



## Full wwPDB EM Validation Report ⓘ

Apr 8, 2024 – 04:34 PM JST

PDB ID : 8WYA  
EMDB ID : EMD-37921  
Title : Cryo-EM structure of DSR2-tube complex  
Authors : Zhang, J.T.; Jia, N.; Liu, X.Y.  
Deposited on : 2023-10-30  
Resolution : 3.62 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](mailto: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>.

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

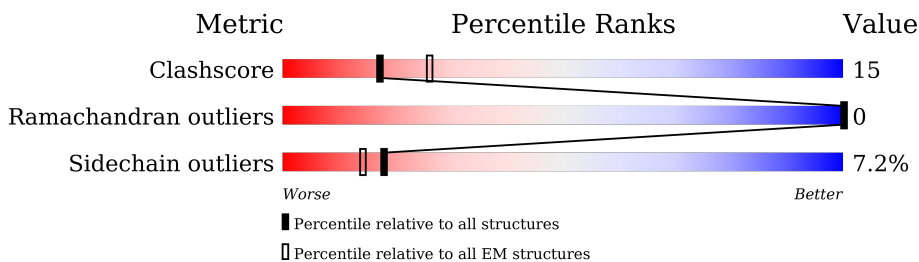
EMDB validation analysis : 0.0.1.dev70  
MolProbity : 4.02b-467  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
MapQ : 1.9.13  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.36

# 1 Overall quality at a glance i

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

The reported resolution of this entry is 3.62 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  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions  $\leq 5\%$ . The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion  $< 40\%$ ). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	1005	47% 56% 32% 9%
1	B	1005	44% 57% 32% 8%
1	D	1005	59% 58% 32% 8%
1	E	1005	60% 60% 30% 9%
2	C	264	31% 21% 19% 5% 56%
2	F	264	44% 31% 12% 56%

## 2 Entry composition [i](#)

There are 2 unique types of molecules in this entry. The entry contains 32621 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 SIR2 family protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	915	Total	C	N	O	S	0	0
			7655	4965	1230	1430	30		
1	B	923	Total	C	N	O	S	0	0
			7706	4999	1241	1437	29		
1	D	921	Total	C	N	O	S	0	0
			7705	4995	1241	1439	30		
1	E	919	Total	C	N	O	S	0	0
			7677	4982	1236	1430	29		

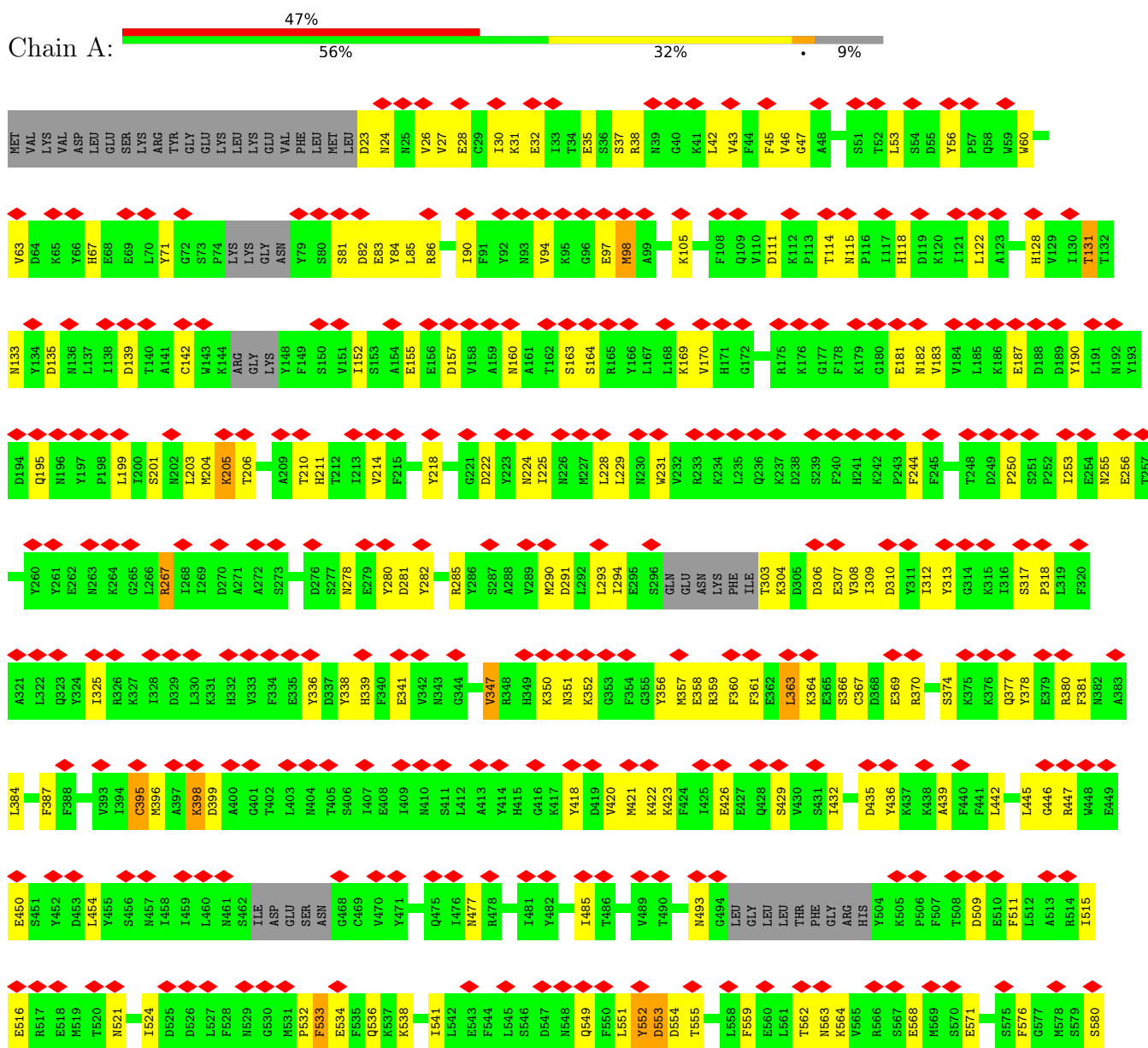
- Molecule 2 is a protein called Bacillus phage SPbeta tube protein.

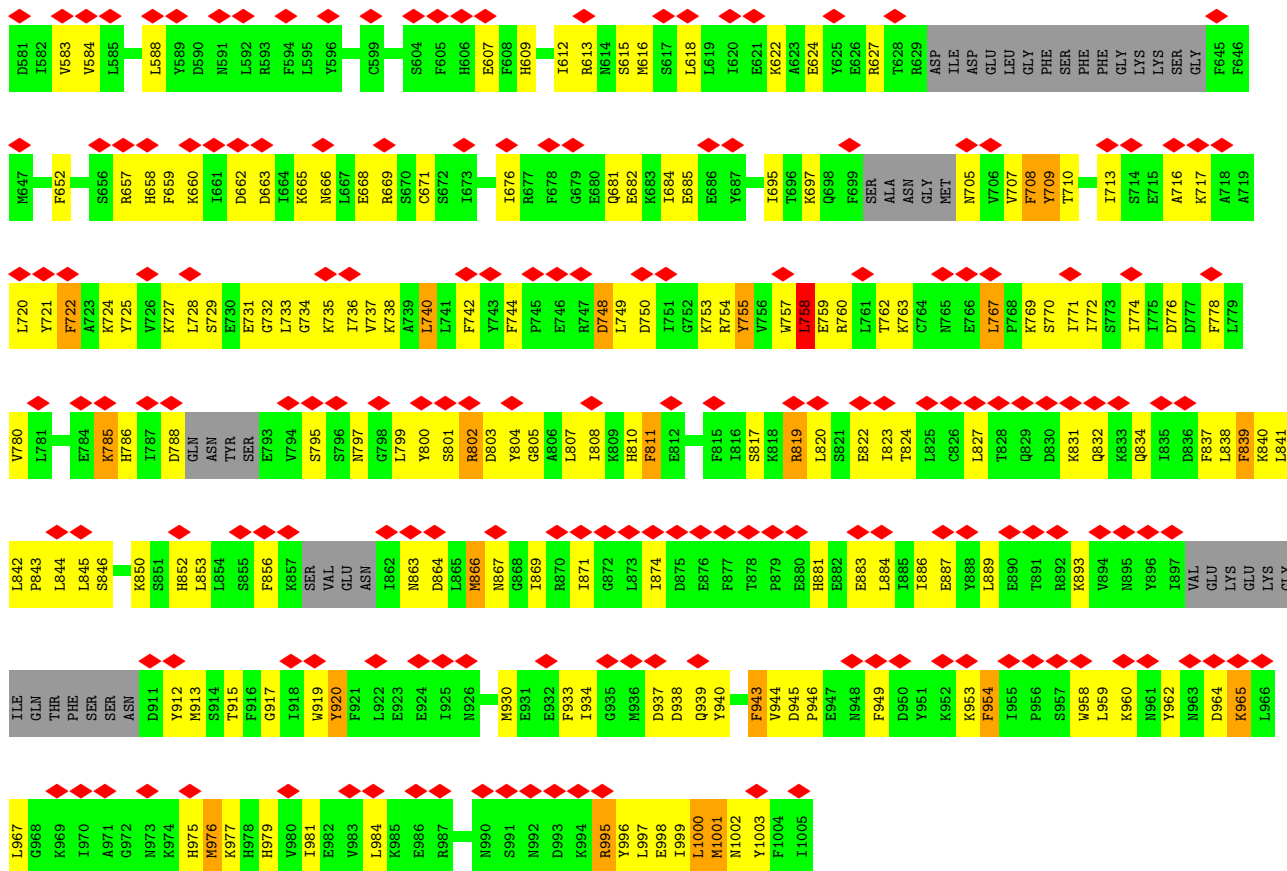
Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	C	116	Total	C	N	O	S	0	0
			939	604	146	186	3		
2	F	116	Total	C	N	O	S	0	0
			939	604	146	186	3		

### 3 Residue-property plots

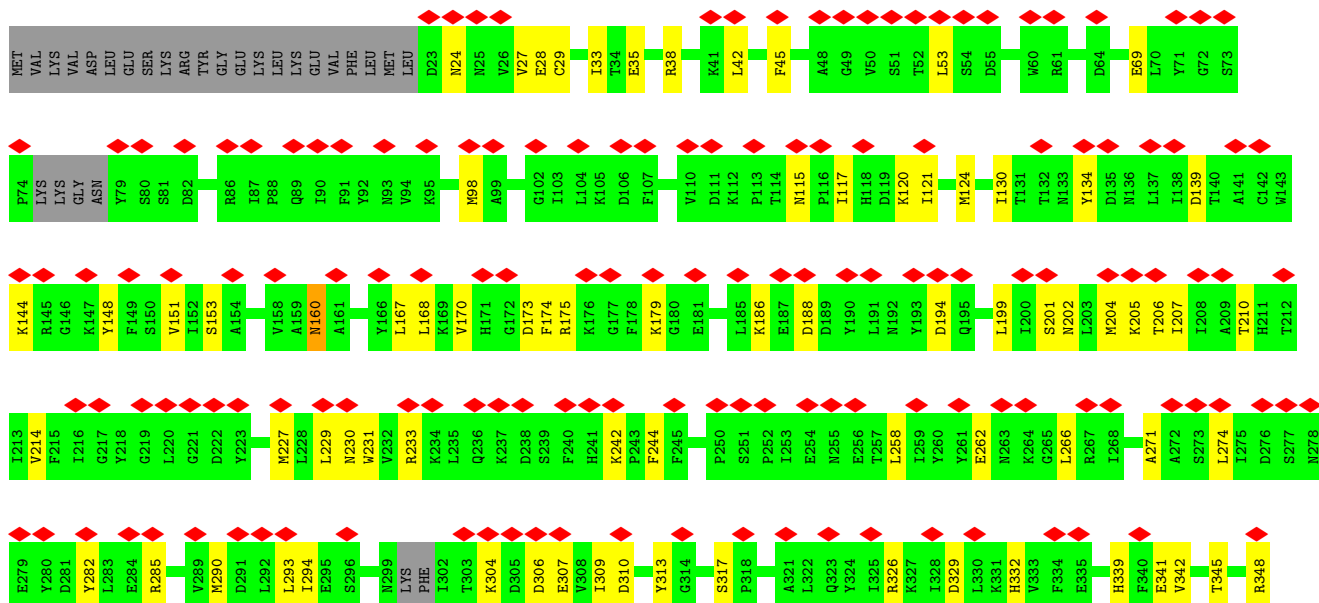
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

