



Full wwPDB EM Validation Report ⓘ

Nov 4, 2024 – 10:36 PM EST

PDB ID : 8SET
EMDB ID : EMD-40428
Title : Cryo-EM Structure of RyR1 + cAMP
Authors : Cholak, S.; Saville, J.W.; Zhu, X.; Berezuk, A.M.; Tuttle, K.S.; Haji-Ghassemi, O.; Van Petegem, F.; Subramaniam, S.
Deposited on : 2023-04-10
Resolution : 3.42 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.dev113
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.39

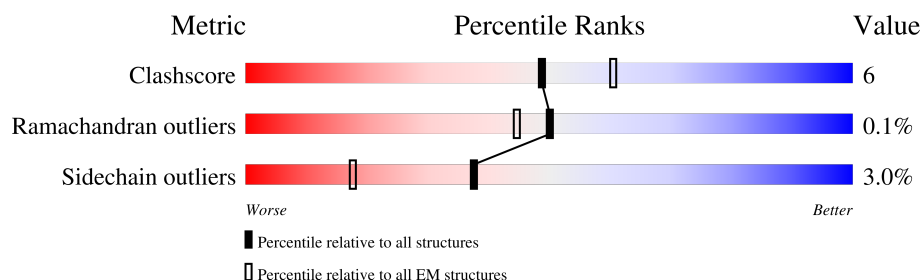
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.42 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

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

Mol	Chain	Length	Quality of chain
1	A	5037	
1	B	5037	
1	C	5037	
1	D	5037	
2	E	350	
2	F	350	
2	G	350	
2	H	350	

2 Entry composition [i](#)

There are 4 unique types of molecules in this entry. The entry contains 143048 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 Ryanodine receptor 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	4378	Total	C	N	O	S	9	0
			34921	22219	6024	6442	236		
1	B	4378	Total	C	N	O	S	9	0
			34921	22219	6024	6442	236		
1	C	4378	Total	C	N	O	S	9	0
			34921	22219	6024	6442	236		
1	D	4378	Total	C	N	O	S	9	0
			34921	22219	6024	6442	236		

- Molecule 2 is a protein called Glutathione S-transferase class-mu 26 kDa isozyme,Peptidyl-prolyl cis-trans isomerase FKBP1B.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	E	107	Total	C	N	O	S	0	0
			818	516	144	154	4		
2	F	107	Total	C	N	O	S	0	0
			818	516	144	154	4		
2	G	107	Total	C	N	O	S	0	0
			818	516	144	154	4		
2	H	107	Total	C	N	O	S	0	0
			818	516	144	154	4		

There are 100 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
E	-242	MET	-	expression tag	UNP P08515
E	-241	LYS	-	expression tag	UNP P08515
E	-240	SER	-	expression tag	UNP P08515
E	-239	SER	-	expression tag	UNP P08515
E	-238	HIS	-	expression tag	UNP P08515
E	-237	HIS	-	expression tag	UNP P08515
E	-236	HIS	-	expression tag	UNP P08515
E	-235	HIS	-	expression tag	UNP P08515

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Chain	Residue	Modelled	Actual	Comment	Reference
E	-234	HIS	-	expression tag	UNP P08515
E	-233	HIS	-	expression tag	UNP P08515
E	-232	GLY	-	expression tag	UNP P08515
E	-231	SER	-	expression tag	UNP P08515
E	-230	SER	-	expression tag	UNP P08515
E	-11	GLY	-	linker	UNP P08515
E	-10	ILE	-	linker	UNP P08515
E	-9	GLU	-	linker	UNP P08515
E	-8	GLU	-	linker	UNP P08515
E	-7	ASN	-	linker	UNP P08515
E	-6	LEU	-	linker	UNP P08515
E	-5	TYR	-	linker	UNP P08515
E	-4	PHE	-	linker	UNP P08515
E	-3	GLN	-	linker	UNP P08515
E	-2	SER	-	linker	UNP P08515
E	-1	ASN	-	linker	UNP P08515
E	0	ALA	-	linker	UNP P08515
F	-242	MET	-	expression tag	UNP P08515
F	-241	LYS	-	expression tag	UNP P08515
F	-240	SER	-	expression tag	UNP P08515
F	-239	SER	-	expression tag	UNP P08515
F	-238	HIS	-	expression tag	UNP P08515
F	-237	HIS	-	expression tag	UNP P08515
F	-236	HIS	-	expression tag	UNP P08515
F	-235	HIS	-	expression tag	UNP P08515
F	-234	HIS	-	expression tag	UNP P08515
F	-233	HIS	-	expression tag	UNP P08515
F	-232	GLY	-	expression tag	UNP P08515
F	-231	SER	-	expression tag	UNP P08515
F	-230	SER	-	expression tag	UNP P08515
F	-11	GLY	-	linker	UNP P08515
F	-10	ILE	-	linker	UNP P08515
F	-9	GLU	-	linker	UNP P08515
F	-8	GLU	-	linker	UNP P08515
F	-7	ASN	-	linker	UNP P08515
F	-6	LEU	-	linker	UNP P08515
F	-5	TYR	-	linker	UNP P08515
F	-4	PHE	-	linker	UNP P08515
F	-3	GLN	-	linker	UNP P08515
F	-2	SER	-	linker	UNP P08515
F	-1	ASN	-	linker	UNP P08515
F	0	ALA	-	linker	UNP P08515

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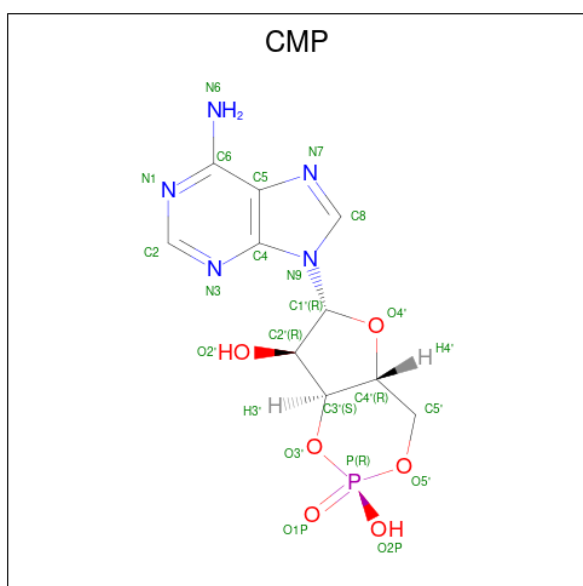
Chain	Residue	Modelled	Actual	Comment	Reference
G	-242	MET	-	expression tag	UNP P08515
G	-241	LYS	-	expression tag	UNP P08515
G	-240	SER	-	expression tag	UNP P08515
G	-239	SER	-	expression tag	UNP P08515
G	-238	HIS	-	expression tag	UNP P08515
G	-237	HIS	-	expression tag	UNP P08515
G	-236	HIS	-	expression tag	UNP P08515
G	-235	HIS	-	expression tag	UNP P08515
G	-234	HIS	-	expression tag	UNP P08515
G	-233	HIS	-	expression tag	UNP P08515
G	-232	GLY	-	expression tag	UNP P08515
G	-231	SER	-	expression tag	UNP P08515
G	-230	SER	-	expression tag	UNP P08515
G	-11	GLY	-	linker	UNP P08515
G	-10	ILE	-	linker	UNP P08515
G	-9	GLU	-	linker	UNP P08515
G	-8	GLU	-	linker	UNP P08515
G	-7	ASN	-	linker	UNP P08515
G	-6	LEU	-	linker	UNP P08515
G	-5	TYR	-	linker	UNP P08515
G	-4	PHE	-	linker	UNP P08515
G	-3	GLN	-	linker	UNP P08515
G	-2	SER	-	linker	UNP P08515
G	-1	ASN	-	linker	UNP P08515
G	0	ALA	-	linker	UNP P08515
H	-242	MET	-	expression tag	UNP P08515
H	-241	LYS	-	expression tag	UNP P08515
H	-240	SER	-	expression tag	UNP P08515
H	-239	SER	-	expression tag	UNP P08515
H	-238	HIS	-	expression tag	UNP P08515
H	-237	HIS	-	expression tag	UNP P08515
H	-236	HIS	-	expression tag	UNP P08515
H	-235	HIS	-	expression tag	UNP P08515
H	-234	HIS	-	expression tag	UNP P08515
H	-233	HIS	-	expression tag	UNP P08515
H	-232	GLY	-	expression tag	UNP P08515
H	-231	SER	-	expression tag	UNP P08515
H	-230	SER	-	expression tag	UNP P08515
H	-11	GLY	-	linker	UNP P08515
H	-10	ILE	-	linker	UNP P08515
H	-9	GLU	-	linker	UNP P08515
H	-8	GLU	-	linker	UNP P08515

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Chain	Residue	Modelled	Actual	Comment	Reference
H	-7	ASN	-	linker	UNP P08515
H	-6	LEU	-	linker	UNP P08515
H	-5	TYR	-	linker	UNP P08515
H	-4	PHE	-	linker	UNP P08515
H	-3	GLN	-	linker	UNP P08515
H	-2	SER	-	linker	UNP P08515
H	-1	ASN	-	linker	UNP P08515
H	0	ALA	-	linker	UNP P08515

- Molecule 3 is ADENOSINE-3',5'-CYCLIC-MONOPHOSPHATE (three-letter code: CMP) (formula: $C_{10}H_{12}N_5O_6P$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
3	A	1	Total	C	N	O	P	0
			22	10	5	6	1	
3	B	1	Total	C	N	O	P	0
			22	10	5	6	1	
3	C	1	Total	C	N	O	P	0
			22	10	5	6	1	
3	D	1	Total	C	N	O	P	0
			22	10	5	6	1	

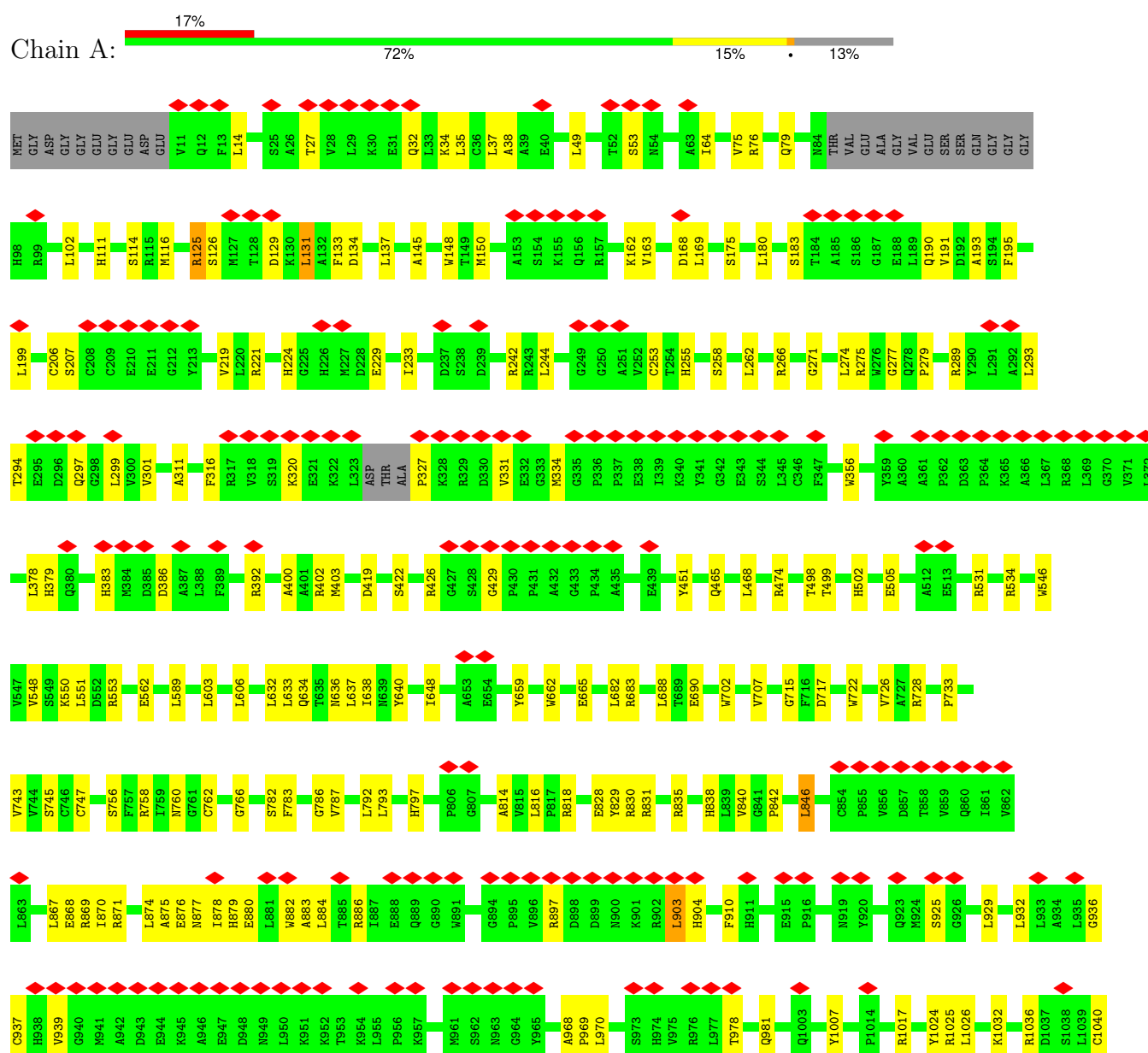
- Molecule 4 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
4	A	1	Total 1	Zn 1	0
4	B	1	Total 1	Zn 1	0
4	C	1	Total 1	Zn 1	0
4	D	1	Total 1	Zn 1	0

3 Residue-property plots [i](#)

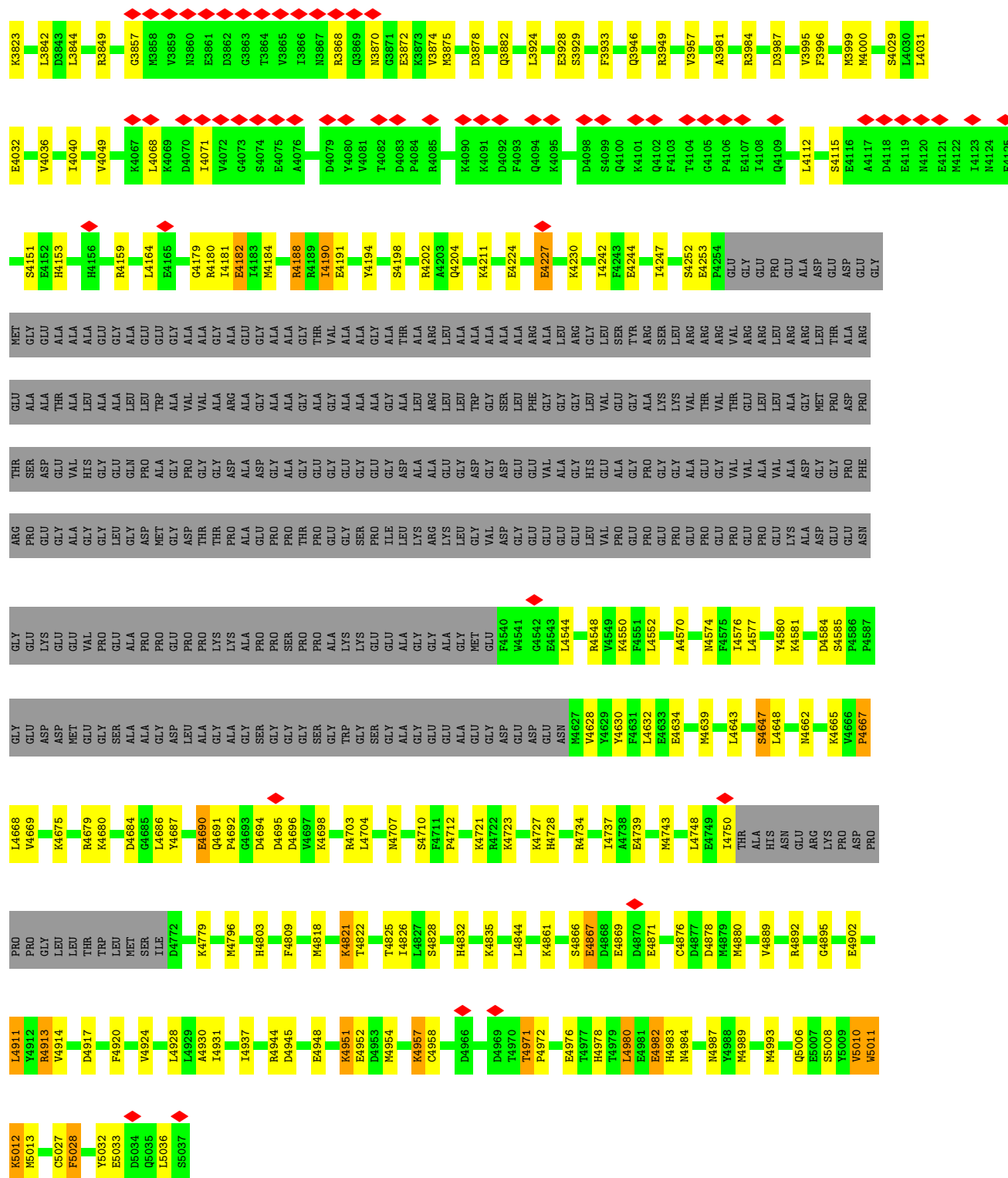
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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.

