



Full wwPDB EM Validation Report ⓘ

Sep 17, 2024 – 02:25 pm BST

PDB ID : 6TBM
EMDB ID : EMD-10446
Title : Structure of SAGA bound to TBP, including Spt8 and DUB
Authors : Papai, G.; Frechard, A.; Kolesnikova, O.; Crucifix, C.; Schultz, P.; Ben-Shem, A.
Deposited on : 2019-11-01
Resolution : 20.00 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.dev112
Mogul : 1.8.4, CSD as541be (2020)
MolProbity : 4.02b-467
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) : 2.38.2

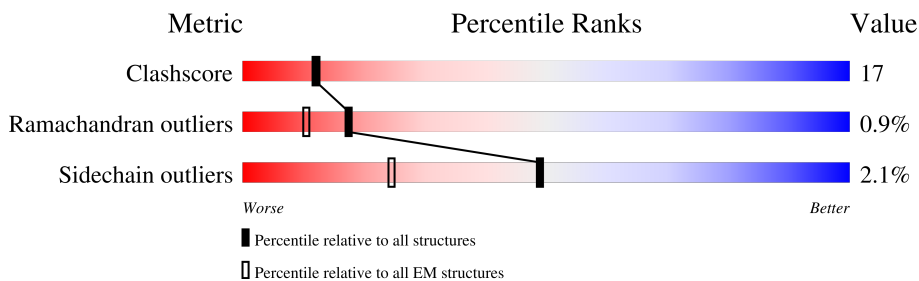
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 20.00 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	M	240	
2	A	448	
3	C	698	
4	F	517	
5	D	341	
6	E	1191	
7	J	217	
8	K	609	

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Mol	Chain	Length	Quality of chain
9	G	722	
10	H	485	
11	I	153	
12	L	3825	
13	B	722	
14	N	400	
15	R	76	
16	Q	502	
17	O	123	
18	P	96	

2 Entry composition

There are 19 unique types of molecules in this entry. The entry contains 48800 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 TATA-box Binding Protein (TBP).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	M	180	1415	921	242	246	6	0	0

- Molecule 2 is a protein called Transcriptional coactivator HFI1/ADA1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	A	173	1300	816	228	250	6	0	0

- Molecule 3 is a protein called Subunit of SAGA histone acetyltransferase complex.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	C	95	761	480	142	133	6	0	0

There are 54 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C	645	LEU	-	expression tag	UNP C4QZ39
C	646	GLU	-	expression tag	UNP C4QZ39
C	647	GLY	-	expression tag	UNP C4QZ39
C	648	GLY	-	expression tag	UNP C4QZ39
C	649	GLY	-	expression tag	UNP C4QZ39
C	650	GLY	-	expression tag	UNP C4QZ39
C	651	SER	-	expression tag	UNP C4QZ39
C	652	MET	-	expression tag	UNP C4QZ39
C	653	ASP	-	expression tag	UNP C4QZ39
C	654	GLU	-	expression tag	UNP C4QZ39
C	655	LYS	-	expression tag	UNP C4QZ39
C	656	THR	-	expression tag	UNP C4QZ39
C	657	THR	-	expression tag	UNP C4QZ39
C	658	GLY	-	expression tag	UNP C4QZ39
C	659	TRP	-	expression tag	UNP C4QZ39

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Chain	Residue	Modelled	Actual	Comment	Reference
C	660	ARG	-	expression tag	UNP C4QZ39
C	661	GLY	-	expression tag	UNP C4QZ39
C	662	GLY	-	expression tag	UNP C4QZ39
C	663	HIS	-	expression tag	UNP C4QZ39
C	664	VAL	-	expression tag	UNP C4QZ39
C	665	VAL	-	expression tag	UNP C4QZ39
C	666	GLU	-	expression tag	UNP C4QZ39
C	667	GLY	-	expression tag	UNP C4QZ39
C	668	LEU	-	expression tag	UNP C4QZ39
C	669	ALA	-	expression tag	UNP C4QZ39
C	670	GLY	-	expression tag	UNP C4QZ39
C	671	GLU	-	expression tag	UNP C4QZ39
C	672	LEU	-	expression tag	UNP C4QZ39
C	673	GLU	-	expression tag	UNP C4QZ39
C	674	GLN	-	expression tag	UNP C4QZ39
C	675	LEU	-	expression tag	UNP C4QZ39
C	676	ARG	-	expression tag	UNP C4QZ39
C	677	ALA	-	expression tag	UNP C4QZ39
C	678	ARG	-	expression tag	UNP C4QZ39
C	679	LEU	-	expression tag	UNP C4QZ39
C	680	GLU	-	expression tag	UNP C4QZ39
C	681	HIS	-	expression tag	UNP C4QZ39
C	682	HIS	-	expression tag	UNP C4QZ39
C	683	PRO	-	expression tag	UNP C4QZ39
C	684	GLN	-	expression tag	UNP C4QZ39
C	685	GLY	-	expression tag	UNP C4QZ39
C	686	GLN	-	expression tag	UNP C4QZ39
C	687	ARG	-	expression tag	UNP C4QZ39
C	688	GLU	-	expression tag	UNP C4QZ39
C	689	PRO	-	expression tag	UNP C4QZ39
C	690	GLY	-	expression tag	UNP C4QZ39
C	691	GLY	-	expression tag	UNP C4QZ39
C	692	SER	-	expression tag	UNP C4QZ39
C	693	HIS	-	expression tag	UNP C4QZ39
C	694	HIS	-	expression tag	UNP C4QZ39
C	695	HIS	-	expression tag	UNP C4QZ39
C	696	HIS	-	expression tag	UNP C4QZ39
C	697	HIS	-	expression tag	UNP C4QZ39
C	698	HIS	-	expression tag	UNP C4QZ39

- Molecule 4 is a protein called Spt20.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	F	210	1682	1071	292	315	4	0	0

- Molecule 5 is a protein called Subunit of the SAGA and SAGA-like transcriptional regulatory complexes, interacts with Spt15p to act.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	D	209	1616	1016	298	295	7	0	0

- Molecule 6 is a protein called Subunit of the SAGA transcriptional regulatory complex, involved in proper assembly of the complex.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	E	154	1232	784	208	233	7	0	0

- Molecule 7 is a protein called Transcription initiation factor TFIID subunit 10.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
7	J	96	768	489	120	156	3	0	0

- Molecule 8 is a protein called Subunit (61/68 kDa) of TFIID and SAGA complexes.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	K	154	1192	747	216	226	3	0	0

- Molecule 9 is a protein called Subunit (90 kDa) of TFIID and SAGA complexes.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	G	522	4075	2581	719	756	19	0	0

- Molecule 10 is a protein called Subunit (60 kDa) of TFIID and SAGA complexes.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
10	H	421	3263	2084	556	617	6	0	0

- Molecule 11 is a protein called Subunit (17 kDa) of TFIID and SAGA complexes, involved

in RNA polymerase II transcription initiation.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
11	I	123	981	632	169	178	2	0	0

- Molecule 12 is a protein called Transcription-associated protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
12	L	2968	22318	14296	3864	4071	87	0	0

- Molecule 13 is a protein called Transcriptional regulator involved in glucose repression of Gal4p-regulated genes.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
13	B	76	373	221	76	76	0	0

- Molecule 14 is a protein called Spt8.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
14	N	335	1648	978	335	335	0	0

- Molecule 15 is a protein called Polyubiquitin-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
15	R	76	611	384	105	121	1	2	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
R	76	GLZ	-	expression tag	UNP J3QS39

- Molecule 16 is a protein called Ubiquitin carboxyl-terminal hydrolase.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
16	Q	482	3817	2410	657	719	31	0	0

- Molecule 17 is a protein called SAGA-associated factor 11.

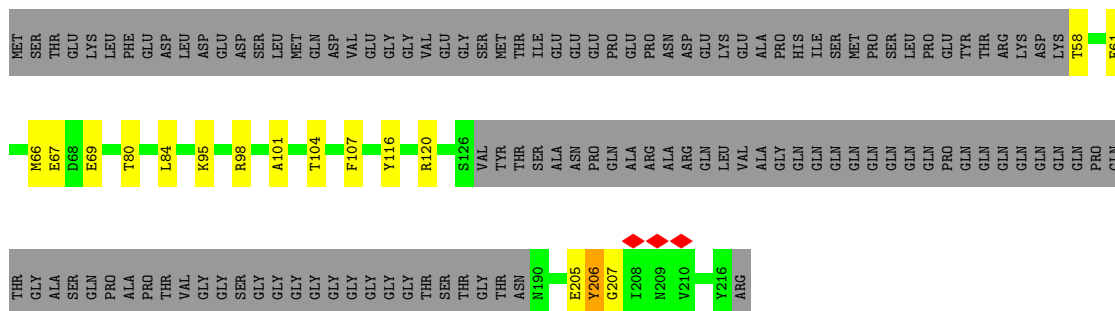
Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
17	O	117	922	563	169	184	6	0	0

- Molecule 18 is a protein called Transcription and mRNA export factor SUS1.

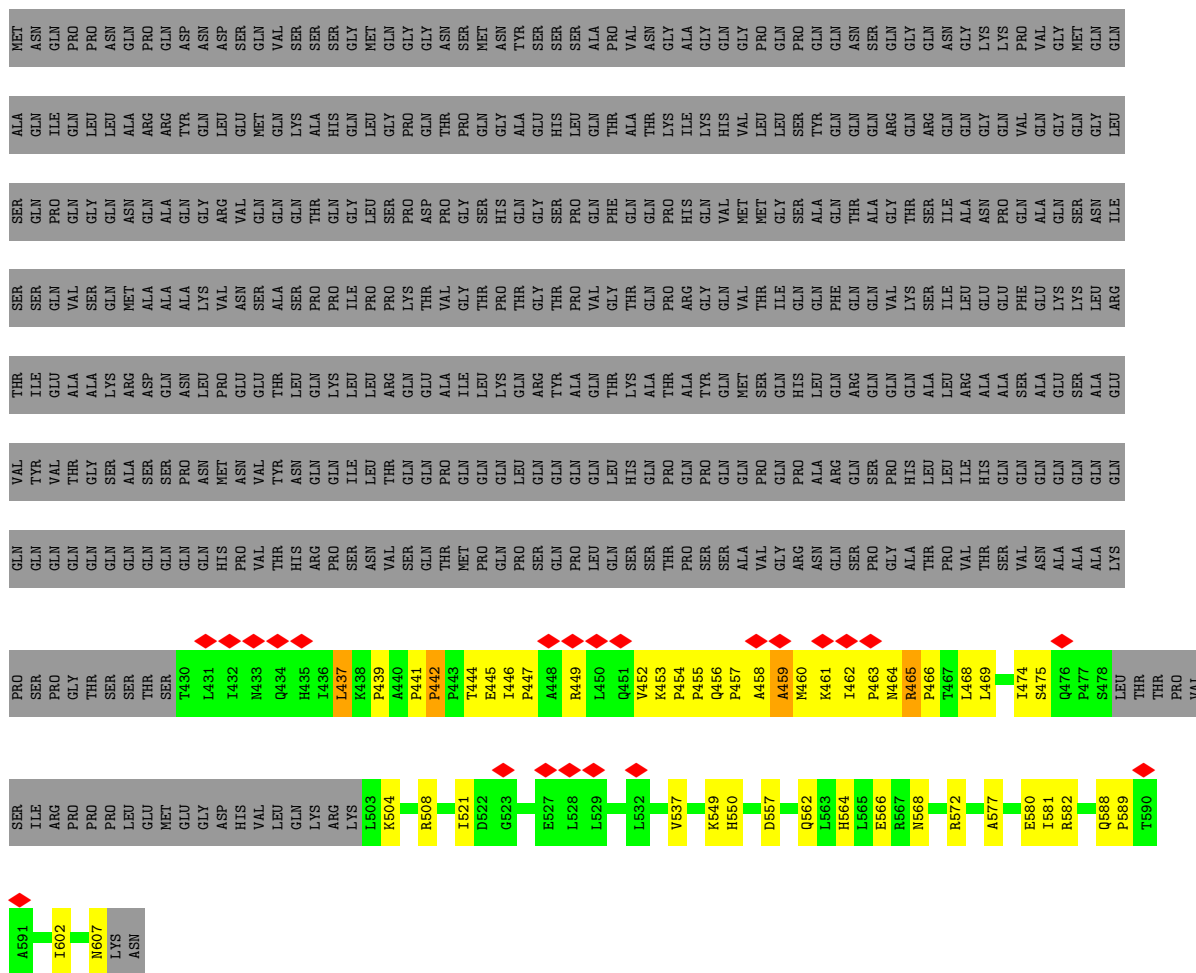
Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
18	P	90	735	470	122	142	1	0	0

- Molecule 19 is water.

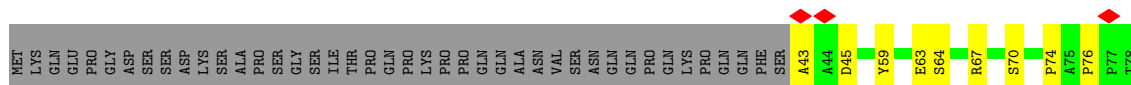
Mol	Chain	Residues	Atoms		AltConf
			Total	O	
19	R	83	83	83	0
19	Q	8	8	8	0

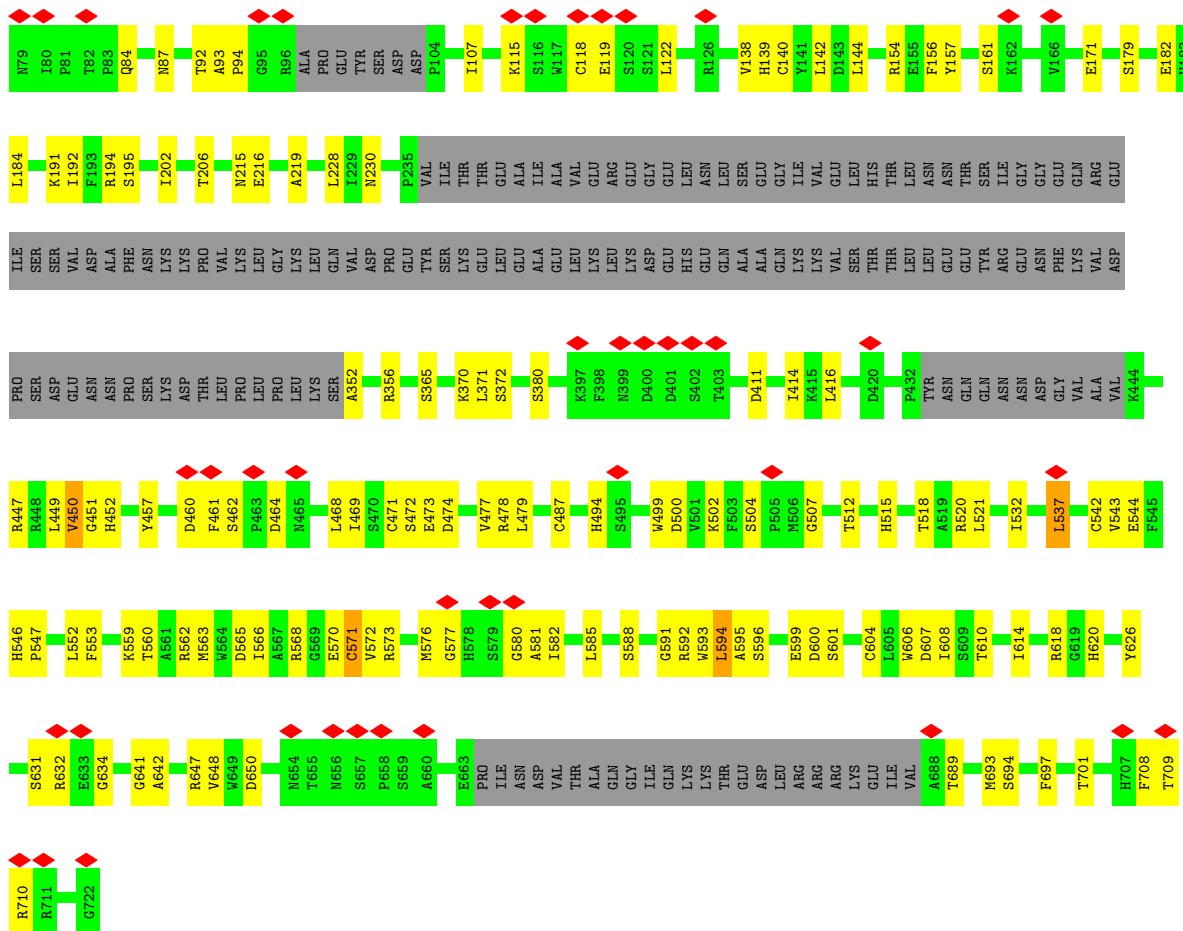


• Molecule 8: Subunit (61/68 kDa) of TFIID and SAGA complexes

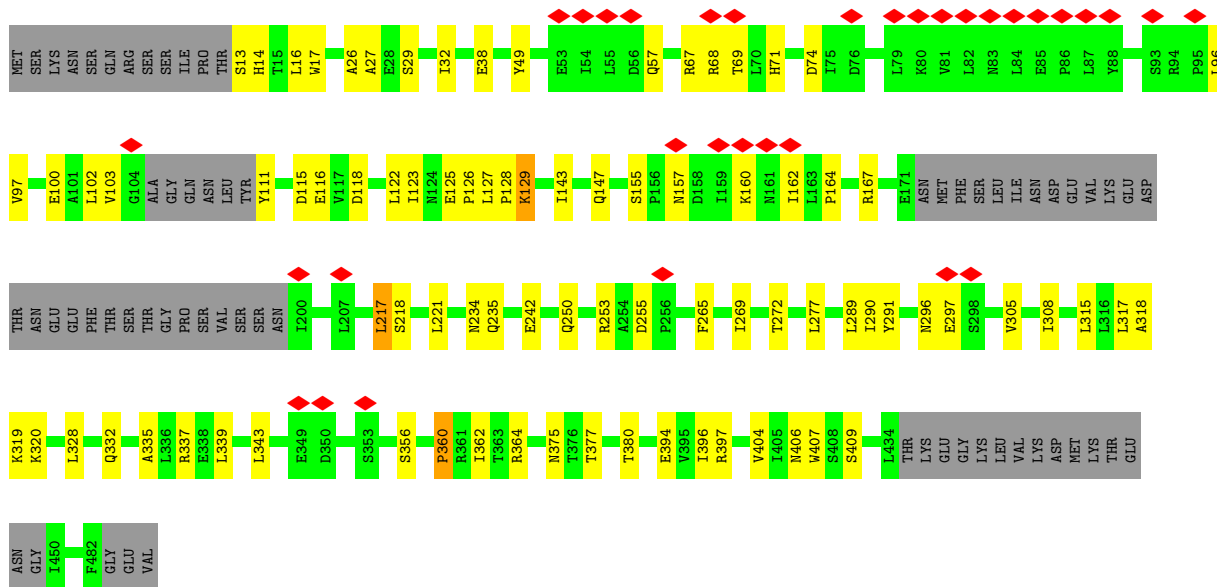


• Molecule 9: Subunit (90 kDa) of TFIID and SAGA complexes

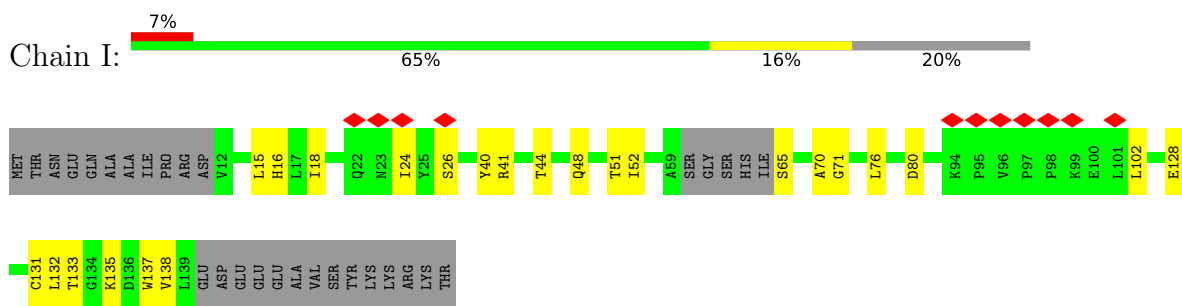




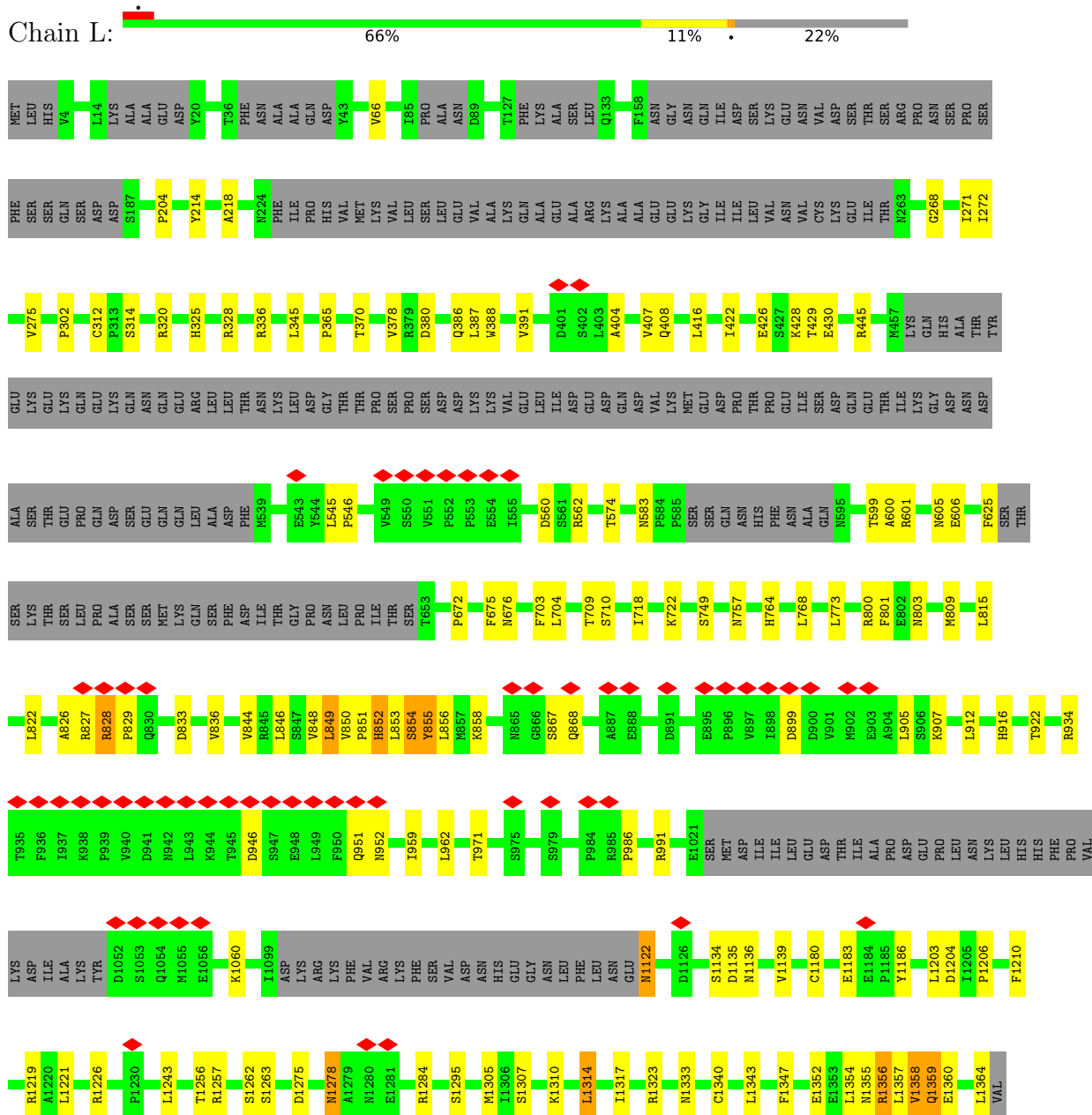
● Molecule 10: Subunit (60 kDa) of TFIID and SAGA complexes



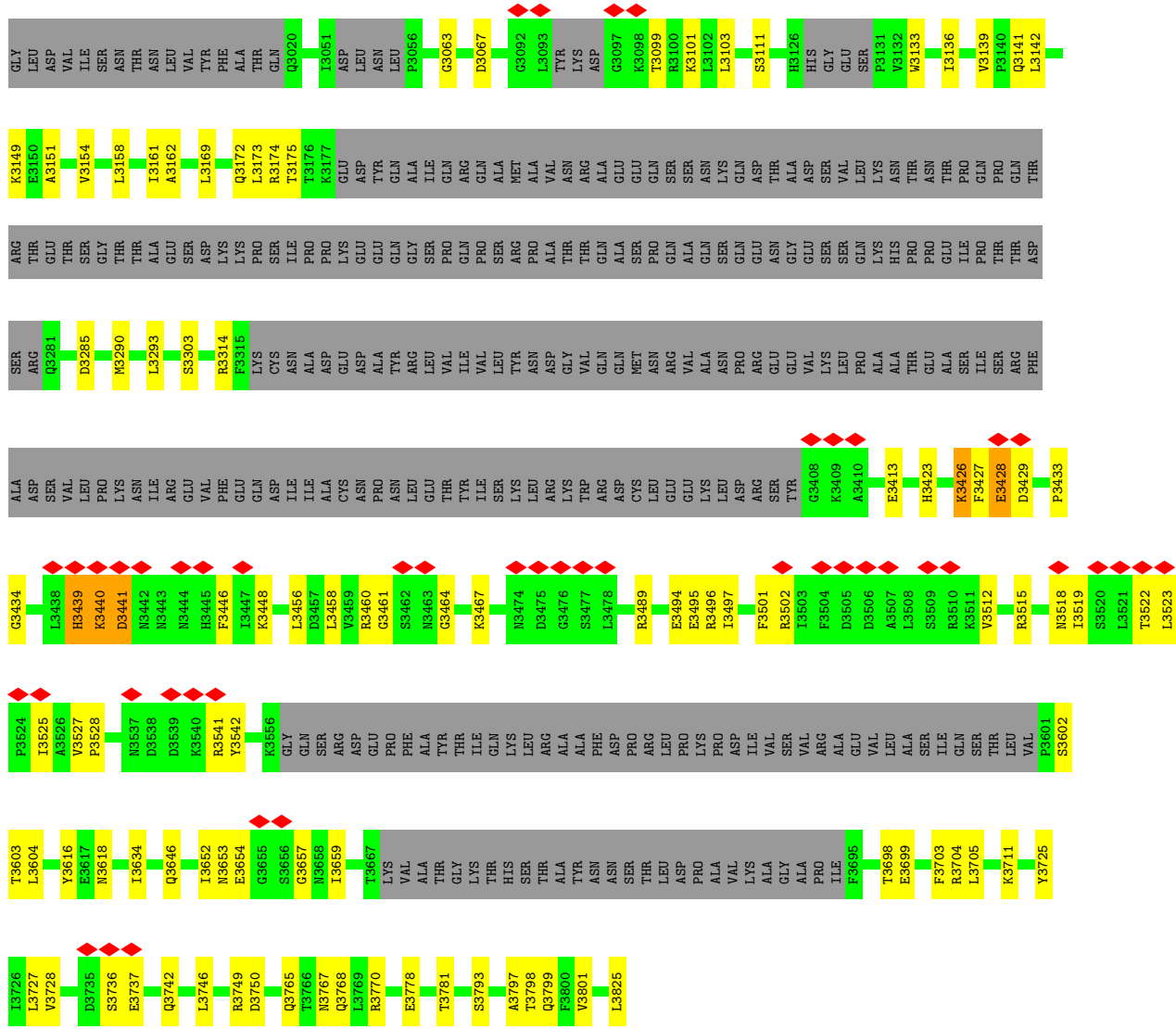
- Molecule 11: Subunit (17 kDa) of TFIID and SAGA complexes, involved in RNA polymerase II transcription initiation