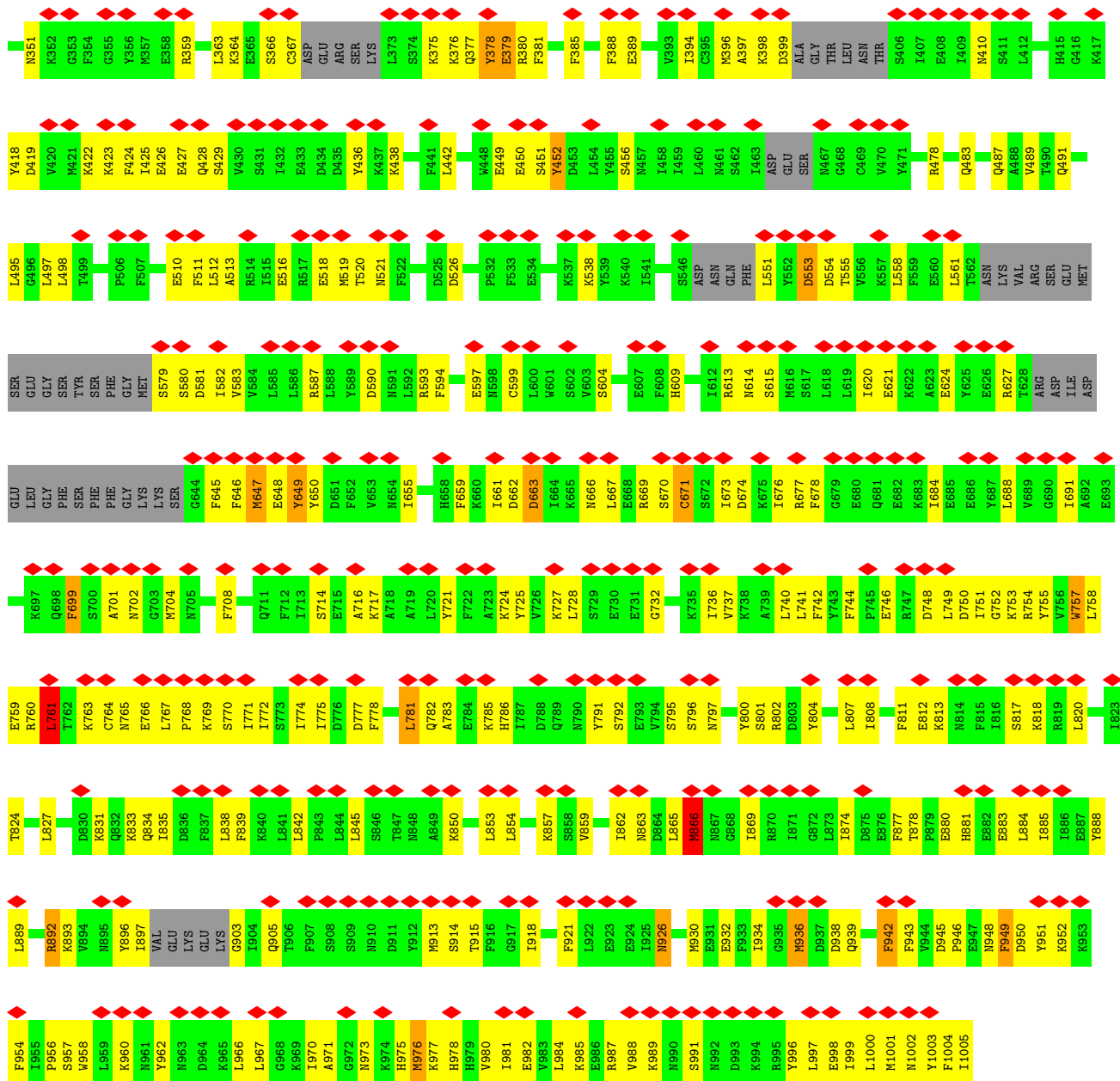
#### • Molecule 1: SIR2 family protein



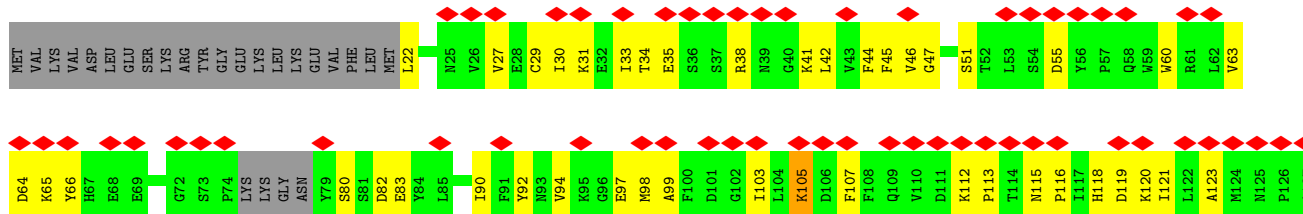


• Molecule 1: SIR2 family protein



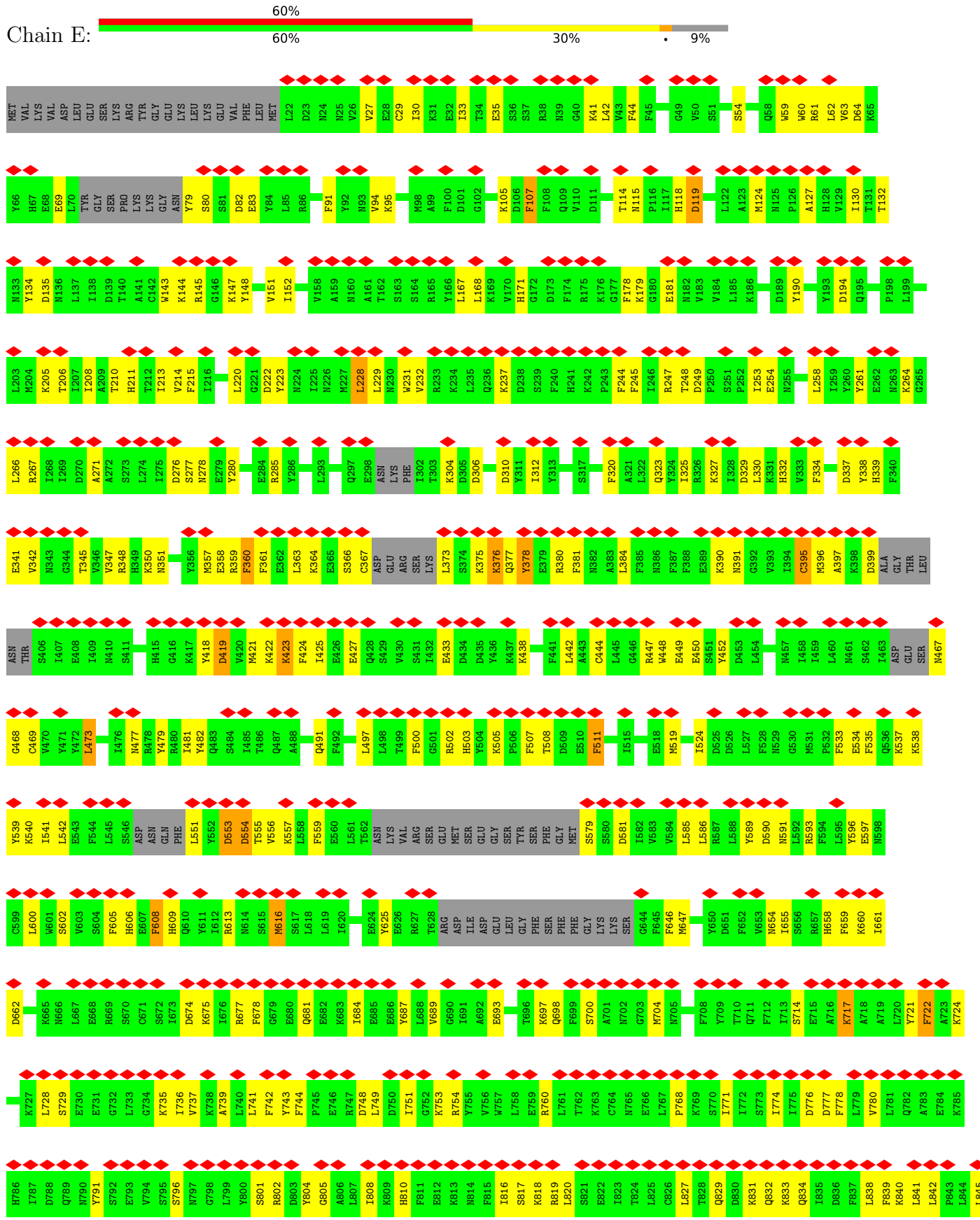


• Molecule 1: SIR2 family protein

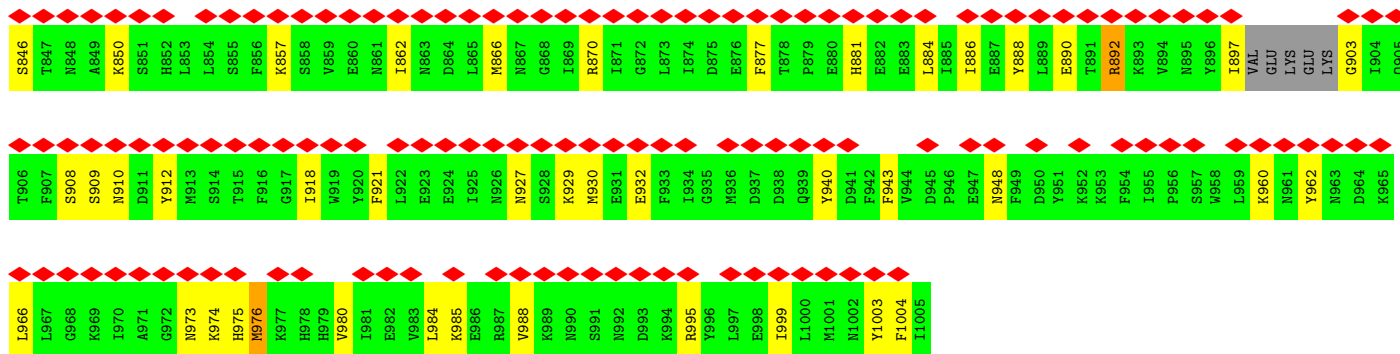


H128	H129	I130	T131	M133	Y134	D135	M136	L137	I138	D139	T140	C142	M143	K144	R145	G146	K147	Y148	F149	S150	V151	A154	E155	E156	D157	V158	A159	M160	A161	T162	S163	S164	L167	L168	H171	G172	D173	F174	R175	K176	G177	K178	F179	G180	V184	L185	D188	D189	N192	Q195								
M196	Y197	P198	L199	I200	S201	N202	M203	M204	K205	T206	I207	V214	F215	I216	G219	L220	G221	D222	Y223	N224	L228	L229	M230	W231	V232	L235	Q236	K237	D238	S239	F240	H241	K242	P243	F244	F245	I246	R247	P250	S251	P252	N255	E256	T257	L258	I259	K264	G265	L266	R267	I268							
I269	D270	A271	S273	L274	I275	D276	D277	M278	E279	D280	I281	Y282	L283	E284	R285	Y286	S287	A288	V289	M290	D291	L292	L293	I294	E295	S296	Q297	E298	ASN	PHE	ILE	T303	K304	D305	D306	E307	V308	I309	D310	Y311	I312	K315	I316	S317	P318	L319	F320	A321	L322	Q323	Y324	I325	R326	K327	I328	D329		
L330	K331	H332	F334	E335	Y336	D337	Y338	H339	F340	E341	V342	N343	G344	T345	V346	R347	R348	H349	K350	N351	K352	G353	F354	G355	Y356	M357	E358	R359	F360	F361	E362	L363	K364	E365	S366	C367	D368	E369	R370	S371	K372	L373	S374	K375	R380	F381	N382	A383	E449	E450	F385	N386	F387	F388	E389	V393	I394	
C395	M396	A397	K398	D399	A400	G401	T402	L403	N404	T405	S406	I407	E408	I409	A413	Y414	H415	G416	K417	Y418	D419	A420	M421	K422	G423	F424	I425	E426	E427	L428	Q429	S428	Y430	S431	I432	E433	D434	D435	Y436	F440	F441	L442	A443	C444	L445	G446	A447	W448	E449	E450	S451	Y455	I458	L459	M461			
S462	ILE	ASP	GLU	SER	ASN	G468	C469	Y470	Y471	Y472	L473	S474	Q475	I476	N477	R478	Y479	R480	I481	Y482	Q483	S484	I485	T486	Q487	A488	V489	Q490	F492	M493	G494	LEU	GLY	LEU	LEU	THR	PHE	GLY	ARG	HIS	Y504	K505	P506	F507	T508	D509	E510	F511	L512	A513	R514	L515	L384	E516	E518	M519	T520	N521
F522	N523	L524	D525	D526	L527	F528	N529	M531	F532	F533	E534	F535	Q536	K537	K538	Y539	K540	L541	L542	E543	F544	L545	S546	D547	N548	Q549	F550	L551	Y552	D553	E554	T555	V556	F559	E560	L561	T562	S563	K564	V565	R566	S567	E568	M569	E571	G572	S573	Y574	S575	F576	G577	M578	S579	S580	D581	I582		
V583	V584	L588	L588	F589	D590	N591	L592	B593	F594	L595	Y596	E597	L600	W601	H606	E607	Q610	Y611	L612	R613	M614	S615	M616	S617	L618	L619	E621	K622	A623	E624	Y625	E626	R627	T628	R629	ASP	ILE	ASP	GLU	LEU	GLY	PHE	PHE	PHE	GLY	LYS	LYS	ALA	ASN	ASN	GLY	MET	N705	Y709	T710	Q711		
Y649	Y650	D651	F652	V653	M654	I655	S656	R657	F658	K660	I661	D662	D663	L664	K665	M666	L667	E668	R669	G670	C671	S672	L673	D674	K675	L676	F677	F678	Q681	E682	K683	L684	E685	Y686	Y687	L688	V689	G690	I691	A692	E693	F694	L695	T696	K697	Q698	F699	SER	SER	ALA	ASN	GLY	MET	N705	Y709	T710	Q711	
F712	I713	S714	E715	A716	K717	A718	A719	L720	Y721	F722	A723	K724	Y725	Y726	L733	G734	K735	I736	W737	K738	L739	D740	Y804	G805	A806	R807	F744	D748	L749	D750	I751	G752	K753	R754	Y755	Y756	W757	L758	E759	E822	I823	T824	L825	C826	L827	T828	Q829	D830	K831	Q832	K833	Q834	I835	D836	F837	L838		
I775	D776	D777	F778	L779	W780	K785	H786	I787	GLN	ASN	TYR	SER	E793	Y794	S795	S796	N797	G798	L799	Y800	S801	R802	D803	A804	G805	A806	R807	L808	R809	H810	F811	E812	K813	M814	F815	I816	R819	L820	S821	E822	I823	T824	L825	C826	L827	T828	Q829	D830	K831	Q832	K833	Q834	I835	D836	F837	L838		
F839	K840	L841	L842	F843	L844	L845	S846	T847	M848	A849	K850	S851	H852	L853	L854	S855	F856	K857	VAL	GLU	ASN	I862	M863	D864	M867	G868	I869	R870	I871	G872	L873	I874	D875	E876	F877	T878	P879	E880	H881	E882	E883	L884	I885	I886	E887	Y888	L889	E890	K891	R892	K893	W894	M895	Y896	I897	VAL	GLU	
LYS	GLU	LYS	GLY	ILE	THR	PHE	SER	ASN	ASN	D911	Y912	M913	F916	G917	I918	W919	Y920	F921	L922	E923	E924	I925	N926	M927	S928	K929	M930	E931	E932	F933	I934	G935	M936	D937	D938	Q939	Y940	D941	F942	F943	Y944	D945	E946	E947	M948	F949	D950	Y951	K952	K953	F954	I955	P956	W958	L959	K960		
N961	Y962	N963	D964	K965	L966	L967	G968	K969	I970	A971	Y972	N973	K974	H975	N976	K977	H978	Y979	Y980	I981	E982	L984	K985	E986	I987	Y988	K989	N990	K991	N992	D993	K994	L997	E998	I999	L1000	M1001	N1002	Y1003	F1004	I1005																	

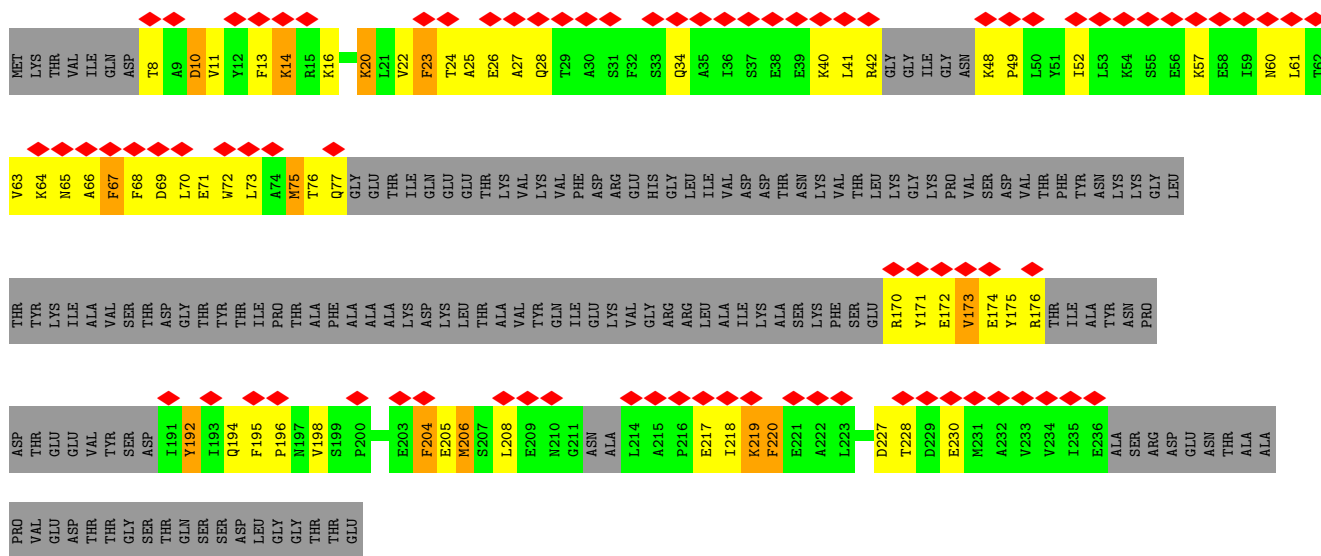
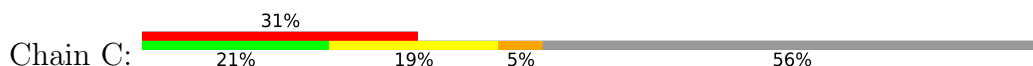
• Molecule 1: SIR2 family protein



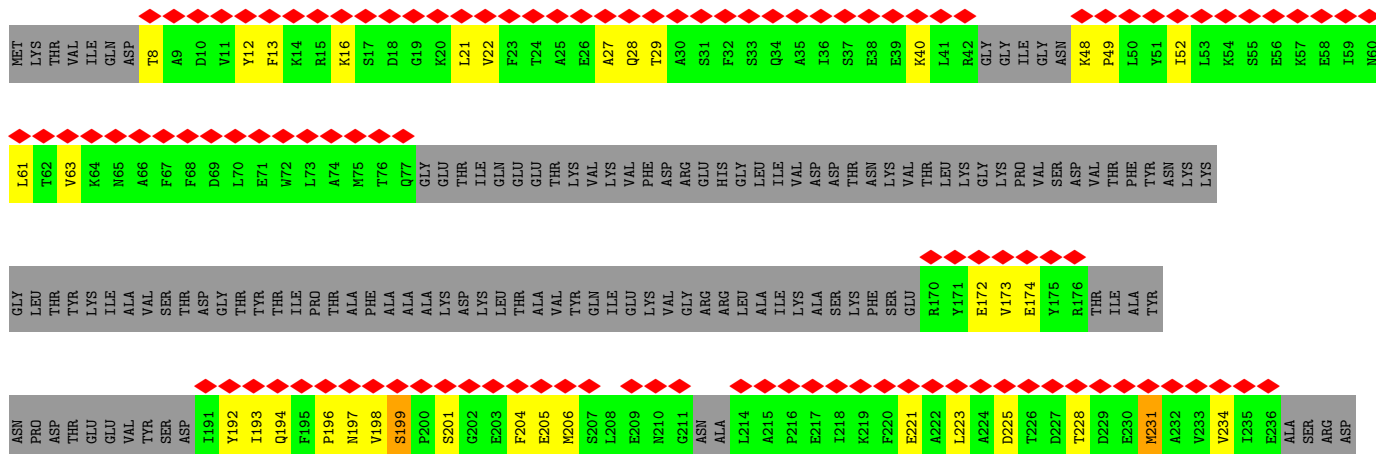
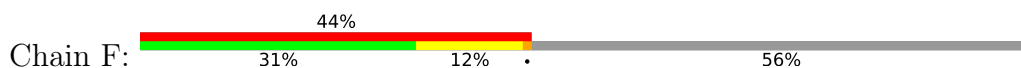




• Molecule 2: Bacillus phage SPbeta tube protein



• Molecule 2: Bacillus phage SPbeta tube protein



GLU  
ASN  
THR  
ALA  
ALA  
PRO  
VAL  
GLU  
ASP  
THR  
THR  
GLY  
SER  
THR  
GLN  
SER  
SER  
ASP  
LEU  
GLY  
GLY  
THR  
THR  
GLU

## 4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	16411	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING ONLY	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ( $e^-/\text{\AA}^2$ )	50	Depositor
Minimum defocus (nm)	1500	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	1.732	Depositor
Minimum map value	-0.956	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.044	Depositor
Recommended contour level	0.25	Depositor
Map size ( $\text{\AA}$ )	454.47998, 454.47998, 454.47998	wwPDB
Map dimensions	460, 460, 460	wwPDB
Map angles ( $^\circ$ )	90.0, 90.0, 90.0	wwPDB
Pixel spacing ( $\text{\AA}$ )	0.988, 0.988, 0.988	Depositor

## 5 Model quality [i](#)

### 5.1 Standard geometry [i](#)

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
1	A	0.27	0/7829	0.52	3/10541 (0.0%)
1	B	0.28	0/7882	0.53	4/10617 (0.0%)
1	D	0.26	0/7880	0.48	0/10609
1	E	0.26	0/7851	0.48	0/10574
2	C	0.30	0/953	0.64	1/1280 (0.1%)
2	F	0.25	0/953	0.47	0/1280
All	All	0.27	0/33348	0.51	8/44901 (0.0%)

There are no bond length outliers.

All (8) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	956	PRO	CA-N-CD	-9.41	98.32	111.50
1	A	758	LEU	CA-CB-CG	6.46	130.15	115.30
1	B	781	LEU	CA-CB-CG	5.78	128.60	115.30
1	B	761	LEU	CA-CB-CG	5.47	127.87	115.30
1	B	866	MET	CA-CB-CG	5.45	122.56	113.30
2	C	10	ASP	CB-CG-OD1	5.45	123.20	118.30
1	A	1000	LEU	CA-CB-CG	5.16	127.18	115.30
1	A	363	LEU	CA-CB-CG	5.08	126.99	115.30

There are no chirality outliers.

There are no planarity outliers.

### 5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	7655	0	7487	253	0
1	B	7706	0	7544	243	0
1	D	7705	0	7542	227	0
1	E	7677	0	7525	206	0
2	C	939	0	919	54	0
2	F	939	0	919	22	0
All	All	32621	0	31936	980	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 15.

