Full wwPDB EM Validation Report ⓘ

Dec 6, 2023 – 05:11 pm GMT

PDB ID	:	8AT4
EMDB ID	:	EMD-15633
Title	:	Structure of the augmin holocomplex in closed conformation
Authors	:	Zupa, E.; Pfeffer, S.
Deposited on	:	2022-08-22
Resolution	:	33.00 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:

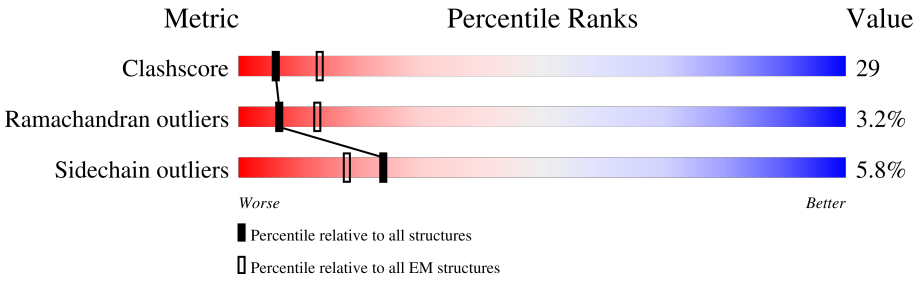
EMDB validation analysis	:	0.0.1.dev70
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 33.00 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	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

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

Mol	Chain	Length	Quality of chain
1	A	286	37% 59% 27% 8% 5%
2	B	597	27% 55% 29% 8% 7%
3	C	353	26% 59% 33% 5%
4	D	666	29% 55% 33% 7% 5%
5	E	222	45% 52% 33% 9%
6	F	978	9% 22% 13% 60%
7	G	348	24% 47% 36% 9% 5%
8	H	367	5% 33% 17% 45%

2 Entry composition

There are 8 unique types of molecules in this entry. The entry contains 24599 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 HAUS augmin-like complex subunit 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	286	2282	1436	380	453	13	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	156	ARG	GLN	variant	UNP Q3B8L5

- Molecule 2 is a protein called HAUS augmin-like complex subunit 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	B	597	4771	2988	817	943	23	0	0

- Molecule 3 is a protein called HAUS augmin like complex subunit 4 L homeolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	C	353	2885	1807	508	554	16	0	0

- Molecule 4 is a protein called HAUS augmin-like complex subunit 5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	D	666	5415	3362	1000	1022	31	0	0

- Molecule 5 is a protein called HAUS augmin like complex subunit 2 L homeolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	E	217	1717	1075	296	334	12	0	0

- Molecule 6 is a protein called HAUS augmin like complex subunit 6 L homeolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	F	387	Total	C	N	O	S	0	0
			3171	2020	574	558	19		

- Molecule 7 is a protein called HAUS augmin like complex subunit 7 S homeolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	G	339	Total	C	N	O	S	0	0
			2687	1694	441	533	19		

- Molecule 8 is a protein called HAUS augmin-like complex subunit 8.

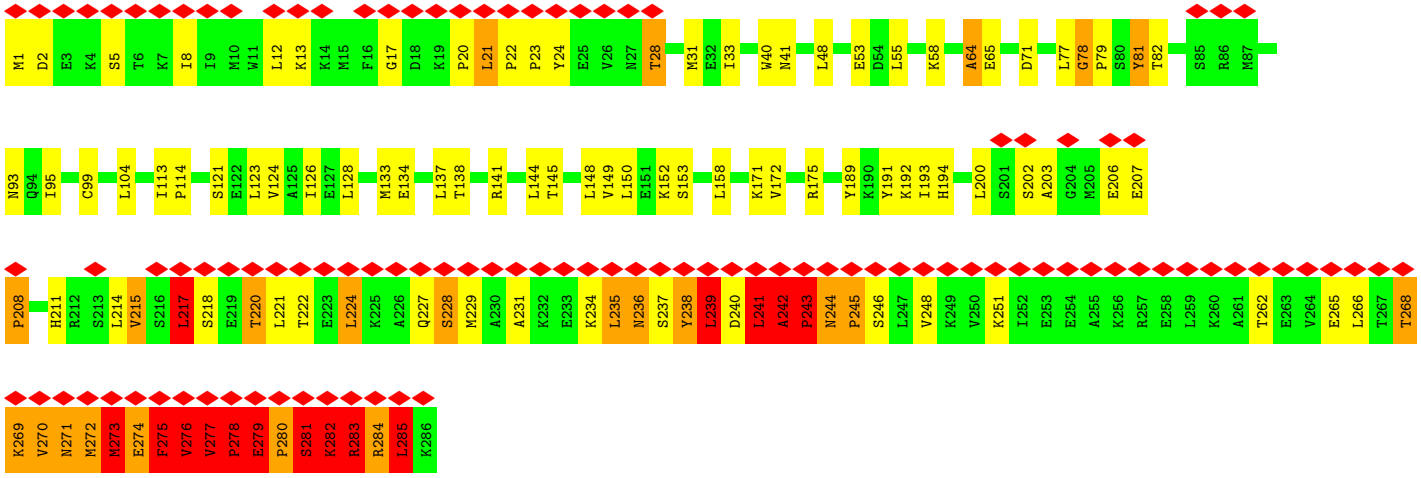
Mol	Chain	Residues	Atoms					AltConf	Trace
8	H	203	Total	C	N	O	S	0	0
			1671	1048	285	331	7		

3 Residue-property plots (i)

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

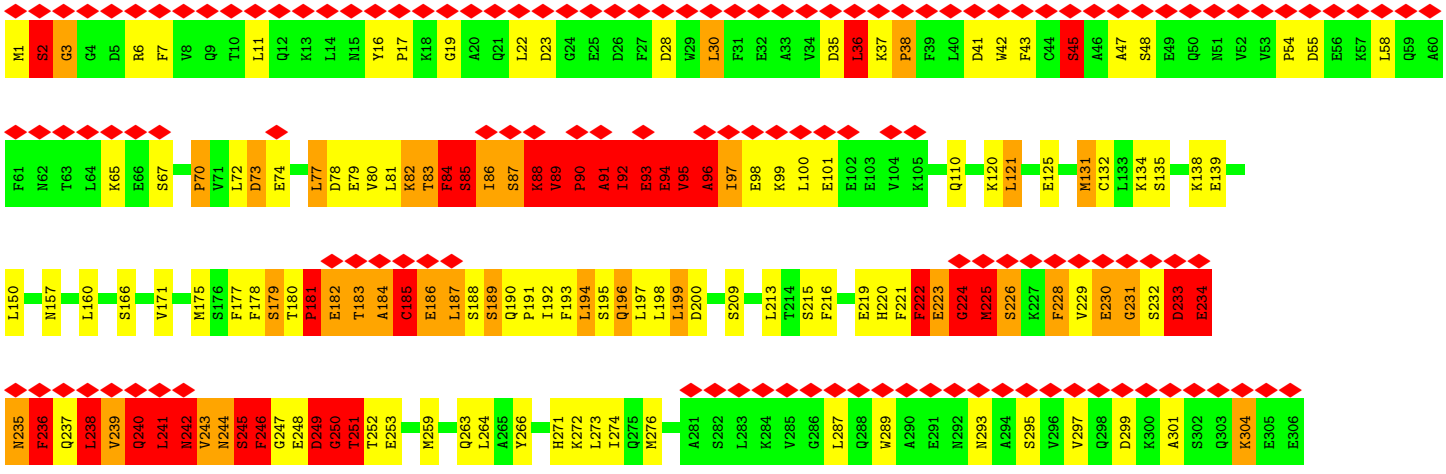
• Molecule 1: HAUS augmin-like complex subunit 1

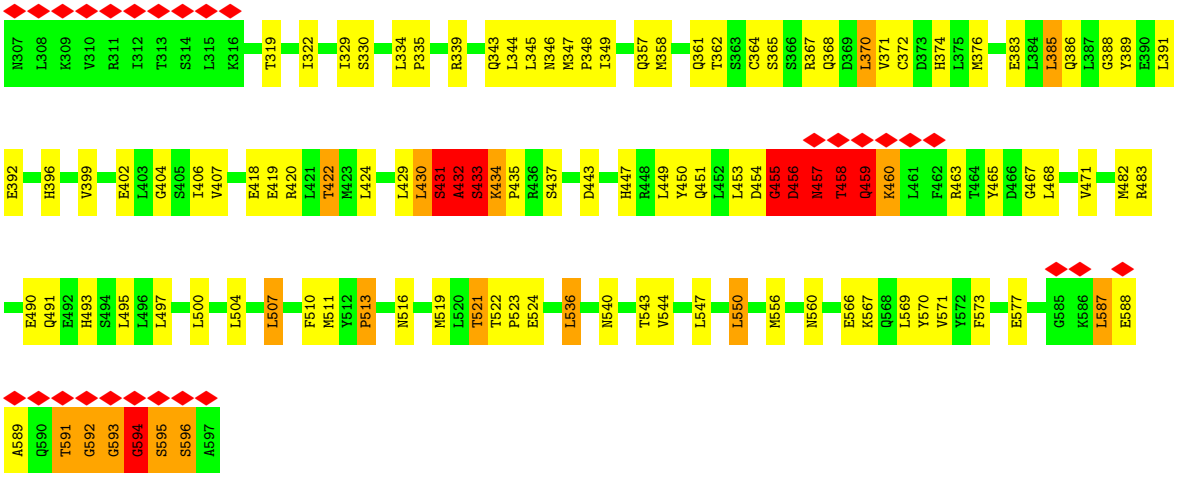
Chain A:



• Molecule 2: HAUS augmin-like complex subunit 3

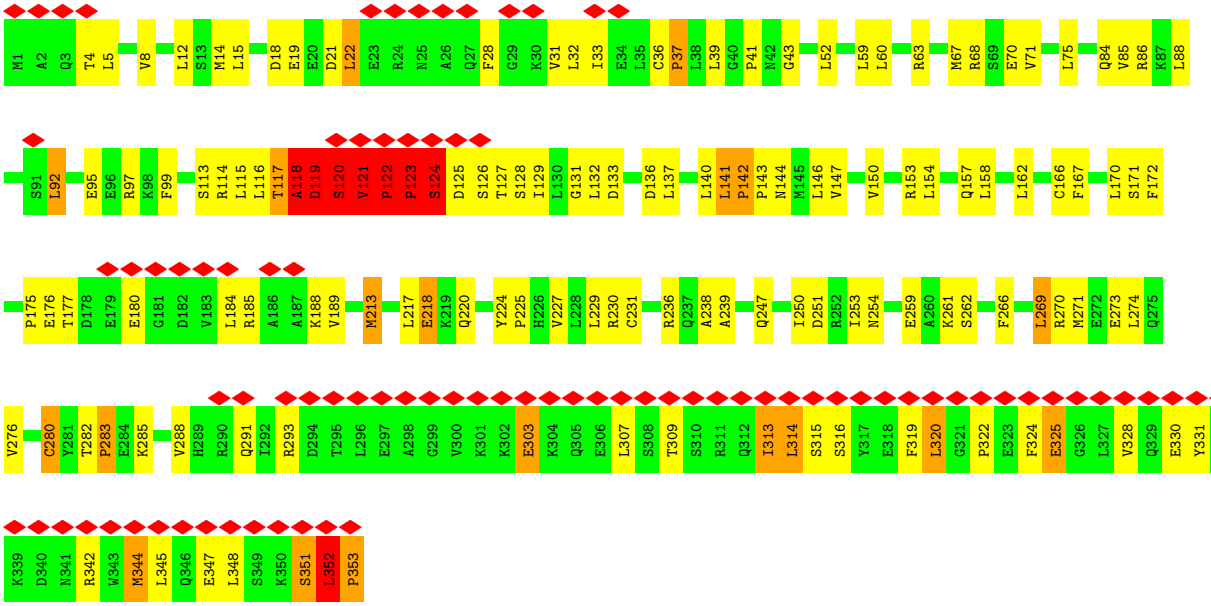
Chain B:





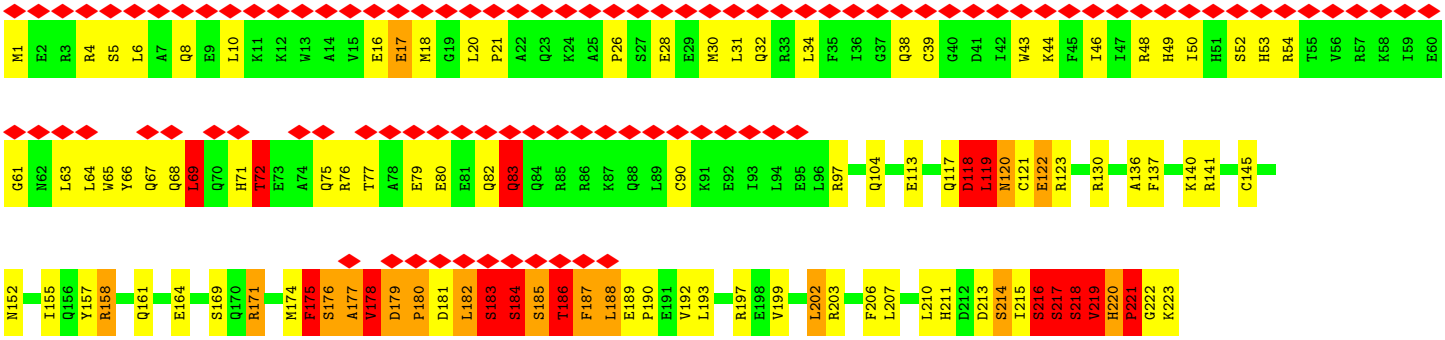
• Molecule 3: HAUS augmin like complex subunit 4 L homeolog

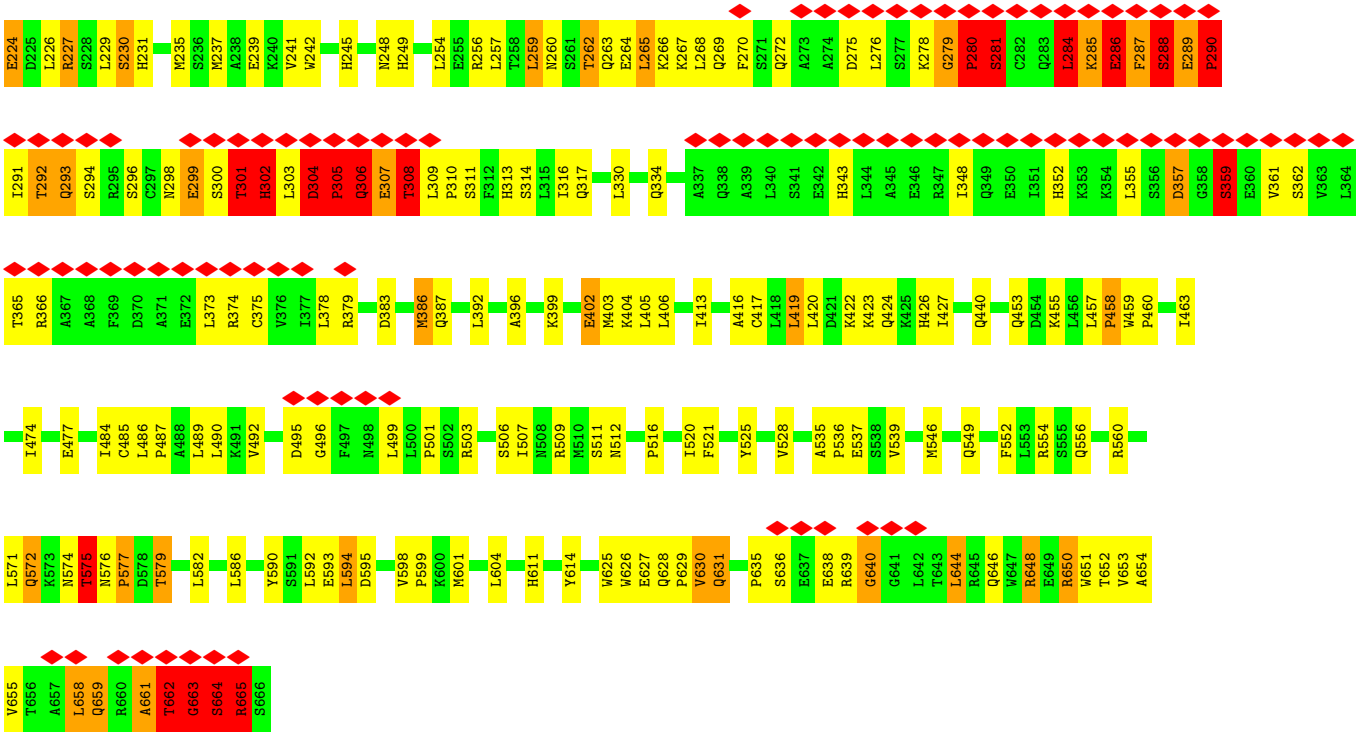
Chain C:



• Molecule 4: HAUS augmin-like complex subunit 5

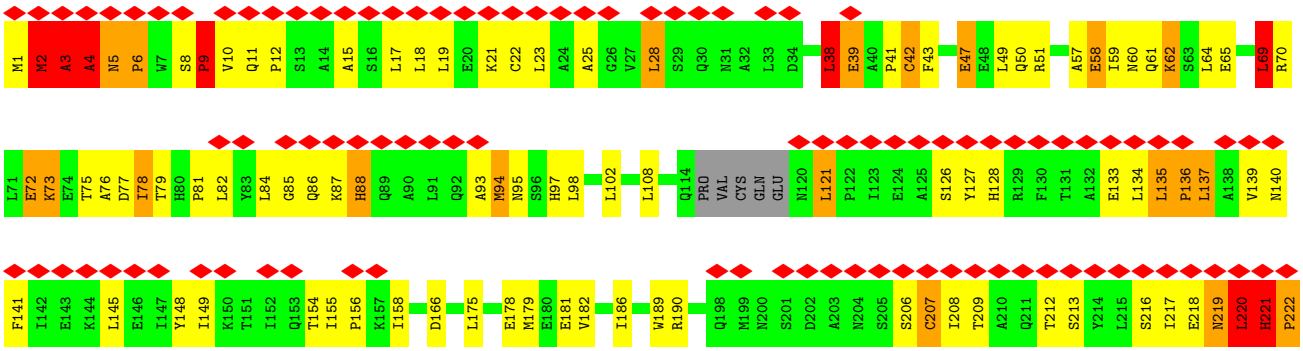
Chain D:





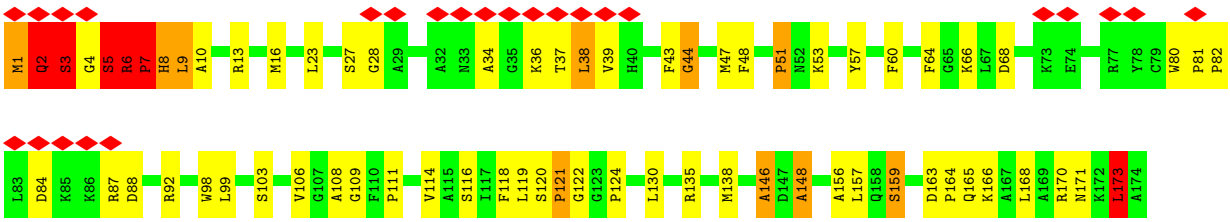
• Molecule 5: HAUS augmin like complex subunit 2 L homeolog

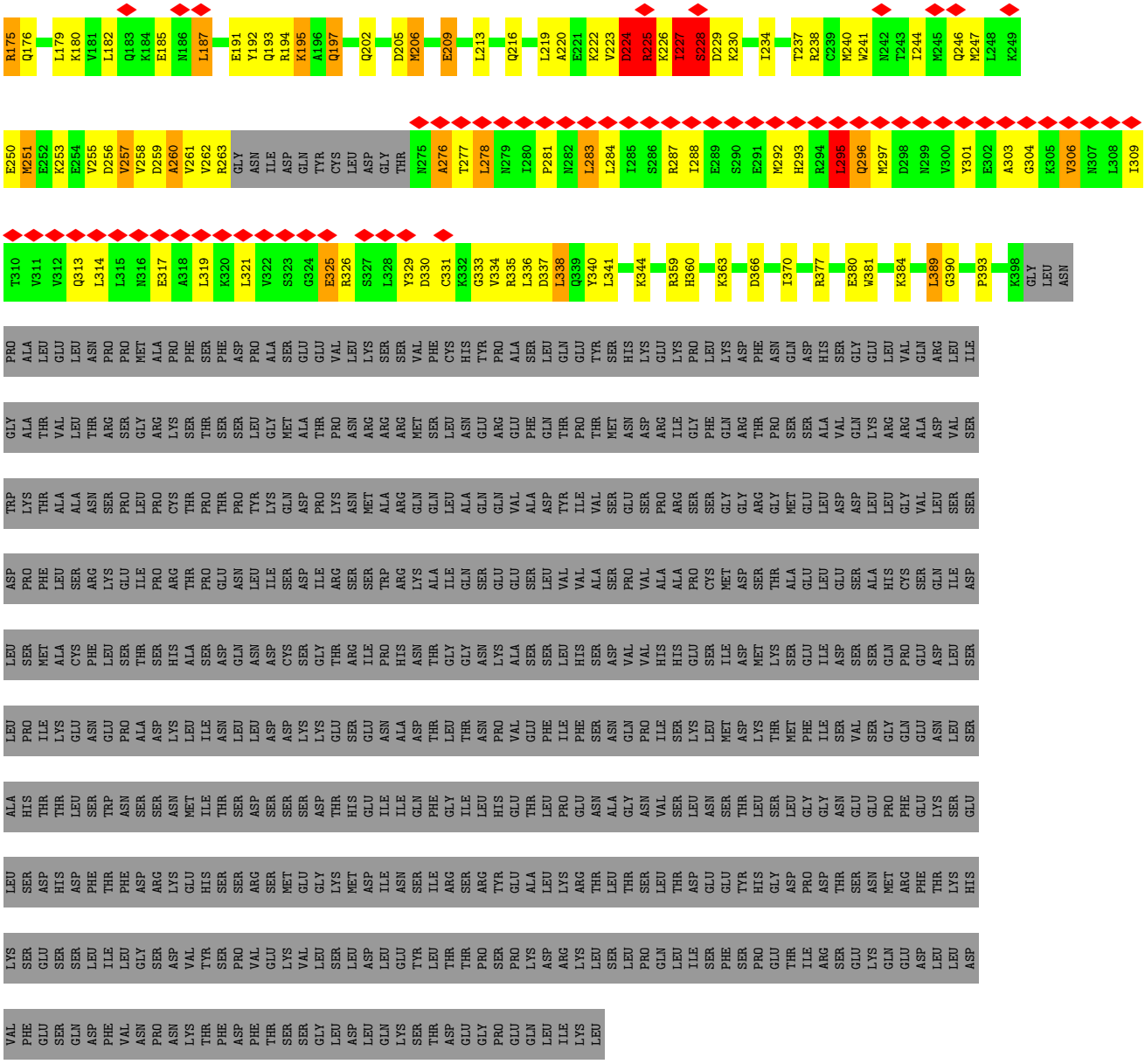
Chain E:



• Molecule 6: HAUS augmin like complex subunit 6 L homeolog

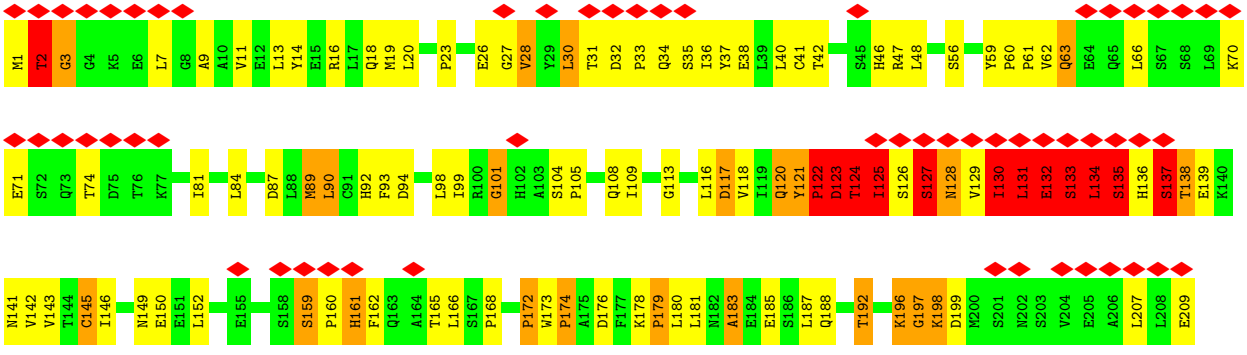
Chain F:

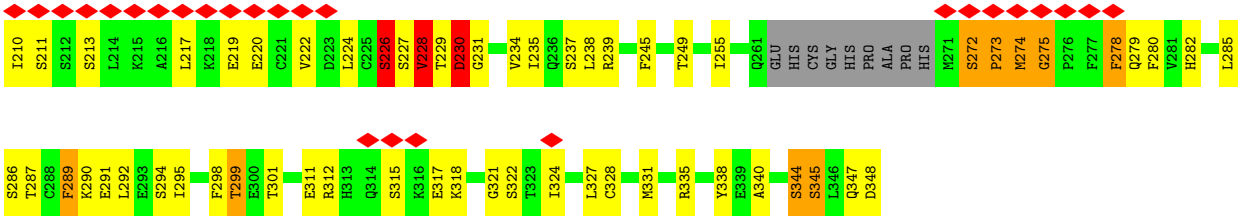




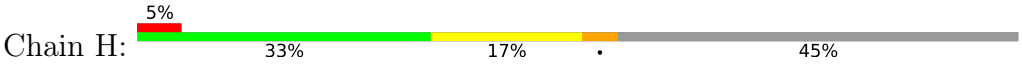
• Molecule 7: HAUS augmin like complex subunit 7 S homeolog

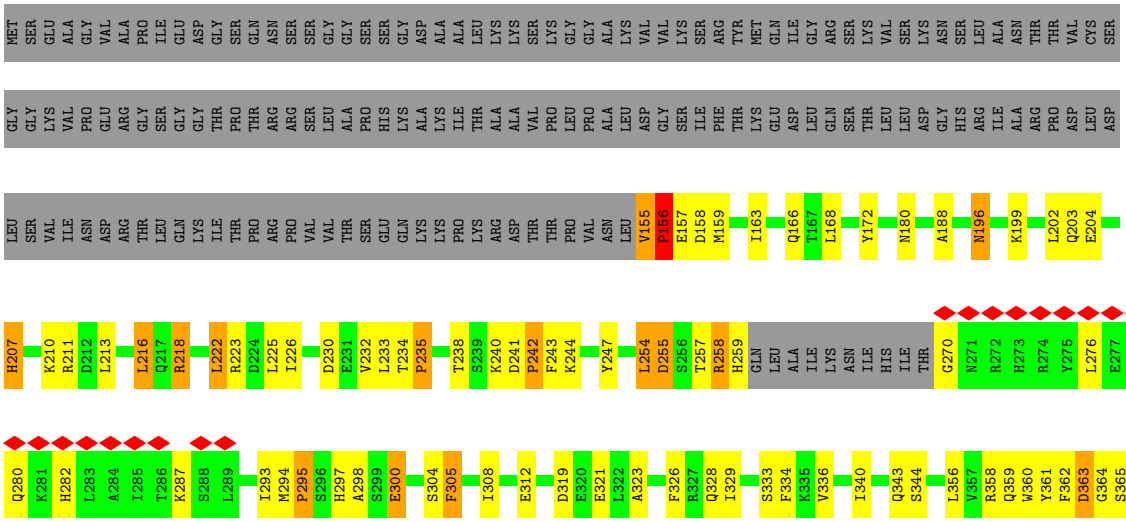
Chain G:





• Molecule 8: HAUS augmin-like complex subunit 8





4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	10658	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS TALOS L120C	Depositor
Voltage (kV)	120	Depositor
Electron dose ($e^-/Å^2$)	101.8	Depositor
Minimum defocus (nm)	2000	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	Not provided	
Image detector	FEI CETA (4k x 4k)	Depositor
Maximum map value	0.138	Depositor
Minimum map value	-0.025	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.004	Depositor
Recommended contour level	0.0245	Depositor
Map size (Å)	601.6, 601.6, 601.6	wwPDB
Map dimensions	256, 256, 256	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	2.35, 2.35, 2.35	Depositor

5 Model quality

5.1 Standard geometry

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	A	1.47	38/2309 (1.6%)	1.41	48/3102 (1.5%)
2	B	1.15	37/4836 (0.8%)	1.31	74/6496 (1.1%)
3	C	0.99	24/2920 (0.8%)	1.18	29/3925 (0.7%)
4	D	1.06	53/5503 (1.0%)	1.29	61/7400 (0.8%)
5	E	1.34	41/1743 (2.4%)	1.08	16/2359 (0.7%)
6	F	1.22	56/3229 (1.7%)	1.12	34/4333 (0.8%)
7	G	1.19	48/2736 (1.8%)	1.30	38/3698 (1.0%)
8	H	1.12	19/1692 (1.1%)	0.95	7/2278 (0.3%)
All	All	1.17	316/24968 (1.3%)	1.24	307/33591 (0.9%)

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	A	0	15
2	B	0	68
3	C	0	11
4	D	0	41
5	E	0	11
6	F	0	19
7	G	0	27
8	H	0	1
All	All	0	193