- Molecule 12: Transcription-associated protein

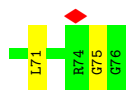


ASP	ALA	GLU	ASP	PRO	LEU	VAL	SER	GLU	HIS	K1382	R1391	C1394	R1413	R1417	V1418	K1419	L1420	V1421	V1422	V1423	F1424	F1425	K1426	S1427	L1428	R1431	S1432	I1433	G1441	K1444	D1448	LEU	LYS	MET	LYS	LYS	F1454	L1469	L1489	PHE	ILE	SER	ALA	GLU	TYR											
PHE	K1495	K1501	L1506	L1507	A1506	A1510	T1514	L1515	Q1516	Q1517	D1522	M1525	M1526	Q1530	H1540	L1541	L1542	P1543	H1547	K1548	M1563	Q1568	R1582	S1587	F1588	V1608	G1609	L1610	D1611	R1617	S1623	R1626	G1629	H1632	Q1633	GLU	GLY	SER	ILE	SER	ALA	GLU														
E1639	K1665	L1680	R1684	S1690	P1691	L1692	Y1693	F1694	Q1698	E1701	L1716	S1717	H1718	F1724	K1727	E1731	G1732	L1733	P1734	F1735	V1736	L1737	E1738	Y1748	LYS	CYS	GLN	ASP	I1753	D1774	A1775	R1776	Y1780	I1783	P1786	I1789	R1800	LEU	SER	ILE	SER	GLN	THR	GLU												
ASN	ASN	GLU	LEU	PRO	A1811	K1822	A1823	T1824	L1827	D1837	R1840	A1848	P1855	D1860	M1861	R1862	K1863	D1864	D1876	A1894	Y1895	V1896	V1897	F1899	THR	PRO	PRO	SER	GLU	L1901	C1912	H1913	Q1914	I1915	D1916	A1924	R1935	THR	ASN	SER	GLU	GLU	THR	LYS	LEU	SER	ILE	ASP	W1942	R1947						
E1952	ASP	PHE	ASN	ILE	T1958	Q1959	Y1964	I1967	R1978	V1994	MET	SER	ASN	THR	SER	L2000	E2001	F2021	LYS	SER	GLU	LYS	LEU	GLY	ALA	ARG	GLU	GLU	THR	THR	PRO	PRO	SER	GLU	GLU	GLU	LYS	VAL	SER	SER	ASP	VAL	VAL	LYS	GLU	GLU	THR	THR	LYS	LEU	GLY	ASP	ASP	ILE		
ALA	GLU	ARG	PRO	ALA	GLU	ASP	GLN	ILE	GLY	ASP	ASP	ASP	SER	ASN	ILE	LEU	THR	THR	THR	THR	SER	GLU	ASP	TYR	GLU	VAL	F2085	S2102	THR	GLN	PRO	PRO	ASN	E2110	P2125	LYS	TYR	TRP	SER	GLU	GLN	VAL	THR	V2133	F2141	LEU	MET	SER	SER	ASP	PHE	ALA	ASN	ILE	E2303	
PRO	SER	L2152	K2168	TRP	LYS	ASP	PRO	THR	T2173	L2190	ARG	SER	ASP	ASP	TYR	ASN	Q2195	K2214	GLU	THR	GLN	GLY	PRO	SER	GLU	GLU	E2221	I2231	V2235	G2239	GLU	ASP	LEU	ASN	ASN	MET	THR	SER	V2248	A2286	ILE	SER	LEU	GLN	R2425	T2426	R2427	L2428	I2433	L2437	I2440	L2441	E2446	L2447	I2449	A2555
A2322	ARG	ILE	SER	SER	ASP	D2329	F2363	THR	THR	ASP	PHE	TYR	T2370	L2386	ARG	GLY	PRO	E2391	L2392	S2393	F2396	K2407	LEU	ALA	ARG	GLU	LYS	SER	PRO	VAL	T2415	A2416	R2417	M2418	F2422	G2425	T2426	R2427	L2428	I2433	L2437	I2440	L2441	E2446	L2447	I2449	A2555									
R2452	L2465	S2466	D2467	L2475	Q2476	Y2479	R2489	L2490	S2491	PRO	GLU	GLU	ASN	THR	LEU	SER	PRO	LEU	GLN	SER	ILE	THR	L2665	E2666	M2669	Q2672	E2673	D2674	F2677	T2680	Y2687	T2690	L2708	F2721	P2722	Y2737	E2740	K2741	W2745	T2749	E2750	L2751	T2758													
L2762	R2767	GLY	ALA	ASP	Q2771	L2778	K2783	R2596	Q2597	R2601	P2602	M2603	T2790	Q2877	E2878	L2879	K2880	R2881	V2882	L2883	Q2884	R2887	E2888	R2889	D2896	L2897	K2898	Q2807	Q2808	K2809	D2810	L2811	V2815	S2816	R2817	L2818	G2822	K2829	Q2835	R2836	V2837	T2838	R2839	G2843	L2844	Q2849	L2854	S2858								
Q2859	V2860	Y2861	S2862	V2865	THR	ASN	ALA	GLN	ASN	LEU	ASP	VAL	LYS	SER	Q2877	E2878	L2879	K2880	R2881	V2882	L2883	Q2884	R2887	E2888	R2889	D2896	L2897	K2898	Q2807	Q2808	K2809	D2810	L2811	V2904	T2905	W2906	R2907	V2910	F2911	G2912	V2913	L2914	R2915	R2916	W2919	PRO	PHE	VAL	THR	GLM	VAL	LEU	GLN	GLU	SER	
ASN	GLY	THR	ASN	ASN	GLY	ASN	TYR	A2938	E2944	F2952	H2959	E2960	M2961	P2962	E2963	V2964	C2965	I2966	N2967	Q2968	LEU	THR	LYS	ILE	TYR	THR	LEU	PRO	ASN	ILE	GLU	ILE	T2905	W2906	R2907	V2910	F2911	G2912	V2913	L2914	R2915	R2916	W2919	PRO	PHE	VAL	THR	GLM	VAL	LEU	GLN	GLU	SER			

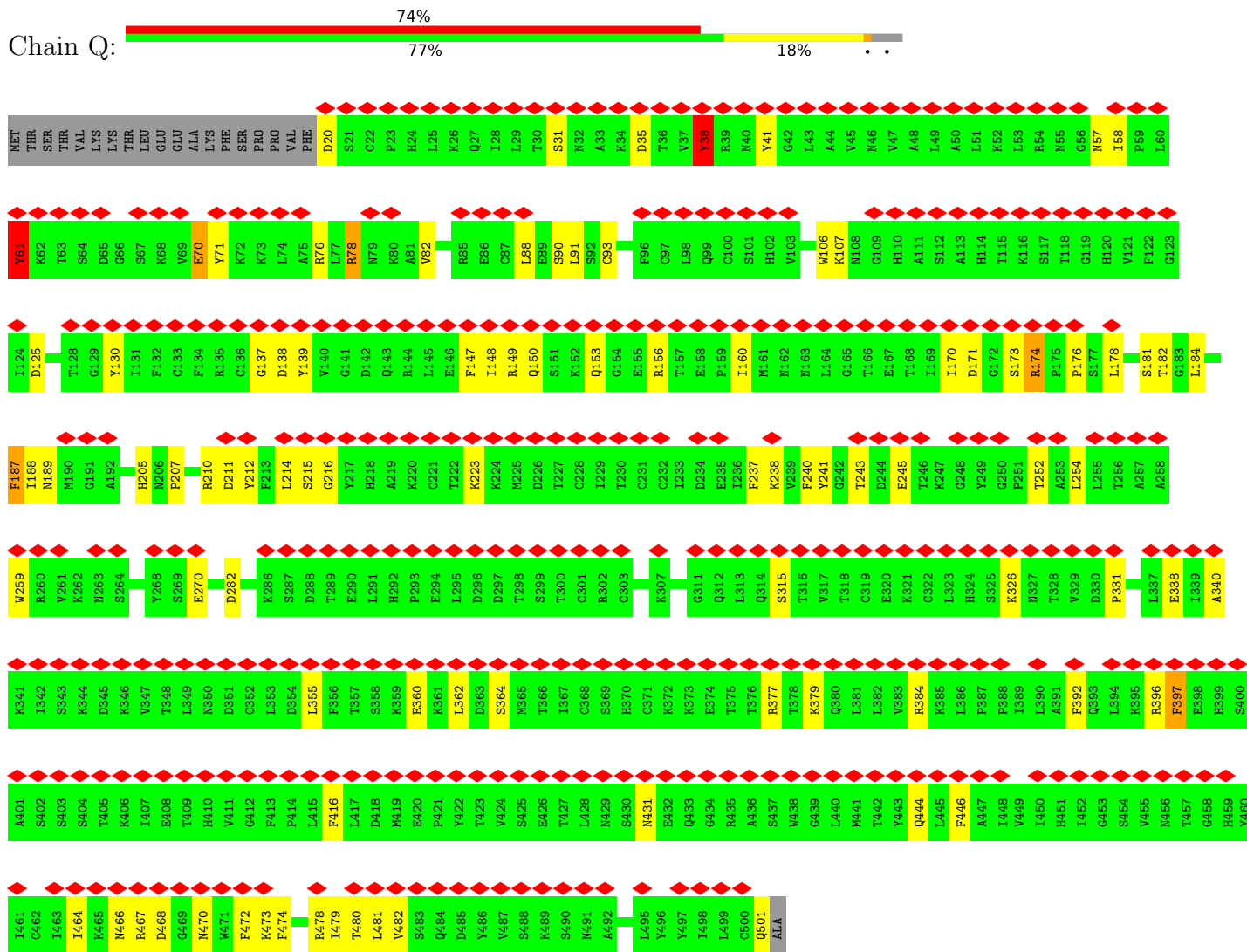


● Molecule 13: Transcriptional regulator involved in glucose repression of Gal4p-regulated genes

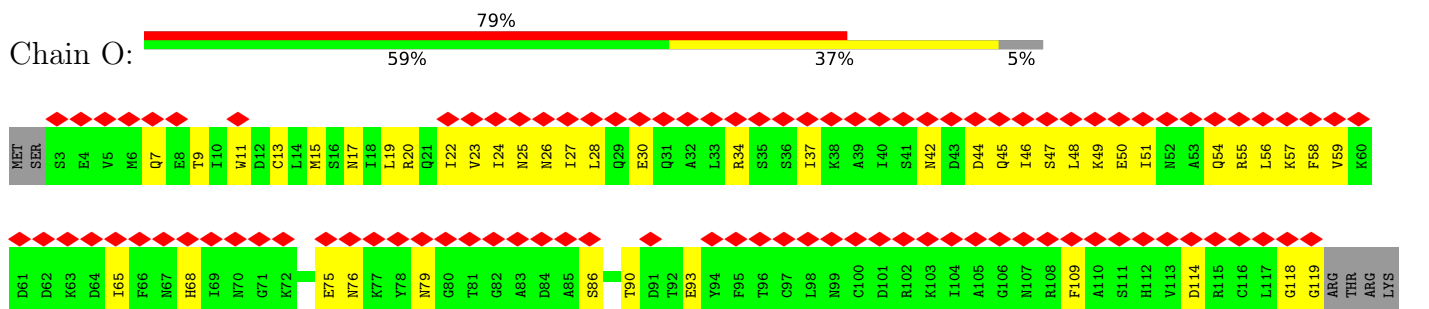




• Molecule 16: Ubiquitin carboxyl-terminal hydrolase

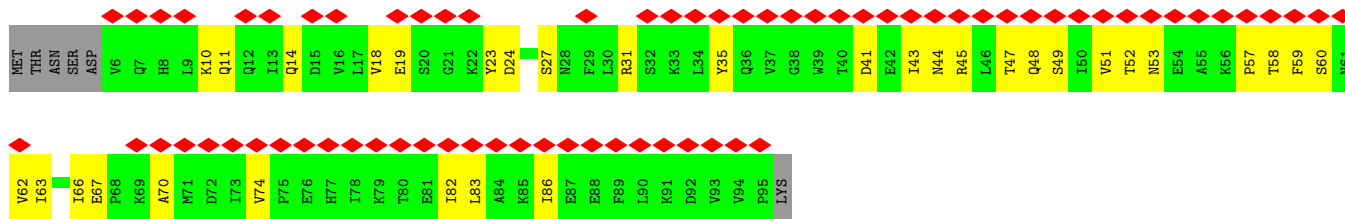


• Molecule 17: SAGA-associated factor 11



• Molecule 18: Transcription and mRNA export factor SUS1





4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	354104	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	52.8	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	4500	Depositor
Magnification	105000	Depositor
Image detector	GATAN K2 QUANTUM (4k x 4k)	Depositor
Maximum map value	0.032	Depositor
Minimum map value	-0.024	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.001	Depositor
Recommended contour level	0.004	Depositor
Map size (Å)	558.08, 558.08, 558.08	wwPDB
Map dimensions	256, 256, 256	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	2.18, 2.18, 2.18	Depositor

5 Model quality i

5.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section: GLZ

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	M	0.88	2/1442 (0.1%)	0.78	2/1942 (0.1%)
2	A	0.44	0/1319	0.60	0/1794
3	C	0.53	0/774	0.75	0/1039
4	F	0.34	0/1718	0.58	0/2335
5	D	0.51	0/1641	0.65	0/2213
6	E	0.45	0/1246	0.62	0/1667
7	J	0.47	0/779	0.60	0/1051
8	K	0.42	0/1213	0.66	0/1647
9	G	0.52	0/4177	0.60	0/5661
10	H	0.38	0/3315	0.60	0/4500
11	I	0.44	0/1006	0.63	0/1374
12	L	0.33	0/22712	0.54	0/30825
13	B	0.64	0/370	0.70	1/509 (0.2%)
15	R	0.83	1/619 (0.2%)	0.75	0/833
16	Q	0.71	0/3897	1.09	15/5265 (0.3%)
17	O	0.79	0/931	1.13	2/1250 (0.2%)
18	P	0.75	0/747	1.01	0/1011
All	All	0.47	3/47906 (0.0%)	0.67	20/64916 (0.0%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	M	0	1
16	Q	2	5
All	All	2	6

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	M	194	ILE	C-N	27.38	1.97	1.34
1	M	183	SER	C-N	6.38	1.48	1.34
15	R	24	GLU	CB-CG	-5.25	1.42	1.52

All (20) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
16	Q	61	TYR	CB-CG-CD1	9.83	126.90	121.00
16	Q	61	TYR	CB-CG-CD2	-9.38	115.37	121.00
1	M	62	GLY	N-CA-C	6.94	130.46	113.10
16	Q	78	ARG	NE-CZ-NH1	-6.80	116.90	120.30
13	B	527	PRO	N-CA-CB	6.57	111.18	103.30
17	O	119	GLY	N-CA-C	6.39	129.07	113.10
16	Q	240	PHE	CB-CG-CD1	6.28	125.20	120.80
1	M	194	ILE	CA-C-N	-6.13	103.71	117.20
16	Q	41	TYR	CB-CG-CD1	6.09	124.65	121.00
16	Q	396	ARG	NE-CZ-NH1	5.95	123.27	120.30
16	Q	384	ARG	NE-CZ-NH2	5.87	123.23	120.30
16	Q	78	ARG	NE-CZ-NH2	5.72	123.16	120.30
16	Q	187	PHE	CB-CG-CD1	5.58	124.71	120.80
16	Q	174	ARG	NE-CZ-NH2	5.57	123.09	120.30
16	Q	240	PHE	CB-CG-CD2	-5.31	117.08	120.80
16	Q	38	TYR	CA-CB-CG	5.28	123.44	113.40
16	Q	187	PHE	CB-CG-CD2	-5.18	117.18	120.80
16	Q	41	TYR	CB-CG-CD2	-5.13	117.92	121.00
17	O	118	GLY	C-N-CA	5.12	133.06	122.30
16	Q	392	PHE	CB-CG-CD2	-5.08	117.24	120.80

All (2) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
16	Q	31	SER	CA
16	Q	222	THR	CA

All (6) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	M	183	SER	Mainchain
16	Q	149	ARG	Sidechain
16	Q	212	TYR	Sidechain
16	Q	241	TYR	Sidechain
16	Q	38	TYR	Sidechain
16	Q	61	TYR	Sidechain

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	M	1415	0	1491	102	0
2	A	1300	0	1254	30	0
3	C	761	0	779	194	0
4	F	1682	0	1622	30	0
5	D	1616	0	1558	122	0
6	E	1232	0	1276	40	0
7	J	768	0	754	11	0
8	K	1192	0	1214	89	0
9	G	4075	0	3934	102	0
10	H	3263	0	3258	69	0
11	I	981	0	982	18	0
12	L	22318	0	20960	376	0
13	B	373	0	190	2	0
14	N	1648	0	382	61	0
15	R	611	0	636	20	0
16	Q	3817	0	3772	521	0
17	O	922	0	897	411	0
18	P	735	0	743	191	0
19	Q	8	0	0	10	0
19	R	83	0	0	7	0
All	All	48800	0	45702	1602	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 17.

All (1602) 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)
16:Q:472:PHE:CZ	17:O:45:GLN:HB3	1.29	1.65
17:O:11:TRP:CD1	18:P:83:LEU:HD23	1.14	1.61
16:Q:479:ILE:HG23	17:O:47:SER:CA	1.19	1.61
16:Q:479:ILE:CG2	17:O:47:SER:HA	1.14	1.60
17:O:34:ARG:HH11	18:P:57:PRO:CB	1.11	1.58
16:Q:464:ILE:CD1	17:O:46:ILE:CD1	1.74	1.57
17:O:9:THR:HG22	18:P:10:LYS:CE	1.29	1.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:O:22:ILE:CD1	18:P:43:ILE:HD11	1.14	1.55
3:C:38:LEU:HD22	16:Q:210:ARG:CD	1.33	1.55
16:Q:464:ILE:CG1	17:O:46:ILE:HD12	1.34	1.54
3:C:34:LEU:CD2	16:Q:446:PHE:HE1	0.95	1.54
3:C:38:LEU:HD13	16:Q:210:ARG:CZ	1.21	1.54
17:O:11:TRP:HD1	18:P:83:LEU:CD2	1.19	1.54
3:C:39:ARG:NH1	16:Q:148:ILE:CA	1.68	1.53
16:Q:178:LEU:HD13	17:O:37:ILE:CD1	1.34	1.53
17:O:22:ILE:HD13	18:P:43:ILE:CD1	1.13	1.53
3:C:34:LEU:HD22	16:Q:446:PHE:CE1	1.00	1.52
3:C:38:LEU:CD1	16:Q:210:ARG:NE	1.67	1.51
8:K:469:LEU:HD13	12:L:2788:ILE:CG2	1.31	1.51
16:Q:464:ILE:CD1	17:O:46:ILE:HD13	1.26	1.51
17:O:9:THR:CG2	18:P:10:LYS:HE3	1.08	1.50
14:N:207:UNK:C	14:N:208:UNK:H2	1.23	1.49
16:Q:472:PHE:CD2	17:O:46:ILE:HG12	1.45	1.49
3:C:49:PRO:HG2	16:Q:237:PHE:CE1	1.48	1.46
16:Q:178:LEU:CD1	17:O:37:ILE:HD13	1.42	1.45
17:O:11:TRP:NE1	18:P:83:LEU:HA	1.18	1.45
16:Q:182:THR:CG2	17:O:44:ASP:HB2	1.47	1.44
3:C:38:LEU:CD2	16:Q:210:ARG:HD2	1.46	1.44
17:O:56:LEU:CD1	18:P:52:THR:H	1.18	1.43
3:C:39:ARG:HH11	16:Q:148:ILE:CG2	1.29	1.41
17:O:9:THR:CG2	18:P:10:LYS:CE	1.86	1.41
14:N:207:UNK:C	14:N:208:UNK:N	1.79	1.40
17:O:11:TRP:CE2	18:P:86:ILE:HD12	1.55	1.40
16:Q:182:THR:N	17:O:44:ASP:CB	1.70	1.40
16:Q:482:VAL:HG12	17:O:49:LYS:N	1.30	1.39
17:O:11:TRP:CD1	18:P:83:LEU:CD2	1.93	1.39
16:Q:78:ARG:NH2	18:P:23:TYR:HE2	1.15	1.39
17:O:27:ILE:CD1	18:P:59:PHE:HA	1.53	1.38
16:Q:78:ARG:NH2	18:P:23:TYR:CE2	1.88	1.38
16:Q:479:ILE:HG23	17:O:47:SER:CB	1.53	1.38
16:Q:472:PHE:CD2	17:O:46:ILE:CG1	2.06	1.38
17:O:55:ARG:C	18:P:52:THR:HG21	1.01	1.37
1:M:88:HIS:O	14:N:515:UNK:C	1.71	1.36
15:R:4:PHE:CZ	16:Q:377:ARG:NH1	1.94	1.35
17:O:22:ILE:CD1	18:P:43:ILE:CD1	1.76	1.35
8:K:469:LEU:CD1	12:L:2788:ILE:HG21	1.57	1.34
17:O:55:ARG:C	18:P:52:THR:CG2	1.96	1.34
3:C:47:ASP:CB	16:Q:243:THR:O	1.75	1.34

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:O:19:LEU:HD23	18:P:67:GLU:CG	1.57	1.34
16:Q:464:ILE:HD12	17:O:46:ILE:CD1	1.44	1.33
14:N:451:UNK:C	14:N:452:UNK:H2	1.42	1.32
17:O:19:LEU:CD2	18:P:67:GLU:HG3	1.57	1.32
16:Q:106:TRP:HD1	17:O:20:ARG:CZ	1.41	1.31
16:Q:472:PHE:CB	17:O:46:ILE:HG13	1.60	1.31
16:Q:416:PHE:HE1	18:P:35:TYR:CE2	0.98	1.31
16:Q:479:ILE:HB	17:O:68:HIS:CE1	1.59	1.31
1:M:147:GLY:O	14:N:435:UNK:CB	1.78	1.30
3:C:34:LEU:CD2	16:Q:446:PHE:CE1	1.74	1.30
16:Q:416:PHE:CE1	18:P:35:TYR:CE2	1.87	1.30
16:Q:139:TYR:CB	17:O:28:LEU:HD21	1.62	1.29
3:C:38:LEU:CD1	16:Q:210:ARG:CZ	2.01	1.29
3:C:51:LEU:N	16:Q:214:LEU:HG	1.47	1.29
3:C:39:ARG:NH1	16:Q:148:ILE:N	1.74	1.28
3:C:54:CYS:SG	16:Q:215:SER:HA	1.72	1.28
17:O:30:GLU:OE1	18:P:51:VAL:HG11	1.28	1.28
17:O:27:ILE:HG23	18:P:57:PRO:O	1.20	1.27
17:O:19:LEU:HD21	18:P:67:GLU:CA	1.64	1.27
3:C:52:GLN:NE2	16:Q:153:GLN:HG3	1.47	1.27
16:Q:189:ASN:ND2	19:Q:602:HOH:O	1.59	1.27
16:Q:178:LEU:CD1	17:O:37:ILE:CD1	2.02	1.26
17:O:11:TRP:HE1	18:P:83:LEU:CA	1.46	1.26
16:Q:71:TYR:HD1	18:P:24:ASP:OD2	1.12	1.25
16:Q:93:CYS:SG	17:O:20:ARG:HD2	1.75	1.25
16:Q:472:PHE:HD2	17:O:46:ILE:CG1	1.45	1.25
17:O:34:ARG:NH1	18:P:57:PRO:HB3	0.93	1.24
16:Q:91:LEU:HD21	17:O:13:CYS:SG	1.76	1.24
3:C:54:CYS:SG	16:Q:215:SER:CA	2.26	1.23
17:O:56:LEU:HD11	18:P:52:THR:N	1.22	1.21
14:N:451:UNK:C	14:N:452:UNK:N	1.99	1.21
16:Q:139:TYR:CE1	17:O:24:ILE:HG12	1.37	1.21
16:Q:182:THR:CA	17:O:44:ASP:HB3	1.70	1.21
16:Q:71:TYR:CD1	18:P:24:ASP:OD2	1.92	1.21
3:C:50:ILE:N	16:Q:214:LEU:HD11	1.53	1.20
17:O:56:LEU:N	18:P:52:THR:HG21	1.55	1.20
12:L:828:ARG:H	12:L:829:PRO:HD3	1.06	1.20
16:Q:479:ILE:CG2	17:O:47:SER:CA	1.91	1.20
16:Q:416:PHE:CE1	18:P:35:TYR:CD2	2.29	1.20
16:Q:472:PHE:CZ	17:O:45:GLN:CB	2.23	1.20
17:O:27:ILE:HD13	18:P:59:PHE:CA	1.71	1.20

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:Q:474:PHE:CG	17:O:47:SER:HB3	1.75	1.19
1:M:194:ILE:HG22	1:M:195:TYR:N	1.57	1.19
3:C:49:PRO:CG	16:Q:237:PHE:CE1	2.24	1.19
16:Q:182:THR:CB	17:O:44:ASP:CB	2.13	1.19
17:O:54:GLN:HE22	18:P:49:SER:N	1.37	1.18
17:O:55:ARG:O	18:P:52:THR:HG21	1.43	1.18
15:R:4:PHE:HZ	16:Q:377:ARG:CZ	1.57	1.18
16:Q:106:TRP:CD1	17:O:20:ARG:CZ	2.27	1.18
3:C:39:ARG:NH1	16:Q:148:ILE:HA	1.34	1.18
1:M:194:ILE:C	1:M:195:TYR:N	1.97	1.17
16:Q:259:TRP:CD1	17:O:114:ASP:OD1	1.97	1.17
17:O:11:TRP:NE1	18:P:83:LEU:CA	2.06	1.17
17:O:11:TRP:CD2	18:P:86:ILE:HD12	1.80	1.16
3:C:39:ARG:HD2	16:Q:147:PHE:CE1	1.80	1.16
16:Q:474:PHE:CD2	17:O:47:SER:HB3	1.79	1.16
17:O:19:LEU:CD2	18:P:67:GLU:HA	1.75	1.16
3:C:51:LEU:HD23	16:Q:214:LEU:HD23	1.27	1.16
16:Q:139:TYR:HB3	17:O:28:LEU:CD2	1.76	1.15
16:Q:479:ILE:HD12	17:O:47:SER:HB2	1.25	1.14
17:O:34:ARG:NH1	18:P:57:PRO:CB	1.82	1.14
3:C:40:TYR:CB	16:Q:214:LEU:HD21	1.78	1.13
19:R:153:HOH:O	16:Q:326:LYS:HB3	1.44	1.13
17:O:22:ILE:HD12	18:P:43:ILE:CD1	1.75	1.13
16:Q:184:LEU:HD12	17:O:44:ASP:O	1.49	1.13
3:C:47:ASP:HB2	16:Q:243:THR:O	1.29	1.13
16:Q:479:ILE:CB	17:O:68:HIS:CE1	2.26	1.12
3:C:51:LEU:HD11	16:Q:211:ASP:O	1.44	1.12
16:Q:182:THR:N	17:O:44:ASP:HB3	1.42	1.11
3:C:38:LEU:HD13	16:Q:210:ARG:NE	0.80	1.11
3:C:40:TYR:HB3	16:Q:214:LEU:HD21	1.33	1.11
16:Q:91:LEU:CD2	17:O:13:CYS:SG	2.37	1.11
16:Q:464:ILE:HD11	17:O:46:ILE:HD13	1.28	1.11
16:Q:474:PHE:CD2	17:O:47:SER:CB	2.33	1.11
17:O:11:TRP:CE2	18:P:86:ILE:CD1	2.32	1.11
3:C:39:ARG:NH1	16:Q:147:PHE:C	2.03	1.11
5:D:212:GLN:HE21	5:D:212:GLN:HA	1.12	1.11
16:Q:93:CYS:SG	17:O:20:ARG:HB2	1.89	1.11
16:Q:139:TYR:CE1	17:O:24:ILE:CG1	2.34	1.11
16:Q:464:ILE:HD11	17:O:46:ILE:HG21	1.18	1.10
3:C:49:PRO:C	16:Q:214:LEU:CD1	2.19	1.10
14:N:501:UNK:HA	14:N:505:UNK:HA	1.30	1.09

