	1:C:1648:GLN:NE2	2.32	0.56
1:C:1813:ASN:HB2	1:C:1943:LYS:HE3	1.86	0.56
1:A:729:PRO:HG3	1:A:776:ARG:HG3	1.86	0.56
1:A:2447:GLN:HG3	1:A:2460:SER:HA	1.86	0.56
1:B:1446:LYS:HE3	1:B:1512:CYS:HB2	1.87	0.56
1:B:2052:LEU:HA	1:B:2056:GLY:HA3	1.88	0.56
1:B:2206:MET:HE2	1:B:2236:ILE:HD11	1.87	0.56
1:B:2381:GLN:HB2	1:B:2456:PHE:O	2.05	0.56
1:B:2410:ASP:OD1	1:B:2411:LEU:N	2.38	0.56
1:C:623:TYR:OH	1:C:653:GLU:OE1	2.24	0.56
1:A:1591:THR:O	1:A:1645:ARG:NH1	2.39	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:721:GLU:HA	1:B:725:LEU:HD12	1.87	0.56
1:B:1380:ARG:HH21	1:B:1429:GLY:HA2	1.71	0.56
1:A:345:ILE:HG22	1:A:347:SER:H	1.70	0.56
1:B:1520:VAL:HG22	1:B:2047:LEU:HD22	1.87	0.56
1:C:345:ILE:HG22	1:C:347:SER:H	1.71	0.56
1:C:2237:ARG:O	1:C:2261:ASP:HB2	2.05	0.56
1:C:845:GLN:OE1	1:C:849:ARG:NH1	2.38	0.56
1:C:2324:GLN:O	1:C:2328:SER:OG	2.21	0.56
1:B:1406:TRP:HE3	1:B:1407:LEU:HD22	1.70	0.56
1:B:1664:PRO:HG2	1:B:1668:TRP:CE2	2.41	0.56
1:B:2160:VAL:O	1:B:2178:TYR:OH	2.20	0.56
1:B:1141:MET:HE3	1:B:1145:ARG:HE	1.70	0.56
1:C:1462:LEU:HD21	1:C:1504:LEU:HD23	1.86	0.56
1:B:552:ILE:HD11	1:B:573:ILE:HG23	1.88	0.56
1:B:1037:ARG:NH1	1:B:1142:GLU:OE2	2.39	0.56
1:B:790:ILE:HA	1:B:793:LEU:HD12	1.87	0.55
1:C:2045:ILE:HG21	1:C:2084:VAL:HG13	1.87	0.55
1:B:1408:LYS:NZ	1:B:1461:GLU:OE2	2.40	0.55
1:C:1591:THR:O	1:C:1645:ARG:NH1	2.38	0.55
1:A:1824:MET:CG	1:A:1863:TYR:HE2	2.19	0.55
1:A:2348:ASP:OD2	1:A:2354:ARG:NH2	2.24	0.55
1:A:1470:ALA:HB1	1:A:1999:MET:HG3	1.89	0.55
1:C:505:HIS:O	1:C:509:ASN:ND2	2.38	0.55
1:A:754:LEU:HD22	1:A:763:MET:HA	1.88	0.55
1:B:1431:LEU:O	1:B:1435:LYS:HG3	2.07	0.55
1:B:1666:GLY:HA2	1:B:1669:LYS:HE3	1.88	0.55
1:A:1653:HIS:HD2	1:A:1991:VAL:HG22	1.72	0.55
1:B:1448:HIS:HA	1:B:1452:GLU:HG3	1.89	0.55
1:B:2366:ARG:HG3	1:C:2366:ARG:HH22	1.71	0.55
1:A:359:ASN:HD21	1:A:412:LYS:HB3	1.72	0.55
1:A:1813:ASN:HD22	1:A:1943:LYS:HE3	1.72	0.55
1:A:1871:HIS:HE2	1:A:1878:GLY:HA3	1.72	0.55
1:B:355:LEU:HD23	1:B:412:LYS:HE2	1.88	0.55
1:A:1400:LEU:O	1:A:1404:ILE:HG12	2.06	0.55
1:C:1502:PHE:CD2	1:C:2012:PHE:HB2	2.42	0.55
1:B:695:GLU:OE1	1:B:735:ASN:ND2	2.33	0.54
1:C:1369:ALA:HA	1:C:1426:ILE:HD11	1.87	0.54
1:C:1524:THR:HG23	1:C:1525:GLU:OE1	2.06	0.54
1:A:1427:LEU:HD21	1:A:1491:VAL:HG12	1.89	0.54
1:B:1653:HIS:CD2	1:B:1991:VAL:HG22	2.37	0.54
1:B:2409:GLY:O	1:B:2413:ARG:N	2.38	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:536:LEU:HD12	1:A:548:LYS:NZ	2.21	0.54
1:C:559:LEU:HB2	1:C:566:VAL:HG22	1.87	0.54
1:C:1333:GLN:HG3	1:C:1378:LEU:HB2	1.89	0.54
1:C:1524:THR:HG23	1:C:1525:GLU:N	2.23	0.54
1:C:2409:GLY:O	1:C:2413:ARG:HG3	2.07	0.54
1:A:702:SER:HA	1:A:742:ARG:HH12	1.73	0.54
1:A:1820:ARG:NH2	1:A:1911:ASP:O	2.41	0.54
1:A:736:GLY:O	1:A:740:PHE:HB2	2.08	0.54
1:C:1247:TRP:O	1:C:1268:TYR:OH	2.21	0.54
1:C:1813:ASN:OD1	1:C:1947:ASN:ND2	2.41	0.54
1:C:2365:ASP:OD1	1:C:2366:ARG:N	2.36	0.54
1:B:2247:SER:HA	1:B:2309:GLU:OE1	2.08	0.54
1:C:1041:ARG:HH12	1:C:1143:THR:HG22	1.72	0.54
1:B:536:LEU:CD2	1:B:546:THR:HG21	2.37	0.54
1:A:438:GLN:HA	1:A:446:VAL:HG12	1.90	0.54
1:B:1247:TRP:O	1:B:1268:TYR:OH	2.24	0.54
1:C:2328:SER:O	1:C:2383:ARG:NH2	2.35	0.54
1:B:1357:LEU:HD22	1:B:1375:TYR:HE1	1.73	0.53
1:C:1309:GLU:O	1:C:1313:GLN:NE2	2.40	0.53
1:C:790:ILE:HA	1:C:793:LEU:HD12	1.91	0.53
1:A:2453:ASN:O	1:A:2455:TYR:N	2.41	0.53
1:B:1910:MET:HA	1:B:1915:GLU:HG2	1.90	0.53
1:C:1664:PRO:HG2	1:C:1668:TRP:CE2	2.43	0.53
1:C:2194:THR:HG22	1:C:2198:LYS:HZ2	1.72	0.53
1:C:2368:GLY:H	1:C:2371:ASP:HB2	1.73	0.53
1:C:1034:PRO:HA	1:C:1037:ARG:HH12	1.73	0.53
1:A:567:ILE:HB	1:A:568:PRO:HD3	1.90	0.53
1:A:1307:SER:O	1:A:1313:GLN:NE2	2.36	0.53
1:B:607:GLN:HA	1:B:611:ALA:HA	1.90	0.53
1:B:1441:GLN:OE1	1:B:1445:LYS:HB3	2.09	0.53
1:B:1924:GLU:HG2	1:B:1943:LYS:HG2	1.90	0.53
1:C:1521:ASP:O	1:C:1524:THR:CG2	2.33	0.53
1:C:1987:ILE:O	1:C:1988:GLU:HG3	2.07	0.53
1:A:1642:GLY:O	1:A:1646:HIS:ND1	2.30	0.53
1:B:1709:MET:SD	1:B:1965:LEU:HB3	2.49	0.53
1:B:1740:LEU:HD23	1:B:1795:ILE:HG12	1.90	0.53
1:C:1159:LEU:HA	1:C:1162:ILE:HG22	1.90	0.53
1:C:1376:PHE:HB3	1:C:1380:ARG:NH1	2.20	0.53
1:A:1883:TYR:CD2	1:A:1910:MET:HG2	2.44	0.53
1:B:545:ASP:CB	1:B:580:PHE:HD1	2.21	0.53
1:B:1320:LEU:HD21	1:B:1378:LEU:HD12	1.91	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2050:ARG:O	1:B:2054:THR:OG1	2.23	0.53
1:C:1445:LYS:C	1:C:1447:PHE:H	2.14	0.53
1:A:1435:LYS:HD2	1:A:1503:GLU:HG3	1.90	0.53
1:B:1561:ASN:ND2	1:B:1566:CYS:HB3	2.23	0.53
1:B:1873:GLY:HA3	1:B:1878:GLY:HA2	1.91	0.53
1:C:1709:MET:SD	1:C:1965:LEU:HB3	2.49	0.53
1:A:630:TYR:HD2	1:A:634:HIS:HB2	1.74	0.53
1:A:805:GLN:O	1:A:808:GLN:NE2	2.42	0.53
1:A:1235:ASP:OD1	1:A:1235:ASP:N	2.42	0.53
1:B:613:VAL:HG23	1:B:664:LEU:HD22	1.91	0.53
1:B:1447:PHE:CG	1:B:1514:ARG:HD2	2.44	0.53
1:C:1353:PHE:HA	1:C:1356:LEU:HB3	1.91	0.53
1:C:2013:MET:SD	1:C:2047:LEU:HD21	2.49	0.53
1:A:557:GLU:HA	1:A:560:ARG:HD2	1.90	0.52
1:A:1523:LEU:HD11	1:A:2012:PHE:HE2	1.74	0.52
1:B:1988:GLU:OE2	1:B:1989:ARG:NH2	2.40	0.52
1:C:1452:GLU:O	1:C:1457:ASN:ND2	2.38	0.52
1:A:1084:SER:HB3	1:A:1087:GLN:HG2	1.90	0.52
1:A:1987:ILE:O	1:A:1988:GLU:HG3	2.08	0.52
1:C:627:MET:HA	1:C:630:TYR:CE1	2.44	0.52
1:C:1948:ALA:HB1	1:C:1951:LEU:HD21	1.92	0.52
1:A:505:HIS:O	1:A:509:ASN:ND2	2.41	0.52
1:A:800:LEU:HD11	1:A:808:GLN:HG3	1.90	0.52
1:A:1326:LYS:H	1:A:1326:LYS:HD2	1.73	0.52
1:B:2328:SER:O	1:B:2383:ARG:NH2	2.36	0.52
1:C:542:GLN:O	1:C:544:ARG:HG3	2.09	0.52
1:C:1673:LEU:N	1:C:1676:GLU:O	2.43	0.52
1:C:2067:ALA:HA	1:C:2070:TRP:HD1	1.73	0.52
1:A:620:LEU:HD22	1:A:657:ARG:HD2	1.92	0.52
1:A:1707:PRO:HB3	1:A:1969:ILE:HD12	1.92	0.52
1:A:2079:ARG:HA	1:A:2085:ARG:HH21	1.73	0.52
1:B:754:LEU:HD22	1:B:763:MET:HA	1.91	0.52
1:B:1568:MET:HG3	1:B:1667:PHE:HE2	1.73	0.52
1:B:1643:VAL:HG13	1:B:1671:PHE:CZ	2.45	0.52
1:B:1697:LEU:HD23	1:B:1710:LEU:HD11	1.91	0.52
1:B:2408:ASN:O	1:B:2408:ASN:ND2	2.43	0.52
1:C:1329:ARG:NH2	1:C:1371:HIS:HD2	2.07	0.52
1:A:1653:HIS:CD2	1:A:1991:VAL:HG22	2.45	0.52
1:A:1871:HIS:NE2	1:A:1878:GLY:HA3	2.25	0.52
1:B:846:GLU:HA	1:B:849:ARG:HD3	1.90	0.52
1:C:508:LEU:HD23	1:C:511:LEU:HD12	1.92	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1684:HIS:HE1	1:C:1688:GLU:HB2	1.73	0.52
1:A:1380:ARG:HE	1:A:1432:GLY:HA3	1.75	0.52
1:A:1757:TYR:HD1	1:A:1784:LEU:HB2	1.74	0.52
1:B:1283:GLN:HA	1:B:1286:CYS:SG	2.49	0.52
1:A:544:ARG:HB3	1:A:544:ARG:HH11	1.75	0.52
1:B:1337:PHE:HE1	1:B:1381:HIS:HB2	1.75	0.52
1:C:1531:THR:HG21	1:C:1537:GLU:HG2	1.92	0.52
1:A:1246:ILE:HG21	1:A:1319:LEU:HD21	1.92	0.52
1:B:1713:VAL:HA	1:B:1791:PRO:HD2	1.92	0.52
1:C:2303:LEU:HD12	1:C:2339:LEU:HD21	1.91	0.52
1:A:418:ARG:NH2	1:A:455:LYS:O	2.42	0.51
1:A:735:ASN:OD1	1:A:738:LYS:NZ	2.43	0.51
1:B:1248:ALA:HB1	1:B:1254:LEU:HA	1.91	0.51
1:B:1567:TYR:CZ	1:B:1684:HIS:HB2	2.45	0.51
1:B:1673:LEU:HB2	1:B:1678:VAL:HG22	1.92	0.51
1:A:1326:LYS:HG3	1:A:1329:ARG:NH1	2.24	0.51
1:C:717:LYS:HZ3	1:C:751:GLU:HB2	1.74	0.51
1:C:2426:LEU:HD21	1:C:2463:ALA:HB3	1.92	0.51
1:A:1244:LYS:HG3	1:A:1261:ASN:HD21	1.74	0.51
1:A:1664:PRO:HB2	1:A:1667:PHE:HB3	1.92	0.51
1:A:2376:SER:HB2	1:A:2384:ALA:HB2	1.91	0.51
1:B:1913:ASP:HA	1:B:1916:MET:HE1	1.92	0.51
1:A:526:ASP:OD1	1:A:527:LEU:N	2.44	0.51
1:A:2206:MET:HE1	1:A:2279:LEU:HG	1.93	0.51
1:B:1041:ARG:HG3	1:B:1044:MET:HE2	1.92	0.51
1:C:563:ASP:HB3	1:C:565:TRP:NE1	2.26	0.51
1:C:1144:ARG:HB3	1:C:1145:ARG:HH12	1.75	0.51
1:C:1330:GLN:NE2	1:C:1374:ASP:OD2	2.44	0.51
1:B:413:LEU:HA	1:B:416:ILE:HD12	1.92	0.51
1:B:1444:GLU:OE2	1:B:1514:ARG:NH1	2.42	0.51