All (980) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:724:LYS:HB2	1:E:760:ARG:HB3	1.57	0.87
1:A:309:ILE:HD11	1:A:377:GLN:HG3	1.58	0.85
1:E:395:CYS:SG	1:E:396:MET:N	2.52	0.81
1:D:247:ARG:HD2	1:D:268:ILE:HD11	1.66	0.78
1:D:250:PRO:HA	1:D:285:ARG:HH22	1.48	0.78
2:C:64:LYS:HA	2:C:217:GLU:HG3	1.66	0.78
2:C:25:ALA:HB1	2:C:63:VAL:HG21	1.67	0.77
1:D:691:ILE:HD11	1:D:716:ALA:HA	1.66	0.77
1:D:30:ILE:HD11	1:D:293:LEU:HA	1.68	0.76
1:B:971:ALA:HA	1:B:1005:ILE:HD13	1.66	0.76
2:C:72:TRP:O	2:C:76:THR:OG1	2.03	0.76
1:D:447:ARG:HH12	1:D:449:GLU:HB3	1.51	0.75
1:A:1001:MET:SD	1:A:1002:ASN:ND2	2.61	0.73
1:B:759:GLU:HG2	2:C:42:ARG:HH21	1.53	0.73
1:E:973:ASN:OD1	1:E:975:HIS:ND1	2.21	0.73
1:A:214:VAL:HG22	1:A:244:PHE:HB2	1.69	0.73
1:D:60:TRP:HA	1:D:63:VAL:HG12	1.71	0.72
1:A:420:VAL:HA	1:A:423:LYS:HG2	1.71	0.72
1:D:476:ILE:HD12	1:D:477:ASN:H	1.54	0.72
1:A:724:LYS:HB2	1:A:760:ARG:HB3	1.71	0.72
1:A:831:LYS:HG3	1:A:834:GLN:HG2	1.71	0.72
1:B:804:TYR:O	1:B:808:ILE:HD12	1.87	0.72
1:A:588:LEU:HD21	1:A:612:ILE:HD13	1.71	0.71
1:B:967:LEU:HD13	1:B:970:ILE:HD11	1.73	0.71
1:D:326:ARG:HD2	1:D:591:ASN:HD22	1.54	0.71
1:D:627:ARG:NH2	1:D:672:SER:OG	2.24	0.71
1:A:442:LEU:HD21	1:A:450:GLU:HB2	1.73	0.70
1:A:984:LEU:HD21	1:A:1000:LEU:HB3	1.73	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:310:ASP:OD1	1:E:380:ARG:NH1	2.25	0.70
1:E:94:VAL:HG23	1:E:95:LYS:HG2	1.74	0.69
1:A:47:GLY:O	1:A:133:ASN:ND2	2.25	0.69
1:A:568:GLU:OE1	1:A:622:LYS:NZ	2.22	0.69
1:B:620:ILE:HG21	1:B:667:LEU:HD21	1.75	0.69
1:A:364:LYS:O	1:A:370:ARG:NH2	2.26	0.69
1:A:780:VAL:HG11	1:A:819:ARG:HB3	1.75	0.69
1:B:425:ILE:HA	1:B:438:LYS:HD2	1.75	0.69
1:B:721:TYR:O	1:B:760:ARG:NH1	2.25	0.68
1:B:749:LEU:HA	1:B:753:LYS:HE2	1.75	0.68
1:D:80:SER:OG	1:D:82:ASP:OD1	2.09	0.68
1:D:668:GLU:OE2	1:D:760:ARG:NH1	2.26	0.68
1:D:303:THR:OG1	1:D:304:LYS:N	2.27	0.68
1:D:831:LYS:HB2	1:D:834:GLN:HG2	1.76	0.68
1:D:622:LYS:HE2	1:D:626:GLU:HG3	1.76	0.68
1:E:342:VAL:HB	1:E:586:LEU:HD12	1.76	0.68
1:A:359:ARG:NH2	1:A:369:GLU:OE1	2.27	0.67
1:A:732:GLY:O	1:A:736:ILE:HG12	1.94	0.67
1:B:28:GLU:OE1	1:B:28:GLU:N	2.27	0.67
1:B:117:ILE:O	1:B:121:ILE:HG12	1.95	0.67
1:B:396:MET:SD	1:B:397:ALA:N	2.66	0.67
1:B:921:PHE:HB2	1:B:943:PHE:HB3	1.76	0.67
1:D:946:PRO:HB3	1:D:976:MET:HB3	1.76	0.67
1:E:119:ASP:OD1	1:E:119:ASP:N	2.28	0.67
1:B:153:SER:OG	1:B:175:ARG:NH1	2.28	0.67
1:B:342:VAL:HG11	1:B:587:ARG:HG2	1.76	0.67
1:B:973:ASN:OD1	1:B:975:HIS:ND1	2.28	0.67
1:E:519:MET:SD	1:E:519:MET:N	2.67	0.67
1:B:666:ASN:OD1	1:B:669:ARG:NH2	2.29	0.66
1:A:912:TYR:O	1:A:915:THR:OG1	2.13	0.66
1:D:539:TYR:HB3	1:D:542:LEU:HD13	1.77	0.66
1:E:768:PRO:HG2	1:E:771:ILE:HD13	1.78	0.66
1:D:930:MET:O	1:D:940:TYR:OH	2.14	0.66
1:E:327:LYS:HA	1:E:330:LEU:HD23	1.78	0.66
1:B:684:ILE:O	1:B:688:LEU:HD12	1.96	0.66
2:F:27:ALA:HA	2:F:63:VAL:HG12	1.77	0.66
1:D:647:MET:HB3	1:D:678:PHE:HA	1.77	0.65
1:E:606:HIS:HB2	2:F:205:GLU:HG3	1.78	0.65
1:D:863:ASN:O	1:D:867:ASN:ND2	2.30	0.65
1:B:688:LEU:HA	1:B:691:ILE:HG22	1.77	0.65
1:D:591:ASN:OD1	1:D:611:TYR:OH	2.14	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:201:SER:O	1:A:205:LYS:HG2	1.97	0.65
1:B:160:ASN:O	1:B:160:ASN:ND2	2.28	0.65
1:D:324:TYR:OH	1:D:590:ASP:OD1	2.14	0.65
1:E:721:TYR:O	1:E:760:ARG:NH1	2.30	0.65
1:B:777:ASP:O	1:B:781:LEU:HD22	1.96	0.64
1:A:338:TYR:CE2	1:A:357:MET:HB2	2.33	0.64
1:D:839:PHE:HA	1:D:853:LEU:HD21	1.78	0.64
1:E:325:ILE:HD11	1:E:329:ASP:HB2	1.80	0.64
1:A:802:ARG:H	1:A:802:ARG:HD3	1.63	0.64
1:B:744:PHE:HD2	1:B:754:ARG:HH21	1.45	0.64
1:E:508:THR:HG23	1:E:511:PHE:H	1.63	0.64
1:A:551:LEU:O	1:A:555:THR:OG1	2.14	0.64
1:A:799:LEU:HD23	1:A:802:ARG:HH22	1.62	0.64
1:B:124:MET:HE1	1:B:293:LEU:HB3	1.78	0.64
1:E:537:LYS:HA	1:E:540:LYS:HE2	1.80	0.64
1:D:684:ILE:HG21	1:D:726:VAL:HG21	1.80	0.64
1:B:943:PHE:HZ	1:B:962:TYR:HH	1.45	0.64
1:D:775:ILE:HG21	1:D:808:ILE:HD11	1.79	0.64
1:B:348:ARG:NH2	1:B:351:ASN:O	2.31	0.63
1:D:737:VAL:HG22	1:D:758:LEU:HD11	1.80	0.63
1:A:755:TYR:CZ	1:A:807:LEU:HD23	2.33	0.63
1:B:939:GLN:HG2	1:B:943:PHE:HE1	1.64	0.63
1:A:515:ILE:HD12	1:A:516:GLU:N	2.13	0.63
1:E:320:PHE:HZ	1:E:384:LEU:HD12	1.63	0.63
1:B:791:TYR:O	1:B:833:LYS:NZ	2.28	0.63
1:A:181:GLU:OE2	1:A:182:ASN:ND2	2.32	0.63
1:A:750:ASP:HB2	1:A:753:LYS:HG2	1.81	0.63
1:B:364:LYS:NZ	1:B:394:ILE:O	2.30	0.62
1:B:838:LEU:HD12	1:B:845:LEU:HD11	1.79	0.62
1:D:115:ASN:OD1	1:D:118:HIS:ND1	2.31	0.62
1:D:962:TYR:HB3	1:D:966:LEU:HD21	1.81	0.62
1:D:237:LYS:HE3	1:D:238:ASP:HB3	1.82	0.62
1:E:105:LYS:HA	1:E:178:PHE:HD2	1.65	0.62
1:A:163:SER:OG	1:A:164:SER:N	2.31	0.62
1:B:282:TYR:HD1	1:B:285:ARG:HH12	1.45	0.62
1:A:310:ASP:OD1	1:A:380:ARG:NH1	2.32	0.61
1:A:367:CYS:HA	1:A:370:ARG:HG2	1.82	0.61
1:A:436:TYR:OH	1:A:477:ASN:ND2	2.33	0.61
1:B:422:LYS:HA	1:B:425:ILE:HD12	1.82	0.61
1:E:554:ASP:OD2	1:E:591:ASN:ND2	2.33	0.61
1:D:509:ASP:O	1:D:513:ALA:N	2.33	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:980:VAL:HA	1:D:983:VAL:HG12	1.81	0.61
1:D:838:LEU:HD11	1:D:845:LEU:HD21	1.82	0.61
1:B:744:PHE:CE2	1:B:749:LEU:HB2	2.36	0.61
1:A:838:LEU:HD11	1:A:845:LEU:HD21	1.83	0.61
1:E:151:VAL:HG22	1:E:167:LEU:HD22	1.83	0.61
1:B:691:ILE:HD11	1:B:716:ALA:HA	1.83	0.61
1:D:421:MET:HA	1:D:424:PHE:HB2	1.83	0.61
1:E:918:ILE:HD11	1:E:966:LEU:HD11	1.83	0.61
1:B:701:ALA:O	1:B:702:ASN:ND2	2.34	0.61
1:E:870:ARG:HG2	2:F:52:ILE:HD13	1.81	0.61
1:A:304:LYS:HG2	1:A:307:GLU:HG3	1.82	0.61
1:A:820:LEU:O	1:A:824:THR:OG1	2.16	0.61
1:A:800:TYR:H	1:A:802:ARG:NH1	1.98	0.60
1:D:476:ILE:HD12	1:D:477:ASN:N	2.16	0.60
1:E:80:SER:N	1:E:83:GLU:OE1	2.34	0.60
1:E:361:PHE:HA	1:E:364:LYS:HB3	1.83	0.60
1:B:800:TYR:H	1:B:802:ARG:HH12	1.48	0.60
1:D:613:ARG:NH1	1:D:658:HIS:O	2.34	0.60
1:D:947:GLU:HB3	1:D:975:HIS:HE1	1.67	0.60
1:E:829:GLN:HE21	1:E:832:GLN:HE22	1.49	0.60
1:A:439:ALA:HB2	1:A:454:LEU:HD23	1.84	0.60
1:A:338:TYR:OH	1:A:351:ASN:ND2	2.35	0.60
1:A:716:ALA:O	1:A:720:LEU:HG	2.02	0.60
1:E:254:GLU:N	1:E:254:GLU:OE2	2.34	0.60
1:E:348:ARG:NH2	1:E:351:ASN:OD1	2.33	0.60
1:B:498:LEU:HD21	2:C:23:PHE:HE2	1.67	0.59
2:C:172:GLU:HB2	2:C:196:PRO:HA	1.84	0.59
2:F:225:ASP:HB2	2:F:228:THR:HG22	1.84	0.59
1:D:247:ARG:NH1	1:D:270:ASP:OD2	2.34	0.59
1:A:56:TYR:CZ	1:A:135:ASP:HB3	2.36	0.59
1:D:323:GLN:NE2	1:D:597:GLU:O	2.34	0.59
1:A:995:ARG:O	1:A:998:GLU:HG3	2.03	0.59
1:E:921:PHE:HB2	1:E:943:PHE:HB3	1.84	0.59
1:A:998:GLU:O	1:A:1002:ASN:ND2	2.25	0.59
1:A:85:LEU:HD12	1:A:187:GLU:HA	1.85	0.59
1:A:118:HIS:O	1:A:122:LEU:HG	2.02	0.59
1:A:363:LEU:HB3	1:A:381:PHE:HE2	1.68	0.59
1:A:553:ASP:OD1	1:A:554:ASP:N	2.35	0.59
1:B:310:ASP:HA	1:B:380:ARG:HH21	1.67	0.59
1:E:984:LEU:HD21	1:E:999:ILE:HG22	1.84	0.59
1:B:313:TYR:O	1:B:317:SER:OG	2.14	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:776:ASP:OD2	1:E:819:ARG:NH2	2.36	0.59
1:A:938:ASP:HB2	1:A:958:TRP:HH2	1.68	0.58
1:B:341:GLU:OE2	1:B:345:THR:OG1	2.20	0.58
2:C:194:GLN:HE22	2:C:196:PRO:HB3	1.67	0.58
2:F:172:GLU:HG3	2:F:196:PRO:HA	1.85	0.58
1:A:976:MET:SD	1:A:976:MET:N	2.76	0.58
1:B:579:SER:OG	1:B:581:ASP:OD1	2.21	0.58
1:B:744:PHE:HZ	1:B:748:ASP:HB2	1.69	0.58
1:B:771:ILE:HA	1:B:774:ILE:HG12	1.85	0.58
1:E:69:GLU:HG2	1:E:91:PHE:HE2	1.68	0.58
1:E:228:LEU:O	1:E:232:VAL:HG13	2.03	0.58
1:A:533:PHE:HA	1:A:536:GLN:HG2	1.85	0.58
1:A:707:VAL:O	1:A:710:THR:OG1	2.19	0.58
1:A:996:TYR:HA	1:A:999:ILE:HD12	1.86	0.58
2:C:14:LYS:HA	2:C:22:VAL:HG23	1.85	0.58
1:D:780:VAL:HG11	1:D:819:ARG:HB3	1.84	0.58
1:D:367:CYS:HA	1:D:370:ARG:HG2	1.85	0.58
1:A:313:TYR:HA	1:A:384:LEU:HD11	1.84	0.58
1:D:47:GLY:O	1:D:133:ASN:ND2	2.36	0.58
1:D:749:LEU:HD21	1:D:754:ARG:HG3	1.86	0.58
1:E:338:TYR:HA	1:E:348:ARG:HA	1.85	0.58
1:E:606:HIS:N	2:F:206:MET:O	2.37	0.58
1:D:92:TYR:HE1	1:D:97:GLU:HG2	1.69	0.58
1:D:543:GLU:OE1	1:D:543:GLU:N	2.37	0.58
1:D:827:LEU:HD13	1:D:835:ILE:HG12	1.86	0.58
1:E:534:GLU:OE1	1:E:538:LYS:NZ	2.36	0.58
1:E:579:SER:OG	1:E:581:ASP:OD1	2.21	0.57
1:B:120:LYS:HD2	1:B:290:MET:HB3	1.84	0.57
1:B:839:PHE:HA	1:B:853:LEU:HD21	1.85	0.57
1:B:854:LEU:HA	1:B:857:LYS:HB2	1.86	0.57
1:D:919:TRP:HB3	1:D:924:GLU:HB2	1.87	0.57
1:E:735:LYS:HZ1	1:E:739:ALA:HB2	1.69	0.57
1:D:44:PHE:CG	1:D:121:ILE:HD11	2.40	0.57
1:A:724:LYS:HD2	1:A:760:ARG:HG2	1.86	0.57
1:A:863:ASN:O	1:A:867:ASN:ND2	2.38	0.57
1:B:604:SER:OG	1:B:604:SER:O	2.20	0.57
1:B:627:ARG:HH22	1:B:645:PHE:HB3	1.69	0.57
1:D:967:LEU:HD21	1:D:999:ILE:HG23	1.87	0.57
1:A:776:ASP:OD2	1:A:819:ARG:NH2	2.37	0.57
1:E:253:ILE:HD12	1:E:258:LEU:HB2	1.85	0.57
1:A:827:LEU:HD11	1:A:838:LEU:HD23	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:348:ARG:NH2	1:E:351:ASN:O	2.36	0.57
1:B:151:VAL:HG12	1:B:167:LEU:HD23	1.87	0.57
1:D:588:LEU:HD11	1:D:612:ILE:HD13	1.86	0.57
1:E:132:THR:HB	1:E:171:HIS:HD2	1.69	0.57
1:A:748:ASP:OD1	1:A:748:ASP:N	2.29	0.56
1:E:780:VAL:HG22	1:E:820:LEU:HG	1.87	0.56
1:B:613:ARG:NE	1:B:663:ASP:OD2	2.36	0.56
1:B:926:ASN:OD1	1:B:926:ASN:N	2.37	0.56
1:E:791:TYR:O	1:E:833:LYS:NZ	2.37	0.56
1:A:613:ARG:NH1	1:A:658:HIS:O	2.38	0.56
2:C:208:LEU:HD12	2:C:208:LEU:H	1.71	0.56
1:D:724:LYS:HB2	1:D:760:ARG:HB3	1.87	0.56
1:D:46:VAL:HA	1:D:216:ILE:HG22	1.86	0.56
1:E:348:ARG:NH1	1:E:358:GLU:OE2	2.38	0.56
1:D:310:ASP:OD1	1:D:380:ARG:NH1	2.38	0.56
1:D:957:SER:HA	1:D:960:LYS:HE3	1.87	0.56
1:A:429:SER:HB2	1:A:435:ASP:OD1	2.04	0.56
1:B:892:ARG:HD2	1:B:913:MET:SD	2.45	0.56
1:B:699:PHE:HD1	1:B:699:PHE:O	1.88	0.56
1:A:770:SER:O	1:A:774:ILE:HD12	2.05	0.56
1:B:205:LYS:HD3	1:B:231:TRP:CE2	2.41	0.56
1:A:170:VAL:HG11	1:A:204:MET:HE2	1.88	0.56
2:C:219:LYS:N	2:C:219:LYS:HE2	2.21	0.56
1:A:863:ASN:ND2	1:A:866:MET:SD	2.78	0.56
1:B:554:ASP:OD1	1:B:587:ARG:NH2	2.39	0.55
1:B:804:TYR:O	1:B:807:LEU:HG	2.06	0.55
2:C:20:LYS:NZ	2:C:69:ASP:OD2	2.39	0.55
1:A:24:ASN:O	1:A:28:GLU:HG2	2.07	0.55
1:E:448:TRP:HB2	1:E:507:PHE:HZ	1.71	0.55
1:E:329:ASP:HB3	1:E:541:ILE:HD12	1.87	0.55
1:A:28:GLU:O	1:A:32:GLU:HG2	2.06	0.55
1:A:771:ILE:HA	1:A:774:ILE:HD12	1.89	0.55
1:B:842:LEU:HA	1:B:845:LEU:HD13	1.89	0.55
1:A:446:GLY:HA3	1:A:708:PHE:HB2	1.88	0.55
2:C:228:THR:HG22	2:C:230:GLU:HG3	1.88	0.55
1:D:540:LYS:HA	1:D:540:LYS:HE2	1.88	0.54
1:D:436:TYR:OH	1:D:477:ASN:ND2	2.40	0.54
1:D:772:ILE:HG23	1:D:808:ILE:HD12	1.88	0.54
1:E:802:ARG:HB3	1:E:840:LYS:HB3	1.88	0.54
1:A:282:TYR:HA	1:A:285:ARG:HD2	1.89	0.54
1:A:767:LEU:HB2	1:A:771:ILE:HB	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:997:LEU:O	1:A:1001:MET:HG3	2.06	0.54
1:E:735:LYS:O	1:E:735:LYS:NZ	2.32	0.54
1:A:432:ILE:HA	1:A:435:ASP:OD2	2.08	0.54
1:A:778:PHE:HE2	1:A:804:TYR:HE2	1.56	0.54
1:A:23:ASP:OD1	1:A:24:ASN:N	2.40	0.54
1:A:568:GLU:HA	1:A:571:GLU:HG2	1.90	0.54
1:E:59:TRP:HZ3	1:E:62:LEU:HD23	1.71	0.54
1:A:398:LYS:HE3	1:A:399:ASP:HB2	1.89	0.54
1:B:744:PHE:HZ	1:B:749:LEU:H	1.56	0.54
1:B:428:GLN:NE2	1:B:429:SER:O	2.40	0.54
1:B:648:GLU:HG3	1:B:650:TYR:H	1.72	0.54
1:B:880:GLU:O	1:B:883:GLU:HG3	2.08	0.54
1:E:866:MET:SD	1:E:866:MET:N	2.80	0.54
1:E:881:HIS:HA	1:E:884:LEU:HD23	1.90	0.54
1:B:721:TYR:HB2	1:B:757:TRP:CZ2	2.43	0.54
1:E:373:LEU:HD12	1:E:378:TYR:CD1	2.43	0.54
1:A:35:GLU:OE1	1:A:38:ARG:NH1	2.40	0.53
1:A:939:GLN:HB2	1:A:943:PHE:CZ	2.43	0.53
1:D:29:CYS:O	1:D:33:ILE:HG12	2.08	0.53
1:E:208:ILE:HG12	1:E:213:ILE:HG13	1.89	0.53
1:E:749:LEU:HD22	1:E:753:LYS:HB3	1.90	0.53
1:A:358:GLU:HA	1:A:396:MET:HE1	1.89	0.53
1:B:755:TYR:HE1	1:B:807:LEU:HD23	1.73	0.53
1:B:862:ILE:O	1:B:865:LEU:N	2.40	0.53
1:B:976:MET:SD	1:B:976:MET:N	2.81	0.53
1:D:243:PRO:HG2	1:D:266:LEU:HD12	1.90	0.53
1:E:551:LEU:O	1:E:555:THR:OG1	2.23	0.53
1:E:897:ILE:O	1:E:903:GLY:N	2.42	0.53
1:B:452:TYR:OH	1:B:518:GLU:OE1	2.21	0.53
1:B:915:THR:O	1:B:918:ILE:HG13	2.08	0.53
2:F:16:LYS:NZ	2:F:197:ASN:OD1	2.41	0.53
1:A:139:ASP:HA	1:A:142:CYS:SG	2.48	0.53
1:B:53:LEU:HD23	1:B:115:ASN:HD22	1.72	0.53
1:B:727:LYS:NZ	1:B:764:CYS:O	2.35	0.53
2:C:20:LYS:NZ	2:C:72:TRP:HB2	2.22	0.53
1:A:681:GLN:O	1:A:684:ILE:HG22	2.09	0.53
1:A:913:MET:HE1	1:A:940:TYR:HB2	1.91	0.53
1:B:489:VAL:HG21	1:B:512:LEU:HD11	1.89	0.53
1:B:1002:ASN:OD1	1:B:1003:TYR:N	2.41	0.53
1:D:476:ILE:O	1:D:480:ARG:HD2	2.09	0.53
1:B:436:TYR:CE2	1:B:599:CYS:HB2	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:483:GLN:O	1:B:487:GLN:HG2	2.09	0.53
1:B:889:LEU:O	1:B:892:ARG:HG3	2.09	0.53
1:D:414:TYR:HA	1:D:657:ARG:HH12	1.73	0.53
1:A:668:GLU:OE2	1:A:725:TYR:OH	2.25	0.53
1:B:862:ILE:O	1:B:865:LEU:HB2	2.09	0.53
1:E:248:THR:O	1:E:285:ARG:NH1	2.42	0.53
1:A:160:ASN:ND2	1:A:160:ASN:O	2.41	0.53
1:B:936:MET:SD	1:B:936:MET:N	2.82	0.53
1:D:130:ILE:HD12	1:D:168:LEU:HD12	1.91	0.53
1:A:802:ARG:HH11	1:A:803:ASP:H	1.57	0.52
1:B:170:VAL:HG11	1:B:204:MET:SD	2.49	0.52
1:B:583:VAL:O	1:B:587:ARG:HG3	2.09	0.52
1:B:987:ARG:HD3	1:B:991:SER:HB3	1.91	0.52
1:E:845:LEU:O	1:E:850:LYS:NZ	2.43	0.52
1:A:37:SER:HB2	1:A:42:LEU:HD22	1.90	0.52
1:A:749:LEU:HD12	1:A:753:LYS:HB2	1.90	0.52
1:A:562:THR:HG23	1:A:618:LEU:HD13	1.90	0.52
1:B:783:ALA:HA	1:B:786:HIS:CE1	2.45	0.52
1:E:681:GLN:O	1:E:684:ILE:HG13	2.09	0.52
1:A:30:ILE:HG13	1:A:293:LEU:HD22	1.90	0.52
1:B:491:GLN:HB2	2:C:204:PHE:CE2	2.43	0.52
1:B:769:LYS:HA	1:B:772:ILE:HD12	1.91	0.52
1:D:116:PRO:O	1:D:120:LYS:HG2	2.09	0.52
1:E:82:ASP:OD1	1:E:83:GLU:N	2.42	0.52
1:D:610:GLN:HE21	1:D:614:ASN:HD21	1.58	0.52
1:E:801:SER:HA	1:E:804:TYR:HD2	1.75	0.52
1:A:945:ASP:OD1	1:A:949:PHE:N	2.42	0.52
1:B:996:TYR:O	1:B:1000:LEU:HG	2.10	0.52
1:D:51:SER:OG	1:D:135:ASP:OD2	2.27	0.52
1:E:337:ASP:HA	1:E:350:LYS:HB3	1.91	0.52
1:E:341:GLU:OE2	1:E:345:THR:OG1	2.27	0.52
1:E:616:MET:HB3	1:E:659:PHE:CZ	2.45	0.52
1:A:805:GLY:HA3	1:A:844:LEU:HD21	1.92	0.52
1:B:306:ASP:O	1:B:377:GLN:NE2	2.43	0.52
1:B:376:LYS:HG3	1:B:377:GLN:N	2.25	0.52
1:D:811:PHE:O	1:D:812:GLU:HG3	2.10	0.52
1:E:505:LYS:NZ	1:E:507:PHE:O	2.29	0.52
1:A:580:SER:HA	1:A:583:VAL:HG12	1.91	0.52
1:A:832:GLN:O	1:A:832:GLN:NE2	2.42	0.52
1:E:373:LEU:HD12	1:E:378:TYR:HD1	1.75	0.52
1:A:802:ARG:HB3	1:A:840:LYS:HB3	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:205:LYS:HD2	1:D:231:TRP:CE2	2.45	0.51
1:D:519:MET:HE3	1:D:519:MET:O	2.10	0.51
1:E:427:GLU:O	1:E:438:LYS:NZ	2.43	0.51
1:A:224:ASN:O	1:A:228:LEU:HD23	2.11	0.51
1:D:112:LYS:HG3	1:D:113:PRO:HD2	1.91	0.51
1:A:291:ASP:HA	1:A:294:ILE:HG12	1.93	0.51
1:A:800:TYR:H	1:A:802:ARG:CZ	2.22	0.51
1:D:320:PHE:HE1	1:D:387:PHE:HB2	1.76	0.51
1:E:323:GLN:NE2	1:E:597:GLU:OE1	2.44	0.51
1:E:674:ASP:OD1	1:E:674:ASP:N	2.39	0.51
1:E:722:PHE:O	1:E:722:PHE:HD1	1.93	0.51
1:A:817:SER:HB2	1:A:820:LEU:HB2	1.92	0.51
1:B:982:GLU:HA	1:B:985:LYS:HE2	1.92	0.51