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:191:PRO:HA	5:D:211:ARG:HD2	1.25	1.09
16:Q:416:PHE:HE1	18:P:35:TYR:CD2	1.68	1.09
8:K:466:PRO:HA	12:L:2791:PRO:HG2	1.33	1.08
16:Q:130:TYR:CG	17:O:28:LEU:CD1	2.36	1.08
17:O:55:ARG:O	18:P:52:THR:CG2	1.95	1.08
17:O:27:ILE:CG2	18:P:57:PRO:O	2.00	1.08
3:C:39:ARG:NH1	16:Q:148:ILE:CG2	2.09	1.07
8:K:469:LEU:CD1	12:L:2788:ILE:CG2	2.22	1.07
8:K:468:LEU:HB3	12:L:2829:LYS:HZ1	1.05	1.07
8:K:469:LEU:HD13	12:L:2788:ILE:HG22	1.30	1.07
16:Q:482:VAL:CG2	17:O:49:LYS:HD2	1.61	1.07
3:C:34:LEU:CD2	16:Q:446:PHE:CD1	2.38	1.07
3:C:50:ILE:N	16:Q:214:LEU:CD1	2.17	1.07
17:O:11:TRP:CD2	18:P:86:ILE:CD1	2.38	1.06
16:Q:479:ILE:HG22	17:O:47:SER:HA	1.09	1.06
3:C:47:ASP:HB3	16:Q:243:THR:O	1.53	1.05
16:Q:182:THR:CA	17:O:44:ASP:CB	2.30	1.05
16:Q:464:ILE:HD11	17:O:46:ILE:CG2	1.86	1.05
16:Q:501:GLN:HB2	18:P:31:ARG:HH22	1.17	1.05
3:C:54:CYS:SG	16:Q:215:SER:O	2.13	1.05
5:D:78:LYS:HE3	5:D:78:LYS:HA	1.38	1.05
16:Q:482:VAL:HG23	17:O:49:LYS:HD2	1.29	1.05
17:O:11:TRP:NE1	18:P:83:LEU:HD23	1.71	1.05
8:K:468:LEU:HB3	12:L:2829:LYS:NZ	1.70	1.04
15:R:4:PHE:CE1	16:Q:377:ARG:NH1	2.25	1.04
16:Q:472:PHE:CG	17:O:46:ILE:HG13	1.90	1.04
16:Q:182:THR:HG23	17:O:44:ASP:CB	1.85	1.03
16:Q:472:PHE:CE2	17:O:50:GLU:HG2	1.93	1.03
16:Q:464:ILE:HG13	17:O:46:ILE:CD1	1.87	1.03
16:Q:472:PHE:HB3	17:O:47:SER:C	1.51	1.03
16:Q:482:VAL:CG1	17:O:49:LYS:H	1.70	1.03
3:C:34:LEU:CG	16:Q:446:PHE:HE1	1.70	1.03
17:O:34:ARG:HH12	18:P:57:PRO:HB3	1.23	1.02
16:Q:182:THR:CB	17:O:44:ASP:HB2	1.78	1.02
16:Q:472:PHE:HB2	17:O:46:ILE:CG1	1.88	1.02
3:C:39:ARG:HH11	16:Q:148:ILE:HG23	1.22	1.02
16:Q:472:PHE:CE1	17:O:45:GLN:HB3	1.94	1.02
16:Q:479:ILE:O	17:O:68:HIS:CE1	2.12	1.02
17:O:54:GLN:NE2	18:P:49:SER:N	2.07	1.01
3:C:38:LEU:CD2	16:Q:210:ARG:CD	2.18	1.01
3:C:52:GLN:HE21	16:Q:153:GLN:HG3	0.94	1.00