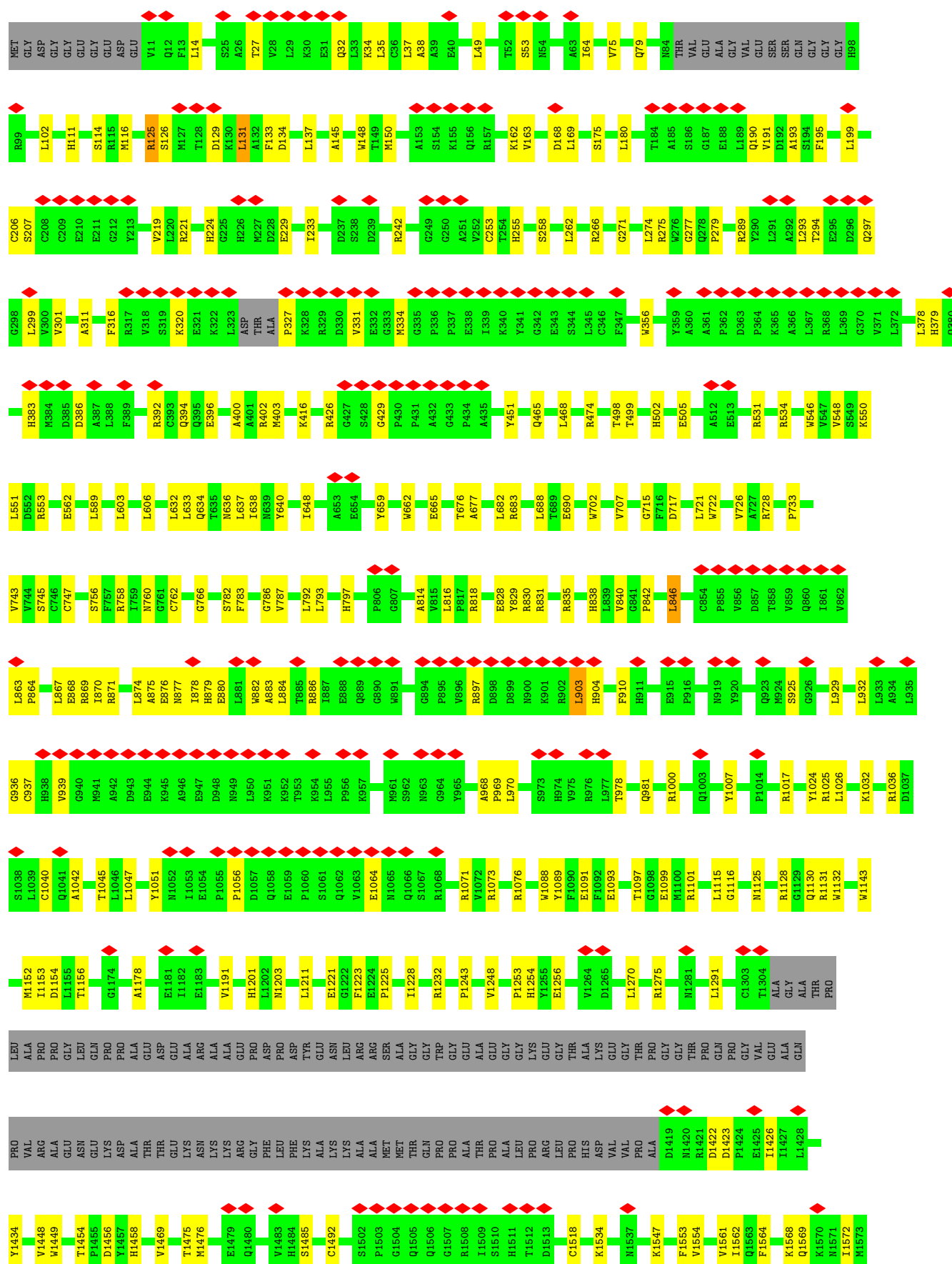
• Molecule 1: Ryanodine receptor 1





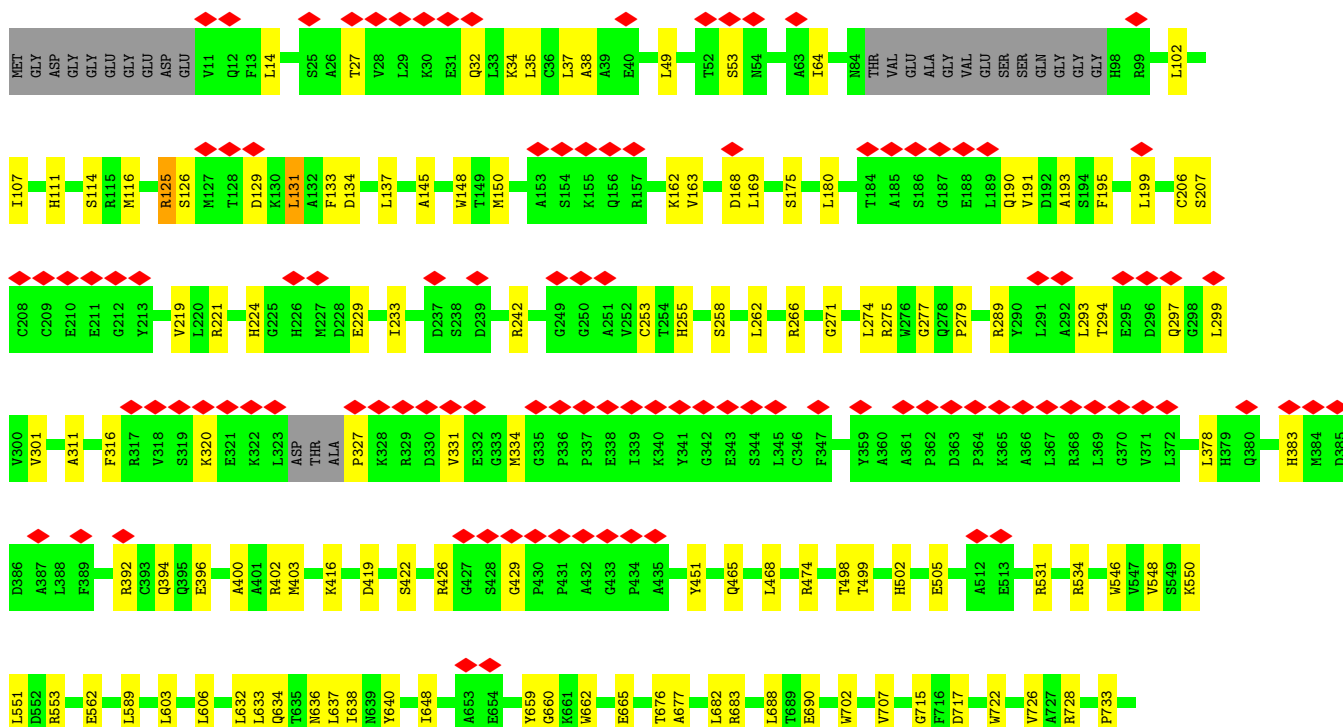








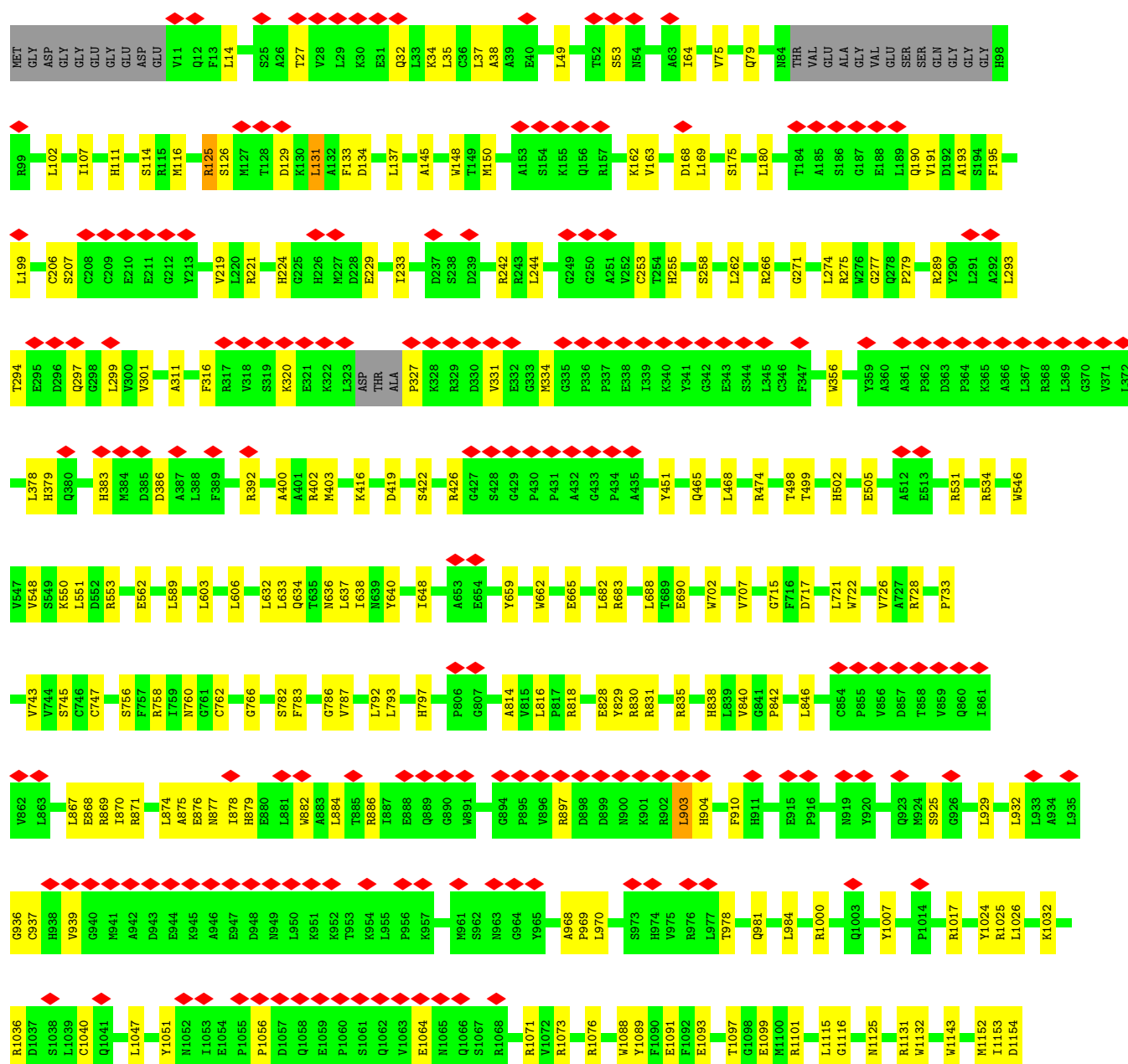






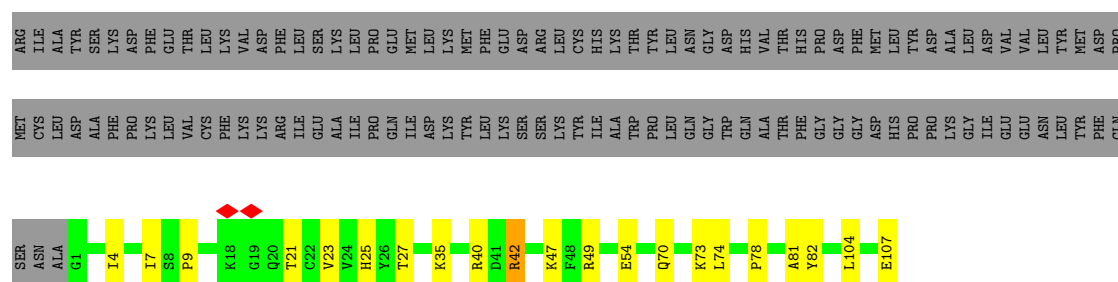




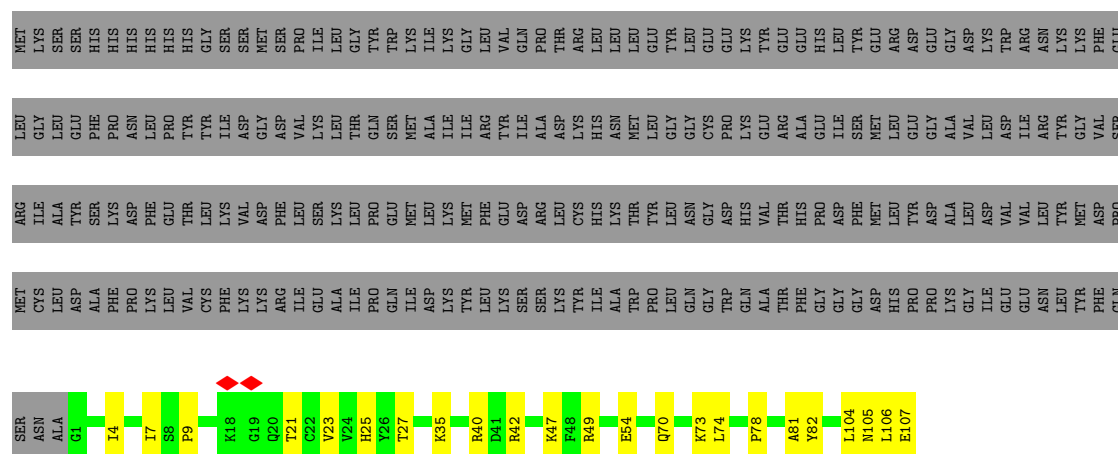


H2688	H2574	V2461	R2330	Q127	V2020	L1771	R1584	T1454	GLY	L1155
K2690	R2575	D2464	V2354	R2163	C2021	P1780	L1595	P1455	LEU	T1156
L2710	A2576	T2470	R2355	L2165	E2025	F1782	M1599	Y1457	PRO	G1174
D2716	L2577	S2471	L2356	L2165	R2028	L1786	C1630	H1458	ALA	A1178
Y2719	H2582	L2474	F2364	M2170	L2046	P1787	L1634	V1469	ASP	E1181
S2720	H2583	L2479	R2369	E2174	GLY	A1788	L1639	T1475	GLU	T1182
S2721	H2585	G2480	G2370	N2176	GLY	A1789	L1640	M1476	ALA	E1183
K2722	R2591	K2481	G2371	L2177	GLU	G1790	T1641	E1479	ALA	V1191
A2723	R2593	D2482	E2371	M2178	PRO	V1791	P1642	Q1480	GLU	H1201
E2724	S2594	G2483	G2372	L2215	GLY	A1792	C1647	V1483	ASP	L1202
K2725	C2611	A2484	G2372	G2216	GLU	E1793	L1653	H1484	PRO	N1203
ALA	L2614	L2485	E2381	G2217	GLU	A1801	L1658	S1485	TYR	L1211
THR	R2615	V2486	E2382	G2218	THR	R1808	Q1660	C1492	GLU	E1221
VAL	P2616	K2489	A2383	E2219	SER	L1815	Q1660	S1502	LEU	F1222
ASP	L2619	K2489	T2384	T2220	SER	D1828	C1674	P1503	ARG	F1223
ALA	L2624	F2494	T2386	K2221	ARG	P1829	M1679	G1504	SER	E1224
GLY	R2625	R2508	S2387	R2248	ARG	V1830	A1682	Q1505	ALA	P1225
N2734	R2625	V2509	E2388	N2260	ARG	Q1837	V1689	Q1506	GLY	I1228
F2735	L2626	Y2510	D2389	I2263	LEU	V1845	A1692	G1507	TRP	R1232
D2736	T2627	G2511	P2390	G2264	GLU	I1853	Q1693	R1508	GLU	P1243
P2737	F2628	L2512	A2391	M2267	THR	E1874	L1694	I1509	ALA	V1248
R2738	F2636	E2513	R2392	V2280	VAL	GLY	L1698	H1511	GLY	P1253
P2739	P2640	D2516	D2393	V2286	VAL	GLU	L1714	D1513	LYS	H1254
V2740	H2647	F2517	P2395	L2286	LYS	GLU	L1715	C1518	GLY	Y1255
E2741	R2650	L2518	G2396	A2287	LYS	GLU	I1716	K1534	THR	V1264
L2742	R2650	H2520	V2397	L2288	GLU	GLU	S1717	N1537	LYS	D1265
L2743	Y2655	L2522	ARG	A2289	GLU	GLU	R1728	K1547	GLY	L1270
N2744	P2659	D2523	ASP	L2290	LYS	GLU	L1731	F1553	THR	R1275
V2745	T2659	V2524	ARG	V2299	PRO	GLU	E1733	V1554	GLY	M1281
L2746	R2663	G2525	ARG	L2302	GLU	GLU	S1732	F1561	PRO	L1291
P2748	V2666	H2531	ARG	A2303	GLU	GLU	P1737	I1562	GLY	C1303
E2749	T2667	S2535	GLY	G2304	PRO	GLU	R1743	F1564	VAL	T1304
L2751	V2668	T2538	GLU	L2307	ALA	GLU	R1752	K1568	ALA	ALA
D2752	E2669	A2539	P2410	Q2308	GLU	ASP	G1753	Q1569	GLY	GLY
S2753	E2670	T2540	F2411	S2309	GLU	GLU	G1755	K1570	PRO	THR
F2754	L2671	F2541	E2412	C2310	GLU	GLU	A1756	N1571	VAL	PRO
L2755	L2672	L2556	E2413	M2312	LYS	LYS	M1757	I1572	ARG	ALA
N2756	L2674	L2562	R2415	L2313	GLU	GLU	P1574	A1577	ALA	PRO
K2757	L2678	T2562	L2418	L2314	GLU	ASP				
F2758	V2679	T2563	L2418	A2315	GLU	GLU				
A2759	W2680	K2564	L2418	K2316	ASP	GLU				
E2760	D2684	C2565	T2430	Y2317	GLU	GLU				
Y2761		A2570	A2437	P2319	GLU	GLU				
T2762		T2572	R2458	D2320	GLU	GLU				
H2763		E2573		I2321	GLU	GLU				
E2764										
K2765										
N2766										
A2767										
F2768										
D2769										
K2770										

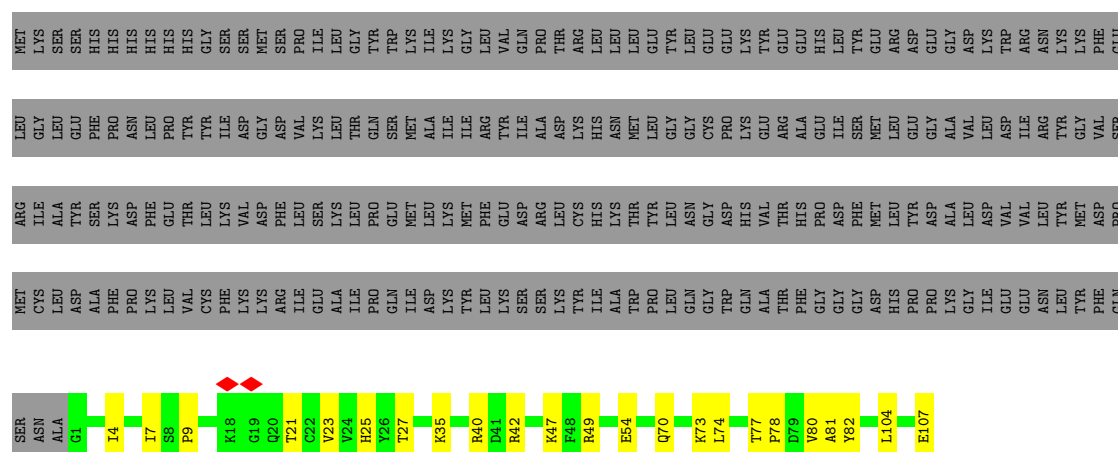




- Molecule 2: Glutathione S-transferase class-mu 26 kDa isozyme,Peptidyl-prolyl cis-trans isomerase FKBP1B



- Molecule 2: Glutathione S-transferase class-mu 26 kDa isozyme,Peptidyl-prolyl cis-trans isomerase FKBP1B



- Molecule 2: Glutathione S-transferase class-mu 26 kDa isozyme,Peptidyl-prolyl cis-trans isomerase FKBP1B



SER	ASN	ALA	G1	I4	I7	S8	P9	K18	G19	Q20	T21	G22	V23	V24	H25	Y26	T27	K35	R40	D41	R42	K47	F48	R49	E54	Q70	K73	L74	T77	F78	D79	V80	A81	Y82	L104	N105	L106	E107																		
MET	CYS	LEU	ASP	ALA	PHE	PRO	LYS	PHE	LYS	LYS	ARG	PHE	ILE	GLU	ALA	ILE	PRO	GLN	GLU	ILE	ASP	LYS	TYR	PHE	LEU	LYS	TRP	PRO	GLN	TRP	GLY	ASP	HIS	THR	PHE	GLY	GLY	ASP	PRO	PRO	LYS	GLY	ILE	GLU	ASN	LEU	TYR	MET	ASP	PRO						
ARG	ILE	ALA	TYR	SER	LYS	ASP	PHE	GLU	THR	CYS	LEU	LYS	VAL	ASP	PHE	SER	GLU	ALA	ILE	PRO	GLN	SER	GLU	TYR	MET	LYS	ASP	LEU	ILE	GLN	TYR	ASN	GLY	ASP	HIS	LYS	THR	LEU	ASP	MET	LEU	TYR	ASP	ALA	VAL	LEU	LYS	TRP	ASP	ILE	ARG	ASN	LYS	PHE	VAL	SER
LEU	GLY	LEU	GLU	SER	PHE	PRO	ASN	ILE	ASP	GLY	ASP	VAL	ASP	GLY	ASP	VAL	THR	GLN	SER	TRP	GLN	THR	TYR	GLY	ILE	ALA	ILE	LYS	ARG	LEU	ASN	GLY	CYS	PRO	GLU	LYS	TYR	GLU	ARG	GLY	ALA	VAL	LEU	LYS	TRP	ASP	ILE	ARG	ASN	LYS	PHE	VAL	SER			
MET	LYS	SER	SER	HIS	HIS	HIS	HIS	GLY	SER	SER	SER	SER	ILE	LEU	GLY	THR	TYR	TRP	TRP	TRP	TRP	TRP	TRP	TRP	GLY	GLY	LEU	ARG	LEU	ASN	GLY	CYS	PRO	GLU	LYS	TYR	GLU	ARG	GLY	ALA	VAL	LEU	LYS	TRP	ASP	ILE	ARG	ASN	LYS	PHE	VAL	SER				

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	206618	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	40	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	96000	Depositor
Image detector	FEI FALCON IV (4k x 4k)	Depositor
Maximum map value	0.725	Depositor
Minimum map value	-0.299	Depositor
Average map value	-0.001	Depositor
Map value standard deviation	0.026	Depositor
Recommended contour level	0.126	Depositor
Map size (\AA)	515.2, 515.2, 515.2	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	1.288, 1.288, 1.288	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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

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	0.33	0/35738	0.64	8/48398 (0.0%)
1	B	0.33	0/35738	0.64	8/48398 (0.0%)
1	C	0.33	0/35738	0.64	8/48398 (0.0%)
1	D	0.33	0/35738	0.64	8/48398 (0.0%)
2	E	0.33	0/834	0.65	0/1123
2	F	0.33	0/834	0.65	0/1123
2	G	0.33	0/834	0.65	0/1123
2	H	0.33	0/834	0.64	0/1123
All	All	0.33	0/146288	0.64	32/198084 (0.0%)

There are no bond length outliers.

All (32) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	5028	PHE	CB-CG-CD1	7.53	126.07	120.80
1	C	5028	PHE	CB-CG-CD1	7.43	126.00	120.80
1	B	5028	PHE	CB-CG-CD1	7.42	126.00	120.80
1	D	5028	PHE	CB-CG-CD1	7.42	126.00	120.80
1	A	903	LEU	CA-CB-CG	6.29	129.76	115.30
1	B	903	LEU	CA-CB-CG	6.28	129.75	115.30
1	C	903	LEU	CA-CB-CG	6.28	129.75	115.30
1	D	903	LEU	CA-CB-CG	6.28	129.75	115.30
1	B	1152	MET	CA-CB-CG	5.98	123.47	113.30
1	C	1152	MET	CA-CB-CG	5.98	123.47	113.30
1	D	1152	MET	CA-CB-CG	5.98	123.47	113.30
1	A	1152	MET	CA-CB-CG	5.97	123.45	113.30
1	B	2556	LEU	CA-CB-CG	5.72	128.45	115.30
1	C	2556	LEU	CA-CB-CG	5.72	128.45	115.30
1	D	2556	LEU	CA-CB-CG	5.71	128.43	115.30
1	A	2556	LEU	CA-CB-CG	5.70	128.41	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	D	3092	LEU	CA-CB-CG	5.58	128.13	115.30
1	B	3092	LEU	CA-CB-CG	5.58	128.12	115.30
1	C	3092	LEU	CA-CB-CG	5.58	128.12	115.30
1	A	5028	PHE	CB-CG-CD2	-5.57	116.91	120.80
1	A	3092	LEU	CA-CB-CG	5.56	128.09	115.30
1	C	5028	PHE	CB-CG-CD2	-5.55	116.91	120.80
1	B	131	LEU	CA-CB-CG	5.48	127.91	115.30
1	B	5028	PHE	CB-CG-CD2	-5.48	116.96	120.80
1	D	131	LEU	CA-CB-CG	5.48	127.91	115.30
1	D	5028	PHE	CB-CG-CD2	-5.48	116.96	120.80
1	A	131	LEU	CA-CB-CG	5.46	127.86	115.30
1	C	131	LEU	CA-CB-CG	5.46	127.86	115.30
1	A	1731	LEU	CA-CB-CG	5.26	127.40	115.30
1	B	1731	LEU	CA-CB-CG	5.25	127.38	115.30
1	C	1731	LEU	CA-CB-CG	5.25	127.38	115.30
1	D	1731	LEU	CA-CB-CG	5.25	127.38	115.30

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

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	34921	0	34546	387	0
1	B	34921	0	34546	399	0
1	C	34921	0	34546	392	0
1	D	34921	0	34546	391	0
2	E	818	0	824	12	0
2	F	818	0	824	12	0
2	G	818	0	824	13	0
2	H	818	0	824	13	0
3	A	22	0	11	2	0
3	B	22	0	11	2	0
3	C	22	0	11	2	0
3	D	22	0	11	2	0
4	A	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	B	1	0	0	0	0
4	C	1	0	0	0	0
4	D	1	0	0	0	0
All	All	143048	0	141524	1601	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 6.