1:B:1694:VAL:HG12	1:B:1710:LEU:HD22	1.92	0.51
1:C:509:ASN:O	1:C:513:ASN:ND2	2.43	0.51
1:C:720:PHE:HA	1:C:724:VAL:HB	1.93	0.51
1:C:1283:GLN:O	1:C:1287:GLU:HG2	2.11	0.51
1:A:2045:ILE:HG21	1:A:2084:VAL:HG13	1.93	0.51
1:B:2162:ASN:OD1	1:B:2165:ARG:NH1	2.43	0.51
1:C:516:HIS:NE2	1:C:568:PRO:HB2	2.26	0.51
1:C:2307:CYS:O	1:C:2354:ARG:NH2	2.43	0.51
1:C:2416:THR:O	1:C:2419:VAL:HG22	2.10	0.51
1:B:1235:ASP:N	1:B:1235:ASP:OD1	2.42	0.51
1:A:337:LYS:O	1:A:341:ARG:HG2	2.12	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:695:GLU:OE1	1:A:735:ASN:ND2	2.39	0.51
1:A:696:ALA:HA	1:A:699:LYS:HE3	1.93	0.51
1:B:495:ALA:HB2	1:B:507:VAL:HG11	1.94	0.50
1:C:1560:LYS:HE3	1:C:1663:VAL:HG13	1.93	0.50
1:A:1750:LEU:N	1:A:1817:GLU:O	2.41	0.50
1:A:1886:GLN:N	1:A:1896:ARG:O	2.39	0.50
1:B:776:ARG:HA	1:B:779:ILE:HG22	1.94	0.50
1:B:1307:SER:O	1:B:1313:GLN:NE2	2.39	0.50
1:B:1536:CYS:HB2	1:B:2099:ARG:HH22	1.77	0.50
1:B:2133:CYS:HB3	1:B:2155:HIS:CE1	2.47	0.50
1:A:503:MET:HA	1:A:506:LYS:HE2	1.93	0.50
1:A:2052:LEU:HA	1:A:2056:GLY:HA3	1.93	0.50
1:A:2448:SER:O	1:A:2450:GLU:N	2.37	0.50
1:A:1763:LEU:HD12	1:A:1769:TYR:HB2	1.92	0.50
1:B:1268:TYR:HB3	1:B:1322:HIS:HB3	1.94	0.50
1:B:2102:GLU:HA	1:B:2106:GLU:HG3	1.94	0.50
1:C:1353:PHE:O	1:C:1354:ILE:C	2.54	0.50
1:C:1467:ILE:HG21	1:C:1502:PHE:CE1	2.46	0.50
1:C:2007:MET:HA	1:C:2063:VAL:HG13	1.92	0.50
1:A:2018:THR:HG22	1:A:2018:THR:O	2.12	0.50
1:B:1336:PHE:HD1	1:B:1339:MET:HE2	1.77	0.50
1:A:776:ARG:HA	1:A:779:ILE:HG22	1.92	0.50
1:A:1303:LEU:HD22	1:A:1339:MET:HE2	1.93	0.50
1:A:2062:VAL:HG23	1:A:2063:VAL:HG23	1.94	0.50
1:B:1576:TYR:HD2	1:B:1577:MET:HE2	1.77	0.50
1:C:716:ASN:HA	1:C:719:PHE:CE1	2.47	0.50
1:C:1354:ILE:HG22	1:C:1355:THR:N	2.26	0.50
1:A:1239:ILE:HD11	1:A:1295:CYS:SG	2.52	0.50
1:B:546:THR:O	1:B:548:LYS:HG2	2.12	0.50
1:A:790:ILE:HG12	1:A:856:VAL:HG22	1.94	0.49
1:A:1719:ALA:N	1:A:1785:LEU:O	2.33	0.49
1:A:1996:VAL:HA	1:A:1999:MET:HE2	1.93	0.49
1:C:1456:ALA:O	1:C:1458:LEU:N	2.45	0.49
1:C:1658:ARG:N	1:C:1995:ASN:OD1	2.29	0.49
1:C:1919:GLN:HA	1:C:1946:TRP:CD1	2.47	0.49
1:C:2052:LEU:HA	1:C:2056:GLY:HA3	1.94	0.49
1:A:1722:LYS:HB2	1:A:1731:TYR:HB2	1.94	0.49
1:A:435:TRP:CD1	1:A:471:CYS:HB3	2.47	0.49
1:A:540:CYS:HA	1:A:544:ARG:CG	2.42	0.49
1:A:563:ASP:HB3	1:A:565:TRP:NE1	2.26	0.49
1:B:553:ASP:HA	1:B:556:ILE:HD12	1.94	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1423:GLU:H	1:B:1426:ILE:HD12	1.75	0.49
1:C:1357:LEU:O	1:C:1360:VAL:N	2.45	0.49
1:A:2185:TYR:OH	1:A:2195:GLN:OE1	2.27	0.49
1:A:784:ASP:OD1	1:A:785:ILE:N	2.46	0.49
1:C:658:LEU:HD11	1:C:700:TRP:HB2	1.93	0.49
1:A:1573:GLN:HB3	1:A:1900:PHE:HD2	1.77	0.49
1:A:2416:THR:O	1:A:2419:VAL:HG22	2.12	0.49
1:B:784:ASP:N	1:B:784:ASP:OD1	2.45	0.49
1:A:1740:LEU:O	1:A:1796:GLN:N	2.34	0.49
1:A:2154:ASP:OD1	1:A:2195:GLN:NE2	2.40	0.49
1:C:2196:LEU:HD22	1:C:2201:VAL:HG21	1.94	0.49
1:A:1502:PHE:CD2	1:A:2012:PHE:HB2	2.48	0.49
1:A:2362:ILE:HG23	1:A:2365:ASP:HB2	1.95	0.49
1:B:563:ASP:HB3	1:B:565:TRP:CZ3	2.48	0.49
1:B:1701:LEU:O	1:B:1706:HIS:N	2.44	0.49
1:B:1945:TRP:H	1:B:1945:TRP:CD1	2.30	0.49
1:A:547:GLN:HB2	1:A:551:TRP:HE1	1.76	0.49
1:B:1588:ILE:HG21	1:B:1644:LEU:HD21	1.94	0.49
1:C:598:TYR:O	1:C:602:LEU:HG	2.13	0.49
1:C:1247:TRP:HE3	1:C:1264:ILE:HB	1.78	0.49
1:A:1710:LEU:HD21	1:A:1714:LEU:HD23	1.94	0.49
1:B:1041:ARG:HH12	1:B:1143:THR:HG22	1.77	0.49
1:C:1824:MET:HE2	1:C:1863:TYR:HD2	1.78	0.49
1:B:1031:LEU:HB3	1:B:1033:MET:HE1	1.93	0.48
1:B:1033:MET:HG3	1:B:1036:LEU:HD13	1.94	0.48
1:B:1348:ARG:HE	1:B:1351:LEU:HD22	1.78	0.48
1:B:1395:ASN:ND2	1:B:1399:LEU:HD21	2.28	0.48
1:C:498:ASP:OD2	1:C:504:ALA:N	2.46	0.48
1:C:1673:LEU:HD21	1:C:1684:HIS:CE1	2.48	0.48
1:C:1751:LEU:O	1:C:1755:GLU:HG2	2.12	0.48
1:B:1309:GLU:O	1:B:1313:GLN:NE2	2.46	0.48
1:C:2309:GLU:HA	1:C:2350:TRP:CD1	2.47	0.48
1:A:627:MET:HA	1:A:630:TYR:CE1	2.49	0.48
1:A:1709:MET:SD	1:A:1965:LEU:HB3	2.53	0.48
1:B:1558:GLY:HA3	1:B:1903:GLY:HA2	1.95	0.48
1:B:1559:LEU:H	1:B:1903:GLY:HA2	1.78	0.48
1:C:1520:VAL:HG13	1:C:2047:LEU:HD12	1.96	0.48
1:C:1642:GLY:O	1:C:1646:HIS:ND1	2.33	0.48
1:C:2309:GLU:HG3	1:C:2348:ASP:HB2	1.95	0.48
1:A:2248:SER:HB3	1:A:2350:TRP:CE2	2.48	0.48
1:B:1384:ASN:O	1:B:1388:ASN:N	2.38	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1731:TYR:HH	1:B:1771:CYS:HG	1.46	0.48
1:C:1323:CYS:SG	1:C:1324:HIS:N	2.87	0.48
1:A:1262:GLU:O	1:A:1265:THR:OG1	2.24	0.48
1:B:620:LEU:HD21	1:B:657:ARG:HB3	1.95	0.48
1:B:2245:MET:HE1	1:B:2308:TRP:CD1	2.48	0.48
1:C:1022:TRP:O	1:C:1086:SER:OG	2.24	0.48
1:C:1361:LEU:C	1:C:1363:SER:N	2.72	0.48
1:C:1474:TYR:CE1	1:C:1478:MET:HE3	2.49	0.48
1:C:1910:MET:HA	1:C:1915:GLU:HB3	1.95	0.48
1:C:2085:ARG:NH1	1:C:2130:ASP:OD2	2.46	0.48
1:B:543:ASP:OD2	1:B:547:GLN:NE2	2.46	0.48
1:B:720:PHE:HA	1:B:724:VAL:HB	1.95	0.48
1:B:1326:LYS:HG3	1:B:1329:ARG:HH12	1.78	0.48
1:C:662:ARG:NH1	1:C:704:LEU:HA	2.29	0.48
1:C:847:ALA:HA	1:C:850:MET:HE2	1.96	0.48
1:A:469:PHE:HE2	1:A:506:LYS:HE3	1.78	0.48
1:A:1742:VAL:HG23	1:A:1744:ILE:HD11	1.95	0.48
1:B:541:SER:HA	1:B:544:ARG:NH2	2.29	0.48
1:B:855:THR:HA	1:B:858:ARG:HG2	1.95	0.48
1:B:2248:SER:HB3	1:B:2350:TRP:CE2	2.48	0.48
1:B:2362:ILE:HG22	1:B:2363:PRO:HD2	1.95	0.48
1:C:1235:ASP:OD1	1:C:1235:ASP:N	2.44	0.48
1:B:540:CYS:O	1:B:543:ASP:N	2.47	0.48
1:B:1527:TYR:CE2	1:B:2004:GLN:HB2	2.49	0.48
1:C:1717:SER:HA	1:C:1736:SER:HA	1.95	0.48
1:C:1723:ILE:HG12	1:C:1730:ARG:HD2	1.96	0.48
1:C:2164:LEU:HD23	1:C:2168:VAL:HG21	1.95	0.48
1:B:498:ASP:OD2	1:B:504:ALA:N	2.45	0.48
1:B:729:PRO:HG3	1:B:776:ARG:HG3	1.95	0.48
1:B:2321:LEU:O	1:B:2325:VAL:HG23	2.14	0.48
1:C:1386:ALA:HA	1:C:1391:ILE:HB	1.94	0.48
1:C:1592:GLY:HA2	1:C:1645:ARG:HD3	1.95	0.48
1:A:1246:ILE:HD13	1:A:1289:LEU:HG	1.96	0.48
1:A:1442:THR:OG1	1:A:1443:SER:N	2.46	0.48
1:B:1412:ASP:HA	1:B:1415:LYS:HE3	1.96	0.48
1:C:790:ILE:HG12	1:C:856:VAL:HG22	1.96	0.48
1:A:1096:TYR:CZ	1:A:1153:LYS:HB3	2.50	0.47
1:A:1456:ALA:O	1:A:1458:LEU:N	2.47	0.47
1:A:1531:THR:HG21	1:A:1537:GLU:HG2	1.96	0.47
1:B:418:ARG:NH2	1:B:455:LYS:O	2.47	0.47
1:C:855:THR:HA	1:C:858:ARG:HG2	1.96	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1657:SER:HA	1:C:1995:ASN:HD21	1.78	0.47
1:C:1731:TYR:OH	1:C:1771:CYS:SG	2.66	0.47
1:C:1756:GLN:NE2	1:C:1760:GLY:O	2.46	0.47
1:A:625:GLU:O	1:A:629:LEU:HG	2.14	0.47
1:A:1545:LEU:HD23	1:A:2060:LYS:HD3	1.95	0.47
1:B:450:HIS:ND1	1:B:490:LEU:HD22	2.29	0.47
1:B:1896:ARG:HH21	1:B:1907:GLU:HG2	1.79	0.47
1:C:435:TRP:NE1	1:C:475:SER:OG	2.43	0.47
1:C:1526:MET:HE3	1:C:1527:TYR:HE1	1.79	0.47
1:A:536:LEU:HB3	1:A:548:LYS:HE3	1.96	0.47
1:B:1502:PHE:CD2	1:B:2012:PHE:HB2	2.50	0.47
1:C:762:MET:HE2	1:C:802:PRO:HD2	1.95	0.47
1:C:1254:LEU:HD23	1:C:1254:LEU:O	2.14	0.47
1:C:1520:VAL:HG22	1:C:2047:LEU:HD13	1.96	0.47
1:A:701:TYR:HB3	1:A:705:MET:HE1	1.97	0.47
1:A:705:MET:HE3	1:A:743:PHE:CZ	2.50	0.47
1:A:714:ASP:OD1	1:A:715:ILE:HG13	2.15	0.47
1:C:1362:GLY:HA2	1:C:1366:ARG:HB2	1.97	0.47
1:C:1380:ARG:HG3	1:C:1436:GLU:HG3	1.96	0.47
1:C:1566:CYS:HB2	1:C:1880:TYR:H	1.79	0.47
1:C:2176:GLN:HB2	1:C:2177:GLN:OE1	2.14	0.47
1:A:476:TRP:CD1	1:A:487:LEU:HD13	2.49	0.47
1:A:620:LEU:HD21	1:A:657:ARG:HB3	1.96	0.47
1:A:850:MET:HA	1:A:853:VAL:HG12	1.96	0.47
1:A:1397:GLU:OE2	1:A:1401:ASN:ND2	2.46	0.47
1:A:1576:TYR:HA	1:A:1651:PHE:HE1	1.79	0.47
1:B:658:LEU:HD21	1:B:700:TRP:HB2	1.96	0.47
1:C:1149:LEU:HA	1:C:1287:GLU:OE2	2.14	0.47
1:A:556:ILE:O	1:A:560:ARG:HG3	2.14	0.47
1:A:628:ARG:HH12	1:A:687:ASN:HB2	1.79	0.47
1:A:1356:LEU:O	1:A:1359:THR:HG22	2.15	0.47