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:Q:93:CYS:SG	17:O:20:ARG:CD	2.49	1.00
3:C:39:ARG:NH2	16:Q:147:PHE:O	1.94	1.00
16:Q:472:PHE:CE2	17:O:50:GLU:CG	2.44	1.00
16:Q:479:ILE:HB	17:O:68:HIS:HE1	0.83	1.00
16:Q:482:VAL:HG12	17:O:49:LYS:CA	1.73	1.00
16:Q:464:ILE:HD11	17:O:46:ILE:CD1	1.72	1.00
3:C:51:LEU:HG	16:Q:214:LEU:CB	1.92	1.00
3:C:34:LEU:CG	16:Q:446:PHE:CE1	2.42	0.99
16:Q:473:LYS:HA	17:O:48:LEU:HD23	1.40	0.99
3:C:51:LEU:HG	16:Q:214:LEU:HB3	1.43	0.99
3:C:51:LEU:CD1	16:Q:211:ASP:O	2.09	0.99
5:D:66:VAL:HG12	5:D:67:PRO:HD2	1.44	0.99
17:O:51:ILE:HG21	18:P:45:ARG:HG3	1.43	0.99
16:Q:472:PHE:HZ	17:O:45:GLN:HB3	1.21	0.98
17:O:9:THR:HG21	18:P:10:LYS:HE3	1.44	0.98
16:Q:259:TRP:HD1	17:O:114:ASP:OD1	1.39	0.98
17:O:55:ARG:HD2	18:P:53:ASN:OD1	1.63	0.98
16:Q:178:LEU:HD13	17:O:37:ILE:HD12	1.43	0.97
15:R:46:ALA:HA	16:Q:331:PRO:O	1.64	0.97
1:M:173:GLU:HG2	5:D:197:LYS:HA	1.44	0.97
16:Q:472:PHE:HB2	17:O:46:ILE:HG13	0.99	0.97
16:Q:474:PHE:CD1	17:O:47:SER:HB3	1.99	0.97
17:O:22:ILE:CD1	18:P:43:ILE:HD12	1.92	0.97
17:O:11:TRP:HD1	18:P:83:LEU:HD21	1.28	0.97
16:Q:479:ILE:HD12	17:O:47:SER:CB	1.94	0.96
3:C:50:ILE:CA	16:Q:214:LEU:HD11	1.95	0.96
3:C:34:LEU:HD22	16:Q:446:PHE:CD1	1.97	0.96
14:N:467:UNK:O	14:N:470:UNK:CB	2.14	0.96
3:C:39:ARG:HH11	16:Q:148:ILE:HG22	1.27	0.96
14:N:451:UNK:C	14:N:452:UNK:CA	2.43	0.96
8:K:465:ARG:HH21	12:L:2843:GLY:H	1.10	0.96
16:Q:93:CYS:SG	17:O:17:ASN:HA	2.06	0.96
16:Q:178:LEU:CD1	17:O:37:ILE:HD12	1.94	0.95
19:R:165:HOH:O	16:Q:355:LEU:HD11	1.63	0.95
16:Q:182:THR:CB	17:O:44:ASP:HB3	1.77	0.95
17:O:34:ARG:HH11	18:P:57:PRO:CG	1.78	0.95
16:Q:474:PHE:CE2	17:O:47:SER:CB	2.50	0.95
12:L:849:LEU:HD12	12:L:849:LEU:H	1.31	0.95
16:Q:479:ILE:CB	17:O:68:HIS:HE1	1.70	0.95
16:Q:481:LEU:HD12	17:O:50:GLU:H	1.28	0.95
16:Q:482:VAL:CG1	17:O:49:LYS:N	2.26	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:88:HIS:C	14:N:515:UNK:C	2.35	0.94
16:Q:444:GLN:NE2	18:P:35:TYR:HE2	1.65	0.94
3:C:51:LEU:N	16:Q:214:LEU:CG	2.31	0.94
16:Q:464:ILE:CD1	17:O:46:ILE:HD12	1.59	0.94
17:O:54:GLN:NE2	18:P:49:SER:HA	1.83	0.94
3:C:39:ARG:NH1	16:Q:148:ILE:CB	2.31	0.93
17:O:56:LEU:CD1	18:P:52:THR:N	1.91	0.93
16:Q:473:LYS:N	17:O:47:SER:O	2.00	0.93
16:Q:130:TYR:CD2	17:O:28:LEU:HD12	2.04	0.93
3:C:54:CYS:SG	16:Q:215:SER:C	2.47	0.93
5:D:66:VAL:CG1	5:D:67:PRO:HD2	1.99	0.93
14:N:182:UNK:HA	14:N:198:UNK:CB	1.97	0.93
17:O:54:GLN:NE2	18:P:49:SER:CA	2.31	0.93
3:C:34:LEU:CD1	16:Q:446:PHE:CE1	2.51	0.93
3:C:50:ILE:CA	16:Q:214:LEU:CD1	2.45	0.93
5:D:212:GLN:HA	5:D:212:GLN:NE2	1.81	0.93
16:Q:139:TYR:HE1	17:O:24:ILE:HG12	1.19	0.93
16:Q:474:PHE:CE2	17:O:47:SER:HB3	2.04	0.93
16:Q:88:LEU:CB	18:P:11:GLN:HG2	1.98	0.93
16:Q:106:TRP:HD1	17:O:20:ARG:NH2	1.66	0.93
16:Q:474:PHE:HA	17:O:47:SER:OG	1.69	0.93
3:C:51:LEU:HD12	16:Q:215:SER:OG	1.66	0.92
12:L:828:ARG:H	12:L:829:PRO:CD	1.82	0.92
8:K:441:PRO:HA	12:L:912:LEU:HD21	1.51	0.92
17:O:19:LEU:HD21	18:P:67:GLU:HA	0.93	0.92
16:Q:182:THR:CG2	17:O:44:ASP:CB	2.35	0.92
16:Q:472:PHE:HD2	17:O:46:ILE:HG12	0.79	0.92
3:C:34:LEU:HD21	16:Q:446:PHE:CD1	2.03	0.92
3:C:52:GLN:HE21	16:Q:153:GLN:CG	1.82	0.92
16:Q:78:ARG:CZ	18:P:23:TYR:CD2	2.53	0.92
1:M:99:PHE:CE2	1:M:101:ALA:HB3	2.05	0.91
1:M:172:LEU:HB3	1:M:193:LEU:HD13	1.50	0.91
12:L:828:ARG:N	12:L:829:PRO:HD3	1.83	0.91
16:Q:464:ILE:HG13	17:O:46:ILE:HD12	0.92	0.91
3:C:39:ARG:CD	16:Q:147:PHE:CE1	2.52	0.91
12:L:2916:ARG:NH2	12:L:2916:ARG:HB2	1.84	0.91
17:O:9:THR:HG23	18:P:10:LYS:HZ2	1.34	0.91
1:M:87:LEU:HD13	14:N:490:UNK:HA	1.52	0.91
16:Q:480:THR:O	17:O:47:SER:O	1.88	0.90
3:C:49:PRO:O	16:Q:214:LEU:HD12	1.71	0.90
9:G:546:HIS:CD2	9:G:547:PRO:HD2	2.06	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:38:LEU:CD1	16:Q:210:ARG:NH1	2.34	0.90
3:C:40:TYR:HB3	16:Q:214:LEU:CD2	2.01	0.90
16:Q:464:ILE:CG1	17:O:46:ILE:CD1	2.20	0.89
3:C:34:LEU:HD21	16:Q:446:PHE:CE1	2.03	0.89
16:Q:182:THR:HG23	17:O:44:ASP:HB2	0.91	0.89
3:C:51:LEU:H	16:Q:214:LEU:HG	1.26	0.89
3:C:39:ARG:NH1	16:Q:148:ILE:HG22	1.81	0.89
16:Q:181:SER:N	17:O:44:ASP:OD1	1.92	0.89
3:C:34:LEU:HD13	16:Q:446:PHE:CE1	2.08	0.89
3:C:40:TYR:HB2	16:Q:214:LEU:HD21	1.54	0.89
19:R:153:HOH:O	16:Q:326:LYS:CG	2.21	0.88
8:K:468:LEU:CB	12:L:2829:LYS:HZ1	1.87	0.88
9:G:543:VAL:HG22	9:G:552:LEU:HD11	1.55	0.88
3:C:39:ARG:HD2	16:Q:147:PHE:HE1	1.36	0.88
1:M:88:HIS:HB3	14:N:515:UNK:O	1.74	0.88
17:O:54:GLN:HE22	18:P:48:GLN:C	1.76	0.88
1:M:194:ILE:CG2	1:M:195:TYR:N	2.36	0.88
16:Q:93:CYS:SG	17:O:20:ARG:CB	2.62	0.88
16:Q:93:CYS:HG	17:O:20:ARG:HD2	1.37	0.88
17:O:27:ILE:HD11	18:P:62:VAL:HB	1.54	0.88
16:Q:444:GLN:NE2	18:P:35:TYR:CE2	2.38	0.88
16:Q:464:ILE:CD1	17:O:46:ILE:HG21	2.01	0.88
1:M:188:GLU:OE1	5:D:85:ARG:NH2	2.07	0.87
3:C:38:LEU:HD13	16:Q:210:ARG:NH1	1.88	0.87
6:E:938:ILE:HD12	6:E:938:ILE:H	1.38	0.87
16:Q:472:PHE:CG	17:O:46:ILE:CG1	2.54	0.87
17:O:9:THR:CG2	18:P:10:LYS:NZ	2.38	0.87
17:O:11:TRP:NE1	18:P:86:ILE:HD12	1.90	0.87
16:Q:178:LEU:CG	17:O:37:ILE:HD13	2.04	0.86
3:C:50:ILE:C	16:Q:214:LEU:HD11	1.95	0.86
16:Q:501:GLN:HB2	18:P:31:ARG:NH2	1.90	0.86
17:O:19:LEU:CD2	18:P:67:GLU:CB	2.53	0.86
5:D:216:THR:CG2	5:D:246:GLY:HA3	2.06	0.86
8:K:462:ILE:HB	12:L:2737:TYR:HE1	1.38	0.86
16:Q:178:LEU:HD12	17:O:37:ILE:CD1	2.04	0.86
17:O:30:GLU:OE1	18:P:51:VAL:CG1	2.20	0.86
16:Q:78:ARG:HH21	18:P:23:TYR:HE2	0.86	0.86
5:D:78:LYS:HE3	5:D:78:LYS:CA	2.06	0.86
17:O:56:LEU:N	18:P:52:THR:CG2	2.33	0.86
12:L:2854:LEU:HD13	12:L:2906:TRP:CH2	2.11	0.85
16:Q:78:ARG:NH2	18:P:23:TYR:CD2	2.42	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:Q:125:ASP:OD1	17:O:24:ILE:HD13	1.75	0.85
16:Q:472:PHE:CB	17:O:46:ILE:C	2.43	0.85
16:Q:474:PHE:CD2	17:O:47:SER:HB2	2.11	0.85
16:Q:466:ASN:ND2	17:O:46:ILE:HG23	1.90	0.85
3:C:39:ARG:HH11	16:Q:148:ILE:CB	1.89	0.85
8:K:474:ILE:HD13	12:L:2592:ASP:HB3	1.59	0.85
8:K:469:LEU:HD13	12:L:2788:ILE:HG21	0.88	0.85
15:R:4:PHE:CZ	16:Q:377:ARG:CZ	2.44	0.85
16:Q:474:PHE:CE1	17:O:48:LEU:HG	2.11	0.85
17:O:19:LEU:CD2	18:P:67:GLU:CA	2.45	0.85
17:O:19:LEU:CD2	18:P:67:GLU:CG	2.31	0.85
8:K:442:PRO:HD2	12:L:912:LEU:HD22	1.58	0.85
16:Q:130:TYR:CD1	17:O:28:LEU:HD13	2.11	0.85
16:Q:139:TYR:CB	17:O:28:LEU:CD2	2.42	0.85
14:N:353:UNK:O	14:N:357:UNK:HA	1.76	0.85
17:O:19:LEU:HD21	18:P:67:GLU:CB	2.07	0.84
17:O:22:ILE:CD1	18:P:43:ILE:HD13	2.08	0.84
14:N:480:UNK:N	14:N:496:UNK:HA	1.93	0.84
16:Q:479:ILE:O	17:O:68:HIS:CD2	2.30	0.84
16:Q:78:ARG:CZ	18:P:23:TYR:HD2	1.91	0.83
3:C:38:LEU:CD1	16:Q:210:ARG:HE	1.52	0.83
16:Q:464:ILE:HD12	17:O:46:ILE:HD13	0.84	0.83
16:Q:472:PHE:CD2	17:O:46:ILE:HG13	1.92	0.83
3:C:38:LEU:HD22	16:Q:210:ARG:CG	2.08	0.83
12:L:1425:PHE:O	12:L:1428:LEU:N	2.10	0.83
17:O:9:THR:HG21	18:P:10:LYS:CE	1.97	0.83
16:Q:106:TRP:CD1	17:O:20:ARG:NH2	2.43	0.83
16:Q:464:ILE:O	17:O:46:ILE:HD11	1.77	0.83
16:Q:472:PHE:HB3	17:O:47:SER:CA	2.07	0.83
16:Q:481:LEU:HA	17:O:49:LYS:HA	1.58	0.83
3:C:38:LEU:HD11	16:Q:211:ASP:OD1	1.78	0.83
16:Q:479:ILE:HA	17:O:47:SER:OG	1.79	0.83
9:G:546:HIS:CD2	9:G:547:PRO:CD	2.62	0.82
16:Q:474:PHE:CG	17:O:47:SER:CB	2.56	0.82
10:H:27:ALA:HB1	10:H:32:ILE:HD11	1.62	0.82
3:C:49:PRO:O	16:Q:214:LEU:CD1	2.27	0.82
14:N:84:UNK:HA	14:N:506:UNK:O	1.80	0.82
16:Q:481:LEU:O	17:O:49:LYS:CE	2.23	0.82
16:Q:481:LEU:O	17:O:49:LYS:HE2	1.80	0.82
1:M:189:LEU:HA	5:D:85:ARG:HG2	1.61	0.81
14:N:353:UNK:HA	14:N:356:UNK:O	1.80	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:Q:252:THR:HG23	17:O:109:PHE:CE1	2.15	0.81
8:K:454:PRO:N	8:K:455:PRO:HD2	1.95	0.81
1:M:82:LEU:HD13	1:M:101:ALA:HA	1.61	0.81
9:G:537:LEU:HD12	9:G:537:LEU:H	1.46	0.81
15:R:4:PHE:HZ	16:Q:377:ARG:NH1	1.47	0.81
2:A:246:LEU:HD11	8:K:537:VAL:HG21	1.62	0.81
3:C:51:LEU:CD2	16:Q:214:LEU:HD23	2.10	0.81
16:Q:474:PHE:CE1	17:O:47:SER:HB3	2.16	0.81
12:L:1203:LEU:O	12:L:1203:LEU:HD23	1.81	0.80
16:Q:178:LEU:HD13	17:O:37:ILE:HD13	0.82	0.80
16:Q:479:ILE:O	17:O:68:HIS:CG	2.34	0.80
3:C:45:ASN:HD21	16:Q:171:ASP:HA	1.44	0.80
16:Q:472:PHE:CD2	17:O:46:ILE:N	2.49	0.80
16:Q:479:ILE:HG23	17:O:47:SER:HB2	1.62	0.80
3:C:45:ASN:HD21	16:Q:171:ASP:CA	1.91	0.80
14:N:221:UNK:CA	14:N:230:UNK:HA	2.11	0.80
1:M:81:ASP:HB2	14:N:433:UNK:O	1.80	0.80
17:O:55:ARG:CA	18:P:52:THR:HG21	2.12	0.80
17:O:24:ILE:HG13	18:P:59:PHE:CE1	2.17	0.80
3:C:55:LEU:HD23	16:Q:160:ILE:HG12	1.63	0.80
9:G:478:ARG:NH1	9:G:487:CYS:SG	2.55	0.80
3:C:38:LEU:HD13	16:Q:210:ARG:HE	0.98	0.80
16:Q:91:LEU:HD23	17:O:13:CYS:HB3	1.62	0.80
16:Q:282:ASP:CG	19:Q:603:HOH:O	2.19	0.79
16:Q:470:ASN:HA	17:O:51:ILE:N	1.97	0.79
3:C:51:LEU:CD1	16:Q:215:SER:OG	2.31	0.79
16:Q:130:TYR:HB3	17:O:28:LEU:HD11	1.64	0.79
1:M:173:GLU:CG	5:D:197:LYS:HA	2.13	0.79
14:N:221:UNK:HA	14:N:230:UNK:HA	1.63	0.79
17:O:9:THR:HG23	18:P:10:LYS:NZ	1.97	0.79
16:Q:474:PHE:CZ	17:O:47:SER:N	2.49	0.79
17:O:51:ILE:CG2	18:P:45:ARG:HG3	2.12	0.79
3:C:51:LEU:CG	16:Q:214:LEU:HB3	2.13	0.79
16:Q:182:THR:HG21	17:O:45:GLN:H	1.47	0.79
16:Q:315:SER:CB	19:Q:605:HOH:O	2.31	0.79
16:Q:464:ILE:HD11	17:O:46:ILE:CB	2.13	0.79
17:O:9:THR:HG21	18:P:10:LYS:CD	2.13	0.79
16:Q:88:LEU:HB3	18:P:11:GLN:HG2	1.65	0.79
3:C:51:LEU:HD12	16:Q:215:SER:N	1.97	0.78
3:C:39:ARG:CZ	16:Q:148:ILE:HA	2.12	0.78
5:D:303:PRO:HB2	5:D:304:ILE:HG12	1.66	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:176:ALA:HB2	1:M:193:LEU:HD11	1.65	0.78
1:M:191:PRO:CA	5:D:211:ARG:HD2	2.09	0.78
8:K:465:ARG:HH21	12:L:2843:GLY:N	1.82	0.78
1:M:191:PRO:HA	5:D:211:ARG:CD	2.12	0.78
16:Q:472:PHE:CE2	17:O:46:ILE:N	2.51	0.78
6:E:938:ILE:HD12	6:E:938:ILE:N	1.99	0.78
16:Q:474:PHE:CD1	17:O:48:LEU:HG	2.18	0.78
3:C:39:ARG:CZ	16:Q:147:PHE:O	2.30	0.78
10:H:127:LEU:O	10:H:127:LEU:HD12	1.84	0.77
17:O:9:THR:HG23	18:P:10:LYS:CE	2.13	0.77
1:M:108:GLU:HA	1:M:110:LYS:N	1.99	0.77
17:O:27:ILE:HD12	18:P:59:PHE:CD1	2.18	0.77
16:Q:470:ASN:HA	17:O:51:ILE:H	1.50	0.77
16:Q:482:VAL:CG1	17:O:49:LYS:CA	2.48	0.77
3:C:38:LEU:CG	16:Q:210:ARG:NE	2.47	0.77
16:Q:107:LYS:CG	17:O:20:ARG:NH2	2.47	0.77
16:Q:178:LEU:HD22	17:O:37:ILE:HG21	1.64	0.77
16:Q:139:TYR:HB3	17:O:28:LEU:HD21	0.84	0.77
16:Q:474:PHE:CE1	17:O:48:LEU:N	2.52	0.77
17:O:27:ILE:HD13	18:P:59:PHE:HA	0.79	0.77
3:C:39:ARG:NH1	16:Q:147:PHE:O	2.16	0.77
3:C:45:ASN:ND2	16:Q:171:ASP:CA	2.48	0.77
12:L:2593:TYR:H	12:L:2596:ARG:HG2	1.48	0.77
16:Q:479:ILE:O	17:O:68:HIS:NE2	2.16	0.77
3:C:44:ASN:OD1	16:Q:174:ARG:HG3	1.85	0.76
12:L:1122:ASN:HD22	12:L:1122:ASN:N	1.82	0.76
16:Q:130:TYR:CG	17:O:28:LEU:HD13	2.20	0.76
16:Q:474:PHE:CE2	17:O:47:SER:HB2	2.18	0.76
17:O:11:TRP:CD1	18:P:83:LEU:CG	2.68	0.76
16:Q:479:ILE:CG2	17:O:47:SER:CB	2.49	0.76
12:L:1354:LEU:HA	12:L:1357:LEU:HD22	1.68	0.76
17:O:11:TRP:CZ2	18:P:86:ILE:HG13	2.20	0.76
16:Q:282:ASP:OD1	19:Q:603:HOH:O	2.02	0.76
1:M:101:ALA:HB1	1:M:115:ILE:O	1.85	0.76
12:L:2854:LEU:HD13	12:L:2906:TRP:HH2	1.49	0.76
2:A:239:GLU:N	2:A:239:GLU:OE1	2.18	0.76
3:C:37:PRO:O	16:Q:467:ARG:NH2	2.18	0.76
3:C:50:ILE:C	16:Q:214:LEU:CD1	2.54	0.76
5:D:323:LYS:HE2	7:J:107:PHE:HD1	1.51	0.76
12:L:2916:ARG:HB2	12:L:2916:ARG:CZ	2.16	0.76
16:Q:130:TYR:CB	17:O:28:LEU:HD11	2.15	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:44:ASN:HD21	16:Q:174:ARG:HG3	1.51	0.76
12:L:2907:ARG:HH11	12:L:2907:ARG:HG2	1.51	0.76
16:Q:130:TYR:CD2	17:O:28:LEU:CD1	2.67	0.76
12:L:2884:GLN:HA	12:L:2884:GLN:NE2	2.00	0.75
16:Q:107:LYS:NZ	17:O:13:CYS:HA	2.00	0.75
17:O:11:TRP:CD2	18:P:86:ILE:HD11	2.20	0.75
3:C:52:GLN:NE2	16:Q:153:GLN:CG	2.40	0.75
12:L:844:VAL:HB	12:L:849:LEU:HD22	1.68	0.75
3:C:45:ASN:ND2	16:Q:171:ASP:HA	2.01	0.75
3:C:49:PRO:C	16:Q:214:LEU:HD12	2.07	0.75
3:C:51:LEU:CA	16:Q:214:LEU:HG	2.16	0.75
12:L:2601:ARG:HB3	12:L:2602:PRO:HD2	1.68	0.75
16:Q:466:ASN:HD22	17:O:46:ILE:HG23	1.50	0.75
16:Q:478:ARG:HG3	17:O:68:HIS:HD2	1.51	0.75
17:O:34:ARG:HH22	18:P:51:VAL:HG11	1.52	0.75
16:Q:474:PHE:CZ	17:O:47:SER:HB3	2.20	0.75
8:K:462:ILE:HB	12:L:2737:TYR:CE1	2.20	0.75
16:Q:107:LYS:HZ3	17:O:13:CYS:HA	1.50	0.74
2:A:327:ARG:NH1	2:A:328:HIS:O	2.20	0.74
10:H:129:LYS:HZ2	10:H:129:LYS:HA	1.52	0.74
17:O:9:THR:HG21	18:P:10:LYS:HD2	1.69	0.74
5:D:322:GLU:OE2	5:D:322:GLU:HA	1.87	0.74
14:N:223:UNK:H	14:N:230:UNK:CB	2.00	0.74
16:Q:78:ARG:HH12	18:P:27:SER:CB	1.99	0.74
16:Q:474:PHE:HZ	17:O:46:ILE:HB	1.50	0.74
17:O:55:ARG:O	18:P:52:THR:HG23	1.84	0.74
12:L:428:LYS:HE2	12:L:430:GLU:HG3	1.68	0.74
16:Q:259:TRP:NE1	17:O:114:ASP:HA	2.02	0.74
3:C:38:LEU:CD1	16:Q:211:ASP:OD1	2.36	0.74
5:D:72:PHE:O	5:D:75:ARG:HB2	1.87	0.74
17:O:11:TRP:CE2	18:P:83:LEU:HA	2.20	0.74
3:C:55:LEU:HD11	16:Q:173:SER:OG	1.88	0.74
16:Q:478:ARG:HA	17:O:68:HIS:CD2	2.22	0.74
3:C:51:LEU:HD23	16:Q:214:LEU:CD2	2.15	0.74
8:K:441:PRO:HA	12:L:912:LEU:CD2	2.17	0.74
17:O:56:LEU:HD11	18:P:51:VAL:C	2.07	0.74
16:Q:130:TYR:HE2	17:O:25:ASN:OD1	1.70	0.73
3:C:49:PRO:CG	16:Q:237:PHE:HE1	1.85	0.73
9:G:414:ILE:HB	9:G:449:LEU:HB2	1.68	0.73
16:Q:78:ARG:NE	18:P:23:TYR:HD2	1.86	0.73
17:O:11:TRP:CG	18:P:86:ILE:HD12	2.23	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:O:19:LEU:HD23	18:P:67:GLU:HG3	0.78	0.73
16:Q:501:GLN:CB	18:P:31:ARG:HH22	2.00	0.73
16:Q:107:LYS:HG3	17:O:20:ARG:NH2	2.03	0.73
3:C:49:PRO:HG2	16:Q:237:PHE:HE1	0.98	0.73
12:L:1417:ARG:HA	12:L:1420:ILE:HD12	1.70	0.73
3:C:38:LEU:HB2	16:Q:210:ARG:NH2	2.03	0.73
8:K:453:LYS:C	8:K:455:PRO:HD2	2.08	0.73
14:N:207:UNK:C	14:N:208:UNK:CB	2.67	0.73
14:N:451:UNK:C	14:N:452:UNK:HA	2.19	0.73
9:G:537:LEU:HD12	9:G:537:LEU:N	2.04	0.73
9:G:568:ARG:HG2	9:G:570:GLU:HG2	1.69	0.73
9:G:546:HIS:HB2	9:G:553:PHE:HE1	1.54	0.72
14:N:221:UNK:C	14:N:230:UNK:HA	2.19	0.72
5:D:78:LYS:HA	5:D:78:LYS:CE	2.17	0.72
9:G:67:ARG:O	9:G:70:SER:OG	2.07	0.72
3:C:44:ASN:ND2	16:Q:174:ARG:HG3	2.05	0.72
3:C:54:CYS:SG	16:Q:215:SER:CB	2.77	0.72
4:F:115:VAL:HG22	4:F:190:LEU:HD21	1.71	0.72
12:L:849:LEU:HD12	12:L:849:LEU:N	2.03	0.72
17:O:54:GLN:NE2	18:P:48:GLN:C	2.40	0.72
17:O:54:GLN:HE21	18:P:49:SER:HA	1.53	0.72
16:Q:481:LEU:CD1	17:O:50:GLU:H	2.01	0.72
3:C:50:ILE:CA	16:Q:214:LEU:HD12	2.18	0.72
3:C:51:LEU:HD11	16:Q:211:ASP:C	2.09	0.72
8:K:453:LYS:HG2	8:K:455:PRO:HD2	1.71	0.72
17:O:19:LEU:HD13	18:P:70:ALA:CB	2.20	0.72
3:C:38:LEU:HD12	16:Q:210:ARG:NH1	2.03	0.72
5:D:73:LEU:HD23	5:D:73:LEU:O	1.89	0.72
5:D:317:GLN:C	5:D:319:ARG:H	1.93	0.72
15:R:12:THR:N	16:Q:360:GLU:OE1	2.22	0.72
1:M:188:GLU:CG	5:D:247:PHE:HA	2.20	0.72
16:Q:472:PHE:HB3	17:O:47:SER:N	2.05	0.72
5:D:216:THR:HB	5:D:243:ASP:HA	1.70	0.71
7:J:66:MET:O	7:J:98:ARG:NH1	2.24	0.71
16:Q:107:LYS:CG	17:O:20:ARG:HH22	2.03	0.71
17:O:7:GLN:HG3	18:P:86:ILE:HB	1.72	0.71
16:Q:91:LEU:HD21	17:O:13:CYS:HG	1.50	0.71
16:Q:130:TYR:CG	17:O:28:LEU:HD11	2.24	0.71
16:Q:482:VAL:O	17:O:50:GLU:O	2.09	0.71
14:N:451:UNK:O	14:N:452:UNK:N	2.21	0.71
1:M:87:LEU:CD1	14:N:490:UNK:CA	2.66	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:90:ARG:HH11	14:N:513:UNK:CB	2.04	0.70
3:C:49:PRO:C	16:Q:214:LEU:HD13	2.11	0.70
8:K:468:LEU:O	12:L:2829:LYS:NZ	2.18	0.70
9:G:457:TYR:HE2	9:G:473:GLU:HB3	1.57	0.70
17:O:7:GLN:HG2	18:P:83:LEU:CD2	2.21	0.70
3:C:39:ARG:CD	16:Q:147:PHE:HE1	1.96	0.70
16:Q:472:PHE:HE2	17:O:50:GLU:OE2	1.74	0.70
16:Q:76:ARG:HH22	18:P:19:GLU:N	1.89	0.70
1:M:188:GLU:HG2	5:D:247:PHE:HA	1.72	0.70
8:K:474:ILE:CD1	12:L:2592:ASP:HB3	2.21	0.70
14:N:207:UNK:C	14:N:208:UNK:CA	2.68	0.70
16:Q:482:VAL:HG12	17:O:49:LYS:H	0.87	0.70
3:C:55:LEU:CD2	16:Q:160:ILE:HG23	2.22	0.70
16:Q:464:ILE:HD11	17:O:46:ILE:CG1	2.20	0.70
12:L:846:LEU:HG	12:L:850:VAL:HG11	1.74	0.70
5:D:21:MET:CE	5:D:250:PHE:HA	2.21	0.70
16:Q:88:LEU:HB2	18:P:11:GLN:HG2	1.73	0.70
17:O:19:LEU:HD23	18:P:67:GLU:CB	2.19	0.70
16:Q:479:ILE:C	17:O:68:HIS:CE1	2.52	0.69
16:Q:125:ASP:OD1	17:O:24:ILE:CD1	2.40	0.69
16:Q:326:LYS:O	19:Q:604:HOH:O	2.08	0.69
3:C:39:ARG:HH22	16:Q:150:GLN:HE21	1.40	0.69
3:C:49:PRO:HG2	16:Q:237:PHE:CD1	2.21	0.69
8:K:466:PRO:CA	12:L:2791:PRO:HG2	2.19	0.69
8:K:550:HIS:NE2	11:I:80:ASP:OD1	2.25	0.69
16:Q:178:LEU:CB	17:O:37:ILE:HD13	2.22	0.69
8:K:580:GLU:O	11:I:65:SER:N	2.25	0.69
16:Q:472:PHE:HB3	17:O:46:ILE:C	2.10	0.69
3:C:47:ASP:HB3	16:Q:243:THR:HB	1.73	0.69
6:E:948:GLN:HA	6:E:948:GLN:OE1	1.93	0.69
16:Q:472:PHE:CE2	17:O:50:GLU:OE2	2.45	0.69
4:F:202:LEU:O	4:F:205:THR:OG1	2.08	0.69
17:O:11:TRP:CD2	18:P:82:ILE:HG23	2.28	0.69
17:O:11:TRP:CE3	18:P:86:ILE:HD11	2.27	0.69
17:O:11:TRP:CD1	18:P:86:ILE:HD12	2.27	0.69
3:C:39:ARG:CZ	16:Q:148:ILE:HG22	2.23	0.68
16:Q:473:LYS:O	17:O:47:SER:OG	2.11	0.68
5:D:20:MET:SD	5:D:213:ALA:HB3	2.34	0.68
3:C:39:ARG:NE	16:Q:147:PHE:CD1	2.62	0.68
8:K:456:GLN:HA	12:L:2669:MET:HG3	1.74	0.68
9:G:581:ALA:HB3	9:G:599:GLU:HG2	1.75	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:D:20:MET:SD	5:D:210:CYS:HA	2.34	0.68
9:G:118:CYS:SG	9:G:119:GLU:N	2.67	0.68
16:Q:78:ARG:CZ	18:P:23:TYR:CE2	2.71	0.68
17:O:55:ARG:HB3	18:P:52:THR:HG22	1.74	0.68
16:Q:188:ILE:HD13	17:O:93:GLU:OE1	1.93	0.68
3:C:38:LEU:HD11	16:Q:210:ARG:HE	1.51	0.68
9:G:620:HIS:CE1	9:G:641:GLY:HA3	2.29	0.68
17:O:19:LEU:HD11	18:P:66:ILE:HG22	1.76	0.68
16:Q:464:ILE:O	17:O:48:LEU:HB2	1.93	0.67
16:Q:479:ILE:O	17:O:68:HIS:ND1	2.27	0.67
3:C:38:LEU:CD2	16:Q:210:ARG:CG	2.71	0.67
5:D:320:ASN:C	5:D:322:GLU:H	1.95	0.67
12:L:846:LEU:HA	12:L:850:VAL:HB	1.77	0.67
3:C:51:LEU:HG	16:Q:214:LEU:CG	2.24	0.67
6:E:817:GLY:N	7:J:69:GLU:OE2	2.26	0.67
12:L:849:LEU:H	12:L:849:LEU:CD1	2.06	0.67
14:N:175:UNK:HA	14:N:213:UNK:C	2.24	0.67
16:Q:416:PHE:CE1	18:P:35:TYR:CG	2.67	0.67
16:Q:479:ILE:CG2	17:O:47:SER:N	2.57	0.67
3:C:51:LEU:HD12	16:Q:215:SER:CB	2.25	0.67
9:G:594:LEU:HG	9:G:606:TRP:HB2	1.75	0.67
5:D:21:MET:HE2	5:D:253:VAL:HG21	1.77	0.67
5:D:66:VAL:HG12	5:D:67:PRO:CD	2.22	0.67
8:K:447:PRO:HG3	12:L:2788:ILE:HG23	1.77	0.67
11:I:48:GLN:O	11:I:51:THR:OG1	2.11	0.67
16:Q:91:LEU:HD23	17:O:13:CYS:CB	2.25	0.66
16:Q:338:GLU:OE2	19:Q:601:HOH:O	0.66	0.66
3:C:34:LEU:HD21	16:Q:446:PHE:HD1	1.60	0.66
8:K:453:LYS:HG2	8:K:455:PRO:CD	2.26	0.66
9:G:157:TYR:O	9:G:161:SER:N	2.28	0.66
5:D:241:VAL:HA	5:D:244:ILE:HD12	1.78	0.66
17:O:11:TRP:CE2	18:P:82:ILE:HG23	2.31	0.66
3:C:50:ILE:HA	16:Q:214:LEU:HD12	1.77	0.66
6:E:938:ILE:H	6:E:938:ILE:CD1	2.08	0.66
9:G:520:ARG:HG3	9:G:532:ILE:HG12	1.78	0.66
14:N:426:UNK:CB	14:N:481:UNK:HA	2.26	0.66
10:H:129:LYS:HA	10:H:129:LYS:NZ	2.11	0.66
10:H:404:VAL:HG12	10:H:407:TRP:CZ2	2.31	0.66
6:E:946:LYS:HE2	6:E:946:LYS:HA	1.78	0.66
14:N:83:UNK:N	14:N:506:UNK:HA	2.10	0.66
9:G:43:ALA:N	9:G:45:ASP:OD1	2.28	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:Q:479:ILE:CD1	17:O:47:SER:HB2	2.16	0.65
12:L:2802:LEU:HD12	12:L:2815:VAL:HG11	1.77	0.65
12:L:2849:GLN:NE2	12:L:2889:ARG:O	2.29	0.65
16:Q:78:ARG:HD3	18:P:23:TYR:CD2	2.32	0.65
16:Q:182:THR:HG21	17:O:45:GLN:N	2.12	0.65
17:O:51:ILE:HD12	18:P:48:GLN:OE1	1.96	0.65
16:Q:107:LYS:HG2	17:O:20:ARG:NH2	2.11	0.65
14:N:84:UNK:HA	14:N:506:UNK:C	2.26	0.65
8:K:454:PRO:N	8:K:455:PRO:CD	2.59	0.65
16:Q:91:LEU:CD2	17:O:13:CYS:CB	2.75	0.65
4:F:278:ALA:HB3	8:K:521:ILE:HG12	1.79	0.65
16:Q:76:ARG:HH22	18:P:18:VAL:C	1.99	0.65
16:Q:472:PHE:CB	17:O:47:SER:C	2.36	0.65
11:I:128:GLU:N	11:I:128:GLU:OE1	2.28	0.64
16:Q:482:VAL:O	17:O:49:LYS:C	2.35	0.64
1:M:82:LEU:HB3	1:M:94:TYR:HE2	1.60	0.64
5:D:71:ILE:O	5:D:74:ILE:HG12	1.97	0.64
6:E:952:ASN:ND2	11:I:138:VAL:O	2.30	0.64
8:K:469:LEU:HD12	12:L:2788:ILE:HG21	1.72	0.64
16:Q:472:PHE:HZ	17:O:45:GLN:CB	1.89	0.64
17:O:34:ARG:HE	18:P:57:PRO:HG3	1.62	0.64
5:D:326:ILE:O	5:D:328:ASN:N	2.30	0.64
8:K:582:ARG:NH2	11:I:70:ALA:O	2.30	0.64
15:R:42:ARG:NH1	15:R:49:GLN:OE1	2.28	0.64
3:C:55:LEU:HD21	16:Q:160:ILE:HG23	1.80	0.64
9:G:154:ARG:NH2	9:G:179:SER:OG	2.31	0.64
12:L:1425:PHE:O	12:L:1427:SER:N	2.31	0.64
12:L:3303:SER:HB3	12:L:3427:PHE:HD2	1.61	0.64
3:C:34:LEU:HD13	16:Q:446:PHE:CZ	2.33	0.64
14:N:467:UNK:C	14:N:470:UNK:CB	2.76	0.64
16:Q:474:PHE:HE1	17:O:48:LEU:HG	1.61	0.64
16:Q:481:LEU:HD11	17:O:50:GLU:HB2	1.78	0.64
17:O:7:GLN:HG2	18:P:83:LEU:HD22	1.79	0.64
17:O:56:LEU:HD13	18:P:51:VAL:HB	1.80	0.64
3:C:51:LEU:HD12	16:Q:215:SER:CA	2.27	0.64
17:O:55:ARG:CB	18:P:52:THR:HG22	2.27	0.64
5:D:259:GLU:HG3	5:D:316:LEU:HD21	1.80	0.64
7:J:67:GLU:OE1	7:J:95:LYS:NZ	2.30	0.64
12:L:328:ARG:HD3	12:L:370:THR:HG22	1.79	0.64
1:M:169:PRO:HA	1:M:208:VAL:O	1.99	0.63
14:N:184:UNK:CB	14:N:237:UNK:HA	2.27	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:Q:315:SER:HB2	19:Q:605:HOH:O	1.97	0.63
17:O:11:TRP:CZ2	18:P:86:ILE:CD1	2.81	0.63
5:D:248:LEU:O	5:D:251:GLU:HG2	1.98	0.63
9:G:494:HIS:NE2	9:G:520:ARG:HD3	2.14	0.63
10:H:375:ASN:ND2	10:H:377:THR:O	2.31	0.63
16:Q:478:ARG:CD	17:O:76:ASN:HD21	2.11	0.63
5:D:73:LEU:HD23	5:D:73:LEU:C	2.19	0.63
14:N:221:UNK:HA	14:N:229:UNK:O	1.97	0.63
17:O:55:ARG:CB	18:P:52:THR:CG2	2.77	0.63
8:K:468:LEU:C	12:L:2829:LYS:HZ3	2.01	0.63
12:L:2878:GLU:HA	12:L:2881:ARG:HD3	1.79	0.63
14:N:83:UNK:HA	14:N:505:UNK:O	1.99	0.63
16:Q:106:TRP:CD1	17:O:20:ARG:NE	2.67	0.63
3:C:38:LEU:CG	16:Q:210:ARG:CD	2.77	0.63
12:L:365:PRO:HB3	12:L:407:VAL:HG11	1.81	0.63
12:L:2854:LEU:HD13	12:L:2906:TRP:CZ2	2.33	0.62
17:O:15:MET:CE	18:P:74:VAL:HG21	2.28	0.62
9:G:647:ARG:NH2	10:H:167:ARG:O	2.32	0.62
1:M:177:PHE:HB2	5:D:194:GLU:HA	1.80	0.62
17:O:34:ARG:HH22	18:P:51:VAL:CG1	2.11	0.62
12:L:846:LEU:HA	12:L:850:VAL:CG2	2.29	0.62
16:Q:478:ARG:CA	17:O:68:HIS:CD2	2.81	0.62
16:Q:139:TYR:HB2	17:O:28:LEU:CD2	2.27	0.62
5:D:17:ILE:N	5:D:17:ILE:HD12	2.14	0.62
12:L:2880:LYS:H	12:L:2880:LYS:HD2	1.64	0.62
16:Q:464:ILE:O	17:O:46:ILE:CD1	2.46	0.62
9:G:462:SER:OG	9:G:464:ASP:OD1	2.04	0.62
8:K:439:PRO:HB3	12:L:916:HIS:CE1	2.34	0.62
10:H:217:LEU:HD12	10:H:218:SER:H	1.65	0.62
12:L:1122:ASN:N	12:L:1122:ASN:ND2	2.44	0.62
9:G:546:HIS:CD2	9:G:547:PRO:HD3	2.35	0.61
12:L:3501:PHE:HB2	12:L:3523:LEU:HD21	1.81	0.61
17:O:9:THR:CG2	18:P:10:LYS:CD	2.65	0.61
1:M:189:LEU:HB3	5:D:84:LEU:HD22	1.81	0.61
5:D:49:ILE:HG23	5:D:73:LEU:HD13	1.82	0.61
3:C:39:ARG:NH2	16:Q:150:GLN:HE21	1.97	0.61