All (1601) 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)
3:B:5101:CMP:H2	3:B:5101:CMP:C2	0.97	1.49
3:A:5101:CMP:C2	3:A:5101:CMP:H2	0.97	1.49
3:C:5101:CMP:H2	3:C:5101:CMP:C2	0.97	1.48
3:D:5101:CMP:H2	3:D:5101:CMP:C2	0.97	1.47
1:A:3335:MET:SD	1:A:3403:ARG:NH1	2.61	0.74
1:C:3335:MET:SD	1:C:3403:ARG:NH1	2.61	0.74
1:B:3335:MET:SD	1:B:3403:ARG:NH1	2.61	0.73
1:D:3335:MET:SD	1:D:3403:ARG:NH1	2.61	0.73
1:A:4978:HIS:HA	1:A:4982:GLU:HG3	1.71	0.72
1:C:4978:HIS:HA	1:C:4982:GLU:HG3	1.71	0.72
1:B:4978:HIS:HA	1:B:4982:GLU:HG3	1.71	0.72
1:D:4978:HIS:HA	1:D:4982:GLU:HG3	1.71	0.71
1:B:4242:ILE:HG12	1:B:4993:MET:HG2	1.73	0.70
1:A:4242:ILE:HG12	1:A:4993:MET:HG2	1.73	0.70
1:C:3106:MET:SD	1:C:3128:ASN:ND2	2.66	0.69
1:B:3106:MET:SD	1:B:3128:ASN:ND2	2.66	0.69
1:C:4242:ILE:HG12	1:C:4993:MET:HG2	1.73	0.69
1:D:4242:ILE:HG12	1:D:4993:MET:HG2	1.73	0.69
1:D:3106:MET:SD	1:D:3128:ASN:ND2	2.66	0.68
1:B:3634:ALA:O	1:B:3638:MET:HB3	1.94	0.68
1:B:4686:LEU:HA	1:B:4690:GLU:HG3	1.76	0.68
1:A:3634:ALA:O	1:A:3638:MET:HB3	1.94	0.68
1:C:3680:ALA:HB1	1:C:3683:GLN:HE22	1.59	0.68
1:A:3106:MET:SD	1:A:3128:ASN:ND2	2.66	0.67
1:C:4686:LEU:HA	1:C:4690:GLU:HG3	1.76	0.67
1:D:224:HIS:HB3	1:D:229:GLU:HB3	1.77	0.67
1:D:3634:ALA:O	1:D:3638:MET:HB3	1.94	0.67
1:A:4686:LEU:HA	1:A:4690:GLU:HG3	1.76	0.67
1:B:1943:LEU:HD13	1:B:2098:VAL:HG22	1.76	0.67
1:A:224:HIS:HB3	1:A:229:GLU:HB3	1.77	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:3680:ALA:HB1	1:D:3683:GLN:HE22	1.59	0.67
1:C:3420:ARG:HG3	1:C:3520:ILE:HD11	1.77	0.67
1:C:3634:ALA:O	1:C:3638:MET:HB3	1.94	0.67
1:A:3680:ALA:HB1	1:A:3683:GLN:HE22	1.59	0.67
1:C:224:HIS:HB3	1:C:229:GLU:HB3	1.77	0.67
1:A:2310:CYS:HB3	1:A:2313:LEU:HB2	1.78	0.66
1:B:3420:ARG:HG3	1:B:3520:ILE:HD11	1.77	0.66
1:D:4686:LEU:HA	1:D:4690:GLU:HG3	1.76	0.66
1:B:636:ASN:HD21	2:F:35:LYS:HE3	1.60	0.66
1:C:636:ASN:HD21	2:G:35:LYS:HE3	1.60	0.66
1:A:1943:LEU:HD13	1:A:2098:VAL:HG22	1.76	0.66
1:B:224:HIS:HB3	1:B:229:GLU:HB3	1.77	0.66
1:D:2310:CYS:HB3	1:D:2313:LEU:HB2	1.78	0.66
1:C:1943:LEU:HD13	1:C:2098:VAL:HG22	1.76	0.65
1:D:1943:LEU:HD13	1:D:2098:VAL:HG22	1.76	0.65
1:B:3680:ALA:HB1	1:B:3683:GLN:HE22	1.59	0.65
1:D:636:ASN:HD21	2:H:35:LYS:HE3	1.60	0.65
1:D:3420:ARG:HG3	1:D:3520:ILE:HD11	1.77	0.65
1:A:3332:ALA:HB3	1:A:3403:ARG:HD2	1.79	0.65
1:C:3332:ALA:HB3	1:C:3403:ARG:HD2	1.79	0.65
1:B:2310:CYS:HB3	1:B:2313:LEU:HB2	1.78	0.65
1:B:3332:ALA:HB3	1:B:3403:ARG:HD2	1.79	0.65
2:F:9:PRO:HA	2:F:70:GLN:HG2	1.79	0.65
1:A:3420:ARG:HG3	1:A:3520:ILE:HD11	1.77	0.65
2:E:9:PRO:HA	2:E:70:GLN:HG2	1.79	0.65
1:C:2310:CYS:HB3	1:C:2313:LEU:HB2	1.78	0.64
1:D:3332:ALA:HB3	1:D:3403:ARG:HD2	1.79	0.64
1:B:688:LEU:HD23	1:B:690:GLU:H	1.63	0.64
1:B:2531:ARG:HH12	1:B:2582:MET:HA	1.63	0.64
1:A:2531:ARG:HH12	1:A:2582:MET:HA	1.63	0.64
2:H:9:PRO:HA	2:H:70:GLN:HG2	1.79	0.64
1:C:2531:ARG:HH12	1:C:2582:MET:HA	1.63	0.64
1:C:688:LEU:HD23	1:C:690:GLU:H	1.63	0.63
1:C:1449:TRP:HB2	1:C:1553:PHE:HB2	1.80	0.63
2:G:9:PRO:HA	2:G:70:GLN:HG2	1.79	0.63
1:C:981:GLN:HG2	1:C:1047:LEU:HD11	1.80	0.63
1:A:981:GLN:HG2	1:A:1047:LEU:HD11	1.80	0.63
1:B:1449:TRP:HB2	1:B:1553:PHE:HB2	1.80	0.63
1:B:2007:ASN:O	1:B:2011:HIS:HB2	1.99	0.63
1:C:2007:ASN:O	1:C:2011:HIS:HB2	1.99	0.63
1:A:683:ARG:HG2	1:A:717:ASP:HB3	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2007:ASN:O	1:A:2011:HIS:HB2	1.99	0.63
1:D:2007:ASN:O	1:D:2011:HIS:HB2	1.99	0.63
1:D:688:LEU:HD23	1:D:690:GLU:H	1.63	0.63
1:D:683:ARG:HG2	1:D:717:ASP:HB3	1.80	0.63
2:F:25:HIS:HB2	2:F:104:LEU:HD22	1.81	0.63
1:B:219:VAL:O	1:B:392:ARG:NH2	2.32	0.63
1:B:978:THR:OG1	1:B:981:GLN:OE1	2.17	0.63
1:C:219:VAL:O	1:C:392:ARG:NH2	2.32	0.62
1:D:981:GLN:HG2	1:D:1047:LEU:HD11	1.80	0.62
1:D:745:SER:HB2	1:D:758:ARG:HB2	1.81	0.62
1:A:219:VAL:O	1:A:392:ARG:NH2	2.32	0.62
1:A:978:THR:OG1	1:A:981:GLN:OE1	2.17	0.62
1:C:978:THR:OG1	1:C:981:GLN:OE1	2.17	0.62
2:G:25:HIS:HB2	2:G:104:LEU:HD22	1.81	0.62
1:A:688:LEU:HD23	1:A:690:GLU:H	1.62	0.62
1:D:219:VAL:O	1:D:392:ARG:NH2	2.32	0.62
1:D:2531:ARG:HH12	1:D:2582:MET:HA	1.63	0.62
1:A:3103:ILE:HG21	1:A:3168:THR:HG23	1.82	0.62
1:B:981:GLN:HG2	1:B:1047:LEU:HD11	1.80	0.62
1:C:683:ARG:HG2	1:C:717:ASP:HB3	1.80	0.62
1:D:978:THR:OG1	1:D:981:GLN:OE1	2.17	0.62
1:D:3103:ILE:HG21	1:D:3168:THR:HG23	1.82	0.62
1:A:1449:TRP:HB2	1:A:1553:PHE:HB2	1.80	0.62
1:B:683:ARG:HG2	1:B:717:ASP:HB3	1.80	0.62
1:C:835:ARG:NH1	1:C:1093:GLU:OE1	2.33	0.62
1:C:3114:LYS:HD3	1:C:3116:SER:H	1.64	0.62
1:B:3103:ILE:HG21	1:B:3168:THR:HG23	1.82	0.61
1:C:3322:ILE:O	1:C:3326:ASN:ND2	2.33	0.61
1:D:835:ARG:NH1	1:D:1093:GLU:OE1	2.33	0.61
1:D:3114:LYS:HD3	1:D:3116:SER:H	1.64	0.61
1:A:745:SER:HB2	1:A:758:ARG:HB2	1.81	0.61
1:B:745:SER:HB2	1:B:758:ARG:HB2	1.81	0.61
2:E:25:HIS:HB2	2:E:104:LEU:HD22	1.81	0.61
1:A:835:ARG:NH1	1:A:1093:GLU:OE1	2.33	0.61
1:C:745:SER:HB2	1:C:758:ARG:HB2	1.81	0.61
1:A:233:ILE:HD12	1:A:242:ARG:HB3	1.82	0.61
1:A:3020:THR:HG23	1:A:3023:LYS:H	1.65	0.61
1:D:3020:THR:HG23	1:D:3023:LYS:H	1.65	0.61
1:D:1449:TRP:HB2	1:D:1553:PHE:HB2	1.80	0.61
1:A:3322:ILE:O	1:A:3326:ASN:ND2	2.33	0.61
1:B:3020:THR:HG23	1:B:3023:LYS:H	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:233:ILE:HD12	1:D:242:ARG:HB3	1.82	0.61
2:H:25:HIS:HB2	2:H:104:LEU:HD22	1.81	0.61
1:B:233:ILE:HD12	1:B:242:ARG:HB3	1.82	0.61
1:C:897:ARG:HB2	1:C:903:LEU:HD11	1.83	0.61
1:C:3103:ILE:HG21	1:C:3168:THR:HG23	1.82	0.61
1:A:2000:SER:O	1:A:2005:GLN:NE2	2.33	0.61
1:A:3114:LYS:HD3	1:A:3116:SER:H	1.65	0.61
1:B:835:ARG:NH1	1:B:1093:GLU:OE1	2.33	0.61
1:D:1024:TYR:O	1:D:1032:LYS:NZ	2.34	0.61
1:B:3114:LYS:HD3	1:B:3116:SER:H	1.64	0.61
1:D:3868:ARG:HH11	1:D:3870:ASN:HB3	1.66	0.61
1:A:3868:ARG:HH11	1:A:3870:ASN:HB3	1.66	0.61
1:C:1024:TYR:O	1:C:1032:LYS:NZ	2.34	0.60
1:A:1024:TYR:O	1:A:1032:LYS:NZ	2.34	0.60
1:B:2410:PRO:HB3	1:B:2415:ARG:HB3	1.83	0.60
1:B:1024:TYR:O	1:B:1032:LYS:NZ	2.34	0.60
1:C:2000:SER:O	1:C:2005:GLN:NE2	2.33	0.60
1:A:2410:PRO:HB3	1:A:2415:ARG:HB3	1.83	0.60
1:B:897:ARG:HB2	1:B:903:LEU:HD11	1.83	0.60
1:C:3020:THR:HG23	1:C:3023:LYS:H	1.65	0.60
1:D:1569:GLN:HB2	1:D:1572:ILE:HD12	1.84	0.60
1:B:3868:ARG:HH11	1:B:3870:ASN:HB3	1.66	0.60
1:C:233:ILE:HD12	1:C:242:ARG:HB3	1.82	0.60
1:C:2410:PRO:HB3	1:C:2415:ARG:HB3	1.83	0.60
1:C:4049:VAL:HG21	1:C:4159:ARG:HE	1.67	0.60
1:A:1569:GLN:HB2	1:A:1572:ILE:HD12	1.84	0.59
1:C:3868:ARG:HH11	1:C:3870:ASN:HB3	1.66	0.59
1:D:4049:VAL:HG21	1:D:4159:ARG:HE	1.67	0.59
1:C:125:ARG:HH22	1:C:190:GLN:HB3	1.67	0.59
1:B:4049:VAL:HG21	1:B:4159:ARG:HE	1.67	0.59
1:C:633:LEU:HD13	1:C:1639:LEU:HD21	1.84	0.59
1:A:897:ARG:HB2	1:A:903:LEU:HD11	1.83	0.59
1:B:1569:GLN:HB2	1:B:1572:ILE:HD12	1.84	0.59
1:D:35:LEU:HD13	1:D:49:LEU:HD13	1.85	0.59
1:C:34:LYS:H	1:C:53:SER:HB3	1.68	0.59
1:D:34:LYS:H	1:D:53:SER:HB3	1.68	0.59
1:D:3322:ILE:O	1:D:3326:ASN:ND2	2.33	0.59
1:A:1448:VAL:HG22	1:A:1554:VAL:HG23	1.85	0.59
1:D:125:ARG:HH22	1:D:190:GLN:HB3	1.67	0.59
1:D:2410:PRO:HB3	1:D:2415:ARG:HB3	1.83	0.59
1:A:35:LEU:HD13	1:A:49:LEU:HD13	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:633:LEU:HD13	1:A:1639:LEU:HD21	1.84	0.59
1:B:3322:ILE:O	1:B:3326:ASN:ND2	2.33	0.59
1:C:1569:GLN:HB2	1:C:1572:ILE:HD12	1.84	0.59
1:A:125:ARG:HH22	1:A:190:GLN:HB3	1.67	0.59
1:A:293:LEU:HD12	1:A:378:LEU:HD23	1.85	0.59
1:A:4049:VAL:HG21	1:A:4159:ARG:HE	1.67	0.59
1:B:35:LEU:HD13	1:B:49:LEU:HD13	1.85	0.59
1:B:1448:VAL:HG22	1:B:1554:VAL:HG23	1.85	0.59
1:C:1448:VAL:HG22	1:C:1554:VAL:HG23	1.85	0.59
1:D:2000:SER:O	1:D:2005:GLN:NE2	2.33	0.59
1:D:3162:GLN:NE2	1:D:3216:CYS:SG	2.76	0.59
1:A:34:LYS:H	1:A:53:SER:HB3	1.68	0.58
1:B:293:LEU:HD12	1:B:378:LEU:HD23	1.85	0.58
1:B:4920:PHE:O	1:B:4924:VAL:HB	2.03	0.58
1:C:4920:PHE:O	1:C:4924:VAL:HB	2.03	0.58
1:B:125:ARG:HH22	1:B:190:GLN:HB3	1.67	0.58
1:A:3162:GLN:NE2	1:A:3216:CYS:SG	2.76	0.58
1:D:293:LEU:HD12	1:D:378:LEU:HD23	1.85	0.58
1:B:3457:ASN:O	1:B:3461:GLN:NE2	2.37	0.58
1:C:3162:GLN:NE2	1:C:3216:CYS:SG	2.76	0.58
1:D:3457:ASN:O	1:D:3461:GLN:NE2	2.37	0.58
1:A:299:LEU:HD13	1:A:378:LEU:HD22	1.86	0.58
1:C:3017:PHE:O	1:C:3036:LYS:NZ	2.37	0.58
1:C:3457:ASN:O	1:C:3461:GLN:NE2	2.37	0.58
1:D:897:ARG:HB2	1:D:903:LEU:HD11	1.83	0.58
1:D:3377:GLU:HA	1:D:3380:ARG:HG2	1.86	0.58
1:D:4928:LEU:HD23	1:D:4931:ILE:HD12	1.85	0.58
1:A:3872:GLU:HG3	1:A:3874:VAL:H	1.68	0.58
1:C:293:LEU:HD12	1:C:378:LEU:HD23	1.85	0.58
1:D:4920:PHE:O	1:D:4924:VAL:HB	2.03	0.58
1:A:3946:GLN:OE1	1:A:3949:ARG:NH2	2.36	0.58
1:B:34:LYS:H	1:B:53:SER:HB3	1.68	0.58
1:B:633:LEU:HD13	1:B:1639:LEU:HD21	1.84	0.58
1:B:1476:MET:HB2	1:B:1485:SER:HB3	1.86	0.58
1:B:2885:THR:HG22	1:B:2888:ARG:HH12	1.69	0.58
1:C:2885:THR:HG22	1:C:2888:ARG:HH12	1.69	0.58
1:D:633:LEU:HD13	1:D:1639:LEU:HD21	1.84	0.58
1:D:1448:VAL:HG22	1:D:1554:VAL:HG23	1.85	0.58
1:C:35:LEU:HD13	1:C:49:LEU:HD13	1.85	0.58
1:C:3377:GLU:HA	1:C:3380:ARG:HG2	1.86	0.58
1:A:531:ARG:NH2	1:A:562:GLU:OE2	2.36	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2885:THR:HG22	1:D:2888:ARG:HH12	1.69	0.58
1:A:2885:THR:HG22	1:A:2888:ARG:HH12	1.69	0.57
1:A:4920:PHE:O	1:A:4924:VAL:HB	2.04	0.57
1:B:3017:PHE:O	1:B:3036:LYS:NZ	2.37	0.57
1:B:3162:GLN:NE2	1:B:3216:CYS:SG	2.76	0.57
1:A:3017:PHE:O	1:A:3036:LYS:NZ	2.37	0.57
1:C:3872:GLU:HG3	1:C:3874:VAL:H	1.68	0.57
1:D:3872:GLU:HG3	1:D:3874:VAL:H	1.68	0.57
2:G:27:THR:OG1	2:G:40:ARG:NH1	2.37	0.57
1:B:632:LEU:O	1:B:634:GLN:NE2	2.38	0.57
1:C:632:LEU:O	1:C:634:GLN:NE2	2.38	0.57
1:C:2967:MET:HE3	1:C:3049:LEU:HD13	1.86	0.57
1:D:299:LEU:HD13	1:D:378:LEU:HD22	1.86	0.57
1:D:531:ARG:NH2	1:D:562:GLU:OE2	2.36	0.57
1:D:2978:GLU:OE2	1:D:3053:ARG:NH1	2.37	0.57
1:B:4928:LEU:HD23	1:B:4931:ILE:HD12	1.85	0.57
1:D:1476:MET:HB2	1:D:1485:SER:HB3	1.86	0.57
2:F:27:THR:OG1	2:F:40:ARG:NH1	2.37	0.57
1:A:37:LEU:HD21	1:A:191:VAL:HG21	1.87	0.57
1:B:3872:GLU:HG3	1:B:3874:VAL:H	1.68	0.57
1:C:2978:GLU:OE2	1:C:3053:ARG:NH1	2.37	0.57
2:E:27:THR:OG1	2:E:40:ARG:NH1	2.37	0.57
1:C:1476:MET:HB2	1:C:1485:SER:HB3	1.86	0.57
1:C:4928:LEU:HD23	1:C:4931:ILE:HD12	1.85	0.57
1:D:3562:LYS:HE3	1:D:3564:GLU:HB2	1.87	0.57
1:A:4068:LEU:HA	1:A:4071:ILE:HB	1.87	0.57
1:B:2978:GLU:OE2	1:B:3053:ARG:NH1	2.37	0.57
1:A:3457:ASN:O	1:A:3461:GLN:NE2	2.37	0.57
1:B:37:LEU:HD21	1:B:191:VAL:HG21	1.87	0.57
1:B:299:LEU:HD13	1:B:378:LEU:HD22	1.86	0.57
1:B:2670:GLU:HG2	1:B:2912:THR:HA	1.87	0.57
1:B:3562:LYS:HE3	1:B:3564:GLU:HB2	1.87	0.57
1:D:3017:PHE:O	1:D:3036:LYS:NZ	2.37	0.57
2:H:27:THR:OG1	2:H:40:ARG:NH1	2.37	0.57
1:A:2978:GLU:OE2	1:A:3053:ARG:NH1	2.37	0.56
1:A:4928:LEU:HD23	1:A:4931:ILE:HD12	1.85	0.56
1:C:3081:MET:HG2	1:C:3089:LYS:HE3	1.87	0.56
1:D:632:LEU:O	1:D:634:GLN:NE2	2.38	0.56
1:A:2967:MET:HE3	1:A:3049:LEU:HD13	1.87	0.56
1:B:4068:LEU:HA	1:B:4071:ILE:HB	1.87	0.56
1:A:636:ASN:HD21	2:E:35:LYS:HE3	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1476:MET:HB2	1:A:1485:SER:HB3	1.86	0.56
1:A:2670:GLU:HG2	1:A:2912:THR:HA	1.87	0.56
1:B:1131:ARG:NH1	1:B:1178:ALA:O	2.38	0.56
1:B:3081:MET:HG2	1:B:3089:LYS:HE3	1.87	0.56