2:C:34:GLN:HE21	2:C:57:LYS:HB2	1.76	0.51
2:C:68:PHE:HD2	2:C:73:LEU:HD23	1.75	0.51
1:E:816:ILE:HD12	1:E:846:SER:HA	1.93	0.51
1:A:23:ASP:HB3	1:A:26:VAL:HG22	1.93	0.51
1:A:135:ASP:O	1:A:169:LYS:NZ	2.28	0.51
1:A:839:PHE:HA	1:A:853:LEU:HD21	1.93	0.51
1:A:889:LEU:O	1:A:893:LYS:HG2	2.10	0.51
1:B:881:HIS:O	1:B:885:ILE:HG12	2.10	0.51
1:A:713:ILE:HG13	1:A:717:LYS:HD3	1.92	0.51
1:A:731:GLU:O	1:A:735:LYS:HG2	2.11	0.51
1:E:147:LYS:H	1:E:147:LYS:HD2	1.76	0.51
1:A:721:TYR:HB2	1:A:757:TRP:CE2	2.46	0.51
1:B:495:LEU:HD11	2:C:218:ILE:HD13	1.92	0.51
1:D:92:TYR:CE1	1:D:97:GLU:HG2	2.45	0.51
1:E:654:ASN:N	1:E:654:ASN:OD1	2.41	0.51
1:A:917:GLY:HA3	1:A:943:PHE:HD2	1.76	0.51
1:B:863:ASN:HA	1:B:866:MET:SD	2.51	0.51
1:B:984:LEU:HG	1:B:1000:LEU:HB3	1.92	0.51
2:C:204:PHE:HD1	2:C:205:GLU:N	2.09	0.51
1:D:315:LYS:HZ3	1:D:334:PHE:HD1	1.57	0.51
1:E:467:ASN:OD1	1:E:468:GLY:N	2.44	0.51
1:E:962:TYR:HB3	1:E:966:LEU:HB3	1.93	0.51
1:B:786:HIS:CD2	1:B:834:GLN:HG2	2.46	0.50
1:D:90:ILE:O	1:D:94:VAL:HG12	2.11	0.50
1:E:479:TYR:HD2	1:E:524:ILE:HD12	1.76	0.50
1:E:827:LEU:HD22	1:E:838:LEU:HD12	1.93	0.50
2:C:26:GLU:OE1	2:C:64:LYS:NZ	2.37	0.50
1:D:304:LYS:HG2	1:D:307:GLU:HG3	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:54:SER:HB2	1:E:115:ASN:OD1	2.11	0.50
2:C:16:LYS:HZ1	2:C:172:GLU:HB3	1.76	0.50
1:E:768:PRO:HD2	1:E:771:ILE:HB	1.93	0.50
1:B:751:ILE:HD11	1:B:804:TYR:HE2	1.76	0.50
1:B:750:ASP:OD2	1:B:796:SER:N	2.43	0.50
1:B:758:LEU:O	1:B:761:LEU:HD12	2.12	0.50
1:D:916:PHE:HB3	1:D:930:MET:HE1	1.93	0.50
1:E:62:LEU:HD13	1:E:107:PHE:CG	2.46	0.50
1:E:419:ASP:OD1	1:E:419:ASP:N	2.45	0.50
1:A:205:LYS:HE2	1:A:231:TRP:CE2	2.46	0.50
1:A:309:ILE:HD11	1:A:377:GLN:CG	2.37	0.50
1:A:624:GLU:HG2	1:A:671:CYS:HB3	1.93	0.50
1:D:447:ARG:HG2	1:D:705:ASN:HD21	1.75	0.50
1:B:214:VAL:HG22	1:B:244:PHE:HB2	1.92	0.50
1:E:60:TRP:CE2	1:E:61:ARG:HD2	2.46	0.50
1:A:206:THR:HG21	1:B:206:THR:HG21	1.93	0.50
1:A:666:ASN:OD1	1:A:669:ARG:NH2	2.43	0.50
1:A:864:ASP:HA	1:A:867:ASN:HD21	1.76	0.50
1:D:827:LEU:HD11	1:D:838:LEU:HD23	1.93	0.50
1:D:974:LYS:HA	1:D:977:LYS:HD3	1.92	0.50
1:E:210:THR:HG23	1:E:211:HIS:ND1	2.27	0.50
1:E:433:GLU:OE1	1:E:433:GLU:N	2.43	0.50
2:F:231:MET:SD	2:F:231:MET:N	2.85	0.50
1:B:375:LYS:HA	1:B:378:TYR:HB2	1.93	0.50
1:B:744:PHE:CZ	1:B:748:ASP:HB2	2.47	0.50
1:B:744:PHE:HE2	1:B:749:LEU:HB2	1.77	0.50
1:D:305:ASP:O	1:D:309:ILE:HG22	2.11	0.50
1:A:720:LEU:HB2	1:A:757:TRP:CD1	2.47	0.49
1:A:759:GLU:O	1:A:763:LYS:HG2	2.12	0.49
1:D:82:ASP:OD1	1:D:83:GLU:N	2.45	0.49
2:F:199:SER:OG	2:F:221:GLU:OE2	2.30	0.49
1:A:728:LEU:HD12	1:A:729:SER:N	2.27	0.49
1:B:996:TYR:HA	1:B:999:ILE:HG22	1.94	0.49
1:D:123:ALA:HA	1:D:145:ARG:HH12	1.76	0.49
1:D:522:PHE:HD1	1:D:523:ASN:N	2.09	0.49
1:D:567:SER:O	1:D:571:GLU:HG2	2.12	0.49
1:D:824:THR:HB	1:D:849:ALA:HB1	1.93	0.49
2:F:173:VAL:HG12	2:F:198:VAL:HG11	1.94	0.49
1:B:655:ILE:HA	1:B:659:PHE:CD1	2.47	0.49
1:B:661:ILE:HD11	1:B:717:LYS:HG2	1.94	0.49
2:C:172:GLU:OE1	2:C:194:GLN:NE2	2.44	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:616:MET:HE2	1:D:619:LEU:HD12	1.94	0.49
1:A:521:ASN:N	1:A:521:ASN:OD1	2.44	0.49
1:B:866:MET:HB2	2:C:52:ILE:HD11	1.94	0.49
2:C:8:THR:O	2:C:8:THR:OG1	2.28	0.49
1:B:24:ASN:O	1:B:27:VAL:N	2.45	0.49
1:B:878:THR:HG23	1:B:881:HIS:HE1	1.78	0.49
1:A:709:TYR:CE1	1:A:713:ILE:HB	2.47	0.49
1:D:769:LYS:HA	1:D:772:ILE:HD12	1.93	0.49
1:D:922:LEU:HD21	1:D:966:LEU:HB2	1.93	0.49
1:A:122:LEU:HD22	1:A:142:CYS:HA	1.94	0.49
1:A:767:LEU:HD21	1:A:811:PHE:CZ	2.48	0.49
1:D:850:LYS:HD2	1:D:854:LEU:HD23	1.94	0.49
1:D:947:GLU:HB3	1:D:975:HIS:CE1	2.48	0.49
1:E:359:ARG:HH12	1:E:363:LEU:HD12	1.78	0.49
1:A:152:ILE:HG22	1:A:157:ASP:HB3	1.94	0.49
1:A:893:LYS:HE2	1:A:933:PHE:CD1	2.47	0.49
1:B:227:MET:HE2	1:B:227:MET:HA	1.95	0.49
2:C:13:PHE:HE1	2:C:198:VAL:HG21	1.77	0.49
1:E:449:GLU:HB2	1:E:511:PHE:HE2	1.77	0.49
1:E:554:ASP:OD1	1:E:554:ASP:N	2.41	0.49
1:A:705:ASN:HD21	1:A:708:PHE:HB3	1.78	0.49
1:B:396:MET:HG3	1:B:399:ASP:H	1.77	0.49
1:D:35:GLU:OE1	1:D:38:ARG:NH1	2.45	0.49
1:D:312:ILE:HB	1:D:316:ILE:HD12	1.95	0.49
1:D:359:ARG:O	1:D:363:LEU:HG	2.12	0.49
1:D:388:PHE:HD2	1:D:393:VAL:HG21	1.77	0.49
1:E:339:HIS:N	1:E:347:VAL:O	2.45	0.49
2:F:13:PHE:O	2:F:22:VAL:N	2.44	0.49
1:B:442:LEU:HD21	1:B:450:GLU:HG3	1.95	0.49
2:C:14:LYS:HZ1	2:C:174:GLU:HB2	1.76	0.49
1:D:661:ILE:HD11	1:D:717:LYS:HB3	1.94	0.49
1:E:551:LEU:HD22	1:E:608:PHE:HB2	1.94	0.49
1:A:960:LYS:NZ	1:A:995:ARG:HB3	2.28	0.48
1:A:975:HIS:HB2	1:A:976:MET:SD	2.53	0.48
1:D:448:TRP:HB2	1:D:485:ILE:HD11	1.95	0.48
1:D:776:ASP:OD1	1:D:819:ARG:NH2	2.45	0.48
1:D:820:LEU:O	1:D:824:THR:OG1	2.28	0.48
1:E:424:PHE:O	1:E:438:LYS:NZ	2.41	0.48
1:E:862:ILE:HD11	1:E:888:TYR:HB2	1.93	0.48
1:A:769:LYS:HA	1:A:772:ILE:HD12	1.94	0.48
1:B:742:PHE:HE1	1:B:774:ILE:HG22	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:799:LEU:HA	1:A:802:ARG:HH22	1.78	0.48
1:B:554:ASP:HA	1:B:587:ARG:HH22	1.78	0.48
1:D:27:VAL:O	1:D:30:ILE:HG22	2.12	0.48
1:D:99:ALA:O	1:D:103:ILE:HG22	2.14	0.48
1:E:206:THR:O	1:E:210:THR:HG22	2.12	0.48
1:E:655:ILE:HG21	1:E:722:PHE:HE2	1.78	0.48
1:A:83:GLU:OE1	1:A:83:GLU:N	2.46	0.48
1:B:808:ILE:HG23	1:B:812:GLU:OE2	2.13	0.48
1:D:229:LEU:HD13	1:D:264:LYS:HG2	1.94	0.48
1:E:360:PHE:HE1	1:E:381:PHE:HD1	1.61	0.48
1:A:884:LEU:O	1:A:887:GLU:HG3	2.13	0.48
1:B:808:ILE:O	1:B:812:GLU:HB2	2.12	0.48
1:A:312:ILE:HD12	1:A:384:LEU:HD12	1.95	0.48
1:A:767:LEU:HD23	1:A:767:LEU:H	1.78	0.48
1:B:230:ASN:HA	1:B:233:ARG:HD3	1.94	0.48
1:B:878:THR:OG1	1:B:880:GLU:OE1	2.20	0.48
1:D:31:LYS:HA	1:D:34:THR:HG22	1.95	0.48
1:D:693:GLU:O	1:D:696:THR:OG1	2.27	0.48
1:E:714:SER:HA	1:E:717:LYS:HE3	1.96	0.48
1:B:980:VAL:O	1:B:984:LEU:HB2	2.13	0.48
2:C:77:GLN:OE1	2:C:77:GLN:N	2.31	0.48
1:E:42:LEU:O	1:E:127:ALA:N	2.39	0.48
1:E:539:TYR:HB3	1:E:542:LEU:HD13	1.96	0.48
1:A:418:TYR:O	1:A:421:MET:HB2	2.14	0.48
1:B:771:ILE:HD12	1:B:772:ILE:N	2.28	0.48
1:E:179:LYS:HG3	1:E:181:GLU:HG2	1.95	0.48
1:E:661:ILE:HD12	1:E:662:ASP:N	2.28	0.48
1:A:290:MET:O	1:A:294:ILE:HG23	2.13	0.48
1:B:456:SER:OG	1:B:478:ARG:NH1	2.46	0.48
1:B:970:ILE:HD13	1:B:1005:ILE:HG12	1.96	0.48
1:E:805:GLY:HA2	1:E:808:ILE:HD12	1.95	0.48
1:A:807:LEU:HA	1:A:810:HIS:ND1	2.28	0.48
1:D:980:VAL:O	1:D:984:LEU:N	2.40	0.48
1:E:395:CYS:SG	1:E:399:ASP:HB3	2.54	0.48
1:A:652:PHE:CD2	1:A:684:ILE:HD11	2.49	0.47
1:A:652:PHE:CD2	1:A:722:PHE:HE1	2.32	0.47
1:B:436:TYR:HE2	1:B:599:CYS:HB2	1.79	0.47
1:D:220:LEU:HD13	1:D:245:PHE:CE2	2.49	0.47
1:E:59:TRP:CZ3	1:E:62:LEU:HD23	2.49	0.47
1:A:222:ASP:OD1	1:A:225:ILE:HG12	2.14	0.47
1:A:250:PRO:HA	1:A:285:ARG:CZ	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:934:ILE:HG12	1:A:944:VAL:HG11	1.96	0.47
1:D:532:PRO:HG3	1:E:148:TYR:CE2	2.49	0.47
1:A:24:ASN:O	1:A:27:VAL:HG12	2.15	0.47
1:A:662:ASP:OD1	1:A:663:ASP:N	2.46	0.47
1:A:721:TYR:HB2	1:A:757:TRP:CZ2	2.49	0.47
1:B:271:ALA:HB1	1:B:285:ARG:HB3	1.96	0.47
1:B:647:MET:SD	1:B:678:PHE:HA	2.55	0.47
2:C:176:ARG:HB2	2:C:192:TYR:HB3	1.96	0.47
1:D:422:LYS:HG3	1:D:445:LEU:HD11	1.96	0.47
1:D:735:LYS:HD2	1:D:735:LYS:O	2.14	0.47
1:E:744:PHE:HE1	1:E:748:ASP:HB2	1.79	0.47
1:A:339:HIS:HB3	1:A:347:VAL:HG12	1.95	0.47
1:A:801:SER:O	1:A:804:TYR:HB2	2.14	0.47
2:C:27:ALA:HA	2:C:63:VAL:HG23	1.95	0.47
1:D:364:LYS:O	1:D:370:ARG:NH2	2.46	0.47
1:A:98:MET:CE	1:A:98:MET:H	2.27	0.47
1:D:324:TYR:CG	1:D:593:ARG:HG2	2.49	0.47
1:A:27:VAL:O	1:A:31:LYS:HG2	2.14	0.47
1:B:366:SER:OG	1:B:367:CYS:N	2.47	0.47
1:B:724:LYS:HB2	1:B:760:ARG:HB3	1.96	0.47
1:B:918:ILE:HG22	1:B:943:PHE:CE2	2.49	0.47
1:A:984:LEU:HD12	1:A:996:TYR:HB3	1.97	0.47
1:B:561:LEU:HD13	1:B:580:SER:HB3	1.96	0.47
1:B:768:PRO:O	1:B:772:ILE:HG13	2.15	0.47
1:D:250:PRO:HA	1:D:285:ARG:NH2	2.24	0.47
1:D:255:ASN:O	1:D:259:ILE:HG13	2.15	0.47
1:D:508:THR:HG23	1:D:511:PHE:H	1.79	0.47
1:D:888:TYR:HD2	1:D:916:PHE:HZ	1.62	0.47
1:E:425:ILE:HA	1:E:438:LYS:HE2	1.96	0.47
1:E:448:TRP:N	1:E:448:TRP:CD1	2.82	0.47
1:E:728:LEU:HD12	1:E:729:SER:H	1.79	0.47
1:A:552:TYR:CE2	1:B:553:ASP:HA	2.50	0.47
1:B:229:LEU:O	1:B:233:ARG:HG3	2.14	0.47
1:D:517:ARG:O	1:D:521:ASN:ND2	2.47	0.47
1:A:255:ASN:OD1	1:A:256:GLU:N	2.47	0.47
2:C:28:GLN:OE1	2:C:64:LYS:HB3	2.14	0.47
1:B:201:SER:O	1:B:205:LYS:HG3	2.14	0.47
1:B:620:ILE:HD13	1:B:667:LEU:HD21	1.96	0.47
2:C:61:LEU:HB2	2:C:220:PHE:CE1	2.50	0.47
1:E:35:GLU:OE2	1:E:35:GLU:HA	2.15	0.47
1:E:205:LYS:HD2	1:E:231:TRP:CE2	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:482:TYR:CG	1:E:519:MET:HG3	2.50	0.47
1:A:938:ASP:HB3	1:A:953:LYS:HD3	1.96	0.46
1:B:655:ILE:O	1:B:659:PHE:HB2	2.16	0.46
1:B:737:VAL:HG11	1:B:771:ILE:HG22	1.96	0.46
1:B:966:LEU:O	1:B:970:ILE:HG13	2.14	0.46
1:B:989:LYS:HB3	1:B:989:LYS:HE2	1.74	0.46
1:D:545:LEU:H	1:D:545:LEU:HD12	1.80	0.46
1:E:245:PHE:HB2	1:E:266:LEU:HD22	1.96	0.46
1:E:337:ASP:HB3	1:E:351:ASN:HB2	1.97	0.46
1:A:27:VAL:O	1:A:30:ILE:HG22	2.15	0.46
1:B:892:ARG:NH2	1:B:936:MET:HG3	2.30	0.46
1:E:366:SER:OG	1:E:367:CYS:N	2.48	0.46
1:E:469:CYS:HA	1:E:535:PHE:HE2	1.80	0.46
1:E:741:LEU:HA	1:E:754:ARG:HD3	1.96	0.46
2:F:12:TYR:HB3	2:F:21:LEU:HD11	1.97	0.46
1:A:532:PRO:HG3	1:B:148:TYR:CE2	2.51	0.46
2:C:20:LYS:HZ1	2:C:72:TRP:HB2	1.80	0.46
1:E:447:ARG:HB3	1:E:450:GLU:HG3	1.97	0.46
1:E:497:LEU:HD21	1:E:503:HIS:HB2	1.96	0.46
1:A:60:TRP:HA	1:A:63:VAL:HG12	1.96	0.46
1:A:662:ASP:HA	1:A:665:LYS:HD3	1.98	0.46
1:B:551:LEU:O	1:B:555:THR:HG23	2.16	0.46
1:D:291:ASP:HA	1:D:294:ILE:HG22	1.96	0.46
1:E:329:ASP:HA	1:E:332:HIS:ND1	2.31	0.46
1:B:179:LYS:HA	1:B:179:LYS:HD3	1.71	0.46
1:B:487:GLN:HG3	2:C:206:MET:HB2	1.97	0.46
1:B:609:HIS:O	1:B:613:ARG:HG2	2.15	0.46
2:C:48:LYS:HB3	2:C:49:PRO:HD3	1.97	0.46
2:C:218:ILE:HD12	2:C:219:LYS:H	1.80	0.46
1:D:655:ILE:HD12	1:D:659:PHE:CG	2.51	0.46
1:D:678:PHE:O	1:D:681:GLN:NE2	2.49	0.46
1:D:775:ILE:HD13	1:D:808:ILE:HD11	1.98	0.46
1:E:609:HIS:ND1	1:E:658:HIS:HD2	2.14	0.46
1:A:206:THR:O	1:A:210:THR:HG22	2.15	0.46
1:B:778:PHE:HA	1:B:781:LEU:HD23	1.97	0.46
2:C:27:ALA:HB3	2:C:175:TYR:CZ	2.51	0.46
1:D:237:LYS:HG3	1:D:238:ASP:OD1	2.15	0.46
1:D:247:ARG:HG2	1:D:270:ASP:HA	1.98	0.46
1:D:984:LEU:HD11	1:D:1005:ILE:HD12	1.97	0.46
1:E:214:VAL:HG22	1:E:244:PHE:HB2	1.96	0.46
2:F:193:ILE:HD12	2:F:234:VAL:HB	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:63:VAL:HG11	1:A:84:TYR:CE1	2.51	0.46
1:A:627:ARG:HH12	1:A:676:ILE:HA	1.81	0.46
1:A:874:ILE:HD13	1:A:881:HIS:HE1	1.81	0.46
1:B:850:LYS:O	1:B:854:LEU:HG	2.16	0.46
2:C:60:ASN:OD1	2:C:61:LEU:N	2.49	0.46
1:E:220:LEU:HG	1:E:245:PHE:HE2	1.81	0.46
1:E:312:ILE:HG21	1:E:360:PHE:HE2	1.81	0.46
1:E:358:GLU:OE1	1:E:358:GLU:N	2.45	0.46
1:A:549:GLN:OE1	1:A:549:GLN:N	2.32	0.46
1:D:479:TYR:HD2	1:D:480:ARG:HE	1.62	0.46
1:E:585:LEU:HD12	1:E:585:LEU:HA	1.81	0.46
1:A:733:LEU:O	1:A:737:VAL:HG13	2.16	0.46
1:E:390:LYS:HG2	1:E:391:ASN:HD22	1.80	0.46
1:A:709:TYR:HD1	1:A:709:TYR:O	1.99	0.45
1:D:435:ASP:HB3	1:D:458:ILE:HD12	1.98	0.45
1:E:115:ASN:HB2	1:E:118:HIS:ND1	2.30	0.45
1:E:927:ASN:HD21	1:E:929:LYS:HD3	1.81	0.45
1:A:395:CYS:SG	1:A:396:MET:N	2.88	0.45
1:A:685:GLU:HB2	1:A:728:LEU:HD13	1.97	0.45
1:A:866:MET:O	1:A:869:ILE:HG13	2.16	0.45
1:B:418:TYR:HD1	1:B:418:TYR:H	1.64	0.45
1:D:155:GLU:O	1:D:158:VAL:HG12	2.16	0.45
1:D:384:LEU:HD12	1:D:384:LEU:H	1.81	0.45
1:D:750:ASP:OD2	1:D:796:SER:OG	2.35	0.45
1:E:54:SER:O	1:E:54:SER:OG	2.31	0.45
2:F:174:GLU:HG2	2:F:194:GLN:HA	1.98	0.45
1:A:563:ASN:ND2	1:B:614:ASN:OD1	2.50	0.45
1:A:727:LYS:HD3	1:A:728:LEU:N	2.30	0.45
1:A:959:LEU:HA	1:A:962:TYR:CD2	2.52	0.45
1:B:732:GLY:O	1:B:736:ILE:HD13	2.15	0.45
1:D:552:TYR:OH	1:E:557:LYS:NZ	2.31	0.45
1:A:45:PHE:HD2	1:A:218:TYR:HE2	1.65	0.45
2:C:72:TRP:HA	2:C:75:MET:SD	2.56	0.45
1:D:155:GLU:OE1	1:D:197:TYR:HA	2.17	0.45
1:D:398:LYS:HE3	1:D:398:LYS:HB3	1.77	0.45
1:D:974:LYS:HB3	1:D:974:LYS:HE3	1.60	0.45
1:A:771:ILE:H	1:A:771:ILE:HD12	1.81	0.45
1:B:418:TYR:HD2	1:B:708:PHE:HZ	1.63	0.45
1:B:497:LEU:HD12	1:B:497:LEU:H	1.82	0.45
1:B:513:ALA:O	1:B:516:GLU:HG3	2.17	0.45
1:D:308:VAL:HG13	1:D:356:TYR:HB2	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:459:ILE:HG23	1:D:471:TYR:HE1	1.82	0.45
1:D:999:ILE:HG22	1:D:1005:ILE:HD11	1.97	0.45
1:E:306:ASP:O	1:E:377:GLN:NE2	2.49	0.45
1:A:341:GLU:OE1	1:A:341:GLU:N	2.50	0.45
1:B:410:ASN:OD1	1:B:410:ASN:N	2.50	0.45
1:D:284:GLU:N	1:D:284:GLU:OE1	2.50	0.45
1:E:831:LYS:HB2	1:E:834:GLN:HB2	1.98	0.45
1:A:86:ARG:O	1:A:90:ILE:HG13	2.17	0.45
1:B:767:LEU:HD13	1:B:811:PHE:CG	2.52	0.45
2:C:13:PHE:CE1	2:C:198:VAL:HG21	2.51	0.45
1:D:480:ARG:HB2	1:D:601:TRP:HD1	1.81	0.45
1:D:920:TYR:OH	1:D:931:GLU:OE2	2.21	0.45
1:E:553:ASP:O	1:E:557:LYS:NZ	2.49	0.45
1:E:796:SER:HA	2:F:223:LEU:HA	1.98	0.45
1:E:842:LEU:HA	1:E:845:LEU:HD12	1.99	0.45
2:F:28:GLN:HG2	2:F:29:THR:OG1	2.17	0.45
1:A:86:ARG:HG2	1:A:90:ILE:HD11	1.99	0.45
1:B:29:CYS:O	1:B:33:ILE:HG22	2.17	0.45
1:B:42:LEU:HD23	1:B:42:LEU:HA	1.84	0.45
1:B:674:ASP:HA	1:B:725:TYR:HE2	1.82	0.45
1:B:727:LYS:HD2	1:B:727:LYS:HA	1.78	0.45
1:B:770:SER:O	1:B:774:ILE:HG12	2.17	0.45
1:D:686:GLU:O	1:D:690:GLY:N	2.43	0.45
1:E:215:PHE:HB2	1:E:245:PHE:HD1	1.82	0.45
1:E:777:ASP:HB3	1:E:819:ARG:NH1	2.31	0.45
1:A:954:PHE:HD2	1:A:979:HIS:CD2	2.34	0.45
1:B:309:ILE:HD13	1:B:309:ILE:HA	1.84	0.45
1:B:869:ILE:HG12	1:B:874:ILE:HB	1.99	0.45
2:C:174:GLU:OE2	2:C:192:TYR:HB2	2.17	0.45
1:D:132:THR:HB	1:D:171:HIS:HD2	1.82	0.45
1:D:228:LEU:O	1:D:232:VAL:HG13	2.17	0.45
1:D:422:LYS:O	1:D:426:GLU:HG2	2.17	0.45
1:D:450:GLU:H	1:D:450:GLU:HG2	1.63	0.45
1:E:418:TYR:O	1:E:422:LYS:HG3	2.16	0.45
1:E:818:LYS:HB2	1:E:818:LYS:HE2	1.70	0.45
1:A:552:TYR:HE2	1:B:553:ASP:HA	1.81	0.45
1:A:819:ARG:HA	1:A:822:GLU:OE1	2.17	0.45
1:D:380:ARG:O	1:D:384:LEU:HD12	2.17	0.45
1:D:674:ASP:OD1	1:D:674:ASP:N	2.50	0.45
1:D:874:ILE:HD11	1:D:878:THR:HG23	1.99	0.45
1:E:473:LEU:HD12	1:E:473:LEU:H	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:678:PHE:HE2	1:E:722:PHE:HE1	1.64	0.45
1:B:173:ASP:OD1	1:B:174:PHE:N	2.47	0.44
1:B:427:GLU:O	1:B:438:LYS:NZ	2.50	0.44
1:B:648:GLU:OE1	1:B:649:TYR:N	2.46	0.44
1:E:602:SER:HA	1:E:605:PHE:CD1	2.52	0.44
1:E:960:LYS:NZ	1:E:995:ARG:HG3	2.32	0.44
1:D:582:ILE:HD13	1:D:582:ILE:HA	1.88	0.44
1:E:423:LYS:O	1:E:427:GLU:HG3	2.17	0.44
1:E:736:ILE:HG13	1:E:737:VAL:N	2.32	0.44
1:E:742:PHE:HE2	1:E:774:ILE:HG23	1.82	0.44
2:F:8:THR:O	2:F:8:THR:OG1	2.25	0.44
1:A:709:TYR:HE1	1:A:713:ILE:HB	1.82	0.44
1:A:755:TYR:O	1:A:758:LEU:HD12	2.18	0.44
1:B:419:ASP:HA	1:B:422:LYS:NZ	2.32	0.44
1:B:752:GLY:HA3	1:B:795:SER:HB2	2.00	0.44
1:B:766:GLU:O	1:B:768:PRO:HD3	2.17	0.44