All (316) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	223	GLU	C-N	26.85	1.81	1.33
1	A	277	VAL	C-N	24.02	1.79	1.34
2	B	591	THR	C-N	18.64	1.66	1.33
1	A	280	PRO	C-N	17.83	1.75	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	272	MET	C-N	-16.41	0.96	1.34
1	A	283	ARG	C-N	15.76	1.70	1.34
1	A	284	ARG	C-N	15.51	1.69	1.34
6	F	34	ALA	C-N	14.93	1.59	1.33
3	C	319	PHE	C-N	13.88	1.66	1.34
1	A	276	VAL	C-N	13.55	1.65	1.34
2	B	593	GLY	C-N	13.20	1.56	1.33
2	B	17	PRO	N-CD	-12.02	1.31	1.47
5	E	6	PRO	N-CD	-11.95	1.31	1.47
2	B	513	PRO	N-CD	-11.91	1.31	1.47
7	G	122	PRO	N-CD	-11.87	1.31	1.47
5	E	9	PRO	N-CD	-11.82	1.31	1.47
2	B	592	GLY	C-N	-11.82	1.11	1.33
1	A	245	PRO	N-CD	-11.81	1.31	1.47
8	H	367	PRO	N-CD	-11.81	1.31	1.47
4	D	576	ASN	C-N	11.78	1.56	1.34
4	D	21	PRO	N-CD	-11.75	1.31	1.47
1	A	22	PRO	N-CD	-11.74	1.31	1.47
4	D	221	PRO	N-CD	-11.69	1.31	1.47
4	D	26	PRO	N-CD	-11.58	1.31	1.47
4	D	180	PRO	N-CD	-11.49	1.31	1.47
1	A	208	PRO	N-CD	-11.47	1.31	1.47
2	B	90	PRO	N-CD	-11.46	1.31	1.47
2	B	54	PRO	N-CD	-11.42	1.31	1.47
5	E	222	PRO	N-CD	-11.40	1.31	1.47
4	D	280	PRO	N-CD	-11.26	1.32	1.47
3	C	283	PRO	N-CD	-11.23	1.32	1.47
3	C	353	PRO	N-CD	-11.05	1.32	1.47
5	E	41	PRO	N-CD	-11.03	1.32	1.47
4	D	290	PRO	N-CD	-11.02	1.32	1.47
4	D	495	ASP	C-N	11.01	1.52	1.33
6	F	7	PRO	N-CD	-11.01	1.32	1.47
4	D	190	PRO	N-CD	-11.00	1.32	1.47
1	A	282	LYS	C-N	10.99	1.59	1.34
3	C	122	PRO	N-CD	-10.97	1.32	1.47
3	C	322	PRO	N-CD	-10.96	1.32	1.47
2	B	181	PRO	N-CD	-10.86	1.32	1.47
2	B	191	PRO	N-CD	-10.76	1.32	1.47
1	A	274	GLU	C-N	10.45	1.58	1.34
4	D	305	PRO	N-CD	-10.36	1.33	1.47
6	F	82	PRO	N-CD	-10.25	1.33	1.47
6	F	106	VAL	C-N	10.18	1.51	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	G	23	PRO	N-CD	-10.15	1.33	1.47
1	A	273	MET	C-N	10.14	1.57	1.34
8	H	155	VAL	C-N	-10.04	1.15	1.34
2	B	560	ASN	C-N	9.97	1.56	1.34
4	D	635	PRO	N-CD	-9.97	1.33	1.47
6	F	121	PRO	N-CD	-9.93	1.33	1.47
3	C	123	PRO	N-CD	-9.92	1.33	1.47
2	B	70	PRO	N-CD	-9.85	1.34	1.47
8	H	156	PRO	N-CD	-9.85	1.34	1.47
6	F	1	MET	C-N	-9.65	1.11	1.34
7	G	196	LYS	C-N	9.64	1.50	1.33
6	F	148	ALA	C-N	9.59	1.50	1.33
1	A	278	PRO	N-CD	-9.50	1.34	1.47
6	F	393	PRO	N-CD	-9.28	1.34	1.47
8	H	295	PRO	N-CD	-9.27	1.34	1.47
1	A	269	LYS	C-N	-9.26	1.12	1.34
1	A	20	PRO	N-CD	-8.98	1.35	1.47
4	D	659	GLN	C-N	8.85	1.54	1.34
4	D	227	ARG	C-N	-8.76	1.14	1.34
1	A	243	PRO	N-CD	-8.67	1.35	1.47
6	F	121	PRO	C-N	-8.54	1.17	1.33
6	F	262	VAL	C-N	-8.55	1.14	1.34
6	F	281	PRO	N-CD	-8.52	1.35	1.47
4	D	577	PRO	N-CD	-8.50	1.35	1.47
4	D	402	GLU	C-N	-8.47	1.14	1.34
2	B	38	PRO	N-CD	-8.47	1.35	1.47
1	A	280	PRO	N-CD	-8.45	1.36	1.47
1	A	239	LEU	C-N	8.45	1.53	1.34
2	B	587	LEU	C-N	8.39	1.53	1.34
5	E	86	GLN	C-N	-8.31	1.15	1.34
7	G	275	GLY	C-N	-8.29	1.18	1.34
6	F	146	ALA	C-N	-8.27	1.15	1.34
7	G	315	SER	C-N	8.22	1.52	1.34
1	A	229	MET	C-N	-8.21	1.15	1.34
5	E	133	GLU	C-N	-8.20	1.15	1.34
4	D	72	THR	C-N	8.11	1.52	1.34
1	A	265	GLU	C-N	-8.08	1.15	1.34
5	E	25	ALA	C-N	8.06	1.47	1.33
2	B	455	GLY	C-N	8.05	1.52	1.34
7	G	160	PRO	N-CD	-8.04	1.36	1.47
6	F	111	PRO	N-CD	-8.03	1.36	1.47
6	F	213	LEU	C-N	-7.99	1.15	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	434	LYS	C-N	7.92	1.49	1.34
1	A	206	GLU	C-N	-7.90	1.15	1.34
5	E	12	PRO	N-CD	-7.88	1.36	1.47
4	D	221	PRO	C-N	-7.86	1.18	1.33
7	G	27	GLY	C-N	7.84	1.52	1.34
5	E	69	LEU	C-N	-7.83	1.16	1.34
4	D	357	ASP	C-N	7.82	1.47	1.33
3	C	41	PRO	N-CD	-7.82	1.36	1.47
1	A	268	THR	C-N	-7.80	1.16	1.34
7	G	174	PRO	N-CD	-7.75	1.36	1.47
7	G	226	SER	C-N	7.74	1.51	1.34
4	D	69	LEU	C-N	7.73	1.51	1.34
4	D	18	MET	C-N	7.73	1.47	1.33
7	G	345	SER	C-N	7.73	1.51	1.34
6	F	81	PRO	N-CD	-7.70	1.37	1.47
6	F	80	TRP	C-N	-7.69	1.19	1.34
1	A	242	ALA	C-N	-7.69	1.19	1.34
4	D	180	PRO	C-N	7.67	1.51	1.34
4	D	662	THR	C-N	7.65	1.46	1.33
7	G	289	PHE	C-N	-7.61	1.16	1.34
5	E	73	LYS	C-N	-7.56	1.16	1.34
2	B	73	ASP	C-N	-7.53	1.16	1.34
6	F	258	VAL	C-N	-7.48	1.16	1.34
7	G	234	VAL	C-N	-7.48	1.16	1.34
2	B	435	PRO	N-CD	-7.40	1.37	1.47
1	A	2	ASP	C-N	7.35	1.50	1.34
7	G	122	PRO	C-N	-7.35	1.17	1.34
4	D	224	GLU	C-N	7.34	1.50	1.34
8	H	242	PRO	N-CD	-7.25	1.37	1.47
2	B	589	ALA	C-N	-7.24	1.17	1.34
6	F	27	SER	C-N	7.21	1.46	1.33
5	E	11	GLN	C-N	-7.18	1.20	1.34
3	C	113	SER	C-N	-7.18	1.17	1.34
2	B	594	GLY	C-N	-7.15	1.17	1.34
5	E	82	LEU	C-N	-7.09	1.17	1.34
4	D	640	GLY	C-N	7.08	1.45	1.33
8	H	361	TYR	C-N	7.06	1.50	1.34
6	F	51	PRO	C-N	-7.05	1.17	1.34
4	D	313	HIS	C-N	-7.01	1.18	1.34
6	F	209	GLU	C-N	-7.01	1.18	1.34
1	A	17	GLY	C-N	6.99	1.50	1.34
2	B	6	ARG	C-N	-6.96	1.18	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	F	253	LYS	C-N	-6.95	1.18	1.34
2	B	215	SER	C-N	-6.94	1.18	1.34
3	C	314	LEU	C-N	-6.91	1.18	1.34
6	F	44	GLY	C-N	-6.90	1.18	1.34
6	F	108	ALA	C-N	-6.90	1.20	1.33
6	F	222	LYS	C-N	6.86	1.49	1.34
8	H	300	GLU	C-N	-6.86	1.18	1.34
2	B	150	LEU	C-N	6.84	1.49	1.34
5	E	93	ALA	C-N	-6.82	1.18	1.34
7	G	71	GLU	C-N	6.81	1.49	1.34
8	H	196	ASN	C-N	-6.79	1.18	1.34
2	B	222	PHE	C-N	-6.78	1.18	1.34
4	D	176	SER	C-N	6.78	1.49	1.34
7	G	161	HIS	C-N	-6.77	1.18	1.34
1	A	270	VAL	C-N	6.72	1.49	1.34
3	C	37	PRO	N-CD	-6.70	1.38	1.47
7	G	130	ILE	C-N	6.65	1.49	1.34
5	E	78	ILE	C-N	-6.64	1.18	1.34
8	H	333	SER	C-N	-6.64	1.18	1.34
7	G	141	ASN	C-N	-6.62	1.18	1.34
5	E	58	GLU	C-N	-6.54	1.19	1.34
3	C	291	GLN	C-N	-6.54	1.19	1.34
6	F	260	ALA	C-N	-6.54	1.19	1.34
6	F	292	MET	C-N	6.54	1.49	1.34
3	C	352	LEU	C-N	6.54	1.46	1.34
3	C	22	LEU	C-N	6.50	1.49	1.34
4	D	311	SER	C-N	-6.50	1.19	1.34
3	C	313	ILE	C-N	-6.49	1.19	1.34
2	B	516	ASN	C-N	-6.48	1.19	1.34
1	A	81	TYR	C-N	6.47	1.49	1.34
4	D	516	PRO	N-CD	-6.47	1.38	1.47
8	H	364	GLY	C-N	6.44	1.48	1.34
5	E	61	GLN	C-N	-6.43	1.19	1.34
5	E	22	CYS	C-N	-6.41	1.19	1.34
8	H	218	ARG	C-N	-6.40	1.19	1.34
1	A	222	THR	C-N	-6.39	1.19	1.34
3	C	124	SER	C-N	6.39	1.48	1.34
6	F	202	GLN	C-N	-6.38	1.19	1.34
2	B	233	ASP	C-N	6.34	1.48	1.34
7	G	33	PRO	N-CD	-6.34	1.39	1.47
2	B	523	PRO	N-CD	-6.33	1.39	1.47
5	E	15	ALA	C-N	-6.32	1.19	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	F	380	GLU	C-N	-6.30	1.19	1.34
4	D	652	THR	C-N	6.27	1.48	1.34
4	D	501	PRO	C-N	-6.24	1.19	1.34
5	E	88	HIS	C-N	-6.24	1.19	1.34
4	D	496	GLY	C-N	6.24	1.48	1.34
4	D	310	PRO	N-CD	-6.24	1.39	1.47
1	A	23	PRO	N-CD	-6.22	1.39	1.47
6	F	195	LYS	C-N	-6.20	1.19	1.34
3	C	142	PRO	N-CD	-6.17	1.39	1.47
7	G	120	GLN	C-N	-6.14	1.20	1.34
5	E	8	SER	C-N	-6.10	1.22	1.34
2	B	249	ASP	C-N	6.08	1.44	1.33
5	E	95	ASN	C-N	-6.06	1.20	1.34
6	F	175	ARG	C-N	-6.05	1.20	1.34
4	D	650	ARG	C-N	-6.05	1.20	1.34
5	E	136	PRO	C-N	-6.05	1.20	1.34
2	B	23	ASP	C-N	-6.04	1.22	1.33
8	H	319	ASP	C-N	-6.04	1.20	1.34
7	G	129	VAL	C-N	6.03	1.48	1.34
7	G	287	THR	C-N	-6.03	1.20	1.34
5	E	72	GLU	C-N	-6.03	1.20	1.34
7	G	26	GLU	C-N	-6.03	1.22	1.33
4	D	661	ALA	C-N	-6.02	1.20	1.34
8	H	297	HIS	C-N	-6.00	1.20	1.34
5	E	128	HIS	C-N	-6.00	1.20	1.34
6	F	173	LEU	C-N	-5.97	1.20	1.34
3	C	213	MET	C-N	-5.96	1.20	1.34
7	G	299	THR	C-N	-5.95	1.20	1.34
5	E	51	ARG	C-N	-5.94	1.20	1.34
4	D	638	GLU	C-N	-5.93	1.20	1.34
7	G	179	PRO	N-CD	-5.91	1.39	1.47
2	B	3	GLY	C-N	-5.89	1.22	1.33
6	F	256	ASP	C-N	-5.89	1.20	1.34
4	D	179	ASP	C-N	5.88	1.45	1.34
4	D	511	SER	C-N	5.88	1.47	1.34
5	E	137	LEU	C-N	-5.88	1.20	1.34
6	F	329	TYR	C-N	5.88	1.47	1.34
1	A	79	PRO	N-CD	-5.88	1.39	1.47
4	D	83	GLN	C-N	5.86	1.47	1.34
7	G	347	GLN	C-N	5.86	1.47	1.34
4	D	653	VAL	C-N	-5.82	1.20	1.34
7	G	311	GLU	C-N	-5.81	1.20	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	G	290	LYS	C-N	-5.80	1.20	1.34
5	E	84	LEU	C-N	-5.79	1.22	1.33
7	G	159	SER	C-N	5.77	1.45	1.34
6	F	205	ASP	C-N	-5.76	1.20	1.34
6	F	384	LYS	C-N	-5.75	1.20	1.34
6	F	390	GLY	C-N	5.74	1.47	1.34
7	G	237	SER	C-N	-5.74	1.20	1.34
5	E	9	PRO	C-N	-5.73	1.20	1.34
7	G	278	PHE	C-N	-5.73	1.20	1.34
7	G	89	MET	C-N	-5.72	1.20	1.34
3	C	88	LEU	C-N	5.70	1.47	1.34
6	F	206	MET	C-N	-5.67	1.21	1.34
7	G	32	ASP	C-N	5.65	1.45	1.34
3	C	143	PRO	N-CD	-5.64	1.40	1.47
6	F	223	VAL	C-N	5.62	1.47	1.34
3	C	144	ASN	C-N	5.61	1.47	1.34
7	G	117	ASP	C-N	-5.60	1.21	1.34
2	B	250	GLY	C-N	-5.60	1.21	1.34
5	E	81	PRO	C-N	-5.60	1.21	1.34
6	F	306	VAL	C-N	-5.58	1.21	1.34
7	G	113	GLY	C-N	-5.58	1.21	1.34
8	H	222	LEU	C-N	-5.58	1.21	1.34
4	D	309	LEU	C-N	-5.53	1.23	1.34
4	D	188	LEU	C-N	-5.53	1.21	1.34
2	B	219	GLU	C-N	-5.52	1.21	1.34
6	F	120	SER	C-N	5.51	1.44	1.34
3	C	325	GLU	C-N	5.51	1.43	1.33
4	D	572	GLN	C-N	5.49	1.46	1.34
6	F	251	MET	C-N	-5.48	1.21	1.34
4	D	53	HIS	C-N	-5.48	1.21	1.34
1	A	82	THR	C-N	5.42	1.46	1.34
6	F	43	PHE	C-N	5.40	1.42	1.33
4	D	90	CYS	C-N	5.38	1.46	1.34
2	B	45	SER	C-N	-5.37	1.21	1.34
4	D	646	GLN	C-N	-5.36	1.21	1.34
7	G	213	SER	C-N	-5.36	1.21	1.34
5	E	140	ASN	C-N	-5.35	1.21	1.34
8	H	365	SER	C-N	5.34	1.46	1.34
7	G	63	GLN	C-N	5.34	1.46	1.34
7	G	90	LEU	C-N	5.34	1.46	1.34
4	D	171	ARG	C-N	5.34	1.46	1.34
2	B	422	THR	C-N	-5.33	1.21	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	D	396	ALA	C-N	5.32	1.46	1.34
6	F	246	GLN	C-N	-5.30	1.21	1.34
7	G	279	GLN	C-N	-5.29	1.21	1.34
6	F	276	ALA	C-N	5.27	1.46	1.34
6	F	68	ASP	C-N	-5.27	1.22	1.34
7	G	286	SER	C-N	-5.27	1.22	1.34
3	C	331	TYR	C-N	-5.26	1.22	1.34
4	D	644	LEU	C-N	-5.26	1.22	1.34
5	E	23	LEU	C-N	5.26	1.46	1.34
6	F	237	THR	C-N	-5.26	1.22	1.34
7	G	282	HIS	C-N	-5.26	1.22	1.34
4	D	16	GLU	C-N	-5.26	1.22	1.34
8	H	242	PRO	C-N	-5.26	1.22	1.34
7	G	181	LEU	C-N	5.26	1.46	1.34
6	F	191	GLU	C-N	-5.25	1.22	1.34
5	E	62	LYS	C-N	-5.25	1.22	1.34
6	F	197	GLN	C-N	-5.25	1.22	1.34
6	F	103	SER	C-N	5.24	1.46	1.34
7	G	317	GLU	C-N	5.24	1.46	1.34
5	E	135	LEU	C-N	-5.23	1.24	1.34
5	E	2	MET	C-N	-5.22	1.22	1.34
6	F	194	ARG	C-N	-5.22	1.22	1.34
1	A	241	LEU	C-N	5.20	1.46	1.34
1	A	78	GLY	C-N	-5.19	1.24	1.34
1	A	245	PRO	C-N	5.19	1.46	1.34
5	E	47	GLU	C-N	-5.19	1.22	1.34
6	F	363	LYS	C-N	5.19	1.46	1.34
4	D	158	ARG	C-N	-5.19	1.22	1.34
3	C	118	ALA	C-N	5.18	1.46	1.34
4	D	187	PHE	C-N	5.16	1.46	1.34
6	F	81	PRO	C-N	5.16	1.44	1.34
2	B	65	LYS	C-N	5.16	1.46	1.34
7	G	145	CYS	C-N	-5.14	1.22	1.34
8	H	235	PRO	N-CD	-5.14	1.40	1.47
2	B	36	LEU	C-N	-5.13	1.22	1.34
7	G	30	LEU	C-N	-5.13	1.22	1.34
5	E	65	GLU	C-N	-5.12	1.22	1.34
5	E	85	GLY	C-N	-5.11	1.22	1.34
6	F	257	VAL	C-N	-5.10	1.22	1.34
6	F	109	GLY	C-N	-5.09	1.22	1.34
8	H	207	HIS	C-N	-5.09	1.22	1.34
4	D	594	LEU	C-N	5.08	1.45	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	D	665	ARG	C-N	-5.08	1.22	1.34
5	E	98	LEU	C-N	-5.07	1.22	1.34
8	H	344	SER	C-N	-5.07	1.22	1.34
7	G	124	THR	C-N	5.06	1.45	1.34
1	A	53	GLU	C-N	-5.05	1.22	1.34
7	G	209	GLU	C-N	-5.05	1.22	1.34
1	A	64	ALA	C-N	-5.04	1.22	1.34
5	E	50	GLN	C-N	-5.04	1.22	1.34
1	A	235	LEU	C-N	5.04	1.45	1.34
6	F	224	ASP	C-N	-5.04	1.22	1.34
7	G	104	SER	C-N	5.03	1.43	1.34
1	A	285	LEU	C-N	5.02	1.45	1.34
7	G	98	LEU	C-N	-5.02	1.22	1.34
2	B	224	GLY	C-N	-5.01	1.22	1.34
5	E	126	SER	C-N	-5.01	1.22	1.34
5	E	94	MET	C-N	-5.00	1.22	1.34
6	F	303	ALA	C-N	5.00	1.42	1.33
3	C	19	GLU	C-N	5.00	1.45	1.34

All (307) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	D	178	VAL	O-C-N	-23.81	84.60	122.70
4	D	221	PRO	O-C-N	-23.73	82.85	123.20
7	G	130	ILE	O-C-N	-21.94	87.59	122.70
3	C	117	THR	O-C-N	-21.60	88.14	122.70
4	D	286	GLU	O-C-N	-21.60	88.14	122.70
3	C	122	PRO	O-C-N	-21.14	80.93	121.10
1	A	283	ARG	O-C-N	-20.81	89.40	122.70
7	G	228	VAL	O-C-N	-20.34	90.15	122.70
4	D	216	SER	O-C-N	-20.18	90.42	122.70
4	D	301	THR	O-C-N	-20.06	90.60	122.70
4	D	306	GLN	O-C-N	-18.98	92.34	122.70
1	A	282	LYS	O-C-N	-18.61	92.93	122.70
6	F	1	MET	C-N-CA	18.57	168.14	121.70
7	G	127	SER	O-C-N	-18.48	93.14	122.70
7	G	137	SER	O-C-N	-18.07	93.78	122.70
4	D	284	LEU	O-C-N	-18.06	93.80	122.70
2	B	234	GLU	O-C-N	-17.55	94.62	122.70
2	B	591	THR	O-C-N	-17.48	93.48	123.20
4	D	304	ASP	O-C-N	-17.12	88.58	121.10
3	C	352	LEU	O-C-N	-16.76	89.25	121.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	D	186	THR	O-C-N	-16.36	96.52	122.70
1	A	275	PHE	O-C-N	-15.62	97.71	122.70
2	B	88	LYS	O-C-N	-15.58	97.77	122.70
3	C	119	ASP	O-C-N	-14.97	98.75	122.70
1	A	284	ARG	C-N-CA	14.57	158.14	121.70
2	B	594	GLY	O-C-N	-14.44	99.59	122.70
2	B	236	PHE	O-C-N	-13.88	100.49	122.70
2	B	596	SER	O-C-N	-13.77	100.66	122.70
2	B	222	PHE	O-C-N	-13.39	101.28	122.70
2	B	231	GLY	O-C-N	-13.35	101.35	122.70
1	A	282	LYS	CA-C-N	13.23	146.31	117.20
4	D	662	THR	O-C-N	-13.00	101.11	123.20
1	A	278	PRO	O-C-N	-12.85	102.13	122.70
5	E	39	GLU	O-C-N	-12.77	102.27	122.70
2	B	238	LEU	O-C-N	-12.72	102.35	122.70
7	G	123	ASP	O-C-N	-12.52	102.67	122.70
2	B	249	ASP	O-C-N	-12.43	102.08	123.20
2	B	245	SER	O-C-N	-12.34	102.96	122.70
4	D	175	PHE	O-C-N	-12.31	103.01	122.70
1	A	277	VAL	O-C-N	-12.22	97.88	121.10
2	B	246	PHE	O-C-N	-12.13	102.58	123.20
4	D	184	SER	O-C-N	-12.13	103.30	122.70
2	B	181	PRO	O-C-N	-12.11	103.33	122.70
2	B	84	PHE	O-C-N	-12.10	103.35	122.70
5	E	220	LEU	O-C-N	-11.93	103.62	122.70
2	B	92	ILE	O-C-N	-11.64	104.08	122.70
6	F	295	LEU	O-C-N	-11.62	104.11	122.70
1	A	281	SER	O-C-N	11.44	141.00	122.70
7	G	196	LYS	C-N-CA	11.30	146.02	122.30
5	E	219	ASN	O-C-N	-11.26	104.69	122.70
5	E	221	HIS	O-C-N	-11.11	99.99	121.10
1	A	283	ARG	C-N-CA	11.07	149.38	121.70
2	B	225	MET	O-C-N	-10.99	105.12	122.70
2	B	95	VAL	O-C-N	-10.89	105.28	122.70
7	G	133	SER	O-C-N	-10.80	105.42	122.70
4	D	280	PRO	O-C-N	-10.80	105.42	122.70
3	C	320	LEU	O-C-N	-10.73	104.97	123.20
1	A	278	PRO	C-N-CA	10.71	148.48	121.70
3	C	118	ALA	O-C-N	-10.60	105.74	122.70
2	B	592	GLY	O-C-N	-10.47	105.40	123.20
3	C	351	SER	O-C-N	-10.40	106.06	122.70
7	G	129	VAL	C-N-CA	10.27	147.38	121.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	C	123	PRO	O-C-N	-10.23	106.33	122.70
1	A	280	PRO	C-N-CA	9.97	146.63	121.70
4	D	219	VAL	O-C-N	-9.95	106.78	122.70
4	D	183	SER	O-C-N	-9.85	106.94	122.70
2	B	223	GLU	C-N-CA	9.64	142.56	122.30
2	B	242	ASN	O-C-N	-9.62	107.31	122.70
6	F	224	ASP	O-C-N	-9.57	107.39	122.70
4	D	302	HIS	O-C-N	-9.55	107.42	122.70
2	B	593	GLY	O-C-N	-9.52	107.02	123.20
1	A	284	ARG	O-C-N	-9.42	107.63	122.70
2	B	93	GLU	O-C-N	-9.37	107.71	122.70
2	B	96	ALA	O-C-N	-9.30	107.83	122.70
4	D	221	PRO	CA-C-N	9.25	134.70	116.20
8	H	156	PRO	O-C-N	-9.23	107.93	122.70
7	G	230	ASP	O-C-N	-9.20	107.56	123.20
4	D	218	SER	O-C-N	-9.14	108.07	122.70
7	G	124	THR	C-N-CA	9.12	144.51	121.70
1	A	276	VAL	C-N-CA	9.07	144.38	121.70
1	A	283	ARG	CA-C-N	9.05	137.11	117.20
6	F	8	HIS	O-C-N	-9.02	108.26	122.70
5	E	2	MET	O-C-N	-8.96	108.36	122.70
6	F	159	SER	O-C-N	-8.96	108.36	122.70
1	A	282	LYS	C-N-CA	8.94	144.06	121.70
2	B	229	VAL	O-C-N	-8.85	108.54	122.70
1	A	281	SER	CA-C-N	-8.83	97.76	117.20
4	D	287	PHE	C-N-CA	8.81	143.73	121.70
1	A	281	SER	C-N-CA	-8.81	99.67	121.70
2	B	456	ASP	O-C-N	-8.73	108.73	122.70
6	F	6	ARG	C-N-CD	-8.71	101.43	120.60
6	F	227	ILE	O-C-N	-8.70	108.77	122.70
6	F	146	ALA	O-C-N	-8.68	108.82	122.70
2	B	592	GLY	CA-C-N	8.59	133.38	116.20
2	B	591	THR	C-N-CA	8.58	140.31	122.30
7	G	128	ASN	O-C-N	-8.52	109.06	122.70
1	A	234	LYS	O-C-N	-8.50	109.09	122.70
4	D	177	ALA	O-C-N	-8.41	109.25	122.70
7	G	132	GLU	O-C-N	-8.38	109.30	122.70
2	B	2	SER	O-C-N	-8.36	108.98	123.20
6	F	228	SER	O-C-N	-8.35	109.34	122.70
1	A	236	ASN	O-C-N	-8.32	109.39	122.70
2	B	595	SER	O-C-N	-8.23	109.53	122.70
2	B	240	GLN	O-C-N	-8.22	109.54	122.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	F	108	ALA	O-C-N	-8.21	109.25	123.20
2	B	237	GLN	C-N-CA	8.20	142.19	121.70
7	G	137	SER	CA-C-N	8.19	135.22	117.20
3	C	280	CYS	O-C-N	-8.18	109.61	122.70
3	C	320	LEU	C-N-CA	8.14	139.39	122.30
2	B	241	LEU	O-C-N	-8.12	109.72	122.70
6	F	6	ARG	O-C-N	-8.07	105.77	121.10
7	G	199	ASP	O-C-N	-8.03	109.85	122.70
2	B	230	GLU	O-C-N	-8.02	109.57	123.20
3	C	344	MET	O-C-N	-8.00	109.89	122.70
7	G	28	VAL	O-C-N	-7.99	109.92	122.70
2	B	242	ASN	C-N-CA	7.92	141.50	121.70
2	B	432	ALA	C-N-CA	-7.91	101.93	121.70
4	D	221	PRO	C-N-CA	7.81	138.70	122.30
2	B	596	SER	CA-C-N	7.79	134.35	117.20
4	D	576	ASN	C-N-CD	-7.78	103.48	120.60
4	D	280	PRO	C-N-CA	-7.75	102.32	121.70
6	F	3	SER	C-N-CA	7.75	138.57	122.30
4	D	280	PRO	CA-C-N	7.75	134.24	117.20
6	F	225	ARG	O-C-N	-7.72	110.35	122.70
5	E	219	ASN	CA-C-N	7.66	134.06	117.20
2	B	458	THR	O-C-N	-7.65	110.47	122.70
8	H	258	ARG	O-C-N	-7.64	110.47	122.70
5	E	43	PHE	O-C-N	-7.61	110.53	122.70
3	C	320	LEU	CA-C-N	7.58	131.36	116.20
6	F	3	SER	O-C-N	-7.57	110.33	123.20
4	D	288	SER	O-C-N	-7.54	110.63	122.70
7	G	137	SER	C-N-CA	7.54	140.54	121.70
2	B	223	GLU	O-C-N	-7.52	110.41	123.20
1	A	238	TYR	O-C-N	-7.52	110.67	122.70
1	A	285	LEU	O-C-N	-7.51	110.68	122.70
7	G	197	GLY	O-C-N	-7.51	110.69	122.70
5	E	221	HIS	CA-C-N	7.48	138.05	117.10
4	D	308	THR	O-C-N	-7.48	110.74	122.70
5	E	4	ALA	O-C-N	-7.47	110.75	122.70
2	B	459	GLN	O-C-N	-7.46	110.77	122.70
2	B	228	PHE	O-C-N	-7.40	110.86	122.70
3	C	348	LEU	O-C-N	-7.40	110.87	122.70
4	D	458	PRO	O-C-N	-7.32	110.98	122.70
3	C	351	SER	CA-C-N	7.28	133.21	117.20
2	B	591	THR	CA-C-N	7.27	130.74	116.20
3	C	119	ASP	C-N-CA	-7.21	103.67	121.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	D	663	GLY	C-N-CA	-7.21	103.67	121.70
6	F	220	ALA	O-C-N	-7.19	111.20	122.70
4	D	665	ARG	O-C-N	-7.19	111.20	122.70
3	C	347	GLU	O-C-N	-7.18	111.21	122.70
4	D	223	LYS	O-C-N	-7.17	111.22	122.70
2	B	88	LYS	C-N-CA	-7.17	103.77	121.70
6	F	223	VAL	O-C-N	-7.14	111.27	122.70
6	F	5	SER	O-C-N	-7.12	111.31	122.70
1	A	241	LEU	O-C-N	-7.03	111.45	122.70
8	H	255	ASP	O-C-N	-7.01	111.48	122.70
4	D	455	LYS	O-C-N	-7.01	111.48	122.70
2	B	225	MET	CA-C-N	6.95	132.50	117.20
5	E	42	CYS	O-C-N	-6.91	111.65	122.70
1	A	237	SER	O-C-N	-6.91	111.65	122.70
1	A	228	SER	O-C-N	-6.90	111.67	122.70
2	B	186	GLU	O-C-N	-6.89	111.67	122.70
7	G	274	MET	O-C-N	-6.83	111.58	123.20
5	E	3	ALA	O-C-N	-6.77	111.87	122.70
1	A	274	GLU	O-C-N	-6.76	111.89	122.70
2	B	16	TYR	O-C-N	-6.75	108.28	121.10
4	D	665	ARG	C-N-CA	-6.70	104.94	121.70
1	A	191	TYR	O-C-N	-6.68	112.01	122.70
3	C	342	ARG	O-C-N	6.66	133.36	122.70
4	D	575	THR	O-C-N	-6.66	112.05	122.70
4	D	216	SER	CA-C-N	6.65	131.82	117.20
2	B	91	ALA	O-C-N	-6.62	112.10	122.70
4	D	216	SER	C-N-CA	6.61	138.24	121.70
4	D	303	LEU	C-N-CA	-6.61	105.17	121.70
6	F	2	GLN	C-N-CA	6.56	138.09	121.70
2	B	23	ASP	O-C-N	-6.51	112.13	123.20
1	A	202	SER	O-C-N	-6.50	112.31	122.70
1	A	279	GLU	O-C-N	-6.49	108.77	121.10
2	B	432	ALA	O-C-N	-6.49	112.33	122.70
2	B	556	MET	O-C-N	-6.49	112.32	122.70
6	F	226	LYS	O-C-N	-6.47	112.35	122.70
6	F	1	MET	O-C-N	-6.45	112.37	122.70
2	B	240	GLN	C-N-CA	6.45	137.81	121.70
7	G	196	LYS	O-C-N	-6.39	112.34	123.20
2	B	23	ASP	C-N-CA	6.36	135.66	122.30
2	B	182	GLU	O-C-N	-6.35	112.54	122.70
6	F	216	GLN	O-C-N	-6.33	112.58	122.70
6	F	108	ALA	CA-C-N	6.29	128.77	116.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	D	281	SER	O-C-N	-6.29	112.64	122.70
6	F	229	ASP	O-C-N	-6.28	112.65	122.70
7	G	183	ALA	C-N-CA	6.26	137.34	121.70
1	A	217	LEU	O-C-N	-6.25	112.70	122.70
2	B	185	CYS	C-N-CA	-6.21	106.17	121.70
4	D	175	PHE	CA-C-N	6.20	130.84	117.20
6	F	224	ASP	CA-C-N	6.20	130.83	117.20
7	G	130	ILE	C-N-CA	6.19	137.18	121.70
1	A	221	LEU	O-C-N	-6.18	112.81	122.70
2	B	16	TYR	C-N-CD	-6.18	107.01	120.60
7	G	273	PRO	O-C-N	-6.17	112.83	122.70
1	A	243	PRO	O-C-N	-6.17	112.83	122.70
3	C	316	SER	O-C-N	-6.16	112.84	122.70
2	B	229	VAL	CA-C-N	6.16	130.74	117.20
2	B	82	LYS	O-C-N	6.14	132.53	122.70
1	A	224	LEU	O-C-N	-6.11	112.92	122.70
6	F	8	HIS	CA-C-N	6.09	130.59	117.20
2	B	304	LYS	O-C-N	-6.07	113.00	122.70
2	B	235	ASN	C-N-CA	6.05	136.84	121.70
2	B	47	ALA	O-C-N	-6.05	113.03	122.70
4	D	386	MET	O-C-N	6.04	132.36	122.70
4	D	279	GLY	C-N-CD	-6.03	107.34	120.60
4	D	285	LYS	C-N-CA	6.00	136.69	121.70
4	D	359	SER	O-C-N	-5.98	113.13	122.70
4	D	17	GLU	O-C-N	-5.94	113.20	122.70
2	B	223	GLU	CA-C-N	5.92	128.05	116.20
4	D	217	SER	O-C-N	-5.88	113.30	122.70
5	E	217	ILE	O-C-N	-5.86	113.33	122.70
1	A	236	ASN	CA-C-N	5.86	130.08	117.20
7	G	274	MET	CA-C-N	5.83	127.86	116.20
4	D	631	GLN	O-C-N	-5.81	113.40	122.70
4	D	176	SER	O-C-N	-5.81	113.40	122.70
2	B	250	GLY	O-C-N	-5.79	113.43	122.70
3	C	120	SER	C-N-CA	5.79	136.18	121.70
2	B	299	ASP	O-C-N	-5.76	113.48	122.70
4	D	290	PRO	C-N-CA	-5.76	107.31	121.70
7	G	131	LEU	C-N-CA	-5.76	107.31	121.70
1	A	231	ALA	O-C-N	-5.75	113.49	122.70
3	C	280	CYS	CA-C-N	5.75	129.84	117.20
4	D	404	LYS	O-C-N	5.74	131.88	122.70
1	A	271	ASN	O-C-N	-5.73	113.53	122.70
6	F	276	ALA	O-C-N	-5.67	113.62	122.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	G	20	LEU	O-C-N	-5.67	113.63	122.70
2	B	244	ASN	O-C-N	-5.64	113.68	122.70
7	G	272	SER	O-C-N	-5.64	110.39	121.10
7	G	172	PRO	O-C-N	-5.61	113.73	122.70
3	C	122	PRO	CA-C-N	5.60	132.78	117.10
7	G	126	SER	C-N-CA	-5.60	107.70	121.70
7	G	133	SER	C-N-CA	5.60	135.69	121.70
3	C	344	MET	CA-C-N	5.59	129.50	117.20
5	E	42	CYS	C-N-CA	5.59	135.67	121.70
7	G	127	SER	C-N-CA	-5.58	107.76	121.70
4	D	184	SER	C-N-CA	-5.57	107.77	121.70
1	A	242	ALA	O-C-N	-5.56	110.53	121.10
1	A	203	ALA	O-C-N	-5.54	113.78	123.20
2	B	593	GLY	C-N-CA	5.54	133.93	122.30
2	B	433	SER	O-C-N	-5.52	113.87	122.70
2	B	90	PRO	O-C-N	-5.51	113.88	122.70
4	D	220	HIS	C-N-CD	-5.51	108.49	120.60
5	E	41	PRO	O-C-N	5.50	131.50	122.70
3	C	121	VAL	C-N-CD	-5.47	108.57	120.60
7	G	135	SER	O-C-N	-5.46	113.96	122.70
1	A	194	HIS	O-C-N	5.46	131.43	122.70
2	B	23	ASP	CA-C-N	5.42	127.04	116.20
7	G	70	LYS	O-C-N	-5.42	114.04	122.70
4	D	48	ARG	O-C-N	-5.41	114.04	122.70
1	A	284	ARG	CA-C-N	5.40	129.09	117.20
1	A	234	LYS	CA-C-N	5.39	129.06	117.20
4	D	38	GLN	O-C-N	-5.39	114.08	122.70
4	D	5	SER	O-C-N	-5.37	114.11	122.70
5	E	43	PHE	C-N-CA	5.36	135.10	121.70
7	G	226	SER	C-N-CA	5.36	135.09	121.70
7	G	122	PRO	O-C-N	-5.35	114.14	122.70
8	H	305	PHE	O-C-N	-5.28	114.25	122.70
2	B	295	SER	O-C-N	-5.28	114.26	122.70
1	A	234	LYS	C-N-CA	5.26	134.85	121.70
1	A	236	ASN	C-N-CA	5.26	134.85	121.70
3	C	122	PRO	C-N-CD	5.26	139.44	128.40
3	C	293	ARG	O-C-N	5.25	131.09	122.70
6	F	227	ILE	CA-C-N	5.24	128.74	117.20
4	D	289	GLU	C-N-CD	-5.24	109.07	120.60
2	B	431	SER	C-N-CA	5.24	134.80	121.70
1	A	215	VAL	O-C-N	5.24	131.08	122.70
3	C	348	LEU	CA-C-N	5.23	128.70	117.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	521	THR	O-C-N	5.22	131.06	122.70
8	H	258	ARG	CA-C-N	5.20	128.63	117.20
4	D	175	PHE	C-N-CA	5.19	134.67	121.70
1	A	238	TYR	CA-C-N	5.19	128.61	117.20
6	F	106	VAL	O-C-N	-5.19	114.38	123.20
1	A	270	VAL	O-C-N	-5.17	114.43	122.70
3	C	319	PHE	O-C-N	-5.17	114.44	122.70
6	F	304	GLY	O-C-N	-5.17	114.43	122.70
4	D	630	VAL	O-C-N	-5.16	114.45	122.70
4	D	458	PRO	CA-C-N	5.14	128.51	117.20
2	B	85	SER	O-C-N	-5.14	114.48	122.70
6	F	389	LEU	O-C-N	-5.14	114.47	123.20
7	G	198	LYS	O-C-N	-5.13	114.50	122.70
8	H	238	THR	O-C-N	-5.13	114.50	122.70
7	G	129	VAL	O-C-N	-5.12	114.51	122.70
4	D	627	GLU	O-C-N	-5.11	114.53	122.70
7	G	3	GLY	O-C-N	-5.10	114.53	123.20
2	B	594	GLY	CA-C-N	5.09	128.40	117.20
4	D	176	SER	C-N-CA	5.09	134.42	121.70
1	A	285	LEU	CA-C-N	5.07	128.36	117.20
4	D	664	SER	O-C-N	-5.07	114.58	122.70
5	E	216	SER	O-C-N	-5.07	114.58	122.70
4	D	177	ALA	C-N-CA	5.07	134.37	121.70
2	B	457	ASN	C-N-CA	-5.07	109.04	121.70
6	F	296	GLN	O-C-N	-5.07	114.59	122.70
6	F	366	ASP	O-C-N	-5.07	114.60	122.70
1	A	280	PRO	O-C-N	5.06	130.80	122.70
6	F	209	GLU	O-C-N	-5.06	114.61	122.70
3	C	342	ARG	CA-C-N	-5.04	106.11	117.20
1	A	244	ASN	C-N-CD	-5.02	109.56	120.60
2	B	235	ASN	O-C-N	-5.02	114.67	122.70
3	C	344	MET	C-N-CA	5.01	134.24	121.70
8	H	270	GLY	O-C-N	5.01	130.72	122.70
7	G	101	GLY	O-C-N	-5.00	114.69	122.70
6	F	220	ALA	CA-C-N	5.00	128.21	117.20