1:B:3377:GLU:HA	1:B:3380:ARG:HG2	1.86	0.56
1:C:299:LEU:HD13	1:C:378:LEU:HD22	1.86	0.56
1:C:3562:LYS:HE3	1:C:3564:GLU:HB2	1.87	0.56
1:C:3769:ARG:O	1:C:3773:ARG:NH1	2.38	0.56
1:D:1131:ARG:NH1	1:D:1178:ALA:O	2.38	0.56
1:D:2655:TYR:HB3	1:D:2672:LEU:HD21	1.88	0.56
1:D:3147:ILE:HG23	1:D:3152:PHE:HB2	1.88	0.56
1:D:4068:LEU:HA	1:D:4071:ILE:HB	1.87	0.56
1:A:35:LEU:HB3	1:A:49:LEU:HD22	1.87	0.56
1:A:1131:ARG:NH1	1:A:1178:ALA:O	2.38	0.56
1:A:1291:LEU:HB3	1:A:1595:LEU:HD11	1.88	0.56
1:A:2655:TYR:HB3	1:A:2672:LEU:HD21	1.88	0.56
1:B:882:TRP:O	1:B:886:ARG:NH1	2.39	0.56
1:C:37:LEU:HD21	1:C:191:VAL:HG21	1.87	0.56
1:A:632:LEU:O	1:A:634:GLN:NE2	2.38	0.56
1:A:3377:GLU:HA	1:A:3380:ARG:HG2	1.86	0.56
1:A:3562:LYS:HE3	1:A:3564:GLU:HB2	1.87	0.56
1:D:3769:ARG:O	1:D:3773:ARG:NH1	2.38	0.56
1:A:207:SER:OG	1:A:334:MET:SD	2.64	0.56
1:B:35:LEU:HB3	1:B:49:LEU:HD22	1.87	0.56
1:B:207:SER:OG	1:B:334:MET:SD	2.64	0.56
1:B:2967:MET:HE3	1:B:3049:LEU:HD13	1.86	0.56
1:C:882:TRP:O	1:C:886:ARG:NH1	2.39	0.56
1:B:3524:MET:HA	1:B:3582:ARG:HH12	1.71	0.56
1:C:2670:GLU:HG2	1:C:2912:THR:HA	1.87	0.56
1:D:2765:LYS:NZ	1:D:2859:PRO:O	2.38	0.56
1:A:882:TRP:O	1:A:886:ARG:NH1	2.39	0.56
1:C:1131:ARG:NH1	1:C:1178:ALA:O	2.38	0.56
1:C:1469:VAL:HG13	1:C:1492:CYS:HB3	1.88	0.56
1:C:2021:CYS:O	1:C:2028:ARG:NH2	2.39	0.56
1:D:35:LEU:HB3	1:D:49:LEU:HD22	1.87	0.56
1:A:551:LEU:HB3	1:A:589:LEU:HD11	1.88	0.56
1:A:3081:MET:HG2	1:A:3089:LYS:HE3	1.87	0.56
1:A:3524:MET:HA	1:A:3582:ARG:HH12	1.71	0.56
1:B:2021:CYS:O	1:B:2028:ARG:NH2	2.39	0.56
1:B:3946:GLN:OE1	1:B:3949:ARG:NH2	2.36	0.56
1:C:4068:LEU:HA	1:C:4071:ILE:HB	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1469:VAL:HG13	1:D:1492:CYS:HB3	1.88	0.56
1:D:2670:GLU:HG2	1:D:2912:THR:HA	1.87	0.56
1:B:1469:VAL:HG13	1:B:1492:CYS:HB3	1.88	0.56
1:D:37:LEU:HD21	1:D:191:VAL:HG21	1.87	0.56
1:A:2021:CYS:O	1:A:2028:ARG:NH2	2.39	0.55
1:A:3147:ILE:HG23	1:A:3152:PHE:HB2	1.88	0.55
1:C:1116:GLY:HA3	1:C:1132:TRP:HB3	1.88	0.55
1:C:3147:ILE:HG23	1:C:3152:PHE:HB2	1.88	0.55
1:A:27:THR:OG1	1:A:32:GLN:OE1	2.23	0.55
1:A:867:LEU:HD13	1:A:929:LEU:HB3	1.89	0.55
1:B:531:ARG:NH2	1:B:562:GLU:OE2	2.36	0.55
1:B:1291:LEU:HB3	1:B:1595:LEU:HD11	1.88	0.55
1:B:1454:THR:OG1	1:B:1456:ASP:OD1	2.24	0.55
1:B:3766:GLN:OE1	1:B:3769:ARG:NH2	2.40	0.55
1:C:867:LEU:HD13	1:C:929:LEU:HB3	1.89	0.55
1:C:4976:GLU:O	1:C:4980:LEU:HB2	2.06	0.55
1:D:882:TRP:O	1:D:886:ARG:NH1	2.39	0.55
1:D:2021:CYS:O	1:D:2028:ARG:NH2	2.39	0.55
1:A:1469:VAL:HG13	1:A:1492:CYS:HB3	1.88	0.55
1:B:2777:TYR:HB3	1:B:2791:LEU:HD23	1.89	0.55
1:C:207:SER:OG	1:C:334:MET:SD	2.64	0.55
1:C:1291:LEU:HB3	1:C:1595:LEU:HD11	1.88	0.55
1:C:2655:TYR:HB3	1:C:2672:LEU:HD21	1.88	0.55
1:D:1116:GLY:HA3	1:D:1132:TRP:HB3	1.88	0.55
1:D:3081:MET:HG2	1:D:3089:LYS:HE3	1.87	0.55
1:B:14:LEU:HB2	1:B:163:VAL:HG13	1.88	0.55
1:D:3524:MET:HA	1:D:3582:ARG:HH12	1.71	0.55
1:B:3227:ARG:NH1	1:B:3234:ASN:OD1	2.40	0.55
1:B:4976:GLU:O	1:B:4980:LEU:HB2	2.06	0.55
1:C:35:LEU:HB3	1:C:49:LEU:HD22	1.87	0.55
1:C:3524:MET:O	1:C:3576:TYR:OH	2.24	0.55
1:D:3766:GLN:OE1	1:D:3769:ARG:NH2	2.40	0.55
1:B:27:THR:OG1	1:B:32:GLN:OE1	2.23	0.55
1:B:3147:ILE:HG23	1:B:3152:PHE:HB2	1.88	0.55
1:C:2777:TYR:HB3	1:C:2791:LEU:HD23	1.89	0.55
1:A:2777:TYR:HB3	1:A:2791:LEU:HD23	1.89	0.55
1:B:867:LEU:HD13	1:B:929:LEU:HB3	1.89	0.55
1:C:2765:LYS:NZ	1:C:2859:PRO:O	2.38	0.55
1:D:551:LEU:HB3	1:D:589:LEU:HD11	1.88	0.55
1:D:1291:LEU:HB3	1:D:1595:LEU:HD11	1.88	0.55
1:D:2394:GLY:HA3	1:D:2415:ARG:HH21	1.72	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2777:TYR:HB3	1:D:2791:LEU:HD23	1.89	0.55
1:D:4976:GLU:O	1:D:4980:LEU:HB2	2.06	0.55
1:A:14:LEU:HB2	1:A:163:VAL:HG13	1.88	0.55
1:B:2871:LEU:HG	1:B:2927:LEU:HD21	1.89	0.55
1:B:4983:HIS:O	3:B:5101:CMP:N6	2.40	0.55
1:C:4151:SER:HB3	1:C:4164:LEU:HD21	1.88	0.55
1:D:4151:SER:HB3	1:D:4164:LEU:HD21	1.88	0.55
1:A:2394:GLY:HA3	1:A:2415:ARG:HH21	1.72	0.55
1:A:4983:HIS:O	3:A:5101:CMP:N6	2.40	0.55
1:B:2000:SER:O	1:B:2005:GLN:NE2	2.33	0.55
1:C:3766:GLN:OE1	1:C:3769:ARG:NH2	2.40	0.55
2:H:78:PRO:HA	2:H:81:ALA:HB3	1.89	0.55
1:A:828:GLU:O	1:A:1073:ARG:NH1	2.40	0.54
1:A:1116:GLY:HA3	1:A:1132:TRP:HB3	1.88	0.54
1:B:2655:TYR:HB3	1:B:2672:LEU:HD21	1.88	0.54
1:C:3524:MET:HA	1:C:3582:ARG:HH12	1.71	0.54
1:D:207:SER:OG	1:D:334:MET:SD	2.64	0.54
1:D:1089:TYR:HE2	1:D:1211:LEU:HD13	1.72	0.54
1:D:1694:LEU:HB3	1:D:1715:LEU:HD12	1.89	0.54
1:D:3524:MET:O	1:D:3576:TYR:OH	2.24	0.54
1:A:659:TYR:O	1:A:662:TRP:NE1	2.40	0.54
1:A:1089:TYR:HE2	1:A:1211:LEU:HD13	1.72	0.54
1:A:1947:CYS:SG	1:A:2127:GLN:NE2	2.75	0.54
1:A:3766:GLN:OE1	1:A:3769:ARG:NH2	2.40	0.54
1:B:3445:TRP:HZ3	1:B:3511:VAL:HG13	1.73	0.54
1:C:2871:LEU:HG	1:C:2927:LEU:HD21	1.89	0.54
1:D:828:GLU:O	1:D:1073:ARG:NH1	2.40	0.54
1:D:867:LEU:HD13	1:D:929:LEU:HB3	1.89	0.54
1:D:1076:ARG:HB3	1:D:1191:VAL:HG23	1.90	0.54
1:D:4983:HIS:O	3:D:5101:CMP:N6	2.40	0.54
1:A:2288:LEU:O	1:A:3849:ARG:NH1	2.39	0.54
1:A:4913:ARG:NH2	1:D:4888:TYR:OH	2.40	0.54
1:B:1694:LEU:HB3	1:B:1715:LEU:HD12	1.89	0.54
1:C:551:LEU:HB3	1:C:589:LEU:HD11	1.88	0.54
1:C:1694:LEU:HB3	1:C:1715:LEU:HD12	1.89	0.54
1:C:3946:GLN:OE1	1:C:3949:ARG:NH2	2.36	0.54
1:A:4976:GLU:O	1:A:4980:LEU:HB2	2.06	0.54
1:B:2394:GLY:HA3	1:B:2415:ARG:HH21	1.72	0.54
1:C:531:ARG:NH2	1:C:562:GLU:OE2	2.36	0.54
1:D:2967:MET:HE3	1:D:3049:LEU:HD13	1.88	0.54
1:B:551:LEU:HB3	1:B:589:LEU:HD11	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:828:GLU:O	1:B:1073:ARG:NH1	2.40	0.54
1:C:4983:HIS:O	3:C:5101:CMP:N6	2.40	0.54
1:C:1076:ARG:HB3	1:C:1191:VAL:HG23	1.90	0.54
1:C:2519:LEU:HD13	1:C:2522:LEU:HD23	1.90	0.54
1:C:3445:TRP:HZ3	1:C:3511:VAL:HG13	1.72	0.54
1:C:4570:ALA:O	1:C:4574:ASN:ND2	2.41	0.54
1:D:3445:TRP:HZ3	1:D:3511:VAL:HG13	1.73	0.54
1:A:1694:LEU:HB3	1:A:1715:LEU:HD12	1.89	0.54
1:B:1270:LEU:HB2	1:B:1564:PHE:HB2	1.90	0.54
1:C:2394:GLY:HA3	1:C:2415:ARG:HH21	1.72	0.54
1:B:1116:GLY:HA3	1:B:1132:TRP:HB3	1.88	0.54
1:C:14:LEU:HB2	1:C:163:VAL:HG13	1.88	0.54
1:C:1089:TYR:HE2	1:C:1211:LEU:HD13	1.72	0.54
2:G:78:PRO:HA	2:G:81:ALA:HB3	1.89	0.54
1:A:2280:VAL:HG11	1:A:2290:LEU:HD12	1.90	0.54
1:A:3984:ARG:NH2	1:A:3987:ASP:OD2	2.41	0.54
1:A:4151:SER:HB3	1:A:4164:LEU:HD21	1.88	0.54
1:C:828:GLU:O	1:C:1073:ARG:NH1	2.40	0.54
1:C:2765:LYS:HZ3	1:C:2857:PRO:HB2	1.73	0.54
1:D:125:ARG:NH1	1:D:126:SER:OG	2.41	0.54
1:D:2280:VAL:HG11	1:D:2290:LEU:HD12	1.90	0.54
1:D:2871:LEU:HG	1:D:2927:LEU:HD21	1.89	0.54
1:D:3995:VAL:O	1:D:3999:MET:HB2	2.08	0.54
1:D:4570:ALA:O	1:D:4574:ASN:ND2	2.41	0.54
1:A:1076:ARG:HB3	1:A:1191:VAL:HG23	1.90	0.54
1:B:1076:ARG:HB3	1:B:1191:VAL:HG23	1.90	0.54
1:B:1815:LEU:HD22	1:B:1845:VAL:HG21	1.90	0.54
1:B:2801:ASP:HA	1:B:2804:ILE:HG12	1.90	0.54
1:D:27:THR:OG1	1:D:32:GLN:OE1	2.23	0.54
1:A:1815:LEU:HD22	1:A:1845:VAL:HG21	1.90	0.53
1:A:4570:ALA:O	1:A:4574:ASN:ND2	2.41	0.53
1:B:659:TYR:O	1:B:662:TRP:NE1	2.40	0.53
1:B:2458:ARG:NH2	1:B:2509:VAL:O	2.41	0.53
1:C:1784:ALA:O	2:G:82:TYR:OH	2.26	0.53
1:D:14:LEU:HB2	1:D:163:VAL:HG13	1.88	0.53
1:D:2018:GLU:OE1	1:D:2028:ARG:NH1	2.42	0.53
1:A:2765:LYS:NZ	1:A:2859:PRO:O	2.38	0.53
1:B:4151:SER:HB3	1:B:4164:LEU:HD21	1.88	0.53
1:C:659:TYR:O	1:C:662:TRP:NE1	2.40	0.53
1:D:2458:ARG:NH2	1:D:2509:VAL:O	2.41	0.53
1:A:3995:VAL:O	1:A:3999:MET:HB2	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3995:VAL:O	1:B:3999:MET:HB2	2.08	0.53
1:C:125:ARG:NH1	1:C:126:SER:OG	2.41	0.53
1:C:1815:LEU:HD22	1:C:1845:VAL:HG21	1.90	0.53
1:C:2458:ARG:NH2	1:C:2509:VAL:O	2.41	0.53
1:D:707:VAL:HG23	1:D:782:SER:HB3	1.91	0.53
1:D:2519:LEU:HD13	1:D:2522:LEU:HD23	1.90	0.53
2:E:78:PRO:HA	2:E:81:ALA:HB3	1.89	0.53
1:B:1089:TYR:HE2	1:B:1211:LEU:HD13	1.72	0.53
1:B:3524:MET:O	1:B:3576:TYR:OH	2.24	0.53
1:B:4570:ALA:O	1:B:4574:ASN:ND2	2.41	0.53
1:C:707:VAL:HG23	1:C:782:SER:HB3	1.91	0.53
1:C:1947:CYS:SG	1:C:2127:GLN:NE2	2.75	0.53
1:C:2801:ASP:HA	1:C:2804:ILE:HG12	1.90	0.53
1:D:1270:LEU:HB2	1:D:1564:PHE:HB2	1.90	0.53
1:D:2288:LEU:O	1:D:3849:ARG:NH1	2.39	0.53
1:A:2871:LEU:HG	1:A:2927:LEU:HD21	1.89	0.53
1:A:4630:TYR:OH	1:B:4860:ARG:NH1	2.38	0.53
1:B:2519:LEU:HD13	1:B:2522:LEU:HD23	1.90	0.53
1:B:3984:ARG:NH2	1:B:3987:ASP:OD2	2.41	0.53
1:C:27:THR:OG1	1:C:32:GLN:OE1	2.23	0.53
1:C:1270:LEU:HB2	1:C:1564:PHE:HB2	1.90	0.53
1:D:1815:LEU:HD22	1:D:1845:VAL:HG21	1.90	0.53
1:A:2458:ARG:NH2	1:A:2509:VAL:O	2.41	0.53
1:B:2280:VAL:HG11	1:B:2290:LEU:HD12	1.90	0.53
1:B:2765:LYS:NZ	1:B:2859:PRO:O	2.38	0.53
1:D:659:TYR:O	1:D:662:TRP:NE1	2.40	0.53
1:D:1243:PRO:O	1:D:1458:HIS:ND1	2.40	0.53
1:D:1454:THR:OG1	1:D:1456:ASP:OD1	2.24	0.53
1:A:2018:GLU:OE1	1:A:2028:ARG:NH1	2.42	0.53
1:C:111:HIS:ND1	1:C:114:SER:OG	2.37	0.53
1:C:3995:VAL:O	1:C:3999:MET:HB2	2.08	0.53
1:D:3984:ARG:NH2	1:D:3987:ASP:OD2	2.41	0.53
1:B:277:GLY:N	1:B:316:PHE:O	2.39	0.53
1:B:3111:ARG:NH2	1:B:3174:SER:OG	2.42	0.53
1:C:2267:MET:O	1:C:2330:ARG:NH1	2.41	0.53
1:C:2288:LEU:O	1:C:3849:ARG:NH1	2.39	0.53
1:C:3227:ARG:NH1	1:C:3234:ASN:OD1	2.40	0.53
1:D:2801:ASP:HA	1:D:2804:ILE:HG12	1.90	0.53
1:D:3111:ARG:NH2	1:D:3174:SER:OG	2.42	0.53
1:A:3445:TRP:HZ3	1:A:3511:VAL:HG13	1.73	0.53
1:A:3769:ARG:O	1:A:3773:ARG:NH1	2.38	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:707:VAL:HG23	1:B:782:SER:HB3	1.91	0.53
1:C:3111:ARG:NH2	1:C:3174:SER:OG	2.42	0.53
1:D:3227:ARG:NH1	1:D:3234:ASN:OD1	2.40	0.53
1:A:277:GLY:N	1:A:316:PHE:O	2.39	0.53
1:A:2917:ALA:HA	1:A:2920:ARG:HB3	1.91	0.53
1:C:3984:ARG:NH2	1:C:3987:ASP:OD2	2.41	0.53
1:D:1422:ASP:OD2	1:D:1568:LYS:NZ	2.35	0.53
2:F:78:PRO:HA	2:F:81:ALA:HB3	1.89	0.53
1:A:747:CYS:HB2	1:A:756:SER:HB2	1.91	0.52
1:A:818:ARG:HH12	1:A:1026:LEU:HA	1.74	0.52
1:B:125:ARG:NH1	1:B:126:SER:OG	2.41	0.52
1:B:3767:GLN:OE1	1:B:3809:ASN:ND2	2.41	0.52
1:C:1728:ARG:HA	1:C:1731:LEU:HD23	1.91	0.52
1:C:2018:GLU:OE1	1:C:2028:ARG:NH1	2.42	0.52
1:C:2280:VAL:HG11	1:C:2290:LEU:HD12	1.90	0.52
1:C:2736:ASP:O	1:C:2738:ARG:NH1	2.42	0.52
1:D:2917:ALA:HA	1:D:2920:ARG:HB3	1.91	0.52
1:A:707:VAL:HG23	1:A:782:SER:HB3	1.91	0.52
1:A:2519:LEU:HD13	1:A:2522:LEU:HD23	1.90	0.52
1:A:3227:ARG:NH1	1:A:3234:ASN:OD1	2.40	0.52
1:A:1728:ARG:HA	1:A:1731:LEU:HD23	1.91	0.52
1:A:2736:ASP:O	1:A:2738:ARG:NH1	2.42	0.52
1:A:3524:MET:O	1:A:3576:TYR:OH	2.24	0.52
1:B:747:CYS:HB2	1:B:756:SER:HB2	1.91	0.52
1:D:2736:ASP:O	1:D:2738:ARG:NH1	2.42	0.52
1:A:3051:ARG:O	1:A:3053:ARG:NE	2.33	0.52
1:C:2369[A]:ARG:NH2	1:C:2372:GLY:O	2.39	0.52
1:D:818:ARG:HH12	1:D:1026:LEU:HA	1.74	0.52
1:A:1547:LYS:NZ	1:A:1642:PRO:O	2.43	0.52
1:B:2018:GLU:OE1	1:B:2028:ARG:NH1	2.42	0.52
1:B:3769:ARG:O	1:B:3773:ARG:NH1	2.38	0.52
1:D:277:GLY:N	1:D:316:PHE:O	2.39	0.52
1:D:1782:PHE:O	2:H:82:TYR:OH	2.28	0.52
1:D:2369[A]:ARG:NH2	1:D:2372:GLY:O	2.39	0.52
1:A:1243:PRO:O	1:A:1458:HIS:ND1	2.41	0.52
1:B:1782:PHE:O	2:F:82:TYR:OH	2.28	0.52
1:C:320:LYS:NZ	1:C:383:HIS:O	2.43	0.52
1:D:747:CYS:HB2	1:D:756:SER:HB2	1.91	0.52
1:A:125:ARG:NH1	1:A:126:SER:OG	2.41	0.52
1:D:1547:LYS:NZ	1:D:1642:PRO:O	2.43	0.52