2:C:70:LEU:HD12	2:C:71:GLU:N	2.31	0.44
1:D:27:VAL:O	1:D:31:LYS:HG2	2.17	0.44
1:D:118:HIS:O	1:D:121:ILE:HG22	2.18	0.44
1:D:478:ARG:NH2	1:D:518:GLU:OE2	2.51	0.44
1:E:41:LYS:HB3	1:E:41:LYS:HE2	1.68	0.44
1:E:229:LEU:HD12	1:E:264:LYS:HB3	1.99	0.44
1:E:655:ILE:O	1:E:659:PHE:HB2	2.17	0.44
1:B:186:LYS:H	1:B:186:LYS:HD3	1.82	0.44
1:B:326:ARG:HG3	1:B:594:PHE:HB2	1.98	0.44
1:B:673:ILE:O	1:B:676:ILE:HG22	2.17	0.44
2:C:77:GLN:H	2:C:77:GLN:CD	2.15	0.44
1:D:316:ILE:HD13	1:D:384:LEU:HD23	1.98	0.44
1:D:785:LYS:HZ2	1:D:793:GLU:HG3	1.81	0.44
1:D:885:ILE:HG23	1:D:916:PHE:CE1	2.52	0.44
1:E:247:ARG:NH2	1:E:249:ASP:HB3	2.32	0.44
1:E:477:ASN:O	1:E:481:ILE:HG12	2.18	0.44
1:A:447:ARG:HB3	1:A:450:GLU:OE2	2.17	0.44
1:A:763:LYS:HA	1:A:763:LYS:HD3	1.76	0.44
1:A:785:LYS:NZ	1:A:788:ASP:OD1	2.50	0.44
1:A:960:LYS:HA	1:A:995:ARG:NH1	2.33	0.44
1:A:997:LEU:HA	1:A:1000:LEU:HG	2.00	0.44
1:B:168:LEU:HD23	1:B:168:LEU:HA	1.85	0.44
1:B:396:MET:SD	1:B:398:LYS:HG2	2.58	0.44
1:B:423:LYS:HA	1:B:426:GLU:HG2	2.00	0.44
1:B:985:LYS:HA	1:B:988:VAL:HG12	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:29:CYS:O	1:E:33:ILE:HG12	2.18	0.44
1:E:491:GLN:HB2	2:F:204:PHE:CZ	2.53	0.44
1:A:883:GLU:O	1:A:886:ILE:HG22	2.17	0.44
1:B:750:ASP:OD1	1:B:753:LYS:HG3	2.18	0.44
1:B:831:LYS:HB2	1:B:834:GLN:HG3	2.00	0.44
1:D:66:TYR:HE1	1:D:103:ILE:HG21	1.82	0.44
1:D:985:LYS:HB2	1:D:989:LYS:HE2	2.00	0.44
1:A:380:ARG:O	1:A:384:LEU:HG	2.17	0.44
1:A:627:ARG:NH1	1:A:676:ILE:HA	2.33	0.44
1:D:937:ASP:OD1	1:D:938:ASP:N	2.50	0.44
1:E:179:LYS:HG3	1:E:181:GLU:H	1.82	0.44
1:E:339:HIS:CE1	1:E:341:GLU:HB3	2.53	0.44
1:E:976:MET:HG2	1:E:980:VAL:HG23	1.99	0.44
1:A:734:GLY:HA2	1:A:737:VAL:HG22	2.00	0.44
1:A:965:LYS:HE3	1:A:965:LYS:HB3	1.64	0.44
2:C:11:VAL:HB	2:C:25:ALA:HB3	2.00	0.44
2:C:14:LYS:HD3	2:C:172:GLU:OE2	2.18	0.44
1:D:559:PHE:CD2	1:E:559:PHE:HB2	2.52	0.44
1:D:913:MET:SD	1:D:939:GLN:NE2	2.91	0.44
1:E:948:ASN:OD1	1:E:948:ASN:N	2.49	0.44
1:B:977:LYS:NZ	1:B:1004:PHE:O	2.51	0.44
1:D:384:LEU:HB3	1:D:388:PHE:CE1	2.53	0.44
1:E:586:LEU:HA	1:E:589:TYR:CE2	2.53	0.44
1:A:210:THR:HG23	1:A:211:HIS:ND1	2.33	0.43
1:A:309:ILE:C	1:A:309:ILE:HD12	2.39	0.43
1:A:937:ASP:HB3	1:A:939:GLN:NE2	2.33	0.43
1:B:364:LYS:HA	1:B:381:PHE:HZ	1.83	0.43
1:B:727:LYS:HZ1	1:B:765:ASN:HA	1.82	0.43
1:B:742:PHE:CZ	1:B:778:PHE:HB2	2.53	0.43
1:E:613:ARG:HA	1:E:659:PHE:CZ	2.53	0.43
1:A:360:PHE:O	1:A:363:LEU:HB2	2.17	0.43
1:B:958:TRP:HB3	1:B:962:TYR:OH	2.19	0.43
1:D:55:ASP:O	1:D:112:LYS:HG2	2.17	0.43
1:D:64:ASP:OD1	1:D:65:LYS:N	2.51	0.43
1:D:447:ARG:NH2	1:D:450:GLU:OE1	2.49	0.43
1:D:801:SER:O	1:D:841:LEU:HD21	2.18	0.43
1:A:817:SER:OG	1:A:844:LEU:O	2.35	0.43
1:A:920:TYR:CE1	1:A:944:VAL:HA	2.54	0.43
1:B:274:LEU:HD12	1:B:274:LEU:HA	1.82	0.43
1:B:949:PHE:CE2	1:B:951:TYR:HA	2.53	0.43
1:E:277:SER:OG	1:E:278:ASN:N	2.50	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:361:PHE:CD1	1:E:364:LYS:HD2	2.52	0.43
1:E:500:PHE:HD1	1:E:502:ARG:HG2	1.84	0.43
1:E:908:SER:OG	1:E:909:SER:N	2.51	0.43
2:C:11:VAL:HG22	2:C:175:TYR:CD1	2.53	0.43
1:D:309:ILE:HA	1:D:312:ILE:HD11	2.00	0.43
1:D:513:ALA:O	1:D:517:ARG:HG2	2.19	0.43
1:A:111:ASP:OD1	1:A:111:ASP:N	2.49	0.43
1:B:364:LYS:HE3	1:B:385:PHE:HE1	1.84	0.43
1:D:246:ILE:HD13	1:D:269:ILE:HB	2.00	0.43
1:A:98:MET:H	1:A:98:MET:HE2	1.83	0.43
1:A:607:GLU:H	1:A:607:GLU:HG2	1.63	0.43
1:A:731:GLU:H	1:A:731:GLU:CD	2.22	0.43
1:A:1000:LEU:HD12	1:A:1001:MET:N	2.33	0.43
1:B:144:LYS:HE3	1:B:144:LYS:HB3	1.85	0.43
1:B:724:LYS:HE3	1:B:763:LYS:HG2	2.00	0.43
1:D:203:LEU:HD12	1:D:203:LEU:HA	1.83	0.43
1:D:338:TYR:CD1	1:D:348:ARG:HA	2.53	0.43
1:D:988:VAL:HG11	1:D:997:LEU:HD13	2.01	0.43
1:A:278:ASN:HB3	1:A:281:ASP:OD1	2.18	0.43
1:A:946:PRO:HB3	1:A:976:MET:SD	2.59	0.43
1:B:258:LEU:O	1:B:262:GLU:HG3	2.19	0.43
1:B:587:ARG:HA	1:B:590:ASP:OD2	2.19	0.43
2:C:40:LYS:HG3	2:C:41:LEU:HG	2.01	0.43
1:D:229:LEU:HA	1:D:232:VAL:HG22	2.00	0.43
1:A:46:VAL:HB	1:A:131:THR:HB	2.00	0.43
1:B:818:LYS:HB2	1:B:818:LYS:HE2	1.65	0.43
2:C:13:PHE:HA	2:C:173:VAL:HG23	2.01	0.43
1:D:647:MET:HG2	1:D:678:PHE:CE2	2.54	0.43
1:D:919:TRP:HE3	1:D:925:ILE:HD11	1.84	0.43
1:E:796:SER:HB3	2:F:223:LEU:HD23	2.00	0.43
2:F:40:LYS:HE2	2:F:40:LYS:HB2	1.79	0.43
1:A:534:GLU:O	1:A:538:LYS:HB2	2.19	0.43
1:B:419:ASP:HA	1:B:422:LYS:HZ3	1.84	0.43
1:B:646:PHE:HB3	1:B:677:ARG:HH21	1.83	0.43
1:B:967:LEU:HB3	1:B:1003:TYR:CD2	2.54	0.43
1:D:448:TRP:HB3	1:D:481:ILE:HD11	2.00	0.43
1:E:27:VAL:O	1:E:30:ILE:HG22	2.18	0.43
1:E:345:THR:HB	1:E:397:ALA:HA	2.00	0.43
1:A:358:GLU:HA	1:A:396:MET:CE	2.48	0.43
1:A:374:SER:O	1:A:378:TYR:N	2.44	0.43
1:B:359:ARG:HH21	1:B:363:LEU:N	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:538:LYS:HA	1:B:538:LYS:HD3	1.72	0.43
1:B:771:ILE:O	1:B:775:ILE:HG22	2.19	0.43
1:B:865:LEU:HD23	1:B:865:LEU:HA	1.78	0.43
1:B:914:SER:O	1:B:918:ILE:HG23	2.19	0.43
1:D:588:LEU:HD12	1:D:588:LEU:HA	1.90	0.43
1:E:376:LYS:HD2	1:E:377:GLN:HG2	2.01	0.43
1:A:657:ARG:HG2	1:A:658:HIS:CD2	2.54	0.42
1:A:967:LEU:HD23	1:A:1003:TYR:HD2	1.84	0.42
1:B:581:ASP:OD1	1:B:582:ILE:N	2.51	0.42
1:B:724:LYS:HD3	1:B:760:ARG:NH2	2.33	0.42
1:B:817:SER:OG	1:B:820:LEU:HB2	2.20	0.42
2:C:24:THR:OG1	2:C:67:PHE:HD2	2.02	0.42
1:D:521:ASN:HB2	1:E:145:ARG:NH2	2.35	0.42
1:D:741:LEU:HA	1:D:754:ARG:HE	1.84	0.42
1:D:770:SER:O	1:D:773:SER:OG	2.30	0.42
1:E:152:ILE:HB	1:E:168:LEU:HD23	2.01	0.42
1:E:423:LYS:HD2	1:E:424:PHE:N	2.34	0.42
1:E:593:ARG:O	1:E:597:GLU:HB2	2.19	0.42
1:E:616:MET:HB3	1:E:659:PHE:HZ	1.83	0.42
1:E:660:LYS:HA	1:E:660:LYS:HD3	1.82	0.42
1:E:678:PHE:HE2	1:E:722:PHE:CE1	2.36	0.42
1:A:53:LEU:HB3	1:A:115:ASN:HD22	1.84	0.42
1:A:225:ILE:O	1:A:229:LEU:HD23	2.19	0.42
1:A:753:LYS:O	1:A:757:TRP:HE3	2.02	0.42
1:B:978:HIS:O	1:B:981:ILE:HG22	2.19	0.42
1:D:735:LYS:HD2	1:D:735:LYS:C	2.39	0.42
1:E:205:LYS:HE2	1:E:231:TRP:CG	2.54	0.42
1:E:817:SER:OG	1:E:820:LEU:HB2	2.19	0.42
2:F:174:GLU:OE2	2:F:192:TYR:HB2	2.19	0.42
1:A:325:ILE:HD11	1:A:541:ILE:HD12	2.02	0.42
1:A:338:TYR:HE1	1:A:351:ASN:HB2	1.85	0.42
1:A:964:ASP:OD1	1:A:964:ASP:N	2.51	0.42
1:B:781:LEU:O	1:B:785:LYS:HG2	2.19	0.42
1:D:311:TYR:HD2	1:D:312:ILE:HG23	1.85	0.42
1:E:248:THR:HA	1:E:271:ALA:HB3	2.01	0.42
1:E:984:LEU:HD12	1:E:984:LEU:HA	1.90	0.42
1:A:27:VAL:HA	1:A:30:ILE:HG22	2.01	0.42
1:A:303:THR:N	1:A:307:GLU:OE1	2.52	0.42
1:A:551:LEU:HD23	1:A:551:LEU:HA	1.81	0.42
1:A:754:ARG:O	1:A:758:LEU:HG	2.19	0.42
1:B:304:LYS:HB2	1:B:307:GLU:HB3	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:556:VAL:HG23	1:E:556:VAL:HG22	2.00	0.42
1:E:130:ILE:HG13	1:E:168:LEU:HB2	2.02	0.42
1:A:350:LYS:O	1:A:350:LYS:NZ	2.37	0.42
1:A:374:SER:HB3	1:A:377:GLN:HB2	2.02	0.42
1:A:842:LEU:HB3	1:A:843:PRO:HD3	2.02	0.42
1:B:728:LEU:HD23	1:B:728:LEU:HA	1.78	0.42
1:B:893:LYS:NZ	1:B:932:GLU:O	2.45	0.42
1:D:472:TYR:OH	1:D:546:SER:HB3	2.20	0.42
1:D:864:ASP:HA	1:D:867:ASN:HD21	1.84	0.42
1:D:888:TYR:HD2	1:D:916:PHE:CZ	2.37	0.42
1:E:220:LEU:HD22	1:E:261:TYR:CD2	2.55	0.42
1:A:788:ASP:OD1	1:A:788:ASP:N	2.52	0.42
1:B:266:LEU:HD23	1:B:266:LEU:HA	1.86	0.42
1:B:449:GLU:HB2	1:B:511:PHE:CE2	2.54	0.42
1:B:740:LEU:HD11	1:B:757:TRP:HB3	2.00	0.42
1:B:976:MET:O	1:B:980:VAL:HG23	2.20	0.42
1:D:667:LEU:HB3	1:D:673:ILE:HD11	2.02	0.42
1:D:713:ILE:HD12	1:D:713:ILE:HA	1.84	0.42
1:A:613:ARG:HH11	1:A:659:PHE:HD1	1.67	0.42
1:A:728:LEU:HD12	1:A:729:SER:H	1.84	0.42
1:A:758:LEU:O	1:A:762:THR:HG23	2.20	0.42
1:B:385:PHE:O	1:B:389:GLU:HG2	2.19	0.42
1:B:593:ARG:O	1:B:597:GLU:HB2	2.20	0.42
1:B:800:TYR:N	1:B:802:ARG:HH12	2.15	0.42
2:C:16:LYS:HA	2:C:16:LYS:HD3	1.81	0.42
1:D:206:THR:HG21	1:E:206:THR:HG21	2.02	0.42
1:D:720:LEU:HD23	1:D:757:TRP:HD1	1.84	0.42
1:E:600:LEU:HD11	1:E:602:SER:HB2	2.02	0.42
1:B:290:MET:O	1:B:294:ILE:HD12	2.20	0.42
1:B:376:LYS:HA	1:B:379:GLU:OE2	2.19	0.42
1:B:746:GLU:OE1	1:B:746:GLU:N	2.45	0.42
1:D:311:TYR:CD2	1:D:312:ILE:HG23	2.55	0.42
1:E:479:TYR:CD2	1:E:524:ILE:HD12	2.54	0.42
1:E:500:PHE:CD1	1:E:502:ARG:HG2	2.55	0.42
1:E:693:GLU:O	1:E:697:LYS:HG2	2.20	0.42
1:A:308:VAL:HG13	1:A:356:TYR:HB2	2.01	0.42
1:A:977:LYS:O	1:A:981:ILE:HG12	2.20	0.42
1:D:105:LYS:HZ2	1:D:105:LYS:C	2.23	0.42
1:D:229:LEU:HA	1:D:229:LEU:HD23	1.87	0.42
1:D:647:MET:HG2	1:D:678:PHE:CD2	2.55	0.42
1:D:660:LYS:HA	1:D:660:LYS:HD3	1.75	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:48:LYS:HB3	2:F:49:PRO:HD3	2.00	0.42
1:A:799:LEU:HD23	1:A:799:LEU:HA	1.71	0.42
1:B:558:LEU:HD11	1:B:615:SER:HA	2.02	0.42
1:B:624:GLU:HG3	1:B:671:CYS:HB2	2.01	0.42
1:B:997:LEU:HD12	1:B:998:GLU:N	2.35	0.42
1:D:695:ILE:HD13	1:D:695:ILE:HA	1.93	0.42
1:E:741:LEU:HD23	1:E:754:ARG:HD3	2.02	0.42
1:A:47:GLY:HA2	1:A:218:TYR:CZ	2.55	0.41
1:B:688:LEU:HA	1:B:691:ILE:CG2	2.48	0.41
1:B:897:ILE:O	1:B:903:GLY:N	2.53	0.41
2:C:26:GLU:C	2:C:63:VAL:HG23	2.40	0.41
1:D:445:LEU:HD23	1:D:445:LEU:HA	1.93	0.41
1:D:512:LEU:O	1:D:515:ILE:HG22	2.20	0.41
1:D:656:SER:HB3	1:D:719:ALA:HB2	2.01	0.41
1:B:242:LYS:HB3	1:B:242:LYS:HE2	1.87	0.41
1:B:767:LEU:HB3	1:B:771:ILE:HD11	2.01	0.41
1:B:772:ILE:HA	1:B:775:ILE:HG22	2.01	0.41
1:B:824:THR:HA	1:B:827:LEU:HB2	2.01	0.41
1:B:982:GLU:O	1:B:985:LYS:HG2	2.19	0.41
1:B:999:ILE:HA	1:B:1002:ASN:HD21	1.86	0.41
1:D:382:ASN:O	1:D:386:ASN:N	2.44	0.41
1:E:425:ILE:HG23	1:E:442:LEU:HD11	2.02	0.41
1:E:886:ILE:O	1:E:890:GLU:HG2	2.20	0.41
1:A:422:LYS:O	1:A:426:GLU:HG2	2.21	0.41
1:A:524:ILE:H	1:A:524:ILE:HG13	1.73	0.41
1:B:326:ARG:HB2	1:B:329:ASP:OD2	2.20	0.41
1:D:290:MET:O	1:D:294:ILE:HG22	2.20	0.41
1:D:319:LEU:HD22	1:D:319:LEU:H	1.86	0.41
1:D:614:ASN:HD22	1:E:559:PHE:HZ	1.68	0.41
1:E:616:MET:HA	1:E:616:MET:CE	2.51	0.41
1:E:751:ILE:HD12	1:E:751:ILE:HA	1.93	0.41
1:A:317:SER:N	1:A:318:PRO:HD2	2.35	0.41
1:A:735:LYS:HD2	1:A:738:LYS:HZ1	1.85	0.41
1:A:807:LEU:HD12	1:A:808:ILE:N	2.35	0.41
1:B:205:LYS:HD3	1:B:231:TRP:NE1	2.36	0.41
1:B:741:LEU:HB3	1:B:778:PHE:CD2	2.55	0.41
1:B:752:GLY:HA3	1:B:797:ASN:OD1	2.20	0.41
2:C:11:VAL:O	2:C:24:THR:HA	2.21	0.41
1:D:662:ASP:OD1	1:D:663:ASP:N	2.53	0.41
1:D:696:THR:HA	1:D:743:TYR:CD2	2.56	0.41
1:E:932:GLU:H	1:E:932:GLU:HG2	1.73	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:105:LYS:HB3	1:A:105:LYS:HE2	1.88	0.41
1:B:801:SER:O	1:B:804:TYR:HB2	2.20	0.41
2:C:61:LEU:HB2	2:C:220:PHE:CD1	2.56	0.41
1:D:274:LEU:HD21	1:D:292:LEU:HD12	2.03	0.41
1:D:318:PRO:HG2	1:D:319:LEU:HD22	2.02	0.41
1:D:361:PHE:CD1	1:D:364:LYS:HE2	2.55	0.41
1:D:771:ILE:O	1:D:775:ILE:HG22	2.21	0.41
1:A:840:LYS:HA	1:A:871:ILE:HG12	2.01	0.41
1:B:442:LEU:HB3	1:B:451:SER:OG	2.19	0.41
1:B:865:LEU:O	1:B:869:ILE:HG13	2.20	0.41
1:B:996:TYR:O	1:B:999:ILE:HG22	2.21	0.41
1:D:547:ASP:OD1	1:D:547:ASP:N	2.49	0.41
1:A:43:VAL:HG12	1:A:128:HIS:H	1.85	0.41
1:A:580:SER:O	1:A:584:VAL:HG12	2.21	0.41
1:B:35:GLU:HA	1:B:38:ARG:HG3	2.03	0.41
1:B:186:LYS:HB2	1:B:186:LYS:HE2	1.80	0.41
1:B:206:THR:O	1:B:210:THR:HG23	2.21	0.41
1:D:613:ARG:HA	1:D:659:PHE:CE1	2.56	0.41
1:E:689:VAL:HG13	1:E:735:LYS:HG2	2.01	0.41
1:E:892:ARG:HH21	1:E:910:ASN:ND2	2.18	0.41
1:A:85:LEU:HD11	1:A:190:TYR:CD2	2.56	0.41
1:A:445:LEU:HD23	1:A:445:LEU:HA	1.92	0.41
1:A:549:GLN:HB2	1:A:552:TYR:CD1	2.55	0.41
1:A:564:LYS:O	1:A:564:LYS:HD3	2.21	0.41
1:A:695:ILE:HG12	1:A:744:PHE:CE1	2.56	0.41
1:A:737:VAL:HA	1:A:740:LEU:CD2	2.51	0.41
1:A:797:ASN:ND2	1:A:799:LEU:HB2	2.35	0.41
1:B:199:LEU:HD23	1:B:202:ASN:HD21	1.85	0.41
1:B:949:PHE:CE2	1:B:954:PHE:HD2	2.39	0.41
1:D:82:ASP:OD1	1:D:83:GLU:HG3	2.21	0.41
1:D:338:TYR:HE1	1:D:351:ASN:HB2	1.86	0.41
1:D:469:CYS:HA	1:D:535:PHE:HE2	1.84	0.41
1:D:472:TYR:O	1:D:476:ILE:HG13	2.21	0.41
1:E:60:TRP:HA	1:E:63:VAL:HG12	2.01	0.41
1:E:229:LEU:HD13	1:E:229:LEU:HA	1.88	0.41
1:E:320:PHE:CZ	1:E:384:LEU:HD12	2.50	0.41
1:E:857:LYS:HA	1:E:857:LYS:HD2	1.79	0.41
1:A:660:LYS:HA	1:A:660:LYS:HD3	1.90	0.41
1:B:884:LEU:HD23	1:B:884:LEU:HA	1.89	0.41
1:B:970:ILE:HD12	1:B:971:ALA:N	2.36	0.41
1:D:174:PHE:HD1	1:D:178:PHE:HA	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:331:LYS:HG2	1:D:339:HIS:HA	2.03	0.41
1:D:1005:ILE:H	1:D:1005:ILE:HG13	1.67	0.41
1:A:203:LEU:HA	1:A:206:THR:HG22	2.03	0.40
1:A:485:ILE:HD13	1:A:511:PHE:HE2	1.86	0.40
1:B:130:ILE:HD11	1:B:207:ILE:HG21	2.02	0.40
1:D:418:TYR:HA	1:D:421:MET:CE	2.51	0.40
1:D:655:ILE:HA	1:D:659:PHE:CD1	2.56	0.40
1:D:844:LEU:HD12	1:D:845:LEU:HG	2.01	0.40
1:E:425:ILE:HG12	1:E:442:LEU:HD12	2.03	0.40
1:E:700:SER:HB2	1:E:743:TYR:CE1	2.56	0.40
1:A:306:ASP:OD1	1:A:377:GLN:HG2	2.21	0.40
1:A:795:SER:OG	1:A:797:ASN:OD1	2.39	0.40
1:A:820:LEU:HA	1:A:823:ILE:HG13	2.03	0.40
1:B:199:LEU:HD23	1:B:199:LEU:HA	1.78	0.40
1:B:942:PHE:O	1:B:946:PRO:HB3	2.21	0.40
2:C:65:ASN:OD1	2:C:66:ALA:N	2.54	0.40
1:D:610:GLN:HG3	1:D:614:ASN:HD21	1.87	0.40
1:D:619:LEU:HD23	1:D:619:LEU:HA	1.89	0.40
1:E:222:ASP:OD1	1:E:223:TYR:N	2.54	0.40
1:E:359:ARG:NH1	1:E:363:LEU:HD12	2.37	0.40
1:E:985:LYS:O	1:E:988:VAL:HG12	2.21	0.40
1:A:90:ILE:O	1:A:94:VAL:HB	2.21	0.40
1:A:253:ILE:HD12	1:A:253:ILE:HA	1.89	0.40
1:A:841:LEU:HB3	1:A:844:LEU:HD23	2.03	0.40
1:B:310:ASP:OD1	1:B:380:ARG:NH2	2.55	0.40
1:B:498:LEU:HD21	2:C:23:PHE:CE2	2.51	0.40
1:D:205:LYS:HE2	1:D:231:TRP:CD1	2.56	0.40
1:D:282:TYR:O	1:D:285:ARG:HG3	2.21	0.40
1:D:737:VAL:HG13	1:D:758:LEU:HD21	2.03	0.40
1:E:82:ASP:OD1	1:E:83:GLU:HG3	2.21	0.40
1:A:67:HIS:CE1	1:A:71:TYR:HD2	2.39	0.40
1:A:155:GLU:OE1	1:A:199:LEU:HB2	2.21	0.40
1:A:609:HIS:ND1	1:A:658:HIS:HD2	2.19	0.40
1:A:682:GLU:O	1:A:685:GLU:HG2	2.21	0.40
1:B:957:SER:HA	1:B:960:LYS:HG2	2.03	0.40
2:C:176:ARG:HD3	2:C:192:TYR:CD2	2.56	0.40
1:D:115:ASN:HB2	1:D:116:PRO:HD2	2.04	0.40
1:D:116:PRO:HA	1:D:119:ASP:OD2	2.22	0.40
1:D:549:GLN:H	1:D:549:GLN:HG3	1.64	0.40
1:E:312:ILE:HG21	1:E:360:PHE:CE2	2.57	0.40
1:A:244:PHE:CD1	1:A:267:ARG:HB3	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:612:ILE:HG21	1:A:658:HIS:CG	2.56	0.40
1:A:995:ARG:HE	1:A:999:ILE:HG13	1.87	0.40
1:B:934:ILE:HD11	1:B:945:ASP:OD2	2.22	0.40
1:D:144:LYS:HB2	1:D:144:LYS:HE2	1.86	0.40
1:D:215:PHE:HB2	1:D:245:PHE:HA	2.02	0.40
1:D:720:LEU:HB3	1:D:757:TRP:CD1	2.57	0.40
1:D:959:LEU:HA	1:D:962:TYR:CD2	2.55	0.40
1:E:312:ILE:HD12	1:E:334:PHE:HE2	1.86	0.40
1:E:361:PHE:HB2	1:E:396:MET:CE	2.51	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	893/1005 (89%)	861 (96%)	32 (4%)	0	100	100
1	B	903/1005 (90%)	874 (97%)	29 (3%)	0	100	100
1	D	901/1005 (90%)	878 (97%)	23 (3%)	0	100	100
1	E	899/1005 (90%)	864 (96%)	35 (4%)	0	100	100
2	C	106/264 (40%)	96 (91%)	10 (9%)	0	100	100
2	F	106/264 (40%)	104 (98%)	2 (2%)	0	100	100
All	All	3808/4548 (84%)	3677 (97%)	131 (3%)	0	100	100