1:B:1130:LEU:HD12	1:B:1131:THR:HG23	1.97	0.47
1:B:1282:GLU:HG2	1:B:1328:VAL:HG23	1.96	0.47
1:B:1333:GLN:NE2	1:B:1374:ASP:O	2.47	0.47
1:C:1084:SER:HB3	1:C:1087:GLN:HG2	1.96	0.47
1:A:2256:PRO:O	1:A:2258:PRO:HD3	2.15	0.47
1:B:1387:TYR:HB2	1:B:1440:PHE:CE1	2.49	0.47
1:B:1749:ASN:HA	1:B:1817:GLU:HB2	1.97	0.47
1:B:2202:PRO:O	1:B:2206:MET:HG3	2.14	0.47
1:C:404:LEU:HD13	1:C:449:VAL:HG22	1.97	0.47
1:C:1919:GLN:HG3	1:C:1920:CYS:SG	2.55	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2194:THR:HG22	1:C:2198:LYS:NZ	2.29	0.47
1:A:662:ARG:HB2	1:A:700:TRP:NE1	2.29	0.47
1:A:1309:GLU:O	1:A:1313:GLN:NE2	2.48	0.47
1:C:1551:ARG:HB2	1:C:1659:LEU:C	2.38	0.47
1:A:2172:GLY:O	1:A:2173:ARG:HB2	2.14	0.47
1:B:1337:PHE:CE1	1:B:1381:HIS:HB2	2.49	0.47
1:B:1757:TYR:HD1	1:B:1784:LEU:HB2	1.80	0.47
1:B:1904:ASP:OD1	1:B:1905:VAL:N	2.48	0.47
1:C:672:LEU:HD23	1:C:711:LEU:HD11	1.96	0.47
1:C:1434:THR:O	1:C:1438:LEU:HB2	2.14	0.47
1:C:1920:CYS:HB3	1:C:1948:ALA:HB2	1.97	0.47
1:A:540:CYS:SG	1:A:541:SER:N	2.88	0.47
1:B:1559:LEU:N	1:B:1903:GLY:HA2	2.29	0.47
1:B:2172:GLY:O	1:B:2173:ARG:HB2	2.14	0.47
1:C:1412:ASP:HA	1:C:1415:LYS:HB3	1.96	0.47
1:A:827:TYR:OH	1:A:1023:GLN:HG2	2.14	0.46
1:A:1243:GLN:OE1	1:A:1247:TRP:NE1	2.48	0.46
1:A:2042:MET:O	1:A:2046:GLN:HG3	2.15	0.46
1:B:1380:ARG:NH2	1:B:1428:GLU:HG3	2.27	0.46
1:B:1512:CYS:SG	1:B:1515:ASN:ND2	2.86	0.46
1:B:1576:TYR:HD1	1:B:1651:PHE:CD1	2.33	0.46
1:C:1307:SER:O	1:C:1313:GLN:NE2	2.43	0.46
1:A:847:ALA:HA	1:A:850:MET:HE2	1.98	0.46
1:A:1325:SER:O	1:A:1328:VAL:HG12	2.14	0.46
1:C:1145:ARG:NH2	1:C:1254:LEU:HD22	2.30	0.46
1:C:1287:GLU:O	1:C:1291:VAL:HG23	2.14	0.46
1:C:1824:MET:SD	1:C:1824:MET:N	2.88	0.46
1:A:431:LEU:HD23	1:A:434:ILE:HD12	1.98	0.46
1:A:536:LEU:HD12	1:A:548:LYS:HZ2	1.79	0.46
1:A:1159:LEU:HA	1:A:1162:ILE:HG22	1.97	0.46
1:A:1647:LEU:HG	1:A:1651:PHE:CE2	2.49	0.46
1:B:337:LYS:O	1:B:341:ARG:HG2	2.15	0.46
1:B:457:ALA:HA	1:B:460:PHE:HD2	1.81	0.46
1:B:1742:VAL:HB	1:B:1753:SER:HB2	1.97	0.46
1:C:1500:ALA:HA	1:C:1503:GLU:OE2	2.14	0.46
1:C:2309:GLU:HA	1:C:2350:TRP:HD1	1.79	0.46
1:C:2385:TYR:CZ	1:C:2389:LYS:HD2	2.49	0.46
1:A:802:PRO:C	1:A:804:LEU:H	2.23	0.46
1:A:1963:ASP:HA	1:A:1966:ILE:HD12	1.96	0.46
1:B:1813:ASN:OD1	1:B:1947:ASN:ND2	2.48	0.46
1:C:536:LEU:HB3	1:C:548:LYS:NZ	2.31	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:776:ARG:HA	1:C:779:ILE:HG22	1.97	0.46
1:A:389:TRP:O	1:A:393:ASN:ND2	2.36	0.46
1:A:1319:LEU:O	1:A:1329:ARG:HG2	2.16	0.46
1:A:1551:ARG:HB2	1:A:1659:LEU:C	2.41	0.46
1:B:541:SER:N	1:B:544:ARG:HH21	2.12	0.46
1:B:1561:ASN:HD21	1:B:1566:CYS:HB3	1.81	0.46
1:B:1754:LEU:HD11	1:B:1822:LEU:HD21	1.96	0.46
1:C:858:ARG:HG3	1:C:859:GLU:OE1	2.15	0.46
1:C:1096:TYR:CZ	1:C:1153:LYS:HB3	2.51	0.46
1:C:1247:TRP:NE1	1:C:1315:PHE:HD1	2.14	0.46
1:C:1408:LYS:HZ1	1:C:1456:ALA:HB1	1.80	0.46
1:A:399:VAL:O	1:A:403:SER:OG	2.26	0.46
1:A:1740:LEU:HD12	1:A:1795:ILE:HG12	1.97	0.46
1:B:823:LEU:HD11	1:B:850:MET:HE2	1.97	0.46
1:B:1572:ILE:HD11	1:B:1667:PHE:CZ	2.51	0.46
1:C:1080:PHE:HZ	1:C:1095:VAL:HG21	1.80	0.46
1:B:1262:GLU:O	1:B:1265:THR:OG1	2.27	0.46
1:C:540:CYS:SG	1:C:541:SER:N	2.88	0.46
1:C:1141:MET:O	1:C:1145:ARG:HG2	2.16	0.46
1:C:1522:SER:O	1:C:1526:MET:HG3	2.16	0.46
1:A:553:ASP:HA	1:A:556:ILE:HD12	1.97	0.46
1:A:1586:LEU:HD21	1:A:1651:PHE:HB2	1.98	0.46
1:B:1786:ILE:HD12	1:B:1824:MET:HE2	1.97	0.46
1:C:749:CYS:SG	1:C:761:TYR:HD2	2.38	0.46
1:C:1144:ARG:HB3	1:C:1145:ARG:NH1	2.30	0.46
1:C:2322:LEU:HA	1:C:2325:VAL:HG12	1.98	0.46
1:A:1085:ALA:HB1	1:A:1136:LEU:HD21	1.97	0.46
1:A:1664:PRO:HG2	1:A:1668:TRP:CE2	2.51	0.46
1:A:2188:LEU:HB3	1:A:2192:GLU:OE1	2.16	0.46
1:A:2454:GLY:O	1:A:2455:TYR:HB2	2.15	0.46
1:B:1429:GLY:O	1:B:1433:VAL:N	2.37	0.46
1:B:1099:LEU:HD13	1:B:1157:LEU:HD11	1.97	0.46
1:B:2341:LEU:O	1:B:2345:LEU:HG	2.15	0.46
1:C:2079:ARG:HB3	1:C:2122:PHE:CZ	2.51	0.46
1:A:400:LEU:HG	1:A:404:LEU:HD11	1.97	0.45
1:A:578:SER:O	1:A:599:ARG:NH2	2.45	0.45
1:A:1896:ARG:HH21	1:A:1907:GLU:HG2	1.81	0.45
1:A:2160:VAL:O	1:A:2178:TYR:OH	2.26	0.45
1:B:542:GLN:HG2	1:B:543:ASP:N	2.31	0.45
1:B:665:LEU:HD23	1:B:704:LEU:HD11	1.98	0.45
1:B:1387:TYR:HB2	1:B:1440:PHE:HE1	1.81	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2049:ALA:HB1	1:B:2092:VAL:HG21	1.97	0.45
1:C:2033:LEU:HD12	1:C:2037:ALA:HB3	1.98	0.45
1:A:1014:HIS:HB3	1:A:1016:ARG:HG2	1.97	0.45
1:B:827:TYR:HE2	1:B:1024:VAL:HA	1.81	0.45
1:B:1815:TYR:HE1	1:B:1917:LYS:HG3	1.80	0.45
1:B:2034:LEU:HD12	1:B:2037:ALA:H	1.80	0.45
1:C:2333:LEU:HD21	1:C:2383:ARG:HG3	1.99	0.45
1:A:1536:CYS:HB2	1:A:2099:ARG:HH22	1.82	0.45
1:A:2247:SER:HA	1:A:2309:GLU:OE1	2.16	0.45
1:B:790:ILE:HG12	1:B:856:VAL:HG22	1.99	0.45
1:B:2133:CYS:HB3	1:B:2155:HIS:HE1	1.80	0.45
1:B:2426:LEU:HD12	1:B:2467:LEU:HD22	1.99	0.45
1:C:784:ASP:OD1	1:C:784:ASP:N	2.47	0.45
1:A:1241:ALA:O	1:A:1245:ILE:HG12	2.16	0.45
1:B:1139:ALA:HB1	1:B:1144:ARG:HB2	1.97	0.45
1:B:1536:CYS:HB2	1:B:2099:ARG:NH2	2.31	0.45
1:B:2303:LEU:HD12	1:B:2339:LEU:HD21	1.98	0.45
1:C:544:ARG:N	1:C:547:GLN:HE22	2.15	0.45
1:C:1325:SER:O	1:C:1328:VAL:HG12	2.15	0.45
1:C:1640:ASN:HB3	1:C:1700:ALA:HB2	1.97	0.45
1:B:797:TYR:HB3	1:B:860:TYR:HE1	1.81	0.45
1:B:1719:ALA:N	1:B:1785:LEU:O	2.40	0.45
1:A:1012:SER:OG	1:A:1013:LEU:N	2.48	0.45
1:B:1320:LEU:HD22	1:B:1375:TYR:HA	1.98	0.45
1:B:1357:LEU:HB3	1:B:1379:LEU:HD12	1.98	0.45
1:C:1380:ARG:HD2	1:C:1432:GLY:C	2.42	0.45
1:A:1380:ARG:NE	1:A:1432:GLY:HA3	2.32	0.45
1:A:2410:ASP:OD1	1:A:2411:LEU:N	2.49	0.45
1:C:705:MET:HB2	1:C:742:ARG:HH11	1.82	0.45
1:C:2271:ILE:HD13	1:C:2280:PHE:HE2	1.80	0.45
1:A:1762:LEU:HD13	1:A:1781:VAL:HG22	1.98	0.45
1:A:2220:TYR:CZ	1:A:2222:TYR:HB2	2.52	0.45
1:B:1557:VAL:HB	1:B:1654:LEU:HD13	1.99	0.45
1:B:2164:LEU:HD11	1:B:2208:VAL:HG21	1.99	0.45
1:A:341:ARG:O	1:A:345:ILE:HG12	2.17	0.45
1:A:544:ARG:CZ	1:A:548:LYS:HZ3	2.30	0.45
1:A:1567:TYR:CE2	1:A:1684:HIS:HB2	2.52	0.45
1:B:1493:GLY:N	1:B:1497:THR:OG1	2.49	0.45
1:C:558:GLU:HG3	1:C:565:TRP:HB3	1.99	0.45
1:C:567:ILE:HG22	1:C:571:LYS:NZ	2.32	0.45
1:A:623:TYR:OH	1:A:653:GLU:OE1	2.22	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1096:TYR:HB2	1:A:1154:ILE:HD11	1.99	0.45
1:A:1278:ASP:O	1:A:1282:GLU:HG2	2.17	0.45
1:A:1369:ALA:C	1:A:1370:LYS:HD3	2.42	0.45
1:A:1936:ARG:O	1:A:1937:MET:HE2	2.18	0.45
1:B:685:ALA:HB1	1:B:694:ARG:HG2	1.99	0.45
1:C:450:HIS:HB3	1:C:490:LEU:HD13	1.99	0.45
1:C:2088:PHE:O	1:C:2092:VAL:HG22	2.17	0.45
1:A:564:LYS:HE2	1:A:564:LYS:HB2	1.78	0.44
1:A:717:LYS:NZ	1:A:747:VAL:O	2.50	0.44
1:B:1318:ASP:O	1:B:1323:CYS:N	2.50	0.44
1:B:2375:ARG:HD2	1:C:2323:TRP:HH2	1.82	0.44
1:C:1357:LEU:C	1:C:1359:THR:N	2.73	0.44
1:C:1430:HIS:HA	1:C:1433:VAL:HG12	1.99	0.44
1:C:1672:ARG:HB2	1:C:1677:PRO:HA	1.98	0.44
1:C:1673:LEU:HB2	1:C:1678:VAL:HG22	1.97	0.44
1:C:1820:ARG:NH2	1:C:1911:ASP:O	2.50	0.44
1:C:2033:LEU:HD21	1:C:2080:HIS:HB3	1.98	0.44
1:A:1774:CYS:HB3	1:A:1776:LYS:HG2	1.99	0.44
1:B:736:GLY:O	1:B:740:PHE:HB2	2.18	0.44
1:B:1446:LYS:NZ	1:B:1510:VAL:O	2.22	0.44
1:C:736:GLY:O	1:C:740:PHE:HB2	2.17	0.44
1:C:1326:LYS:H	1:C:1326:LYS:HD2	1.82	0.44
1:C:1332:ALA:O	1:C:1335:GLN:HG3	2.17	0.44
1:A:355:LEU:HD22	1:A:409:TYR:CE1	2.53	0.44
1:B:435:TRP:NE1	1:B:475:SER:OG	2.40	0.44
1:B:1358:PHE:HD2	1:B:1361:LEU:HD21	1.82	0.44
1:C:1748:GLN:O	1:C:1816:PHE:HA	2.18	0.44
1:A:381:LEU:HD12	1:A:385:ARG:HB3	1.99	0.44
1:A:399:VAL:HG11	1:A:413:LEU:HD13	1.99	0.44
1:A:717:LYS:HZ3	1:A:751:GLU:HB2	1.83	0.44
1:B:1369:ALA:HB1	1:B:1423:GLU:CD	2.41	0.44