There are no chirality outliers.

All (193) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	241	LEU	Mainchain
1	A	242	ALA	Mainchain

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Mol	Chain	Res	Type	Group
1	A	243	PRO	Mainchain
1	A	269	LYS	Mainchain
1	A	273	MET	Peptide
1	A	274	GLU	Mainchain,Peptide
1	A	275	PHE	Mainchain,Peptide
1	A	276	VAL	Peptide
1	A	278	PRO	Mainchain,Peptide
1	A	279	GLU	Mainchain
1	A	281	SER	Peptide
1	A	285	LEU	Peptide
2	B	1	MET	Mainchain
2	B	179	SER	Mainchain
2	B	181	PRO	Mainchain
2	B	182	GLU	Mainchain
2	B	183	THR	Mainchain
2	B	184	ALA	Mainchain
2	B	185	CYS	Mainchain
2	B	186	GLU	Mainchain
2	B	187	LEU	Mainchain
2	B	189	SER	Mainchain
2	B	2	SER	Mainchain
2	B	222	PHE	Mainchain
2	B	224	GLY	Mainchain
2	B	225	MET	Mainchain
2	B	230	GLU	Mainchain,Peptide
2	B	231	GLY	Mainchain,Peptide
2	B	232	SER	Mainchain
2	B	233	ASP	Mainchain,Peptide
2	B	234	GLU	Mainchain
2	B	235	ASN	Mainchain
2	B	236	PHE	Mainchain
2	B	238	LEU	Mainchain
2	B	239	VAL	Mainchain
2	B	240	GLN	Mainchain
2	B	241	LEU	Mainchain
2	B	242	ASN	Mainchain
2	B	244	ASN	Mainchain
2	B	245	SER	Mainchain
2	B	246	PHE	Mainchain,Peptide
2	B	247	GLY	Mainchain
2	B	249	ASP	Mainchain
2	B	250	GLY	Mainchain

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Mol	Chain	Res	Type	Group
2	B	251	THR	Mainchain
2	B	304	LYS	Mainchain
2	B	430	LEU	Mainchain
2	B	432	ALA	Mainchain
2	B	433	SER	Mainchain
2	B	434	LYS	Mainchain
2	B	455	GLY	Mainchain
2	B	456	ASP	Mainchain
2	B	457	ASN	Mainchain
2	B	458	THR	Mainchain
2	B	459	GLN	Mainchain
2	B	460	LYS	Mainchain
2	B	593	GLY	Mainchain
2	B	594	GLY	Mainchain
2	B	595	SER	Mainchain,Peptide
2	B	596	SER	Mainchain,Peptide
2	B	67	SER	Mainchain
2	B	84	PHE	Mainchain
2	B	85	SER	Mainchain
2	B	86	ILE	Mainchain
2	B	87	SER	Mainchain
2	B	88	LYS	Mainchain
2	B	89	VAL	Mainchain
2	B	90	PRO	Mainchain
2	B	91	ALA	Mainchain
2	B	92	ILE	Mainchain
2	B	93	GLU	Mainchain
2	B	94	GLU	Mainchain
2	B	95	VAL	Mainchain
2	B	96	ALA	Mainchain
3	C	117	THR	Mainchain
3	C	118	ALA	Mainchain
3	C	119	ASP	Mainchain
3	C	121	VAL	Mainchain
3	C	122	PRO	Mainchain
3	C	123	PRO	Mainchain
3	C	124	SER	Mainchain
3	C	126	SER	Mainchain
3	C	320	LEU	Mainchain
3	C	352	LEU	Mainchain,Peptide
4	D	118	ASP	Mainchain
4	D	119	LEU	Mainchain

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Mol	Chain	Res	Type	Group
4	D	120	ASN	Mainchain
4	D	175	PHE	Mainchain
4	D	177	ALA	Mainchain
4	D	178	VAL	Mainchain
4	D	180	PRO	Mainchain
4	D	181	ASP	Mainchain
4	D	182	LEU	Mainchain
4	D	183	SER	Mainchain,Peptide
4	D	184	SER	Mainchain
4	D	185	SER	Mainchain
4	D	186	THR	Mainchain
4	D	187	PHE	Mainchain
4	D	216	SER	Mainchain
4	D	217	SER	Mainchain
4	D	218	SER	Mainchain
4	D	219	VAL	Mainchain
4	D	220	HIS	Mainchain
4	D	221	PRO	Mainchain
4	D	279	GLY	Peptide
4	D	281	SER	Mainchain
4	D	284	LEU	Mainchain
4	D	286	GLU	Mainchain
4	D	288	SER	Mainchain,Peptide
4	D	301	THR	Mainchain
4	D	302	HIS	Mainchain,Peptide
4	D	304	ASP	Mainchain
4	D	305	PRO	Mainchain
4	D	306	GLN	Mainchain
4	D	307	GLU	Mainchain
4	D	308	THR	Mainchain
4	D	357	ASP	Mainchain
4	D	359	SER	Mainchain
4	D	662	THR	Mainchain
4	D	663	GLY	Mainchain
4	D	664	SER	Mainchain
4	D	665	ARG	Mainchain
5	E	1	MET	Mainchain
5	E	2	MET	Mainchain
5	E	220	LEU	Mainchain,Peptide
5	E	221	HIS	Mainchain,Peptide
5	E	3	ALA	Mainchain
5	E	38	LEU	Mainchain

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Mol	Chain	Res	Type	Group
5	E	39	GLU	Mainchain
5	E	4	ALA	Mainchain
5	E	5	ASN	Mainchain
6	F	1	MET	Mainchain,Peptide
6	F	122	GLY	Mainchain
6	F	146	ALA	Mainchain
6	F	159	SER	Mainchain
6	F	2	GLN	Mainchain,Peptide
6	F	225	ARG	Mainchain
6	F	227	ILE	Mainchain
6	F	228	SER	Mainchain
6	F	276	ALA	Mainchain
6	F	295	LEU	Mainchain
6	F	3	SER	Mainchain
6	F	336	LEU	Mainchain
6	F	36	LYS	Mainchain
6	F	39	VAL	Mainchain
6	F	4	GLY	Mainchain
6	F	5	SER	Mainchain
6	F	6	ARG	Mainchain
7	G	1	MET	Mainchain
7	G	121	TYR	Mainchain
7	G	122	PRO	Mainchain
7	G	123	ASP	Mainchain
7	G	124	THR	Mainchain
7	G	125	ILE	Mainchain
7	G	127	SER	Mainchain
7	G	128	ASN	Mainchain
7	G	130	ILE	Mainchain
7	G	131	LEU	Mainchain,Peptide
7	G	132	GLU	Mainchain
7	G	133	SER	Mainchain,Peptide
7	G	134	LEU	Mainchain
7	G	135	SER	Mainchain
7	G	137	SER	Mainchain
7	G	196	LYS	Mainchain
7	G	198	LYS	Mainchain
7	G	2	THR	Mainchain
7	G	226	SER	Mainchain
7	G	227	SER	Mainchain
7	G	228	VAL	Mainchain
7	G	230	ASP	Mainchain

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Mol	Chain	Res	Type	Group
7	G	272	SER	Mainchain
7	G	28	VAL	Mainchain
7	G	3	GLY	Mainchain
8	H	156	PRO	Mainchain

5.2 Too-close contacts (i)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2282	0	2354	222	0
2	B	4771	0	4779	433	0
3	C	2885	0	2951	249	0
4	D	5415	0	5439	500	0
5	E	1717	0	1711	142	0
6	F	3171	0	3232	267	0
7	G	2687	0	2642	225	0
8	H	1671	0	1673	224	0
All	All	24599	0	24781	1440	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 29.

All (1440) 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)
5:E:155:ILE:CG2	6:F:334:VAL:HG21	1.33	1.57
1:A:278:PRO:HB2	1:A:279:GLU:CB	1.31	1.57
6:F:335:ARG:CZ	8:H:259:HIS:CB	1.81	1.53
2:B:490:GLU:CA	4:D:560:ARG:NH2	1.71	1.52
6:F:335:ARG:CZ	8:H:259:HIS:HB3	1.37	1.51
6:F:247:MET:HB2	8:H:240:LYS:NZ	1.23	1.48
1:A:281:SER:CB	1:A:283:ARG:HD2	1.41	1.47
2:B:402:GLU:OE2	4:D:158:ARG:CZ	1.64	1.45
1:A:283:ARG:C	1:A:284:ARG:N	1.70	1.44
6:F:335:ARG:NH2	8:H:259:HIS:CG	1.86	1.44
1:A:71:ASP:HB3	3:C:114:ARG:NH2	1.18	1.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:326:ARG:NH1	8:H:295:PRO:HD3	1.30	1.42
1:A:284:ARG:C	1:A:285:LEU:N	1.69	1.41
1:A:278:PRO:CG	1:A:279:GLU:HB2	1.51	1.41
6:F:335:ARG:HH21	8:H:259:HIS:CA	1.34	1.41
1:A:280:PRO:C	1:A:281:SER:N	1.75	1.40
5:E:155:ILE:CG2	6:F:334:VAL:CG2	1.99	1.40
5:E:189:TRP:CZ3	8:H:340:ILE:HD12	1.58	1.38
2:B:131:MET:CE	3:C:85:VAL:HG21	1.51	1.38
6:F:335:ARG:NH2	8:H:259:HIS:CA	1.85	1.37
2:B:138:LYS:CD	3:C:84:GLN:NE2	1.86	1.36
2:B:138:LYS:CE	3:C:84:GLN:HE22	1.37	1.35
1:A:277:VAL:C	1:A:278:PRO:N	1.79	1.34
5:E:189:TRP:CH2	8:H:340:ILE:CD1	2.09	1.34
2:B:223:GLU:C	2:B:224:GLY:N	1.81	1.34
3:C:63:ARG:NH2	4:D:535:ALA:HB2	1.43	1.33
1:A:138:THR:OG1	2:B:92:ILE:CD1	1.75	1.32
5:E:155:ILE:HG23	6:F:334:VAL:CG2	1.55	1.32
5:E:189:TRP:CZ3	8:H:340:ILE:CD1	2.09	1.32
1:A:58:LYS:NZ	4:D:506:SER:OG	1.62	1.32
2:B:404:GLY:HA2	4:D:459:TRP:CH2	1.63	1.32
6:F:326:ARG:HH12	8:H:295:PRO:CD	1.41	1.31
4:D:307:GLU:CD	7:G:324:ILE:HD11	1.50	1.31
4:D:296:SER:HB3	4:D:301:THR:CG2	1.57	1.31
1:A:145:THR:HG21	4:D:69:LEU:CD1	1.61	1.31
5:E:189:TRP:CH2	8:H:340:ILE:HD12	1.64	1.30
1:A:278:PRO:CB	1:A:279:GLU:CB	2.07	1.30
2:B:222:PHE:CD1	2:B:241:LEU:HD13	1.68	1.29
6:F:377:ARG:HH12	8:H:343:GLN:CB	1.45	1.28
4:D:214:SER:OG	4:D:426:HIS:CE1	1.86	1.28
8:H:259:HIS:C	8:H:300:GLU:OE2	1.72	1.28
6:F:247:MET:SD	8:H:240:LYS:HG3	1.73	1.28
1:A:152:LYS:NZ	2:B:73:ASP:OD2	1.66	1.27
2:B:80:VAL:CG1	4:D:65:TRP:CZ3	2.16	1.27
1:A:278:PRO:CB	1:A:279:GLU:HB2	1.62	1.27
1:A:278:PRO:HB2	1:A:279:GLU:CG	1.64	1.26
2:B:125:GLU:OE1	4:D:113:GLU:OE2	1.53	1.26
2:B:132:CYS:SG	4:D:119:LEU:HG	1.74	1.26
2:B:138:LYS:NZ	3:C:84:GLN:OE1	1.69	1.25
4:D:662:THR:C	4:D:664:SER:H	1.32	1.25
2:B:120:LYS:NZ	3:C:171:SER:O	1.70	1.25
3:C:118:ALA:C	3:C:120:SER:H	1.40	1.25

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:278:PRO:CB	1:A:279:GLU:HG3	1.67	1.24
1:A:277:VAL:O	1:A:278:PRO:C	1.74	1.24
2:B:138:LYS:HD2	3:C:84:GLN:CD	1.56	1.24
6:F:335:ARG:HH22	8:H:259:HIS:CG	1.51	1.24
4:D:296:SER:CB	4:D:301:THR:HG23	1.66	1.24
4:D:307:GLU:OE2	7:G:324:ILE:HD12	1.39	1.22
8:H:359:GLN:HG2	8:H:363:ASP:OD2	1.07	1.22
5:E:60:ASN:HB3	8:H:207:HIS:CE1	1.72	1.22
3:C:63:ARG:HH22	4:D:535:ALA:CB	1.51	1.22
6:F:260:ALA:HB1	8:H:258:ARG:NH1	1.55	1.21
1:A:281:SER:OG	1:A:283:ARG:CD	1.89	1.20
2:B:138:LYS:HE3	3:C:84:GLN:NE2	1.52	1.20
4:D:307:GLU:CD	7:G:324:ILE:CD1	2.08	1.20
7:G:274:MET:CE	8:H:280:GLN:HB2	1.72	1.20
1:A:281:SER:OG	1:A:283:ARG:NE	1.73	1.20
1:A:148:LEU:HD13	2:B:80:VAL:CG2	1.72	1.20
6:F:260:ALA:CB	8:H:258:ARG:HH12	1.55	1.20
6:F:173:LEU:HD12	7:G:118:VAL:HG21	1.19	1.19
6:F:53:LYS:HE2	6:F:57:TYR:OH	1.37	1.19
2:B:132:CYS:CA	4:D:119:LEU:HD21	1.72	1.18
2:B:97:ILE:HD12	4:D:82:GLN:CD	1.61	1.18
2:B:77:LEU:HD21	4:D:61:GLY:HA3	1.20	1.18
4:D:352:HIS:CB	4:D:366:ARG:HH21	1.56	1.18
4:D:307:GLU:OE2	7:G:324:ILE:CD1	1.92	1.17
2:B:138:LYS:CD	3:C:84:GLN:HE22	1.49	1.17
6:F:260:ALA:CB	8:H:258:ARG:NH1	2.06	1.17
7:G:59:TYR:CD1	7:G:62:VAL:HG23	1.80	1.17
8:H:294:MET:CE	8:H:298:ALA:HB3	1.73	1.17
4:D:352:HIS:HB3	4:D:366:ARG:NH2	1.59	1.16
6:F:250:GLU:OE2	8:H:244:LYS:NZ	1.77	1.16
1:A:148:LEU:CD1	2:B:80:VAL:CG2	2.23	1.16
2:B:138:LYS:HE3	3:C:84:GLN:HE22	1.04	1.16
6:F:53:LYS:CE	6:F:57:TYR:OH	1.92	1.16
6:F:359:ARG:HG3	8:H:328:GLN:OE1	1.43	1.15
1:A:71:ASP:CB	3:C:114:ARG:NH2	2.09	1.15
1:A:278:PRO:CB	1:A:279:GLU:CG	2.17	1.15
2:B:132:CYS:SG	4:D:119:LEU:CG	2.33	1.15
2:B:55:ASP:OD1	4:D:49:HIS:CE1	1.99	1.15
3:C:118:ALA:O	3:C:120:SER:N	1.77	1.15
1:A:189:TYR:CD1	3:C:271:MET:HE1	1.82	1.15
2:B:138:LYS:CE	3:C:84:GLN:NE2	1.98	1.15

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:377:ARG:NH1	8:H:343:GLN:CA	2.10	1.14
1:A:148:LEU:CD1	2:B:80:VAL:HG22	1.78	1.14
6:F:377:ARG:HH12	8:H:343:GLN:CA	1.60	1.14
2:B:490:GLU:HA	4:D:560:ARG:NH2	0.81	1.14
2:B:132:CYS:HA	4:D:119:LEU:CD2	1.77	1.13
4:D:214:SER:OG	4:D:426:HIS:HE1	1.22	1.12
2:B:80:VAL:CG1	4:D:65:TRP:CH2	2.32	1.12
4:D:189:GLU:OE1	4:D:197:ARG:CZ	1.98	1.12
1:A:278:PRO:HB2	1:A:279:GLU:CA	1.78	1.11
6:F:10:ALA:O	6:F:13:ARG:HG2	1.49	1.11
7:G:312:ARG:HH12	8:H:323:ALA:HB2	1.07	1.11
1:A:189:TYR:CD1	3:C:271:MET:CE	2.34	1.11
1:A:278:PRO:HB3	1:A:279:GLU:HG3	1.29	1.11
1:A:145:THR:HG21	4:D:69:LEU:HD11	1.24	1.10
4:D:662:THR:C	4:D:664:SER:N	1.96	1.10
7:G:59:TYR:HD1	7:G:62:VAL:HG23	1.00	1.10
7:G:143:VAL:HG22	8:H:159:MET:CE	1.81	1.10
8:H:294:MET:CE	8:H:298:ALA:CB	2.29	1.10
1:A:189:TYR:HD1	3:C:271:MET:HE1	1.00	1.09
8:H:259:HIS:CA	8:H:300:GLU:OE2	2.00	1.09
2:B:55:ASP:CG	4:D:49:HIS:HE1	1.56	1.09
7:G:274:MET:HE1	8:H:280:GLN:HB2	1.17	1.09
2:B:138:LYS:CG	3:C:84:GLN:NE2	2.15	1.08
4:D:8:GLN:HG3	4:D:28:GLU:OE1	1.53	1.08
4:D:352:HIS:HB3	4:D:366:ARG:HH21	0.95	1.08
6:F:377:ARG:NH1	8:H:343:GLN:HA	1.62	1.08
3:C:63:ARG:NH2	4:D:535:ALA:CB	2.13	1.08
6:F:206:MET:CE	8:H:199:LYS:HG3	1.84	1.07
2:B:80:VAL:HG12	4:D:65:TRP:CZ3	1.85	1.07
2:B:97:ILE:HD11	4:D:82:GLN:CB	1.84	1.07
8:H:359:GLN:CG	8:H:363:ASP:OD2	2.00	1.07
1:A:281:SER:CB	1:A:283:ARG:CD	2.30	1.07
2:B:175:MET:HG3	4:D:460:PRO:HG3	1.27	1.07
6:F:377:ARG:NH1	8:H:343:GLN:CB	2.18	1.07
3:C:131:GLY:O	4:D:140:LYS:NZ	1.86	1.07
2:B:567:LYS:NZ	4:D:626:TRP:O	1.88	1.07
5:E:60:ASN:HB3	8:H:207:HIS:NE2	1.68	1.07
2:B:80:VAL:HG11	4:D:65:TRP:CH2	1.89	1.06
6:F:325:GLU:OE2	6:F:325:GLU:HA	1.39	1.06
1:A:58:LYS:NZ	4:D:506:SER:CB	2.18	1.06
2:B:97:ILE:HD11	4:D:82:GLN:HB3	1.10	1.06

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:247:MET:CB	8:H:240:LYS:NZ	2.18	1.06
2:B:443:ASP:OD1	4:D:509:ARG:NH2	1.88	1.05
2:B:490:GLU:HA	4:D:560:ARG:CZ	1.85	1.05
2:B:138:LYS:CD	3:C:84:GLN:CD	2.20	1.05
6:F:44:GLY:H	6:F:47:MET:HE2	1.16	1.05
7:G:280:PHE:CE1	8:H:287:LYS:HG3	1.90	1.05
1:A:152:LYS:NZ	2:B:73:ASP:CG	2.09	1.05
1:A:278:PRO:HG2	1:A:279:GLU:HB2	1.07	1.05
6:F:173:LEU:HD12	7:G:118:VAL:CG2	1.86	1.05
2:B:77:LEU:HD21	4:D:61:GLY:CA	1.87	1.05
6:F:173:LEU:CD1	7:G:118:VAL:HG21	1.86	1.05
7:G:130:ILE:HG22	7:G:131:LEU:N	1.72	1.05
8:H:294:MET:HE1	8:H:298:ALA:HB3	1.07	1.05
1:A:149:VAL:HG13	2:B:70:PRO:HG2	1.35	1.04
2:B:138:LYS:HG3	3:C:84:GLN:NE2	1.73	1.04
2:B:483:ARG:HH21	4:D:549:GLN:NE2	1.57	1.03
7:G:143:VAL:HG22	8:H:159:MET:HE3	1.05	1.03
8:H:294:MET:HE1	8:H:298:ALA:CB	1.88	1.03
4:D:4:ARG:HG3	4:D:32:GLN:NE2	1.73	1.03
5:E:155:ILE:HG21	6:F:334:VAL:CG2	1.86	1.03
5:E:189:TRP:CH2	8:H:340:ILE:HD13	1.88	1.02
6:F:377:ARG:HH12	8:H:343:GLN:CG	1.72	1.02
7:G:124:THR:HG22	7:G:125:ILE:HG13	1.39	1.02
4:D:296:SER:CB	4:D:301:THR:CG2	2.28	1.02
5:E:102:LEU:CD2	7:G:255:ILE:HD12	1.88	1.02
3:C:63:ARG:HH22	4:D:535:ALA:HB2	0.99	1.01
2:B:77:LEU:CD2	4:D:61:GLY:HA3	1.89	1.01
2:B:131:MET:HE3	3:C:85:VAL:HG21	1.38	1.01
5:E:97:HIS:NE2	8:H:247:TYR:OH	1.92	1.01
2:B:132:CYS:HA	4:D:119:LEU:HD21	1.04	1.01
2:B:94:GLU:O	2:B:96:ALA:N	1.93	1.01
1:A:128:LEU:HD22	4:D:97:ARG:NH2	1.74	1.00
1:A:145:THR:HG21	4:D:69:LEU:HD13	1.40	1.00
2:B:138:LYS:CE	3:C:84:GLN:OE1	2.09	1.00
6:F:206:MET:HE2	8:H:199:LYS:HG3	1.42	1.00
6:F:227:ILE:HA	8:H:223:ARG:NH2	1.75	1.00
2:B:407:VAL:HG21	4:D:459:TRP:CZ3	1.95	1.00
5:E:49:LEU:HD23	8:H:196:ASN:HD22	1.24	1.00
3:C:273:GLU:OE2	4:D:614:TYR:OH	1.79	1.00
4:D:305:PRO:O	4:D:307:GLU:N	1.93	1.00
3:C:236:ARG:HH12	4:D:575:THR:HA	1.22	1.00