There are no Ramachandran outliers to report.

#### 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	844/923 (91%)	785 (93%)	59 (7%)	15	48
1	B	849/923 (92%)	794 (94%)	55 (6%)	17	51
1	D	849/923 (92%)	786 (93%)	63 (7%)	13	45
1	E	846/923 (92%)	784 (93%)	62 (7%)	14	46
2	C	102/225 (45%)	86 (84%)	16 (16%)	2	17
2	F	102/225 (45%)	98 (96%)	4 (4%)	32	65
All	All	3592/4142 (87%)	3333 (93%)	259 (7%)	18	47

All (259) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	81	SER
1	A	82	ASP
1	A	97	GLU
1	A	98	MET
1	A	114	THR
1	A	131	THR
1	A	183	VAL
1	A	195	GLN
1	A	205	LYS
1	A	267	ARG
1	A	280	TYR
1	A	336	TYR
1	A	347	VAL
1	A	352	LYS
1	A	361	PHE
1	A	366	SER
1	A	387	PHE
1	A	395	CYS
1	A	398	LYS
1	A	493	ASN
1	A	509	ASP
1	A	533	PHE
1	A	552	TYR
1	A	553	ASP
1	A	559	PHE
1	A	576	PHE
1	A	615	SER

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	616	MET
1	A	697	LYS
1	A	708	PHE
1	A	709	TYR
1	A	722	PHE
1	A	740	LEU
1	A	742	PHE
1	A	748	ASP
1	A	755	TYR
1	A	758	LEU
1	A	767	LEU
1	A	785	LYS
1	A	786	HIS
1	A	802	ARG
1	A	811	PHE
1	A	819	ARG
1	A	837	PHE
1	A	839	PHE
1	A	846	SER
1	A	850	LYS
1	A	852	HIS
1	A	856	PHE
1	A	866	MET
1	A	919	TRP
1	A	920	TYR
1	A	930	MET
1	A	943	PHE
1	A	954	PHE
1	A	965	LYS
1	A	976	MET
1	A	995	ARG
1	A	1001	MET
1	B	45	PHE
1	B	69	GLU
1	B	98	MET
1	B	134	TYR
1	B	139	ASP
1	B	160	ASN
1	B	188	ASP
1	B	194	ASP
1	B	332	HIS
1	B	339	HIS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	B	378	TYR
1	B	379	GLU
1	B	388	PHE
1	B	424	PHE
1	B	452	TYR
1	B	510	GLU
1	B	519	MET
1	B	520	THR
1	B	521	ASN
1	B	526	ASP
1	B	553	ASP
1	B	621	GLU
1	B	647	MET
1	B	649	TYR
1	B	662	ASP
1	B	663	ASP
1	B	670	SER
1	B	671	CYS
1	B	699	PHE
1	B	704	MET
1	B	714	SER
1	B	757	TRP
1	B	761	LEU
1	B	782	GLN
1	B	792	SER
1	B	813	LYS
1	B	835	ILE
1	B	859	VAL
1	B	866	MET
1	B	877	PHE
1	B	888	TYR
1	B	892	ARG
1	B	896	TYR
1	B	905	GLN
1	B	926	ASN
1	B	930	MET
1	B	936	MET
1	B	938	ASP
1	B	942	PHE
1	B	948	ASN
1	B	949	PHE
1	B	950	ASP

*Continued on next page...*



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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	B	952	LYS
1	B	976	MET
1	B	1001	MET
2	C	10	ASP
2	C	14	LYS
2	C	20	LYS
2	C	23	PHE
2	C	67	PHE
2	C	75	MET
2	C	170	ARG
2	C	171	TYR
2	C	173	VAL
2	C	192	TYR
2	C	195	PHE
2	C	204	PHE
2	C	206	MET
2	C	219	LYS
2	C	220	PHE
2	C	227	ASP
1	D	22	LEU
1	D	41	LYS
1	D	42	LEU
1	D	45	PHE
1	D	98	MET
1	D	105	LYS
1	D	107	PHE
1	D	131	THR
1	D	134	TYR
1	D	142	CYS
1	D	188	ASP
1	D	222	ASP
1	D	240	PHE
1	D	257	THR
1	D	264	LYS
1	D	285	ARG
1	D	304	LYS
1	D	322	LEU
1	D	332	HIS
1	D	339	HIS
1	D	361	PHE
1	D	370	ARG
1	D	384	LEU

*Continued on next page...*

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	D	395	CYS
1	D	421	MET
1	D	444	CYS
1	D	455	TYR
1	D	469	CYS
1	D	482	TYR
1	D	507	PHE
1	D	522	PHE
1	D	523	ASN
1	D	525	ASP
1	D	531	MET
1	D	533	PHE
1	D	540	LYS
1	D	549	GLN
1	D	551	LEU
1	D	552	TYR
1	D	559	PHE
1	D	578	MET
1	D	649	TYR
1	D	651	ASP
1	D	654	ASN
1	D	671	CYS
1	D	709	TYR
1	D	744	PHE
1	D	754	ARG
1	D	755	TYR
1	D	757	TRP
1	D	802	ARG
1	D	812	GLU
1	D	813	LYS
1	D	819	ARG
1	D	850	LYS
1	D	912	TYR
1	D	936	MET
1	D	939	GLN
1	D	945	ASP
1	D	966	LEU
1	D	974	LYS
1	D	976	MET
1	D	993	ASP
1	E	44	PHE
1	E	64	ASP

*Continued on next page...*

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	E	79	TYR
1	E	107	PHE
1	E	114	THR
1	E	119	ASP
1	E	124	MET
1	E	134	TYR
1	E	135	ASP
1	E	143	TRP
1	E	144	LYS
1	E	190	TYR
1	E	194	ASP
1	E	228	LEU
1	E	237	LYS
1	E	267	ARG
1	E	276	ASP
1	E	280	TYR
1	E	304	LYS
1	E	357	MET
1	E	360	PHE
1	E	375	LYS
1	E	376	LYS
1	E	378	TYR
1	E	395	CYS
1	E	419	ASP
1	E	421	MET
1	E	423	LYS
1	E	444	CYS
1	E	452	TYR
1	E	473	LEU
1	E	511	PHE
1	E	533	PHE
1	E	553	ASP
1	E	554	ASP
1	E	590	ASP
1	E	596	TYR
1	E	608	PHE
1	E	616	MET
1	E	625	TYR
1	E	646	PHE
1	E	647	MET
1	E	675	LYS
1	E	677	ARG

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Mol	Chain	Res	Type
1	E	687	TYR
1	E	698	GLN
1	E	704	MET
1	E	717	LYS
1	E	722	PHE
1	E	778	PHE
1	E	810	HIS
1	E	839	PHE
1	E	841	LEU
1	E	877	PHE
1	E	892	ARG
1	E	912	TYR
1	E	930	MET
1	E	940	TYR
1	E	974	LYS
1	E	976	MET
1	E	1003	TYR
1	E	1004	PHE
2	F	61	LEU
2	F	199	SER
2	F	201	SER
2	F	231	MET

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (22) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	118	HIS
1	A	351	ASN
1	A	563	ASN
1	A	939	GLN
1	B	115	ASN
1	B	702	ASN
1	B	786	HIS
2	C	34	GLN
2	C	194	GLN
1	D	475	GLN
1	D	591	ASN
1	D	610	GLN
1	D	614	ASN
1	D	658	HIS
1	D	765	ASN
1	D	867	ASN

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Mol	Chain	Res	Type
1	D	973	ASN
1	E	339	HIS
1	E	377	GLN
1	E	391	ASN
1	E	832	GLN
1	E	834	GLN

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

### 5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

### 5.6 Ligand geometry [i](#)

There are no ligands in this entry.

### 5.7 Other polymers [i](#)

There are no such residues in this entry.

### 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

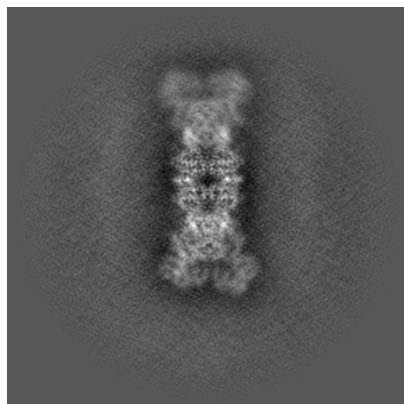
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-37921. These allow visual inspection of the internal detail of the map and identification of artifacts.