1:C:741:GLU:HG2	1:C:792:LEU:HD21	1.98	0.44
1:C:1330:GLN:HE21	1:C:1374:ASP:CG	2.25	0.44
1:C:2202:PRO:HD3	1:C:2235:LEU:HD13	1.99	0.44
1:A:753:LYS:O	1:A:754:LEU:HD23	2.17	0.44
1:A:1744:ILE:HG23	1:A:1816:PHE:CD1	2.53	0.44
1:B:1326:LYS:H	1:B:1326:LYS:HD2	1.82	0.44
1:B:1673:LEU:N	1:B:1676:GLU:O	2.51	0.44
1:C:400:LEU:HD23	1:C:404:LEU:HD21	1.98	0.44
1:C:567:ILE:HB	1:C:568:PRO:HD3	2.00	0.44
1:C:2406:GLN:HA	1:C:2412:LYS:NZ	2.33	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1314:THR:HG22	1:A:1318:ASP:OD2	2.17	0.44
1:A:1243:GLN:O	1:A:1247:TRP:HD1	2.01	0.44
1:A:1445:LYS:C	1:A:1447:PHE:N	2.76	0.44
1:B:559:LEU:O	1:B:619:ASN:ND2	2.51	0.44
1:C:2011:GLN:O	1:C:2015:LYS:HG2	2.18	0.44
1:C:2211:ASP:CG	1:C:2217:PRO:HB3	2.43	0.44
1:A:1588:ILE:O	1:A:1648:GLN:NE2	2.37	0.44
1:A:1793:LEU:HB3	1:A:1953:TYR:HB2	1.99	0.44
1:A:2277:ASP:HA	1:A:2281:VAL:HB	2.00	0.44
1:B:1337:PHE:CZ	1:B:1378:LEU:HD23	2.52	0.44
1:B:2165:ARG:O	1:B:2215:GLY:HA3	2.17	0.44
1:C:1562:ALA:HB2	1:C:1668:TRP:CH2	2.52	0.44
1:C:1866:VAL:HG12	1:C:1885:ILE:HD12	2.00	0.44
1:A:547:GLN:CB	1:A:551:TRP:CD1	2.97	0.44
1:A:552:ILE:HD11	1:A:573:ILE:HG23	2.00	0.44
1:A:672:LEU:HD23	1:A:711:LEU:HD11	2.00	0.44
1:B:396:LEU:HD11	1:B:430:ASP:HB3	2.00	0.44
1:B:2124:ALA:O	1:B:2153:SER:OG	2.33	0.44
1:C:337:LYS:O	1:C:341:ARG:HG2	2.18	0.44
1:C:630:TYR:CD2	1:C:634:HIS:HB2	2.44	0.44
1:C:827:TYR:CE2	1:C:1024:VAL:HA	2.52	0.44
1:C:2367:ASP:HB3	1:C:2371:ASP:HB2	2.00	0.44
1:A:1663:VAL:HG12	1:A:1665:ARG:HE	1.83	0.43
1:B:340:LEU:HD23	1:B:341:ARG:HH12	1.82	0.43
1:B:426:LEU:HB3	1:B:464:GLN:NE2	2.33	0.43
1:B:705:MET:HE1	1:B:743:PHE:CD2	2.53	0.43
1:B:1813:ASN:HB2	1:B:1943:LYS:HE3	2.00	0.43
1:C:703:LYS:HA	1:C:703:LYS:HD2	1.86	0.43
1:C:2046:GLN:O	1:C:2050:ARG:HD3	2.18	0.43
1:C:2409:GLY:O	1:C:2413:ARG:N	2.46	0.43
1:B:1774:CYS:HB3	1:B:1776:LYS:HG2	1.99	0.43
1:C:2208:VAL:C	1:C:2210:LEU:H	2.27	0.43
1:A:544:ARG:HB3	1:A:544:ARG:NH1	2.33	0.43
1:A:720:PHE:HA	1:A:724:VAL:HB	2.01	0.43
1:A:858:ARG:HG3	1:A:859:GLU:OE1	2.18	0.43
1:A:1076:LEU:HA	1:A:1079:LEU:HD12	2.01	0.43
1:B:534:LYS:NZ	1:B:538:TYR:HB2	2.33	0.43
1:B:540:CYS:HA	1:B:543:ASP:O	2.18	0.43
1:B:540:CYS:SG	1:B:541:SER:N	2.90	0.43
1:B:720:PHE:CD2	1:B:747:VAL:HG21	2.53	0.43
1:B:1993:LYS:O	1:B:1997:GLN:HG3	2.17	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2334:ARG:HB3	1:B:2335:PRO:HD3	2.00	0.43
1:B:2375:ARG:HE	1:C:2323:TRP:HZ3	1.66	0.43
1:C:479:ALA:O	1:C:484:ARG:NH1	2.52	0.43
1:C:758:ARG:H	1:C:758:ARG:HG2	1.61	0.43
1:A:2395:PHE:HD1	1:A:2401:ALA:O	2.02	0.43
1:A:2412:LYS:HB3	1:B:2221:GLN:HG2	1.99	0.43
1:B:1744:ILE:HD11	1:B:1797:LEU:HD22	2.00	0.43
1:B:1763:LEU:HD12	1:B:1769:TYR:HB2	2.00	0.43
1:C:1361:LEU:O	1:C:1363:SER:N	2.51	0.43
1:C:1963:ASP:HA	1:C:1966:ILE:HD12	2.01	0.43
1:C:2373:ILE:O	1:C:2377:LYS:HG3	2.18	0.43
1:A:1261:ASN:HD22	1:A:1264:ILE:HD12	1.83	0.43
1:A:1525:GLU:HA	1:A:1529:ILE:HB	2.01	0.43
1:A:2385:TYR:HB2	1:A:2457:LEU:HD11	1.99	0.43
1:B:1012:SER:OG	1:B:1013:LEU:N	2.52	0.43
1:B:1332:ALA:O	1:B:1335:GLN:NE2	2.50	0.43
1:B:1592:GLY:HA2	1:B:1645:ARG:HD3	2.00	0.43
1:C:404:LEU:O	1:C:448:ASN:ND2	2.49	0.43
1:C:602:LEU:HA	1:C:605:GLN:HB2	2.00	0.43
1:C:1317:ILE:HD11	1:C:1356:LEU:HD11	2.00	0.43
1:C:1824:MET:HE2	1:C:1863:TYR:CD2	2.54	0.43
1:A:2361:GLY:HA3	1:A:2367:ASP:O	2.18	0.43
1:B:665:LEU:HD21	1:B:710:ASP:HB3	1.99	0.43
1:B:1154:ILE:O	1:B:1158:LEU:HG	2.19	0.43
1:B:1240:ARG:O	1:B:1243:GLN:HG3	2.18	0.43
1:C:545:ASP:HA	1:C:580:PHE:CE1	2.53	0.43
1:C:1239:ILE:HD12	1:C:1292:MET:HG3	2.00	0.43
1:C:2057:PHE:HE1	1:C:2067:ALA:HB1	1.83	0.43
1:A:516:HIS:HB3	1:A:565:TRP:CZ3	2.54	0.43
1:A:1057:LEU:HD13	1:A:1079:LEU:HD13	1.99	0.43
1:A:1354:ILE:HD11	1:A:1382:LEU:HG	2.00	0.43
1:A:1559:LEU:N	1:A:1903:GLY:HA2	2.34	0.43
1:A:1763:LEU:HB3	1:A:1767:ASN:O	2.18	0.43
1:A:2334:ARG:HH21	1:A:2450:GLU:HB2	1.84	0.43
1:B:1466:PHE:HA	1:B:1491:VAL:HB	2.01	0.43
1:B:2042:MET:O	1:B:2046:GLN:HG3	2.18	0.43
1:B:2366:ARG:O	1:B:2375:ARG:NH2	2.52	0.43
1:C:574:ARG:HD2	1:C:660:PHE:CD1	2.53	0.43
1:C:738:LYS:HG3	1:C:742:ARG:HH21	1.83	0.43
1:C:2064:ARG:HD3	1:C:2067:ALA:HB2	2.00	0.43
1:A:1673:LEU:HG	1:A:1674:TRP:CD1	2.53	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2150:LEU:HD23	1:A:2150:LEU:HA	1.90	0.43
1:B:2136:PRO:HD2	1:B:2155:HIS:CE1	2.53	0.43
1:C:340:LEU:HD23	1:C:341:ARG:HH12	1.83	0.43
1:C:1750:LEU:HD23	1:C:1818:PHE:HB3	2.00	0.43
1:A:548:LYS:HB3	1:A:580:PHE:CE2	2.54	0.43
1:A:1265:THR:CA	1:A:1268:TYR:CD2	2.90	0.43
1:B:479:ALA:HB1	1:B:483:GLN:HB3	2.00	0.43
1:B:1280:GLU:HA	1:B:1283:GLN:OE1	2.19	0.43
1:B:1498:ILE:HD11	1:B:2008:GLU:OE2	2.17	0.43
1:B:2453:ASN:OD1	1:B:2454:GLY:N	2.43	0.43
1:C:1763:LEU:HD12	1:C:1769:TYR:HB2	2.00	0.43
1:C:2042:MET:O	1:C:2046:GLN:HG3	2.19	0.43
1:C:2473:LEU:HD23	1:C:2473:LEU:HA	1.89	0.43
1:A:1368:ARG:HD2	1:A:1371:HIS:ND1	2.33	0.43
1:A:1467:ILE:HD13	1:A:1502:PHE:CE1	2.54	0.43
1:A:1824:MET:HG2	1:A:1863:TYR:CE2	2.54	0.43
1:B:559:LEU:HB2	1:B:566:VAL:HG12	2.01	0.43
1:B:1233:MET:N	1:B:1234:PRO:HD2	2.34	0.43
1:B:1498:ILE:HD11	1:B:2008:GLU:CD	2.43	0.43
1:C:850:MET:HA	1:C:853:VAL:HG12	2.01	0.43
1:C:1329:ARG:NH1	1:C:1374:ASP:OD2	2.52	0.43
1:C:1408:LYS:NZ	1:C:1456:ALA:HB1	2.34	0.43
1:C:1885:ILE:O	1:C:1887:ARG:NH1	2.52	0.43
1:C:2277:ASP:HA	1:C:2281:VAL:HB	2.00	0.43
1:A:450:HIS:ND1	1:A:490:LEU:HD22	2.34	0.42
1:B:1456:ALA:O	1:B:1458:LEU:N	2.52	0.42
1:B:1463:ILE:HG13	1:B:1464:ASP:N	2.33	0.42
1:B:2256:PRO:O	1:B:2258:PRO:HD3	2.18	0.42
1:C:567:ILE:HD11	1:C:657:ARG:NH1	2.34	0.42
1:C:1061:CYS:HB3	1:C:1116:HIS:HB3	2.01	0.42
1:C:1559:LEU:N	1:C:1903:GLY:HA2	2.34	0.42
1:C:1989:ARG:O	1:C:1993:LYS:HG2	2.19	0.42
1:C:2348:ASP:OD1	1:C:2354:ARG:NH1	2.52	0.42
1:A:681:TRP:NE1	1:A:686:GLU:OE2	2.52	0.42
1:A:1647:LEU:HG	1:A:1651:PHE:HE2	1.83	0.42
1:A:1873:GLY:HA3	1:A:1878:GLY:HA2	2.00	0.42
1:A:2202:PRO:O	1:A:2206:MET:HG3	2.19	0.42
1:B:1691:ASN:HA	1:B:1694:VAL:HG22	2.01	0.42
1:C:511:LEU:HD13	1:C:532:HIS:HA	2.00	0.42
1:C:542:GLN:HE22	1:C:544:ARG:CD	2.32	0.42
1:C:576:ILE:O	1:C:580:PHE:N	2.53	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:435:TRP:NE1	1:A:475:SER:OG	2.43	0.42
1:A:1544:TYR:O	1:A:1545:LEU:HD22	2.19	0.42
1:A:1672:ARG:HH21	1:A:1677:PRO:HD3	1.85	0.42
1:A:2165:ARG:O	1:A:2215:GLY:HA3	2.20	0.42
1:B:1096:TYR:CZ	1:B:1153:LYS:HB3	2.53	0.42
1:B:1149:LEU:HB3	1:B:1284:VAL:HG22	2.01	0.42
1:C:546:THR:O	1:C:549:ILE:N	2.52	0.42
1:C:702:SER:HA	1:C:742:ARG:HH12	1.84	0.42
1:A:1129:MET:HE3	1:A:1135:PHE:CE1	2.54	0.42
1:B:672:LEU:HB3	1:B:711:LEU:HG	2.02	0.42
1:B:1145:ARG:NH2	1:B:1254:LEU:H	2.17	0.42
1:B:1556:PHE:HD2	1:B:1905:VAL:HG11	1.84	0.42
1:B:2208:VAL:O	1:B:2209:SER:OG	2.21	0.42
1:C:540:CYS:O	1:C:543:ASP:HB2	2.19	0.42
1:C:1864:ARG:O	1:C:1954:GLU:N	2.38	0.42
1:C:1915:GLU:O	1:C:1919:GLN:HG2	2.19	0.42
1:C:2079:ARG:HB3	1:C:2122:PHE:HZ	1.84	0.42
1:A:358:VAL:O	1:A:362:ILE:HG12	2.19	0.42
1:A:1306:LEU:HB3	1:A:1312:TRP:CG	2.55	0.42
1:B:542:GLN:CD	1:B:542:GLN:N	2.77	0.42
1:B:1762:LEU:HD13	1:B:1781:VAL:HG22	2.01	0.42
1:B:2010:PHE:CD2	1:B:2064:ARG:HA	2.53	0.42
1:C:1357:LEU:O	1:C:1358:PHE:C	2.62	0.42
1:C:1386:ALA:O	1:C:1391:ILE:N	2.48	0.42
1:C:2062:VAL:HG23	1:C:2063:VAL:HG23	2.01	0.42
1:A:1149:LEU:O	1:A:1153:LYS:HG3	2.19	0.42
1:A:2309:GLU:OE2	1:A:2348:ASP:HB2	2.20	0.42
1:B:1084:SER:HB3	1:B:1087:GLN:HG2	2.01	0.42
1:B:1435:LYS:CE	1:B:1503:GLU:HB3	2.50	0.42
1:B:1579:PRO:HD3	1:B:1887:ARG:HE	1.85	0.42
1:B:1673:LEU:HG	1:B:1674:TRP:CD1	2.54	0.42
1:C:1243:GLN:O	1:C:1247:TRP:HD1	2.03	0.42
1:C:2017:LEU:HD21	1:C:2047:LEU:HD22	2.01	0.42