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:63:ARG:NH1	4:D:537:GLU:OE2	1.94	0.99
3:C:229:LEU:HD21	4:D:571:LEU:HD12	1.43	0.99
6:F:227:ILE:HA	8:H:223:ARG:HH22	1.27	0.99
1:A:113:ILE:HG23	3:C:172:PHE:CZ	1.96	0.99
1:A:279:GLU:CB	1:A:280:PRO:HD3	1.92	0.99
2:B:135:SER:OG	4:D:121:CYS:SG	2.10	0.99
2:B:138:LYS:CE	3:C:84:GLN:CD	2.31	0.99
4:D:509:ARG:HD3	4:D:521:PHE:CE2	1.98	0.99
1:A:266:LEU:HD12	3:C:345:LEU:HG	1.42	0.99
6:F:192:TYR:HH	7:G:173:TRP:HE1	1.00	0.99
5:E:102:LEU:HD22	7:G:255:ILE:HD12	1.43	0.98
2:B:55:ASP:OD1	4:D:49:HIS:HE1	1.39	0.98
2:B:55:ASP:CG	4:D:49:HIS:CE1	2.36	0.98
2:B:138:LYS:CG	3:C:84:GLN:HE22	1.75	0.98
6:F:260:ALA:HB1	8:H:258:ARG:HH12	0.82	0.98
2:B:424:LEU:HD22	4:D:484:ILE:CD1	1.94	0.98
2:B:404:GLY:HA2	4:D:459:TRP:HH2	1.25	0.97
2:B:131:MET:CE	3:C:85:VAL:CG2	2.42	0.97
1:A:138:THR:OG1	2:B:92:ILE:HD13	1.64	0.97
1:A:279:GLU:HB3	1:A:280:PRO:HD3	1.44	0.97
6:F:359:ARG:CG	8:H:328:GLN:OE1	2.11	0.97
4:D:509:ARG:NH1	4:D:521:PHE:HZ	1.61	0.96
6:F:326:ARG:NH1	8:H:295:PRO:CD	2.12	0.96
2:B:407:VAL:CG2	4:D:459:TRP:HZ3	1.77	0.96
4:D:137:PHE:CE2	4:D:141:ARG:NH1	2.33	0.96
1:A:278:PRO:CG	1:A:279:GLU:CB	2.39	0.96
1:A:278:PRO:HG2	1:A:279:GLU:CB	1.95	0.96
2:B:297:VAL:HG11	4:D:355:LEU:HD11	1.47	0.96
1:A:281:SER:OG	1:A:283:ARG:HD2	1.56	0.96
4:D:189:GLU:OE1	4:D:197:ARG:NH1	1.98	0.96
1:A:138:THR:OG1	2:B:92:ILE:HD12	1.62	0.96
1:A:281:SER:HB3	1:A:283:ARG:HD2	1.00	0.96
1:A:12:LEU:HB3	1:A:21:LEU:HD21	1.48	0.95
1:A:71:ASP:HB3	3:C:114:ARG:HH22	1.16	0.95
4:D:374:ARG:NH1	5:E:218:GLU:OE1	1.99	0.95
2:B:490:GLU:HG2	4:D:560:ARG:CZ	1.97	0.95
7:G:59:TYR:HD1	7:G:62:VAL:CG2	1.79	0.95
2:B:80:VAL:HG11	4:D:65:TRP:CZ3	1.97	0.94
6:F:247:MET:CE	8:H:243:PHE:HD1	1.81	0.94
1:A:189:TYR:HD1	3:C:271:MET:CE	1.77	0.94
7:G:62:VAL:HG12	7:G:66:LEU:CD1	1.96	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:274:MET:HE1	8:H:280:GLN:CB	1.98	0.94
2:B:166:SER:CB	4:D:152:ASN:HD21	1.80	0.94
6:F:57:TYR:OH	6:F:88:ASP:OD1	1.84	0.94
7:G:62:VAL:HG12	7:G:66:LEU:HD12	1.47	0.94
7:G:47:ARG:NH1	7:G:108:GLN:OE1	2.00	0.94
4:D:137:PHE:HE2	4:D:141:ARG:NH1	1.67	0.93
2:B:84:PHE:HE2	4:D:65:TRP:CE3	1.86	0.93
4:D:290:PRO:O	4:D:291:ILE:C	1.99	0.93
5:E:135:LEU:HB3	5:E:136:PRO:HD3	1.51	0.93
2:B:175:MET:HG3	4:D:460:PRO:CG	1.98	0.93
2:B:91:ALA:O	2:B:93:GLU:N	2.01	0.93
2:B:402:GLU:OE2	4:D:158:ARG:NH1	2.01	0.93
2:B:443:ASP:CG	4:D:509:ARG:HH22	1.72	0.93
2:B:522:THR:HG23	4:D:590:TYR:CE2	2.03	0.92
3:C:118:ALA:C	3:C:120:SER:N	2.07	0.92
4:D:658:LEU:O	4:D:662:THR:OG1	1.85	0.92
4:D:214:SER:HG	4:D:426:HIS:CE1	1.87	0.92
6:F:260:ALA:HB3	8:H:258:ARG:NH1	1.84	0.92
2:B:2:SER:OG	2:B:28:ASP:OD1	1.88	0.92
7:G:92:HIS:HE1	7:G:93:PHE:CE1	1.88	0.92
2:B:181:PRO:HG3	2:B:189:SER:OG	1.70	0.92
2:B:166:SER:OG	4:D:152:ASN:ND2	2.02	0.92
2:B:407:VAL:CG2	4:D:459:TRP:CZ3	2.53	0.92
4:D:298:ASN:O	4:D:299:GLU:HB2	1.68	0.92
2:B:132:CYS:SG	4:D:119:LEU:CD2	2.59	0.91
7:G:38:GLU:O	7:G:42:THR:OG1	1.87	0.91
7:G:130:ILE:HG22	7:G:131:LEU:H	1.27	0.91
2:B:134:LYS:CD	3:C:85:VAL:HG13	2.00	0.91
4:D:176:SER:O	4:D:256:ARG:NH2	2.04	0.91
5:E:49:LEU:HD23	8:H:196:ASN:ND2	1.85	0.91
2:B:263:GLN:NE2	2:B:346:ASN:ND2	2.19	0.91
2:B:483:ARG:HH21	4:D:549:GLN:HE22	1.04	0.91
6:F:335:ARG:CZ	8:H:259:HIS:HB2	1.69	0.91
2:B:222:PHE:CE1	2:B:241:LEU:HD13	2.05	0.91
4:D:76:ARG:O	4:D:79:GLU:HB2	1.70	0.91
4:D:122:GLU:HG3	4:D:512:ASN:HD21	1.35	0.91
4:D:183:SER:OG	4:D:184:SER:N	2.03	0.90
5:E:189:TRP:CZ3	8:H:340:ILE:HD11	2.06	0.90
2:B:35:ASP:HB3	4:D:30:MET:CE	2.01	0.90
7:G:312:ARG:NH1	8:H:323:ALA:HB2	1.85	0.90
2:B:120:LYS:HZ1	3:C:175:PRO:HA	1.36	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:97:ILE:CD1	4:D:82:GLN:HB3	2.01	0.90
2:B:131:MET:HE1	3:C:85:VAL:HG21	1.52	0.90
1:A:58:LYS:HZ1	4:D:506:SER:HB2	1.35	0.90
1:A:1:MET:CE	1:A:28:THR:HG22	2.02	0.90
2:B:507:LEU:CD1	4:D:579:THR:HG22	2.01	0.90
3:C:5:LEU:HD12	3:C:22:LEU:CD1	2.01	0.90
2:B:500:LEU:HD21	4:D:571:LEU:CD1	2.03	0.89
6:F:173:LEU:CD1	7:G:118:VAL:CG2	2.47	0.89
3:C:4:THR:HG23	3:C:33:ILE:HD11	1.54	0.89
5:E:77:ASP:OD2	6:F:238:ARG:NE	2.05	0.89
2:B:424:LEU:CD2	4:D:484:ILE:CD1	2.50	0.89
5:E:155:ILE:HG21	6:F:334:VAL:HG23	1.54	0.89
2:B:132:CYS:CB	4:D:119:LEU:HD21	2.02	0.89
2:B:404:GLY:CA	4:D:459:TRP:CH2	2.52	0.89
5:E:97:HIS:HE2	8:H:247:TYR:HH	0.92	0.89
7:G:92:HIS:CE1	7:G:93:PHE:CE1	2.60	0.89
2:B:443:ASP:CG	4:D:509:ARG:NH2	2.26	0.89
2:B:507:LEU:HD12	4:D:579:THR:HG22	1.55	0.89
1:A:145:THR:HG23	4:D:65:TRP:CZ2	2.07	0.88
2:B:264:LEU:HD13	6:F:381:TRP:CH2	2.07	0.88
1:A:149:VAL:HG13	2:B:70:PRO:CG	2.02	0.88
6:F:241:TRP:CZ2	7:G:238:LEU:HD21	2.08	0.88
6:F:313:GLN:HE21	8:H:282:HIS:CE1	1.90	0.88
1:A:281:SER:HB3	1:A:283:ARG:CD	1.95	0.88
4:D:189:GLU:CD	4:D:197:ARG:HH12	1.77	0.88
2:B:74:GLU:OE1	4:D:54:ARG:HG3	1.73	0.88
2:B:249:ASP:O	2:B:250:GLY:O	1.92	0.88
7:G:131:LEU:O	7:G:132:GLU:C	2.04	0.88
7:G:41:CYS:HA	7:G:47:ARG:NH1	1.89	0.88
1:A:189:TYR:CD1	3:C:271:MET:HE3	2.09	0.88
1:A:235:LEU:HD11	3:C:313:ILE:HG22	1.56	0.88
5:E:181:GLU:CD	7:G:335:ARG:HH12	1.77	0.88
2:B:134:LYS:HD3	3:C:85:VAL:HG13	1.56	0.88
6:F:247:MET:CB	8:H:240:LYS:HZ2	1.80	0.88
2:B:138:LYS:HD2	3:C:84:GLN:NE2	1.69	0.88
1:A:152:LYS:HZ1	2:B:73:ASP:CG	1.72	0.87
1:A:145:THR:HG1	4:D:65:TRP:HZ2	1.22	0.87
3:C:236:ARG:NH2	4:D:579:THR:OG1	2.07	0.87
4:D:189:GLU:OE1	4:D:197:ARG:NH2	2.06	0.87
4:D:662:THR:O	4:D:664:SER:N	2.07	0.87
6:F:247:MET:HB2	8:H:240:LYS:HZ1	1.08	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:528:VAL:HG13	4:D:546:MET:SD	2.15	0.87
3:C:63:ARG:HH12	4:D:535:ALA:HB1	1.39	0.87
4:D:189:GLU:CD	4:D:197:ARG:NH1	2.28	0.87
2:B:424:LEU:HD22	4:D:484:ILE:HD12	1.56	0.87
5:E:181:GLU:CG	7:G:335:ARG:HH12	1.88	0.86
6:F:224:ASP:OD2	8:H:216:LEU:HD21	1.75	0.86
3:C:129:ILE:CD1	4:D:489:LEU:HD13	2.06	0.86
1:A:71:ASP:HB3	3:C:114:ARG:HH21	1.37	0.86
6:F:326:ARG:NH2	7:G:291:GLU:OE2	2.07	0.86
6:F:53:LYS:HE3	6:F:57:TYR:OH	1.75	0.85
4:D:219:VAL:O	4:D:221:PRO:HD3	1.76	0.85
2:B:138:LYS:HD2	3:C:84:GLN:OE1	1.75	0.85
4:D:509:ARG:NH1	4:D:521:PHE:CZ	2.38	0.85
4:D:352:HIS:CG	4:D:366:ARG:HH21	1.95	0.85
1:A:148:LEU:HD13	2:B:80:VAL:HG21	1.58	0.85
3:C:18:ASP:OD1	3:C:21:ASP:CG	2.15	0.85
1:A:145:THR:CG2	4:D:69:LEU:HD11	2.05	0.85
2:B:138:LYS:CD	3:C:84:GLN:OE1	2.23	0.85
4:D:352:HIS:CG	4:D:366:ARG:HE	1.94	0.85
1:A:128:LEU:HD22	4:D:97:ARG:HH21	1.42	0.84
2:B:132:CYS:SG	4:D:119:LEU:HD21	2.16	0.84
1:A:283:ARG:O	1:A:284:ARG:N	2.09	0.84
4:D:46:ILE:HG23	4:D:50:ILE:HD12	1.58	0.84
2:B:483:ARG:NH2	4:D:549:GLN:HE22	1.73	0.84
3:C:229:LEU:CD2	4:D:571:LEU:HD12	2.07	0.84
3:C:227:VAL:HG22	3:C:230:ARG:HH21	1.41	0.84
7:G:249:THR:HG23	8:H:243:PHE:CD2	2.12	0.84
1:A:58:LYS:HZ3	4:D:506:SER:CB	1.81	0.84
2:B:522:THR:OG1	4:D:593:GLU:OE2	1.95	0.84
6:F:247:MET:CB	8:H:240:LYS:HZ1	1.84	0.84
6:F:206:MET:HE1	8:H:199:LYS:HG3	1.60	0.84
2:B:507:LEU:CD1	4:D:579:THR:CG2	2.55	0.84
5:E:148:TYR:OH	7:G:289:PHE:CD1	2.30	0.84
7:G:41:CYS:HA	7:G:47:ARG:HH12	1.40	0.84
2:B:97:ILE:CD1	4:D:82:GLN:CD	2.44	0.84
4:D:352:HIS:CD2	4:D:366:ARG:HE	1.94	0.84
6:F:325:GLU:OE2	6:F:325:GLU:CA	2.25	0.84
2:B:402:GLU:OE2	4:D:158:ARG:NH2	2.12	0.83
6:F:230:LYS:HE3	8:H:222:LEU:HD23	1.60	0.83
2:B:222:PHE:CD1	2:B:241:LEU:CD1	2.58	0.83
2:B:131:MET:HE2	3:C:85:VAL:HG21	1.59	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:4:ARG:HG3	4:D:32:GLN:HE21	1.43	0.82
2:B:490:GLU:CB	4:D:560:ARG:NH2	2.41	0.82
1:A:171:LYS:HE2	1:A:175:ARG:NH2	1.94	0.82
8:H:359:GLN:HG2	8:H:363:ASP:CG	1.98	0.82
2:B:97:ILE:CD1	4:D:82:GLN:CG	2.57	0.82
3:C:270:ARG:HD2	4:D:614:TYR:OH	1.79	0.82
1:A:77:LEU:HD22	3:C:154:LEU:CD2	2.10	0.82
1:A:266:LEU:CD1	3:C:345:LEU:HG	2.09	0.82
2:B:30:LEU:CD2	4:D:34:LEU:HD23	2.09	0.82
6:F:92:ARG:NH1	6:F:118:PHE:O	2.13	0.82
7:G:280:PHE:CD1	8:H:287:LYS:HG3	2.15	0.82
3:C:5:LEU:HD12	3:C:22:LEU:HD12	1.61	0.82
2:B:376:MET:HE1	4:D:211:HIS:HB2	1.61	0.81
1:A:172:VAL:HG13	3:C:253:ILE:HG21	1.61	0.81
2:B:216:PHE:HD2	4:D:269:GLN:HG2	1.44	0.81
2:B:550:LEU:HD11	3:C:276:VAL:HG21	1.59	0.81
6:F:377:ARG:HH22	8:H:343:GLN:CD	1.83	0.81
7:G:143:VAL:CG2	8:H:159:MET:HE3	2.01	0.81
5:E:179:MET:HG2	8:H:329:ILE:HD11	1.62	0.81
6:F:377:ARG:HH22	8:H:343:GLN:CG	1.92	0.81
7:G:139:GLU:HG3	8:H:155:VAL:HG22	1.61	0.81
1:A:145:THR:OG1	4:D:65:TRP:CZ2	2.34	0.81
7:G:274:MET:SD	8:H:280:GLN:HB2	2.19	0.81
6:F:326:ARG:HH11	8:H:295:PRO:HD3	1.45	0.81
4:D:122:GLU:HG3	4:D:512:ASN:ND2	1.96	0.81
2:B:84:PHE:HE2	4:D:65:TRP:CZ3	1.97	0.81
3:C:18:ASP:OD1	3:C:21:ASP:OD2	1.98	0.81
4:D:304:ASP:C	4:D:306:GLN:H	1.83	0.81
1:A:141:ARG:HG3	3:C:220:GLN:NE2	1.96	0.80
1:A:235:LEU:HD11	3:C:313:ILE:CG2	2.11	0.80
2:B:376:MET:CE	4:D:211:HIS:HB2	2.10	0.80
4:D:296:SER:HB3	4:D:301:THR:HG23	0.84	0.80
4:D:453:GLN:HA	4:D:457:LEU:HD12	1.62	0.80
6:F:247:MET:SD	8:H:240:LYS:CG	2.64	0.80
8:H:294:MET:HE3	8:H:298:ALA:CB	2.11	0.80
1:A:141:ARG:HG3	3:C:220:GLN:HE22	1.46	0.80
1:A:124:VAL:HG21	2:B:110:GLN:NE2	1.97	0.80
3:C:229:LEU:HD21	4:D:571:LEU:CD1	2.11	0.80
2:B:193:PHE:HB3	2:B:392:GLU:OE1	1.81	0.80
2:B:407:VAL:HG21	4:D:459:TRP:CE3	2.17	0.80
2:B:329:ILE:HD13	4:D:386:MET:SD	2.21	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:377:ARG:HH22	8:H:343:GLN:HG3	1.46	0.80
7:G:249:THR:HG23	8:H:243:PHE:CG	2.17	0.80
1:A:281:SER:OG	1:A:283:ARG:CZ	2.30	0.80
2:B:80:VAL:HG13	4:D:65:TRP:CH2	2.15	0.79
1:A:148:LEU:HD11	2:B:80:VAL:HG22	1.62	0.79
6:F:326:ARG:HH12	8:H:295:PRO:HD3	0.89	0.79
3:C:236:ARG:NH1	4:D:575:THR:HA	1.96	0.79
6:F:377:ARG:HH12	8:H:343:GLN:HG3	1.44	0.79
7:G:239:ARG:HG3	8:H:232:VAL:HG21	1.63	0.79
2:B:96:ALA:C	2:B:98:GLU:H	1.86	0.79
2:B:500:LEU:HD21	4:D:571:LEU:HD13	1.62	0.79
1:A:211:HIS:HA	4:D:630:VAL:HG23	1.65	0.79
2:B:513:PRO:HG2	2:B:519:MET:CE	2.13	0.79
1:A:58:LYS:HZ1	4:D:506:SER:CB	1.91	0.78
2:B:30:LEU:HD21	4:D:34:LEU:HD23	1.65	0.78
2:B:566:GLU:HA	2:B:569:LEU:HD12	1.66	0.78
1:A:5:SER:HA	1:A:31:MET:HE1	1.65	0.78
1:A:71:ASP:C	3:C:114:ARG:HH21	1.86	0.78
2:B:80:VAL:HG11	4:D:65:TRP:CZ2	2.18	0.78
2:B:97:ILE:HD12	4:D:82:GLN:CG	2.13	0.78
2:B:289:TRP:CE2	2:B:293:ASN:ND2	2.52	0.78
7:G:131:LEU:O	7:G:132:GLU:O	2.01	0.78
2:B:43:PHE:CZ	4:D:46:ILE:HD13	2.18	0.78
1:A:277:VAL:O	1:A:278:PRO:CA	2.31	0.78
3:C:141:LEU:HG	3:C:142:PRO:HD2	1.65	0.78
6:F:241:TRP:HZ2	7:G:238:LEU:HD21	1.48	0.78
6:F:335:ARG:HH21	8:H:259:HIS:CG	1.73	0.78
2:B:94:GLU:CD	4:D:79:GLU:OE2	2.17	0.78
4:D:189:GLU:OE2	4:D:197:ARG:NH1	2.16	0.78
2:B:456:ASP:C	2:B:458:THR:H	1.87	0.77
3:C:180:GLU:OE1	3:C:188:LYS:NZ	2.17	0.77
1:A:145:THR:HG23	4:D:65:TRP:HZ2	1.48	0.77
4:D:117:GLN:O	4:D:119:LEU:N	2.17	0.77
4:D:211:HIS:CE1	4:D:215:ILE:HD11	2.19	0.77
4:D:280:PRO:O	4:D:281:SER:C	2.09	0.77
5:E:9:PRO:CB	6:F:197:GLN:OE1	2.32	0.77
5:E:148:TYR:HH	7:G:289:PHE:HD1	1.30	0.77
1:A:240:ASP:O	1:A:251:LYS:NZ	2.17	0.77
5:E:221:HIS:HB3	5:E:222:PRO:O	1.85	0.77
3:C:5:LEU:CD1	3:C:22:LEU:HD12	2.15	0.77
2:B:96:ALA:C	2:B:98:GLU:N	2.34	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:399:VAL:HA	4:D:158:ARG:NH1	1.99	0.77
2:B:522:THR:HG22	2:B:524:GLU:OE2	1.85	0.77
6:F:166:LYS:NZ	7:G:87:ASP:OD2	2.13	0.77
6:F:247:MET:HB2	8:H:240:LYS:HZ2	0.96	0.77
5:E:9:PRO:HB3	6:F:197:GLN:OE1	1.85	0.77
6:F:227:ILE:CA	8:H:223:ARG:HH22	1.97	0.77
3:C:14:MET:SD	4:D:552:PHE:HA	2.25	0.77
5:E:102:LEU:HD22	7:G:255:ILE:CD1	2.15	0.76
5:E:181:GLU:CD	7:G:335:ARG:NH1	2.37	0.76
6:F:377:ARG:NH1	8:H:343:GLN:CG	2.48	0.76
6:F:377:ARG:NH1	8:H:343:GLN:HG3	2.01	0.76
4:D:202:LEU:HD22	4:D:237:MET:HE3	1.67	0.76
2:B:94:GLU:OE1	4:D:79:GLU:OE2	2.04	0.76
4:D:290:PRO:O	4:D:291:ILE:O	2.02	0.76
4:D:528:VAL:CG1	4:D:546:MET:SD	2.73	0.76
1:A:277:VAL:HG12	1:A:278:PRO:HA	1.68	0.76
2:B:88:LYS:O	2:B:90:PRO:HD3	1.86	0.76
6:F:326:ARG:HH12	8:H:295:PRO:CG	1.99	0.76
2:B:424:LEU:CD2	4:D:484:ILE:HD11	2.15	0.76
6:F:9:LEU:HD22	6:F:124:PRO:HB3	1.68	0.76
1:A:138:THR:OG1	2:B:92:ILE:HD11	1.82	0.76
1:A:189:TYR:HA	3:C:271:MET:CE	2.15	0.76
2:B:451:GLN:HG3	2:B:463:ARG:HH12	1.50	0.76
1:A:152:LYS:HZ2	2:B:73:ASP:CG	1.85	0.76
2:B:490:GLU:HG2	4:D:560:ARG:NH1	2.01	0.76
6:F:44:GLY:H	6:F:47:MET:CE	1.95	0.76
2:B:490:GLU:CG	4:D:560:ARG:CZ	2.64	0.76
4:D:68:GLN:O	4:D:72:THR:OG1	2.04	0.76
4:D:296:SER:OG	4:D:300:SER:N	2.19	0.75
2:B:42:TRP:CE2	4:D:20:LEU:HD13	2.21	0.75
5:E:121:LEU:CD2	8:H:276:LEU:HD21	2.16	0.75
1:A:277:VAL:C	1:A:278:PRO:CA	2.55	0.75
6:F:44:GLY:N	6:F:47:MET:HE2	2.00	0.75
6:F:234:ILE:HG12	8:H:226:ILE:HD11	1.68	0.75
1:A:99:CYS:CB	3:C:67:MET:HE2	2.16	0.75
2:B:458:THR:O	2:B:460:LYS:N	2.20	0.75
6:F:171:ASN:OD1	7:G:149:ASN:ND2	2.19	0.75
3:C:121:VAL:CG1	3:C:122:PRO:HD2	2.17	0.75
6:F:377:ARG:NH1	8:H:343:GLN:HB2	2.00	0.75
1:A:141:ARG:HE	3:C:220:GLN:NE2	1.85	0.75
2:B:87:SER:O	2:B:89:VAL:N	2.16	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:63:ARG:NH1	4:D:535:ALA:HB1	2.02	0.75
4:D:199:VAL:HG21	4:D:241:VAL:HG21	1.68	0.75
2:B:490:GLU:HA	4:D:560:ARG:HH22	1.41	0.74
4:D:202:LEU:HD22	4:D:237:MET:CE	2.17	0.74
2:B:507:LEU:HD12	4:D:579:THR:CG2	2.15	0.74
2:B:287:LEU:HD21	4:D:343:HIS:HD2	1.52	0.74
2:B:297:VAL:CG1	4:D:355:LEU:HD11	2.17	0.74
3:C:116:LEU:HD12	3:C:137:LEU:CD1	2.16	0.74
2:B:216:PHE:CD2	4:D:269:GLN:HG2	2.22	0.74
1:A:33:ILE:HG23	3:C:15:LEU:HD22	1.68	0.74
1:A:145:THR:CG2	4:D:65:TRP:CZ2	2.70	0.74
1:A:148:LEU:HD13	2:B:80:VAL:HG23	1.68	0.74
3:C:303:GLU:OE2	3:C:303:GLU:HA	1.88	0.74
7:G:274:MET:CE	8:H:280:GLN:CB	2.58	0.74
2:B:443:ASP:OD2	4:D:509:ARG:NH2	2.21	0.74
4:D:571:LEU:O	4:D:575:THR:HG23	1.88	0.74
2:B:222:PHE:CE1	2:B:241:LEU:CD1	2.70	0.74
6:F:377:ARG:NH2	8:H:343:GLN:HG3	2.02	0.74
1:A:58:LYS:NZ	4:D:506:SER:HB2	1.96	0.73
2:B:42:TRP:CD2	4:D:20:LEU:HD13	2.23	0.73
2:B:84:PHE:CE2	4:D:65:TRP:CZ3	2.76	0.73
5:E:141:PHE:CA	7:G:289:PHE:HZ	2.01	0.73
1:A:145:THR:CG2	4:D:65:TRP:HZ2	2.01	0.73
1:A:211:HIS:HA	4:D:630:VAL:CG2	2.17	0.73
5:E:148:TYR:OH	7:G:289:PHE:CE1	2.39	0.73
8:H:259:HIS:N	8:H:300:GLU:OE2	2.15	0.73
6:F:92:ARG:NH1	6:F:119:LEU:HA	2.04	0.73
6:F:359:ARG:HG3	8:H:328:GLN:CD	2.07	0.73
1:A:138:THR:HG1	2:B:92:ILE:CD1	2.01	0.73
2:B:132:CYS:SG	4:D:119:LEU:CD1	2.76	0.73
7:G:274:MET:HE3	8:H:280:GLN:N	2.04	0.73
2:B:166:SER:CB	4:D:152:ASN:ND2	2.50	0.73
6:F:60:PHE:HE1	6:F:99:LEU:HD11	1.54	0.73
3:C:116:LEU:CD1	3:C:137:LEU:HD11	2.19	0.72
4:D:307:GLU:CG	7:G:324:ILE:HD11	2.19	0.72
4:D:601:MET:HE2	4:D:604:LEU:HD12	1.69	0.72
2:B:194:LEU:HA	2:B:197:LEU:HG	1.70	0.72
2:B:521:THR:HG22	3:C:251:ASP:OD2	1.89	0.72
2:B:402:GLU:OE2	4:D:158:ARG:NE	2.20	0.72
2:B:513:PRO:HG2	2:B:519:MET:HE2	1.69	0.72
3:C:133:ASP:OD1	3:C:136:ASP:CG	2.28	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:172:VAL:HG13	3:C:253:ILE:CG2	2.20	0.72
2:B:424:LEU:HD22	4:D:484:ILE:HD11	1.70	0.72
6:F:247:MET:HE2	8:H:243:PHE:HD1	1.54	0.72
2:B:77:LEU:HD23	2:B:81:LEU:HD11	1.71	0.72
2:B:120:LYS:NZ	3:C:171:SER:OG	2.20	0.72
6:F:247:MET:CE	8:H:243:PHE:CD1	2.70	0.71
1:A:113:ILE:HB	1:A:114:PRO:HD3	1.72	0.71
2:B:209:SER:HA	4:D:262:THR:HG23	1.71	0.71
3:C:123:PRO:C	3:C:125:ASP:H	1.93	0.71
1:A:279:GLU:CB	1:A:280:PRO:CD	2.56	0.71
2:B:87:SER:C	2:B:89:VAL:H	1.93	0.71
2:B:347:MET:HB3	2:B:348:PRO:HD3	1.72	0.71
3:C:129:ILE:CD1	4:D:489:LEU:CD1	2.68	0.71
2:B:131:MET:HE1	3:C:85:VAL:CG2	2.15	0.71
6:F:163:ASP:OD2	7:G:59:TYR:OH	2.03	0.71
6:F:287:ARG:HD3	6:F:321:LEU:HD21	1.71	0.71
6:F:338:LEU:HD12	8:H:304:SER:HB3	1.71	0.71
1:A:189:TYR:HA	3:C:271:MET:HE1	1.73	0.71
4:D:305:PRO:C	4:D:307:GLU:H	1.91	0.71
6:F:157:LEU:N	6:F:170:ARG:HH22	1.89	0.71
6:F:247:MET:HE2	8:H:243:PHE:CD1	2.25	0.71
1:A:228:SER:HA	3:C:307:LEU:HD12	1.71	0.71
2:B:266:TYR:CG	2:B:345:LEU:HD11	2.25	0.71
6:F:176:GLN:OE1	7:G:117:ASP:HB3	1.91	0.71
1:A:64:ALA:HB1	4:D:492:VAL:CG1	2.21	0.70
3:C:63:ARG:HH22	4:D:535:ALA:HB1	1.53	0.70
4:D:307:GLU:OE1	7:G:324:ILE:HD11	1.90	0.70
2:B:386:GLN:HE22	4:D:440:GLN:CD	1.95	0.70
5:E:108:LEU:HD22	8:H:254:LEU:HD11	1.72	0.70
2:B:213:LEU:HD13	4:D:265:LEU:HD11	1.73	0.70
6:F:173:LEU:HD21	7:G:90:LEU:HD21	1.72	0.70
6:F:257:VAL:HG11	8:H:255:ASP:HB2	1.72	0.70
1:A:133:MET:SD	3:C:217:LEU:HD22	2.31	0.70
2:B:94:GLU:CB	4:D:79:GLU:OE1	2.40	0.70
2:B:120:LYS:NZ	3:C:171:SER:C	2.45	0.70
4:D:317:GLN:HA	8:H:334:PHE:CE2	2.27	0.70
7:G:56:SER:OG	7:G:63:GLN:OE1	2.01	0.70
7:G:7:LEU:HD21	7:G:34:GLN:OE1	1.92	0.70
1:A:1:MET:HE3	1:A:28:THR:HG22	1.74	0.70
1:A:279:GLU:HB3	1:A:280:PRO:CD	2.08	0.70
2:B:94:GLU:HB3	4:D:79:GLU:OE1	1.92	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:522:THR:HG23	4:D:590:TYR:HE2	1.53	0.69
4:D:601:MET:CE	4:D:604:LEU:HD12	2.21	0.69
6:F:224:ASP:O	6:F:225:ARG:C	2.25	0.69
6:F:377:ARG:HH12	8:H:343:GLN:HA	1.32	0.69
7:G:124:THR:HG22	7:G:125:ILE:H	1.55	0.69
5:E:141:PHE:HB2	7:G:289:PHE:CZ	2.28	0.69
8:H:294:MET:HE3	8:H:298:ALA:HB2	1.73	0.69
1:A:172:VAL:CG1	3:C:253:ILE:HG21	2.22	0.69
2:B:536:LEU:HD21	3:C:261:LYS:HG2	1.72	0.69
6:F:335:ARG:NH2	8:H:259:HIS:CB	0.54	0.69
2:B:376:MET:HE1	4:D:207:LEU:O	1.92	0.69
7:G:130:ILE:CG2	7:G:131:LEU:N	2.49	0.69
3:C:75:LEU:HD11	3:C:162:LEU:HD23	1.74	0.69
5:E:59:ILE:HG23	7:G:210:ILE:HD12	1.75	0.69
6:F:28:GLY:HA2	6:F:38:LEU:HD11	1.73	0.69
6:F:224:ASP:CG	6:F:227:ILE:HD11	2.12	0.69
4:D:631:GLN:HB3	4:D:648:ARG:NH2	2.07	0.69
6:F:261:VAL:HG21	8:H:254:LEU:HD23	1.74	0.69
7:G:92:HIS:CE1	7:G:93:PHE:CD1	2.80	0.69
7:G:62:VAL:HG12	7:G:66:LEU:HD11	1.75	0.69
1:A:1:MET:HE1	1:A:28:THR:HG22	1.74	0.68
4:D:265:LEU:O	4:D:269:GLN:HG3	1.94	0.68
6:F:175:ARG:CZ	7:G:152:LEU:HD22	2.22	0.68
2:B:35:ASP:HB3	4:D:30:MET:HE1	1.74	0.68
2:B:70:PRO:O	4:D:66:TYR:OH	2.10	0.68
2:B:577:GLU:OE1	4:D:640:GLY:N	2.26	0.68
5:E:4:ALA:O	5:E:6:PRO:HD3	1.93	0.68
2:B:220:HIS:CE1	4:D:276:LEU:HD11	2.27	0.68
4:D:4:ARG:HG3	4:D:32:GLN:HE22	1.57	0.68
5:E:190:ARG:CZ	6:F:370:ILE:HG12	2.24	0.68
5:E:148:TYR:HH	7:G:289:PHE:HE1	1.36	0.68
6:F:16:MET:SD	6:F:130:LEU:HD23	2.33	0.68
2:B:134:LYS:HD2	3:C:85:VAL:HG13	1.74	0.68
6:F:224:ASP:OD1	6:F:227:ILE:HD11	1.94	0.68
7:G:41:CYS:HA	7:G:108:GLN:OE1	1.93	0.68
1:A:279:GLU:HB2	1:A:280:PRO:HD3	1.75	0.68
2:B:80:VAL:CG1	4:D:65:TRP:CE3	2.75	0.68
3:C:129:ILE:HD11	4:D:489:LEU:HD22	1.76	0.68
1:A:240:ASP:OD2	3:C:335:LYS:NZ	2.27	0.68
2:B:84:PHE:CE2	4:D:65:TRP:CE3	2.77	0.68
5:E:73:LYS:NZ	7:G:220:GLU:OE2	2.26	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:334:LEU:HB3	2:B:335:PRO:HD3	1.76	0.68
3:C:116:LEU:HD12	3:C:137:LEU:HD12	1.75	0.67
2:B:536:LEU:HD22	3:C:261:LYS:HD3	1.77	0.67
5:E:137:LEU:HD23	7:G:285:LEU:HD23	1.76	0.67
5:E:179:MET:HG2	8:H:329:ILE:CD1	2.24	0.67
1:A:12:LEU:HB3	1:A:21:LEU:CD2	2.23	0.67
3:C:141:LEU:HD23	3:C:147:VAL:HG21	1.75	0.67
7:G:37:TYR:OH	7:G:105:PRO:HG3	1.94	0.67
2:B:386:GLN:NE2	4:D:440:GLN:CD	2.48	0.67
3:C:63:ARG:CZ	4:D:535:ALA:CB	2.71	0.67
5:E:189:TRP:HZ3	8:H:340:ILE:HD12	1.50	0.67
6:F:227:ILE:HG12	8:H:223:ARG:HH22	1.60	0.67
2:B:490:GLU:CA	4:D:560:ARG:HH22	2.03	0.66
6:F:335:ARG:HH21	8:H:259:HIS:CB	0.66	0.66
8:H:234:THR:HB	8:H:235:PRO:HD3	1.77	0.66
2:B:456:ASP:C	2:B:458:THR:N	2.47	0.66
3:C:351:SER:O	3:C:353:PRO:HD2	1.94	0.66
6:F:227:ILE:HG12	8:H:223:ARG:NH2	2.11	0.66
4:D:275:ASP:HA	4:D:278:LYS:HE3	1.78	0.66
1:A:128:LEU:CD2	4:D:97:ARG:HH21	2.08	0.66
6:F:377:ARG:HH11	8:H:343:GLN:CA	2.07	0.66
4:D:352:HIS:CG	4:D:366:ARG:NE	2.64	0.66
6:F:9:LEU:HD21	6:F:124:PRO:O	1.96	0.66
4:D:17:GLU:O	4:D:52:SER:HB3	1.96	0.66
6:F:259:ASP:HB3	6:F:263:ARG:NH2	2.10	0.66
1:A:241:LEU:HD22	1:A:248:VAL:HG13	1.78	0.66
1:A:266:LEU:O	1:A:270:VAL:HG23	1.96	0.66
2:B:95:VAL:HG13	2:B:99:LYS:HB3	1.78	0.66
5:E:189:TRP:CZ2	8:H:340:ILE:HD13	2.31	0.66
5:E:9:PRO:HB2	6:F:197:GLN:OE1	1.96	0.65
4:D:206:PHE:CD2	4:D:230:SER:OG	2.49	0.65
7:G:235:ILE:HD11	8:H:225:LEU:HD22	1.78	0.65
1:A:12:LEU:CB	1:A:21:LEU:HD21	2.24	0.65
2:B:88:LYS:O	2:B:90:PRO:CD	2.43	0.65
2:B:175:MET:CG	4:D:460:PRO:HG3	2.16	0.65
4:D:631:GLN:HB2	4:D:648:ARG:HH22	1.61	0.65
1:A:77:LEU:HD22	3:C:154:LEU:HD22	1.77	0.65
1:A:145:THR:CB	4:D:65:TRP:HZ2	2.10	0.65
1:A:275:PHE:O	1:A:276:VAL:C	2.32	0.65
2:B:30:LEU:CD2	4:D:34:LEU:CD2	2.74	0.65
2:B:577:GLU:OE1	4:D:640:GLY:CA	2.45	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:631:GLN:CB	4:D:648:ARG:NH2	2.60	0.65
4:D:296:SER:HB2	4:D:301:THR:CG2	2.25	0.65
5:E:186:ILE:HG12	7:G:338:TYR:CZ	2.32	0.65
4:D:317:GLN:HG3	8:H:334:PHE:CD2	2.32	0.65
7:G:301:THR:HG23	8:H:312:GLU:HB2	1.78	0.65
2:B:138:LYS:HG3	3:C:84:GLN:HE21	1.62	0.64
2:B:319:THR:HG23	4:D:378:LEU:HD12	1.78	0.64
5:E:42:CYS:SG	6:F:187:LEU:HD23	2.37	0.64
2:B:97:ILE:HD11	4:D:82:GLN:CG	2.22	0.64
2:B:383:GLU:OE2	4:D:203:ARG:NE	2.30	0.64
1:A:77:LEU:HD22	3:C:154:LEU:HD21	1.80	0.64
4:D:352:HIS:CG	4:D:366:ARG:NH2	2.63	0.64
7:G:123:ASP:O	7:G:124:THR:O	2.15	0.64
7:G:143:VAL:CG2	8:H:159:MET:CE	2.68	0.64
1:A:215:VAL:HG21	4:D:629:PRO:HB2	1.79	0.64
4:D:157:TYR:CE1	4:D:161:GLN:NE2	2.64	0.64
5:E:155:ILE:HG23	6:F:334:VAL:HG21	0.65	0.64
2:B:42:TRP:CE2	4:D:20:LEU:CD1	2.80	0.64
2:B:507:LEU:HD11	4:D:579:THR:HG22	1.77	0.64
3:C:123:PRO:C	3:C:125:ASP:N	2.50	0.64
5:E:141:PHE:CA	7:G:289:PHE:CZ	2.81	0.64
2:B:36:LEU:CD2	4:D:34:LEU:HD21	2.28	0.64
2:B:81:LEU:O	2:B:84:PHE:HB2	1.98	0.64
6:F:295:LEU:HD21	6:F:317:GLU:OE1	1.98	0.64
7:G:81:ILE:HG22	7:G:99:ILE:HD12	1.78	0.64
2:B:383:GLU:OE2	4:D:203:ARG:NH2	2.31	0.64
2:B:420:ARG:NE	4:D:477:GLU:OE1	2.30	0.64
2:B:424:LEU:HD23	4:D:484:ILE:CD1	2.27	0.64
7:G:62:VAL:CG1	7:G:66:LEU:HD11	2.27	0.64
1:A:193:ILE:HG23	3:C:274:LEU:CD1	2.27	0.64
2:B:536:LEU:CD2	3:C:261:LYS:HD3	2.27	0.64
2:B:570:TYR:CG	4:D:631:GLN:HG2	2.33	0.64
6:F:44:GLY:O	6:F:47:MET:HE2	1.98	0.63
2:B:507:LEU:HD21	4:D:582:LEU:HD23	1.79	0.63
4:D:317:GLN:HA	8:H:334:PHE:CD2	2.33	0.63
5:E:76:ALA:HB1	7:G:224:LEU:HD21	1.80	0.63
1:A:64:ALA:HB1	4:D:492:VAL:HG12	1.80	0.63
2:B:166:SER:HB3	4:D:152:ASN:ND2	2.12	0.63
2:B:190:GLN:OE1	4:D:169:SER:O	2.16	0.63
2:B:344:LEU:HD13	4:D:399:LYS:HD2	1.80	0.63
3:C:86:ARG:CB	3:C:92:LEU:HD12	2.28	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:133:ASP:OD1	3:C:136:ASP:OD2	2.16	0.63
5:E:60:ASN:CB	8:H:207:HIS:NE2	2.54	0.63
7:G:130:ILE:CG2	7:G:131:LEU:H	2.00	0.63
2:B:120:LYS:NZ	3:C:175:PRO:HA	2.11	0.63
2:B:588:GLU:OE2	4:D:650:ARG:NH2	2.30	0.63
2:B:132:CYS:SG	4:D:119:LEU:HD11	2.37	0.63
6:F:185:GLU:OE1	7:G:168:PRO:HB3	1.99	0.63
5:E:97:HIS:CD2	8:H:247:TYR:HH	2.16	0.63
5:E:60:ASN:HB3	8:H:207:HIS:CD2	2.33	0.63
8:H:359:GLN:O	8:H:363:ASP:HB2	1.98	0.63
2:B:35:ASP:CB	4:D:30:MET:CE	2.75	0.62
6:F:227:ILE:CG1	8:H:223:ARG:HH22	2.11	0.62
2:B:263:GLN:NE2	2:B:346:ASN:HD21	1.98	0.62
2:B:510:PHE:CE1	4:D:586:LEU:HB3	2.33	0.62
5:E:179:MET:CG	8:H:329:ILE:CD1	2.77	0.62
2:B:87:SER:C	2:B:89:VAL:N	2.48	0.62
5:E:139:VAL:HG22	6:F:278:LEU:HD12	1.80	0.62
3:C:4:THR:CG2	3:C:33:ILE:HD11	2.26	0.62
4:D:184:SER:O	4:D:185:SER:C	2.29	0.62
5:E:60:ASN:CB	8:H:207:HIS:CE1	2.66	0.62
6:F:92:ARG:HH11	6:F:119:LEU:HA	1.61	0.62
1:A:145:THR:HG23	4:D:65:TRP:CE2	2.34	0.62
1:A:217:LEU:O	1:A:220:THR:OG1	2.17	0.62
1:A:270:VAL:HG13	1:A:273:MET:HE3	1.80	0.62
2:B:453:LEU:HB3	2:B:471:VAL:HG12	1.80	0.62
4:D:485:CYS:SG	4:D:487:PRO:HD2	2.39	0.62
4:D:598:VAL:HB	4:D:599:PRO:HD3	1.82	0.62
3:C:5:LEU:CD1	3:C:22:LEU:CD1	2.76	0.62
7:G:93:PHE:CE2	7:G:94:ASP:OD1	2.53	0.62
1:A:145:THR:CG2	4:D:69:LEU:CD1	2.57	0.62
4:D:457:LEU:N	4:D:458:PRO:CD	2.62	0.62
2:B:329:ILE:CD1	4:D:386:MET:SD	2.88	0.62
3:C:116:LEU:HD11	3:C:137:LEU:HD11	1.82	0.62
5:E:186:ILE:HG12	7:G:338:TYR:CE2	2.34	0.62
1:A:134:GLU:HG3	3:C:213:MET:SD	2.40	0.62
2:B:194:LEU:O	2:B:197:LEU:HB2	2.00	0.62
5:E:64:LEU:HD13	8:H:211:ARG:HG3	1.80	0.62
6:F:288:ILE:HD11	6:F:314:LEU:CD2	2.30	0.62
2:B:74:GLU:CD	4:D:54:ARG:HG3	2.21	0.61
2:B:84:PHE:HE2	4:D:65:TRP:HE3	1.43	0.61
2:B:88:LYS:O	2:B:90:PRO:N	2.33	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:184:SER:O	4:D:186:THR:N	2.33	0.61
2:B:407:VAL:CB	4:D:459:TRP:HZ3	2.13	0.61
5:E:158:ILE:HD12	6:F:334:VAL:HG11	1.81	0.61
7:G:14:TYR:HB2	7:G:36:ILE:CG2	2.31	0.61
2:B:406:ILE:HD13	4:D:155:ILE:HD11	1.82	0.61
5:E:189:TRP:HZ3	8:H:336:VAL:HG12	1.65	0.61
3:C:116:LEU:CD1	3:C:137:LEU:CD1	2.78	0.61
3:C:129:ILE:HD13	4:D:489:LEU:CD1	2.30	0.61
4:D:535:ALA:HB1	4:D:537:GLU:OE2	2.00	0.61
2:B:80:VAL:HG11	4:D:65:TRP:CE3	2.32	0.61
5:E:47:GLU:HG3	6:F:195:LYS:HZ3	1.65	0.61
5:E:57:ALA:HB2	8:H:203:GLN:NE2	2.15	0.61
5:E:78:ILE:CD1	6:F:234:ILE:HG23	2.31	0.61
1:A:78:GLY:O	1:A:81:TYR:HD1	1.84	0.61
6:F:163:ASP:OD1	6:F:164:PRO:HD2	2.00	0.61
6:F:335:ARG:NH2	8:H:259:HIS:HB2	0.95	0.61
3:C:86:ARG:HB2	3:C:92:LEU:HD12	1.81	0.61
3:C:282:THR:HB	3:C:283:PRO:HD2	1.83	0.61
5:E:141:PHE:HA	7:G:289:PHE:CZ	2.36	0.61
2:B:293:ASN:O	2:B:297:VAL:HG23	2.01	0.61
4:D:314:SER:OG	7:G:321:GLY:N	2.29	0.61
4:D:416:ALA:HA	4:D:419:LEU:HB3	1.82	0.61
6:F:377:ARG:CZ	8:H:343:GLN:HG3	2.30	0.61
5:E:69:LEU:HB3	7:G:217:LEU:HD23	1.82	0.60
6:F:319:LEU:O	8:H:293:ILE:HD11	2.01	0.60
6:F:377:ARG:NH2	8:H:343:GLN:CG	2.62	0.60
7:G:174:PRO:HB2	7:G:176:ASP:OD1	2.00	0.60
5:E:21:LYS:NZ	7:G:159:SER:HA	2.17	0.60
1:A:71:ASP:HB3	3:C:114:ARG:CZ	2.19	0.60
2:B:536:LEU:HD21	3:C:261:LYS:CG	2.30	0.60
4:D:157:TYR:CZ	4:D:161:GLN:NE2	2.69	0.60
5:E:9:PRO:CA	6:F:197:GLN:HE22	2.14	0.60
5:E:175:LEU:HD21	7:G:328:CYS:SG	2.41	0.60
4:D:264:GLU:HA	4:D:267:LYS:HD2	1.83	0.60
2:B:77:LEU:HD21	4:D:61:GLY:C	2.21	0.60
3:C:129:ILE:HD11	4:D:489:LEU:CD2	2.31	0.60
3:C:167:PHE:HB3	3:C:185:ARG:NH2	2.16	0.60
5:E:62:LYS:NZ	7:G:211:SER:OG	2.21	0.60
2:B:490:GLU:CG	4:D:560:ARG:NH2	2.65	0.60
4:D:509:ARG:HD3	4:D:521:PHE:CZ	2.36	0.60
1:A:33:ILE:HG23	3:C:15:LEU:CD2	2.31	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:96:ALA:O	2:B:99:LYS:N	2.34	0.60
2:B:513:PRO:HG2	2:B:519:MET:HE3	1.83	0.60
5:E:59:ILE:HG23	7:G:210:ILE:CD1	2.31	0.60
1:A:189:TYR:HA	3:C:271:MET:HE2	1.84	0.60
1:A:207:GLU:N	1:A:208:PRO:CD	2.64	0.60
2:B:245:SER:O	2:B:246:PHE:C	2.32	0.60
4:D:210:LEU:HD21	4:D:227:ARG:HD3	1.83	0.60
5:E:135:LEU:HB3	5:E:136:PRO:CD	2.29	0.60
6:F:176:GLN:CD	7:G:117:ASP:HB3	2.22	0.60
6:F:359:ARG:CG	8:H:328:GLN:CD	2.70	0.60
6:F:247:MET:HE1	8:H:243:PHE:HD1	1.63	0.59
6:F:326:ARG:NH1	8:H:295:PRO:CG	2.62	0.59
2:B:273:LEU:HA	4:D:330:LEU:HD13	1.84	0.59
5:E:97:HIS:CE1	6:F:255:VAL:HG13	2.37	0.59
5:E:221:HIS:HB3	5:E:222:PRO:C	2.22	0.59
7:G:41:CYS:CA	7:G:47:ARG:NH1	2.65	0.59
1:A:5:SER:HA	1:A:31:MET:CE	2.32	0.59
2:B:171:VAL:HG21	4:D:463:ILE:HD13	1.85	0.59
4:D:268:LEU:HB3	4:D:272:GLN:HE21	1.67	0.59
4:D:383:ASP:O	4:D:387:GLN:HG3	2.01	0.59
6:F:116:SER:HA	6:F:119:LEU:HD12	1.83	0.59
1:A:99:CYS:HB3	3:C:67:MET:CE	2.32	0.59
2:B:120:LYS:HZ2	3:C:171:SER:C	1.98	0.59
5:E:78:ILE:HD11	6:F:234:ILE:HG23	1.85	0.59
6:F:234:ILE:HG12	8:H:226:ILE:CD1	2.33	0.59
2:B:2:SER:OG	2:B:28:ASP:CG	2.40	0.59
2:B:91:ALA:C	2:B:93:GLU:N	2.56	0.59
2:B:97:ILE:HD12	4:D:82:GLN:NE2	2.17	0.59
1:A:99:CYS:HB3	3:C:67:MET:HE2	1.84	0.59
2:B:35:ASP:CB	4:D:30:MET:HE3	2.32	0.59
4:D:631:GLN:OE1	4:D:648:ARG:NH2	2.35	0.59
6:F:377:ARG:HH11	8:H:343:GLN:HA	1.59	0.59
2:B:376:MET:CE	4:D:207:LEU:O	2.50	0.59
2:B:391:LEU:HD11	4:D:239:GLU:HG2	1.83	0.59
4:D:130:ARG:NH2	4:D:484:ILE:O	2.35	0.59
6:F:173:LEU:CD2	7:G:90:LEU:HD21	2.33	0.59
7:G:14:TYR:CE1	7:G:18:GLN:NE2	2.70	0.59
2:B:376:MET:HE1	4:D:211:HIS:CB	2.32	0.58
5:E:141:PHE:CB	7:G:289:PHE:CZ	2.86	0.58
5:E:158:ILE:HD11	7:G:295:ILE:HG23	1.86	0.58
7:G:2:THR:HG21	7:G:37:TYR:CE1	2.39	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:550:LEU:HD11	3:C:276:VAL:CG2	2.31	0.58
4:D:211:HIS:CE1	4:D:215:ILE:CD1	2.85	0.58
5:E:148:TYR:OH	7:G:289:PHE:HD1	1.75	0.58
6:F:168:LEU:CD1	7:G:145:CYS:SG	2.91	0.58
1:A:266:LEU:HD12	3:C:345:LEU:CG	2.24	0.58
2:B:344:LEU:HD22	2:B:347:MET:CE	2.34	0.58
2:B:483:ARG:NH2	4:D:549:GLN:NE2	2.37	0.58
6:F:60:PHE:CE1	6:F:99:LEU:HD11	2.37	0.58
2:B:344:LEU:HD22	2:B:347:MET:HE1	1.85	0.58
2:B:385:LEU:HD12	4:D:254:LEU:CD1	2.33	0.58
1:A:93:ASN:OD1	3:C:68:ARG:NH1	2.36	0.58
2:B:92:ILE:O	2:B:94:GLU:N	2.37	0.58
1:A:145:THR:OG1	4:D:65:TRP:HZ2	1.78	0.58
4:D:631:GLN:HB3	4:D:648:ARG:HH21	1.68	0.58
5:E:72:GLU:OE1	8:H:218:ARG:NH1	2.36	0.58
5:E:76:ALA:CB	7:G:224:LEU:HD21	2.33	0.58
6:F:326:ARG:HD2	8:H:293:ILE:HG23	1.86	0.58
2:B:80:VAL:HG12	4:D:65:TRP:CE3	2.34	0.58
2:B:138:LYS:HE3	3:C:84:GLN:CD	2.09	0.58
4:D:10:LEU:HD23	4:D:31:LEU:HD22	1.86	0.58
2:B:139:GLU:OE1	4:D:123:ARG:HD3	2.03	0.57