3:C:51:LEU:HD11	16:Q:211:ASP:HA	1.82	0.61
16:Q:472:PHE:HZ	17:O:45:GLN:CG	2.13	0.61
3:C:38:LEU:CG	16:Q:210:ARG:HD2	2.26	0.61
10:H:317:LEU:O	10:H:380:THR:HG22	2.00	0.61
17:O:26:ASN:HD22	18:P:47:THR:CB	2.13	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:115:ILE:HD13	1:M:121:MET:SD	2.40	0.61
10:H:265:PHE:CE2	10:H:289:LEU:HD11	2.36	0.61
12:L:1611:ASP:HA	12:L:1617:ARG:HH12	1.65	0.61
9:G:87:ASN:ND2	9:G:219:ALA:O	2.33	0.61
9:G:450:VAL:HG22	9:G:451:GLY:H	1.65	0.61
12:L:2812:LEU:O	12:L:2815:VAL:HG22	1.99	0.61
16:Q:474:PHE:HE1	17:O:48:LEU:H	1.46	0.61
1:M:204:LEU:HD23	1:M:212:ILE:HD12	1.83	0.61
5:D:78:LYS:O	5:D:78:LYS:HD3	2.01	0.61
15:R:12:THR:HG21	16:Q:379:LYS:HE3	1.83	0.61
5:D:320:ASN:C	5:D:322:GLU:N	2.53	0.61
17:O:56:LEU:HD11	18:P:52:THR:H	0.45	0.60
2:A:289:ILE:O	6:E:958:LEU:HD21	2.01	0.60
5:D:21:MET:HE1	5:D:250:PHE:HA	1.82	0.60
5:D:320:ASN:CB	5:D:324:LYS:HB2	2.32	0.60
6:E:946:LYS:HA	6:E:946:LYS:CE	2.32	0.60
5:D:216:THR:HG23	5:D:246:GLY:HA3	1.83	0.60
12:L:428:LYS:HG3	12:L:430:GLU:HG2	1.84	0.60
3:C:39:ARG:CZ	16:Q:147:PHE:CD1	2.85	0.60
6:E:890:LEU:HD22	6:E:915:THR:HG23	1.83	0.60
3:C:44:ASN:OD1	16:Q:174:ARG:CG	2.49	0.60
12:L:2907:ARG:HG2	12:L:2907:ARG:NH1	2.10	0.60
16:Q:478:ARG:CG	17:O:68:HIS:HD2	2.14	0.60
5:D:76:HIS:C	5:D:78:LYS:N	2.53	0.60
9:G:620:HIS:HA	9:G:647:ARG:HE	1.67	0.60
12:L:704:LEU:HD13	12:L:749:SER:HB2	1.82	0.60
14:N:221:UNK:HA	14:N:230:UNK:CA	2.32	0.60
17:O:27:ILE:CD1	18:P:59:PHE:CA	2.49	0.60
5:D:76:HIS:C	5:D:78:LYS:H	2.04	0.60
9:G:518:THR:HG21	11:I:102:LEU:HD22	1.82	0.60
10:H:277:LEU:O	10:H:320:LYS:NZ	2.34	0.60
12:L:853:LEU:O	12:L:855:TYR:N	2.35	0.60
12:L:1837:ASP:OD1	12:L:1840:ARG:NH1	2.35	0.60
12:L:3652:ILE:HG22	12:L:3659:ILE:HG12	1.82	0.60
16:Q:184:LEU:CD1	17:O:44:ASP:O	2.39	0.60
16:Q:479:ILE:HA	17:O:47:SER:HG	1.65	0.60
1:M:188:GLU:HA	1:M:188:GLU:OE2	2.02	0.60
1:M:185:TYR:OH	5:D:211:ARG:HD3	2.02	0.59
5:D:21:MET:HE3	5:D:250:PHE:HA	1.84	0.59
10:H:269:ILE:O	10:H:272:THR:OG1	2.16	0.59
12:L:3736:SER:OG	12:L:3737:GLU:N	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:Q:78:ARG:CD	18:P:23:TYR:CD2	2.85	0.59
16:Q:379:LYS:HE3	19:Q:607:HOH:O	2.02	0.59
1:M:202:ILE:HD11	1:M:217:ALA:HB2	1.84	0.59
3:C:38:LEU:CD1	16:Q:210:ARG:CD	2.75	0.59
3:C:38:LEU:HD12	16:Q:210:ARG:CZ	2.19	0.59
3:C:39:ARG:NE	16:Q:148:ILE:HG22	2.17	0.59
5:D:317:GLN:C	5:D:319:ARG:N	2.55	0.59
8:K:437:LEU:H	8:K:437:LEU:HD23	1.67	0.59
16:Q:91:LEU:HD23	17:O:13:CYS:SG	2.39	0.59
17:O:22:ILE:HD12	18:P:43:ILE:HD13	1.75	0.59
4:F:119:GLU:OE1	4:F:119:GLU:N	2.36	0.59
8:K:469:LEU:CD1	12:L:2788:ILE:HG22	2.14	0.59
12:L:848:VAL:C	12:L:851:PRO:HD2	2.23	0.59
16:Q:474:PHE:CZ	17:O:47:SER:CB	2.83	0.59
12:L:1352:GLU:HA	12:L:1355:ASN:HB2	1.83	0.59
2:A:226:ILE:HA	2:A:229:PHE:CE2	2.37	0.59
16:Q:468:ASP:O	17:O:51:ILE:HD11	2.03	0.59
12:L:3440:LYS:HG3	12:L:3446:PHE:CE1	2.38	0.59
12:L:3704:ARG:NH2	12:L:3825:LEU:O	2.36	0.59
12:L:3767:ASN:OD1	12:L:3770:ARG:NH2	2.35	0.59
3:C:59:ILE:CG2	16:Q:170:ILE:HD11	2.32	0.59
16:Q:139:TYR:CZ	17:O:24:ILE:CG2	2.86	0.59
1:M:90:ARG:NH1	14:N:513:UNK:CB	2.66	0.59
3:C:55:LEU:CD2	16:Q:160:ILE:HG12	2.30	0.59
17:O:56:LEU:N	18:P:52:THR:CB	2.64	0.59
3:C:44:ASN:CG	16:Q:174:ARG:HG3	2.23	0.59
6:E:952:ASN:OD1	11:I:137:TRP:NE1	2.35	0.59
12:L:3169:LEU:HG	12:L:3173:LEU:HD23	1.85	0.59
12:L:2805:PHE:CZ	12:L:2812:LEU:HG	2.38	0.58
16:Q:478:ARG:HD2	17:O:76:ASN:HD21	1.67	0.58
17:O:22:ILE:HG21	18:P:43:ILE:HG13	1.85	0.58
17:O:22:ILE:HG21	18:P:43:ILE:CD1	2.33	0.58
6:E:921:TYR:HD1	7:J:104:THR:HG22	1.68	0.58
8:K:446:ILE:HG13	12:L:2595:ILE:HG12	1.84	0.58
10:H:100:GLU:OE2	10:H:111:TYR:N	2.35	0.58
12:L:2913:VAL:HG12	12:L:2914:ILE:HD13	1.84	0.58
16:Q:93:CYS:N	17:O:17:ASN:OD1	2.26	0.58
5:D:84:LEU:HD23	5:D:84:LEU:O	2.02	0.58
12:L:2593:TYR:HB2	12:L:2596:ARG:HA	1.86	0.58
1:M:190:PHE:HB3	5:D:88:LEU:HG	1.84	0.58
3:C:52:GLN:CD	16:Q:153:GLN:HG3	2.21	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:H:38:GLU:N	10:H:38:GLU:OE1	2.36	0.58
10:H:162:ILE:HG22	10:H:164:PRO:HD2	1.86	0.58
4:F:223:GLU:HG2	9:G:576:MET:HB2	1.85	0.58
10:H:296:ASN:OD1	10:H:297:GLU:N	2.36	0.58
1:M:168:PHE:CD1	1:M:238:ARG:HG3	2.39	0.58
4:F:83:LEU:O	4:F:142:LEU:HD13	2.03	0.58
6:E:946:LYS:HD2	6:E:946:LYS:N	2.17	0.58
14:N:493:UNK:HA	14:N:510:UNK:O	2.03	0.58
12:L:2601:ARG:N	12:L:2601:ARG:HE	2.02	0.58
15:R:14:THR:OG1	16:Q:364:SER:HB3	2.04	0.58
16:Q:138:ASP:OD2	18:P:58:THR:HA	2.03	0.58
3:C:51:LEU:HD11	16:Q:211:ASP:CA	2.32	0.58
3:C:51:LEU:HG	16:Q:214:LEU:C	2.24	0.58
12:L:2428:LEU:HD11	12:L:2433:ILE:HD11	1.85	0.58
2:A:229:PHE:HZ	3:C:270:GLU:HG2	1.69	0.58
12:L:850:VAL:O	12:L:853:LEU:HB3	2.03	0.58
16:Q:472:PHE:CE2	17:O:50:GLU:HG3	2.37	0.58
1:M:82:LEU:CB	1:M:94:TYR:HE2	2.18	0.57
3:C:51:LEU:HG	16:Q:214:LEU:HG	1.84	0.57
5:D:87:TYR:CD1	5:D:87:TYR:C	2.77	0.57
15:R:4:PHE:HZ	16:Q:377:ARG:NH2	1.99	0.57
12:L:905:LEU:HD22	12:L:922:THR:HG23	1.85	0.57
12:L:1355:ASN:O	12:L:1358:VAL:HG13	2.04	0.57
12:L:2836:ARG:NH2	12:L:3618:ASN:OD1	2.37	0.57
10:H:125:GLU:N	10:H:126:PRO:HD3	2.18	0.57
6:E:921:TYR:CD1	7:J:104:THR:HG22	2.39	0.57
10:H:250:GLN:OE1	10:H:253:ARG:NE	2.33	0.57
11:I:41:ARG:O	11:I:44:THR:OG1	2.19	0.57
12:L:851:PRO:O	12:L:852:HIS:HB3	2.03	0.57
16:Q:472:PHE:CG	17:O:46:ILE:CA	2.82	0.57
10:H:129:LYS:HZ3	10:H:129:LYS:HB2	1.70	0.57
17:O:11:TRP:NE1	18:P:83:LEU:N	2.51	0.57
4:F:89:GLU:OE2	4:F:148:ARG:NH1	2.37	0.57
9:G:500:ASP:HB2	9:G:502:LYS:HE2	1.85	0.57
12:L:378:VAL:HG12	12:L:380:ASP:H	1.70	0.57
3:C:47:ASP:CB	16:Q:243:THR:HB	2.35	0.57
12:L:2860:VAL:HG13	12:L:2879:LEU:HD11	1.86	0.57
12:L:3458:LEU:H	12:L:3458:LEU:HD23	1.69	0.57
16:Q:473:LYS:O	17:O:47:SER:O	2.22	0.57
1:M:108:GLU:HA	1:M:110:LYS:H	1.70	0.57
9:G:620:HIS:NE2	9:G:641:GLY:HA3	2.20	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:3727:LEU:HD22	12:L:3798:THR:HG22	1.85	0.57
1:M:87:LEU:O	1:M:90:ARG:HG2	2.04	0.57
10:H:102:LEU:HD23	10:H:103:VAL:N	2.20	0.57
12:L:1355:ASN:HA	12:L:1358:VAL:CG1	2.35	0.57
16:Q:107:LYS:HG2	17:O:20:ARG:CZ	2.34	0.57
17:O:15:MET:HE1	18:P:74:VAL:HG21	1.87	0.57
17:O:19:LEU:HD13	18:P:70:ALA:HB1	1.86	0.57
1:M:191:PRO:HB3	5:D:212:GLN:CG	2.34	0.56
3:C:51:LEU:CD1	16:Q:215:SER:N	2.68	0.56
9:G:572:VAL:HG12	9:G:573:ARG:HG2	1.87	0.56
12:L:2880:LYS:N	12:L:2880:LYS:CD	2.67	0.56
16:Q:178:LEU:CD2	17:O:37:ILE:HG21	2.33	0.56
17:O:11:TRP:CZ2	18:P:86:ILE:CG1	2.86	0.56
3:C:288:LEU:HD21	3:C:292:THR:HG21	1.87	0.56
9:G:546:HIS:HB2	9:G:553:PHE:CE1	2.35	0.56
12:L:853:LEU:O	12:L:856:LEU:N	2.37	0.56
12:L:2880:LYS:HD2	12:L:2880:LYS:N	2.20	0.56
12:L:2880:LYS:CA	12:L:2880:LYS:HE3	2.35	0.56
4:F:111:PHE:CE1	4:F:115:VAL:HG21	2.41	0.56
6:E:885:VAL:HA	10:H:128:PRO:CG	2.35	0.56
12:L:3433:PRO:HB2	12:L:3527:VAL:HG11	1.86	0.56
1:M:74:VAL:HG23	1:M:155:PHE:HA	1.87	0.56
8:K:456:GLN:HG3	12:L:2677:PHE:CE2	2.41	0.56
6:E:932:HIS:O	6:E:935:SER:HB2	2.04	0.56
8:K:460:MET:SD	8:K:460:MET:N	2.76	0.56
12:L:302:PRO:HD3	12:L:336:ARG:HH22	1.71	0.56
12:L:3174:ARG:NH1	12:L:3290:MET:SD	2.79	0.56
15:R:12:THR:OG1	16:Q:360:GLU:OE2	2.22	0.56
12:L:2896:ASP:HB3	12:L:2899:ILE:HG12	1.86	0.56
16:Q:464:ILE:O	17:O:48:LEU:CB	2.53	0.56
1:M:87:LEU:CD1	14:N:490:UNK:HA	2.28	0.56
10:H:356:SER:O	10:H:360:PRO:HG2	2.05	0.56
12:L:827:ARG:O	12:L:828:ARG:HB2	2.05	0.56
5:D:320:ASN:HB3	5:D:324:LYS:HB2	1.89	0.55
12:L:946:ASP:O	12:L:951:GLN:NE2	2.39	0.55
12:L:3439:HIS:C	12:L:3440:LYS:HG2	2.27	0.55
12:L:583:ASN:ND2	12:L:600:ALA:O	2.39	0.55
3:C:42:ILE:HD12	16:Q:176:PRO:HA	1.87	0.55
3:C:54:CYS:SG	16:Q:215:SER:HB3	2.45	0.55
14:N:495:UNK:HA	14:N:508:UNK:O	2.07	0.55
16:Q:182:THR:CG2	17:O:45:GLN:N	2.69	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:Q:188:ILE:HG23	17:O:90:THR:HG22	1.88	0.55
3:C:39:ARG:CZ	16:Q:147:PHE:C	2.70	0.55
3:C:40:TYR:CB	16:Q:214:LEU:CD2	2.64	0.55
8:K:455:PRO:HB2	8:K:457:PRO:HD2	1.88	0.55
12:L:2414:LEU:O	12:L:2417:ARG:NH1	2.40	0.55
16:Q:178:LEU:HD13	17:O:37:ILE:HG21	1.88	0.55
17:O:26:ASN:ND2	18:P:47:THR:HB	2.22	0.55
1:M:139:TYR:O	1:M:143:ILE:HG12	2.06	0.55
5:D:88:LEU:C	5:D:88:LEU:HD13	2.27	0.55
16:Q:501:GLN:OE1	18:P:31:ARG:NH2	2.28	0.55
5:D:326:ILE:HD12	5:D:327:ARG:N	2.21	0.55
10:H:265:PHE:HE2	10:H:289:LEU:HD11	1.70	0.55
9:G:546:HIS:CG	9:G:547:PRO:HD2	2.42	0.55
12:L:3698:THR:OG1	12:L:3699:GLU:N	2.39	0.55
1:M:143:ILE:O	1:M:150:ALA:HB2	2.06	0.55
1:M:189:LEU:HD21	5:D:81:VAL:HG12	1.87	0.55
5:D:212:GLN:HE21	5:D:212:GLN:CA	2.02	0.55
1:M:83:LYS:O	1:M:87:LEU:HG	2.07	0.54
1:M:187:PRO:CB	5:D:211:ARG:HB2	2.37	0.54
3:C:39:ARG:HE	16:Q:148:ILE:HG22	1.71	0.54
5:D:238:SER:OG	5:D:240:ASP:OD1	2.11	0.54
5:D:317:GLN:O	5:D:319:ARG:N	2.35	0.54
10:H:218:SER:OG	10:H:221:LEU:N	2.38	0.54
12:L:3429:ASP:HB2	12:L:3448:LYS:HD2	1.89	0.54
16:Q:182:THR:HB	17:O:45:GLN:O	2.07	0.54
16:Q:444:GLN:HE21	18:P:35:TYR:HE2	0.80	0.54
16:Q:252:THR:HG23	17:O:109:PHE:HE1	1.68	0.54
1:M:99:PHE:CZ	1:M:114:LEU:HD12	2.43	0.54
2:A:208:VAL:HG21	2:A:214:VAL:HG11	1.88	0.54
17:O:7:GLN:HG2	18:P:83:LEU:HD23	1.88	0.54
1:M:115:ILE:CD1	1:M:121:MET:SD	2.95	0.54
1:M:189:LEU:HD13	5:D:84:LEU:HD13	1.89	0.54
5:D:22:PHE:CE2	5:D:30:PRO:HD3	2.43	0.54
12:L:822:LEU:HD22	12:L:1186:TYR:H	1.72	0.54
12:L:3458:LEU:HD23	12:L:3458:LEU:N	2.22	0.54
16:Q:205:HIS:CE1	17:O:46:ILE:HG22	2.43	0.54
5:D:259:GLU:HB2	5:D:312:ALA:HB1	1.88	0.54
9:G:593:TRP:HE1	9:G:614:ILE:HD12	1.72	0.54
9:G:631:SER:OG	9:G:634:GLY:N	2.39	0.54
12:L:1822:LYS:NZ	12:L:1864:ASP:OD2	2.41	0.54
17:O:54:GLN:H	17:O:57:LYS:HB2	1.73	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:173:GLU:HB2	5:D:204:TYR:CD1	2.43	0.54
4:F:212:PHE:HE2	4:F:218:LEU:HD21	1.72	0.54
5:D:199:MET:HA	5:D:203:GLU:CB	2.37	0.54
10:H:394:GLU:N	10:H:394:GLU:OE1	2.40	0.54
12:L:2916:ARG:HB2	12:L:2916:ARG:HH21	1.71	0.54
8:K:464:ASN:OD1	12:L:2669:MET:SD	2.65	0.54
10:H:115:ASP:OD1	10:H:116:GLU:N	2.41	0.54
11:I:40:TYR:O	11:I:44:THR:HG23	2.07	0.54
5:D:216:THR:CG2	5:D:243:ASP:HA	2.38	0.54
1:M:90:ARG:HD2	14:N:513:UNK:CB	2.38	0.54
3:C:51:LEU:CD2	16:Q:214:LEU:HB3	2.38	0.54
16:Q:93:CYS:SG	17:O:20:ARG:CG	2.95	0.54
16:Q:178:LEU:HB2	17:O:37:ILE:HD13	1.89	0.54
16:Q:468:ASP:O	17:O:51:ILE:CD1	2.56	0.54
5:D:17:ILE:HD12	5:D:17:ILE:H	1.72	0.54
12:L:3428:GLU:HG2	12:L:3429:ASP:H	1.73	0.54
16:Q:78:ARG:NH1	18:P:27:SER:CB	2.70	0.54
12:L:846:LEU:O	12:L:850:VAL:HB	2.08	0.53
17:O:11:TRP:CE3	18:P:82:ILE:CG2	2.91	0.53
17:O:27:ILE:HD12	18:P:59:PHE:HD1	1.70	0.53
5:D:216:THR:CB	5:D:243:ASP:HA	2.38	0.53
12:L:2911:PHE:CE2	12:L:2944:GLU:HG3	2.44	0.53
19:R:165:HOH:O	16:Q:355:LEU:CD1	2.39	0.53
17:O:23:VAL:HG21	18:P:63:ILE:HD12	1.90	0.53
12:L:1522:ASP:OD1	12:L:1522:ASP:N	2.41	0.53
16:Q:78:ARG:NE	18:P:23:TYR:CD2	2.70	0.53
5:D:66:VAL:HG13	5:D:67:PRO:HD2	1.87	0.53
5:D:317:GLN:HA	5:D:317:GLN:NE2	2.22	0.53
8:K:468:LEU:C	12:L:2829:LYS:NZ	2.61	0.53
4:F:93:ARG:NH2	4:F:95:GLY:O	2.41	0.53
10:H:332:GLN:N	10:H:332:GLN:OE1	2.42	0.53
12:L:1727:LYS:HG3	12:L:1776:ARG:HH21	1.73	0.53
12:L:3136:ILE:HG22	12:L:3161:ILE:HD13	1.89	0.53
17:O:56:LEU:CD1	18:P:51:VAL:HB	2.38	0.53
4:F:277:ASN:OD1	4:F:278:ALA:N	2.42	0.53
9:G:411:ASP:N	9:G:411:ASP:OD1	2.42	0.53
9:G:537:LEU:H	9:G:537:LEU:CD1	2.20	0.53
12:L:1219:ARG:NH1	12:L:3413:GLU:OE2	2.41	0.53
16:Q:188:ILE:HG23	17:O:90:THR:CG2	2.38	0.53
10:H:13:SER:OG	10:H:14:HIS:N	2.41	0.53
16:Q:106:TRP:HB3	17:O:20:ARG:HH21	1.72	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:Q:340:ALA:HB3	19:Q:601:HOH:O	2.09	0.53
3:C:48:ARG:HH12	16:Q:216:GLY:HA2	1.74	0.53
9:G:521:LEU:HD23	9:G:521:LEU:O	2.08	0.53
12:L:959:ILE:HG21	12:L:2449:ILE:HD12	1.91	0.53
16:Q:474:PHE:CD2	16:Q:479:ILE:HD12	2.44	0.53
5:D:84:LEU:HD23	5:D:84:LEU:C	2.29	0.53
10:H:406:ASN:O	10:H:409:SER:OG	2.15	0.53
12:L:345:LEU:O	12:L:386:GLN:NE2	2.42	0.53
12:L:1278:ASN:O	12:L:1284:ARG:NH2	2.42	0.53
16:Q:106:TRP:HB3	17:O:20:ARG:NH2	2.23	0.53
16:Q:472:PHE:CD2	17:O:46:ILE:CA	2.92	0.53
17:O:22:ILE:HG23	18:P:44:ASN:OD1	2.08	0.53
1:M:173:GLU:HG2	5:D:197:LYS:CA	2.29	0.53
1:M:188:GLU:OE1	5:D:85:ARG:CZ	2.57	0.53
3:C:39:ARG:HH22	16:Q:150:GLN:NE2	2.05	0.53
3:C:47:ASP:HB3	16:Q:243:THR:C	2.25	0.53
5:D:313:TRP:O	5:D:317:GLN:HG2	2.08	0.53
5:D:323:LYS:HG3	5:D:323:LYS:O	2.08	0.53
10:H:217:LEU:HD12	10:H:218:SER:O	2.08	0.53
12:L:416:LEU:HD11	12:L:574:THR:HB	1.91	0.53
12:L:3101:LYS:O	12:L:3742:GLN:NE2	2.42	0.53
16:Q:474:PHE:CA	17:O:47:SER:OG	2.50	0.53
1:M:84:THR:HA	1:M:87:LEU:HD12	1.90	0.52
9:G:76:PRO:O	9:G:592:ARG:NH1	2.42	0.52
9:G:546:HIS:CG	9:G:547:PRO:CD	2.92	0.52
8:K:469:LEU:HD23	12:L:2790:THR:CG2	2.39	0.52
12:L:1526:ASN:O	12:L:1530:GLN:NE2	2.43	0.52
12:L:2528:HIS:O	12:L:2531:PHE:N	2.42	0.52
5:D:21:MET:HE2	5:D:253:VAL:CG2	2.38	0.52
7:J:80:THR:O	7:J:84:LEU:HD23	2.09	0.52
12:L:1886:VAL:HG22	12:L:1924:ALA:HB2	1.91	0.52
16:Q:259:TRP:HE1	17:O:114:ASP:HA	1.74	0.52
1:M:149:ALA:O	1:M:151:LYS:N	2.42	0.52
9:G:521:LEU:HD23	9:G:521:LEU:C	2.30	0.52
9:G:544:GLU:O	9:G:552:LEU:HD12	2.09	0.52
16:Q:130:TYR:CB	17:O:28:LEU:CD1	2.81	0.52
16:Q:472:PHE:CD2	17:O:50:GLU:HG2	2.44	0.52
3:C:39:ARG:NH2	16:Q:150:GLN:NE2	2.57	0.52
3:C:42:ILE:CD1	16:Q:176:PRO:HA	2.40	0.52
3:C:51:LEU:N	16:Q:214:LEU:CD1	2.72	0.52
9:G:562:ARG:HB3	9:G:571:CYS:SG	2.49	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:D:326:ILE:HD12	5:D:326:ILE:C	2.30	0.52
12:L:852:HIS:CG	12:L:852:HIS:O	2.62	0.52
12:L:1355:ASN:HA	12:L:1358:VAL:HG12	1.91	0.52
12:L:3515:ARG:NH1	12:L:3518:ASN:OD1	2.43	0.52
17:O:24:ILE:HG13	18:P:59:PHE:CZ	2.45	0.52
2:A:223:GLN:OE1	2:A:223:GLN:HA	2.09	0.52
2:A:226:ILE:HA	2:A:229:PHE:CD2	2.44	0.52
3:C:55:LEU:CD1	16:Q:173:SER:OG	2.57	0.52
8:K:442:PRO:CD	12:L:912:LEU:HD22	2.36	0.52
12:L:846:LEU:HA	12:L:850:VAL:CB	2.39	0.52
12:L:1307:SER:HA	12:L:1310:LYS:HD2	1.91	0.52
12:L:2884:GLN:NE2	12:L:2884:GLN:CA	2.72	0.52
5:D:218:ARG:C	5:D:220:ALA:H	2.12	0.52
8:K:468:LEU:CB	12:L:2829:LYS:NZ	2.58	0.52
8:K:602:ILE:O	8:K:607:ASN:N	2.43	0.52
15:R:12:THR:HG21	16:Q:379:LYS:CE	2.39	0.52
1:M:185:TYR:C	1:M:185:TYR:HD1	2.13	0.52
8:K:460:MET:HG3	12:L:2758:THR:HG22	1.92	0.52
12:L:710:SER:O	12:L:757:ASN:ND2	2.43	0.52
15:R:63:LYS:NZ	19:R:103:HOH:O	2.29	0.52
16:Q:106:TRP:HD1	17:O:20:ARG:NH1	1.97	0.52
1:M:102:VAL:HG12	1:M:115:ILE:HB	1.92	0.51
9:G:84:GLN:OE1	9:G:215:ASN:O	2.28	0.51
9:G:202:ILE:HD11	9:G:206:THR:HG21	1.92	0.51
10:H:27:ALA:HB1	10:H:32:ILE:CD1	2.35	0.51
16:Q:178:LEU:HD22	17:O:37:ILE:CG2	2.38	0.51
9:G:607:ASP:HB2	9:G:614:ILE:HG13	1.92	0.51
12:L:672:PRO:HA	12:L:675:PHE:HB3	1.93	0.51
12:L:1419:LYS:O	12:L:1422:VAL:HG22	2.11	0.51
12:L:1947:ARG:NH2	12:L:1964:TYR:OH	2.43	0.51
12:L:3141:GLN:NE2	12:L:3750:ASP:OD2	2.42	0.51
12:L:3495:GLU:HG3	12:L:3496:ARG:HD2	1.91	0.51
14:N:221:UNK:C	14:N:230:UNK:CA	2.88	0.51
15:R:68:HIS:HE1	19:R:113:HOH:O	1.92	0.51
6:E:940:LYS:O	6:E:941:VAL:HB	2.09	0.51
12:L:1221:LEU:HD21	12:L:1243:LEU:HB3	1.92	0.51
19:R:153:HOH:O	16:Q:326:LYS:CB	2.11	0.51
16:Q:182:THR:CG2	17:O:45:GLN:H	2.19	0.51
6:E:947:PHE:HD1	6:E:947:PHE:O	1.94	0.51
12:L:899:ASP:N	12:L:899:ASP:OD1	2.41	0.51
12:L:2805:PHE:CE1	12:L:2812:LEU:HG	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:D:232:LEU:HD22	5:D:235:SER:OG	2.11	0.51
10:H:255:ASP:OD1	10:H:255:ASP:N	2.43	0.51
12:L:986:PRO:O	12:L:991:ARG:NH2	2.44	0.51
12:L:2601:ARG:O	12:L:2603:ASN:N	2.43	0.51
2:A:364:ASP:N	2:A:364:ASP:OD1	2.42	0.51
3:C:49:PRO:HG3	16:Q:237:PHE:CE1	2.36	0.51
4:F:200:ASP:HA	4:F:203:TYR:HE2	1.75	0.51
6:E:935:SER:OG	6:E:940:LYS:HB2	2.11	0.51
10:H:362:ILE:N	10:H:362:ILE:HD13	2.24	0.51
12:L:3423:HIS:HA	12:L:3426:LYS:HB2	1.93	0.51
12:L:809:MET:HE1	12:L:844:VAL:HG21	1.92	0.51
12:L:1203:LEU:O	12:L:1206:PRO:HD2	2.10	0.51
12:L:1203:LEU:HD23	12:L:1206:PRO:HD2	1.93	0.51
16:Q:70:GLU:OE1	18:P:24:ASP:HA	2.11	0.51
17:O:15:MET:HE3	18:P:74:VAL:HG21	1.93	0.51
1:M:105:ARG:O	1:M:106:ILE:HG23	2.10	0.51
5:D:74:ILE:HG13	5:D:78:LYS:HB3	1.92	0.51
8:K:461:LYS:HZ1	12:L:2792:ARG:NH2	2.09	0.51
9:G:650:ASP:HB3	9:G:693:MET:HE2	1.93	0.51
12:L:3456:LEU:HD12	12:L:3467:LYS:HB3	1.93	0.51
4:F:212:PHE:CE2	4:F:218:LEU:HD21	2.46	0.51
9:G:471:CYS:SG	9:G:499:TRP:O	2.69	0.51
10:H:328:LEU:O	10:H:332:GLN:NE2	2.43	0.51
12:L:562:ARG:NH1	12:L:625:PHE:O	2.44	0.51
12:L:2802:LEU:HD11	12:L:2858:SER:HB2	1.93	0.51
2:A:246:LEU:O	2:A:250:MET:HG3	2.11	0.51
9:G:494:HIS:CE1	9:G:520:ARG:HD3	2.45	0.51
16:Q:472:PHE:CE2	17:O:50:GLU:CD	2.83	0.51
17:O:22:ILE:HD12	18:P:43:ILE:HD12	1.68	0.51
2:A:192:SER:O	2:A:196:GLN:NE2	2.44	0.50
12:L:1314:LEU:O	12:L:1317:ILE:HG22	2.10	0.50
16:Q:474:PHE:CZ	17:O:46:ILE:HB	2.39	0.50
16:Q:479:ILE:HD12	17:O:47:SER:OG	2.12	0.50
4:F:326:ARG:HG2	12:L:2751:LEU:HD11	1.92	0.50
6:E:836:CYS:SG	6:E:993:LEU:HD13	2.51	0.50
12:L:1698:GLN:HA	12:L:1701:GLU:HG2	1.93	0.50
12:L:2415:THR:HA	12:L:2418:MET:HE3	1.93	0.50
15:R:75:GLY:HA2	16:Q:270:GLU:OE2	2.11	0.50
1:M:170:ILE:HD13	1:M:234:LEU:HD22	1.93	0.50
9:G:565:ASP:HB3	9:G:568:ARG:HB3	1.93	0.50
12:L:703:PHE:O	12:L:709:THR:OG1	2.29	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:1860:ASP:OD1	12:L:1860:ASP:N	2.45	0.50
12:L:2556:GLU:O	12:L:2560:ASN:ND2	2.44	0.50
12:L:2802:LEU:HD22	12:L:2854:LEU:HD12	1.92	0.50
1:M:185:TYR:C	1:M:185:TYR:CD1	2.84	0.50
9:G:380:SER:OG	10:H:143:ILE:O	2.20	0.50
12:L:1314:LEU:HG	12:L:1347:PHE:CZ	2.47	0.50
2:A:246:LEU:HG	2:A:250:MET:HE2	1.93	0.50
5:D:78:LYS:HE3	5:D:78:LYS:C	2.31	0.50
12:L:1507:LEU:HA	12:L:1510:ALA:HB3	1.92	0.50
16:Q:90:SER:H	18:P:14:GLN:NE2	2.10	0.50
16:Q:464:ILE:C	17:O:46:ILE:CD1	2.80	0.50
16:Q:472:PHE:CZ	17:O:50:GLU:HG2	2.44	0.50
12:L:2916:ARG:CZ	12:L:2916:ARG:CB	2.88	0.50
12:L:3746:LEU:HA	12:L:3749:ARG:HG2	1.93	0.50
1:M:67:LEU:HD13	1:M:160:ILE:HG23	1.94	0.50
3:C:38:LEU:HD22	16:Q:210:ARG:HD2	0.55	0.50
17:O:26:ASN:HB2	18:P:47:THR:HG21	1.94	0.50
1:M:142:ILE:HA	1:M:145:LYS:HE3	1.94	0.50
4:F:122:PRO:HG3	4:F:195:LEU:HD23	1.93	0.50
12:L:2880:LYS:HE3	12:L:2880:LYS:HA	1.94	0.50
12:L:3440:LYS:HG3	12:L:3446:PHE:HE1	1.75	0.50
10:H:290:ILE:HG22	10:H:343:LEU:HD11	1.93	0.50
12:L:1516:GLN:NE2	12:L:1563:ASN:O	2.45	0.50
14:N:174:UNK:O	14:N:213:UNK:O	2.30	0.50
6:E:948:GLN:HG3	6:E:950:VAL:O	2.11	0.49
9:G:122:LEU:HD21	10:H:291:TYR:CD1	2.46	0.49
9:G:469:ILE:HD11	9:G:479:LEU:HD12	1.93	0.49
12:L:1947:ARG:NH1	12:L:1978:ARG:O	2.45	0.49
17:O:56:LEU:HD11	18:P:51:VAL:CA	2.42	0.49
4:F:219:ASN:O	4:F:222:THR:OG1	2.31	0.49
12:L:2880:LYS:H	12:L:2880:LYS:CD	2.23	0.49
17:O:56:LEU:CA	18:P:52:THR:CG2	2.90	0.49
1:M:80:LEU:HD21	1:M:143:ILE:HD12	1.93	0.49
3:C:47:ASP:CG	16:Q:243:THR:HB	2.32	0.49
12:L:2797:GLN:HG2	12:L:2818:LEU:HD21	1.93	0.49
16:Q:107:LYS:CA	17:O:20:ARG:HH22	2.26	0.49
10:H:96:LEU:HD23	10:H:97:VAL:N	2.27	0.49
16:Q:107:LYS:HG2	17:O:20:ARG:NH1	2.27	0.49
17:O:34:ARG:NH1	18:P:57:PRO:CA	2.69	0.49
4:F:200:ASP:HA	4:F:203:TYR:CE2	2.48	0.49
5:D:67:PRO:O	5:D:71:ILE:HG22	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:428:LYS:HG3	12:L:430:GLU:CG	2.42	0.49
12:L:2465:LEU:HB3	12:L:2593:TYR:HB3	1.95	0.49
12:L:3653:ASN:HB3	12:L:3657:GLY:H	1.78	0.49
16:Q:479:ILE:CD1	17:O:47:SER:OG	2.61	0.49
2:A:208:VAL:CG2	2:A:214:VAL:HG11	2.42	0.49
3:C:56:SER:HB2	16:Q:156:ARG:HD3	1.94	0.49
12:L:1432:SER:OG	12:L:1433:ILE:N	2.45	0.49
12:L:2906:TRP:O	12:L:2910:VAL:HG23	2.12	0.49
4:F:279:ASP:O	8:K:521:ILE:HD11	2.12	0.49
5:D:329:PHE:N	5:D:329:PHE:CD1	2.80	0.49
1:M:82:LEU:CD1	1:M:101:ALA:HA	2.37	0.49
3:C:306:SER:OG	3:C:307:VAL:N	2.45	0.49
5:D:319:ARG:HG3	5:D:320:ASN:H	1.77	0.49
12:L:3175:THR:HG21	12:L:3528:PRO:HB2	1.94	0.49
13:B:556:VAL:O	13:B:557:VAL:C	2.50	0.49
1:M:108:GLU:HA	1:M:109:PRO:C	2.31	0.49
6:E:885:VAL:HA	10:H:128:PRO:HG3	1.95	0.49
12:L:1354:LEU:O	12:L:1358:VAL:HG12	2.13	0.49
12:L:1364:LEU:O	12:L:1391:ARG:NH1	2.45	0.49
16:Q:472:PHE:CB	17:O:46:ILE:CG1	2.55	0.49
1:M:175:LEU:O	1:M:179:HIS:HB2	2.13	0.49
2:A:190:VAL:HG22	2:A:192:SER:H	1.77	0.49
6:E:946:LYS:CE	6:E:946:LYS:CA	2.91	0.49
12:L:2475:LEU:O	12:L:2479:TYR:N	2.44	0.49
3:C:48:ARG:NH1	16:Q:216:GLY:HA2	2.27	0.48
4:F:223:GLU:OE1	4:F:223:GLU:N	2.46	0.48
5:D:78:LYS:O	5:D:78:LYS:CD	2.61	0.48
11:I:133:THR:O	11:I:135:LYS:N	2.44	0.48
12:L:2665:LEU:HD21	12:L:2680:THR:HB	1.95	0.48
3:C:34:LEU:C	16:Q:467:ARG:HG2	2.32	0.48
4:F:129:LYS:HG2	4:F:203:TYR:CE1	2.47	0.48
8:K:454:PRO:CD	8:K:455:PRO:CD	2.92	0.48
12:L:1256:THR:OG1	12:L:1257:ARG:N	2.47	0.48
12:L:1358:VAL:HG23	12:L:1394:CYS:HB3	1.95	0.48
16:Q:130:TYR:HD2	17:O:24:ILE:HG22	1.76	0.48
8:K:564:HIS:ND1	8:K:568:ASN:OD1	2.44	0.48
9:G:139:HIS:ND1	9:G:228:LEU:HD22	2.29	0.48
12:L:545:LEU:HD12	12:L:546:PRO:HD2	1.94	0.48
3:C:38:LEU:CG	16:Q:210:ARG:CZ	2.89	0.48
8:K:439:PRO:HB3	12:L:916:HIS:HE1	1.75	0.48
14:N:87:UNK:HA	14:N:497:UNK:O	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:Q:93:CYS:H	17:O:17:ASN:CG	2.14	0.48
17:O:26:ASN:ND2	18:P:47:THR:CB	2.77	0.48
6:E:885:VAL:HG22	10:H:128:PRO:HB2	1.95	0.48
10:H:26:ALA:O	10:H:29:SER:OG	2.22	0.48
12:L:599:THR:O	12:L:601:ARG:NH1	2.46	0.48
17:O:11:TRP:CE3	18:P:82:ILE:HG23	2.48	0.48
12:L:426:GLU:HG3	12:L:428:LYS:HD3	1.94	0.48
16:Q:139:TYR:CZ	17:O:24:ILE:HG23	2.48	0.48
16:Q:481:LEU:HD12	17:O:50:GLU:N	2.11	0.48
10:H:118:ASP:OD1	10:H:118:ASP:N	2.46	0.48
12:L:605:ASN:OD1	12:L:1568:GLN:NE2	2.46	0.48
12:L:387:LEU:HD21	12:L:422:ILE:HG12	1.95	0.48
17:O:7:GLN:HG3	18:P:86:ILE:CB	2.41	0.48
17:O:19:LEU:CD1	18:P:70:ALA:CB	2.91	0.48
6:E:909:PHE:O	6:E:913:VAL:HG23	2.14	0.48
9:G:171:GLU:OE1	9:G:171:GLU:N	2.45	0.48
10:H:317:LEU:HD12	10:H:319:LYS:H	1.78	0.48
12:L:2807:GLN:CB	12:L:2809:LYS:HE3	2.44	0.48
18:P:47:THR:HA	18:P:66:ILE:HD11	1.96	0.48
1:M:96:PRO:O	1:M:98:ARG:N	2.47	0.48
5:D:23:VAL:HA	5:D:27:THR:O	2.14	0.48
6:E:834:ARG:NH2	6:E:901:ASN:O	2.47	0.48
12:L:1514:THR:O	12:L:1517:GLN:NE2	2.44	0.48
12:L:1724:PHE:HB3	12:L:1776:ARG:HD2	1.96	0.48
12:L:2528:HIS:CD2	12:L:2532:LEU:HD23	2.49	0.48
16:Q:259:TRP:NE1	17:O:114:ASP:OD1	2.42	0.48