1:A:1033:MET:HB3	1:A:1036:LEU:HD13	2.01	0.42
1:A:1045:LYS:HA	1:A:1045:LYS:HD2	1.86	0.42
1:A:1060:ILE:HG13	1:A:1079:LEU:HD11	2.01	0.42
1:A:1447:PHE:O	1:A:1452:GLU:HB2	2.20	0.42
1:A:2421:TRP:CE2	1:A:2425:GLU:HG3	2.55	0.42
1:B:1395:ASN:HB3	1:B:1399:LEU:HD11	2.00	0.42
1:B:1532:ALA:HB1	1:B:2050:ARG:HG3	2.01	0.42
1:B:1690:PHE:O	1:B:1694:VAL:HG13	2.20	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:762:MET:SD	1:C:763:MET:N	2.92	0.42
1:B:1459:ILE:O	1:B:1463:ILE:HG12	2.20	0.42
1:C:1244:LYS:HE2	1:C:1261:ASN:OD1	2.19	0.42
1:C:1498:ILE:HG22	1:C:2008:GLU:HG3	2.02	0.42
1:A:548:LYS:HA	1:A:548:LYS:HD3	1.64	0.42
1:A:711:LEU:HD22	1:A:719:PHE:CE1	2.55	0.42
1:A:758:ARG:H	1:A:758:ARG:HG2	1.64	0.42
1:A:1099:LEU:O	1:A:1114:GLN:NE2	2.53	0.42
1:A:2057:PHE:HE1	1:A:2067:ALA:HB1	1.85	0.42
1:A:2355:ILE:O	1:A:2359:LEU:HG	2.20	0.42
1:C:335:ARG:HA	1:C:338:MET:HE2	2.02	0.42
1:C:1358:PHE:HZ	1:C:1383:LEU:HD11	1.85	0.42
1:C:1388:ASN:OD1	1:C:1389:SER:N	2.53	0.42
1:C:1539:LEU:C	1:C:1541:GLU:H	2.27	0.42
1:C:2154:ASP:OD1	1:C:2195:GLN:NE2	2.53	0.42
1:A:2331:TYR:HB3	1:A:2452:SER:OG	2.19	0.42
1:B:711:LEU:O	1:B:715:ILE:HB	2.20	0.42
1:B:1095:VAL:O	1:B:1099:LEU:HG	2.20	0.42
1:B:1406:TRP:O	1:B:1410:ILE:HG12	2.20	0.42
1:B:1790:PRO:O	1:B:1863:TYR:OH	2.21	0.42
1:A:613:VAL:HG23	1:A:664:LEU:HD22	2.01	0.41
1:A:762:MET:SD	1:A:801:GLY:N	2.93	0.41
1:A:1527:TYR:HE1	1:A:2004:GLN:HB2	1.84	0.41
1:A:1749:ASN:HA	1:A:1817:GLU:HB2	2.02	0.41
1:B:543:ASP:OD2	1:B:547:GLN:OE1	2.37	0.41
1:B:1045:LYS:HA	1:B:1045:LYS:HD2	1.85	0.41
1:B:1333:GLN:HG2	1:B:1337:PHE:HE2	1.85	0.41
1:C:1740:LEU:N	1:C:1794:ALA:O	2.41	0.41
1:A:628:ARG:HA	1:A:631:ALA:HB3	2.02	0.41
1:A:1048:PRO:HA	1:A:1049:PRO:HD3	1.97	0.41
1:A:1141:MET:SD	1:A:1255:GLN:HB3	2.60	0.41
1:B:1259:SER:HB3	1:B:1264:ILE:HD11	2.01	0.41
1:B:2322:LEU:HD23	1:B:2322:LEU:HA	1.92	0.41
1:C:549:ILE:HA	1:C:552:ILE:HG22	2.02	0.41
1:C:1292:MET:HB3	1:C:1296:PHE:CD2	2.54	0.41
1:C:1664:PRO:HB2	1:C:1667:PHE:HB3	2.02	0.41
1:C:2368:GLY:O	1:C:2372:THR:HG23	2.21	0.41
1:C:2402:TYR:CZ	1:C:2406:GLN:HG3	2.55	0.41
1:A:1152:LEU:HD23	1:A:1288:ALA:HA	2.01	0.41
1:A:1263:GLU:O	1:A:1267:ILE:HD12	2.20	0.41
1:B:400:LEU:HD23	1:B:404:LEU:HD21	2.02	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:541:SER:O	1:B:544:ARG:NH2	2.51	0.41
1:B:672:LEU:HD23	1:B:711:LEU:HD11	2.02	0.41
1:B:1446:LYS:O	1:B:1515:ASN:ND2	2.46	0.41
1:B:1469:PRO:HG3	1:B:1490:PRO:CA	2.50	0.41
1:B:2398:CYS:HB3	1:B:2401:ALA:HB3	2.03	0.41
1:C:574:ARG:HD3	1:C:663:PHE:HD2	1.85	0.41
1:C:1588:ILE:O	1:C:1648:GLN:NE2	2.39	0.41
1:A:1560:LYS:HB2	1:A:1663:VAL:HG22	2.03	0.41
1:B:1247:TRP:HE3	1:B:1264:ILE:HB	1.85	0.41
1:B:2027:PRO:HA	1:B:2028:PRO:HD3	1.96	0.41
1:C:399:VAL:HG11	1:C:413:LEU:HD13	2.02	0.41
1:C:711:LEU:O	1:C:715:ILE:HB	2.20	0.41
1:C:1154:ILE:O	1:C:1158:LEU:HG	2.20	0.41
1:C:2168:VAL:HG13	1:C:2175:LEU:HD21	2.02	0.41
1:A:508:LEU:HD22	1:A:532:HIS:ND1	2.36	0.41
1:C:546:THR:O	1:C:549:ILE:HB	2.21	0.41
1:C:1447:PHE:O	1:C:1452:GLU:HB2	2.20	0.41
1:A:653:GLU:HB3	1:A:657:ARG:HH12	1.85	0.41
1:A:742:ARG:HA	1:A:745:LYS:HD2	2.02	0.41
1:B:458:TRP:CE2	1:B:499:LYS:HD2	2.56	0.41
1:B:1031:LEU:HB3	1:B:1033:MET:CE	2.51	0.41
1:B:2253:PRO:HA	1:B:2254:PRO:HD3	1.97	0.41
1:C:479:ALA:HB1	1:C:483:GLN:HB3	2.02	0.41
1:C:672:LEU:HB3	1:C:711:LEU:HG	2.02	0.41
1:C:1548:VAL:O	1:C:1660:GLN:HB3	2.21	0.41
1:A:450:HIS:HB3	1:A:490:LEU:HD13	2.03	0.41
1:A:1452:GLU:HG3	1:A:1455:GLY:H	1.85	0.41
1:B:720:PHE:CE1	1:B:743:PHE:HB3	2.55	0.41
1:B:1683:GLN:HG2	1:B:1877:GLY:HA2	2.01	0.41
1:C:1045:LYS:HA	1:C:1045:LYS:HD2	1.88	0.41
1:A:544:ARG:HH22	1:A:580:PHE:HD1	1.62	0.41
1:A:732:LEU:HD11	1:A:736:GLY:HA3	2.02	0.41
1:B:540:CYS:O	1:B:543:ASP:C	2.64	0.41
1:B:541:SER:HA	1:B:544:ARG:HH21	1.86	0.41
1:B:2008:GLU:H	1:B:2008:GLU:HG2	1.63	0.41
1:C:652:GLN:HG3	1:C:653:GLU:N	2.35	0.41
1:C:1524:THR:CG2	1:C:1525:GLU:N	2.83	0.41
1:C:2406:GLN:HA	1:C:2412:LYS:HZ3	1.86	0.41
1:A:1119:LYS:HA	1:A:1119:LYS:HD3	1.91	0.41
1:A:1264:ILE:C	1:A:1268:TYR:CE2	2.99	0.41
1:A:1316:ILE:HG13	1:A:1336:PHE:CZ	2.56	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1536:CYS:HB2	1:A:2099:ARG:NH2	2.35	0.41
1:B:542:GLN:HG2	1:B:543:ASP:H	1.85	0.41
1:B:549:ILE:HA	1:B:552:ILE:HG22	2.02	0.41
1:B:672:LEU:N	1:B:710:ASP:O	2.39	0.41
1:B:717:LYS:HE3	1:B:747:VAL:HA	2.02	0.41
1:B:1386:ALA:O	1:B:1390:ASN:N	2.54	0.41
1:B:2067:ALA:HA	1:B:2070:TRP:HD1	1.85	0.41
1:B:2366:ARG:HH12	1:C:2323:TRP:CD1	2.39	0.41
1:C:639:PRO:HG3	1:C:690:TYR:CD2	2.56	0.41
1:C:802:PRO:C	1:C:804:LEU:H	2.29	0.41
1:C:854:LEU:HA	1:C:857:LEU:HD12	2.03	0.41
1:C:1427:LEU:HD21	1:C:1491:VAL:HG12	2.03	0.41
1:C:1739:THR:HA	1:C:1794:ALA:HB3	2.03	0.41
1:C:2024:LEU:O	1:C:2033:LEU:HD11	2.21	0.41
1:A:390:ILE:HG12	1:A:395:ILE:HD12	2.03	0.41
1:B:1588:ILE:HB	1:B:1648:GLN:NE2	2.36	0.41
1:C:1414:VAL:HG11	1:C:1491:VAL:HG22	2.03	0.41
1:C:2020:ASN:O	1:C:2024:LEU:HG	2.21	0.41
1:A:662:ARG:O	1:A:666:LYS:HG2	2.21	0.40
1:A:845:GLN:OE1	1:A:849:ARG:NH1	2.54	0.40
1:A:1495:PRO:N	1:A:1496:PRO:HD2	2.35	0.40
1:A:1824:MET:HG2	1:A:1863:TYR:CD2	2.56	0.40
1:B:1723:ILE:HG12	1:B:1730:ARG:HD2	2.03	0.40
1:C:630:TYR:HB2	1:C:634:HIS:ND1	2.36	0.40
1:C:1825:GLU:HB3	1:C:1826:PRO:HD3	2.01	0.40
1:A:1701:LEU:O	1:A:1706:HIS:N	2.51	0.40
1:B:512:TRP:CD1	1:B:554:ARG:HH12	2.39	0.40
1:B:1121:GLY:C	1:B:1124:PRO:HD2	2.47	0.40
1:B:1887:ARG:H	1:B:1887:ARG:HG2	1.74	0.40
1:B:2081:SER:OG	1:B:2084:VAL:HB	2.21	0.40
1:C:1041:ARG:HH22	1:C:1143:THR:HG22	1.86	0.40
1:C:1265:THR:O	1:C:1269:GLU:HG3	2.22	0.40
1:C:1319:LEU:O	1:C:1329:ARG:HG2	2.21	0.40
1:C:1404:ILE:HD12	1:C:1404:ILE:H	1.85	0.40
1:C:1445:LYS:C	1:C:1447:PHE:N	2.77	0.40
1:C:1710:LEU:O	1:C:1714:LEU:HG	2.20	0.40
1:C:1744:ILE:HG13	1:C:1798:LYS:N	2.36	0.40
1:C:2242:SER:HA	1:C:2245:MET:CE	2.51	0.40
1:C:2283:THR:HG23	1:C:2287:LYS:NZ	2.37	0.40
1:C:536:LEU:HB3	1:C:548:LYS:HZ2	1.86	0.40
1:C:536:LEU:O	1:C:548:LYS:NZ	2.54	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:846:GLU:HA	1:C:849:ARG:HD3	2.01	0.40
1:C:1357:LEU:O	1:C:1360:VAL:HG22	2.21	0.40
1:C:1814:ASP:HB2	1:C:1816:PHE:CZ	2.57	0.40
1:C:2200:SER:HB3	1:C:2203:ALA:HB3	2.03	0.40
1:C:2290:ILE:O	1:C:2294:SER:HB3	2.21	0.40
1:A:1026:ASP:OD2	1:A:1084:SER:OG	2.33	0.40
1:A:1513:VAL:HG21	1:A:2039:GLU:HB2	2.02	0.40
1:B:548:LYS:HE2	1:B:576:ILE:HG23	2.04	0.40
1:B:753:LYS:O	1:B:754:LEU:HD23	2.21	0.40
1:B:1560:LYS:HD2	1:B:1661:TYR:CE2	2.56	0.40
1:B:2364:ASP:HB2	1:C:2283:THR:HG22	2.04	0.40
1:C:827:TYR:HE2	1:C:1024:VAL:HA	1.86	0.40
1:C:1095:VAL:O	1:C:1099:LEU:HG	2.21	0.40
1:C:1567:TYR:HB2	1:C:1686:ALA:HB2	2.02	0.40
1:C:1672:ARG:HA	1:C:1678:VAL:HG23	2.03	0.40
1:C:2240:ASN:HB3	1:C:2270:PRO:HA	2.04	0.40
1:A:494:LEU:HD22	1:A:503:MET:HE1	2.04	0.40
1:A:536:LEU:HD12	1:A:548:LYS:CE	2.50	0.40
1:A:680:ILE:HD12	1:A:700:TRP:CZ3	2.56	0.40
1:A:778:VAL:HG21	1:A:790:ILE:HG13	2.04	0.40
1:A:1585:ILE:HG22	1:A:1648:GLN:HG2	2.03	0.40
1:A:1682:GLU:HB3	1:A:1684:HIS:CE1	2.57	0.40
1:A:1687:LEU:HA	1:A:1690:PHE:HB3	2.04	0.40
1:A:1694:VAL:HG12	1:A:1710:LEU:HD13	2.02	0.40
1:A:1869:LEU:HD23	1:A:1950:ILE:HD12	2.02	0.40
1:A:2229:TYR:CD2	1:A:2293:CYS:HB2	2.56	0.40
1:B:526:ASP:HA	1:B:529:LEU:HD12	2.03	0.40
1:B:711:LEU:O	1:B:712:ASP:HB2	2.21	0.40
1:B:1028:GLY:O	1:B:1037:ARG:NH2	2.55	0.40
1:B:1462:LEU:O	1:B:1467:ILE:HD12	2.21	0.40
1:B:1539:LEU:C	1:B:1541:GLU:H	2.30	0.40
1:C:2172:GLY:C	1:C:2174:HIS:H	2.29	0.40
1:C:2180:ASN:HA	1:C:2183:VAL:HB	2.03	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