1:A:2801:ASP:HA	1:A:2804:ILE:HG12	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3111:ARG:NH2	1:A:3174:SER:OG	2.42	0.52
1:B:2288:LEU:O	1:B:3849:ARG:NH1	2.39	0.52
1:A:2765:LYS:HZ3	1:A:2857:PRO:HB2	1.74	0.52
1:B:818:ARG:HH12	1:B:1026:LEU:HA	1.74	0.52
1:B:1101:ARG:NH1	1:B:1115:LEU:O	2.43	0.52
1:B:1547:LYS:NZ	1:B:1642:PRO:O	2.43	0.52
1:C:1101:ARG:NH1	1:C:1115:LEU:O	2.43	0.52
1:C:1547:LYS:NZ	1:C:1642:PRO:O	2.43	0.52
1:C:2917:ALA:HA	1:C:2920:ARG:HB3	1.91	0.52
1:C:3414:ARG:HH21	1:C:3473:ASP:HB2	1.75	0.52
1:B:2736:ASP:O	1:B:2738:ARG:NH1	2.42	0.51
1:C:1674:CYS:HG	1:C:1717:SER:HG	1.57	0.51
1:D:1947:CYS:SG	1:D:2127:GLN:NE2	2.75	0.51
1:A:1270:LEU:HB2	1:A:1564:PHE:HB2	1.90	0.51
1:B:3414:ARG:HH21	1:B:3473:ASP:HB2	1.75	0.51
1:D:1101:ARG:NH1	1:D:1115:LEU:O	2.43	0.51
1:C:451:TYR:O	1:C:474:ARG:NH1	2.44	0.51
1:A:168:ASP:HB3	1:A:199:LEU:HD11	1.93	0.51
1:A:4913:ARG:NH2	1:A:4917:ASP:OD2	2.44	0.51
1:B:168:ASP:HB3	1:B:199:LEU:HD11	1.93	0.51
1:B:1728:ARG:HA	1:B:1731:LEU:HD23	1.91	0.51
1:C:2626:LEU:HD22	1:C:2640:PRO:HB3	1.92	0.51
1:D:168:ASP:HB3	1:D:199:LEU:HD11	1.93	0.51
1:D:1728:ARG:HA	1:D:1731:LEU:HD23	1.91	0.51
1:D:2267:MET:O	1:D:2330:ARG:NH1	2.41	0.51
1:D:3414:ARG:HH21	1:D:3473:ASP:HB2	1.75	0.51
1:A:320:LYS:NZ	1:A:383:HIS:O	2.43	0.51
1:A:451:TYR:O	1:A:474:ARG:NH1	2.44	0.51
1:A:1454:THR:OG1	1:A:1456:ASP:OD1	2.24	0.51
1:B:451:TYR:O	1:B:474:ARG:NH1	2.44	0.51
1:C:168:ASP:HB3	1:C:199:LEU:HD11	1.93	0.51
1:C:1243:PRO:O	1:C:1458:HIS:ND1	2.41	0.51
1:D:150:MET:HB2	1:D:169:LEU:HD12	1.93	0.51
2:F:7:ILE:HD11	2:F:73:LYS:HB2	1.93	0.51
1:A:150:MET:HB2	1:A:169:LEU:HD12	1.93	0.51
1:C:747:CYS:HB2	1:C:756:SER:HB2	1.91	0.51
1:D:131:LEU:HD13	1:D:195:PHE:HE2	1.76	0.51
1:D:2626:LEU:HD22	1:D:2640:PRO:HB3	1.92	0.51
1:A:3414:ARG:HH21	1:A:3473:ASP:HB2	1.75	0.51
1:C:818:ARG:HH12	1:C:1026:LEU:HA	1.74	0.51
1:A:1101:ARG:NH1	1:A:1115:LEU:O	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2369[A]:ARG:NH2	1:A:2372:GLY:O	2.39	0.51
1:B:2626:LEU:HD22	1:B:2640:PRO:HB3	1.92	0.51
1:B:3352:GLU:O	1:B:3356:SER:OG	2.29	0.51
1:C:3062:PRO:HA	1:C:3065:VAL:HG12	1.93	0.51
1:D:320:LYS:NZ	1:D:383:HIS:O	2.43	0.51
1:A:939:VAL:HB	1:A:1051:TYR:HB3	1.93	0.51
1:B:2917:ALA:HA	1:B:2920:ARG:HB3	1.91	0.51
1:B:3359:ILE:HD13	1:B:3362:ILE:HD11	1.93	0.51
1:D:3946:GLN:OE1	1:D:3949:ARG:NH2	2.36	0.51
1:A:221:ARG:NH2	1:A:255:HIS:O	2.40	0.51
1:B:150:MET:HB2	1:B:169:LEU:HD12	1.93	0.51
1:B:320:LYS:NZ	1:B:383:HIS:O	2.43	0.51
1:D:3051:ARG:O	1:D:3053:ARG:NE	2.33	0.51
1:A:1927:LEU:HD13	1:A:2101:MET:HG3	1.93	0.50
1:B:939:VAL:HB	1:B:1051:TYR:HB3	1.93	0.50
1:B:1243:PRO:O	1:B:1458:HIS:ND1	2.41	0.50
1:B:3089:LYS:HE2	1:B:3093:ARG:HH21	1.76	0.50
1:B:4913:ARG:NH2	1:B:4917:ASP:OD2	2.44	0.50
1:D:939:VAL:HB	1:D:1051:TYR:HB3	1.94	0.50
1:A:2626:LEU:HD22	1:A:2640:PRO:HB3	1.92	0.50
1:A:3359:ILE:HD13	1:A:3362:ILE:HD11	1.93	0.50
1:D:2765:LYS:HZ1	1:D:2857:PRO:HB2	1.75	0.50
1:D:3062:PRO:HA	1:D:3065:VAL:HG12	1.93	0.50
2:G:7:ILE:HD11	2:G:73:LYS:HB2	1.93	0.50
1:A:131:LEU:HD13	1:A:195:PHE:HE2	1.76	0.50
1:B:3068:LEU:HD23	1:B:3139:VAL:HG21	1.93	0.50
1:B:932:LEU:HB3	1:B:937:CYS:HB3	1.94	0.50
1:C:1454:THR:OG1	1:C:1456:ASP:OD1	2.24	0.50
1:D:1099:GLU:OE2	1:D:1125:ASN:ND2	2.36	0.50
1:D:1927:LEU:HD13	1:D:2101:MET:HG3	1.93	0.50
1:D:3068:LEU:HD23	1:D:3139:VAL:HG21	1.93	0.50
1:A:932:LEU:HB3	1:A:937:CYS:HB3	1.94	0.50
1:A:3352:GLU:O	1:A:3356:SER:OG	2.29	0.50
1:B:3051:ARG:HA	1:B:3131:TYR:CZ	2.47	0.50
1:C:932:LEU:HB3	1:C:937:CYS:HB3	1.94	0.50
1:C:939:VAL:HB	1:C:1051:TYR:HB3	1.93	0.50
1:D:451:TYR:O	1:D:474:ARG:NH1	2.44	0.50
1:D:3352:GLU:O	1:D:3356:SER:OG	2.29	0.50
1:A:3068:LEU:HD23	1:A:3139:VAL:HG21	1.93	0.50
1:A:3767:GLN:OE1	1:A:3809:ASN:ND2	2.41	0.50
1:C:131:LEU:HD13	1:C:195:PHE:HE2	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:221:ARG:NH2	1:C:255:HIS:O	2.40	0.50
1:C:2614:ILE:O	1:C:2650:ARG:NH2	2.45	0.50
1:C:2749:GLU:HG3	1:C:2752:ASP:HB2	1.94	0.50
1:C:3068:LEU:HD23	1:C:3139:VAL:HG21	1.93	0.50
2:E:7:ILE:HD11	2:E:73:LYS:HB2	1.93	0.50
1:C:1099:GLU:OE2	1:C:1125:ASN:ND2	2.36	0.50
1:C:3359:ILE:HD13	1:C:3362:ILE:HD11	1.93	0.50
1:D:932:LEU:HB3	1:D:937:CYS:HB3	1.94	0.50
1:C:3767:GLN:OE1	1:C:3809:ASN:ND2	2.41	0.50
1:D:3051:ARG:HA	1:D:3131:TYR:CZ	2.47	0.50
1:A:3051:ARG:HA	1:A:3131:TYR:CZ	2.47	0.50
1:C:3051:ARG:HA	1:C:3131:TYR:CZ	2.47	0.50
1:C:3089:LYS:HE2	1:C:3093:ARG:HH21	1.76	0.50
1:D:1674:CYS:HG	1:D:1717:SER:HG	1.59	0.50
1:A:870:ILE:HG13	1:A:874:LEU:HD23	1.94	0.49
1:A:1099:GLU:OE2	1:A:1125:ASN:ND2	2.36	0.49
1:B:1099:GLU:OE2	1:B:1125:ASN:ND2	2.36	0.49
1:B:2267:MET:O	1:B:2330:ARG:NH1	2.41	0.49
1:C:150:MET:HB2	1:C:169:LEU:HD12	1.93	0.49
1:A:3062:PRO:HA	1:A:3065:VAL:HG12	1.93	0.49
1:A:4917:ASP:HB2	1:D:4888:TYR:HE1	1.78	0.49
1:B:3840:SER:OG	1:B:3877:ASP:OD1	2.29	0.49
1:D:786:GLY:N	1:D:1630:CYS:O	2.46	0.49
1:D:1064:GLU:O	1:D:1071:ARG:NH2	2.46	0.49
1:D:3359:ILE:HD13	1:D:3362:ILE:HD11	1.93	0.49
1:A:116:MET:HB2	1:A:137:LEU:HD13	1.94	0.49
1:A:3089:LYS:HE2	1:A:3093:ARG:HH21	1.76	0.49
1:D:2614:ILE:O	1:D:2650:ARG:NH2	2.45	0.49
2:H:7:ILE:HD11	2:H:73:LYS:HB2	1.93	0.49
1:A:2736:ASP:OD1	1:A:2736:ASP:N	2.46	0.49
1:B:426:ARG:N	1:B:505:GLU:O	2.45	0.49
1:B:870:ILE:HG13	1:B:874:LEU:HD23	1.94	0.49
1:B:1927:LEU:HD13	1:B:2101:MET:HG3	1.93	0.49
1:B:3523:ASN:O	1:B:3582:ARG:NH2	2.45	0.49
1:C:870:ILE:HG13	1:C:874:LEU:HD23	1.94	0.49
1:D:2749:GLU:HG3	1:D:2752:ASP:HB2	1.94	0.49
1:B:131:LEU:HD13	1:B:195:PHE:HE2	1.76	0.49
1:B:134:ASP:OD1	1:B:134:ASP:N	2.46	0.49
1:C:1927:LEU:HD13	1:C:2101:MET:HG3	1.93	0.49
1:D:111:HIS:ND1	1:D:114:SER:OG	2.37	0.49
1:A:2267:MET:O	1:A:2330:ARG:NH1	2.41	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1064:GLU:O	1:B:1071:ARG:NH2	2.46	0.49
1:B:3062:PRO:HA	1:B:3065:VAL:HG12	1.93	0.49
1:C:116:MET:HB2	1:C:137:LEU:HD13	1.94	0.49
1:C:277:GLY:N	1:C:316:PHE:O	2.39	0.49
1:A:111:HIS:ND1	1:A:114:SER:OG	2.37	0.49
1:A:1064:GLU:O	1:A:1071:ARG:NH2	2.46	0.49
1:A:2309:SER:OG	1:A:2321:ILE:O	2.30	0.49
1:B:818:ARG:NH2	1:B:1025:ARG:O	2.46	0.49
1:C:3523:ASN:O	1:C:3582:ARG:NH2	2.45	0.49
1:D:2437:ALA:O	1:D:2508:ARG:NH2	2.46	0.49
1:C:2002:PRO:HB3	1:C:3641:LEU:HD13	1.95	0.49
1:C:2437:ALA:O	1:C:2508:ARG:NH2	2.46	0.49
1:D:1561:VAL:HG12	1:D:1562:ILE:HG23	1.95	0.49
1:A:1653:LEU:HD23	1:A:1660:GLN:HA	1.95	0.49
1:A:3523:ASN:O	1:A:3582:ARG:NH2	2.45	0.49
1:A:4247:ILE:HD11	1:A:4667:PRO:HB2	1.95	0.49
1:B:2749:GLU:HG3	1:B:2752:ASP:HB2	1.94	0.49
1:A:1422:ASP:OD2	1:A:1568:LYS:NZ	2.36	0.49
1:B:266:ARG:NH2	1:B:331:VAL:O	2.39	0.49
1:B:2369[A]:ARG:NH2	1:B:2372:GLY:O	2.39	0.49
1:C:1064:GLU:O	1:C:1071:ARG:NH2	2.46	0.49
1:C:1422:ASP:OD2	1:C:1568:LYS:NZ	2.36	0.49
1:C:1561:VAL:HG12	1:C:1562:ILE:HG23	1.95	0.49
1:C:2309:SER:OG	1:C:2321:ILE:O	2.30	0.49
1:C:3380:ARG:HH22	1:C:3448:SER:HA	1.78	0.49
1:D:3089:LYS:HE2	1:D:3093:ARG:HH21	1.76	0.49
1:D:4913:ARG:NH2	1:D:4917:ASP:OD2	2.44	0.49
1:A:1561:VAL:HG12	1:A:1562:ILE:HG23	1.95	0.48
1:A:2002:PRO:HB3	1:A:3641:LEU:HD13	1.95	0.48
1:B:116:MET:HB2	1:B:137:LEU:HD13	1.94	0.48
1:C:38:ALA:HB1	1:C:64:ILE:HG13	1.95	0.48
1:D:221:ARG:NH2	1:D:255:HIS:O	2.40	0.48
1:D:289:ARG:HB3	1:D:301:VAL:HB	1.95	0.48
1:D:2736:ASP:OD1	1:D:2736:ASP:N	2.46	0.48
1:A:2437:ALA:O	1:A:2508:ARG:NH2	2.46	0.48
1:C:818:ARG:NH2	1:C:1025:ARG:O	2.46	0.48
1:C:875:ALA:O	1:C:879:HIS:ND1	2.47	0.48
1:D:38:ALA:HB1	1:D:64:ILE:HG13	1.95	0.48
1:D:870:ILE:HG13	1:D:874:LEU:HD23	1.94	0.48
1:D:2309:SER:OG	1:D:2321:ILE:O	2.30	0.48
1:D:3767:GLN:OE1	1:D:3809:ASN:ND2	2.41	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:875:ALA:O	1:B:879:HIS:ND1	2.46	0.48
1:C:289:ARG:HB3	1:C:301:VAL:HB	1.95	0.48
1:D:3380:ARG:HH22	1:D:3448:SER:HA	1.78	0.48
1:D:3523:ASN:O	1:D:3582:ARG:NH2	2.45	0.48
2:H:4:ILE:HG22	2:H:74:LEU:HG	1.96	0.48
1:A:38:ALA:HB1	1:A:64:ILE:HG13	1.95	0.48
1:A:637:LEU:HD12	1:A:1692:ALA:HB1	1.96	0.48
1:B:2437:ALA:O	1:B:2508:ARG:NH2	2.46	0.48
1:B:4247:ILE:HD11	1:B:4667:PRO:HB2	1.95	0.48
1:C:786:GLY:N	1:C:1630:CYS:O	2.46	0.48
1:C:1733:GLU:OE2	1:C:2163:ARG:NH2	2.46	0.48
1:A:2971:GLN:HA	1:A:2974:ILE:HG12	1.95	0.48
1:B:637:LEU:HD12	1:B:1692:ALA:HB1	1.96	0.48
1:B:1698:LEU:HD21	1:B:1715:LEU:HD13	1.95	0.48
1:D:1808:ARG:NH1	1:D:1853:ILE:O	2.43	0.48
2:E:4:ILE:HG22	2:E:74:LEU:HG	1.96	0.48
1:A:1698:LEU:HD21	1:A:1715:LEU:HD13	1.96	0.48
1:A:2749:GLU:HG3	1:A:2752:ASP:HB2	1.94	0.48
1:B:1561:VAL:HG12	1:B:1562:ILE:HG23	1.95	0.48
1:B:2627:VAL:HG22	1:B:2678:LEU:HG	1.96	0.48
1:B:2971:GLN:HA	1:B:2974:ILE:HG12	1.95	0.48
1:C:2627:VAL:HG22	1:C:2678:LEU:HG	1.96	0.48
1:C:4247:ILE:HD11	1:C:4667:PRO:HB2	1.95	0.48
1:D:134:ASP:OD1	1:D:134:ASP:N	2.46	0.48
1:D:875:ALA:O	1:D:879:HIS:ND1	2.47	0.48
1:D:2002:PRO:HB3	1:D:3641:LEU:HD13	1.95	0.48
1:D:2971:GLN:HA	1:D:2974:ILE:HG12	1.95	0.48
2:F:4:ILE:HG22	2:F:74:LEU:HG	1.96	0.48
2:G:4:ILE:HG22	2:G:74:LEU:HG	1.96	0.48
1:A:875:ALA:O	1:A:879:HIS:ND1	2.46	0.48
1:B:289:ARG:HB3	1:B:301:VAL:HB	1.95	0.48
1:B:1947:CYS:SG	1:B:2127:GLN:NE2	2.75	0.48
1:B:3380:ARG:HH22	1:B:3448:SER:HA	1.78	0.48
1:D:2627:VAL:HG22	1:D:2678:LEU:HG	1.96	0.48
1:A:3380:ARG:HH22	1:A:3448:SER:HA	1.78	0.48
1:B:221:ARG:NH2	1:B:255:HIS:O	2.40	0.48
1:C:1653:LEU:HD23	1:C:1660:GLN:HA	1.95	0.48
1:C:2971:GLN:HA	1:C:2974:ILE:HG12	1.95	0.48
1:C:3352:GLU:O	1:C:3356:SER:OG	2.29	0.48
1:C:3443:ILE:HG12	1:C:3605:HIS:HD2	1.79	0.48
1:D:818:ARG:NH2	1:D:1025:ARG:O	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1653:LEU:HD23	1:D:1660:GLN:HA	1.95	0.48
1:A:289:ARG:HB3	1:A:301:VAL:HB	1.95	0.48
1:A:1733:GLU:OE2	1:A:2163:ARG:NH2	2.46	0.48
1:A:2614:ILE:O	1:A:2650:ARG:NH2	2.45	0.48
1:B:38:ALA:HB1	1:B:64:ILE:HG13	1.95	0.48
1:B:1674:CYS:HG	1:B:1717:SER:HG	1.58	0.48
1:C:1658:ASP:OD1	1:C:1658:ASP:N	2.47	0.48
1:D:1733:GLU:OE2	1:D:2163:ARG:NH2	2.46	0.48
1:D:1996:ARG:HA	1:D:1999:ARG:HG2	1.96	0.48
1:D:3037:GLU:HG2	1:D:3085:PRO:HD2	1.96	0.48
1:A:648:ILE:HG23	1:A:814:ALA:HB3	1.96	0.48
1:B:1808:ARG:NH1	1:B:1853:ILE:O	2.43	0.48
1:D:116:MET:HB2	1:D:137:LEU:HD13	1.94	0.48
1:D:3443:ILE:HG12	1:D:3605:HIS:HD2	1.79	0.48
1:D:5011:TRP:HD1	1:D:5011:TRP:HA	1.66	0.48
1:A:818:ARG:NH2	1:A:1025:ARG:O	2.46	0.47
1:A:2627:VAL:HG22	1:A:2678:LEU:HG	1.96	0.47
1:B:3233:PRO:HG2	1:B:3239:MET:HA	1.96	0.47
1:C:637:LEU:HD12	1:C:1692:ALA:HB1	1.96	0.47
1:C:3037:GLU:HG2	1:C:3085:PRO:HD2	1.96	0.47
1:C:3840:SER:OG	1:C:3877:ASP:OD1	2.29	0.47
1:D:648:ILE:HG23	1:D:814:ALA:HB3	1.96	0.47
1:D:4247:ILE:HD11	1:D:4667:PRO:HB2	1.95	0.47
1:B:648:ILE:HG23	1:B:814:ALA:HB3	1.96	0.47
1:B:3051:ARG:O	1:B:3053:ARG:NE	2.33	0.47
1:D:4190:ILE:H	1:D:4190:ILE:HG12	1.49	0.47
1:A:816:LEU:HD23	1:A:818:ARG:H	1.79	0.47
1:A:3037:GLU:HG2	1:A:3085:PRO:HD2	1.96	0.47
1:A:3277:LEU:HD23	1:A:3315:LEU:HD13	1.96	0.47
1:B:1232:ARG:NH2	1:B:1828:ASP:O	2.41	0.47
1:B:3277:LEU:HD23	1:B:3315:LEU:HD13	1.96	0.47
1:B:1733:GLU:OE2	1:B:2163:ARG:NH2	2.46	0.47
1:B:2512:ILE:HG21	1:B:2518:LEU:HD13	1.96	0.47
1:B:3159:ASP:OD1	1:B:3159:ASP:N	2.45	0.47
1:C:1698:LEU:HD21	1:C:1715:LEU:HD13	1.95	0.47
1:A:4892:ARG:NH1	1:B:4895:GLY:O	2.45	0.47