4:D:631:GLN:CB	4:D:648:ARG:HH22	2.17	0.57
2:B:37:LYS:HB3	2:B:38:PRO:HD3	1.85	0.57
5:E:139:VAL:HG22	6:F:278:LEU:CD1	2.34	0.57
8:H:358:ARG:HH21	8:H:366:LEU:CD1	2.18	0.57
1:A:141:ARG:HE	3:C:220:GLN:HE22	1.51	0.57
1:A:278:PRO:HG2	1:A:280:PRO:HD3	1.86	0.57
1:A:113:ILE:HG21	2:B:121:LEU:HD11	1.87	0.57
3:C:63:ARG:NH2	4:D:535:ALA:HB1	2.11	0.57
4:D:306:GLN:C	4:D:307:GLU:O	2.43	0.57
7:G:249:THR:CG2	8:H:243:PHE:HB2	2.35	0.57
1:A:141:ARG:CG	3:C:220:GLN:NE2	2.66	0.57
1:A:171:LYS:HE2	1:A:175:ARG:HH21	1.67	0.57
2:B:429:LEU:HB3	4:D:484:ILE:HG23	1.85	0.57
2:B:171:VAL:HG11	4:D:463:ILE:HD12	1.86	0.57
7:G:62:VAL:CG1	7:G:66:LEU:CD1	2.75	0.57
4:D:601:MET:HE2	4:D:601:MET:HA	1.86	0.57
3:C:280:CYS:HB2	4:D:625:TRP:HD1	1.69	0.57
2:B:418:GLU:O	2:B:422:THR:HG23	2.05	0.57
5:E:87:LYS:HD3	6:F:241:TRP:CE3	2.40	0.57
1:A:141:ARG:CG	3:C:220:GLN:HE22	2.14	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:113:ILE:CG2	2:B:121:LEU:HD11	2.35	0.56
2:B:507:LEU:HD11	4:D:579:THR:CG2	2.32	0.56
5:E:166:ASP:OD1	6:F:340:TYR:OH	2.23	0.56
7:G:142:VAL:HG13	8:H:163:ILE:HD11	1.86	0.56
1:A:148:LEU:HD12	2:B:80:VAL:HG22	1.80	0.56
2:B:72:LEU:HB2	2:B:77:LEU:HD12	1.88	0.56
2:B:500:LEU:HD21	4:D:571:LEU:HD11	1.84	0.56
4:D:307:GLU:CD	7:G:324:ILE:HD12	1.97	0.56
7:G:123:ASP:O	7:G:124:THR:C	2.42	0.56
7:G:146:ILE:HG12	8:H:163:ILE:HG13	1.86	0.56
5:E:47:GLU:HG3	6:F:195:LYS:NZ	2.20	0.56
6:F:261:VAL:HG21	8:H:254:LEU:CD2	2.34	0.56
1:A:141:ARG:NE	3:C:220:GLN:HE22	2.04	0.56
2:B:399:VAL:HA	4:D:158:ARG:HH12	1.70	0.56
6:F:92:ARG:HH12	6:F:119:LEU:C	2.08	0.56
2:B:522:THR:CG2	4:D:590:TYR:CE2	2.84	0.56
4:D:216:SER:O	4:D:218:SER:N	2.38	0.56
4:D:304:ASP:C	4:D:306:GLN:N	2.45	0.56
6:F:9:LEU:HD22	6:F:124:PRO:CB	2.33	0.56
2:B:134:LYS:HD2	3:C:85:VAL:CG1	2.35	0.55
2:B:177:PHE:HD1	2:B:192:ILE:CD1	2.18	0.55
6:F:227:ILE:HG22	6:F:227:ILE:O	2.05	0.55
2:B:96:ALA:O	2:B:98:GLU:N	2.38	0.55
2:B:419:GLU:HB3	3:C:127:THR:HG21	1.86	0.55
6:F:135:ARG:HG3	8:H:168:LEU:CD2	2.36	0.55
6:F:241:TRP:CH2	7:G:238:LEU:HD21	2.40	0.55
4:D:577:PRO:HG2	4:D:582:LEU:HD13	1.89	0.55
1:A:228:SER:CA	3:C:307:LEU:HD12	2.36	0.55
6:F:192:TYR:CE1	7:G:172:PRO:CD	2.89	0.55
2:B:97:ILE:HD12	4:D:82:GLN:OE1	2.02	0.55
6:F:10:ALA:O	6:F:13:ARG:CG	2.39	0.55
6:F:259:ASP:HB3	6:F:263:ARG:HH21	1.71	0.55
1:A:71:ASP:CB	3:C:114:ARG:HH21	1.98	0.55
2:B:157:ASN:HA	4:D:474:ILE:HD12	1.89	0.55
2:B:376:MET:HE3	4:D:211:HIS:HB2	1.88	0.55
3:C:12:LEU:HB3	3:C:15:LEU:HD12	1.88	0.55
4:D:486:LEU:N	4:D:487:PRO:CD	2.69	0.55
6:F:175:ARG:HD3	7:G:121:TYR:OH	2.07	0.55
6:F:209:GLU:OE1	8:H:210:LYS:NZ	2.36	0.55
1:A:241:LEU:HD13	3:C:328:VAL:HG22	1.88	0.55
6:F:338:LEU:HD12	8:H:304:SER:CB	2.37	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:528:VAL:HG12	4:D:528:VAL:O	2.07	0.54
3:C:129:ILE:HD13	4:D:489:LEU:HD11	1.89	0.54
3:C:259:GLU:HG3	4:D:604:LEU:HD21	1.88	0.54
2:B:588:GLU:CD	4:D:650:ARG:HH21	2.11	0.54
3:C:239:ALA:HB1	4:D:586:LEU:HD11	1.90	0.54
5:E:181:GLU:CG	7:G:335:ARG:NH1	2.66	0.54
6:F:157:LEU:CA	6:F:170:ARG:HH22	2.20	0.54
2:B:121:LEU:HD12	3:C:172:PHE:CE2	2.43	0.54
6:F:23:LEU:O	6:F:66:LYS:HE3	2.08	0.54
3:C:116:LEU:HD12	3:C:137:LEU:HD11	1.83	0.54
4:D:291:ILE:O	4:D:292:THR:C	2.45	0.54
5:E:141:PHE:HB2	7:G:289:PHE:HZ	1.73	0.54
6:F:157:LEU:HG	6:F:170:ARG:NH2	2.22	0.54
8:H:257:THR:O	8:H:300:GLU:OE1	2.26	0.54
1:A:278:PRO:HB3	1:A:279:GLU:CG	2.09	0.54
3:C:5:LEU:HD12	3:C:22:LEU:HD11	1.85	0.54
6:F:92:ARG:NH1	6:F:119:LEU:CA	2.70	0.54
6:F:170:ARG:NE	7:G:89:MET:HG3	2.23	0.54
7:G:7:LEU:O	7:G:11:VAL:HG23	2.07	0.54
7:G:142:VAL:HG13	8:H:163:ILE:CD1	2.38	0.54
1:A:64:ALA:HB1	4:D:492:VAL:HG11	1.88	0.54
1:A:277:VAL:HG12	1:A:278:PRO:CA	2.36	0.54
2:B:42:TRP:CD2	4:D:20:LEU:CD1	2.90	0.54
2:B:121:LEU:HD12	3:C:172:PHE:HE2	1.73	0.54
7:G:16:ARG:NH2	7:G:120:GLN:OE1	2.40	0.54
2:B:77:LEU:HD23	2:B:81:LEU:CD1	2.37	0.54
3:C:95:GLU:HB3	3:C:153:ARG:HH12	1.73	0.54
7:G:131:LEU:C	7:G:132:GLU:O	2.46	0.54
2:B:536:LEU:CD2	3:C:261:LYS:CD	2.86	0.54
4:D:122:GLU:CG	4:D:512:ASN:HD21	2.15	0.54
5:E:49:LEU:HD23	8:H:196:ASN:HB3	1.90	0.54
3:C:115:LEU:HD23	4:D:490:LEU:HG	1.89	0.53
3:C:121:VAL:HG13	3:C:122:PRO:HD2	1.89	0.53
4:D:263:GLN:HA	4:D:266:LYS:HD2	1.90	0.53
5:E:10:VAL:HG13	6:F:193:GLN:OE1	2.07	0.53
5:E:75:THR:O	5:E:79:THR:OG1	2.13	0.53
5:E:17:LEU:HD13	7:G:161:HIS:CE1	2.43	0.53
5:E:102:LEU:HD23	7:G:255:ILE:HD12	1.86	0.53
5:E:141:PHE:CB	7:G:289:PHE:HZ	2.20	0.53
3:C:63:ARG:NH1	4:D:535:ALA:CB	2.70	0.53
4:D:305:PRO:C	4:D:307:GLU:N	2.52	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:335:ARG:NE	8:H:259:HIS:HB3	2.12	0.53
7:G:59:TYR:CD1	7:G:62:VAL:CG2	2.66	0.53
6:F:283:LEU:HD23	6:F:321:LEU:HD13	1.91	0.53
7:G:150:GLU:HG2	8:H:166:GLN:NE2	2.24	0.53
1:A:244:ASN:OD1	1:A:245:PRO:HD2	2.08	0.53
2:B:264:LEU:CD1	6:F:381:TRP:CH2	2.87	0.53
2:B:347:MET:HG3	4:D:406:LEU:CD1	2.38	0.53
3:C:224:TYR:N	3:C:225:PRO:HD2	2.23	0.53
4:D:63:LEU:O	4:D:67:GLN:HB2	2.09	0.53
2:B:41:ASP:O	2:B:45:SER:OG	2.25	0.53
2:B:347:MET:HE2	4:D:403:MET:SD	2.48	0.53
6:F:206:MET:HE2	8:H:199:LYS:CG	2.29	0.53
4:D:317:GLN:HG3	8:H:334:PHE:HB2	1.91	0.53
7:G:274:MET:HE3	8:H:280:GLN:H	1.74	0.53
1:A:55:LEU:HD22	3:C:59:LEU:HD22	1.90	0.53
1:A:152:LYS:NZ	2:B:73:ASP:OD1	2.40	0.53
2:B:213:LEU:HD22	2:B:374:HIS:CD2	2.44	0.53
2:B:504:LEU:HD11	3:C:231:CYS:HB3	1.91	0.53
3:C:121:VAL:HG12	3:C:122:PRO:HD2	1.90	0.53
4:D:307:GLU:OE1	7:G:324:ILE:CD1	2.53	0.53
4:D:348:ILE:HD11	4:D:373:LEU:HD21	1.91	0.53
6:F:240:MET:HE1	8:H:230:ASP:OD1	2.09	0.53
6:F:326:ARG:NH1	8:H:295:PRO:HG3	2.24	0.53
4:D:572:GLN:O	4:D:575:THR:OG1	2.26	0.52
1:A:152:LYS:CE	2:B:73:ASP:OD1	2.57	0.52
1:A:280:PRO:CA	1:A:281:SER:N	2.67	0.52
2:B:573:PHE:O	4:D:639:ARG:HD2	2.08	0.52
6:F:44:GLY:O	6:F:47:MET:CE	2.57	0.52
7:G:345:SER:O	7:G:348:ASP:HB2	2.09	0.52
1:A:48:LEU:HD22	3:C:52:LEU:HD22	1.90	0.52
4:D:651:TRP:O	4:D:655:VAL:HG23	2.08	0.52
6:F:53:LYS:HE2	6:F:57:TYR:CZ	2.38	0.52
2:B:19:GLY:HA2	2:B:22:LEU:HD12	1.92	0.52
2:B:482:MET:HE3	4:D:554:ARG:HE	1.74	0.52
2:B:490:GLU:HG2	4:D:560:ARG:NH2	2.19	0.52
5:E:9:PRO:HA	6:F:197:GLN:HE22	1.74	0.52
6:F:6:ARG:C	6:F:8:HIS:H	2.12	0.52
1:A:241:LEU:CD2	1:A:248:VAL:HG13	2.39	0.52
2:B:222:PHE:HD1	2:B:241:LEU:HD13	1.55	0.52
3:C:141:LEU:CD2	3:C:147:VAL:HG21	2.38	0.52
5:E:154:THR:HG21	7:G:299:THR:HG21	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:327:LEU:CD1	8:H:326:PHE:CD1	2.93	0.52
1:A:214:LEU:HB2	4:D:630:VAL:HG22	1.91	0.52
2:B:83:THR:HG22	3:C:220:GLN:HG2	1.91	0.52
2:B:178:PHE:HE1	2:B:396:HIS:CE1	2.28	0.52
5:E:87:LYS:HD3	6:F:241:TRP:CD2	2.44	0.52
7:G:146:ILE:HG12	8:H:163:ILE:CG1	2.40	0.52
4:D:175:PHE:CD1	4:D:193:LEU:HD13	2.44	0.52
1:A:148:LEU:HD11	2:B:80:VAL:CG2	2.28	0.52
1:A:171:LYS:CE	1:A:175:ARG:NH2	2.72	0.52
2:B:90:PRO:O	2:B:92:ILE:N	2.43	0.52
2:B:195:SER:HA	2:B:389:TYR:HE1	1.74	0.52
2:B:289:TRP:CZ2	2:B:293:ASN:ND2	2.76	0.52
4:D:352:HIS:CD2	4:D:366:ARG:NE	2.71	0.52
6:F:28:GLY:HA2	6:F:38:LEU:CD1	2.40	0.52
8:H:241:ASP:HB2	8:H:242:PRO:HD3	1.92	0.52
2:B:454:ASP:O	2:B:456:ASP:N	2.39	0.52
4:D:175:PHE:CE1	4:D:193:LEU:HD13	2.45	0.52
6:F:168:LEU:HD11	7:G:145:CYS:SG	2.50	0.52
6:F:377:ARG:NH2	8:H:343:GLN:CD	2.60	0.52
2:B:95:VAL:HG12	2:B:100:LEU:HG	1.93	0.51
2:B:349:ILE:CD1	4:D:316:ILE:HD12	2.40	0.51
3:C:303:GLU:OE2	3:C:303:GLU:CA	2.58	0.51
4:D:80:GLU:HA	4:D:83:GLN:OE1	2.10	0.51
6:F:335:ARG:HH22	8:H:259:HIS:HB2	0.78	0.51
1:A:145:THR:HG23	4:D:65:TRP:NE1	2.25	0.51
7:G:327:LEU:HD11	8:H:326:PHE:CG	2.45	0.51
2:B:349:ILE:HD13	4:D:316:ILE:HD12	1.91	0.51
4:D:203:ARG:HH12	4:D:231:HIS:HD2	1.58	0.51
7:G:2:THR:HG21	7:G:37:TYR:CZ	2.44	0.51
7:G:219:GLU:O	7:G:222:VAL:HG23	2.10	0.51
2:B:7:PHE:CE1	2:B:11:LEU:HD11	2.45	0.51
2:B:251:THR:C	2:B:253:GLU:N	2.63	0.51
4:D:661:ALA:C	4:D:663:GLY:H	2.14	0.51
5:E:127:TYR:CD2	7:G:275:GLY:HA3	2.45	0.51
1:A:271:ASN:O	1:A:273:MET:N	2.44	0.51
6:F:51:PRO:HA	6:F:121:PRO:O	2.11	0.51
2:B:36:LEU:HD21	4:D:34:LEU:CG	2.41	0.51
2:B:358:MET:O	2:B:362:THR:HG23	2.11	0.51
6:F:166:LYS:CE	7:G:84:LEU:HD12	2.40	0.51
2:B:80:VAL:HG11	4:D:65:TRP:CE2	2.45	0.51
4:D:4:ARG:CG	4:D:32:GLN:HE21	2.21	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:63:ARG:CZ	4:D:535:ALA:HB1	2.37	0.51
4:D:296:SER:HB3	4:D:301:THR:HG21	1.75	0.51
5:E:141:PHE:N	7:G:289:PHE:HZ	2.08	0.51
1:A:24:TYR:HB3	3:C:31:VAL:HG21	1.92	0.51
1:A:152:LYS:HE3	2:B:73:ASP:OD1	2.12	0.51
2:B:259:MET:CE	2:B:346:ASN:HB3	2.41	0.51
4:D:202:LEU:HD22	4:D:237:MET:HE1	1.94	0.50
4:D:266:LYS:HB3	4:D:270:PHE:CZ	2.45	0.50
2:B:84:PHE:CE2	4:D:65:TRP:HZ3	2.23	0.50
3:C:128:SER:OG	3:C:132:LEU:O	2.12	0.50
4:D:216:SER:C	4:D:218:SER:H	2.14	0.50
6:F:234:ILE:HD11	8:H:222:LEU:HD21	1.93	0.50
2:B:430:LEU:O	2:B:431:SER:O	2.30	0.50
5:E:219:ASN:O	5:E:221:HIS:N	2.45	0.50
6:F:260:ALA:CB	8:H:258:ARG:HH11	2.13	0.50
2:B:37:LYS:N	2:B:38:PRO:CD	2.75	0.50
3:C:351:SER:C	3:C:353:PRO:HD2	2.32	0.50
6:F:192:TYR:CD2	8:H:188:ALA:HB1	2.47	0.50
7:G:81:ILE:CG2	7:G:99:ILE:HD12	2.42	0.50
7:G:93:PHE:CE2	7:G:94:ASP:CG	2.85	0.50
3:C:92:LEU:HD23	3:C:97:ARG:N	2.27	0.50
6:F:260:ALA:HB3	8:H:258:ARG:HH11	1.69	0.50
1:A:171:LYS:HE2	1:A:175:ARG:CZ	2.40	0.50
2:B:407:VAL:HB	4:D:459:TRP:HZ3	1.77	0.50
4:D:192:VAL:HG22	4:D:245:HIS:ND1	2.27	0.50
4:D:8:GLN:CG	4:D:28:GLU:OE1	2.44	0.49
7:G:30:LEU:HD22	7:G:35:SER:HB3	1.93	0.49
2:B:402:GLU:CD	4:D:158:ARG:NH2	2.65	0.49
4:D:525:TYR:OH	4:D:536:PRO:HA	2.13	0.49
5:E:79:THR:HG21	8:H:222:LEU:CD1	2.42	0.49
1:A:278:PRO:CG	1:A:279:GLU:CG	2.82	0.49
2:B:243:VAL:HG12	2:B:243:VAL:O	2.12	0.49
2:B:511:MET:C	2:B:513:PRO:HD3	2.33	0.49
3:C:324:PHE:O	3:C:328:VAL:HG23	2.13	0.49
7:G:62:VAL:O	7:G:66:LEU:HD12	2.12	0.49
7:G:124:THR:CG2	7:G:125:ILE:HG13	2.28	0.49
6:F:251:MET:HE3	8:H:247:TYR:CD1	2.47	0.49
1:A:227:GLN:HB3	3:C:307:LEU:HD11	1.93	0.49
4:D:4:ARG:HA	4:D:32:GLN:HE21	1.78	0.49
2:B:95:VAL:CG1	2:B:100:LEU:HG	2.43	0.49
2:B:264:LEU:HD13	6:F:381:TRP:CZ2	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:594:LEU:O	4:D:599:PRO:HD3	2.13	0.49
1:A:1:MET:CE	1:A:28:THR:CG2	2.86	0.49
1:A:207:GLU:N	1:A:208:PRO:HD2	2.27	0.49
2:B:264:LEU:HD13	6:F:381:TRP:HH2	1.69	0.49
3:C:86:ARG:HB2	3:C:92:LEU:CD1	2.43	0.49
5:E:49:LEU:CD2	8:H:196:ASN:HD22	2.11	0.49
1:A:71:ASP:CA	3:C:114:ARG:HH21	2.25	0.49
2:B:84:PHE:CE2	4:D:65:TRP:HE3	2.25	0.49
2:B:271:HIS:CE1	8:H:360:TRP:CE2	3.01	0.49
2:B:385:LEU:HD12	4:D:254:LEU:HD13	1.94	0.49
5:E:42:CYS:SG	6:F:187:LEU:CD2	3.00	0.49
5:E:190:ARG:NH1	6:F:370:ILE:CG1	2.76	0.49
2:B:221:PHE:CZ	2:B:367:ARG:HB2	2.48	0.49
2:B:587:LEU:HD23	4:D:654:ALA:CB	2.42	0.49
7:G:14:TYR:HB2	7:G:36:ILE:HG21	1.94	0.49
7:G:124:THR:HG22	7:G:125:ILE:N	2.26	0.49
7:G:178:LYS:N	7:G:179:PRO:CD	2.76	0.49
7:G:294:SER:OG	8:H:305:PHE:HB2	2.13	0.49
2:B:37:LYS:N	2:B:38:PRO:HD2	2.28	0.48
2:B:402:GLU:HB2	4:D:158:ARG:HH12	1.78	0.48
2:B:500:LEU:CD2	4:D:571:LEU:HD11	2.43	0.48
3:C:63:ARG:NH1	4:D:537:GLU:CD	2.66	0.48
4:D:575:THR:O	4:D:577:PRO:C	2.51	0.48
5:E:135:LEU:CB	5:E:136:PRO:HD3	2.33	0.48
2:B:36:LEU:HD21	4:D:34:LEU:HG	1.95	0.48
5:E:190:ARG:CZ	6:F:370:ILE:CG1	2.91	0.48
3:C:218:GLU:OE1	4:D:556:GLN:HG3	2.13	0.48
6:F:335:ARG:HH22	8:H:259:HIS:CD2	2.21	0.48
2:B:93:GLU:O	2:B:94:GLU:C	2.50	0.48
4:D:590:TYR:CE1	4:D:594:LEU:HD11	2.48	0.48
5:E:221:HIS:CB	5:E:222:PRO:O	2.60	0.48
1:A:189:TYR:CG	3:C:271:MET:CE	2.92	0.48
3:C:36:CYS:N	3:C:37:PRO:HD2	2.28	0.48
5:E:38:LEU:HD11	6:F:180:LYS:HD3	1.95	0.48
1:A:145:THR:OG1	4:D:65:TRP:CH2	2.63	0.48
1:A:211:HIS:O	1:A:215:VAL:HG23	2.14	0.48
2:B:83:THR:CG2	3:C:220:GLN:HG2	2.44	0.48
2:B:225:MET:O	2:B:226:SER:C	2.50	0.48
2:B:467:GLY:O	2:B:471:VAL:HG23	2.13	0.48
4:D:528:VAL:HG12	4:D:546:MET:SD	2.53	0.48
5:E:121:LEU:HD23	8:H:276:LEU:HD11	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:227:ILE:CB	8:H:223:ARG:HH22	2.27	0.48
7:G:274:MET:CE	8:H:280:GLN:N	2.74	0.48
4:D:213:ASP:OD2	4:D:227:ARG:NH2	2.41	0.48
1:A:150:LEU:CD2	2:B:504:LEU:HD21	2.43	0.48
2:B:35:ASP:HB3	4:D:30:MET:SD	2.53	0.48
5:E:158:ILE:CD1	6:F:334:VAL:HG11	2.44	0.48
6:F:166:LYS:HE3	7:G:84:LEU:CD1	2.44	0.48
4:D:293:GLN:CD	4:D:294:SER:H	2.17	0.48
6:F:60:PHE:HE1	6:F:99:LEU:CD1	2.24	0.48
2:B:347:MET:CE	4:D:403:MET:SD	3.02	0.47
6:F:16:MET:SD	6:F:130:LEU:CD2	3.02	0.47
1:A:148:LEU:CD1	2:B:80:VAL:HG21	2.24	0.47
2:B:80:VAL:O	2:B:83:THR:OG1	2.21	0.47
2:B:86:ILE:HG22	2:B:86:ILE:O	2.14	0.47
2:B:263:GLN:HE21	2:B:346:ASN:ND2	2.06	0.47
2:B:454:ASP:C	2:B:456:ASP:H	2.17	0.47
5:E:28:LEU:HD11	6:F:179:LEU:HD21	1.96	0.47
7:G:239:ARG:HG3	8:H:232:VAL:CG2	2.39	0.47
1:A:40:TRP:CH2	3:C:43:GLY:HA3	2.48	0.47
2:B:89:VAL:O	2:B:90:PRO:C	2.49	0.47
7:G:274:MET:SD	8:H:280:GLN:CB	2.99	0.47
2:B:95:VAL:HA	2:B:99:LYS:HD2	1.96	0.47
2:B:266:TYR:CD2	2:B:345:LEU:HD11	2.49	0.47
2:B:493:HIS:CE1	2:B:497:LEU:HD11	2.49	0.47
4:D:257:LEU:HA	4:D:260:ASN:ND2	2.29	0.47
1:A:211:HIS:HB3	4:D:629:PRO:HG2	1.96	0.47
7:G:123:ASP:C	7:G:124:THR:O	2.53	0.47
1:A:124:VAL:HG21	2:B:110:GLN:HE22	1.78	0.47
1:A:137:LEU:HD21	3:C:217:LEU:N	2.29	0.47
2:B:457:ASN:O	2:B:459:GLN:N	2.48	0.47
4:D:206:PHE:HD2	4:D:230:SER:HG	1.59	0.47
5:E:19:LEU:HD21	6:F:182:LEU:HD23	1.96	0.47
6:F:277:THR:HA	6:F:301:TYR:OH	2.14	0.47
6:F:283:LEU:CD2	6:F:321:LEU:HD13	2.44	0.47
6:F:389:LEU:HD11	8:H:362:PHE:CE2	2.49	0.47
3:C:99:PHE:CE1	3:C:157:GLN:OE1	2.67	0.47
3:C:146:LEU:O	3:C:150:VAL:HG23	2.15	0.47
3:C:227:VAL:HG22	3:C:230:ARG:NH2	2.20	0.47
3:C:280:CYS:HB2	4:D:625:TRP:CD1	2.48	0.47
4:D:355:LEU:O	4:D:362:SER:HB3	2.15	0.47
5:E:178:GLU:OE2	7:G:331:MET:HE3	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:9:LEU:HD22	6:F:124:PRO:CA	2.45	0.47
6:F:47:MET:HG3	6:F:48:PHE:CD2	2.50	0.47
6:F:309:ILE:HG23	8:H:282:HIS:CD2	2.49	0.47
6:F:359:ARG:HG2	8:H:328:GLN:OE1	2.05	0.47
1:A:284:ARG:O	1:A:285:LEU:N	2.38	0.47
3:C:12:LEU:HD13	3:C:15:LEU:CD1	2.45	0.47
5:E:189:TRP:CE3	8:H:340:ILE:HD11	2.50	0.47
1:A:99:CYS:HB2	3:C:67:MET:HE2	1.96	0.47
1:A:242:ALA:C	1:A:244:ASN:H	2.19	0.47
2:B:97:ILE:CD1	4:D:82:GLN:HG2	2.42	0.47
2:B:577:GLU:OE1	4:D:640:GLY:HA2	2.15	0.47
5:E:121:LEU:HD23	8:H:276:LEU:HD21	1.97	0.47
1:A:123:LEU:O	1:A:126:ILE:HG22	2.15	0.47
4:D:46:ILE:CG2	4:D:50:ILE:HD12	2.38	0.47
6:F:261:VAL:HG22	8:H:258:ARG:HD2	1.96	0.47
6:F:297:MET:HE3	6:F:314:LEU:HG	1.97	0.47
7:G:13:LEU:HD11	7:G:109:ILE:HG23	1.96	0.47
7:G:13:LEU:HD22	7:G:116:LEU:HD12	1.97	0.47
2:B:365:SER:HB2	4:D:423:LYS:HZ2	1.80	0.46
4:D:595:ASP:O	4:D:599:PRO:HG2	2.15	0.46
5:E:181:GLU:HG2	7:G:335:ARG:HH12	1.77	0.46
1:A:192:LYS:HD2	3:C:271:MET:SD	2.55	0.46
2:B:199:LEU:H	2:B:199:LEU:HG	1.43	0.46
2:B:273:LEU:HD13	4:D:330:LEU:HA	1.98	0.46
4:D:307:GLU:HB3	7:G:318:LYS:HE3	1.97	0.46
4:D:509:ARG:CD	4:D:521:PHE:CZ	2.98	0.46
5:E:21:LYS:HZ2	7:G:159:SER:HA	1.80	0.46
5:E:155:ILE:N	5:E:156:PRO:CD	2.78	0.46
6:F:5:SER:O	6:F:7:PRO:HD3	2.15	0.46
7:G:139:GLU:HG3	8:H:155:VAL:CG2	2.40	0.46
2:B:383:GLU:OE2	4:D:203:ARG:CZ	2.62	0.46
2:B:521:THR:HG23	3:C:247:GLN:CG	2.44	0.46
6:F:288:ILE:CD1	6:F:314:LEU:CD2	2.93	0.46
5:E:69:LEU:HB3	7:G:217:LEU:CD2	2.46	0.46
6:F:156:ALA:C	6:F:170:ARG:HH22	2.18	0.46
6:F:170:ARG:NH2	7:G:89:MET:SD	2.82	0.46
1:A:121:SER:HB3	4:D:104:GLN:HE22	1.81	0.46
4:D:486:LEU:HB2	4:D:487:PRO:HD3	1.96	0.46
5:E:137:LEU:CD2	7:G:285:LEU:HD23	2.44	0.46
6:F:359:ARG:NE	8:H:321:GLU:OE1	2.47	0.46
3:C:67:MET:O	3:C:71:VAL:HG23	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:6:ARG:HD3	6:F:8:HIS:HD2	1.81	0.46
6:F:166:LYS:HE2	7:G:84:LEU:HD12	1.98	0.46
6:F:251:MET:HE1	8:H:243:PHE:CE1	2.50	0.46
2:B:74:GLU:OE1	4:D:54:ARG:CG	2.56	0.46
3:C:86:ARG:HB3	3:C:92:LEU:HD12	1.97	0.46
4:D:459:TRP:N	4:D:460:PRO:CD	2.78	0.46
7:G:14:TYR:HB2	7:G:36:ILE:HG23	1.98	0.46
2:B:134:LYS:CD	3:C:85:VAL:CG1	2.84	0.46
3:C:170:LEU:HD22	3:C:189:VAL:HG23	1.97	0.46
6:F:138:MET:HE2	8:H:172:TYR:CG	2.51	0.46
2:B:357:GLN:O	2:B:361:GLN:HG3	2.16	0.46
6:F:377:ARG:HH22	8:H:343:GLN:NE2	2.12	0.46
6:F:170:ARG:NE	7:G:89:MET:SD	2.81	0.46
6:F:301:TYR:CE1	6:F:306:VAL:HG22	2.51	0.46
2:B:330:SER:O	2:B:335:PRO:HD3	2.16	0.45
2:B:339:ARG:CZ	8:H:363:ASP:O	2.64	0.45
2:B:458:THR:C	2:B:460:LYS:N	2.69	0.45
3:C:177:THR:HG22	3:C:188:LYS:HZ2	1.81	0.45
4:D:352:HIS:CB	4:D:366:ARG:NH2	2.37	0.45
6:F:330:ASP:OD1	6:F:334:VAL:HG23	2.16	0.45
7:G:93:PHE:CD2	7:G:94:ASP:OD1	2.68	0.45
7:G:274:MET:CE	8:H:280:GLN:H	2.29	0.45
1:A:40:TRP:CH2	3:C:43:GLY:CA	2.99	0.45
1:A:71:ASP:CA	3:C:114:ARG:NH2	2.78	0.45
2:B:407:VAL:HG23	4:D:459:TRP:CZ3	2.50	0.45
3:C:28:PHE:CE1	3:C:32:LEU:HD11	2.52	0.45
7:G:2:THR:CG2	7:G:37:TYR:CZ	2.99	0.45
7:G:235:ILE:HD11	8:H:225:LEU:CD2	2.44	0.45
2:B:132:CYS:N	4:D:119:LEU:HD11	2.32	0.45
2:B:465:TYR:HB3	4:D:520:ILE:HG21	1.99	0.45
3:C:129:ILE:HD11	4:D:489:LEU:CD1	2.46	0.45
3:C:140:LEU:HD11	4:D:136:ALA:HB2	1.98	0.45
4:D:46:ILE:HA	4:D:50:ILE:HD12	1.98	0.45
5:E:121:LEU:HD22	8:H:276:LEU:HD21	1.94	0.45
7:G:146:ILE:CG1	8:H:163:ILE:HG13	2.47	0.45
1:A:33:ILE:CG2	3:C:15:LEU:HD22	2.43	0.45
1:A:152:LYS:CE	2:B:73:ASP:CG	2.83	0.45
1:A:238:TYR:OH	3:C:325:GLU:OE1	2.33	0.45
2:B:97:ILE:CD1	4:D:82:GLN:OE1	2.63	0.45
4:D:272:GLN:O	4:D:276:LEU:HG	2.16	0.45
7:G:132:GLU:HB3	7:G:133:SER:H	1.44	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:43:PHE:CZ	4:D:46:ILE:CD1	2.97	0.45
2:B:449:LEU:HD23	2:B:468:LEU:HD21	1.97	0.45
4:D:355:LEU:HD22	4:D:365:THR:HB	1.98	0.45
5:E:88:HIS:HB2	7:G:238:LEU:HD12	1.98	0.45
6:F:173:LEU:HD11	7:G:118:VAL:HG21	1.87	0.45
7:G:139:GLU:O	7:G:143:VAL:HG23	2.16	0.45
7:G:162:PHE:O	7:G:165:THR:OG1	2.35	0.45
7:G:178:LYS:HB3	7:G:179:PRO:HD3	1.99	0.45
2:B:131:MET:HE3	3:C:85:VAL:CG2	2.28	0.45
2:B:521:THR:CG2	3:C:247:GLN:HE21	2.30	0.45
4:D:171:ARG:O	4:D:249:HIS:NE2	2.46	0.45
5:E:148:TYR:HB3	7:G:292:LEU:HD13	1.98	0.45
7:G:47:ARG:CZ	7:G:101:GLY:HA2	2.46	0.45
8:H:156:PRO:C	8:H:158:ASP:N	2.70	0.45
6:F:377:ARG:NH1	8:H:343:GLN:N	2.63	0.45
1:A:65:GLU:OE2	4:D:507:ILE:HD12	2.17	0.45
1:A:271:ASN:C	1:A:273:MET:N	2.69	0.45
2:B:95:VAL:HG13	2:B:99:LYS:CB	2.45	0.45
6:F:170:ARG:HE	7:G:89:MET:CE	2.30	0.45
2:B:407:VAL:CG2	4:D:459:TRP:CE3	2.90	0.45
3:C:8:VAL:HG13	3:C:12:LEU:HD12	1.99	0.45
8:H:294:MET:SD	8:H:298:ALA:CB	3.05	0.45
1:A:99:CYS:CB	3:C:67:MET:CE	2.89	0.45
2:B:453:LEU:HB3	2:B:471:VAL:CG1	2.47	0.45
7:G:340:ALA:O	7:G:344:SER:OG	2.34	0.45
4:D:661:ALA:C	4:D:663:GLY:N	2.69	0.44
7:G:41:CYS:CA	7:G:108:GLN:OE1	2.62	0.44
1:A:215:VAL:CG2	4:D:629:PRO:HB2	2.47	0.44
2:B:199:LEU:HD11	2:B:389:TYR:OH	2.17	0.44
2:B:271:HIS:CE1	8:H:360:TRP:NE1	2.85	0.44
2:B:536:LEU:HD11	3:C:262:SER:HB2	1.98	0.44
6:F:261:VAL:CG2	8:H:254:LEU:HD23	2.45	0.44
1:A:1:MET:HE1	1:A:28:THR:CG2	2.45	0.44
2:B:406:ILE:CD1	4:D:155:ILE:HD11	2.47	0.44
6:F:64:PHE:CD1	6:F:98:TRP:CE3	3.05	0.44
6:F:170:ARG:NE	7:G:89:MET:CG	2.81	0.44
7:G:188:GLN:O	7:G:192:THR:OG1	2.35	0.44
8:H:156:PRO:C	8:H:158:ASP:H	2.20	0.44
2:B:370:LEU:HD23	2:B:371:VAL:HG23	1.99	0.44
1:A:207:GLU:HB3	1:A:208:PRO:HD3	2.00	0.44
2:B:263:GLN:NE2	2:B:343:GLN:HA	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:352:HIS:HB3	4:D:366:ARG:CZ	2.40	0.44
4:D:590:TYR:CE1	4:D:594:LEU:CD1	3.01	0.44
5:E:97:HIS:ND1	6:F:255:VAL:HG13	2.32	0.44
6:F:84:ASP:OD1	6:F:87:ARG:HD2	2.17	0.44
1:A:145:THR:HG23	4:D:65:TRP:HE1	1.82	0.44
2:B:319:THR:HG23	4:D:378:LEU:CD1	2.46	0.44
3:C:129:ILE:HD11	4:D:489:LEU:HD13	1.96	0.44
5:E:149:ILE:HG23	6:F:325:GLU:HG3	1.99	0.44
7:G:235:ILE:CD1	8:H:225:LEU:CD2	2.95	0.44
7:G:298:PHE:HB2	8:H:308:ILE:HD13	2.00	0.44
1:A:211:HIS:CG	4:D:629:PRO:HD2	2.53	0.44
5:E:21:LYS:HZ3	7:G:159:SER:HA	1.82	0.44
4:D:572:GLN:HA	4:D:575:THR:OG1	2.18	0.44
5:E:94:MET:HG2	7:G:245:PHE:HE2	1.83	0.44
6:F:330:ASP:OD1	6:F:334:VAL:N	2.50	0.44
1:A:95:ILE:HG13	3:C:166:CYS:SG	2.58	0.43
1:A:175:ARG:NH1	3:C:254:ASN:OD1	2.44	0.43
1:A:281:SER:O	1:A:282:LYS:C	2.22	0.43
1:A:133:MET:SD	3:C:217:LEU:CD2	3.05	0.43
2:B:447:HIS:ND1	2:B:463:ARG:HD2	2.33	0.43
2:B:456:ASP:O	2:B:458:THR:N	2.51	0.43
3:C:266:PHE:CD2	4:D:611:HIS:CD2	3.06	0.43
5:E:179:MET:CG	8:H:329:ILE:HD12	2.48	0.43
7:G:124:THR:CG2	7:G:125:ILE:H	2.20	0.43
1:A:1:MET:HE3	1:A:28:THR:CG2	2.46	0.43
3:C:4:THR:HG23	3:C:33:ILE:CD1	2.35	0.43
3:C:270:ARG:HD2	4:D:614:TYR:CZ	2.53	0.43
3:C:285:LYS:HZ1	4:D:628:GLN:HE22	1.66	0.43
4:D:423:LYS:O	4:D:427:ILE:HG13	2.19	0.43
6:F:288:ILE:HD11	6:F:314:LEU:HD23	1.97	0.43
2:B:220:HIS:CE1	4:D:272:GLN:HB3	2.53	0.43
2:B:388:GLY:HA3	4:D:242:TRP:CZ2	2.53	0.43
3:C:180:GLU:CD	3:C:188:LYS:HZ2	2.22	0.43
6:F:166:LYS:HE3	7:G:84:LEU:HD12	2.01	0.43
6:F:241:TRP:HZ2	7:G:238:LEU:CD2	2.25	0.43
6:F:335:ARG:HH21	8:H:259:HIS:HA	1.58	0.43
1:A:145:THR:CB	4:D:69:LEU:HD11	2.47	0.43
2:B:80:VAL:HG11	4:D:65:TRP:CD2	2.54	0.43
2:B:431:SER:O	2:B:433:SER:N	2.51	0.43
2:B:540:ASN:O	2:B:544:VAL:HG23	2.18	0.43
3:C:12:LEU:CB	3:C:15:LEU:HD12	2.47	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:296:SER:CB	4:D:301:THR:HG21	2.37	0.43
4:D:663:GLY:O	4:D:665:ARG:N	2.48	0.43
6:F:335:ARG:NH1	8:H:259:HIS:HB2	2.23	0.43
1:A:78:GLY:O	1:A:81:TYR:CD1	2.68	0.43
2:B:81:LEU:HA	2:B:84:PHE:HD2	1.83	0.43
4:D:17:GLU:OE2	4:D:17:GLU:HA	2.18	0.43
4:D:352:HIS:CG	4:D:366:ARG:CZ	3.01	0.43
1:A:158:LEU:HD13	3:C:238:ALA:HB2	2.00	0.43
2:B:30:LEU:HD23	4:D:34:LEU:HD23	1.96	0.43
2:B:490:GLU:C	4:D:560:ARG:NH2	2.59	0.43
6:F:170:ARG:HE	7:G:89:MET:CG	2.31	0.43
1:A:13:LYS:HG3	1:A:21:LEU:HD11	2.00	0.43
2:B:193:PHE:HB2	2:B:196:GLN:HG3	2.00	0.43
1:A:189:TYR:CA	3:C:271:MET:CE	2.92	0.43
1:A:270:VAL:O	1:A:273:MET:HB2	2.19	0.43
2:B:125:GLU:CD	4:D:113:GLU:OE2	2.46	0.43
2:B:55:ASP:OD2	4:D:49:HIS:CE1	2.71	0.42
2:B:322:ILE:HD13	4:D:379:ARG:HG3	2.00	0.42
2:B:432:ALA:C	2:B:433:SER:O	2.57	0.42
2:B:571:VAL:HG13	3:C:288:VAL:HG21	2.01	0.42
3:C:36:CYS:N	3:C:37:PRO:CD	2.82	0.42
4:D:10:LEU:HD11	4:D:43:TRP:CE3	2.54	0.42
4:D:206:PHE:HD2	4:D:230:SER:OG	2.00	0.42
4:D:298:ASN:O	4:D:299:GLU:CB	2.49	0.42
4:D:457:LEU:O	4:D:460:PRO:HD2	2.19	0.42
5:E:137:LEU:HD23	7:G:285:LEU:HB3	2.01	0.42
6:F:176:GLN:NE2	7:G:117:ASP:HB3	2.34	0.42
6:F:341:LEU:HD21	7:G:298:PHE:HE2	1.83	0.42
6:F:377:ARG:HH11	8:H:343:GLN:N	2.17	0.42
7:G:9:ALA:HB3	7:G:109:ILE:HD13	2.01	0.42
5:E:166:ASP:OD1	6:F:344:LYS:HE3	2.18	0.42
6:F:6:ARG:HA	6:F:7:PRO:HD2	1.50	0.42
6:F:165:GLN:NE2	7:G:60:PRO:HD2	2.34	0.42
6:F:192:TYR:CE1	7:G:172:PRO:HD3	2.55	0.42
7:G:60:PRO:N	7:G:61:PRO:CD	2.82	0.42
7:G:137:SER:C	7:G:139:GLU:H	2.22	0.42
7:G:173:TRP:HA	7:G:174:PRO:HD3	1.83	0.42
3:C:118:ALA:O	3:C:119:ASP:C	2.48	0.42
3:C:280:CYS:CB	4:D:625:TRP:HD1	2.31	0.42
4:D:76:ARG:HA	4:D:79:GLU:OE2	2.19	0.42
5:E:145:LEU:HD22	6:F:284:LEU:HD13	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:280:PHE:CE1	8:H:287:LYS:CG	2.82	0.42
2:B:120:LYS:HZ3	3:C:171:SER:C	2.21	0.42
4:D:46:ILE:HG23	4:D:50:ILE:CD1	2.40	0.42
4:D:248:ASN:OD1	4:D:248:ASN:O	2.36	0.42
4:D:285:LYS:HD3	4:D:287:PHE:CZ	2.54	0.42
4:D:289:GLU:HA	4:D:290:PRO:HD3	1.58	0.42
4:D:659:GLN:O	4:D:664:SER:O	2.37	0.42
6:F:157:LEU:HG	6:F:170:ARG:HH21	1.84	0.42
8:H:358:ARG:HH21	8:H:366:LEU:HD13	1.82	0.42
1:A:8:ILE:HD12	1:A:31:MET:CE	2.50	0.42
2:B:196:GLN:HG3	2:B:196:GLN:H	1.66	0.42
2:B:500:LEU:CD2	4:D:571:LEU:CD1	2.85	0.42
4:D:419:LEU:HD23	4:D:420:LEU:HG	2.01	0.42
4:D:525:TYR:CZ	4:D:539:VAL:CG2	3.03	0.42
6:F:244:ILE:HD12	8:H:233:LEU:HD22	2.01	0.42
6:F:261:VAL:CG2	8:H:258:ARG:HD2	2.50	0.42
1:A:172:VAL:HG21	3:C:250:ILE:HG23	2.01	0.42
2:B:213:LEU:HD22	2:B:374:HIS:NE2	2.35	0.42
2:B:570:TYR:HA	4:D:644:LEU:HD11	2.02	0.42
3:C:75:LEU:CD1	3:C:162:LEU:HD23	2.45	0.42
4:D:75:GLN:O	4:D:79:GLU:HG3	2.20	0.42
4:D:263:GLN:HB3	4:D:267:LYS:NZ	2.34	0.42
4:D:237:MET:O	4:D:241:VAL:HG23	2.19	0.42
4:D:268:LEU:HB3	4:D:272:GLN:NE2	2.32	0.42
5:E:58:GLU:HG2	7:G:207:LEU:HD11	2.02	0.42
7:G:135:SER:O	7:G:136:HIS:C	2.52	0.42
2:B:587:LEU:HD23	4:D:654:ALA:HB3	2.02	0.42
2:B:588:GLU:OE1	4:D:650:ARG:NE	2.48	0.42
3:C:70:GLU:OE2	3:C:70:GLU:HA	2.20	0.42
7:G:139:GLU:CG	8:H:155:VAL:HG22	2.41	0.42
7:G:178:LYS:N	7:G:179:PRO:HD2	2.34	0.42
1:A:193:ILE:HG23	3:C:274:LEU:HD12	2.02	0.42
1:A:266:LEU:HD21	3:C:344:MET:CE	2.49	0.42
2:B:89:VAL:C	2:B:90:PRO:O	2.58	0.42
2:B:97:ILE:O	2:B:101:GLU:HG3	2.19	0.42
2:B:347:MET:HB3	2:B:348:PRO:CD	2.47	0.42
3:C:185:ARG:O	3:C:189:VAL:HG23	2.20	0.42
3:C:285:LYS:NZ	4:D:628:GLN:NE2	2.67	0.42
1:A:104:LEU:O	3:C:63:ARG:NH2	2.47	0.42
2:B:274:ILE:CD1	4:D:392:LEU:HD11	2.50	0.42
7:G:176:ASP:OD1	7:G:176:ASP:N	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:183:ALA:HB1	7:G:187:LEU:HD12	2.02	0.42
2:B:450:TYR:HB3	2:B:463:ARG:NH1	2.35	0.41
4:D:6:LEU:HD11	4:D:44:LYS:HE3	2.01	0.41
5:E:78:ILE:HG13	5:E:79:THR:HG23	2.01	0.41
5:E:182:VAL:HG23	7:G:335:ARG:NH2	2.34	0.41
6:F:173:LEU:HD12	7:G:118:VAL:HG22	1.91	0.41
2:B:97:ILE:CD1	4:D:82:GLN:CB	2.66	0.41
2:B:132:CYS:HA	4:D:119:LEU:HD22	1.88	0.41
3:C:180:GLU:CD	3:C:184:LEU:HD23	2.40	0.41
6:F:251:MET:CE	8:H:247:TYR:CD1	3.03	0.41
2:B:570:TYR:CD1	4:D:631:GLN:HG2	2.55	0.41
6:F:84:ASP:OD1	6:F:87:ARG:CG	2.68	0.41
7:G:40:LEU:O	7:G:47:ARG:NH1	2.53	0.41
2:B:30:LEU:HD11	4:D:39:CYS:SG	2.60	0.41
2:B:93:GLU:C	2:B:94:GLU:O	2.58	0.41
3:C:4:THR:O	3:C:8:VAL:HG23	2.20	0.41
3:C:36:CYS:O	3:C:39:LEU:O	2.38	0.41
4:D:67:GLN:O	4:D:71:HIS:HB2	2.20	0.41
5:E:179:MET:HG3	8:H:329:ILE:CD1	2.50	0.41
7:G:150:GLU:HG2	8:H:166:GLN:HE21	1.84	0.41
2:B:79:GLU:OE2	3:C:230:ARG:NH2	2.38	0.41
2:B:276:MET:CE	4:D:334:GLN:HG2	2.51	0.41
3:C:12:LEU:HD13	3:C:15:LEU:HD12	2.02	0.41
3:C:285:LYS:NZ	4:D:628:GLN:HE22	2.18	0.41
4:D:183:SER:HG	4:D:184:SER:H	1.63	0.41
6:F:168:LEU:HD12	7:G:145:CYS:SG	2.60	0.41
4:D:215:ILE:HA	4:D:422:LYS:CE	2.51	0.41
6:F:166:LYS:HE2	7:G:87:ASP:HB2	2.02	0.41
2:B:85:SER:C	2:B:87:SER:N	2.73	0.41
2:B:160:LEU:HB2	4:D:145:CYS:SG	2.61	0.41
3:C:142:PRO:CB	3:C:146:LEU:HD23	2.50	0.41
4:D:259:LEU:O	4:D:263:GLN:HG3	2.20	0.41
5:E:181:GLU:HG2	7:G:335:ARG:NH1	2.35	0.41
6:F:168:LEU:HD11	7:G:145:CYS:CB	2.51	0.41
2:B:543:THR:OG1	3:C:269:LEU:HD12	2.20	0.41
4:D:215:ILE:HA	4:D:422:LYS:HE2	2.01	0.41
4:D:260:ASN:HA	4:D:263:GLN:OE1	2.21	0.41
4:D:525:TYR:CE2	4:D:539:VAL:HG21	2.55	0.41
6:F:173:LEU:HD11	7:G:118:VAL:CG2	2.45	0.41
1:A:236:ASN:HA	1:A:239:LEU:HD12	2.02	0.41
2:B:35:ASP:HB2	4:D:30:MET:HE3	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:301:ALA:O	4:D:361:VAL:HG11	2.21	0.41
2:B:430:LEU:C	2:B:431:SER:O	2.58	0.41
4:D:34:LEU:O	4:D:39:CYS:HB3	2.21	0.41
4:D:269:GLN:HG3	4:D:269:GLN:H	1.75	0.41
5:E:134:LEU:HD22	7:G:278:PHE:HD1	1.85	0.41
5:E:179:MET:HG3	8:H:329:ILE:HD12	2.03	0.41
5:E:189:TRP:CZ3	8:H:336:VAL:HG12	2.50	0.41
1:A:211:HIS:ND1	4:D:630:VAL:HG23	2.36	0.40
2:B:482:MET:HE1	4:D:554:ARG:HG2	2.03	0.40
2:B:521:THR:HG23	3:C:247:GLN:HE21	1.86	0.40
5:E:207:CYS:O	5:E:208:ILE:C	2.58	0.40
6:F:84:ASP:OD1	6:F:87:ARG:HG3	2.21	0.40
7:G:166:LEU:O	8:H:180:ASN:ND2	2.38	0.40
3:C:5:LEU:HD13	3:C:22:LEU:HD12	2.00	0.40
4:D:413:ILE:O	4:D:417:CYS:N	2.50	0.40
5:E:19:LEU:CD2	6:F:182:LEU:HD23	2.51	0.40
5:E:78:ILE:HD13	6:F:234:ILE:HG23	2.02	0.40
5:E:139:VAL:HG13	6:F:278:LEU:HD12	2.02	0.40
6:F:227:ILE:O	6:F:227:ILE:CG2	2.68	0.40
1:A:144:LEU:HD13	3:C:224:TYR:HA	2.04	0.40
1:A:145:THR:CG2	4:D:69:LEU:HD13	2.28	0.40
3:C:236:ARG:NH1	4:D:574:ASN:O	2.54	0.40
4:D:117:GLN:O	4:D:118:ASP:C	2.54	0.40
7:G:274:MET:CE	8:H:280:GLN:CA	2.99	0.40
4:D:120:ASN:C	4:D:122:GLU:H	2.25	0.40
6:F:377:ARG:CZ	8:H:343:GLN:CG	2.94	0.40
7:G:318:LYS:HG3	7:G:324:ILE:HG12	2.02	0.40
1:A:41:ASN:ND2	3:C:39:LEU:CD2	2.85	0.40
2:B:78:ASP:O	2:B:82:LYS:HG3	2.22	0.40
2:B:272:LYS:HE3	2:B:276:MET:HE2	2.03	0.40
2:B:368:GLN:OE1	4:D:423:LYS:HB2	2.21	0.40
2:B:482:MET:CE	4:D:554:ARG:HG2	2.52	0.40
2:B:521:THR:HG23	3:C:247:GLN:NE2	2.37	0.40
4:D:291:ILE:HG22	4:D:292:THR:N	2.37	0.40
7:G:146:ILE:CG1	8:H:163:ILE:CG1	3.00	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	284/286 (99%)	273 (96%)	4 (1%)	7 (2%)	5 32
2	B	595/597 (100%)	545 (92%)	18 (3%)	32 (5%)	2 19
3	C	351/353 (99%)	338 (96%)	7 (2%)	6 (2%)	9 42
4	D	664/666 (100%)	626 (94%)	16 (2%)	22 (3%)	4 26
5	E	213/222 (96%)	203 (95%)	5 (2%)	5 (2%)	6 34
6	F	383/978 (39%)	365 (95%)	9 (2%)	9 (2%)	6 34
7	G	335/348 (96%)	310 (92%)	10 (3%)	15 (4%)	2 22
8	H	199/367 (54%)	197 (99%)	1 (0%)	1 (0%)	29 69
All	All	3024/3817 (79%)	2857 (94%)	70 (2%)	97 (3%)	7 26