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	1721/2579 (67%)	1631 (95%)	86 (5%)	4 (0%)	44	71
1	B	1721/2579 (67%)	1631 (95%)	90 (5%)	0	100	100
1	C	1708/2579 (66%)	1614 (94%)	88 (5%)	6 (0%)	30	61
All	All	5150/7737 (67%)	4876 (95%)	264 (5%)	10 (0%)	45	71

All (10) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	544	ARG
1	A	2454	GLY
1	C	2365	ASP
1	C	546	THR
1	C	1348	ARG
1	C	2248	SER
1	A	541	SER
1	C	1362	GLY
1	C	712	ASP
1	A	712	ASP

5.3.2 Protein sidechains

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	1544/2286 (68%)	1539 (100%)	5 (0%)	91	94
1	B	1544/2286 (68%)	1542 (100%)	2 (0%)	92	96

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	C	1532/2286 (67%)	1527 (100%)	5 (0%)	91	94
All	All	4620/6858 (67%)	4608 (100%)	12 (0%)	90	94

All (12) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	542	GLN
1	A	544	ARG
1	A	545	ASP
1	A	547	GLN
1	A	548	LYS
1	B	545	ASP
1	B	547	GLN
1	C	542	GLN
1	C	545	ASP
1	C	1354	ILE
1	C	1356	LEU
1	C	1357	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (51) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	359	ASN
1	A	408	GLN
1	A	716	ASN
1	A	807	ASN
1	A	817	GLN
1	A	1032	ASN
1	A	1064	HIS
1	A	1392	ASN
1	A	1402	ASN
1	A	2004	GLN
1	A	2011	GLN
1	A	2046	GLN
1	A	2177	GLN
1	A	2357	ASN
1	A	2374	GLN
1	B	344	GLN
1	B	356	ASN
1	B	406	GLN
1	B	478	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	B	516	HIS
1	B	610	HIS
1	B	655	GLN
1	B	716	ASN
1	B	799	ASN
1	B	807	ASN
1	B	1064	HIS
1	B	1333	GLN
1	B	1472	ASN
1	B	1640	ASN
1	B	1729	HIS
1	B	1741	ASN
1	B	1746	ASN
1	B	2011	GLN
1	B	2155	HIS
1	B	2177	GLN
1	B	2221	GLN
1	B	2234	GLN
1	C	408	GLN
1	C	478	ASN
1	C	532	HIS
1	C	542	GLN
1	C	610	HIS
1	C	655	GLN
1	C	676	GLN
1	C	799	ASN
1	C	1032	ASN
1	C	1392	ASN
1	C	1402	ASN
1	C	2046	GLN
1	C	2180	ASN
1	C	2257	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides 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.

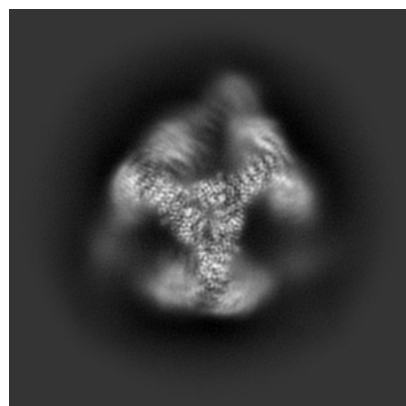
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-14368. These allow visual inspection of the internal detail of the map and identification of artifacts.

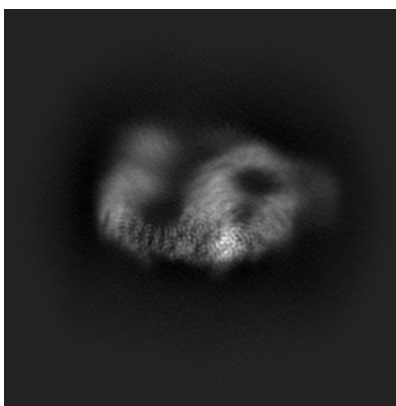
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

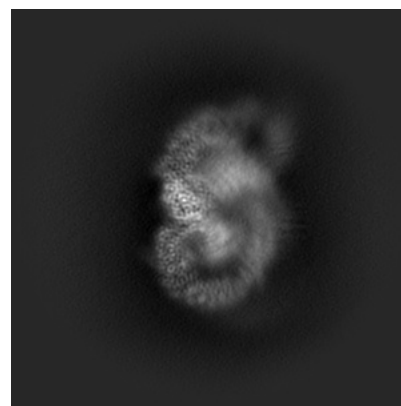
6.1.1 Primary map



X

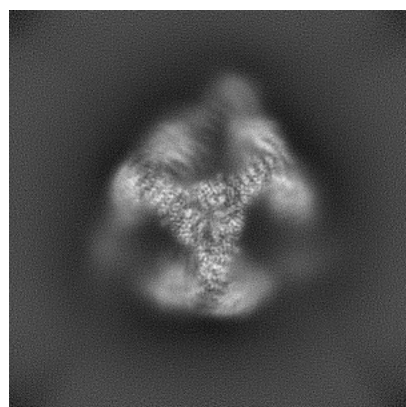


Y

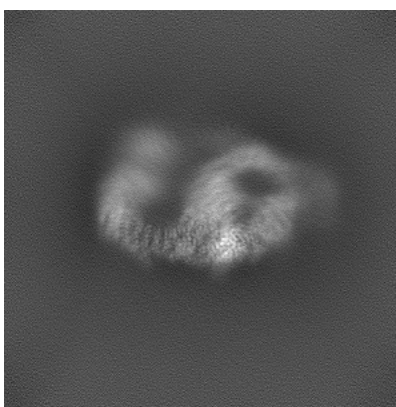


Z

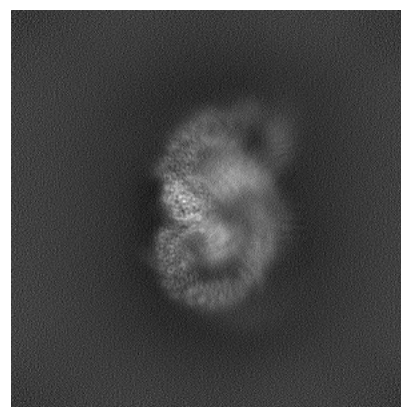
6.1.2 Raw map



X



Y

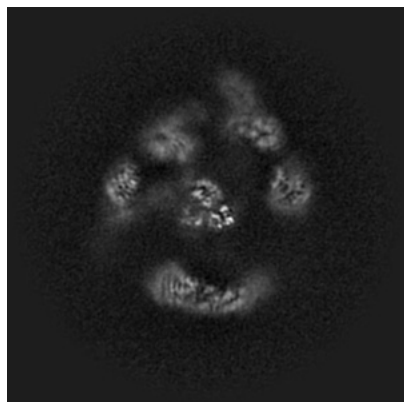


Z

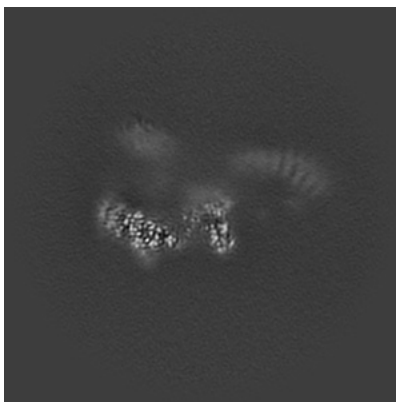
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

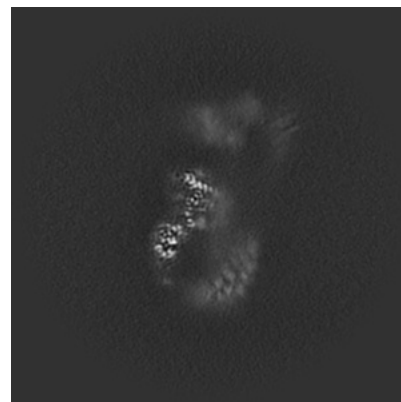
6.2.1 Primary map



X Index: 224

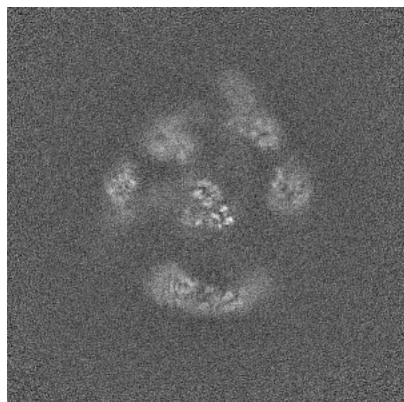


Y Index: 224

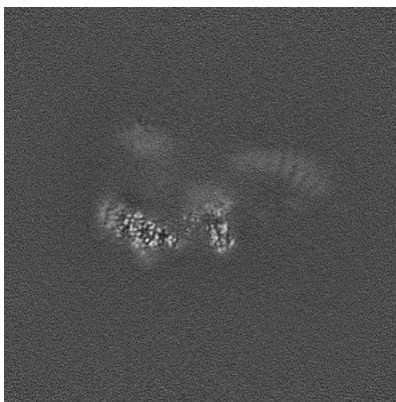


Z Index: 224

6.2.2 Raw map



X Index: 224



Y Index: 224

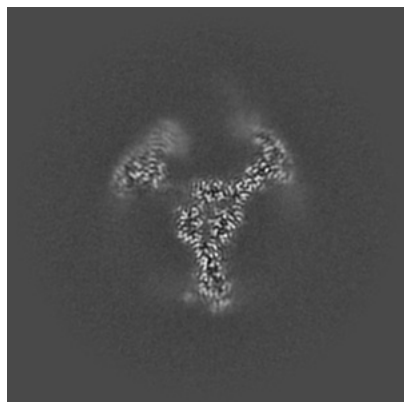


Z Index: 224

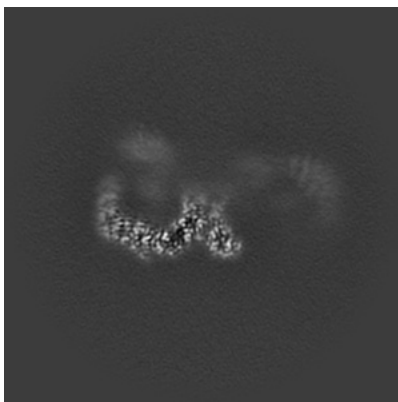
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

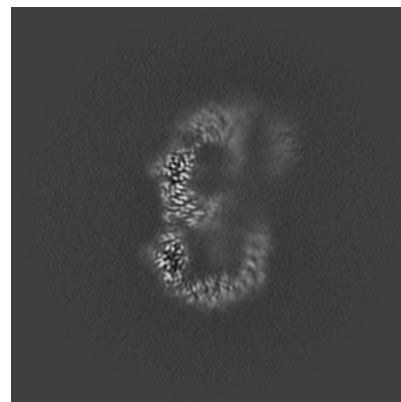
6.3.1 Primary map



X Index: 196

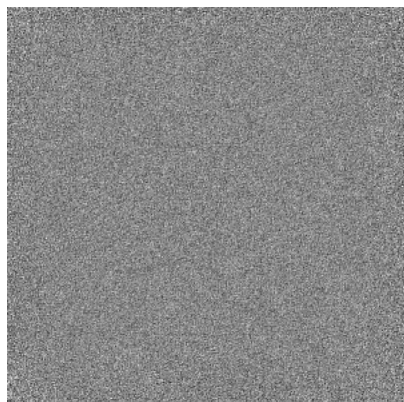


Y Index: 237

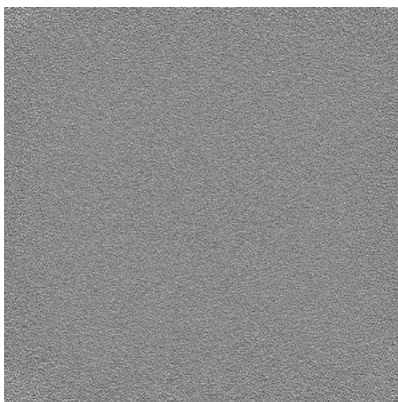


Z Index: 248

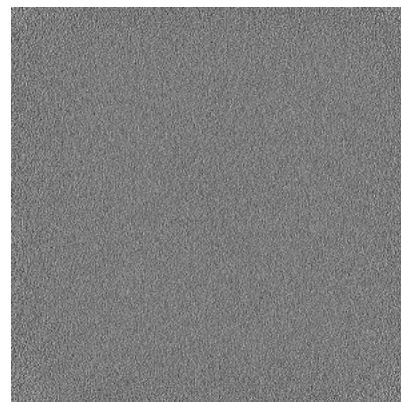
6.3.2 Raw map



X Index: 0



Y Index: 0



Z Index: 0

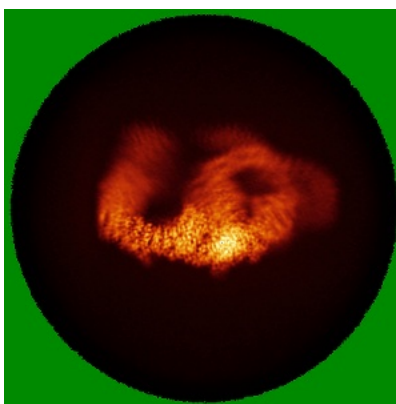
The images above show the largest variance slices of the map in three orthogonal directions.