1:C:2248:ARG:HG2	1:C:2286:LEU:HD21	1.97	0.47
1:C:2512:ILE:HG21	1:C:2518:LEU:HD13	1.96	0.47
1:A:2792:ARG:HB2	1:A:2797:PHE:HD1	1.80	0.47
1:C:4913:ARG:NH2	1:C:4917:ASP:OD2	2.44	0.47
1:D:133:PHE:O	1:D:193:ALA:N	2.40	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2248:ARG:HG2	1:D:2286:LEU:HD21	1.97	0.47
1:A:1996:ARG:HA	1:A:1999:ARG:HG2	1.96	0.47
1:A:4112:LEU:O	1:A:4115:SER:OG	2.32	0.47
1:B:133:PHE:O	1:B:193:ALA:N	2.40	0.47
1:B:1653:LEU:HD23	1:B:1660:GLN:HA	1.95	0.47
1:B:1996:ARG:HA	1:B:1999:ARG:HG2	1.96	0.47
1:B:2002:PRO:HB3	1:B:3641:LEU:HD13	1.95	0.47
1:B:2248:ARG:HG2	1:B:2286:LEU:HD21	1.97	0.47
1:B:2309:SER:OG	1:B:2321:ILE:O	2.30	0.47
1:B:2614:ILE:O	1:B:2650:ARG:NH2	2.45	0.47
1:B:3443:ILE:HG12	1:B:3605:HIS:HD2	1.79	0.47
1:C:134:ASP:N	1:C:134:ASP:OD1	2.46	0.47
1:C:426:ARG:N	1:C:505:GLU:O	2.45	0.47
1:C:682:LEU:HD13	1:C:787:VAL:HG11	1.97	0.47
1:C:816:LEU:HD23	1:C:818:ARG:H	1.80	0.47
1:C:1996:ARG:HA	1:C:1999:ARG:HG2	1.96	0.47
1:C:3233:PRO:HG2	1:C:3239:MET:HA	1.96	0.47
1:C:3277:LEU:HD23	1:C:3315:LEU:HD13	1.96	0.47
1:C:4948:GLU:HA	1:C:4951:LYS:HE3	1.97	0.47
1:D:816:LEU:HD23	1:D:818:ARG:H	1.80	0.47
1:D:2719:TYR:HB3	1:D:2948:THR:HG21	1.97	0.47
1:A:1577:ALA:HB1	1:A:1584:ARG:HD3	1.97	0.47
1:A:2512:ILE:HG21	1:A:2518:LEU:HD13	1.96	0.47
1:C:648:ILE:HG23	1:C:814:ALA:HB3	1.96	0.47
1:C:1577:ALA:HB1	1:C:1584:ARG:HD3	1.97	0.47
1:D:682:LEU:HD13	1:D:787:VAL:HG11	1.97	0.47
2:H:21:THR:N	2:H:107:GLU:OE2	2.48	0.47
1:A:1674:CYS:SG	1:A:1717:SER:OG	2.73	0.47
1:A:2248:ARG:HG2	1:A:2286:LEU:HD21	1.97	0.47
1:B:3037:GLU:HG2	1:B:3085:PRO:HD2	1.96	0.47
1:C:2095:GLN:HG3	1:C:2127:GLN:HB3	1.97	0.47
1:D:637:LEU:HD12	1:D:1692:ALA:HB1	1.96	0.47
1:D:2531:ARG:NH1	1:D:2585:THR:OG1	2.48	0.47
1:A:868:GLU:HA	1:A:871:ARG:HB2	1.97	0.47
1:A:2531:ARG:NH1	1:A:2585:THR:OG1	2.48	0.47
1:B:111:HIS:ND1	1:B:114:SER:OG	2.37	0.47
1:C:499:THR:HG23	1:C:502:HIS:H	1.80	0.47
1:C:715:GLY:O	1:C:722:TRP:N	2.48	0.47
1:C:1782:PHE:O	2:G:82:TYR:OH	2.28	0.47
1:C:4867:GLU:H	1:C:4867:GLU:HG2	1.50	0.47
1:D:1577:ALA:HB1	1:D:1584:ARG:HD3	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2512:ILE:HG21	1:D:2518:LEU:HD13	1.96	0.47
1:D:3233:PRO:HG2	1:D:3239:MET:HA	1.96	0.47
1:D:4948:GLU:HA	1:D:4951:LYS:HE3	1.97	0.47
2:E:23:VAL:HG22	2:E:47:LYS:HG2	1.97	0.47
1:A:1640:HIS:HA	1:A:1647:CYS:HA	1.97	0.46
1:A:2095:GLN:HG3	1:A:2127:GLN:HB3	1.97	0.46
1:A:3443:ILE:HG12	1:A:3605:HIS:HD2	1.79	0.46
1:B:1658:ASP:OD1	1:B:1658:ASP:N	2.47	0.46
1:B:2531:ARG:NH1	1:B:2585:THR:OG1	2.48	0.46
1:B:2792:ARG:HB2	1:B:2797:PHE:HD1	1.80	0.46
1:D:499:THR:HG23	1:D:502:HIS:H	1.80	0.46
1:D:868:GLU:HA	1:D:871:ARG:HB2	1.98	0.46
1:A:786:GLY:N	1:A:1630:CYS:O	2.46	0.46
1:A:1784:ALA:O	2:E:82:TYR:OH	2.25	0.46
1:A:4948:GLU:HA	1:A:4951:LYS:HE3	1.97	0.46
1:B:786:GLY:N	1:B:1630:CYS:O	2.46	0.46
1:B:1577:ALA:HB1	1:B:1584:ARG:HD3	1.97	0.46
1:B:2719:TYR:HB3	1:B:2948:THR:HG21	1.97	0.46
1:B:3075:LEU:O	1:B:3146:HIS:NE2	2.46	0.46
1:B:3781:GLN:NE2	1:B:3819:TYR:OH	2.41	0.46
1:C:1780:PRO:HD3	1:C:1801:ALA:H	1.81	0.46
1:C:2739:PRO:HB3	1:C:2888:ARG:HH11	1.81	0.46
1:C:4643:LEU:O	1:C:4647:SER:HB3	2.15	0.46
1:D:1698:LEU:HD21	1:D:1715:LEU:HD13	1.96	0.46
1:D:2739:PRO:HB3	1:D:2888:ARG:HH11	1.81	0.46
2:F:21:THR:N	2:F:107:GLU:OE2	2.48	0.46
2:H:23:VAL:HG22	2:H:47:LYS:HG2	1.97	0.46
1:A:262:LEU:HD13	1:A:274:LEU:HD11	1.97	0.46
1:A:4643:LEU:O	1:A:4647:SER:HB3	2.15	0.46
1:B:499:THR:HG23	1:B:502:HIS:H	1.81	0.46
1:B:3103:ILE:HD11	1:B:3172:ILE:HB	1.98	0.46
1:A:2479:LEU:HB2	1:A:2541:PHE:HZ	1.81	0.46
1:A:2591:ARG:HG2	1:A:2636:PHE:HB3	1.98	0.46
1:B:1640:HIS:HA	1:B:1647:CYS:HA	1.97	0.46
1:C:829:TYR:HB3	1:C:1073:ARG:HH11	1.81	0.46
1:C:2461:VAL:O	1:C:2510:TYR:OH	2.30	0.46
1:C:2719:TYR:HB3	1:C:2948:THR:HG21	1.97	0.46
2:G:23:VAL:HG22	2:G:47:LYS:HG2	1.97	0.46
1:A:2470:ILE:HG22	1:A:2525:GLY:HA3	1.97	0.46
1:A:3233:PRO:HG2	1:A:3239:MET:HA	1.96	0.46
1:B:2739:PRO:HB3	1:B:2888:ARG:HH11	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4643:LEU:O	1:B:4647:SER:HB3	2.15	0.46
1:C:2792:ARG:HB2	1:C:2797:PHE:HD1	1.80	0.46
1:D:1423:ASP:HB2	1:D:1426:ILE:HG22	1.98	0.46
1:D:2479:LEU:HB2	1:D:2541:PHE:HZ	1.81	0.46
1:D:2591:ARG:HG2	1:D:2636:PHE:HB3	1.98	0.46
1:D:3103:ILE:HD11	1:D:3172:ILE:HB	1.98	0.46
1:D:3862:ASP:OD1	1:D:3862:ASP:N	2.45	0.46
2:E:21:THR:N	2:E:107:GLU:OE2	2.48	0.46
2:F:23:VAL:HG22	2:F:47:LYS:HG2	1.97	0.46
1:A:4188:ARG:HA	1:A:4188:ARG:HD2	1.58	0.46
1:B:715:GLY:O	1:B:722:TRP:N	2.48	0.46
1:B:3981:ALA:HB2	1:B:4040:ILE:HG12	1.97	0.46
1:B:4675:LYS:HG3	1:B:4679:ARG:HE	1.81	0.46
1:C:1291:LEU:HD13	1:C:1595:LEU:HD21	1.98	0.46
1:C:2025:GLU:OE2	1:C:2028:ARG:NH1	2.49	0.46
1:C:2531:ARG:NH1	1:C:2585:THR:OG1	2.48	0.46
1:C:3075:LEU:O	1:C:3146:HIS:NE2	2.46	0.46
1:D:1640:HIS:HA	1:D:1647:CYS:HA	1.97	0.46
1:A:134:ASP:OD1	1:A:134:ASP:N	2.46	0.46
1:A:4179:GLY:O	1:A:4194:TYR:HA	2.16	0.46
1:B:148:TRP:CZ3	1:B:180:LEU:HB2	2.51	0.46
1:B:682:LEU:HD13	1:B:787:VAL:HG11	1.97	0.46
1:B:884:LEU:HB2	1:B:969:PRO:HD3	1.98	0.46
1:B:1780:PRO:HD3	1:B:1801:ALA:H	1.81	0.46
1:B:2461:VAL:O	1:B:2510:TYR:OH	2.30	0.46
1:B:2470:ILE:HG22	1:B:2525:GLY:HA3	1.97	0.46
1:C:426:ARG:NH1	1:C:429:GLY:O	2.41	0.46
1:C:1640:HIS:HA	1:C:1647:CYS:HA	1.97	0.46
1:C:2470:ILE:HG22	1:C:2525:GLY:HA3	1.97	0.46
1:C:2538:THR:HG23	1:C:2540:THR:H	1.81	0.46
1:C:3218:VAL:O	1:C:3222:LYS:HB2	2.16	0.46
1:D:416:LYS:HB3	1:D:416:LYS:HE2	1.76	0.46
1:D:715:GLY:O	1:D:722:TRP:N	2.48	0.46
1:D:2470:ILE:HG22	1:D:2525:GLY:HA3	1.97	0.46
1:D:2792:ARG:HB2	1:D:2797:PHE:HD1	1.80	0.46
1:D:3579:LEU:HB2	1:D:3582:ARG:HG2	1.98	0.46
1:D:4643:LEU:O	1:D:4647:SER:HB3	2.15	0.46
1:A:4930:ALA:HB2	1:D:4933:GLN:HG2	1.97	0.46
1:B:816:LEU:HD23	1:B:818:ARG:H	1.80	0.46
1:B:2025:GLU:OE2	1:B:2028:ARG:NH1	2.49	0.46
1:B:2670:GLU:HG3	1:B:2674:LEU:HD13	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4179:GLY:O	1:B:4194:TYR:HA	2.16	0.46
1:C:868:GLU:HA	1:C:871:ARG:HB2	1.98	0.46
1:C:3579:LEU:HB2	1:C:3582:ARG:HG2	1.98	0.46
1:D:2025:GLU:OE2	1:D:2028:ARG:NH1	2.49	0.46
1:D:2538:THR:HG23	1:D:2540:THR:H	1.81	0.46
1:A:2025:GLU:OE2	1:A:2028:ARG:NH1	2.49	0.46
1:A:2719:TYR:HB3	1:A:2948:THR:HG21	1.97	0.46
1:A:3579:LEU:HB2	1:A:3582:ARG:HG2	1.98	0.46
1:B:3536:ALA:HA	1:B:3539:ARG:HG2	1.98	0.46
1:C:262:LEU:HD13	1:C:274:LEU:HD11	1.97	0.46
1:C:3233:PRO:HD2	1:C:3239:MET:HG2	1.98	0.46
1:C:4675:LYS:HG3	1:C:4679:ARG:HE	1.81	0.46
1:D:266:ARG:NH2	1:D:331:VAL:O	2.39	0.46
1:D:3218:VAL:O	1:D:3222:LYS:HB2	2.16	0.46
1:A:426:ARG:N	1:A:505:GLU:O	2.45	0.46
1:A:1291:LEU:HD13	1:A:1595:LEU:HD21	1.98	0.46
1:A:3218:VAL:O	1:A:3222:LYS:HB2	2.16	0.46
1:A:4675:LYS:HG3	1:A:4679:ARG:HE	1.81	0.46
1:B:868:GLU:HA	1:B:871:ARG:HB2	1.98	0.46
1:B:2479:LEU:HB2	1:B:2541:PHE:HZ	1.81	0.46
1:C:548:VAL:HA	1:C:551:LEU:HG	1.98	0.46
1:C:1232:ARG:NH2	1:C:1828:ASP:O	2.41	0.46
1:C:3981:ALA:HB2	1:C:4040:ILE:HG12	1.97	0.46
1:C:4188:ARG:HD2	1:C:4188:ARG:HA	1.58	0.46
1:D:548:VAL:HA	1:D:551:LEU:HG	1.98	0.46
1:D:829:TYR:HB3	1:D:1073:ARG:HH11	1.81	0.46
1:A:1780:PRO:HD3	1:A:1801:ALA:H	1.81	0.45
1:A:3536:ALA:HA	1:A:3539:ARG:HG2	1.98	0.45
1:A:3981:ALA:HB2	1:A:4040:ILE:HG12	1.97	0.45
1:B:4948:GLU:HA	1:B:4951:LYS:HE3	1.97	0.45
1:C:253:CYS:O	1:C:258:SER:OG	2.34	0.45
1:C:2479:LEU:HB2	1:C:2541:PHE:HZ	1.81	0.45
1:C:3731:LYS:HA	1:C:3731:LYS:HD3	1.76	0.45
1:D:426:ARG:N	1:D:505:GLU:O	2.45	0.45
1:D:4179:GLY:O	1:D:4194:TYR:HA	2.16	0.45
1:D:4648:LEU:HD12	1:D:4803:HIS:HE1	1.81	0.45
1:D:4971:THR:HG22	1:D:4972:PRO:HD2	1.98	0.45
1:A:2680:TRP:O	1:A:2684:ASP:HB2	2.17	0.45
1:A:4971:THR:HG22	1:A:4972:PRO:HD2	1.98	0.45
1:B:2591:ARG:HG2	1:B:2636:PHE:HB3	1.98	0.45
1:C:107:ILE:N	1:C:148:TRP:O	2.40	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2095:GLN:HG3	1:D:2127:GLN:HB3	1.97	0.45
1:D:3277:LEU:HD23	1:D:3315:LEU:HD13	1.96	0.45
1:D:4675:LYS:HG3	1:D:4679:ARG:HE	1.81	0.45
1:A:499:THR:HG23	1:A:502:HIS:H	1.80	0.45
1:A:682:LEU:HD13	1:A:787:VAL:HG11	1.97	0.45
1:A:4648:LEU:HD12	1:A:4803:HIS:HE1	1.81	0.45
1:B:1422:ASP:OD2	1:B:1568:LYS:NZ	2.35	0.45
1:B:2095:GLN:HG3	1:B:2127:GLN:HB3	1.97	0.45
1:B:3233:PRO:HD2	1:B:3239:MET:HG2	1.98	0.45
1:B:3579:LEU:HB2	1:B:3582:ARG:HG2	1.98	0.45
1:B:5011:TRP:HD1	1:B:5011:TRP:HA	1.66	0.45
1:C:2670:GLU:HG3	1:C:2674:LEU:HD13	1.98	0.45
1:D:2670:GLU:HG3	1:D:2674:LEU:HD13	1.98	0.45
1:D:3981:ALA:HB2	1:D:4040:ILE:HG12	1.97	0.45
1:A:148:TRP:CZ3	1:A:180:LEU:HB2	2.51	0.45
1:A:884:LEU:HB2	1:A:969:PRO:HD3	1.98	0.45
1:A:2769:ASP:HA	1:A:2772:GLN:HB2	1.98	0.45
1:B:546:TRP:CE2	1:B:550:LYS:HE2	2.52	0.45
1:B:829:TYR:HB3	1:B:1073:ARG:HH11	1.81	0.45
1:B:1423:ASP:HB2	1:B:1426:ILE:HG22	1.97	0.45
1:B:2680:TRP:O	1:B:2684:ASP:HB2	2.17	0.45
1:B:4648:LEU:HD12	1:B:4803:HIS:HE1	1.81	0.45
1:C:266:ARG:NH2	1:C:331:VAL:O	2.39	0.45
1:C:1434:TYR:HA	1:C:1518:CYS:O	2.17	0.45
1:C:3051:ARG:O	1:C:3053:ARG:NE	2.33	0.45
1:C:3719:ASP:HB2	1:C:3722:TYR:HB3	1.98	0.45
1:C:4179:GLY:O	1:C:4194:TYR:HA	2.16	0.45
1:D:148:TRP:CZ3	1:D:180:LEU:HB2	2.51	0.45
1:D:1992:ALA:HA	1:D:1995:THR:HG22	1.98	0.45
1:D:4984:ASN:HB3	1:D:4987:ASN:HB2	1.99	0.45
1:A:831:ARG:HG3	1:A:840:VAL:HG21	1.99	0.45
1:A:2670:GLU:HG3	1:A:2674:LEU:HD13	1.98	0.45
1:B:2538:THR:HG23	1:B:2540:THR:H	1.81	0.45
1:C:831:ARG:HG3	1:C:840:VAL:HG21	1.99	0.45
1:C:1000:ARG:HA	1:C:1000:ARG:HD3	1.80	0.45
1:C:2591:ARG:HG2	1:C:2636:PHE:HB3	1.98	0.45
1:C:3536:ALA:HA	1:C:3539:ARG:HG2	1.98	0.45
1:D:1434:TYR:HA	1:D:1518:CYS:O	2.17	0.45
1:D:2916:LYS:HD3	1:D:2920:ARG:HH21	1.82	0.45
1:D:4036:VAL:HG12	1:D:4153:HIS:HA	1.99	0.45
1:A:2916:LYS:HD3	1:A:2920:ARG:HH21	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3233:PRO:HD2	1:A:3239:MET:HG2	1.98	0.45
1:A:4190:ILE:H	1:A:4190:ILE:HG12	1.49	0.45
1:B:4112:LEU:O	1:B:4115:SER:OG	2.32	0.45
1:B:4984:ASN:HB3	1:B:4987:ASN:HB2	1.99	0.45
1:C:884:LEU:HB2	1:C:969:PRO:HD3	1.98	0.45
1:C:1423:ASP:HB2	1:C:1426:ILE:HG22	1.98	0.45
1:C:1992:ALA:HA	1:C:1995:THR:HG22	1.98	0.45
1:D:546:TRP:CE2	1:D:550:LYS:HE2	2.52	0.45
1:D:831:ARG:HG3	1:D:840:VAL:HG21	1.99	0.45
1:D:1291:LEU:HD13	1:D:1595:LEU:HD21	1.98	0.45
2:G:21:THR:N	2:G:107:GLU:OE2	2.48	0.45
1:A:133:PHE:O	1:A:193:ALA:N	2.40	0.45
1:A:3352:GLU:HA	1:A:3355:HIS:HE1	1.82	0.45
1:A:4957:LYS:HB2	1:A:4957:LYS:HE2	1.64	0.45
1:B:1291:LEU:HD13	1:B:1595:LEU:HD21	1.98	0.45
1:B:4828:SER:O	1:B:4832:HIS:HB2	2.17	0.45
1:C:148:TRP:CZ3	1:C:180:LEU:HB2	2.51	0.45
1:C:546:TRP:CE2	1:C:550:LYS:HE2	2.52	0.45
1:C:3103:ILE:HD11	1:C:3172:ILE:HB	1.98	0.45
1:D:145:ALA:HA	1:D:175:SER:HB3	1.99	0.45
1:D:1036:ARG:O	1:D:1040:CYS:HB2	2.17	0.45
1:D:3536:ALA:HA	1:D:3539:ARG:HG2	1.98	0.45
1:D:3759:GLU:OE1	1:D:3762:ARG:NH2	2.50	0.45
1:A:253:CYS:O	1:A:258:SER:OG	2.34	0.45
1:A:266:ARG:NH2	1:A:331:VAL:O	2.39	0.45
1:A:2739:PRO:HB3	1:A:2888:ARG:HH11	1.81	0.45
1:A:3103:ILE:HD11	1:A:3172:ILE:HB	1.98	0.45
1:A:4984:ASN:HB3	1:A:4987:ASN:HB2	1.99	0.45
1:B:726:VAL:HB	1:B:728:ARG:HH21	1.82	0.45
1:B:4971:THR:HG22	1:B:4972:PRO:HD2	1.98	0.45
1:C:133:PHE:O	1:C:193:ALA:N	2.40	0.45