All (97) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	272	MET
1	A	277	VAL
1	A	278	PRO
1	A	279	GLU
1	A	282	LYS
1	A	283	ARG
2	B	88	LYS
2	B	92	ILE
2	B	93	GLU
2	B	95	VAL
2	B	97	ILE
2	B	234	GLU
2	B	236	PHE
2	B	238	LEU
2	B	240	GLN
2	B	241	LEU
2	B	243	VAL

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Mol	Chain	Res	Type
2	B	250	GLY
2	B	431	SER
2	B	432	ALA
2	B	457	ASN
2	B	459	GLN
2	B	594	GLY
3	C	118	ALA
3	C	119	ASP
3	C	122	PRO
3	C	124	SER
3	C	352	LEU
4	D	118	ASP
4	D	178	VAL
4	D	183	SER
4	D	186	THR
4	D	217	SER
4	D	219	VAL
4	D	284	LEU
4	D	304	ASP
4	D	305	PRO
4	D	306	GLN
4	D	308	THR
4	D	663	GLY
4	D	665	ARG
5	E	2	MET
5	E	3	ALA
6	F	5	SER
6	F	7	PRO
7	G	124	THR
7	G	130	ILE
7	G	132	GLU
7	G	134	LEU
7	G	138	THR
7	G	185	GLU
7	G	197	GLY
7	G	228	VAL
7	G	230	ASP
7	G	231	GLY
8	H	157	GLU
2	B	3	GLY
2	B	91	ALA
2	B	184	ALA