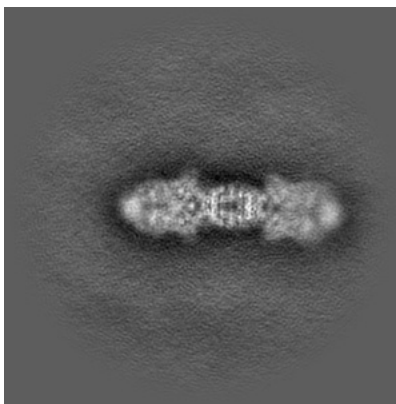
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

### 6.1 Orthogonal projections [i](#)

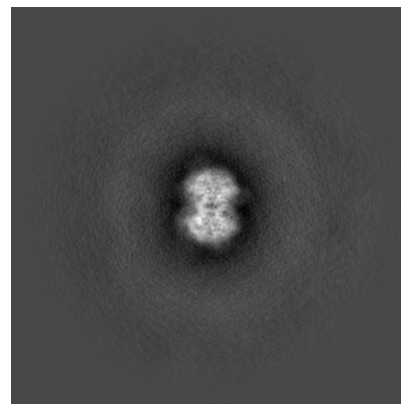
#### 6.1.1 Primary map



X

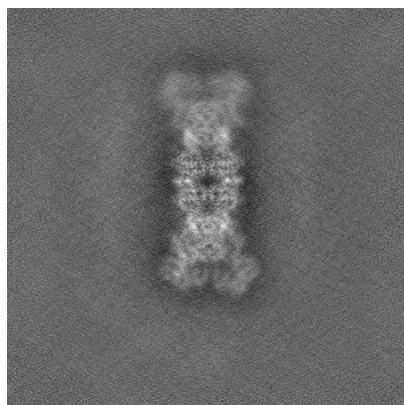


Y

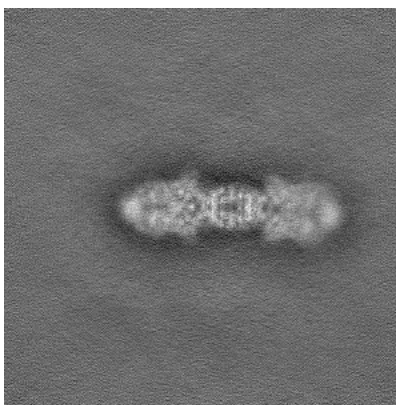


Z

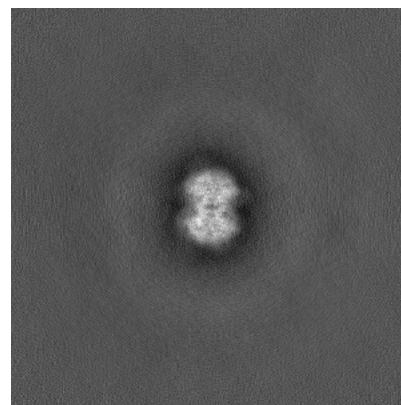
#### 6.1.2 Raw map



X



Y

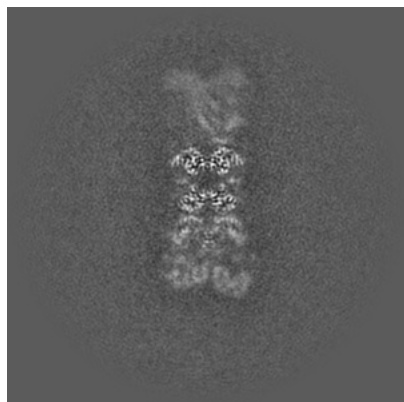


Z

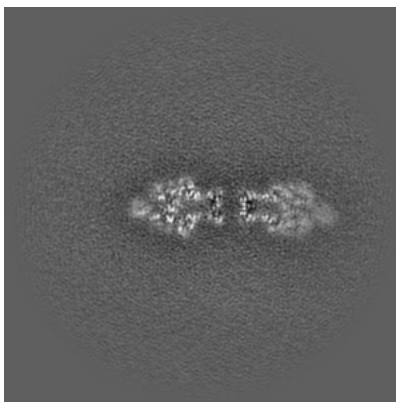
The images above show the map projected in three orthogonal directions.

## 6.2 Central slices [i](#)

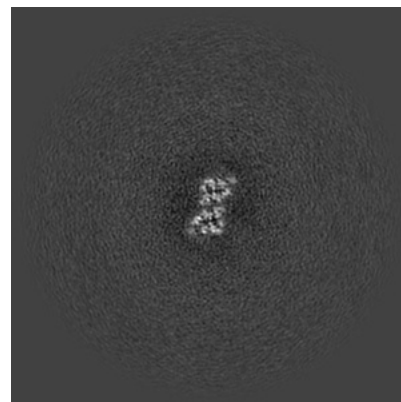
### 6.2.1 Primary map



X Index: 230

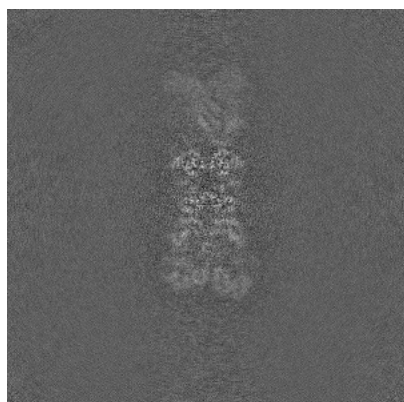


Y Index: 230

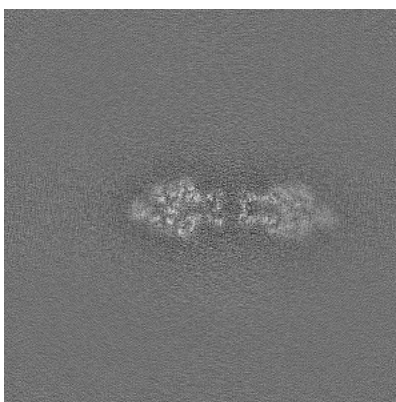


Z Index: 230

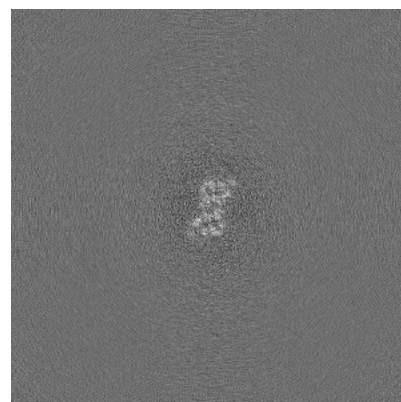
### 6.2.2 Raw map



X Index: 230



Y Index: 230

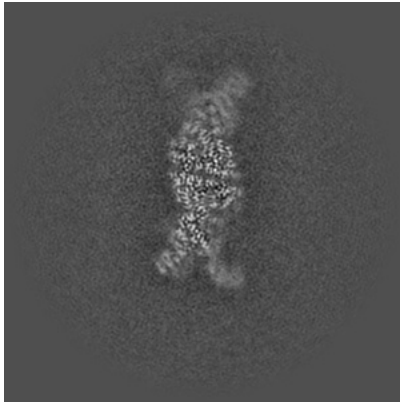


Z Index: 230

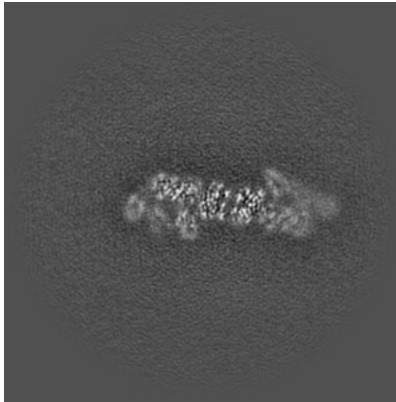
The images above show central slices of the map in three orthogonal directions.

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

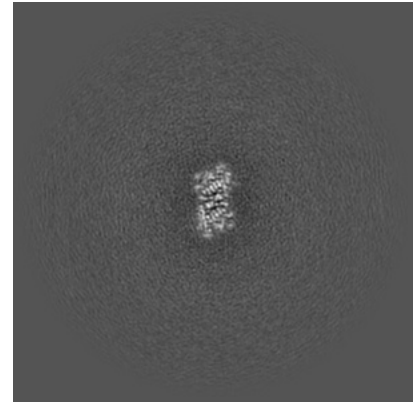
### 6.3.1 Primary map



X Index: 241

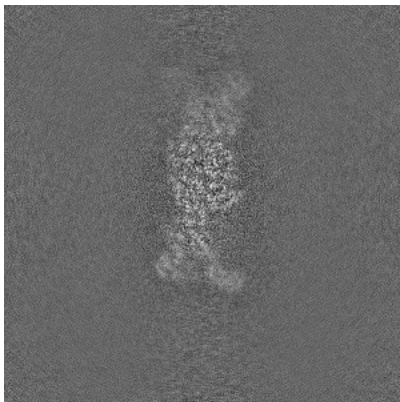


Y Index: 217

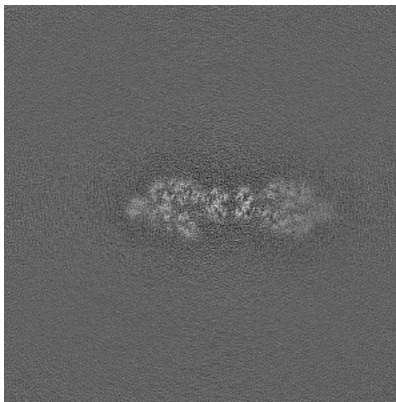


Z Index: 240

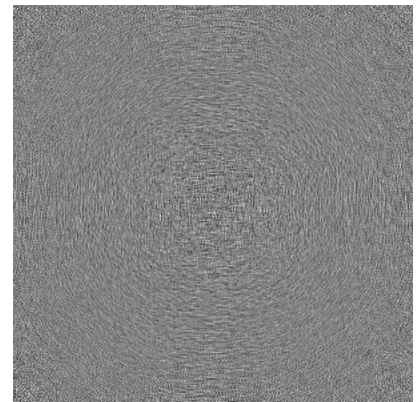
### 6.3.2 Raw map



X Index: 239



Y Index: 226



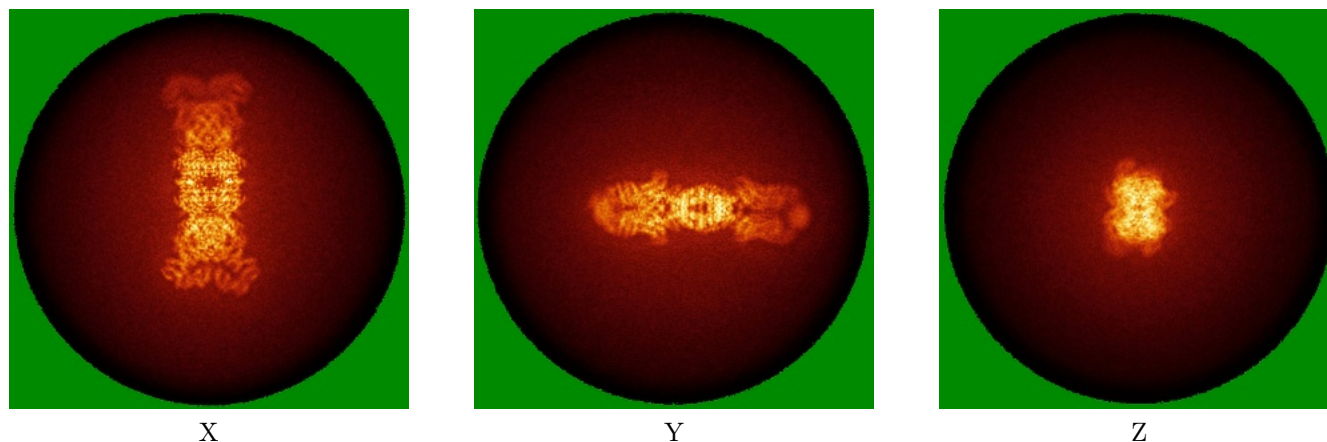
Z Index: 459

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

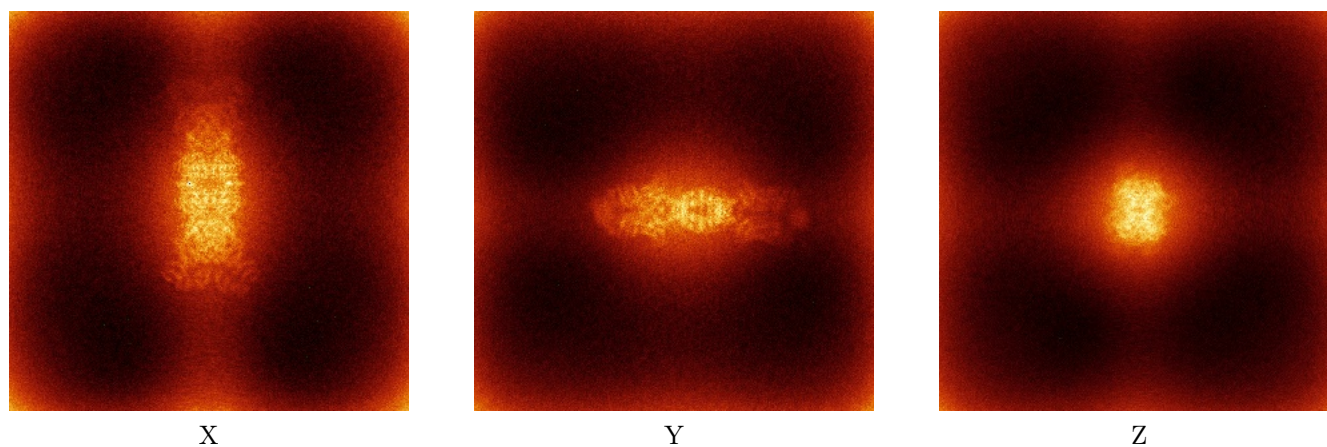


## 6.4 Orthogonal standard-deviation projections (False-color) [i](#)

### 6.4.1 Primary map



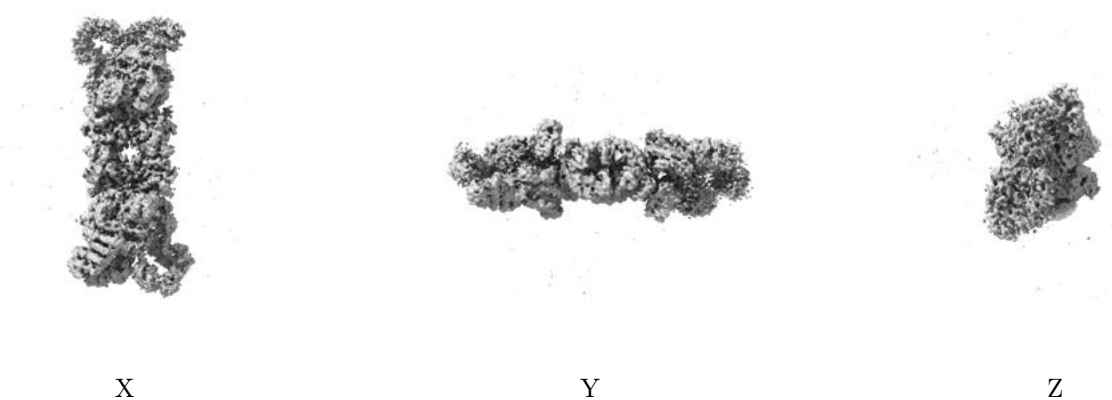
### 6.4.2 Raw map



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

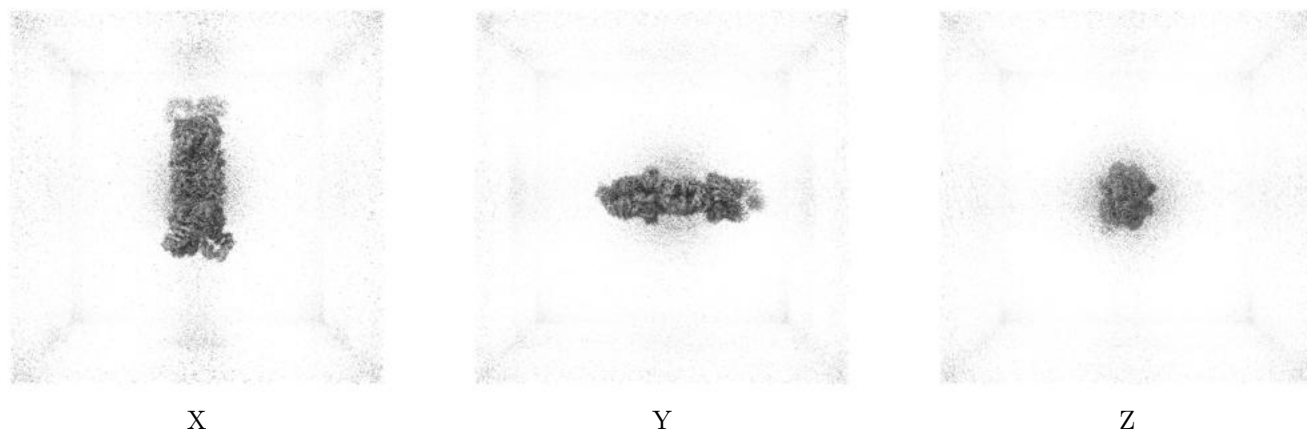
## 6.5 Orthogonal surface views [i](#)

### 6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.25. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

### 6.5.2 Raw map



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

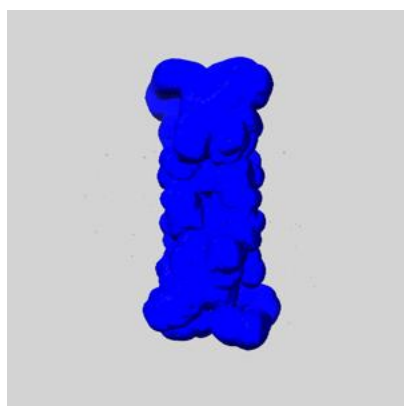
## 6.6 Mask visualisation [i](#)

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

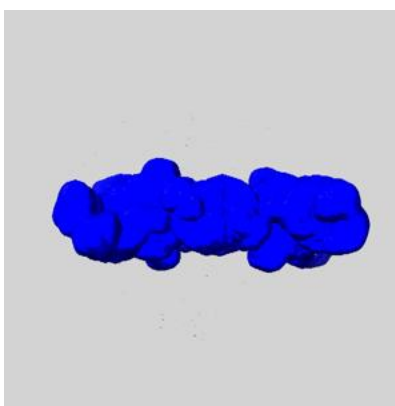
A mask typically either:

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

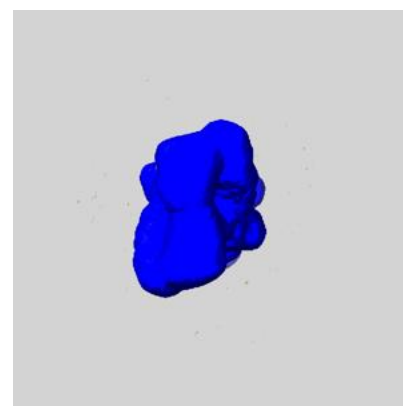
### 6.6.1 emd\_37921\_msk\_1.map [i](#)