1:C:1036:ARG:O	1:C:1040:CYS:HB2	2.17	0.45
1:C:4036:VAL:HG12	1:C:4153:HIS:HA	1.99	0.45
1:C:4648:LEU:HD12	1:C:4803:HIS:HE1	1.81	0.45
1:C:4971:THR:HG22	1:C:4972:PRO:HD2	1.98	0.45
1:D:253:CYS:O	1:D:258:SER:OG	2.34	0.45
1:D:2769:ASP:HA	1:D:2772:GLN:HB2	1.99	0.45
1:A:548:VAL:HA	1:A:551:LEU:HG	1.98	0.45
1:A:1423:ASP:HB2	1:A:1426:ILE:HG22	1.98	0.45
1:A:1434:TYR:HA	1:A:1518:CYS:O	2.17	0.45
1:A:1780:PRO:O	2:E:42:ARG:NH1	2.28	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1992:ALA:HA	1:A:1995:THR:HG22	1.98	0.45
1:A:3759:GLU:OE1	1:A:3762:ARG:NH2	2.50	0.45
1:A:4036:VAL:HG12	1:A:4153:HIS:HA	1.99	0.45
1:A:4867:GLU:H	1:A:4867:GLU:HG2	1.50	0.45
1:B:831:ARG:HG3	1:B:840:VAL:HG21	1.99	0.45
1:B:1992:ALA:HA	1:B:1995:THR:HG22	1.98	0.45
1:B:2736:ASP:OD1	1:B:2736:ASP:N	2.46	0.45
1:B:2916:LYS:HD3	1:B:2920:ARG:HH21	1.82	0.45
1:B:3218:VAL:O	1:B:3222:LYS:HB2	2.16	0.45
1:C:2680:TRP:O	1:C:2684:ASP:HB2	2.17	0.45
1:D:1780:PRO:HD3	1:D:1801:ALA:H	1.81	0.45
1:D:2165:LEU:HD21	1:D:2177:LEU:HD23	1.99	0.45
1:D:3352:GLU:HA	1:D:3355:HIS:HE1	1.82	0.45
1:A:294:THR:HG23	1:A:297:GLN:H	1.82	0.45
1:A:546:TRP:CE2	1:A:550:LYS:HE2	2.52	0.45
1:A:715:GLY:O	1:A:722:TRP:N	2.48	0.45
1:A:829:TYR:HB3	1:A:1073:ARG:HH11	1.81	0.45
1:A:5011:TRP:HD1	1:A:5011:TRP:HA	1.66	0.45
1:B:262:LEU:HD13	1:B:274:LEU:HD11	1.98	0.45
1:B:1036:ARG:O	1:B:1040:CYS:HB2	2.17	0.45
1:B:3051:ARG:CZ	1:B:3098:SER:HB3	2.47	0.45
1:B:4188:ARG:HA	1:B:4188:ARG:HD2	1.58	0.45
1:C:498:THR:HA	1:C:553:ARG:HH22	1.82	0.45
1:C:3352:GLU:HA	1:C:3355:HIS:HE1	1.82	0.45
1:C:4823:LEU:HD23	1:C:4823:LEU:HA	1.84	0.45
1:D:294:THR:HG23	1:D:297:GLN:H	1.82	0.45
1:D:2974:ILE:HD12	1:D:3053:ARG:HH12	1.82	0.45
1:D:4687:TYR:HE2	1:D:4703:ARG:HG2	1.82	0.45
1:A:640:TYR:HD2	1:A:1634:LEU:HB3	1.83	0.44
1:A:1007:TYR:O	1:A:1017:ARG:NH2	2.50	0.44
1:A:3326:ASN:HB3	1:A:3329:ILE:HD13	1.99	0.44
1:B:548:VAL:HA	1:B:551:LEU:HG	1.98	0.44
1:C:726:VAL:HB	1:C:728:ARG:HH21	1.82	0.44
1:C:1568:LYS:HE2	1:C:1574:PRO:HD3	1.99	0.44
1:C:4984:ASN:HB3	1:C:4987:ASN:HB2	1.99	0.44
1:D:3719:ASP:HB2	1:D:3722:TYR:HB3	1.98	0.44
1:D:4828:SER:O	1:D:4832:HIS:HB2	2.17	0.44
1:A:129:ASP:OD1	1:A:129:ASP:N	2.50	0.44
1:A:145:ALA:HA	1:A:175:SER:HB3	1.99	0.44
1:A:2165:LEU:HD21	1:A:2177:LEU:HD23	1.99	0.44
1:A:3051:ARG:CZ	1:A:3098:SER:HB3	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3329:ILE:HD11	1:A:3332:ALA:HB2	1.99	0.44
1:B:3719:ASP:HB2	1:B:3722:TYR:HB3	1.98	0.44
1:C:4828:SER:O	1:C:4832:HIS:HB2	2.17	0.44
1:D:262:LEU:HD13	1:D:274:LEU:HD11	1.98	0.44
1:A:76:ARG:HH12	1:D:3936:TYR:HB2	1.82	0.44
1:A:726:VAL:HB	1:A:728:ARG:HH21	1.82	0.44
1:A:2974:ILE:HD12	1:A:3053:ARG:HH12	1.82	0.44
1:B:145:ALA:HA	1:B:175:SER:HB3	1.99	0.44
1:B:1256:GLU:HB3	1:B:1275:ARG:HD2	2.00	0.44
1:B:3759:GLU:OE1	1:B:3762:ARG:NH2	2.50	0.44
1:C:294:THR:HG23	1:C:297:GLN:H	1.82	0.44
1:C:2916:LYS:HD3	1:C:2920:ARG:HH21	1.82	0.44
1:C:3281:LEU:HD12	1:C:3315:LEU:HD22	1.99	0.44
1:D:726:VAL:HB	1:D:728:ARG:HH21	1.82	0.44
1:D:3233:PRO:HD2	1:D:3239:MET:HG2	1.98	0.44
1:A:877:ASN:HA	1:A:970:LEU:H	1.83	0.44
1:A:1036:ARG:O	1:A:1040:CYS:HB2	2.17	0.44
1:A:2538:THR:HG23	1:A:2540:THR:H	1.81	0.44
1:B:3329:ILE:HD11	1:B:3332:ALA:HB2	1.99	0.44
1:B:4036:VAL:HG12	1:B:4153:HIS:HA	1.99	0.44
1:C:665:GLU:HB2	1:C:792:LEU:HB2	2.00	0.44
1:C:858:THR:OG1	1:C:927:GLU:OE2	2.33	0.44
1:C:936:GLY:HA3	1:C:1056:PRO:HB3	1.99	0.44
1:C:1007:TYR:O	1:C:1017:ARG:NH2	2.50	0.44
1:C:2998:PHE:HA	1:C:3002:LEU:HD13	2.00	0.44
1:C:3051:ARG:CZ	1:C:3098:SER:HB3	2.47	0.44
1:D:102:LEU:HA	1:D:162:LYS:HA	2.00	0.44
1:D:665:GLU:HB2	1:D:792:LEU:HB2	2.00	0.44
1:D:2680:TRP:O	1:D:2684:ASP:HB2	2.17	0.44
1:D:2875:ALA:HB2	1:D:2927:LEU:HD22	2.00	0.44
1:D:3281:LEU:HD12	1:D:3315:LEU:HD22	1.99	0.44
1:A:603:LEU:HA	1:A:606:LEU:HD12	2.00	0.44
1:A:884:LEU:HD13	1:A:968:ALA:H	1.83	0.44
1:A:2875:ALA:HB2	1:A:2927:LEU:HD22	2.00	0.44
1:B:102:LEU:HA	1:B:162:LYS:HA	2.00	0.44
1:B:2769:ASP:HA	1:B:2772:GLN:HB2	1.99	0.44
1:B:2875:ALA:HB2	1:B:2927:LEU:HD22	2.00	0.44
1:B:3284:TRP:HB3	1:B:3305:THR:HG21	2.00	0.44
1:B:3352:GLU:HA	1:B:3355:HIS:HE1	1.82	0.44
1:C:640:TYR:HD2	1:C:1634:LEU:HB3	1.82	0.44
1:C:884:LEU:HD13	1:C:968:ALA:H	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2875:ALA:HB2	1:C:2927:LEU:HD22	2.00	0.44
1:C:3759:GLU:OE1	1:C:3762:ARG:NH2	2.50	0.44
1:D:884:LEU:HB2	1:D:969:PRO:HD3	1.98	0.44
1:D:2461:VAL:O	1:D:2510:TYR:OH	2.30	0.44
1:D:4867:GLU:H	1:D:4867:GLU:HG2	1.50	0.44
1:A:102:LEU:HA	1:A:162:LYS:HA	2.00	0.44
1:B:640:TYR:HD2	1:B:1634:LEU:HB3	1.82	0.44
1:B:1434:TYR:HA	1:B:1518:CYS:O	2.17	0.44
1:B:5012:LYS:HE3	1:B:5012:LYS:HB3	1.69	0.44
1:C:1842:LEU:HD23	1:C:1842:LEU:HA	1.87	0.44
1:C:3388:GLU:HA	1:C:3391:GLU:HB3	1.99	0.44
1:C:4576:ILE:HG23	1:C:4639:MET:HE3	2.00	0.44
1:D:3051:ARG:CZ	1:D:3098:SER:HB3	2.47	0.44
1:D:3996:PHE:O	1:D:4000:MET:HG2	2.18	0.44
1:A:1256:GLU:HB3	1:A:1275:ARG:HD2	2.00	0.44
1:A:3006:ILE:HD12	1:A:3010:PHE:HE2	1.83	0.44
1:A:3284:TRP:HB3	1:A:3305:THR:HG21	2.00	0.44
1:A:3996:PHE:O	1:A:4000:MET:HG2	2.18	0.44
1:A:4828:SER:O	1:A:4832:HIS:HB2	2.17	0.44
1:B:426:ARG:NH1	1:B:429:GLY:O	2.41	0.44
1:B:498:THR:HA	1:B:553:ARG:HH22	1.82	0.44
1:B:877:ASN:HA	1:B:970:LEU:H	1.83	0.44
1:B:2215:LEU:HD23	1:B:2260:ASN:HB3	2.00	0.44
1:B:3316:LEU:HD11	1:B:3353:LEU:HD11	2.00	0.44
1:B:3366:ARG:NH1	1:B:3440:GLU:OE1	2.47	0.44
1:B:4687:TYR:HE2	1:B:4703:ARG:HG2	1.82	0.44
1:C:129:ASP:OD1	1:C:129:ASP:N	2.50	0.44
1:C:869:ARG:HE	1:C:869:ARG:HB3	1.64	0.44
1:C:1808:ARG:HD3	1:C:1853:ILE:HG22	2.00	0.44
1:C:2215:LEU:HD23	1:C:2260:ASN:HB3	2.00	0.44
1:C:4112:LEU:O	1:C:4115:SER:OG	2.32	0.44
1:D:498:THR:HA	1:D:553:ARG:HH22	1.82	0.44
1:D:603:LEU:HA	1:D:606:LEU:HD12	2.00	0.44
1:A:3719:ASP:HB2	1:A:3722:TYR:HB3	1.98	0.44
1:B:603:LEU:HA	1:B:606:LEU:HD12	2.00	0.44
1:B:884:LEU:HD13	1:B:968:ALA:H	1.83	0.44
1:B:1007:TYR:O	1:B:1017:ARG:NH2	2.50	0.44
1:B:1849:LEU:HD23	1:B:1849:LEU:HA	1.87	0.44
1:B:2165:LEU:HD21	1:B:2177:LEU:HD23	1.99	0.44
1:B:3326:ASN:HB3	1:B:3329:ILE:HD13	1.99	0.44
1:C:3316:LEU:HD11	1:C:3353:LEU:HD11	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:4687:TYR:HE2	1:C:4703:ARG:HG2	1.82	0.44
1:D:3006:ILE:HD12	1:D:3010:PHE:HE2	1.83	0.44
1:A:244:LEU:HD23	1:A:244:LEU:HA	1.90	0.44
1:A:793:LEU:HB2	1:A:797:HIS:HB2	2.00	0.44
1:B:2998:PHE:HA	1:B:3002:LEU:HD13	2.00	0.44
1:C:877:ASN:HA	1:C:970:LEU:H	1.83	0.44
1:D:129:ASP:N	1:D:129:ASP:OD1	2.50	0.44
1:D:1007:TYR:O	1:D:1017:ARG:NH2	2.49	0.44
1:A:936:GLY:HA3	1:A:1056:PRO:HB3	1.99	0.43
1:A:1808:ARG:NH1	1:A:1853:ILE:O	2.43	0.43
1:A:4687:TYR:HE2	1:A:4703:ARG:HG2	1.82	0.43
1:B:3006:ILE:HD12	1:B:3010:PHE:HE2	1.83	0.43
1:C:2740:VAL:HG21	1:C:2819:TRP:HE1	1.83	0.43
1:D:936:GLY:HA3	1:D:1056:PRO:HB3	1.99	0.43
1:D:2215:LEU:HD23	1:D:2260:ASN:HB3	2.00	0.43
1:D:4244:GLU:HG2	1:D:4668:LEU:HD13	2.01	0.43
1:A:2215:LEU:HD23	1:A:2260:ASN:HB3	2.00	0.43
1:B:766:GLY:HA2	1:B:1475:THR:O	2.18	0.43
1:B:936:GLY:HA3	1:B:1056:PRO:HB3	1.99	0.43
1:B:1568:LYS:HE2	1:B:1574:PRO:HD3	1.99	0.43
1:C:145:ALA:HA	1:C:175:SER:HB3	1.99	0.43
1:C:766:GLY:HA2	1:C:1475:THR:O	2.18	0.43
1:C:1256:GLU:HB3	1:C:1275:ARG:HD2	2.00	0.43
1:C:3366:ARG:NH1	1:C:3440:GLU:OE1	2.47	0.43
1:C:3842:LEU:HB2	1:C:3929:SER:HB2	2.01	0.43
1:C:5011:TRP:HD1	1:C:5011:TRP:HA	1.66	0.43
1:D:3388:GLU:HA	1:D:3391:GLU:HB3	1.99	0.43
1:A:498:THR:HA	1:A:553:ARG:HH22	1.82	0.43
1:B:1221:GLU:HG3	1:B:1223:PHE:HD1	1.83	0.43
1:B:1808:ARG:HD3	1:B:1853:ILE:HG22	2.00	0.43
1:B:4957:LYS:HB2	1:B:4957:LYS:HE2	1.64	0.43
1:C:2165:LEU:HD21	1:C:2177:LEU:HD23	1.99	0.43
1:C:4190:ILE:H	1:C:4190:ILE:HG12	1.49	0.43
1:D:640:TYR:HD2	1:D:1634:LEU:HB3	1.82	0.43
1:D:766:GLY:HA2	1:D:1475:THR:O	2.18	0.43
1:D:1256:GLU:HB3	1:D:1275:ARG:HD2	2.00	0.43
1:D:1568:LYS:HE2	1:D:1574:PRO:HD3	1.99	0.43
1:D:3840:SER:OG	1:D:3877:ASP:OD1	2.29	0.43
1:A:465:GLN:HA	1:A:468:LEU:HB2	2.00	0.43
1:B:4576:ILE:HG23	1:B:4639:MET:HE3	2.00	0.43
1:D:1808:ARG:HD3	1:D:1853:ILE:HG22	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2716:ASP:N	1:D:2716:ASP:OD1	2.50	0.43
1:D:3316:LEU:HD11	1:D:3353:LEU:HD11	2.00	0.43
1:A:4576:ILE:HG23	1:A:4639:MET:HE3	2.00	0.43
1:B:294:THR:HG23	1:B:297:GLN:H	1.82	0.43
1:C:102:LEU:HA	1:C:162:LYS:HA	2.00	0.43
1:C:603:LEU:HA	1:C:606:LEU:HD12	2.00	0.43
1:C:2974:ILE:HD12	1:C:3053:ARG:HH12	1.82	0.43
1:C:3006:ILE:HD12	1:C:3010:PHE:HE2	1.83	0.43
1:C:4944:ARG:NE	1:D:4938:ASP:OD1	2.51	0.43
1:D:3844:LEU:HD21	1:D:3933:PHE:HA	2.01	0.43
1:A:766:GLY:HA2	1:A:1475:THR:O	2.18	0.43
1:A:1221:GLU:HG3	1:A:1223:PHE:HD1	1.83	0.43
1:A:1737:PRO:HD3	1:A:1771:LEU:HG	2.00	0.43
1:A:3281:LEU:HD12	1:A:3315:LEU:HD22	1.99	0.43
1:A:3366:ARG:NH1	1:A:3440:GLU:OE1	2.47	0.43
1:B:721:LEU:HD23	1:B:721:LEU:HA	1.90	0.43
1:B:2740:VAL:HG21	1:B:2819:TRP:HE1	1.83	0.43
1:B:2974:ILE:HD12	1:B:3053:ARG:HH12	1.82	0.43
1:B:3388:GLU:HA	1:B:3391:GLU:HB3	1.99	0.43
1:C:1221:GLU:HG3	1:C:1223:PHE:HD1	1.83	0.43
1:C:4244:GLU:HG2	1:C:4668:LEU:HD13	2.01	0.43
1:D:2740:VAL:HG21	1:D:2819:TRP:HE1	1.83	0.43
1:D:3326:ASN:HB3	1:D:3329:ILE:HD13	1.99	0.43
1:D:4112:LEU:O	1:D:4115:SER:OG	2.32	0.43
1:A:400:ALA:HA	1:A:403:MET:HG2	2.01	0.43
1:A:665:GLU:HB2	1:A:792:LEU:HB2	2.00	0.43
1:A:3388:GLU:HA	1:A:3391:GLU:HB3	1.99	0.43
1:B:400:ALA:HA	1:B:403:MET:HG2	2.01	0.43
1:B:4244:GLU:HG2	1:B:4668:LEU:HD13	2.01	0.43
1:C:793:LEU:HB2	1:C:797:HIS:HB2	2.00	0.43
1:C:1225:PRO:HG2	1:C:1228:ILE:HD13	2.01	0.43
1:C:1849:LEU:HD23	1:C:1849:LEU:HA	1.87	0.43
1:C:2769:ASP:HA	1:C:2772:GLN:HB2	1.99	0.43
1:C:3329:ILE:HD11	1:C:3332:ALA:HB2	1.99	0.43
1:C:3996:PHE:O	1:C:4000:MET:HG2	2.18	0.43
1:D:877:ASN:HA	1:D:970:LEU:H	1.83	0.43
1:D:1225:PRO:HG2	1:D:1228:ILE:HD13	2.01	0.43
1:D:1737:PRO:HD3	1:D:1771:LEU:HG	2.01	0.43
1:D:3329:ILE:HD11	1:D:3332:ALA:HB2	1.99	0.43
1:D:3471:THR:O	1:D:3475:LYS:HG3	2.19	0.43
1:A:1225:PRO:HG2	1:A:1228:ILE:HD13	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1658:ASP:OD1	1:A:1658:ASP:N	2.47	0.43
1:A:3842:LEU:HB2	1:A:3929:SER:HB2	2.01	0.43
1:B:2354:VAL:O	1:B:2358:ILE:HG12	2.19	0.43
1:B:2765:LYS:HZ3	1:B:2857:PRO:HB2	1.83	0.43
1:B:3211:ASN:HB3	1:B:3236:VAL:HG21	2.01	0.43
1:B:3731:LYS:HA	1:B:3731:LYS:HD3	1.76	0.43
1:B:3842:LEU:HB2	1:B:3929:SER:HB2	2.01	0.43
1:B:3996:PHE:O	1:B:4000:MET:HG2	2.18	0.43
1:C:3037:GLU:HG3	1:C:3088:VAL:HG21	2.01	0.43
1:C:3211:ASN:HB3	1:C:3236:VAL:HG21	2.01	0.43
1:C:3844:LEU:HD21	1:C:3933:PHE:HA	2.01	0.43
1:A:279:PRO:HD3	1:A:327:PRO:HB3	2.01	0.43
1:A:3346:VAL:HG22	1:A:3415:TYR:HB2	2.01	0.43
1:A:3471:THR:O	1:A:3475:LYS:HG3	2.19	0.43
1:B:1225:PRO:HG2	1:B:1228:ILE:HD13	2.01	0.43
1:B:1792:ALA:O	1:B:2176:ASN:ND2	2.52	0.43
1:B:3281:LEU:HD12	1:B:3315:LEU:HD22	1.99	0.43
1:C:876:GLU:HG2	1:C:910:PHE:CE2	2.54	0.43
1:C:2354:VAL:O	1:C:2358:ILE:HG12	2.19	0.43
1:C:3284:TRP:HB3	1:C:3305:THR:HG21	2.00	0.43
1:D:1830:VAL:HB	1:D:1837:GLN:HG3	2.01	0.43
1:D:3366:ARG:NH1	1:D:3440:GLU:OE1	2.47	0.43
1:A:886:ARG:HE	1:A:904:HIS:HB2	1.84	0.43
1:A:1568:LYS:HE2	1:A:1574:PRO:HD3	1.99	0.43
1:A:1792:ALA:O	1:A:2176:ASN:ND2	2.52	0.43