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Mol	Chain	Res	Type
2	B	242	ASN
2	B	248	GLU
2	B	252	THR
2	B	455	GLY
2	B	592	GLY
4	D	119	LEU
4	D	286	GLU
4	D	299	GLU
5	E	4	ALA
5	E	220	LEU
6	F	2	GLN
6	F	296	GLN
7	G	123	ASP
1	A	243	PRO
2	B	94	GLU
2	B	187	LEU
4	D	221	PRO
4	D	292	THR
6	F	228	SER
6	F	337	ASP
7	G	2	THR
2	B	233	ASP
4	D	222	GLY
4	D	288	SER
7	G	122	PRO
7	G	125	ILE
4	D	290	PRO
5	E	5	ASN
6	F	148	ALA
6	F	333	GLY
2	B	181	PRO
2	B	239	VAL
2	B	89	VAL
2	B	90	PRO
3	C	123	PRO
7	G	273	PRO
4	D	280	PRO
6	F	6	ARG

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	260/260 (100%)	248 (95%)	12 (5%)	27	52
2	B	541/541 (100%)	502 (93%)	39 (7%)	14	39
3	C	326/326 (100%)	312 (96%)	14 (4%)	29	53
4	D	605/605 (100%)	564 (93%)	41 (7%)	16	41
5	E	190/195 (97%)	176 (93%)	14 (7%)	13	38
6	F	343/882 (39%)	327 (95%)	16 (5%)	26	51
7	G	313/320 (98%)	295 (94%)	18 (6%)	20	45
8	H	192/328 (58%)	184 (96%)	8 (4%)	30	54
All	All	2770/3457 (80%)	2608 (94%)	162 (6%)	24	45

All (162) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	21	LEU
1	A	28	THR
1	A	153	SER
1	A	200	LEU
1	A	217	LEU
1	A	218	SER
1	A	220	THR
1	A	224	LEU
1	A	239	LEU
1	A	246	SER
1	A	262	THR
1	A	268	THR
2	B	30	LEU
2	B	36	LEU
2	B	45	SER
2	B	48	SER
2	B	58	LEU
2	B	77	LEU
2	B	83	THR

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Mol	Chain	Res	Type
2	B	94	GLU
2	B	121	LEU
2	B	131	MET
2	B	179	SER
2	B	180	THR
2	B	183	THR
2	B	185	CYS
2	B	188	SER
2	B	194	LEU
2	B	196	GLN
2	B	198	LEU
2	B	199	LEU
2	B	200	ASP
2	B	225	MET
2	B	226	SER
2	B	228	PHE
2	B	238	LEU
2	B	246	PHE
2	B	251	THR
2	B	364	CYS
2	B	370	LEU
2	B	372	CYS
2	B	385	LEU
2	B	437	SER
2	B	456	ASP
2	B	491	GLN
2	B	495	LEU
2	B	507	LEU
2	B	536	LEU
2	B	547	LEU
2	B	550	LEU
2	B	591	THR
3	C	60	LEU
3	C	92	LEU
3	C	120	SER
3	C	141	LEU
3	C	158	LEU
3	C	176	GLU
3	C	218	GLU
3	C	269	LEU
3	C	303	GLU
3	C	309	THR

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Mol	Chain	Res	Type
3	C	314	LEU
3	C	315	SER
3	C	330	GLU
3	C	352	LEU
4	D	1	MET
4	D	64	LEU
4	D	69	LEU
4	D	72	THR
4	D	77	THR
4	D	83	GLN
4	D	122	GLU
4	D	164	GLU
4	D	174	MET
4	D	179	ASP
4	D	182	LEU
4	D	186	THR
4	D	188	LEU
4	D	202	LEU
4	D	214	SER
4	D	224	GLU
4	D	226	LEU
4	D	229	LEU
4	D	230	SER
4	D	235	MET
4	D	259	LEU
4	D	262	THR
4	D	265	LEU
4	D	293	GLN
4	D	302	HIS
4	D	359	SER
4	D	375	CYS
4	D	402	GLU
4	D	405	LEU
4	D	419	LEU
4	D	424	GLN
4	D	499	LEU
4	D	503	ARG
4	D	575	THR
4	D	579	THR
4	D	592	LEU
4	D	636	SER
4	D	648	ARG

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Mol	Chain	Res	Type
4	D	658	LEU
4	D	662	THR
4	D	664	SER
5	E	9	PRO
5	E	18	LEU
5	E	28	LEU
5	E	38	LEU
5	E	69	LEU
5	E	70	ARG
5	E	121	LEU
5	E	206	SER
5	E	207	CYS
5	E	209	THR
5	E	212	THR
5	E	213	SER
5	E	220	LEU
5	E	221	HIS
6	F	3	SER
6	F	9	LEU
6	F	37	THR
6	F	38	LEU
6	F	114	VAL
6	F	173	LEU
6	F	187	LEU
6	F	219	LEU
6	F	224	ASP
6	F	278	LEU
6	F	283	LEU
6	F	293	HIS
6	F	325	GLU
6	F	331	CYS
6	F	338	LEU
6	F	360	HIS
7	G	2	THR
7	G	19	MET
7	G	31	THR
7	G	46	HIS
7	G	48	LEU
7	G	74	THR
7	G	124	THR
7	G	127	SER
7	G	134	LEU

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Mol	Chain	Res	Type
7	G	135	SER
7	G	138	THR
7	G	180	LEU
7	G	192	THR
7	G	226	SER
7	G	229	THR
7	G	230	ASP
7	G	322	SER
7	G	344	SER
8	H	202	LEU
8	H	204	GLU
8	H	213	LEU
8	H	216	LEU
8	H	254	LEU
8	H	356	LEU
8	H	363	ASP
8	H	367	PRO

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (32) such sidechains are listed below:

Mol	Chain	Res	Type
2	B	114	HIS
2	B	220	HIS
2	B	263	GLN
2	B	346	ASN
2	B	386	GLN
2	B	493	HIS
3	C	220	GLN
3	C	247	GLN
4	D	32	GLN
4	D	49	HIS
4	D	68	GLN
4	D	70	GLN
4	D	104	GLN
4	D	152	ASN
4	D	161	GLN
4	D	231	HIS
4	D	272	GLN
4	D	334	GLN
4	D	343	HIS
4	D	352	HIS
4	D	426	HIS

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Mol	Chain	Res	Type
4	D	542	HIS
4	D	549	GLN
4	D	628	GLN
4	D	631	GLN
6	F	313	GLN
7	G	18	GLN
7	G	92	HIS
7	G	161	HIS
8	H	196	ASN
8	H	207	HIS
8	H	282	HIS

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates

There are no monosaccharides in this entry.

5.6 Ligand geometry

There are no ligands in this entry.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

The following chains have linkage breaks:

Mol	Chain	Number of breaks
5	E	17

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Mol	Chain	Number of breaks
6	F	17
1	A	13
2	B	10
4	D	9
7	G	9
8	H	7
3	C	6

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	B	223:GLU	C	224:GLY	N	1.81
1	A	277:VAL	C	278:PRO	N	1.79
1	A	280:PRO	C	281:SER	N	1.75
1	A	283:ARG	C	284:ARG	N	1.70
1	A	284:ARG	C	285:LEU	N	1.69
1	B	591:THR	C	592:GLY	N	1.66
1	C	319:PHE	C	320:LEU	N	1.66
1	A	276:VAL	C	277:VAL	N	1.65
1	C	213:MET	C	214:ARG	N	1.20
1	D	638:GLU	C	639:ARG	N	1.20
1	D	650:ARG	C	651:TRP	N	1.20
1	D	661:ALA	C	662:THR	N	1.20
1	E	51:ARG	C	52:ILE	N	1.20
1	E	72:GLU	C	73:LYS	N	1.20
1	E	95:ASN	C	96:SER	N	1.20
1	E	128:HIS	C	129:ARG	N	1.20
1	E	136:PRO	C	137:LEU	N	1.20
1	F	173:LEU	C	174:ALA	N	1.20
1	F	175:ARG	C	176:GLN	N	1.20
1	G	287:THR	C	288:CYS	N	1.20
1	G	299:THR	C	300:GLU	N	1.20
1	H	297:HIS	C	298:ALA	N	1.20
1	H	319:ASP	C	320:GLU	N	1.20
1	A	222:THR	C	223:GLU	N	1.19
1	A	242:ALA	C	243:PRO	N	1.19
1	B	516:ASN	C	517:THR	N	1.19
1	C	291:GLN	C	292:ILE	N	1.19
1	C	313:ILE	C	314:LEU	N	1.19
1	D	311:SER	C	312:PHE	N	1.19
1	D	501:PRO	C	502:SER	N	1.19
1	E	15:ALA	C	16:SER	N	1.19
1	E	22:CYS	C	23:LEU	N	1.19

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	E	58:GLU	C	59:ILE	N	1.19
1	E	61:GLN	C	62:LYS	N	1.19
1	E	88:HIS	C	89:GLN	N	1.19
1	F	80:TRP	C	81:PRO	N	1.19
1	F	195:LYS	C	196:ALA	N	1.19
1	F	202:GLN	C	203:ILE	N	1.19
1	F	260:ALA	C	261:VAL	N	1.19
1	F	380:GLU	C	381:TRP	N	1.19
1	G	120:GLN	C	121:TYR	N	1.19
1	H	218:ARG	C	219:GLU	N	1.19
1	B	6:ARG	C	7:PHE	N	1.18
1	B	215:SER	C	216:PHE	N	1.18
1	B	222:PHE	C	223:GLU	N	1.18
1	C	314:LEU	C	315:SER	N	1.18
1	D	221:PRO	C	222:GLY	N	1.18
1	E	78:ILE	C	79:THR	N	1.18
1	E	93:ALA	C	94:MET	N	1.18
1	F	44:GLY	C	45:VAL	N	1.18
1	F	253:LYS	C	254:GLU	N	1.18
1	G	141:ASN	C	142:VAL	N	1.18
1	G	161:HIS	C	162:PHE	N	1.18
1	G	275:GLY	C	276:PRO	N	1.18
1	H	196:ASN	C	197:ASP	N	1.18
1	H	300:GLU	C	301:ASN	N	1.18
1	H	333:SER	C	334:PHE	N	1.18
1	B	589:ALA	C	590:GLN	N	1.17
1	B	594:GLY	C	595:SER	N	1.17
1	C	113:SER	C	114:ARG	N	1.17
1	D	313:HIS	C	314:SER	N	1.17
1	E	82:LEU	C	83:TYR	N	1.17
1	F	51:PRO	C	52:ASN	N	1.17
1	F	121:PRO	C	122:GLY	N	1.17
1	F	209:GLU	C	210:HIS	N	1.17
1	G	122:PRO	C	123:ASP	N	1.17
1	A	268:THR	C	269:LYS	N	1.16
1	B	73:ASP	C	74:GLU	N	1.16
1	E	69:LEU	C	70:ARG	N	1.16
1	E	73:LYS	C	74:GLU	N	1.16
1	F	258:VAL	C	259:ASP	N	1.16
1	G	234:VAL	C	235:ILE	N	1.16
1	G	289:PHE	C	290:LYS	N	1.16
1	A	206:GLU	C	207:GLU	N	1.15

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	A	229:MET	C	230:ALA	N	1.15
1	A	265:GLU	C	266:LEU	N	1.15
1	E	133:GLU	C	134:LEU	N	1.15
1	F	146:ALA	C	147:ASP	N	1.15
1	F	213:LEU	C	214:GLN	N	1.15
1	H	155:VAL	C	156:PRO	N	1.15
1	D	402:GLU	C	403:MET	N	1.14
1	E	86:GLN	C	87:LYS	N	1.14
1	F	262:VAL	C	263:ARG	N	1.14
1	D	227:ARG	C	228:SER	N	1.13
1	A	269:LYS	C	270:VAL	N	1.12
1	B	592:GLY	C	593:GLY	N	1.11
1	F	1:MET	C	2:GLN	N	1.11
1	A	272:MET	C	273:MET	N	0.96

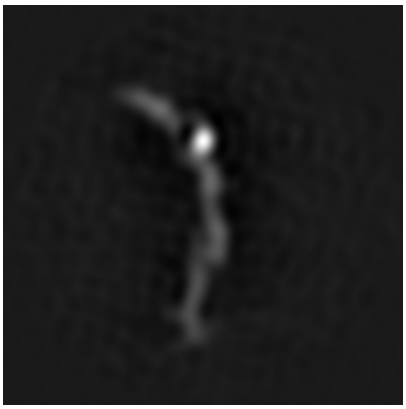
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-15633. These allow visual inspection of the internal detail of the map and identification of artifacts.