X



Y

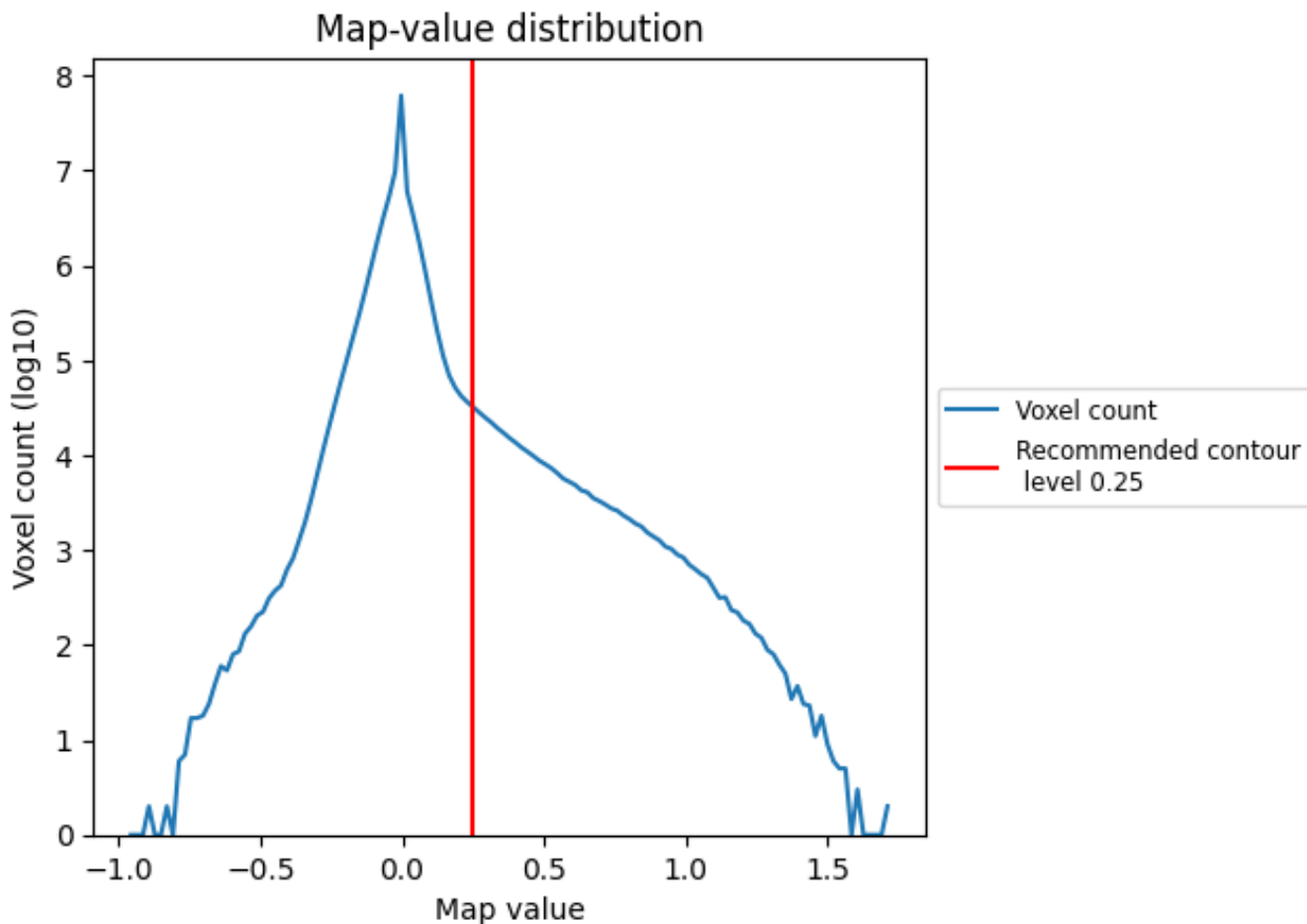


Z

## 7 Map analysis [i](#)

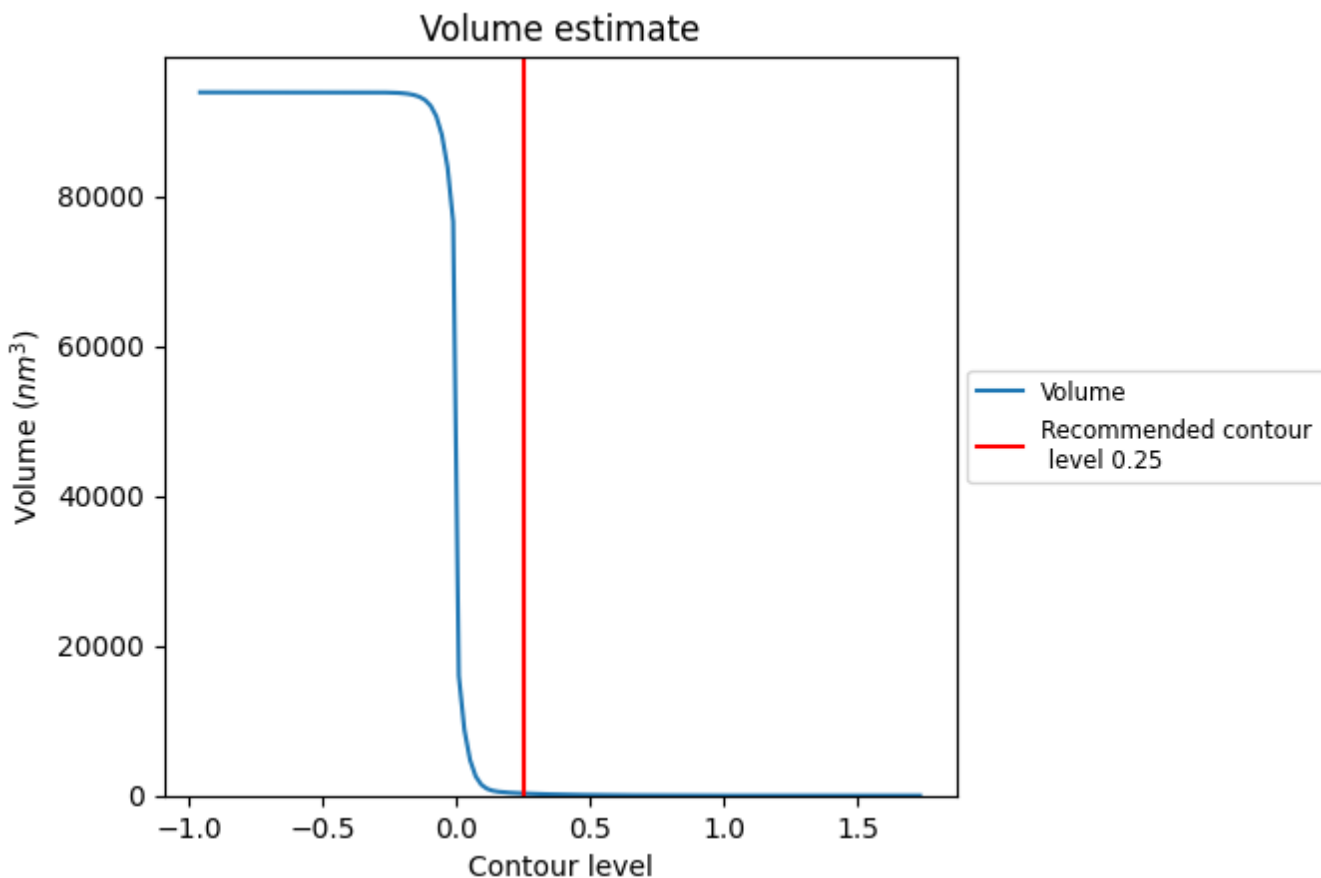
This section contains the results of statistical analysis of the map.

### 7.1 Map-value distribution [i](#)



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

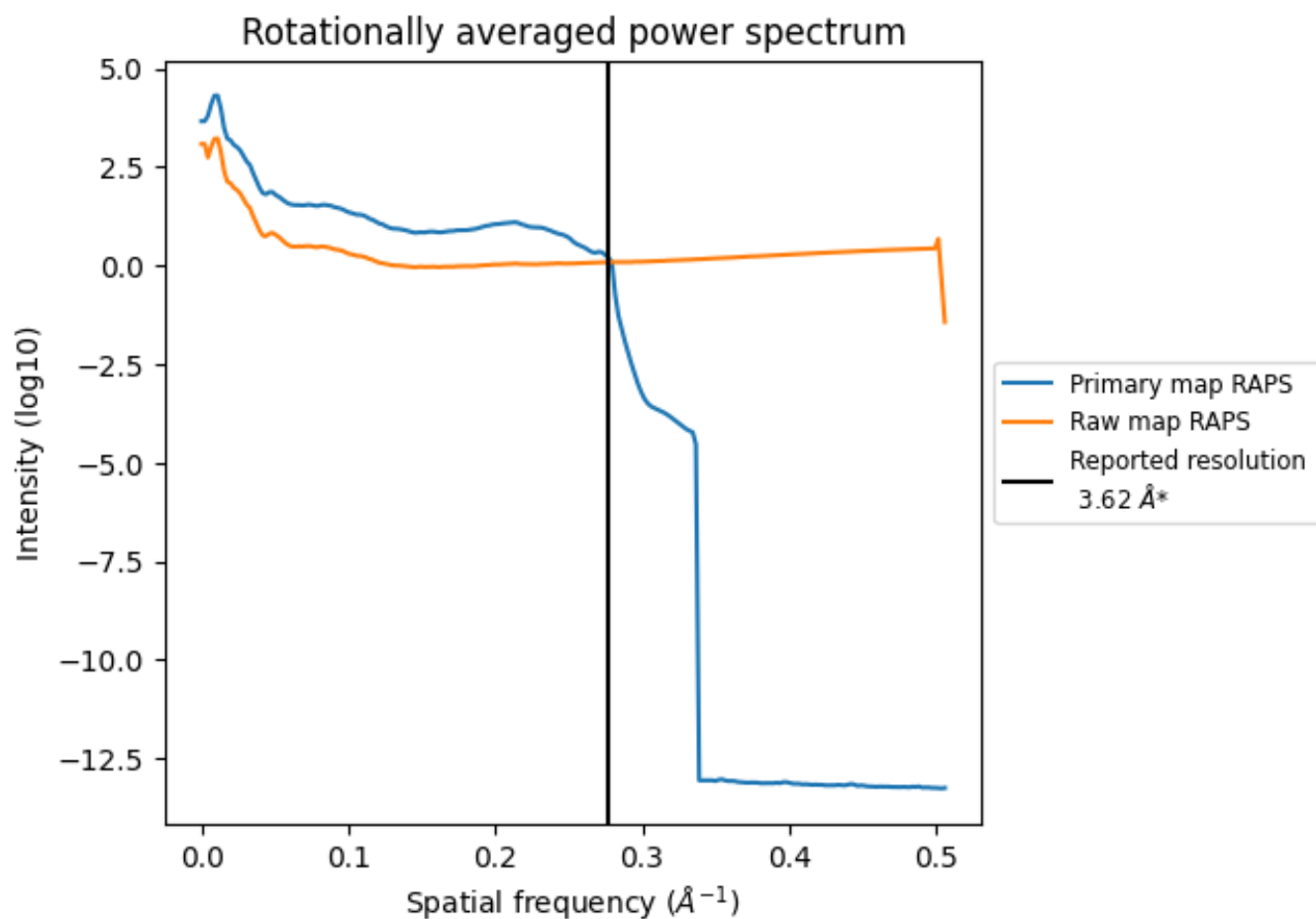
## 7.2 Volume estimate [i](#)



The volume at the recommended contour level is 288 nm<sup>3</sup>; this corresponds to an approximate mass of 260 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](#)

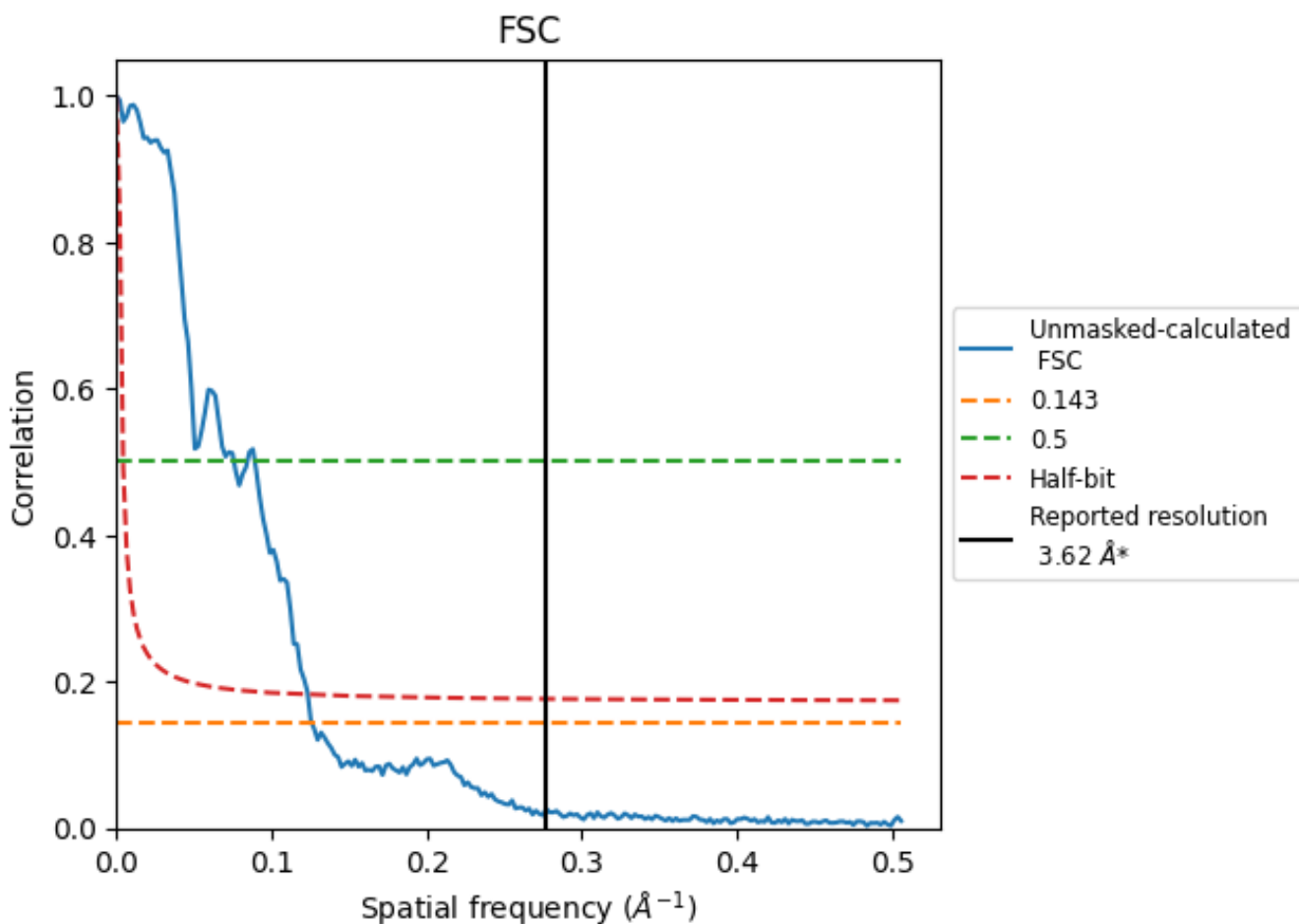


\*Reported resolution corresponds to spatial frequency of 0.276 Å<sup>-1</sup>

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

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

### 8.1 FSC [i](#)



\*Reported resolution corresponds to spatial frequency of 0.276 Å<sup>-1</sup>

## 8.2 Resolution estimates [i](#)

Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.62	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	7.93	13.18	8.10

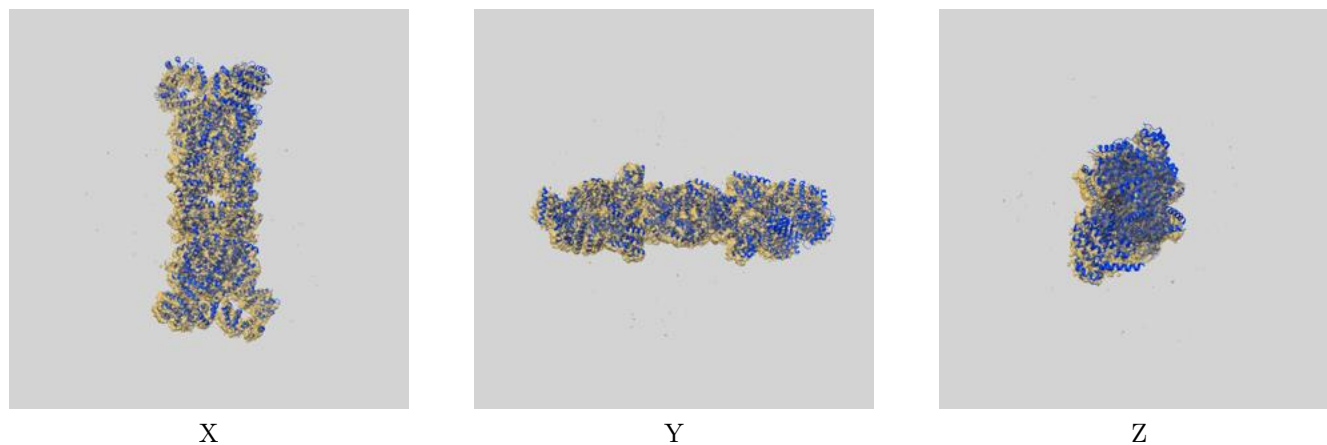
\*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 7.93 differs from the reported value 3.62 by more than 10 %



## 9 Map-model fit [i](#)

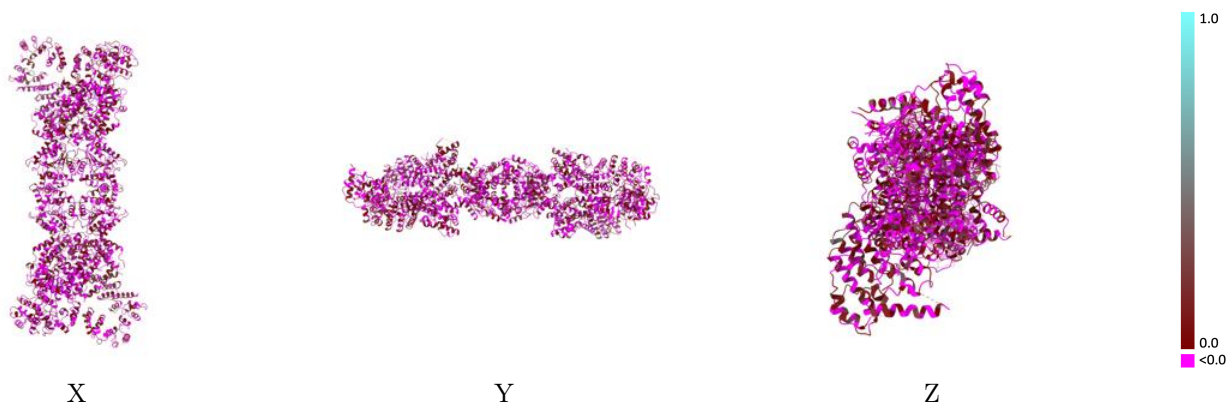
This section contains information regarding the fit between EMDB map EMD-37921 and PDB model 8WYA. Per-residue inclusion information can be found in section [3](#) on page [4](#).

### 9.1 Map-model overlay [i](#)



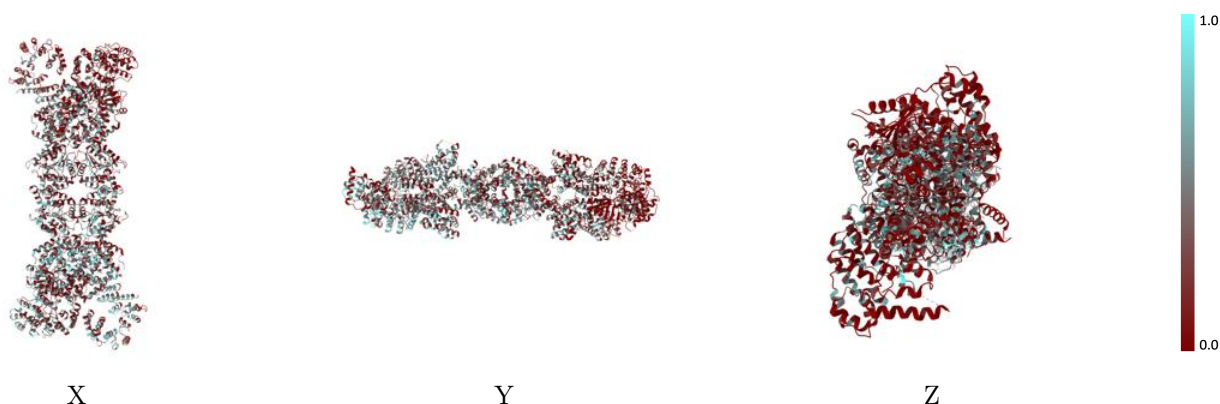
The images above show the 3D surface view of the map at the recommended contour level 0.25 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



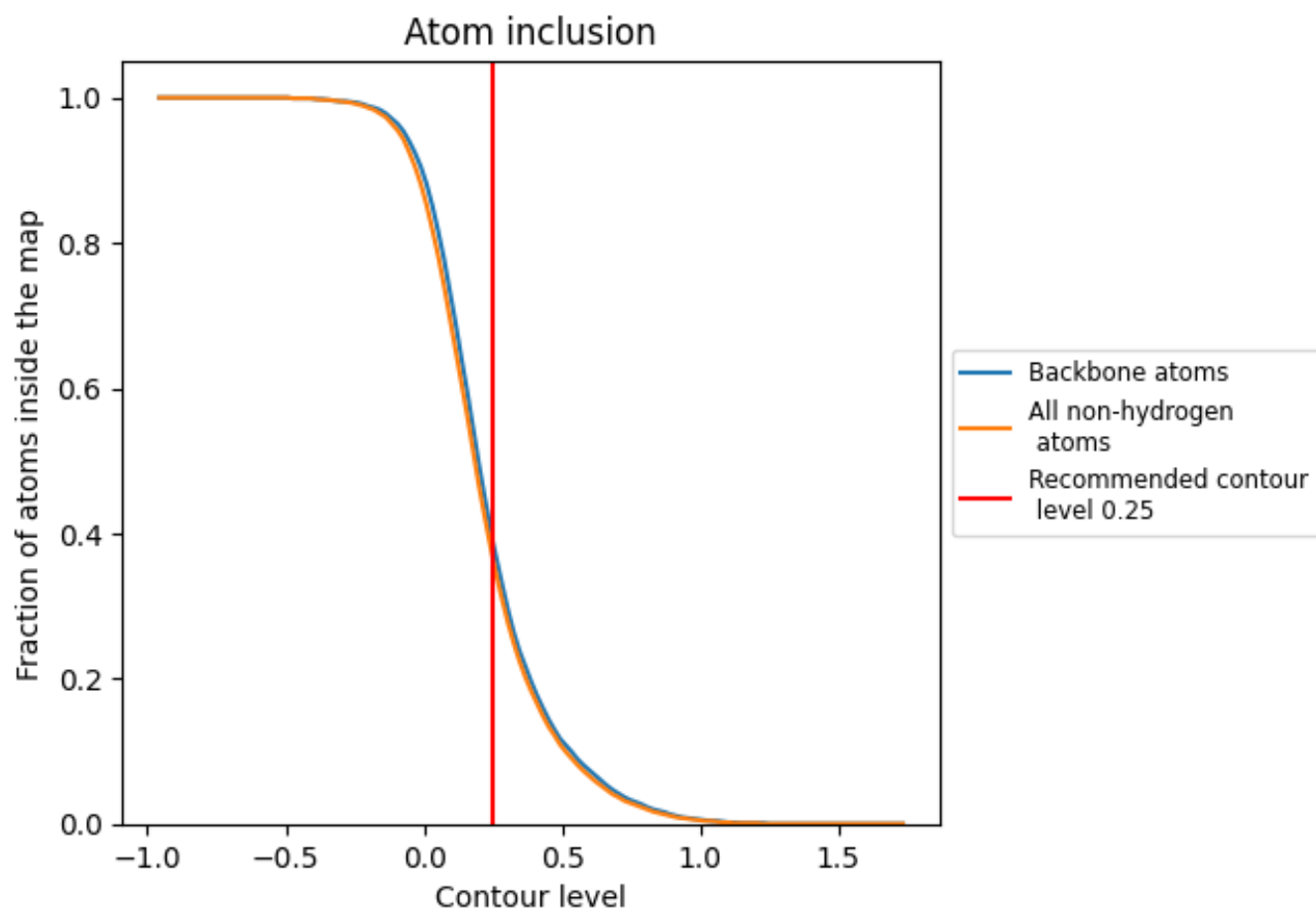
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.25).















## 9.4 Atom inclusion [i](#)



At the recommended contour level, 39% of all backbone atoms, 36% 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 (0.25) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.3640	 0.0110
A	 0.4410	 0.0090
B	 0.4560	 0.0130
C	 0.2300	 -0.0050
D	 0.3100	 0.0190
E	 0.3070	 0.0110
F	 0.0240	 -0.0250