1:M:194:ILE:CA	1:M:195:TYR:N	2.76	0.47
4:F:115:VAL:HG13	4:F:190:LEU:HD11	1.96	0.47
8:K:458:ALA:O	8:K:459:ALA:HB2	2.14	0.47
9:G:94:PRO:HB3	9:G:566:ILE:HD11	1.96	0.47
9:G:184:LEU:O	9:G:191:LYS:NZ	2.41	0.47
11:I:131:CYS:SG	11:I:132:LEU:N	2.87	0.47
12:L:1180:CYS:HA	12:L:1183:GLU:HG2	1.96	0.47
12:L:2878:GLU:O	12:L:2882:VAL:HG13	2.14	0.47
12:L:2879:LEU:O	12:L:2882:VAL:HG22	2.14	0.47
9:G:650:ASP:HB3	9:G:693:MET:CE	2.43	0.47
16:Q:315:SER:HB3	19:Q:605:HOH:O	2.04	0.47
17:O:55:ARG:HB3	18:P:52:THR:CG2	2.41	0.47
2:A:229:PHE:CZ	3:C:270:GLU:HG2	2.50	0.47
3:C:39:ARG:NE	16:Q:147:PHE:CE1	2.82	0.47
3:C:50:ILE:C	16:Q:214:LEU:CG	2.83	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:D:84:LEU:HA	5:D:87:TYR:HD2	1.79	0.47
8:K:468:LEU:O	12:L:2790:THR:HG22	2.14	0.47
12:L:853:LEU:HD23	12:L:853:LEU:N	2.28	0.47
12:L:1262:SER:OG	12:L:1263:SER:N	2.47	0.47
12:L:1855:PRO:HA	12:L:1862:ARG:HH22	1.79	0.47
5:D:319:ARG:HH12	5:D:335:ARG:HG2	1.79	0.47
8:K:469:LEU:HB3	12:L:2788:ILE:CG2	2.44	0.47
12:L:2904:VAL:HG21	12:L:2952:PHE:HB2	1.95	0.47
12:L:3519:ILE:O	12:L:3519:ILE:HG13	2.13	0.47
3:C:34:LEU:O	16:Q:467:ARG:HG2	2.15	0.47
3:C:54:CYS:HG	16:Q:215:SER:C	1.90	0.47
5:D:17:ILE:H	5:D:17:ILE:CD1	2.26	0.47
5:D:208:SER:HB3	5:D:211:ARG:CZ	2.44	0.47
9:G:559:LYS:HG2	9:G:580:GLY:O	2.14	0.47
1:M:191:PRO:HB3	5:D:212:GLN:HG2	1.96	0.47
5:D:47:VAL:O	5:D:51:LEU:HD23	2.14	0.47
5:D:73:LEU:C	5:D:73:LEU:CD2	2.82	0.47
5:D:328:ASN:ND2	6:E:963:ASN:OD1	2.48	0.47
10:H:305:VAL:HA	10:H:308:ILE:HG22	1.97	0.47
12:L:1469:LEU:O	12:L:1501:LYS:NZ	2.47	0.47
12:L:1824:THR:H	12:L:1827:LEU:HD21	1.79	0.47
12:L:2914:ILE:HD13	12:L:2914:ILE:N	2.28	0.47
12:L:3162:ALA:HB2	12:L:3169:LEU:HD23	1.95	0.47
2:A:246:LEU:HG	2:A:250:MET:CE	2.45	0.47
3:C:55:LEU:HD23	16:Q:160:ILE:CG1	2.41	0.47
4:F:118:GLU:O	4:F:191:ARG:N	2.45	0.47
4:F:189:ILE:C	4:F:190:LEU:HD12	2.35	0.47
4:F:304:LEU:CD2	8:K:475:SER:HB2	2.45	0.47
6:E:947:PHE:CD1	6:E:947:PHE:C	2.88	0.47
8:K:566:GLU:O	8:K:572:ARG:NH1	2.46	0.47
9:G:472:SER:OG	9:G:474:ASP:OD1	2.28	0.47
12:L:854:SER:C	12:L:856:LEU:H	2.18	0.47
12:L:867:SER:OG	12:L:868:GLN:N	2.48	0.47
12:L:1417:ARG:HG2	12:L:1418:VAL:N	2.29	0.47
12:L:1684:ARG:HH12	12:L:1692:LEU:HD13	1.80	0.47
14:N:238:UNK:HA	14:N:248:UNK:O	2.14	0.47
16:Q:474:PHE:HD1	17:O:48:LEU:HG	1.76	0.47
17:O:27:ILE:HD12	18:P:59:PHE:HA	1.77	0.47
1:M:82:LEU:HG	1:M:117:ALA:HB2	1.97	0.47
9:G:626:TYR:CE2	9:G:642:ALA:HB2	2.50	0.47
12:L:1716:LEU:HG	12:L:1718:HIS:H	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:3798:THR:OG1	12:L:3799:GLN:N	2.44	0.47
16:Q:478:ARG:HD3	17:O:76:ASN:HD21	1.79	0.47
9:G:546:HIS:NE2	9:G:547:PRO:HD2	2.29	0.47
10:H:157:ASN:HD22	10:H:160:LYS:HZ3	1.62	0.47
12:L:1134:SER:OG	12:L:1135:ASP:N	2.47	0.47
12:L:2808:GLN:HA	12:L:2808:GLN:OE1	2.14	0.47
16:Q:91:LEU:CD2	17:O:13:CYS:HB3	2.36	0.47
16:Q:479:ILE:CD1	17:O:47:SER:CB	2.79	0.47
2:A:244:ASP:O	2:A:248:THR:HG23	2.15	0.47
10:H:16:LEU:HD22	11:I:18:ILE:HG12	1.97	0.47
12:L:312:CYS:O	12:L:320:ARG:NH2	2.47	0.47
12:L:1203:LEU:HD22	12:L:1210:PHE:CE2	2.50	0.47
12:L:1848:ALA:HB2	12:L:1887:VAL:HG23	1.97	0.47
15:R:46:ALA:CA	16:Q:331:PRO:O	2.50	0.47
16:Q:464:ILE:C	17:O:46:ILE:HD11	2.36	0.47
1:M:151:LYS:O	1:M:153:THR:HG22	2.15	0.46
2:A:271:MET:SD	8:K:537:VAL:HG23	2.55	0.46
3:C:33:SER:HB2	16:Q:207:PRO:HG3	1.96	0.46
8:K:441:PRO:CA	12:L:912:LEU:HD21	2.33	0.46
8:K:504:LYS:O	8:K:508:ARG:NH1	2.48	0.46
12:L:853:LEU:O	12:L:854:SER:C	2.54	0.46
17:O:22:ILE:HG21	18:P:43:ILE:CG1	2.44	0.46
17:O:56:LEU:HD23	18:P:52:THR:HG23	1.76	0.46
3:C:38:LEU:HB2	16:Q:210:ARG:HH21	1.76	0.46
9:G:576:MET:SD	9:G:577:GLY:N	2.88	0.46
12:L:952:ASN:OD1	12:L:952:ASN:N	2.48	0.46
15:R:71:LEU:HD12	16:Q:397:PHE:HB2	1.97	0.46
16:Q:472:PHE:HZ	17:O:45:GLN:CD	2.18	0.46
16:Q:130:TYR:CE2	17:O:25:ASN:OD1	2.59	0.46
16:Q:416:PHE:CE2	18:P:35:TYR:O	2.69	0.46
17:O:34:ARG:NH1	18:P:57:PRO:CG	2.55	0.46
4:F:137:GLU:O	9:G:59:TYR:N	2.45	0.46
5:D:75:ARG:O	5:D:75:ARG:HG2	2.16	0.46
8:K:444:THR:OG1	8:K:445:GLU:N	2.48	0.46
12:L:1441:GLY:HA2	12:L:1444:LYS:HG2	1.98	0.46
12:L:2601:ARG:O	12:L:2602:PRO:C	2.53	0.46
12:L:2959:HIS:HA	12:L:3512:VAL:HG11	1.96	0.46
1:M:75:THR:HB	1:M:120:LYS:HG2	1.97	0.46
1:M:88:HIS:HA	14:N:514:UNK:O	2.16	0.46
2:A:357:SER:O	2:A:357:SER:OG	2.34	0.46
9:G:477:VAL:HG21	9:G:512:THR:HG21	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:1354:LEU:CA	12:L:1357:LEU:HD22	2.43	0.46
12:L:2425:GLY:HA2	12:L:2428:LEU:HD23	1.98	0.46
12:L:2812:LEU:HD11	12:L:2862:SER:HB2	1.97	0.46
16:Q:472:PHE:CB	17:O:47:SER:N	2.73	0.46
8:K:465:ARG:O	12:L:2829:LYS:HE2	2.16	0.46
8:K:588:GLN:NE2	8:K:589:PRO:O	2.45	0.46
12:L:853:LEU:HD23	12:L:853:LEU:H	1.80	0.46
12:L:934:ARG:H	12:L:934:ARG:HG2	1.55	0.46
17:O:55:ARG:CB	18:P:52:THR:HG21	2.43	0.46
12:L:606:GLU:HB2	12:L:1694:PHE:HB2	1.98	0.46
5:D:78:LYS:CE	5:D:78:LYS:O	2.64	0.46
10:H:234:ASN:OD1	10:H:235:GLN:NE2	2.49	0.46
12:L:3434:GLY:HA3	12:L:3525:ILE:HD12	1.97	0.46
12:L:3602:SER:OG	12:L:3603:THR:N	2.48	0.46
1:M:117:ALA:C	1:M:119:GLY:H	2.19	0.46
9:G:642:ALA:O	10:H:68:ARG:NH2	2.49	0.46
10:H:69:THR:O	10:H:71:HIS:ND1	2.47	0.46
12:L:2901:ASN:O	12:L:2905:THR:HG22	2.16	0.46
15:R:4:PHE:CE1	16:Q:362:LEU:HD13	2.51	0.46
17:O:7:GLN:HG3	18:P:86:ILE:CG2	2.45	0.46
3:C:39:ARG:CG	16:Q:147:PHE:HE1	2.28	0.46
3:C:51:LEU:CG	16:Q:214:LEU:HG	2.46	0.46
5:D:66:VAL:CG1	5:D:67:PRO:CD	2.84	0.46
8:K:469:LEU:HB3	12:L:2788:ILE:HG22	1.97	0.46
12:L:2807:GLN:HB3	12:L:2809:LYS:HE3	1.98	0.46
16:Q:472:PHE:CZ	17:O:50:GLU:CG	2.98	0.46
1:M:172:LEU:HB2	5:D:204:TYR:CE2	2.52	0.45
5:D:17:ILE:N	5:D:17:ILE:CD1	2.79	0.45
7:J:58:THR:N	7:J:61:GLU:OE2	2.49	0.45
9:G:709:THR:HG22	9:G:710:ARG:H	1.80	0.45
12:L:828:ARG:N	12:L:829:PRO:CD	2.57	0.45
12:L:1608:VAL:O	12:L:1617:ARG:NH2	2.49	0.45
16:Q:472:PHE:CG	17:O:46:ILE:N	2.80	0.45
17:O:11:TRP:CG	18:P:86:ILE:CD1	2.94	0.45
3:C:290:SER:OG	3:C:291:ARG:N	2.49	0.45
12:L:2807:GLN:HB3	12:L:2809:LYS:HG3	1.97	0.45
12:L:3458:LEU:H	12:L:3458:LEU:CD2	2.28	0.45
5:D:76:HIS:O	5:D:78:LYS:N	2.49	0.45
7:J:98:ARG:O	7:J:101:ALA:HB3	2.16	0.45
12:L:827:ARG:HH21	12:L:829:PRO:HB3	1.80	0.45
12:L:1136:ASN:HB3	12:L:1139:VAL:HG12	1.96	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:2807:GLN:OE1	12:L:2807:GLN:HA	2.16	0.45
16:Q:130:TYR:CD2	17:O:24:ILE:HG22	2.51	0.45
16:Q:182:THR:CA	17:O:44:ASP:HB2	2.18	0.45
5:D:239:ASP:HA	5:D:242:ILE:HD12	1.97	0.45
8:K:462:ILE:HG23	8:K:463:PRO:HD3	1.98	0.45
16:Q:91:LEU:CD2	17:O:13:CYS:HG	2.19	0.45
16:Q:106:TRP:CD1	17:O:20:ARG:NH1	2.79	0.45
16:Q:107:LYS:N	17:O:20:ARG:HH22	2.14	0.45
16:Q:416:PHE:HZ	18:P:41:ASP:OD2	1.99	0.45
17:O:24:ILE:CG1	18:P:59:PHE:CE1	2.94	0.45
1:M:166:VAL:HG22	1:M:210:GLY:O	2.17	0.45
8:K:562:GLN:CD	8:K:577:ALA:HB3	2.36	0.45
12:L:1916:ASP:OD1	12:L:1916:ASP:N	2.49	0.45
4:F:326:ARG:HD3	12:L:2751:LEU:HD21	1.97	0.45
10:H:17:TRP:HZ3	11:I:15:LEU:HD21	1.81	0.45
12:L:854:SER:C	12:L:856:LEU:N	2.69	0.45
12:L:1418:VAL:O	12:L:1422:VAL:HG13	2.17	0.45
3:C:49:PRO:HB2	16:Q:214:LEU:HD13	1.97	0.45
9:G:460:ASP:O	9:G:468:LEU:HD12	2.17	0.45
9:G:546:HIS:NE2	9:G:591:GLY:HA2	2.32	0.45
9:G:594:LEU:CG	9:G:606:TRP:HB2	2.45	0.45
12:L:3461:GLY:N	12:L:3464:GLY:O	2.50	0.45
14:N:221:UNK:HA	14:N:230:UNK:CB	2.47	0.45
1:M:124:THR:CG2	1:M:125:GLY:N	2.80	0.45
1:M:189:LEU:HD13	5:D:84:LEU:HD22	1.98	0.45
8:K:465:ARG:HG3	12:L:2844:LEU:CD1	2.47	0.45
9:G:697:PHE:O	10:H:147:GLN:NE2	2.50	0.45
12:L:962:LEU:HG	12:L:2572:ALA:HB2	1.98	0.45
12:L:1543:PRO:O	12:L:1547:HIS:NE2	2.49	0.45
12:L:3494:GLU:HA	12:L:3497:ILE:HG12	1.99	0.45
16:Q:35:ASP:HA	16:Q:38:TYR:CD2	2.52	0.45
1:M:135:ALA:O	1:M:139:TYR:CD2	2.70	0.45
5:D:27:THR:HG22	5:D:28:ASN:H	1.81	0.45
9:G:632:ARG:NH1	9:G:708:PHE:O	2.46	0.45
12:L:2708:LEU:HD21	12:L:3793:SER:HB2	1.98	0.45
12:L:2745:TRP:O	12:L:2749:THR:OG1	2.35	0.45
14:N:426:UNK:CB	14:N:481:UNK:CA	2.94	0.45
14:N:426:UNK:CB	14:N:481:UNK:CB	2.95	0.45
16:Q:130:TYR:CD1	17:O:28:LEU:CD1	2.77	0.45
16:Q:130:TYR:HB3	17:O:28:LEU:CD1	2.42	0.45
3:C:38:LEU:HB2	16:Q:210:ARG:CZ	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:K:437:LEU:H	8:K:437:LEU:CD2	2.28	0.45
9:G:107:ILE:HD11	9:G:140:CYS:HB2	1.99	0.45
14:N:83:UNK:C	14:N:506:UNK:C	2.95	0.45
2:A:342:TYR:HD1	2:A:344:TYR:HH	1.64	0.44
3:C:39:ARG:NH1	16:Q:148:ILE:HG23	2.06	0.44
4:F:305:SER:O	8:K:452:VAL:HG21	2.16	0.44
6:E:946:LYS:N	6:E:946:LYS:CD	2.79	0.44
9:G:450:VAL:HG22	9:G:451:GLY:N	2.29	0.44
8:K:465:ARG:HD3	8:K:465:ARG:H	1.83	0.44
12:L:271:ILE:O	12:L:275:VAL:N	2.48	0.44
12:L:854:SER:O	12:L:856:LEU:N	2.50	0.44
12:L:1425:PHE:C	12:L:1427:SER:N	2.70	0.44
12:L:1780:TYR:HA	12:L:1783:ILE:HG22	1.99	0.44
12:L:1876:ASP:OD1	12:L:1876:ASP:N	2.51	0.44
12:L:2539:THR:HG23	12:L:2541:GLY:H	1.83	0.44
9:G:371:LEU:HD12	9:G:372:SER:H	1.83	0.44
9:G:544:GLU:HG2	9:G:553:PHE:HB2	1.98	0.44
12:L:214:TYR:O	12:L:218:ALA:N	2.49	0.44
12:L:1340:CYS:HA	12:L:1343:LEU:HD13	1.98	0.44
12:L:2804:GLY:O	12:L:2809:LYS:N	2.50	0.44
12:L:3725:TYR:HA	12:L:3728:VAL:HG12	1.98	0.44
3:C:38:LEU:HD21	16:Q:210:ARG:HG2	1.99	0.44
9:G:192:ILE:O	9:G:195:SER:OG	2.31	0.44
12:L:3172:GLN:O	12:L:3175:THR:OG1	2.34	0.44
8:K:465:ARG:O	12:L:2791:PRO:HG3	2.18	0.44
9:G:63:GLU:OE1	9:G:64:SER:OG	2.31	0.44
9:G:215:ASN:OD1	9:G:216:GLU:N	2.50	0.44
9:G:352:ALA:O	9:G:356:ARG:N	2.46	0.44
9:G:504:SER:OG	9:G:507:GLY:N	2.44	0.44
12:L:1610:LEU:O	12:L:1617:ARG:NH2	2.51	0.44
6:E:946:LYS:HD2	6:E:946:LYS:H	1.82	0.44
9:G:618:ARG:HD3	9:G:689:THR:HG21	2.00	0.44
12:L:1623:SER:OG	12:L:1626:ARG:NE	2.51	0.44
12:L:2393:SER:HA	12:L:2396:PHE:HB3	1.99	0.44
12:L:2446:GLU:O	12:L:2452:ARG:NE	2.46	0.44
1:M:78:CYS:SG	1:M:80:LEU:HD11	2.57	0.44
3:C:38:LEU:CB	16:Q:210:ARG:CZ	2.95	0.44
5:D:24:SER:HB3	5:D:210:CYS:CB	2.48	0.44
12:L:1356:ARG:N	12:L:1356:ARG:NE	2.65	0.44
12:L:1358:VAL:O	12:L:1359:GLN:C	2.56	0.44
12:L:1727:LYS:HD2	12:L:1734:PRO:HG3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:G:138:VAL:O	9:G:142:LEU:HD23	2.18	0.44
9:G:596:SER:OG	9:G:604:CYS:HB2	2.18	0.44
12:L:404:ALA:HB3	12:L:407:VAL:HG22	1.99	0.44
12:L:1358:VAL:O	12:L:1360:GLU:N	2.51	0.44
12:L:3522:THR:O	12:L:3522:THR:OG1	2.33	0.44
16:Q:137:GLY:O	18:P:60:SER:OG	2.27	0.44
17:O:26:ASN:CB	18:P:47:THR:HG21	2.48	0.44
8:K:461:LYS:HZ2	12:L:2792:ARG:NE	2.16	0.44
9:G:74:PRO:HB3	9:G:610:THR:CG2	2.47	0.44
12:L:722:LYS:HG2	12:L:768:LEU:HD21	2.00	0.44
12:L:2437:LEU:HA	12:L:2440:ILE:HD12	2.00	0.44
12:L:2897:ILE:HD12	12:L:2897:ILE:HA	1.86	0.44
14:N:507:UNK:C	14:N:509:UNK:N	2.78	0.44
15:R:4:PHE:CE1	16:Q:362:LEU:CD1	3.01	0.44
1:M:76:LEU:O	1:M:78:CYS:N	2.51	0.43
6:E:880:LYS:C	6:E:881:LEU:HD12	2.38	0.43
8:K:461:LYS:HD2	12:L:2762:LEU:HD11	1.99	0.43
8:K:557:ASP:OD1	8:K:557:ASP:N	2.46	0.43
3:C:59:ILE:HG22	16:Q:170:ILE:HD11	1.99	0.43
13:B:413:ASP:O	13:B:414:ASP:C	2.56	0.43
1:M:126:ALA:HB3	1:M:132:SER:OG	2.19	0.43
5:D:259:GLU:HA	5:D:262:ILE:HD12	2.00	0.43
12:L:408:GLN:OE1	12:L:445:ARG:NH1	2.39	0.43
12:L:850:VAL:N	12:L:851:PRO:CD	2.82	0.43
12:L:2860:VAL:HG13	12:L:2879:LEU:CD1	2.49	0.43
12:L:3151:ALA:HA	12:L:3154:VAL:HG12	2.01	0.43
1:M:79:ARG:O	1:M:80:LEU:HD12	2.17	0.43
3:C:48:ARG:HG3	16:Q:238:LYS:HG2	2.00	0.43
5:D:215:PHE:HB3	5:D:223:PHE:HB2	2.01	0.43
8:K:452:VAL:O	12:L:2666:GLU:OE2	2.36	0.43
8:K:469:LEU:CD2	12:L:2790:THR:CG2	2.96	0.43
16:Q:130:TYR:CE2	17:O:28:LEU:HD12	2.51	0.43
10:H:318:ALA:HB3	10:H:337:ARG:NH1	2.32	0.43
12:L:801:PHE:HD1	12:L:803:ASN:H	1.66	0.43
12:L:850:VAL:HG13	12:L:853:LEU:HD13	1.99	0.43
12:L:3765:GLN:HB3	12:L:3768:GLN:HB3	2.00	0.43
14:N:207:UNK:CA	14:N:208:UNK:CB	2.96	0.43
1:M:200:PRO:HD3	1:M:225:GLN:OE1	2.18	0.43
5:D:321:VAL:HG12	5:D:321:VAL:O	2.17	0.43
8:K:469:LEU:HD23	8:K:469:LEU:N	2.33	0.43
12:L:773:LEU:HD13	12:L:815:LEU:HD13	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:3541:ARG:HB2	12:L:3654:GLU:HB2	2.01	0.43
17:O:11:TRP:CD1	18:P:83:LEU:HG	2.51	0.43
1:M:88:HIS:CB	14:N:515:UNK:O	2.56	0.43
3:C:51:LEU:HG	16:Q:214:LEU:CA	2.48	0.43
5:D:71:ILE:HD12	5:D:74:ILE:HD11	2.01	0.43
12:L:2741:LYS:NZ	12:L:2896:ASP:OD1	2.52	0.43
12:L:3099:THR:HG22	12:L:3103:LEU:HD13	2.00	0.43
12:L:3285:ASP:OD1	12:L:3285:ASP:N	2.48	0.43
12:L:2523:ASP:OD1	12:L:2523:ASP:N	2.42	0.43
3:C:36:ASN:CB	16:Q:467:ARG:NH2	2.81	0.43
3:C:51:LEU:HD12	16:Q:215:SER:H	1.81	0.43
4:F:204:GLN:OE1	4:F:204:GLN:HA	2.19	0.43
5:D:17:ILE:HG22	5:D:21:MET:SD	2.59	0.43
5:D:207:TRP:CD1	5:D:207:TRP:C	2.91	0.43
7:J:206:TYR:HB3	7:J:207:GLY:H	1.71	0.43
9:G:92:THR:OG1	9:G:93:ALA:N	2.51	0.43
12:L:560:ASP:N	12:L:560:ASP:OD1	2.51	0.43
12:L:1204:ASP:OD1	12:L:1204:ASP:N	2.52	0.43
12:L:1690:SER:O	12:L:1690:SER:OG	2.32	0.43
12:L:2447:LEU:HD23	12:L:2447:LEU:HA	1.89	0.43
1:M:177:PHE:CB	5:D:194:GLU:HA	2.49	0.43
2:A:243:MET:CB	2:A:268:ILE:HD12	2.49	0.43
6:E:883:SER:O	6:E:886:SER:OG	2.28	0.43
12:L:1884:ALA:HA	12:L:1887:VAL:HG12	2.00	0.43
12:L:1967:ILE:HD12	12:L:1967:ILE:HA	1.91	0.43
14:N:181:UNK:O	14:N:198:UNK:CB	2.67	0.43
5:D:319:ARG:HD2	5:D:319:ARG:HA	1.65	0.42
6:E:885:VAL:HG13	10:H:128:PRO:HG2	2.01	0.42
6:E:929:LEU:CD1	6:E:955:ILE:HG22	2.49	0.42
6:E:950:VAL:O	6:E:950:VAL:HG23	2.19	0.42
12:L:1317:ILE:HD11	12:L:1333:ASN:HA	2.01	0.42
12:L:1357:LEU:N	12:L:1357:LEU:CD1	2.81	0.42
12:L:1736:VAL:HG13	12:L:1737:LEU:HD23	2.01	0.42
16:Q:78:ARG:HA	16:Q:82:VAL:HB	2.01	0.42
3:C:51:LEU:HD12	16:Q:211:ASP:O	2.08	0.42
12:L:1060:LYS:HD2	12:L:1060:LYS:HA	1.72	0.42
12:L:1786:PRO:HA	12:L:1789:ILE:HG12	2.01	0.42
12:L:2805:PHE:HA	12:L:2810:ASP:O	2.19	0.42
5:D:240:ASP:OD1	5:D:241:VAL:N	2.52	0.42
9:G:581:ALA:O	9:G:582:ILE:HD13	2.19	0.42
10:H:122:LEU:HD12	10:H:123:ILE:HB	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:H:129:LYS:NZ	10:H:129:LYS:CB	2.82	0.42
10:H:129:LYS:HZ3	10:H:129:LYS:CB	2.31	0.42
12:L:1226:ARG:NH2	12:L:1275:ASP:OD2	2.52	0.42
12:L:1354:LEU:O	12:L:1357:LEU:HB2	2.19	0.42
12:L:2601:ARG:NE	12:L:2601:ARG:CA	2.81	0.42
2:A:183:GLU:O	2:A:184:SER:OG	2.26	0.42
8:K:581:ILE:HD12	11:I:52:ILE:HD11	2.01	0.42
10:H:317:LEU:HD12	10:H:318:ALA:N	2.34	0.42
12:L:848:VAL:O	12:L:851:PRO:HD2	2.19	0.42
12:L:1541:LEU:HD12	12:L:1541:LEU:HA	1.93	0.42
12:L:3173:LEU:HD21	12:L:3293:LEU:HD22	2.02	0.42
5:D:22:PHE:HE2	5:D:30:PRO:HD3	1.85	0.42
6:E:817:GLY:O	6:E:820:LYS:N	2.52	0.42
8:K:437:LEU:HD23	8:K:437:LEU:N	2.32	0.42
12:L:846:LEU:CA	12:L:850:VAL:HB	2.45	0.42
12:L:907:LYS:HE3	12:L:907:LYS:HB3	1.83	0.42
12:L:3111:SER:O	12:L:3111:SER:OG	2.33	0.42
17:O:34:ARG:NH2	18:P:51:VAL:CG1	2.79	0.42
3:C:47:ASP:HB3	16:Q:243:THR:CA	2.48	0.42
9:G:416:LEU:N	9:G:447:ARG:O	2.52	0.42
10:H:242:GLU:OE1	10:H:242:GLU:N	2.52	0.42
12:L:1356:ARG:NE	12:L:1356:ARG:CA	2.82	0.42
12:L:1417:ARG:HH21	12:L:1417:ARG:HG3	1.85	0.42
12:L:2422:PHE:HE2	12:L:2441:LEU:HD22	1.85	0.42
12:L:2889:ARG:O	12:L:2889:ARG:HG2	2.20	0.42
16:Q:139:TYR:HE1	18:P:59:PHE:CD1	2.36	0.42
3:C:288:LEU:CD2	3:C:292:THR:HG21	2.48	0.42
5:D:72:PHE:HD1	5:D:72:PHE:HA	1.70	0.42
12:L:1727:LYS:O	12:L:1776:ARG:NH2	2.53	0.42
14:N:83:UNK:C	14:N:507:UNK:N	2.82	0.42
1:M:186:GLU:HB3	1:M:189:LEU:HB2	2.01	0.42
5:D:244:ILE:O	5:D:248:LEU:HG	2.20	0.42
6:E:947:PHE:HE1	6:E:949:LYS:HA	1.85	0.42
7:J:116:TYR:OH	7:J:120:ARG:NH2	2.53	0.42
8:K:582:ARG:NH1	11:I:71:GLY:O	2.52	0.42
10:H:315:LEU:O	10:H:318:ALA:HB2	2.20	0.42
12:L:2476:GLN:HG2	12:L:2548:ILE:HD12	2.02	0.42
12:L:2592:ASP:OD1	12:L:2592:ASP:N	2.53	0.42
12:L:2740:GLU:HB2	12:L:2745:TRP:CH2	2.55	0.42
16:Q:416:PHE:CZ	18:P:41:ASP:OD2	2.73	0.42
16:Q:478:ARG:HG3	17:O:68:HIS:CD2	2.41	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:187:PRO:HB3	5:D:211:ARG:HB2	2.02	0.42
2:A:204:LYS:HA	3:C:293:ALA:HB3	2.02	0.42
2:A:250:MET:O	2:A:253:ILE:N	2.52	0.42
3:C:253:ARG:NH2	10:H:49:TYR:OH	2.51	0.42
10:H:67:ARG:NH2	10:H:74:ASP:OD1	2.53	0.42
12:L:1863:LYS:HA	12:L:1863:LYS:HD2	1.78	0.42
14:N:494:UNK:O	14:N:509:UNK:HA	2.20	0.42
17:O:26:ASN:HD22	18:P:47:THR:HG21	1.85	0.42
2:A:259:LEU:HD21	8:K:549:LYS:HB2	2.02	0.41
3:C:38:LEU:CD1	16:Q:210:ARG:HH11	2.27	0.41
9:G:600:ASP:OD1	9:G:601:SER:N	2.53	0.41
11:I:24:ILE:O	11:I:26:SER:N	2.51	0.41
12:L:328:ARG:HH11	12:L:370:THR:HG22	1.84	0.41
12:L:3149:LYS:HD3	12:L:3149:LYS:HA	1.89	0.41
6:E:930:LYS:O	6:E:934:GLU:HG2	2.21	0.41
9:G:144:LEU:HD22	9:G:156:PHE:CE2	2.56	0.41
9:G:450:VAL:HG13	9:G:451:GLY:N	2.35	0.41
10:H:155:SER:OG	10:H:157:ASN:OD1	2.36	0.41
12:L:718:ILE:HD12	12:L:718:ILE:HA	1.95	0.41
12:L:3634:ILE:HD12	12:L:3703:PHE:HB2	2.02	0.41
14:N:184:UNK:CB	14:N:238:UNK:N	2.82	0.41
14:N:496:UNK:N	14:N:508:UNK:CB	2.83	0.41
16:Q:178:LEU:HD12	17:O:37:ILE:HD12	1.81	0.41
1:M:74:VAL:HG23	1:M:155:PHE:CA	2.49	0.41
3:C:41:ARG:HB3	16:Q:173:SER:HB3	2.02	0.41
8:K:442:PRO:HB3	12:L:2817:ARG:NH1	2.35	0.41
8:K:469:LEU:CD2	12:L:2790:THR:HG23	2.50	0.41
9:G:515:HIS:NE2	10:H:57:GLN:OE1	2.53	0.41
9:G:585:LEU:HA	9:G:595:ALA:O	2.21	0.41
10:H:69:THR:HG23	10:H:71:HIS:HE1	1.84	0.41
12:L:764:HIS:NE2	12:L:1525:ASN:OD1	2.37	0.41
12:L:3603:THR:HG22	12:L:3711:LYS:HG2	2.01	0.41
16:Q:472:PHE:HE2	17:O:50:GLU:CG	2.18	0.41
2:A:223:GLN:OE1	2:A:223:GLN:CA	2.68	0.41
12:L:1444:LYS:HE3	12:L:1444:LYS:HB2	1.80	0.41
12:L:2798:THR:HA	12:L:2818:LEU:HD23	2.02	0.41
12:L:3705:LEU:HD12	12:L:3705:LEU:HA	1.95	0.41
1:M:146:ILE:O	1:M:147:GLY:C	2.58	0.41
3:C:52:GLN:CG	16:Q:153:GLN:HG3	2.50	0.41
8:K:466:PRO:HA	12:L:2791:PRO:CG	2.23	0.41
9:G:709:THR:HG22	9:G:710:ARG:N	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:185:TYR:HD2	5:D:204:TYR:HH	1.64	0.41
1:M:189:LEU:CD1	5:D:84:LEU:HD13	2.49	0.41
3:C:44:ASN:OD1	16:Q:174:ARG:CD	2.69	0.41
6:E:934:GLU:O	6:E:936:LYS:N	2.45	0.41
8:K:454:PRO:CD	8:K:455:PRO:HD2	2.50	0.41
9:G:460:ASP:OD1	9:G:461:PHE:N	2.54	0.41
12:L:388:TRP:HA	12:L:391:VAL:HG12	2.03	0.41
12:L:1587:SER:OG	12:L:1588:PHE:N	2.53	0.41
12:L:3133:TRP:CZ3	12:L:3441:ASP:HB3	2.56	0.41
17:O:11:TRP:CE2	18:P:86:ILE:CG1	2.97	0.41
1:M:84:THR:O	1:M:87:LEU:HB2	2.20	0.41
2:A:268:ILE:O	2:A:272:LEU:HD23	2.20	0.41
9:G:365:SER:O	9:G:370:LYS:N	2.49	0.41
9:G:563:MET:HE3	9:G:608:ILE:HD13	2.03	0.41
10:H:129:LYS:NZ	10:H:129:LYS:CA	2.82	0.41
12:L:268:GLY:O	12:L:272:ILE:N	2.53	0.41
12:L:672:PRO:O	12:L:676:ASN:ND2	2.54	0.41
12:L:1629:GLY:HA2	12:L:1632:HIS:HD2	1.86	0.41
12:L:2794:GLN:HG2	12:L:2822:GLY:HA3	2.02	0.41
1:M:231:TYR:HB3	1:M:232:PRO:HD3	2.03	0.41
8:K:469:LEU:HD22	12:L:2790:THR:HG23	2.03	0.41
12:L:1295:SER:OG	12:L:1305:MET:SD	2.68	0.41
12:L:3136:ILE:HA	12:L:3139:VAL:HG23	2.03	0.41
2:A:242:GLU:O	2:A:243:MET:C	2.58	0.41
3:C:51:LEU:CG	16:Q:214:LEU:CG	2.97	0.41
4:F:133:VAL:HG23	4:F:134:GLN:CD	2.41	0.41
9:G:648:VAL:HG13	9:G:694:SER:H	1.86	0.41
9:G:701:THR:O	9:G:701:THR:OG1	2.39	0.41
10:H:396:ILE:HG23	10:H:397:ARG:N	2.36	0.41
11:I:51:THR:HG22	11:I:76:LEU:HD21	2.03	0.41
12:L:314:SER:O	12:L:314:SER:OG	2.33	0.41
12:L:853:LEU:H	12:L:853:LEU:CD2	2.34	0.41
12:L:858:LYS:HB2	12:L:858:LYS:HE3	1.87	0.41
12:L:1540:HIS:O	12:L:1582:ARG:NH2	2.54	0.41
12:L:2465:LEU:H	12:L:2465:LEU:HG	1.71	0.41
12:L:2778:LEU:HD23	12:L:2778:LEU:HA	1.96	0.41
12:L:3142:LEU:HB3	12:L:3158:LEU:HD11	2.03	0.41
14:N:175:UNK:HA	14:N:213:UNK:O	2.21	0.41
10:H:335:ALA:O	10:H:339:LEU:HD23	2.20	0.41
16:Q:107:LYS:HZ2	17:O:13:CYS:HA	1.83	0.41
1:M:105:ARG:O	1:M:106:ILE:CG2	2.69	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:115:ILE:HD13	1:M:121:MET:CG	2.51	0.40
2:A:199:GLN:NE2	3:C:305:PHE:O	2.54	0.40
8:K:460:MET:HG3	12:L:2758:THR:CG2	2.51	0.40
12:L:325:HIS:HA	12:L:328:ARG:HB3	2.03	0.40
12:L:1358:VAL:HG22	12:L:1359:GLN:N	2.36	0.40
12:L:1506:LEU:HA	12:L:1509:TRP:HD1	1.86	0.40
12:L:2231:ILE:O	12:L:2235:VAL:N	2.53	0.40
12:L:2721:PHE:HA	12:L:2722:PRO:HD3	1.90	0.40
12:L:3604:LEU:HD12	12:L:3604:LEU:HA	1.93	0.40
12:L:2687:TYR:HB2	12:L:2690:THR:HG22	2.02	0.40
12:L:2817:ARG:HA	12:L:2817:ARG:HD2	1.91	0.40
12:L:2907:ARG:HH11	12:L:2907:ARG:CG	2.25	0.40
12:L:3798:THR:HB	12:L:3801:VAL:HG22	2.04	0.40
17:O:9:THR:HG22	18:P:10:LYS:HE3	0.41	0.40
1:M:78:CYS:SG	1:M:80:LEU:CD1	3.10	0.40
3:C:49:PRO:CD	16:Q:238:LYS:HA	2.52	0.40
4:F:85:PHE:N	4:F:143:ARG:O	2.46	0.40
6:E:944:ASP:OD1	6:E:944:ASP:N	2.54	0.40
9:G:588:SER:HB3	9:G:593:TRP:HB2	2.04	0.40
10:H:127:LEU:HD12	10:H:127:LEU:C	2.39	0.40
10:H:217:LEU:HB2	10:H:221:LEU:HD22	2.02	0.40
12:L:833:ASP:HA	12:L:836:VAL:HG12	2.03	0.40
12:L:1611:ASP:OD1	12:L:1611:ASP:N	2.53	0.40
16:Q:20:ASP:N	16:Q:20:ASP:OD1	2.55	0.40
5:D:84:LEU:HA	5:D:87:TYR:CD2	2.56	0.40
8:K:461:LYS:HE2	8:K:463:PRO:HD2	2.03	0.40
9:G:45:ASP:OD1	9:G:45:ASP:N	2.55	0.40
12:L:2783:LYS:HA	12:L:2783:LYS:HD3	1.74	0.40
12:L:3063:GLY:O	12:L:3067:ASP:N	2.47	0.40
16:Q:182:THR:CB	17:O:45:GLN:O	2.69	0.40
17:O:22:ILE:CB	18:P:43:ILE:HD12	2.52	0.40
1:M:85:VAL:HG11	1:M:143:ILE:HG22	2.04	0.40
1:M:88:HIS:CA	14:N:515:UNK:C	2.98	0.40
9:G:182:GLU:OE1	9:G:182:GLU:N	2.49	0.40
12:L:3778:GLU:HA	12:L:3781:THR:HG22	2.04	0.40
17:O:11:TRP:CZ2	18:P:82:ILE:HG23	2.55	0.40
17:O:22:ILE:CG2	18:P:44:ASN:OD1	2.70	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	M	178/240 (74%)	147 (83%)	24 (14%)	7 (4%)	2	19
2	A	169/448 (38%)	151 (89%)	18 (11%)	0	100	100
3	C	89/698 (13%)	83 (93%)	6 (7%)	0	100	100
4	F	202/517 (39%)	177 (88%)	24 (12%)	1 (0%)	25	64
5	D	203/341 (60%)	177 (87%)	19 (9%)	7 (3%)	3	21
6	E	150/1191 (13%)	135 (90%)	13 (9%)	2 (1%)	10	43
7	J	92/217 (42%)	82 (89%)	9 (10%)	1 (1%)	12	47
8	K	150/609 (25%)	125 (83%)	23 (15%)	2 (1%)	10	43
9	G	512/722 (71%)	448 (88%)	63 (12%)	1 (0%)	44	78
10	H	413/485 (85%)	365 (88%)	48 (12%)	0	100	100
11	I	119/153 (78%)	98 (82%)	21 (18%)	0	100	100
12	L	2874/3825 (75%)	2623 (91%)	233 (8%)	18 (1%)	22	60
13	B	70/722 (10%)	63 (90%)	7 (10%)	0	100	100
15	R	76/76 (100%)	75 (99%)	1 (1%)	0	100	100
16	Q	480/502 (96%)	444 (92%)	30 (6%)	6 (1%)	10	43
17	O	115/123 (94%)	103 (90%)	6 (5%)	6 (5%)	1	15
18	P	88/96 (92%)	85 (97%)	3 (3%)	0	100	100
All	All	5980/10965 (54%)	5381 (90%)	548 (9%)	51 (1%)	17	52