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

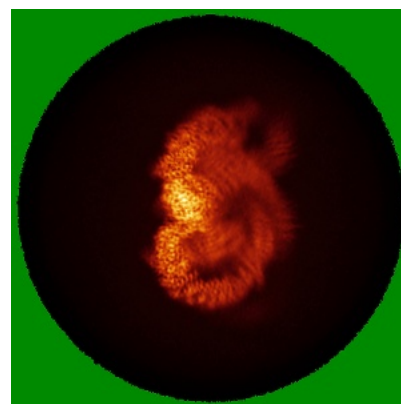
6.4.1 Primary map



X

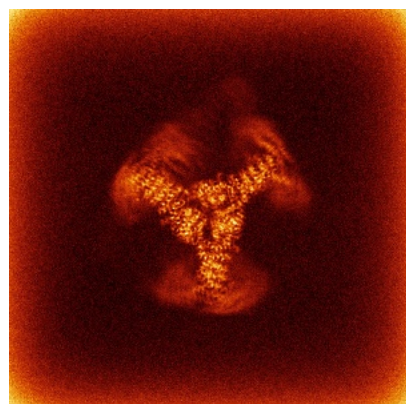


Y



Z

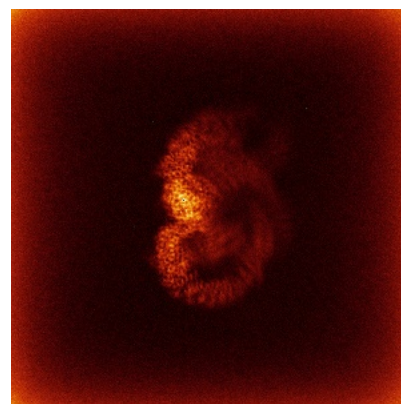
6.4.2 Raw map



X



Y



Z

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

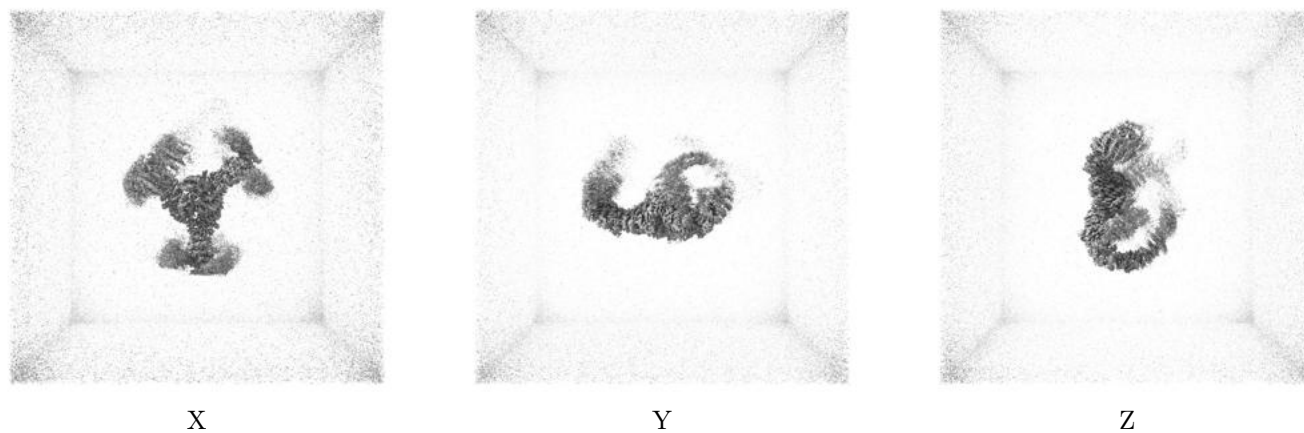
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.221. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



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

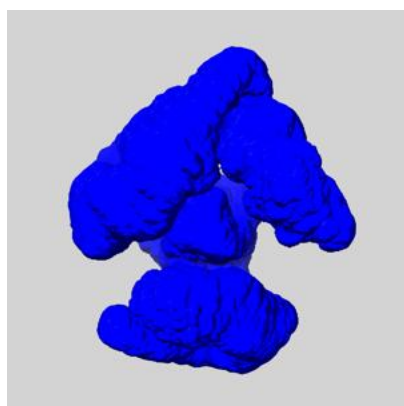
6.6 Mask visualisation [i](#)

This section shows the 3D surface view of the primary map at 50% transparency overlaid with the specified mask at 0% transparency

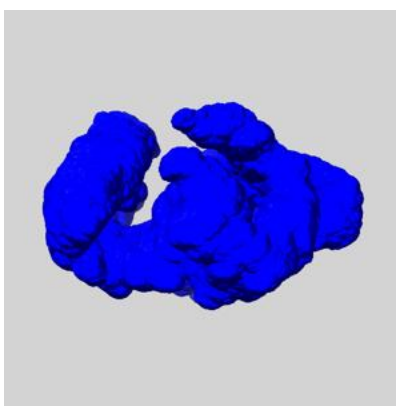
A mask typically either:

- Encompasses the whole structure
- Separates out a domain, a functional unit, a monomer or an area of interest from a larger structure

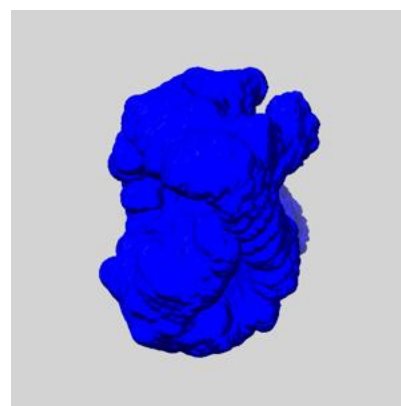
6.6.1 emd_14368_msk_1.map [i](#)



X



Y

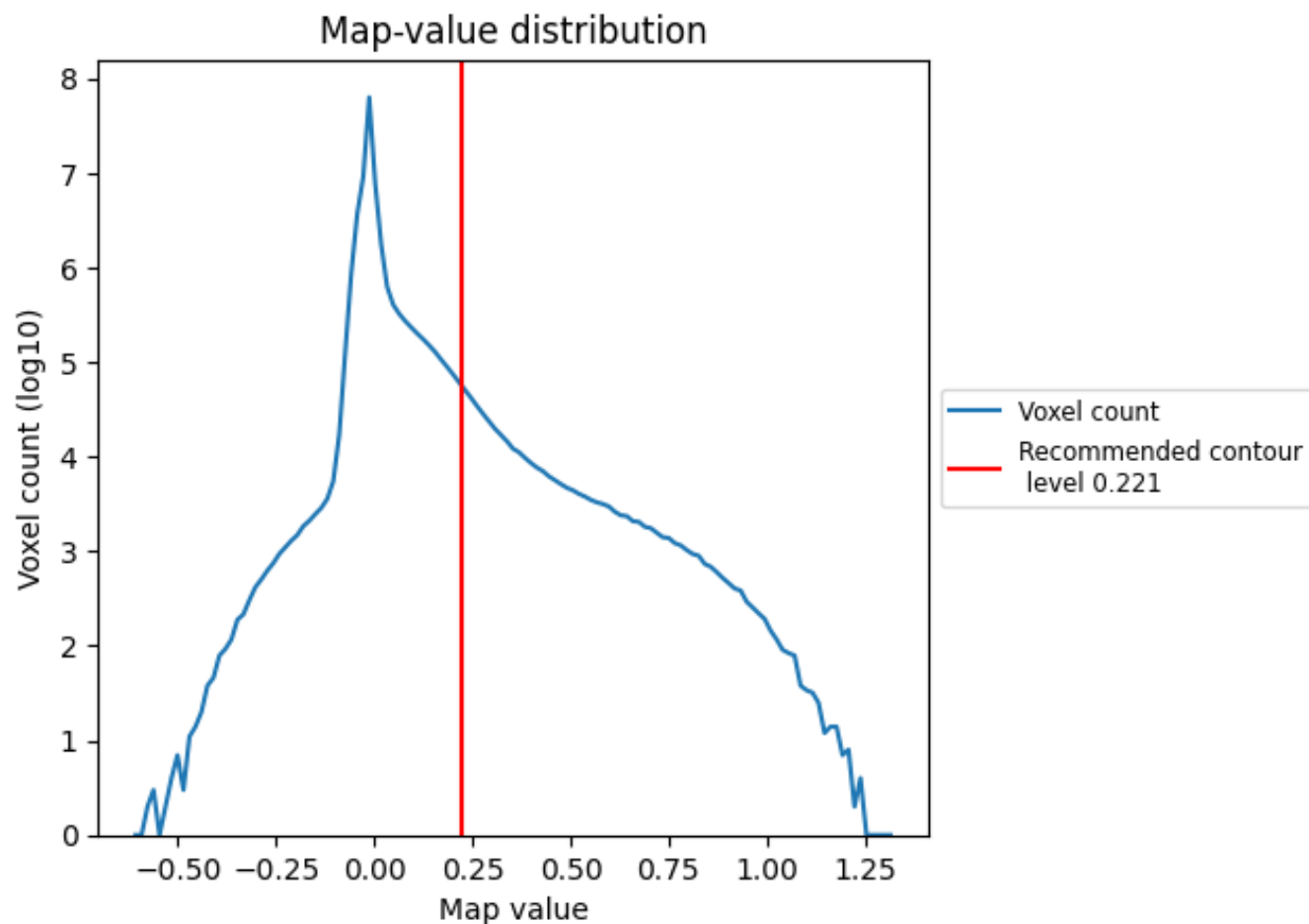


Z

7 Map analysis [i](#)

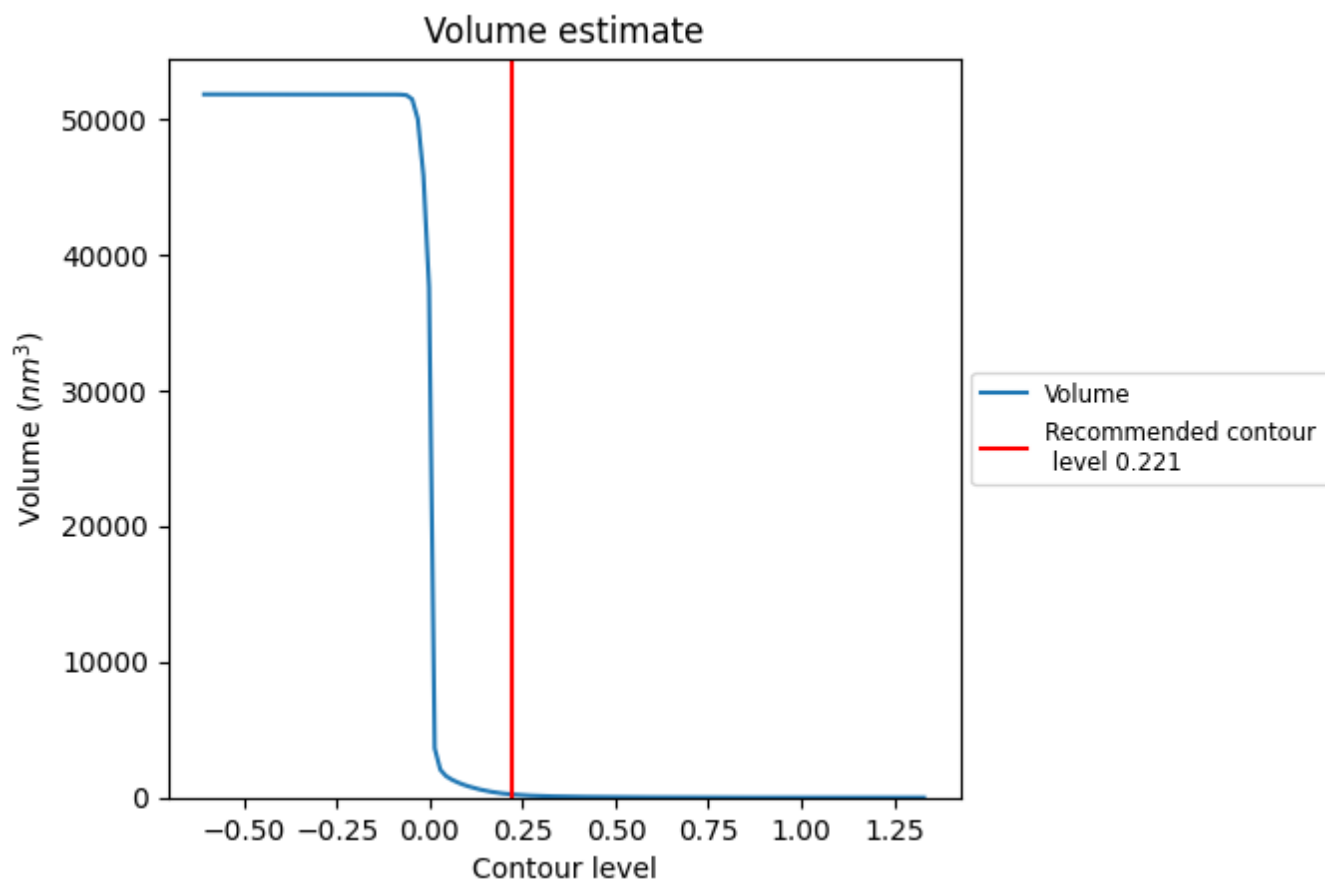
This section contains the results of statistical analysis of the map.

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.

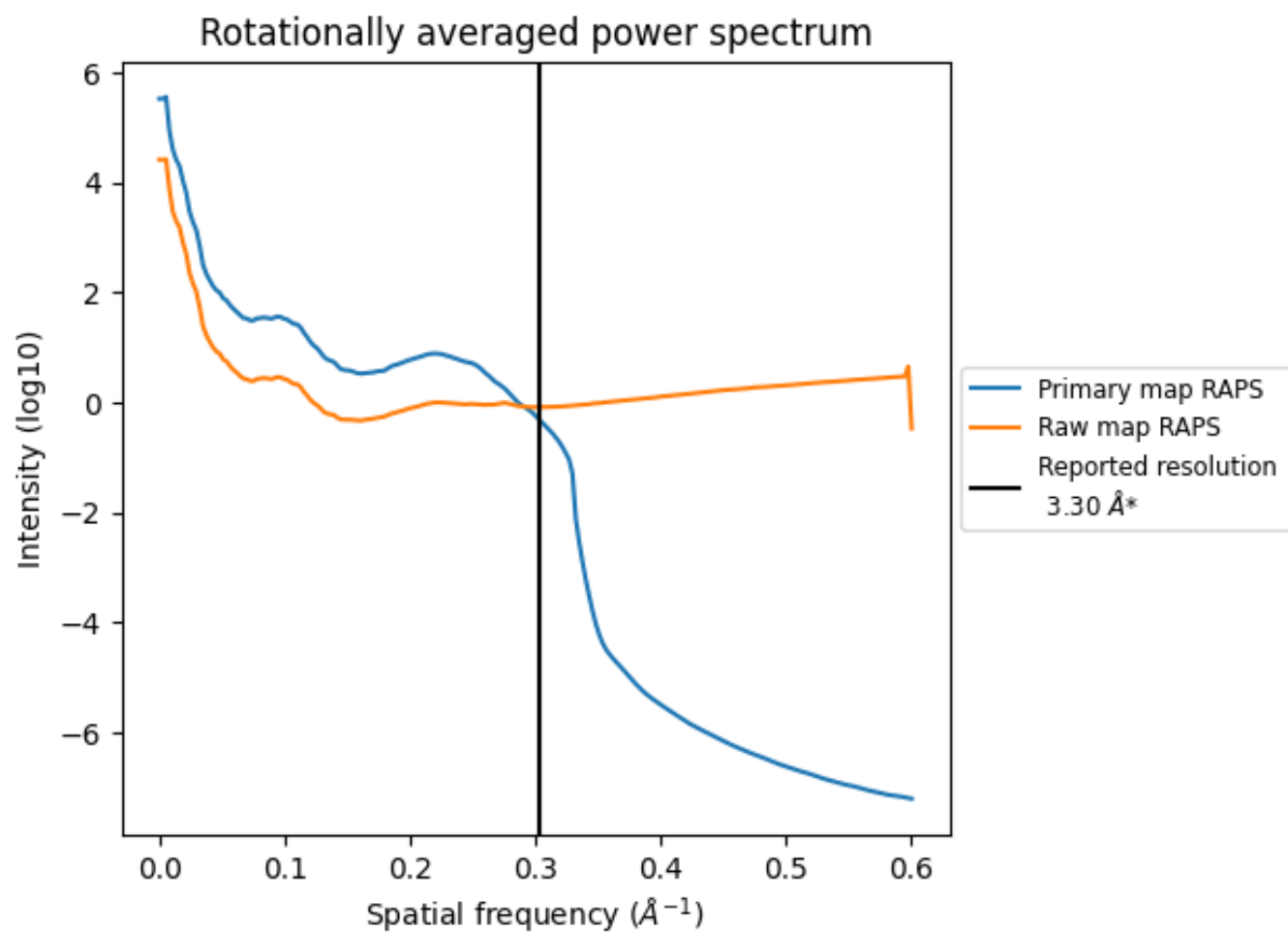
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 235 nm³; this corresponds to an approximate mass of 212 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum ⓘ