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

6.1 Orthogonal projections

6.1.1 Primary map

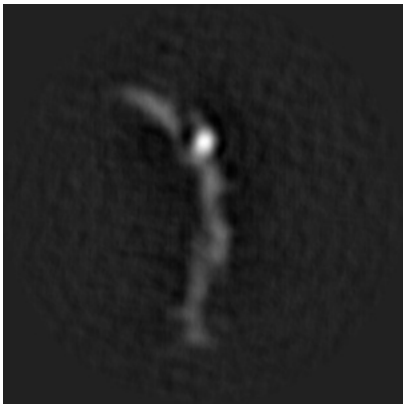


X

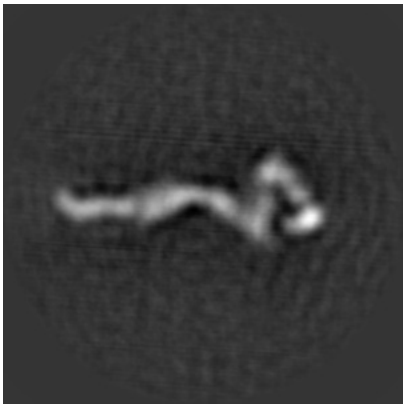
Y

Z

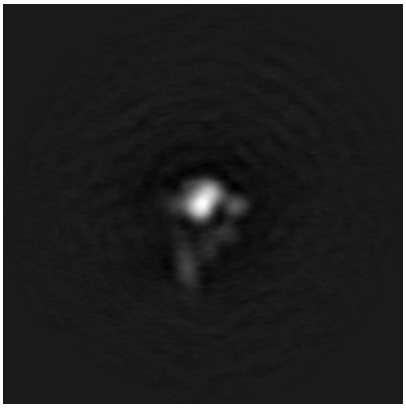
6.1.2 Raw map



X



Y

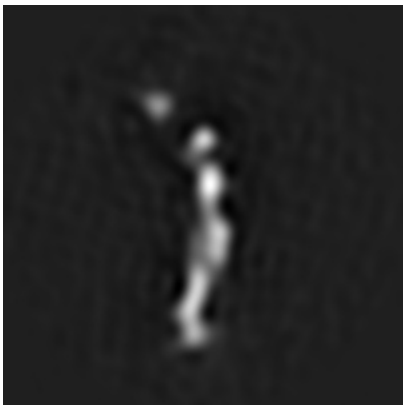


Z

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

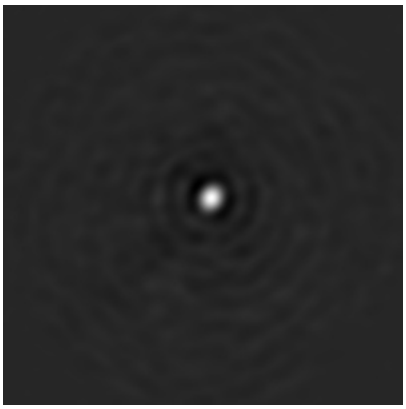
6.2 Central slices (i)

6.2.1 Primary map



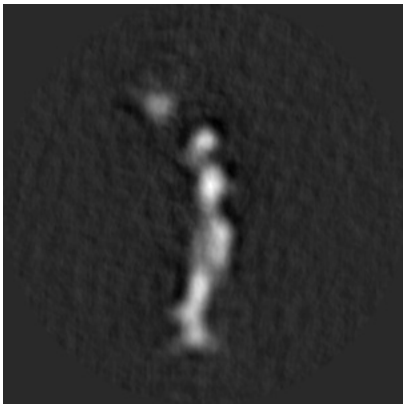
X Index: 128

Y Index: 128

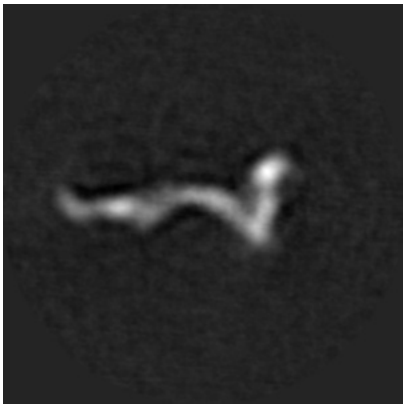


Z Index: 128

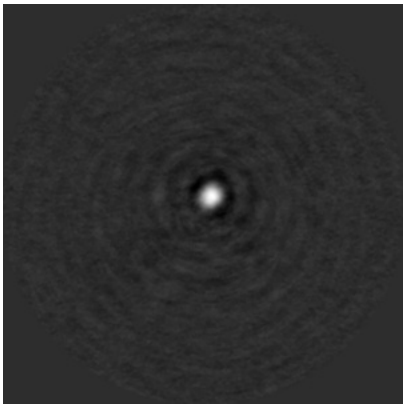
6.2.2 Raw map



X Index: 128



Y Index: 128

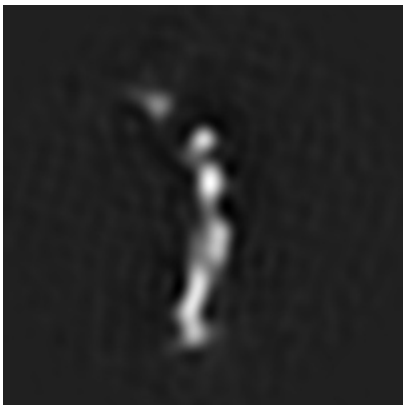


Z Index: 128

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

6.3 Largest variance slices (i)

6.3.1 Primary map

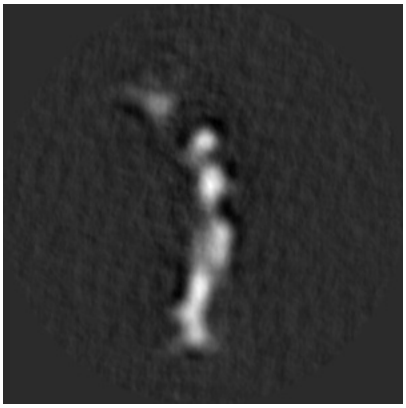


X Index: 127

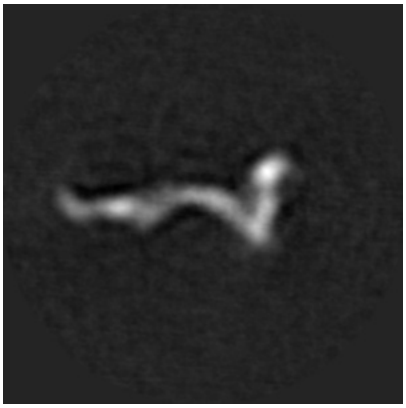
Y Index: 128

Z Index: 169

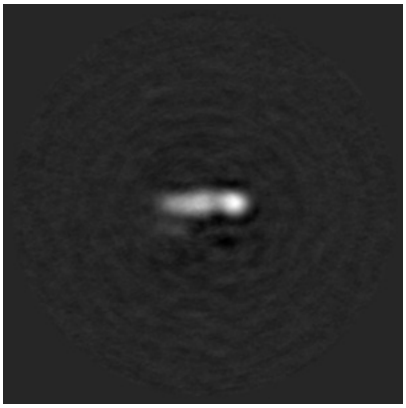
6.3.2 Raw map



X Index: 127



Y Index: 128

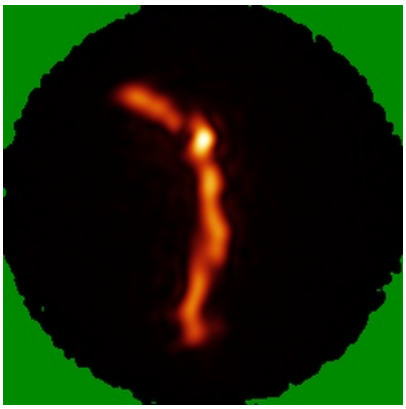


Z Index: 167

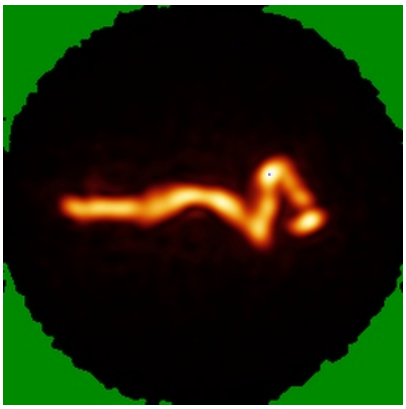
The images above show the largest variance slices of the map in three orthogonal directions.

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

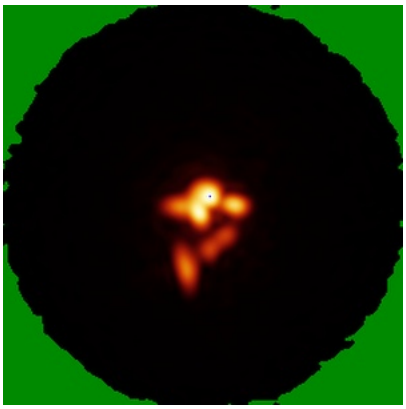
6.4.1 Primary map



X

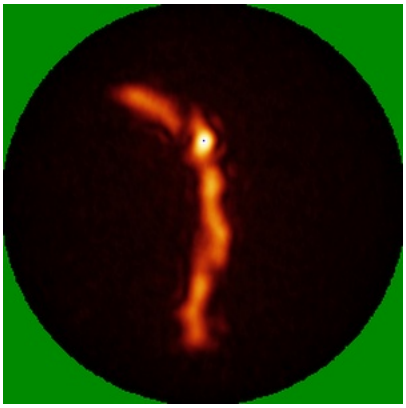


Y



Z

6.4.2 Raw map



X

Y

Z

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

6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.0245. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map

X Y Z

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

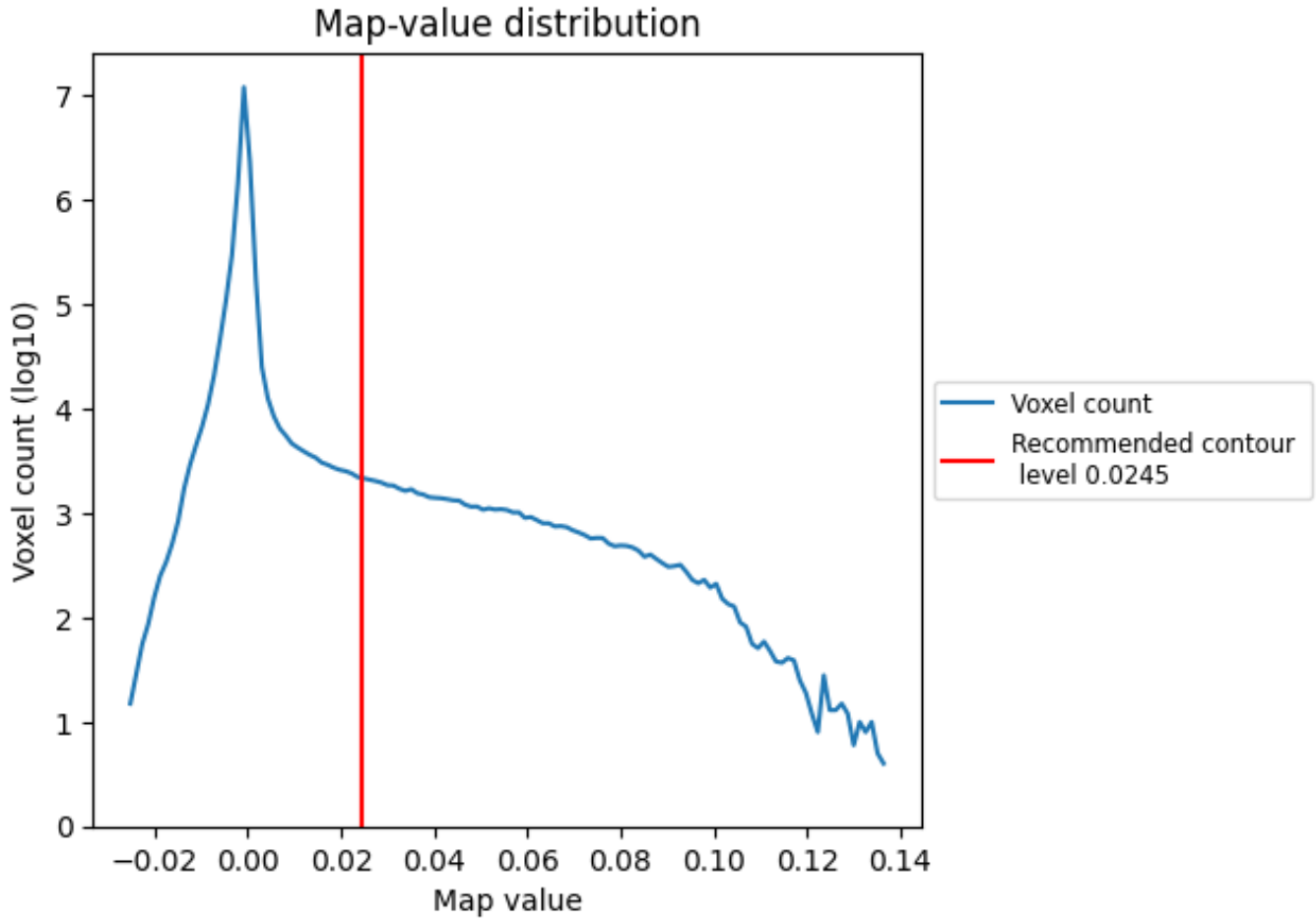
6.6 Mask visualisation (i)

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

7 Map analysis

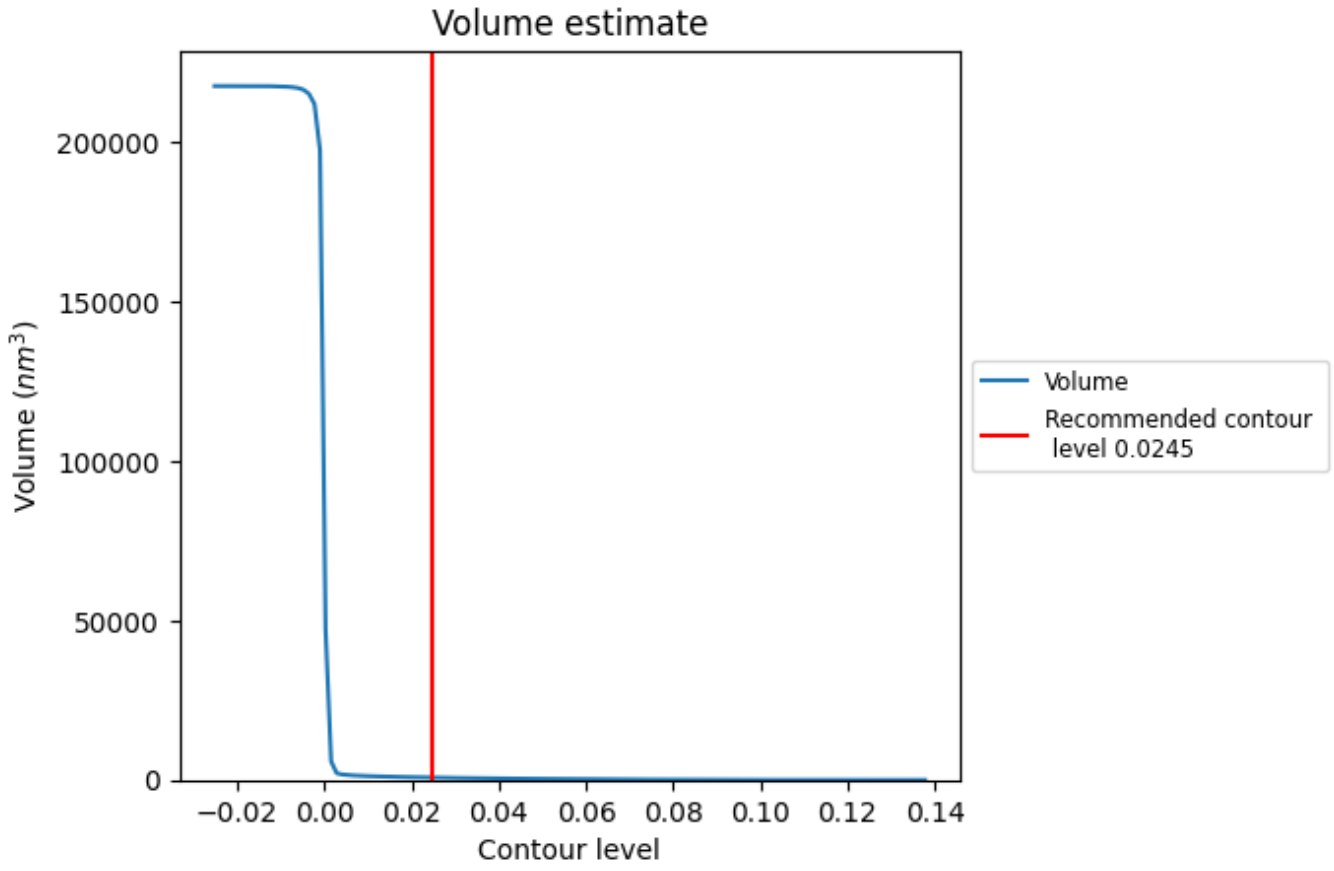
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

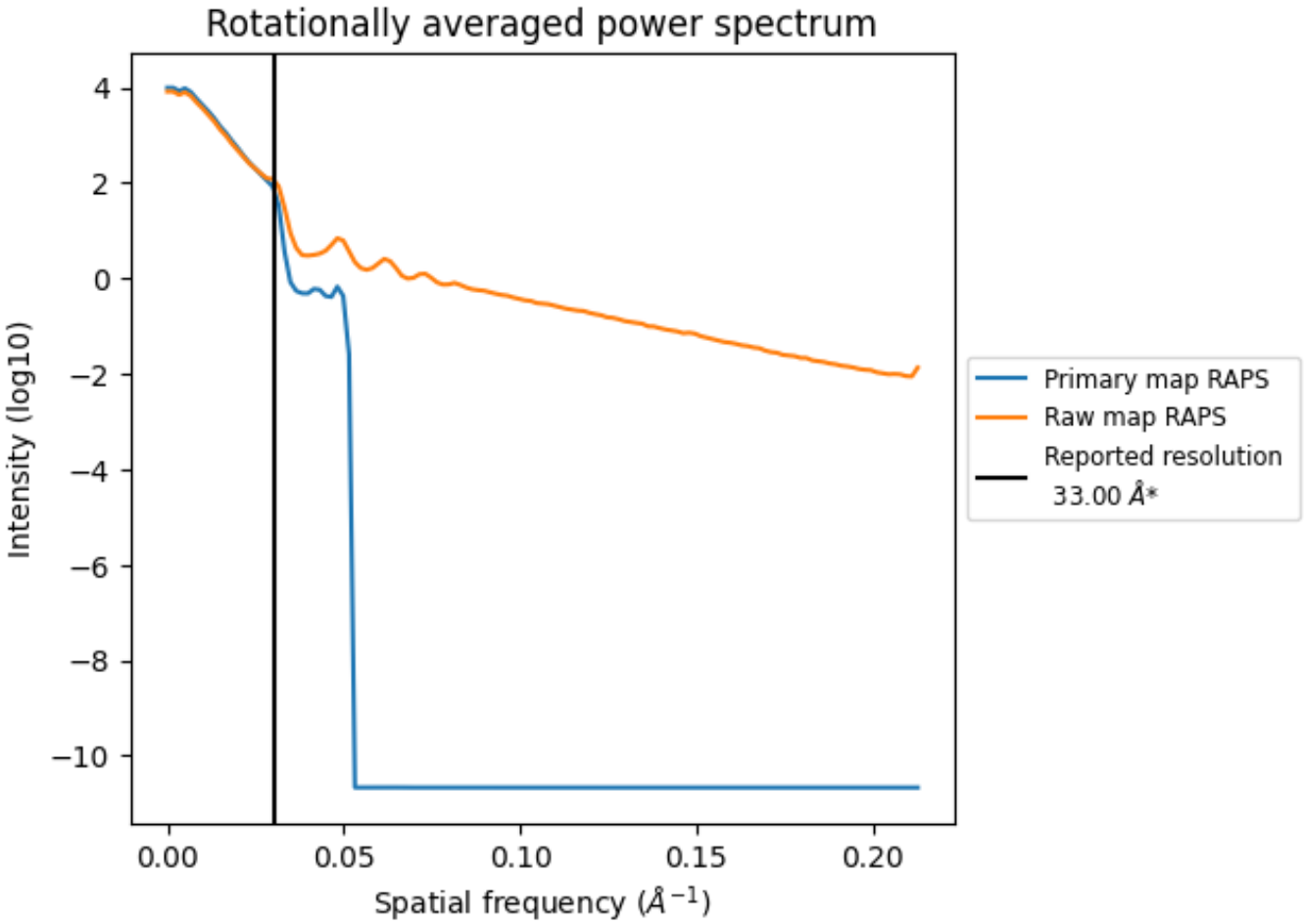
7.2 Volume estimate



The volume at the recommended contour level is 753 nm^3; this corresponds to an approximate mass of 680 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)

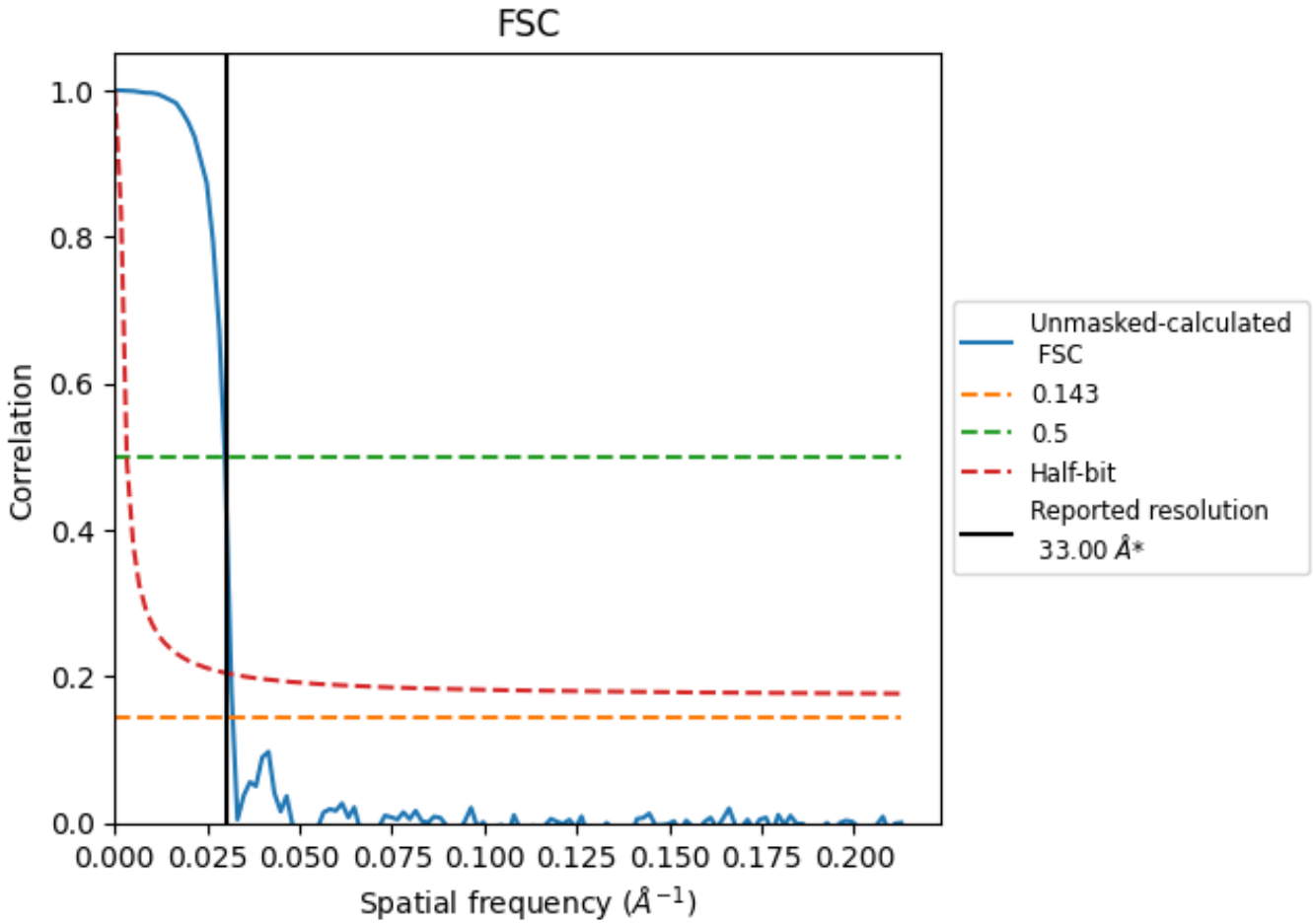


*Reported resolution corresponds to spatial frequency of 0.030 Å^{-1}

8 Fourier-Shell correlation

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

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.030 Å^{-1}

8.2 Resolution estimates (i)

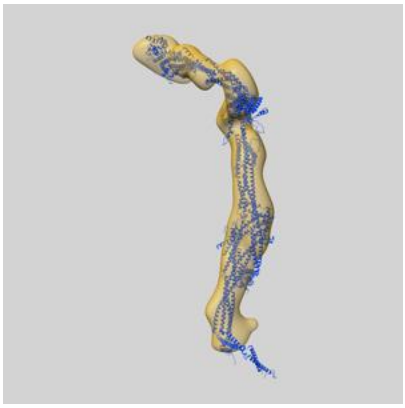
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	33.00	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	31.35	33.56	31.75

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

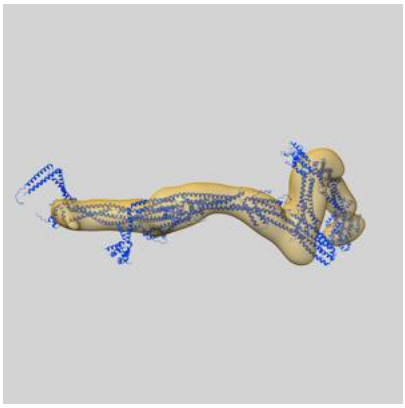
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-15633 and PDB model 8AT4. Per-residue inclusion information can be found in section 3 on page 5.

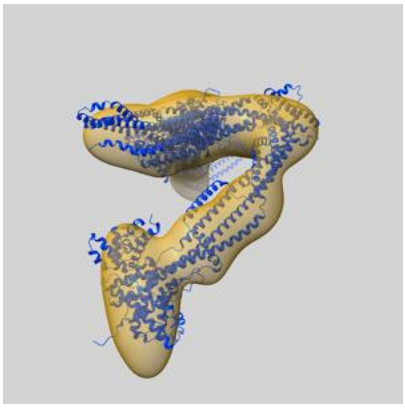
9.1 Map-model overlay



X



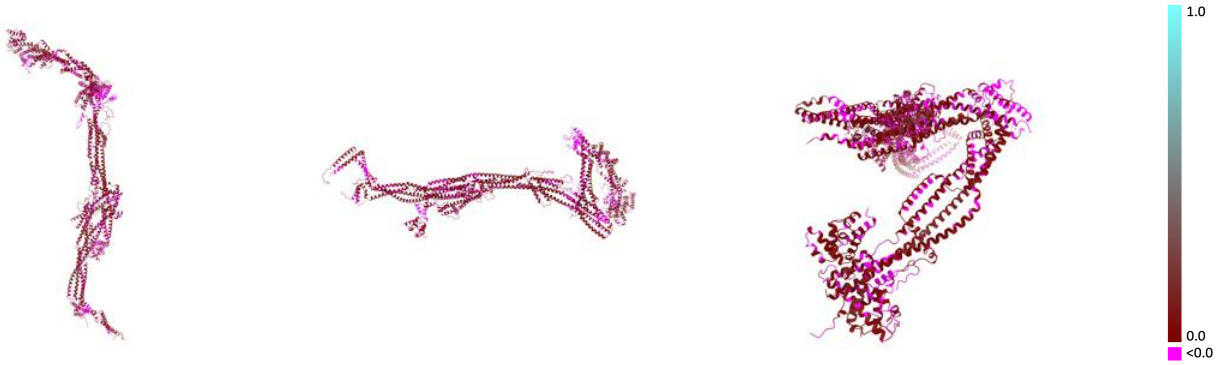
Y



Z

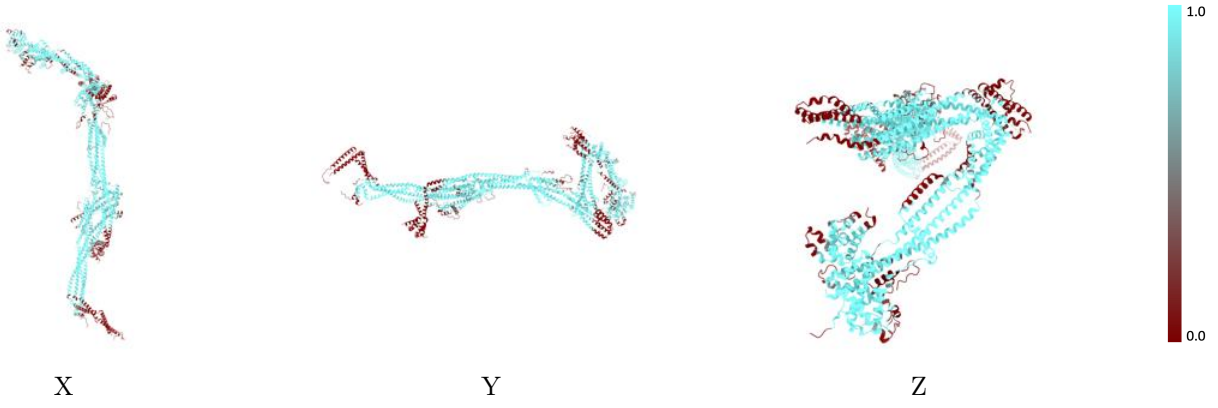
The images above show the 3D surface view of the map at the recommended contour level 0.0245 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model (i)



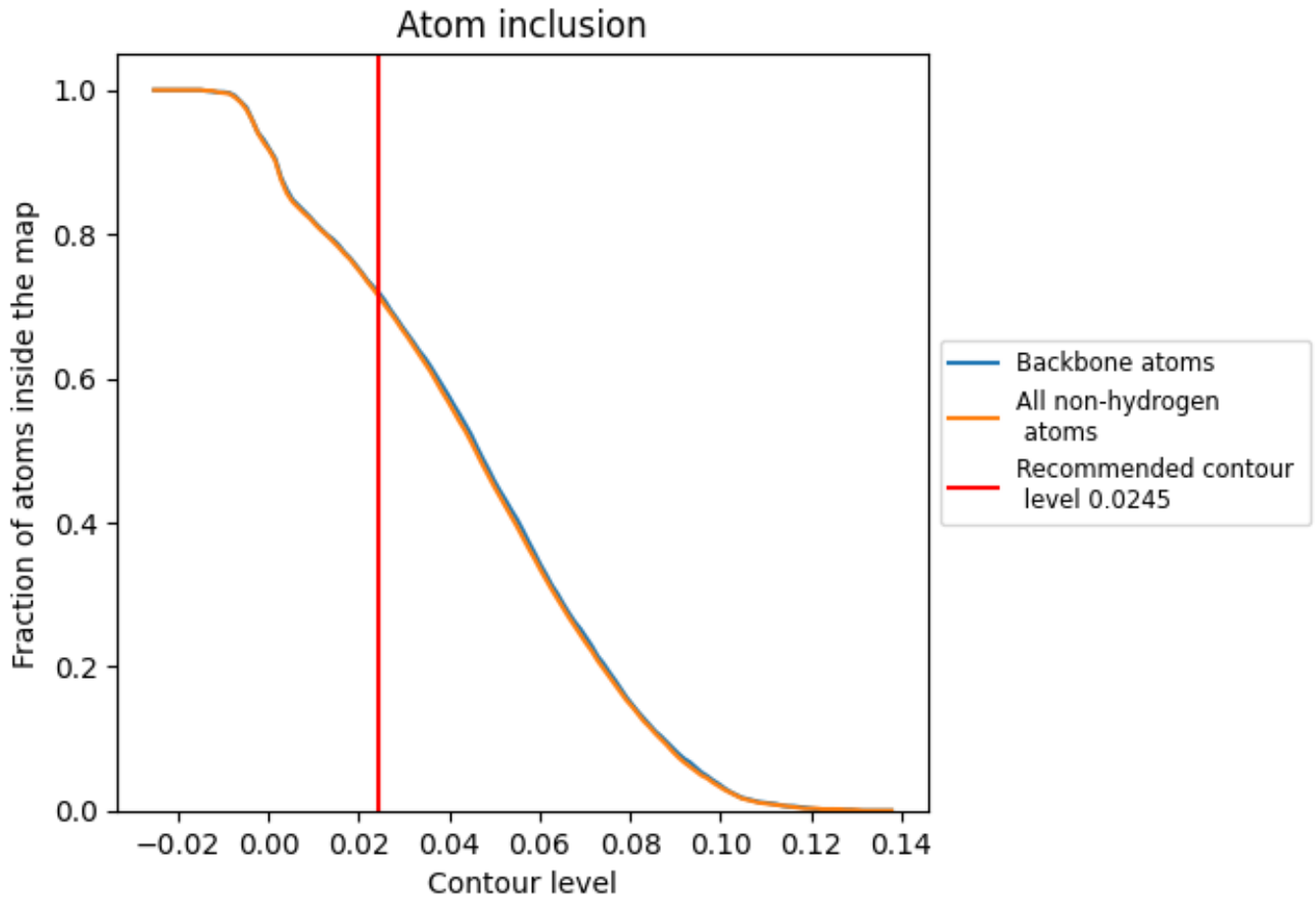
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.0245).

9.4 Atom inclusion (i)



At the recommended contour level, 72% of all backbone atoms, 71% 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 (0.0245) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7130	0.0400
A	0.6230	0.0480
B	0.7180	0.0410
C	0.7250	0.0530
D	0.6990	0.0330
E	0.5390	0.0190
F	0.7650	0.0340
G	0.7350	0.0310
H	0.9010	0.0710