All (51) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	M	77	GLY
1	M	99	PHE
1	M	110	LYS
5	D	200	THR
5	D	327	ARG

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Mol	Chain	Res	Type
6	E	935	SER
8	K	459	ALA
12	L	66	VAL
12	L	204	PRO
12	L	828	ARG
12	L	854	SER
12	L	855	TYR
12	L	1425	PHE
12	L	1426	LYS
12	L	2602	PRO
12	L	3428	GLU
12	L	3797	ALA
16	Q	31	SER
16	Q	58	ILE
16	Q	223	LYS
17	O	59	VAL
17	O	75	GLU
17	O	79	ASN
1	M	97	LYS
1	M	147	GLY
1	M	150	ALA
5	D	219	LYS
5	D	330	GLN
7	J	206	TYR
9	G	450	VAL
12	L	826	ALA
12	L	2597	GLN
16	Q	70	GLU
17	O	65	ILE
1	M	201	LYS
5	D	77	ASP
6	E	941	VAL
12	L	1774	ASP
12	L	3460	ARG
16	Q	431	ASN
17	O	58	PHE
8	K	442	PRO
12	L	2594	HIS
12	L	3439	HIS
17	O	86	SER
4	F	80	PRO
5	D	218	ARG

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Mol	Chain	Res	Type
12	L	3616	TYR
16	Q	245	GLU
12	L	1359	GLN
5	D	321	VAL

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	M	152/205 (74%)	138 (91%)	14 (9%)	7	23
2	A	134/394 (34%)	132 (98%)	2 (2%)	60	75
3	C	85/627 (14%)	85 (100%)	0	100	100
4	F	179/471 (38%)	179 (100%)	0	100	100
5	D	166/306 (54%)	154 (93%)	12 (7%)	12	32
6	E	142/1101 (13%)	136 (96%)	6 (4%)	25	46
7	J	85/183 (46%)	84 (99%)	1 (1%)	67	78
8	K	133/524 (25%)	130 (98%)	3 (2%)	45	64
9	G	439/635 (69%)	430 (98%)	9 (2%)	48	66
10	H	352/438 (80%)	348 (99%)	4 (1%)	70	80
11	I	104/130 (80%)	103 (99%)	1 (1%)	73	82
12	L	2156/3450 (62%)	2114 (98%)	42 (2%)	52	69
15	R	70/68 (103%)	69 (99%)	1 (1%)	62	75
16	Q	431/449 (96%)	425 (99%)	6 (1%)	62	75
17	O	103/109 (94%)	102 (99%)	1 (1%)	73	82
18	P	85/91 (93%)	85 (100%)	0	100	100
All	All	4816/9181 (52%)	4714 (98%)	102 (2%)	49	66

All (102) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	M	67	LEU
1	M	76	LEU
1	M	97	LYS
1	M	104	MET
1	M	141	ARG
1	M	148	PHE
1	M	153	THR
1	M	175	LEU
1	M	181	THR
1	M	185	TYR
1	M	202	ILE
1	M	215	THR
1	M	231	TYR
1	M	240	MET
2	A	229	PHE
2	A	291	LYS
5	D	18	GLN
5	D	74	ILE
5	D	78	LYS
5	D	83	ARG
5	D	85	ARG
5	D	87	TYR
5	D	211	ARG
5	D	212	GLN
5	D	218	ARG
5	D	322	GLU
5	D	329	PHE
5	D	338	VAL
6	E	933	ILE
6	E	940	LYS
6	E	942	MET
6	E	946	LYS
6	E	948	GLN
6	E	949	LYS
7	J	205	GLU
8	K	437	LEU
8	K	449	ARG
8	K	465	ARG
9	G	115	LYS
9	G	194	ARG
9	G	230	ASN
9	G	452	HIS
9	G	537	LEU

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Mol	Chain	Res	Type
9	G	542	CYS
9	G	560	THR
9	G	571	CYS
9	G	594	LEU
10	H	129	LYS
10	H	217	LEU
10	H	360	PRO
10	H	364	ARG
11	I	16	HIS
12	L	429	THR
12	L	800	ARG
12	L	849	LEU
12	L	852	HIS
12	L	971	THR
12	L	1122	ASN
12	L	1278	ASN
12	L	1314	LEU
12	L	1323	ARG
12	L	1356	ARG
12	L	1358	VAL
12	L	1413	ARG
12	L	1417	ARG
12	L	1419	LYS
12	L	1424	PHE
12	L	1548	LYS
12	L	1665	LYS
12	L	1680	LEU
12	L	2427	ARG
12	L	2489	ARG
12	L	2595	ILE
12	L	2633	ASN
12	L	2807	GLN
12	L	2878	GLU
12	L	2880	LYS
12	L	2881	ARG
12	L	2883	LEU
12	L	2884	GLN
12	L	2887	ARG
12	L	2888	GLU
12	L	2907	ARG
12	L	2913	VAL
12	L	2914	ILE

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Mol	Chain	Res	Type
12	L	2916	ARG
12	L	3314	ARG
12	L	3426	LYS
12	L	3440	LYS
12	L	3441	ASP
12	L	3489	ARG
12	L	3502	ARG
12	L	3542	TYR
12	L	3646	GLN
15	R	60	ASN
16	Q	38	TYR
16	Q	57	ASN
16	Q	61	TYR
16	Q	187	PHE
16	Q	254	LEU
16	Q	397	PHE
17	O	42	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (30) such sidechains are listed below:

Mol	Chain	Res	Type
1	M	91	ASN
1	M	95	ASN
1	M	179	HIS
2	A	227	HIS
3	C	52	GLN
5	D	212	GLN
5	D	317	GLN
9	G	391	ASN
10	H	64	HIS
10	H	157	ASN
10	H	306	HIS
12	L	1632	HIS
12	L	2633	ASN
12	L	2698	GLN
12	L	2884	GLN
15	R	2	GLN
15	R	25	ASN
15	R	60	ASN
15	R	62	GLN
15	R	68	HIS
16	Q	110	HIS

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Mol	Chain	Res	Type
16	Q	150	GLN
16	Q	205	HIS
16	Q	466	ASN
17	O	26	ASN
17	O	52	ASN
17	O	54	GLN
17	O	76	ASN
18	P	14	GLN
18	P	36	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

1 non-standard protein/DNA/RNA residue is modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
15	GLZ	R	76	15,16	3,3,3	0.70	0	0,2,2	-	-

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
15	GLZ	R	76	15,16	-	0/0/1/1	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

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](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
14	N	6
13	B	2
1	M	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	B	414:ASP	C	462:ALA	N	28.86
1	B	471:ASP	C	509:ASP	N	23.98
1	N	117:UNK	C	172:UNK	N	15.59
1	N	287:UNK	C	332:UNK	N	5.97
1	N	213:UNK	C	214:UNK	N	4.21
1	N	467:UNK	C	468:UNK	N	2.43
1	N	451:UNK	C	452:UNK	N	1.99
1	M	194:ILE	C	195:TYR	N	1.97
1	N	207:UNK	C	208:UNK	N	1.79

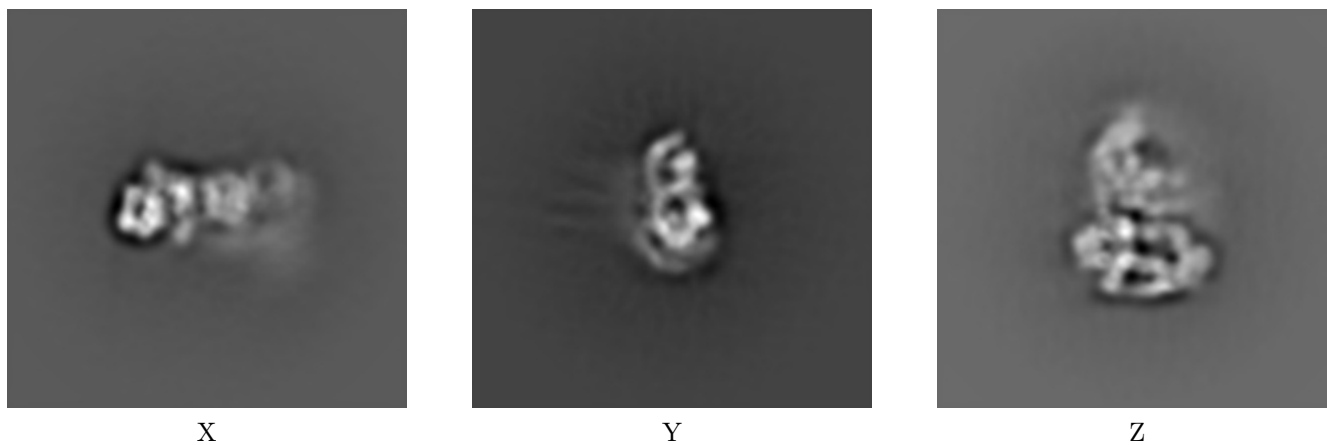
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-10446. 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](#)