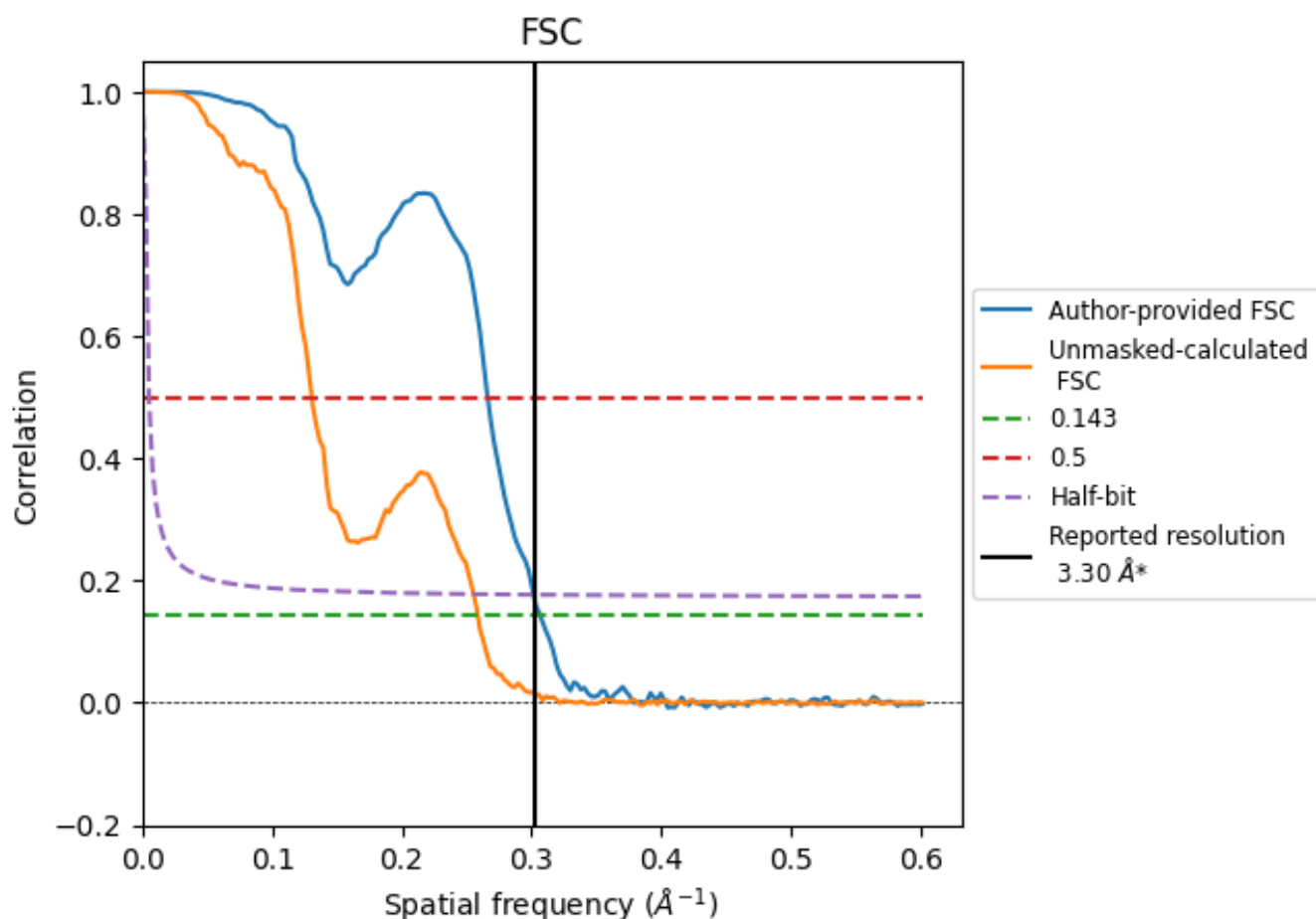


*Reported resolution corresponds to spatial frequency of 0.303 $\text{\AA}^{-1}$

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 $0.303 \text{ \AA}^{-1}$

8.2 Resolution estimates [i](#)

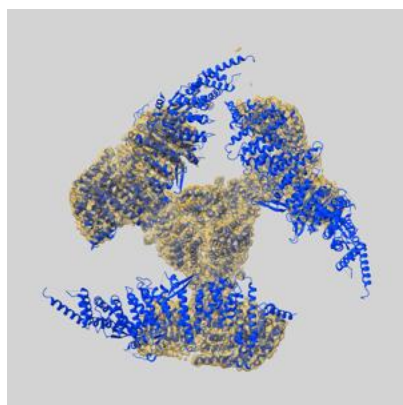
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.30	-	-
Author-provided FSC curve	3.26	3.76	3.32
Unmasked-calculated*	3.87	7.65	3.92

*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 3.87 differs from the reported value 3.3 by more than 10 %

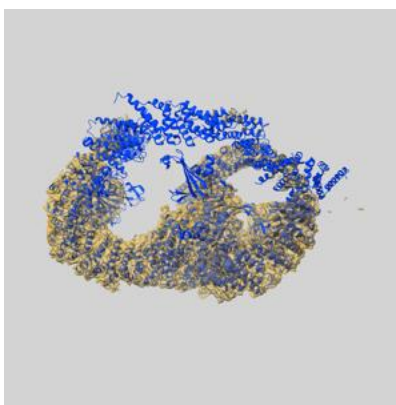
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-14368 and PDB model 7YXX. Per-residue inclusion information can be found in [section 3](#) on [page 6](#).

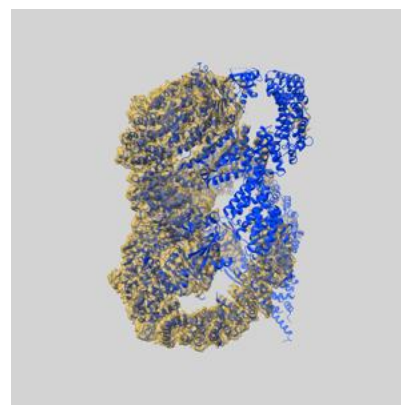
9.1 Map-model overlay [i](#)



X



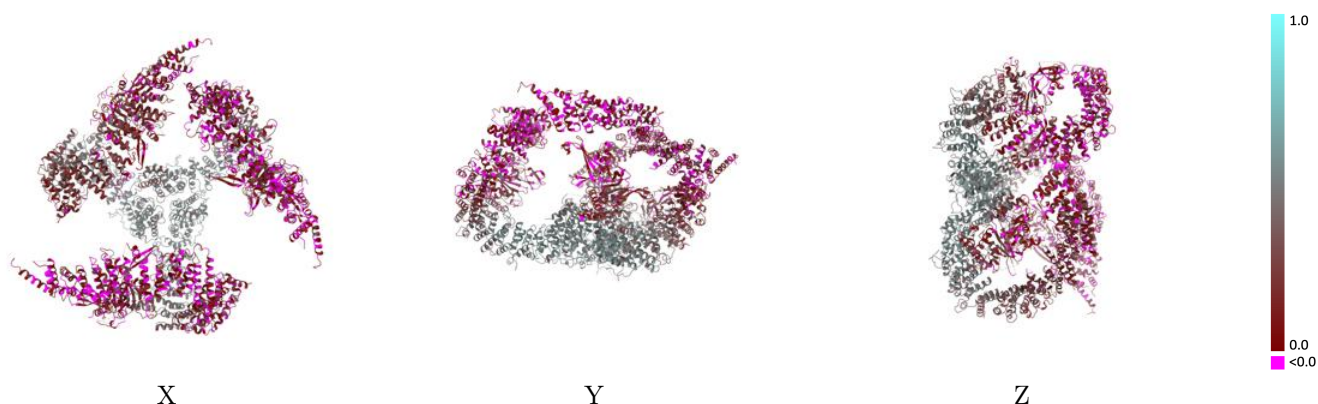
Y



Z

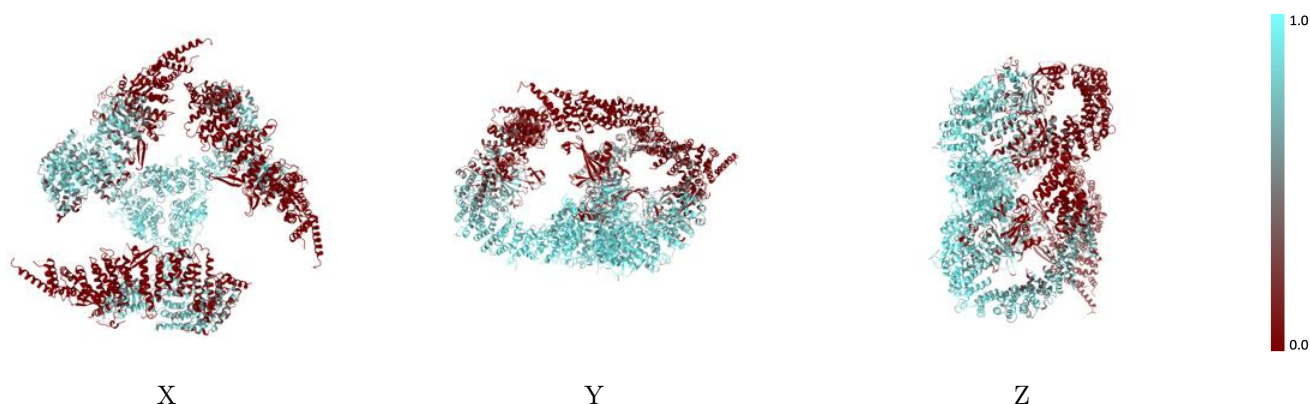
The images above show the 3D surface view of the map at the recommended contour level 0.221 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



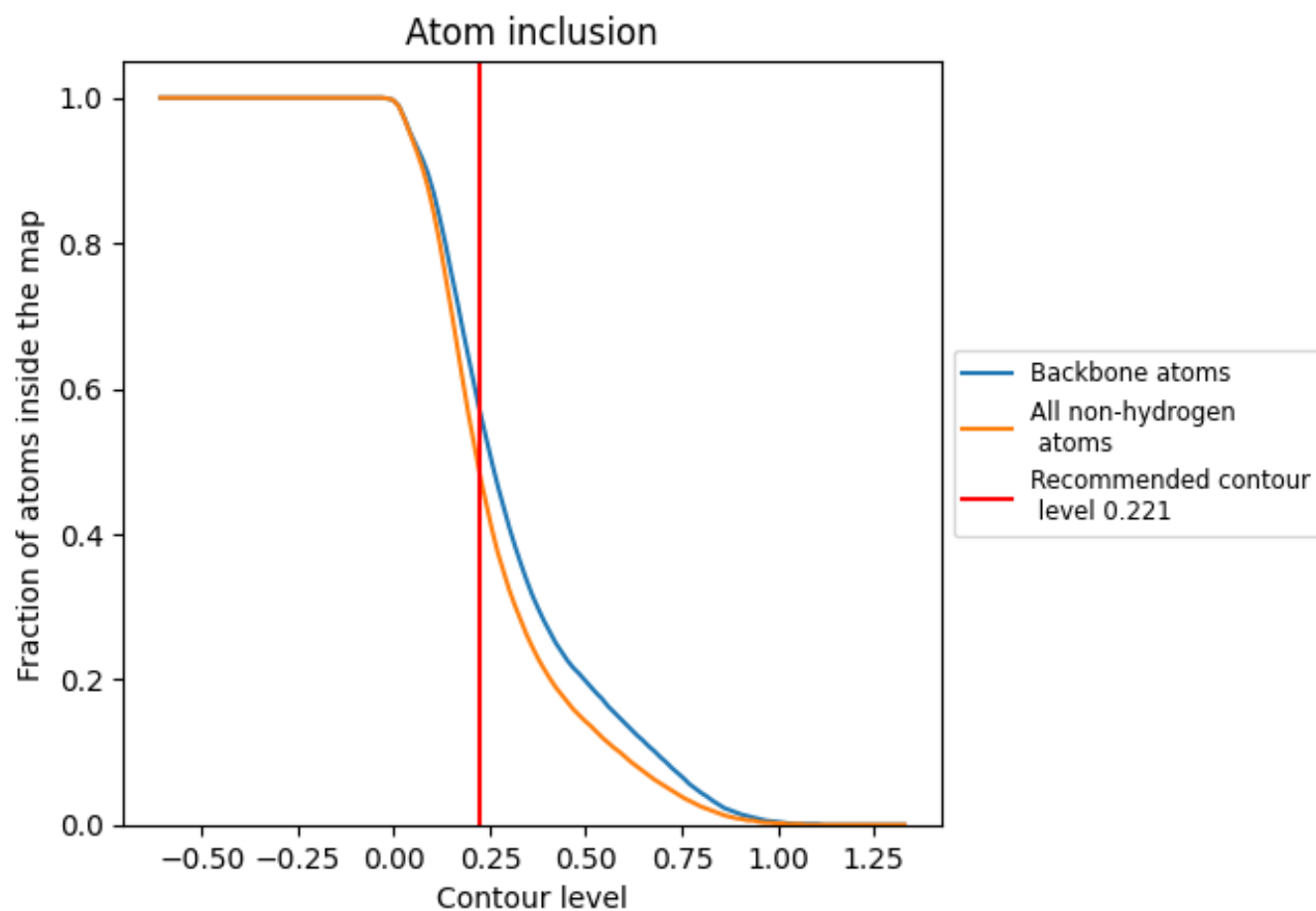
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.221).

9.4 Atom inclusion [i](#)



At the recommended contour level, 58% of all backbone atoms, 49% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.221) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.4900	0.2580
A	0.5790	0.3010
B	0.4570	0.2330
C	0.4330	0.2400