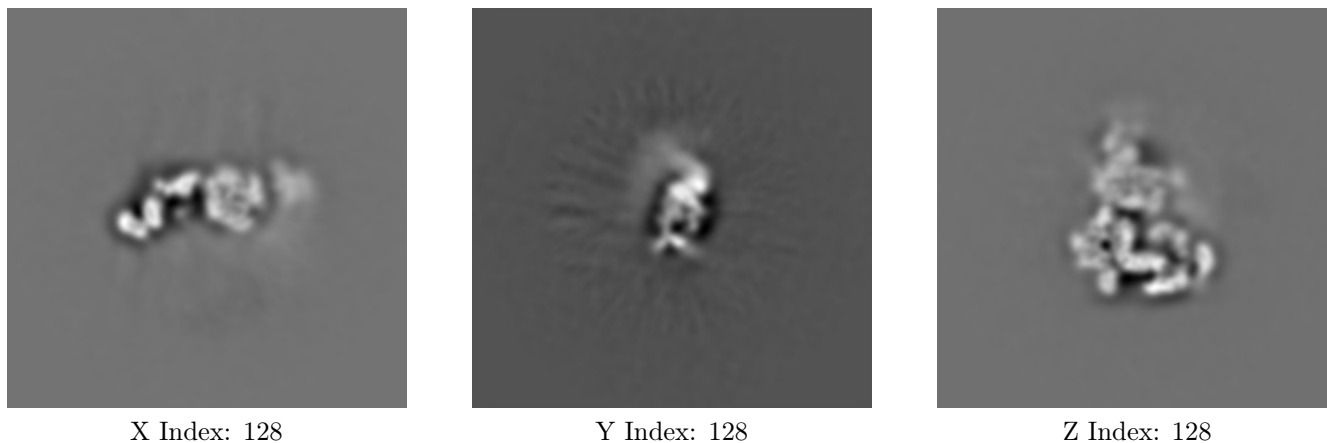
6.1.1 Primary map



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

6.2 Central slices [i](#)

6.2.1 Primary map



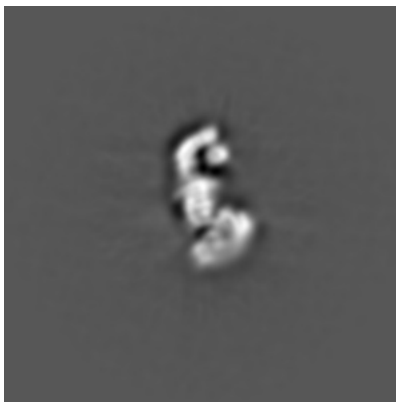
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [\(i\)](#)

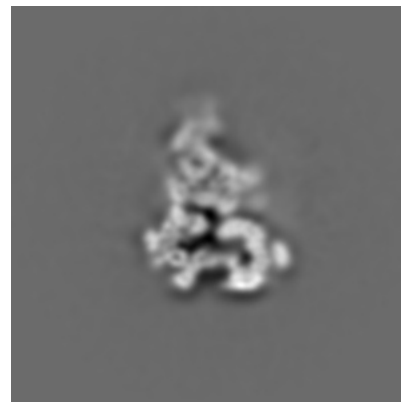
6.3.1 Primary map



X Index: 121



Y Index: 93

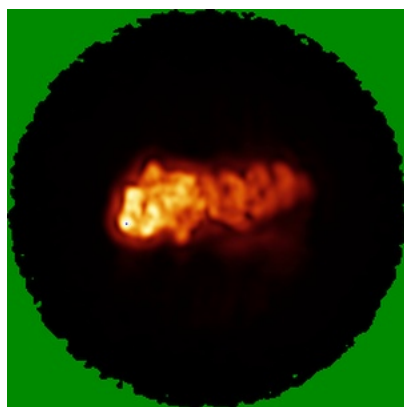


Z Index: 133

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

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

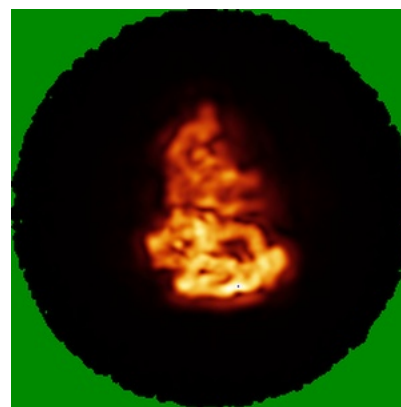
6.4.1 Primary map



X



Y

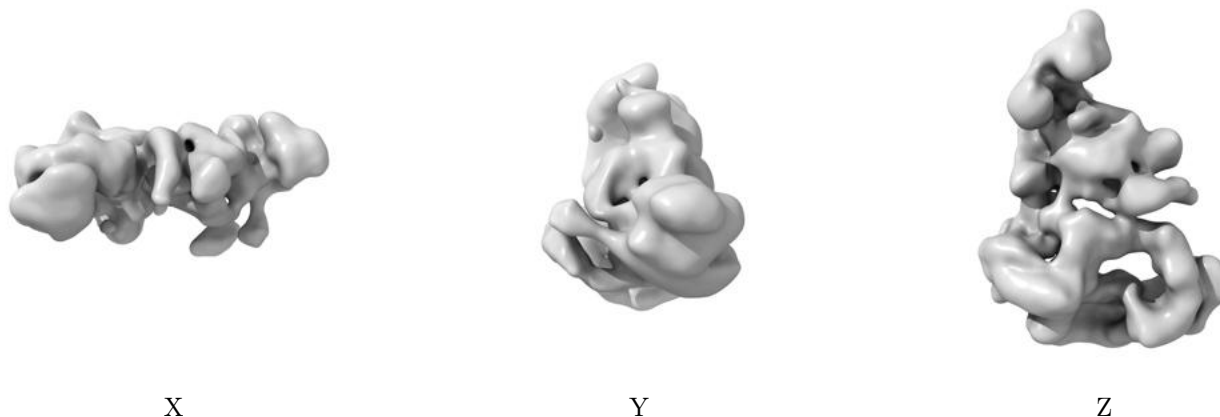


Z

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 0.004. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

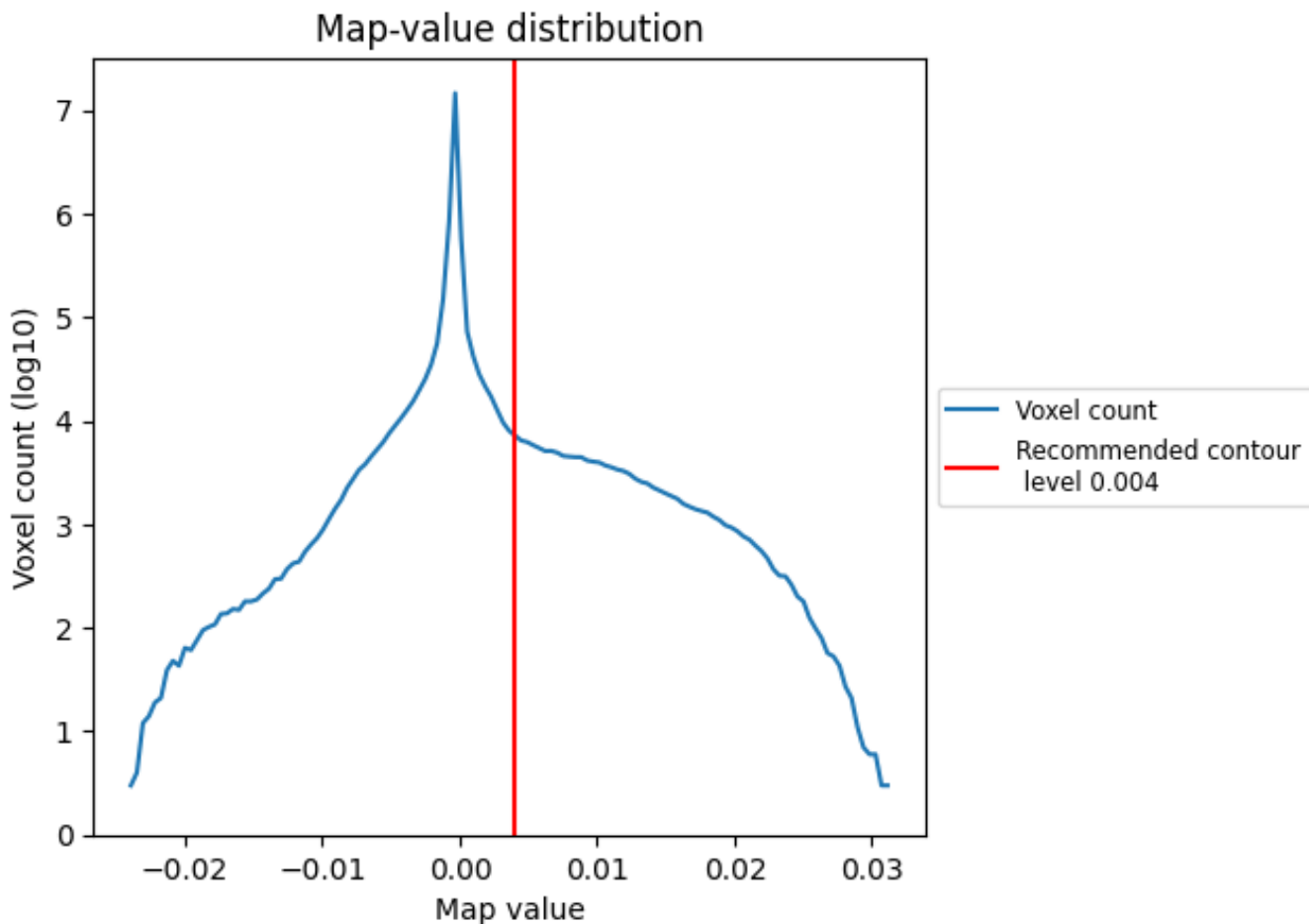
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

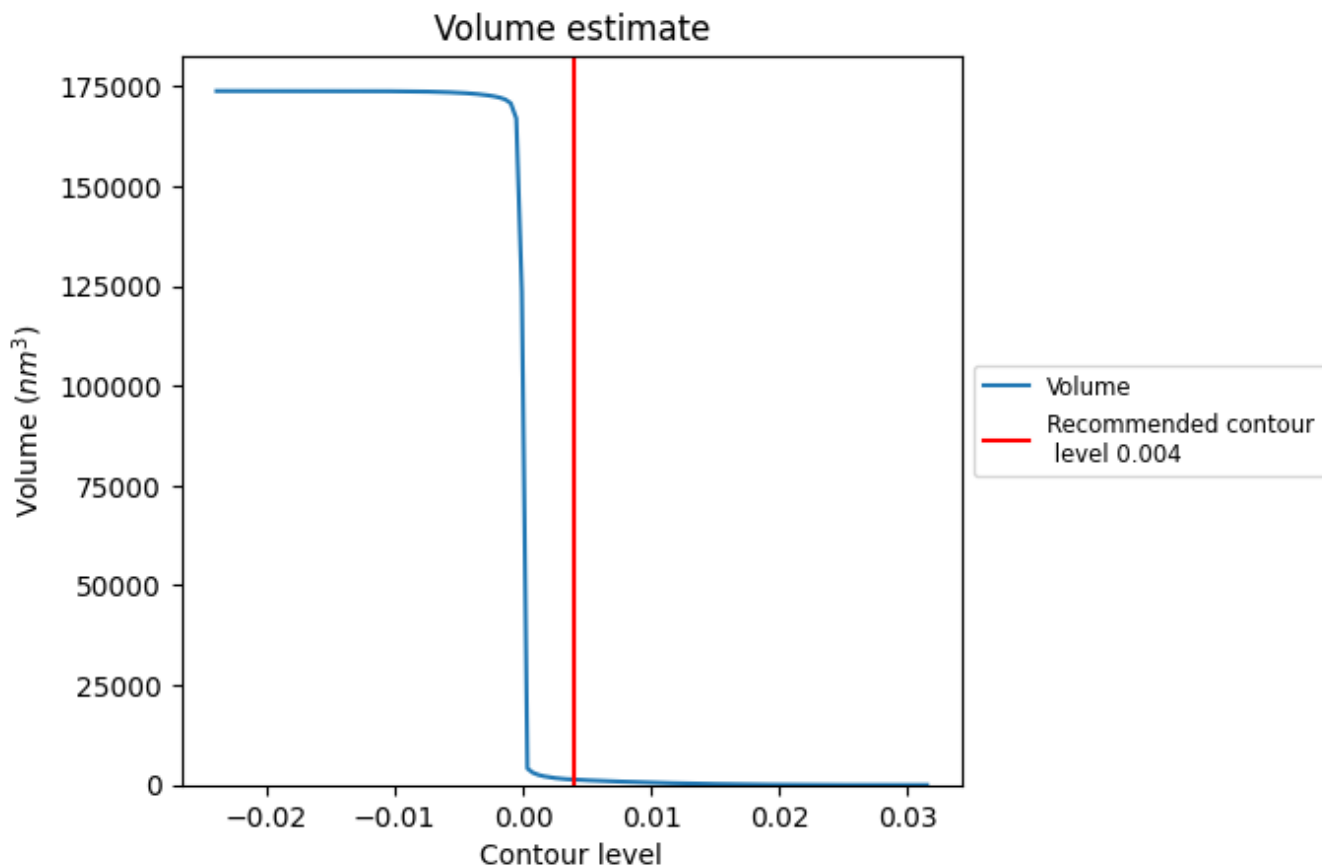
This section contains the results of statistical analysis of the map.

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.

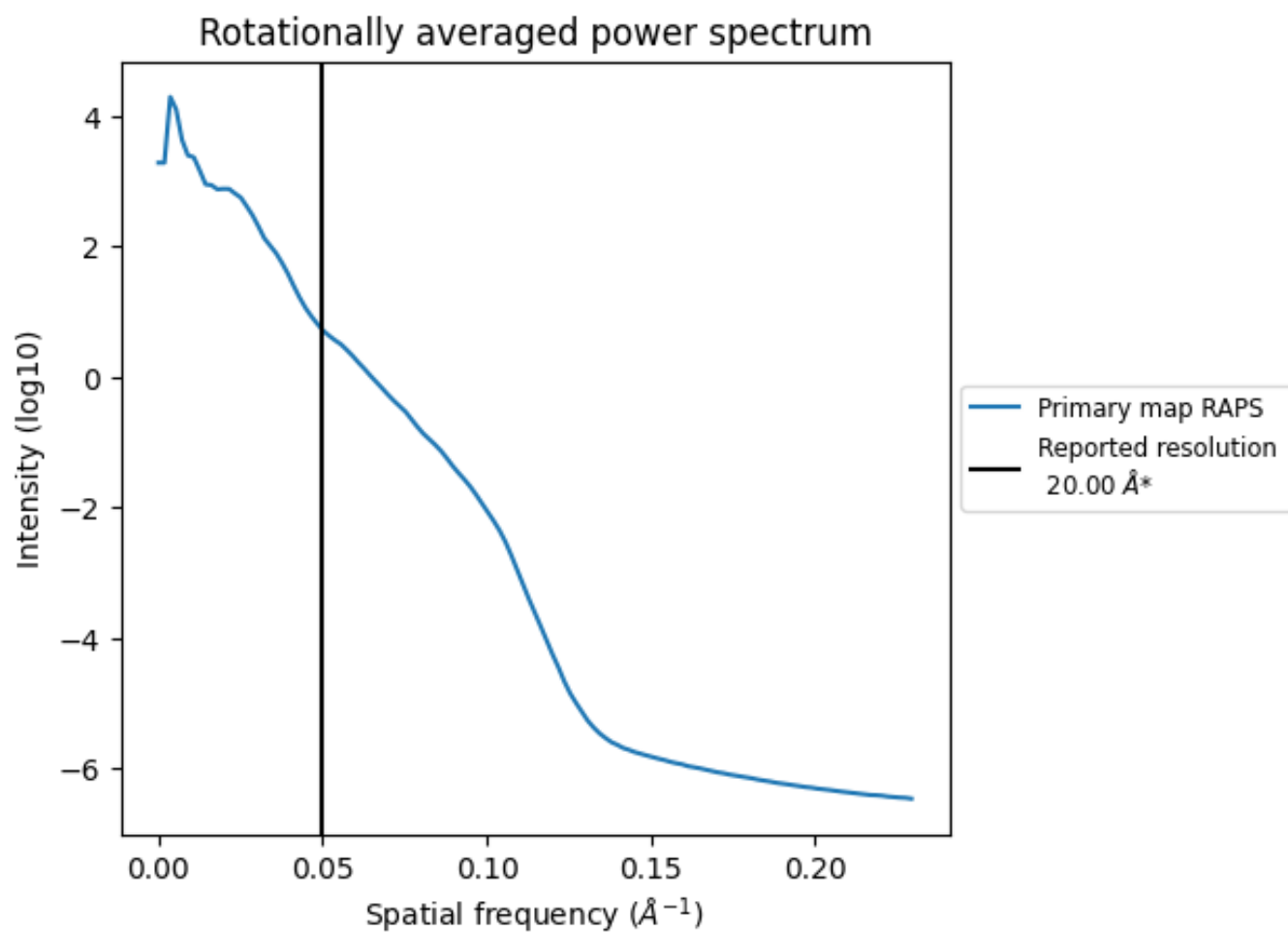
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1341 nm³; this corresponds to an approximate mass of 1211 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 0.050 Å⁻¹

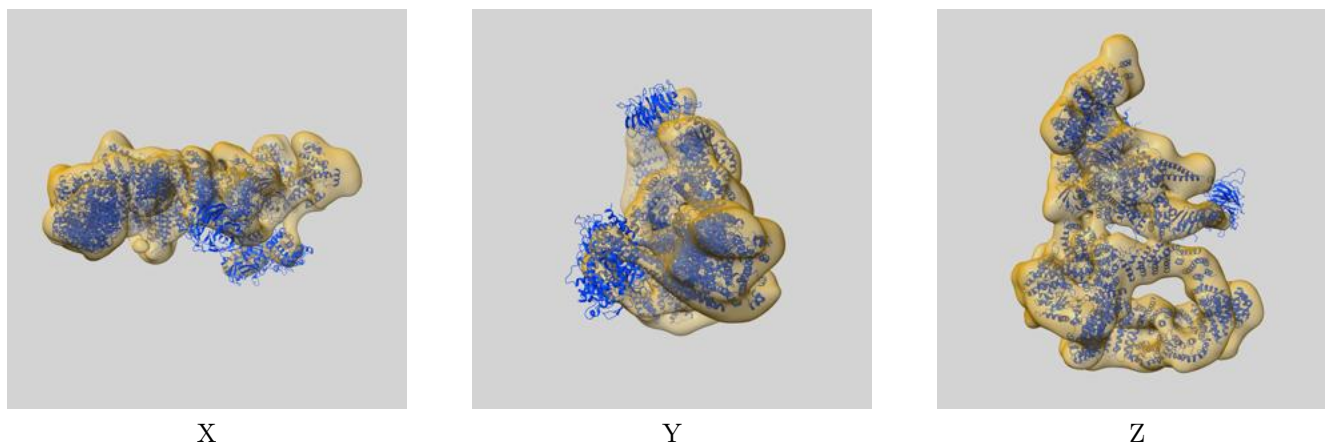
8 Fourier-Shell correlation

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

9 Map-model fit [i](#)

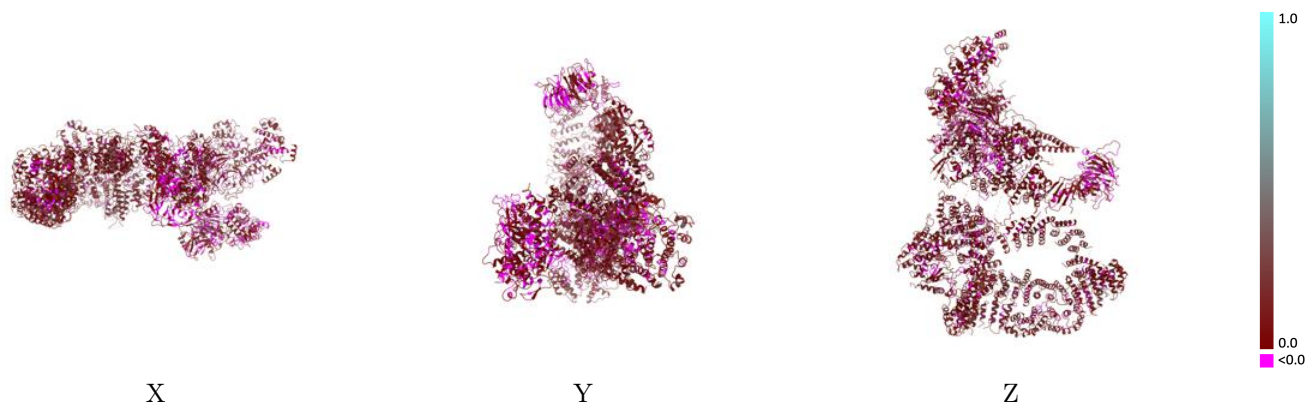
This section contains information regarding the fit between EMDB map EMD-10446 and PDB model 6TBM. Per-residue inclusion information can be found in section [3](#) on page [9](#).

9.1 Map-model overlay [i](#)



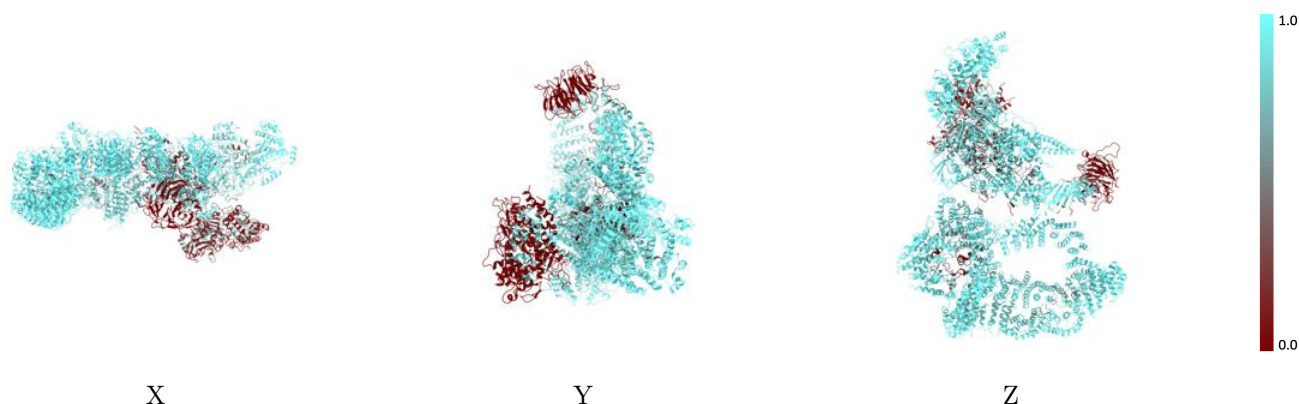
The images above show the 3D surface view of the map at the recommended contour level 0.004 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



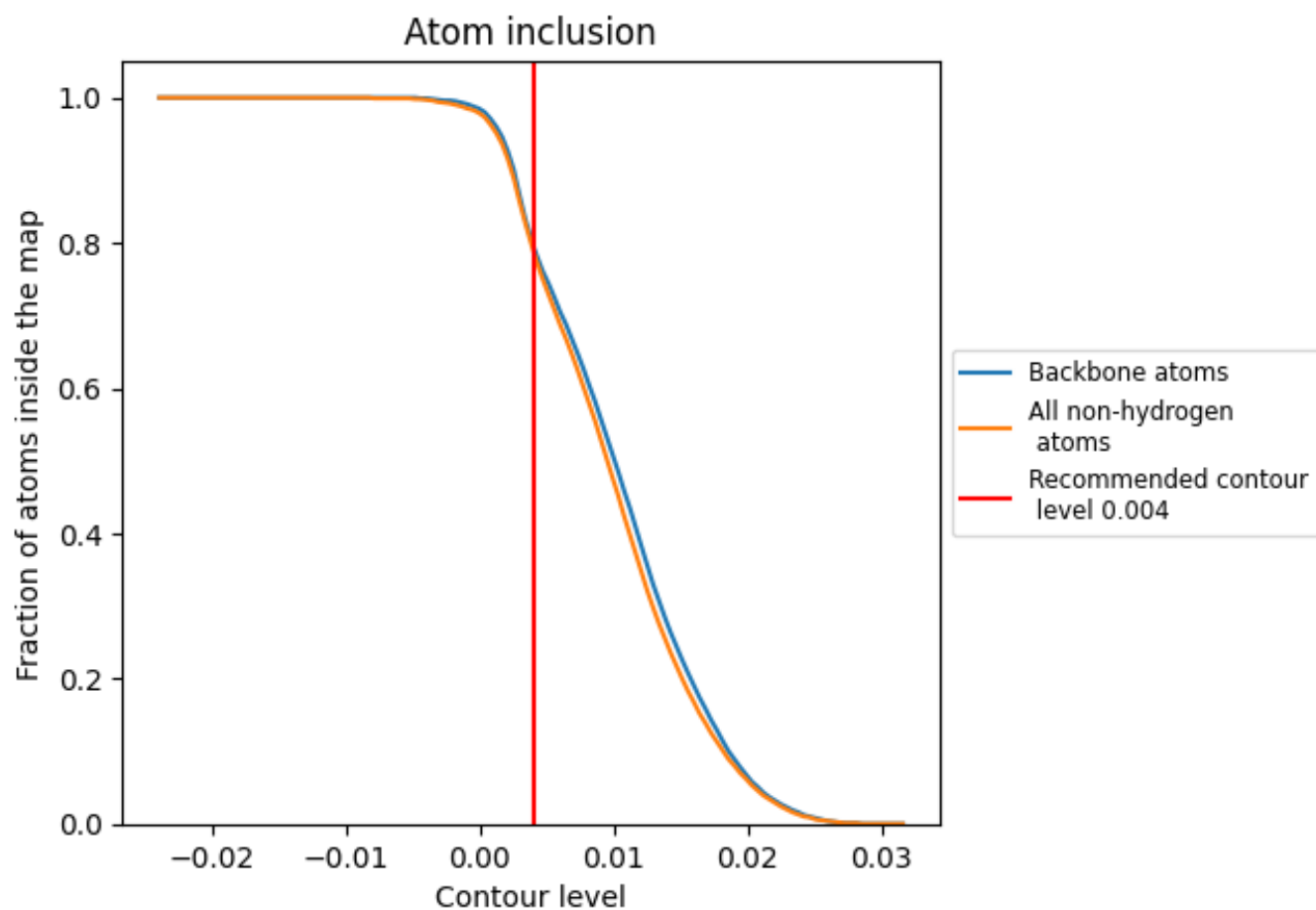
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.004).







































9.4 Atom inclusion [i](#)



At the recommended contour level, 80% of all backbone atoms, 79% 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 (0.004) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7880	 0.0800
A	 0.7340	 0.0550
B	 1.0000	 0.1030
C	 0.5900	 0.0520
D	 0.8780	 0.0850
E	 0.9840	 0.1110
F	 0.8990	 0.0920
G	 0.8960	 0.0740
H	 0.9010	 0.0800
I	 0.8680	 0.0710
J	 0.9480	 0.0730
K	 0.8180	 0.0500
L	 0.9280	 0.1010
M	 0.8060	 0.0760
N	 0.0380	 0.0210
O	 0.1700	 0.0130
P	 0.2190	 0.0410
Q	 0.2220	 0.0270
R	 0.3800	 0.0620