1:A:2354:VAL:O	1:A:2358:ILE:HG12	2.19	0.43
1:A:2740:VAL:HG21	1:A:2819:TRP:HE1	1.83	0.43
1:B:665:GLU:HB2	1:B:792:LEU:HB2	2.00	0.43
1:B:783:PHE:HB2	1:B:787:VAL:HG21	2.01	0.43
1:B:793:LEU:HB2	1:B:797:HIS:HB2	2.00	0.43
1:C:886:ARG:HE	1:C:904:HIS:HB2	1.84	0.43
1:C:3326:ASN:HB3	1:C:3329:ILE:HD13	1.99	0.43
1:C:3801:GLY:O	1:C:3805:LEU:HB2	2.19	0.43
1:D:721:LEU:HD23	1:D:721:LEU:HA	1.90	0.43
1:D:793:LEU:HB2	1:D:797:HIS:HB2	2.00	0.43
1:D:876:GLU:HG2	1:D:910:PHE:CE2	2.54	0.43
1:D:886:ARG:HE	1:D:904:HIS:HB2	1.84	0.43
1:D:3346:VAL:HG22	1:D:3415:TYR:HB2	2.01	0.43
1:A:2998:PHE:HA	1:A:3002:LEU:HD13	2.00	0.42
1:B:1000:ARG:HA	1:B:1000:ARG:HD3	1.80	0.42
1:B:3844:LEU:HD21	1:B:3933:PHE:HA	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:400:ALA:HA	1:C:403:MET:HG2	2.01	0.42
1:C:783:PHE:HB2	1:C:787:VAL:HG21	2.01	0.42
1:C:1248:VAL:HG12	1:C:1599:MET:HG3	2.01	0.42
1:C:2466:LEU:HD23	1:C:2466:LEU:HA	1.88	0.42
1:C:2716:ASP:OD1	1:C:2716:ASP:N	2.50	0.42
1:C:3781:GLN:NE2	1:C:3819:TYR:OH	2.41	0.42
1:D:884:LEU:HD13	1:D:968:ALA:H	1.83	0.42
1:D:2354:VAL:O	1:D:2358:ILE:HG12	2.19	0.42
1:D:3211:ASN:HB3	1:D:3236:VAL:HG21	2.01	0.42
2:G:49:ARG:N	2:G:54:GLU:OE2	2.52	0.42
1:A:876:GLU:HG2	1:A:910:PHE:CE2	2.54	0.42
1:A:3211:ASN:HB3	1:A:3236:VAL:HG21	2.01	0.42
1:A:3316:LEU:HD11	1:A:3353:LEU:HD11	2.00	0.42
1:A:3875:MET:HB3	1:A:3878:ASP:HB3	2.02	0.42
1:B:416:LYS:HB3	1:B:416:LYS:HE2	1.76	0.42
1:B:876:GLU:HG2	1:B:910:PHE:CE2	2.54	0.42
1:B:886:ARG:HE	1:B:904:HIS:HB2	1.84	0.42
1:B:1689:VAL:HG21	1:B:1714:LEU:HD21	2.01	0.42
1:B:3799:LYS:HE3	1:B:3799:LYS:HB2	1.94	0.42
1:B:3862:ASP:OD1	1:B:3862:ASP:N	2.45	0.42
1:C:465:GLN:HA	1:C:468:LEU:HB2	2.00	0.42
1:C:3471:THR:O	1:C:3475:LYS:HG3	2.19	0.42
1:D:2165:LEU:HD22	1:D:2174:GLU:HG2	2.01	0.42
1:A:3075:LEU:O	1:A:3146:HIS:NE2	2.46	0.42
1:A:3801:GLY:O	1:A:3805:LEU:HB2	2.19	0.42
1:B:253:CYS:O	1:B:258:SER:OG	2.34	0.42
1:B:3471:THR:O	1:B:3475:LYS:HG3	2.19	0.42
1:D:244:LEU:HD23	1:D:244:LEU:HA	1.90	0.42
1:D:1792:ALA:O	1:D:2176:ASN:ND2	2.52	0.42
1:D:2611:CYS:HA	1:D:2614:ILE:HG22	2.02	0.42
1:D:3284:TRP:HB3	1:D:3305:THR:HG21	2.00	0.42
2:H:49:ARG:N	2:H:54:GLU:OE2	2.52	0.42
1:A:1808:ARG:HD3	1:A:1853:ILE:HG22	2.00	0.42
1:A:2927:LEU:HD12	1:A:2927:LEU:HA	1.87	0.42
1:A:4244:GLU:HG2	1:A:4668:LEU:HD13	2.01	0.42
1:B:129:ASP:N	1:B:129:ASP:OD1	2.50	0.42
1:B:3362:ILE:HG13	1:B:3437:MET:HG2	2.01	0.42
1:B:3801:GLY:O	1:B:3805:LEU:HB2	2.19	0.42
1:C:1634:LEU:HD23	1:C:1634:LEU:HA	1.91	0.42
1:C:3628:ARG:NH2	1:C:3857:GLY:O	2.53	0.42
1:C:3875:MET:HB3	1:C:3878:ASP:HB3	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:279:PRO:HD3	1:D:327:PRO:HB3	2.01	0.42
1:D:400:ALA:HA	1:D:403:MET:HG2	2.01	0.42
1:D:1221:GLU:HG3	1:D:1223:PHE:HD1	1.83	0.42
1:D:1253:PRO:HG2	1:D:1254:HIS:CD2	2.54	0.42
1:D:3801:GLY:O	1:D:3805:LEU:HB2	2.19	0.42
1:A:743:VAL:HB	1:A:760:ASN:HA	2.02	0.42
1:A:3628:ARG:NH2	1:A:3857:GLY:O	2.53	0.42
1:B:2611:CYS:HA	1:B:2614:ILE:HG22	2.02	0.42
1:B:3037:GLU:HG3	1:B:3088:VAL:HG21	2.01	0.42
1:B:3875:MET:HB3	1:B:3878:ASP:HB3	2.02	0.42
1:C:206:CYS:HB2	1:C:271:GLY:HA3	2.01	0.42
1:C:1253:PRO:HG2	1:C:1254:HIS:CD2	2.54	0.42
1:C:1689:VAL:HG21	1:C:1714:LEU:HD21	2.01	0.42
1:C:2138:LEU:HD23	1:C:2138:LEU:HA	1.90	0.42
1:C:2616:PRO:HA	1:C:2619:LEU:HD12	2.02	0.42
1:D:1248:VAL:HG12	1:D:1599:MET:HG3	2.01	0.42
1:D:2616:PRO:HA	1:D:2619:LEU:HD12	2.02	0.42
1:A:1248:VAL:HG12	1:A:1599:MET:HG3	2.01	0.42
1:A:4182:GLU:HA	1:A:4191:GLU:O	2.20	0.42
1:A:5012:LYS:HB3	1:A:5012:LYS:HE3	1.69	0.42
1:B:743:VAL:HB	1:B:760:ASN:HA	2.02	0.42
1:B:1248:VAL:HG12	1:B:1599:MET:HG3	2.01	0.42
1:B:1830:VAL:HB	1:B:1837:GLN:HG3	2.01	0.42
1:B:2624:ARG:HG3	1:B:2910:THR:HB	2.02	0.42
1:B:2716:ASP:OD1	1:B:2716:ASP:N	2.50	0.42
1:B:3641:LEU:HA	1:B:3644:LEU:HD23	2.01	0.42
1:C:1792:ALA:O	1:C:2176:ASN:ND2	2.52	0.42
1:C:2611:CYS:HA	1:C:2614:ILE:HG22	2.02	0.42
1:D:107:ILE:N	1:D:148:TRP:O	2.40	0.42
1:D:206:CYS:HB2	1:D:271:GLY:HA3	2.01	0.42
1:D:206:CYS:SG	1:D:207:SER:N	2.93	0.42
1:D:1689:VAL:HG21	1:D:1714:LEU:HD21	2.02	0.42
1:D:3037:GLU:HG3	1:D:3088:VAL:HG21	2.01	0.42
1:D:3159:ASP:OD1	1:D:3159:ASP:N	2.45	0.42
1:D:3875:MET:HB3	1:D:3878:ASP:HB3	2.02	0.42
1:D:4188:ARG:HD2	1:D:4188:ARG:HA	1.58	0.42
1:A:1689:VAL:HG21	1:A:1714:LEU:HD21	2.01	0.42
1:A:2960:LEU:HD23	1:A:2963:LEU:HD12	2.01	0.42
1:A:5006:GLN:O	1:A:5010:VAL:HG12	2.20	0.42
1:B:1253:PRO:HG2	1:B:1254:HIS:CD2	2.54	0.42
1:B:2165:LEU:HD22	1:B:2174:GLU:HG2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4944:ARG:NE	1:C:4938:ASP:OD1	2.51	0.42
1:C:1737:PRO:HD3	1:C:1771:LEU:HG	2.01	0.42
1:C:1830:VAL:HB	1:C:1837:GLN:HG3	2.01	0.42
1:C:2165:LEU:HD22	1:C:2174:GLU:HG2	2.01	0.42
1:C:2316:LYS:HD3	1:C:2318:TYR:HE1	1.84	0.42
1:C:2624:ARG:HG3	1:C:2910:THR:HB	2.02	0.42
1:C:3641:LEU:HA	1:C:3644:LEU:HD23	2.01	0.42
1:D:1674:CYS:SG	1:D:1717:SER:OG	2.73	0.42
1:D:5012:LYS:HB3	1:D:5012:LYS:HE3	1.69	0.42
2:F:49:ARG:N	2:F:54:GLU:OE2	2.52	0.42
1:A:1253:PRO:HG2	1:A:1254:HIS:CD2	2.54	0.42
1:A:2611:CYS:HA	1:A:2614:ILE:HG22	2.02	0.42
1:A:3641:LEU:HA	1:A:3644:LEU:HD23	2.01	0.42
1:A:3844:LEU:HD21	1:A:3933:PHE:HA	2.01	0.42
1:A:4227:GLU:H	1:A:4227:GLU:HG3	1.55	0.42
1:B:206:CYS:SG	1:B:207:SER:N	2.93	0.42
1:C:3353:LEU:HD23	1:C:3358:PHE:HE2	1.85	0.42
1:C:4801:LEU:HD23	1:C:4801:LEU:HA	1.88	0.42
1:D:2998:PHE:HA	1:D:3002:LEU:HD13	2.00	0.42
1:D:5006:GLN:O	1:D:5010:VAL:HG12	2.20	0.42
1:A:2316:LYS:HD3	1:A:2318:TYR:HE1	1.85	0.42
1:B:2960:LEU:HD23	1:B:2963:LEU:HD12	2.01	0.42
1:B:3346:VAL:HG22	1:B:3415:TYR:HB2	2.01	0.42
1:B:4821:LYS:O	1:B:4825:THR:HG23	2.20	0.42
1:C:279:PRO:HD3	1:C:327:PRO:HB3	2.01	0.42
1:C:419:ASP:HA	1:C:422:SER:HB3	2.02	0.42
1:C:743:VAL:HB	1:C:760:ASN:HA	2.02	0.42
1:C:846:LEU:HD22	1:C:846:LEU:HA	1.89	0.42
1:C:1154:ASP:OD1	1:C:1156:THR:OG1	2.38	0.42
1:C:1808:ARG:NH1	1:C:1853:ILE:O	2.43	0.42
1:C:2672:LEU:HD23	1:C:2672:LEU:HA	1.83	0.42
1:C:2960:LEU:HD23	1:C:2963:LEU:HD12	2.01	0.42
1:C:3337:ARG:HA	1:C:3340:VAL:HG22	2.02	0.42
1:C:3346:VAL:HG22	1:C:3415:TYR:HB2	2.01	0.42
1:C:4727:LYS:HG2	1:C:4728:HIS:CD2	2.55	0.42
1:D:878:ILE:HD11	1:D:925:SER:HB2	2.02	0.42
1:D:3353:LEU:HD23	1:D:3358:PHE:HE2	1.85	0.42
1:D:3628:ARG:NH2	1:D:3857:GLY:O	2.53	0.42
1:D:3781:GLN:NE2	1:D:3819:TYR:OH	2.41	0.42
1:D:3842:LEU:HB2	1:D:3929:SER:HB2	2.01	0.42
1:D:4821:LYS:O	1:D:4825:THR:HG23	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4727:LYS:HG2	1:A:4728:HIS:CD2	2.55	0.42
1:B:465:GLN:HA	1:B:468:LEU:HB2	2.00	0.42
1:B:869:ARG:CZ	1:B:870:ILE:HB	2.50	0.42
1:B:1737:PRO:HD3	1:B:1771:LEU:HG	2.01	0.42
1:B:2891:LYS:HA	1:B:2891:LYS:HD3	1.97	0.42
1:B:3628:ARG:NH2	1:B:3857:GLY:O	2.53	0.42
1:B:4227:GLU:H	1:B:4227:GLU:HG3	1.55	0.42
1:C:3362:ILE:HG13	1:C:3437:MET:HG2	2.01	0.42
1:C:5006:GLN:O	1:C:5010:VAL:HG12	2.20	0.42
1:D:743:VAL:HB	1:D:760:ASN:HA	2.02	0.42
1:D:1088:TRP:HB2	1:D:1153:ILE:HG22	2.02	0.42
1:D:1658:ASP:OD1	1:D:1658:ASP:N	2.47	0.42
1:D:2863:SER:HA	1:D:2928:LYS:HG3	2.02	0.42
1:D:3007:ASN:O	1:D:3011:THR:OG1	2.33	0.42
1:D:4227:GLU:H	1:D:4227:GLU:HG3	1.55	0.42
1:A:783:PHE:HB2	1:A:787:VAL:HG21	2.01	0.41
1:A:878:ILE:HD11	1:A:925:SER:HB2	2.02	0.41
1:A:1097:THR:HA	1:A:1143:TRP:HE1	1.85	0.41
1:A:2624:ARG:HG3	1:A:2910:THR:HB	2.02	0.41
1:A:3144:PHE:CZ	1:A:3197:LEU:HD13	2.55	0.41
1:B:206:CYS:HB2	1:B:271:GLY:HA3	2.01	0.41
1:B:279:PRO:HD3	1:B:327:PRO:HB3	2.01	0.41
1:B:293:LEU:HB3	1:B:311:ALA:HB1	2.02	0.41
1:B:838:HIS:CE1	1:B:1201:HIS:HB2	2.55	0.41
1:B:863:LEU:HA	1:B:864:PRO:HD3	1.85	0.41
1:B:4727:LYS:HG2	1:B:4728:HIS:CD2	2.55	0.41
1:C:4821:LYS:O	1:C:4825:THR:HG23	2.20	0.41
1:D:465:GLN:HA	1:D:468:LEU:HB2	2.00	0.41
1:D:638:ILE:HD11	1:D:702:TRP:HE3	1.85	0.41
1:D:2299:VAL:HG11	1:D:2356:LEU:HB3	2.03	0.41
1:D:2765:LYS:HA	1:D:2765:LYS:HD3	1.89	0.41
1:D:3641:LEU:HA	1:D:3644:LEU:HD23	2.01	0.41
1:D:3823:LYS:HA	1:D:3823:LYS:HD3	1.90	0.41
1:D:3924:LEU:O	1:D:3928:GLU:HG2	2.20	0.41
1:D:4182:GLU:HA	1:D:4191:GLU:O	2.20	0.41
1:A:356:TRP:O	1:A:379:HIS:N	2.53	0.41
1:A:3781:GLN:NE2	1:A:3819:TYR:OH	2.41	0.41
1:A:4031:LEU:HD23	1:A:4031:LEU:HA	1.88	0.41
1:B:1097:THR:HA	1:B:1143:TRP:HE1	1.85	0.41
1:B:2616:PRO:HB3	1:B:2647:HIS:HE1	1.85	0.41
1:B:3144:PHE:CZ	1:B:3197:LEU:HD13	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1088:TRP:HB2	1:C:1153:ILE:HG22	2.02	0.41
1:C:1097:THR:HA	1:C:1143:TRP:HE1	1.85	0.41
1:C:2891:LYS:HA	1:C:2891:LYS:HD3	1.97	0.41
1:D:2672:LEU:HD22	1:D:2710:LEU:HD23	2.02	0.41
2:E:49:ARG:N	2:E:54:GLU:OE2	2.52	0.41
1:A:75:VAL:O	1:A:79:GLN:HG2	2.21	0.41
1:A:846:LEU:HD22	1:A:846:LEU:HA	1.89	0.41
1:A:1830:VAL:HB	1:A:1837:GLN:HG3	2.01	0.41
1:A:2299:VAL:HG11	1:A:2356:LEU:HB3	2.03	0.41
1:A:3037:GLU:HG3	1:A:3088:VAL:HG21	2.01	0.41
1:A:3353:LEU:HD23	1:A:3358:PHE:HE2	1.85	0.41
1:A:3924:LEU:O	1:A:3928:GLU:HG2	2.20	0.41
1:B:75:VAL:O	1:B:79:GLN:HG2	2.21	0.41
1:C:2616:PRO:HB3	1:C:2647:HIS:HE1	1.85	0.41
1:D:75:VAL:O	1:D:79:GLN:HG2	2.21	0.41
1:D:2624:ARG:HG3	1:D:2910:THR:HB	2.02	0.41
1:D:4029:SER:HA	1:D:4032:GLU:HG3	2.02	0.41
1:A:426:ARG:NH1	1:A:429:GLY:O	2.41	0.41
1:A:2165:LEU:HD22	1:A:2174:GLU:HG2	2.01	0.41
1:A:2863:SER:HA	1:A:2928:LYS:HG3	2.02	0.41
1:A:3362:ILE:HG13	1:A:3437:MET:HG2	2.02	0.41
1:B:1842:LEU:HD23	1:B:1842:LEU:HA	1.87	0.41
1:B:2616:PRO:HA	1:B:2619:LEU:HD12	2.02	0.41
1:B:3416:VAL:O	1:B:3420:ARG:N	2.53	0.41
1:B:3924:LEU:O	1:B:3928:GLU:HG2	2.20	0.41
1:B:4182:GLU:HA	1:B:4191:GLU:O	2.20	0.41
1:C:869:ARG:CZ	1:C:870:ILE:HB	2.50	0.41
1:C:878:ILE:HD11	1:C:925:SER:HB2	2.02	0.41
1:C:2773:ASN:OD1	1:C:2786:LYS:NZ	2.48	0.41
1:C:4779:LYS:HB3	1:C:4779:LYS:HE3	1.87	0.41
1:C:4911:LEU:HA	1:C:4914:VAL:HG22	2.03	0.41
1:D:3416:VAL:O	1:D:3420:ARG:N	2.53	0.41
1:D:3944:GLU:OE1	1:D:3946:GLN:N	2.50	0.41
1:A:206:CYS:HB2	1:A:271:GLY:HA3	2.01	0.41
1:A:419:ASP:HA	1:A:422:SER:HB3	2.02	0.41
1:A:638:ILE:HD11	1:A:702:TRP:HE3	1.85	0.41
1:A:1088:TRP:HB2	1:A:1153:ILE:HG22	2.02	0.41
1:A:3823:LYS:HA	1:A:3823:LYS:HD3	1.90	0.41
1:B:1154:ASP:OD1	1:B:1156:THR:OG1	2.38	0.41
1:B:1634:LEU:HD23	1:B:1634:LEU:HA	1.91	0.41
1:B:2672:LEU:HD23	1:B:2672:LEU:HA	1.83	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4031:LEU:HD23	1:B:4031:LEU:HA	1.88	0.41
1:C:3091:GLY:O	1:C:3094:SER:OG	2.36	0.41
1:D:783:PHE:HB2	1:D:787:VAL:HG21	2.01	0.41
1:D:1154:ASP:OD1	1:D:1156:THR:OG1	2.38	0.41
1:A:2616:PRO:HA	1:A:2619:LEU:HD12	2.01	0.41
1:A:4821:LYS:O	1:A:4825:THR:HG23	2.20	0.41
1:A:4917:ASP:OD2	1:D:4888:TYR:OH	2.29	0.41
1:A:4937:ILE:HG12	1:B:4934:GLY:HA2	2.02	0.41
1:B:2299:VAL:HG11	1:B:2356:LEU:HB3	2.02	0.41
1:B:3353:LEU:HD23	1:B:3358:PHE:HE2	1.85	0.41
1:C:638:ILE:HD11	1:C:702:TRP:HE3	1.85	0.41
1:D:293:LEU:HB3	1:D:311:ALA:HB1	2.02	0.41
1:D:869:ARG:CZ	1:D:870:ILE:HB	2.50	0.41
1:D:3888:LEU:HD23	1:D:3888:LEU:HA	1.89	0.41
1:D:4727:LYS:HG2	1:D:4728:HIS:CD2	2.55	0.41
1:D:4911:LEU:HA	1:D:4914:VAL:HG22	2.03	0.41
1:A:1154:ASP:OD1	1:A:1156:THR:OG1	2.38	0.41
1:A:2716:ASP:N	1:A:2716:ASP:OD1	2.50	0.41
1:A:3354:LEU:HD22	1:A:3423:TRP:HE1	1.86	0.41
1:A:3655:GLU:HA	1:A:3658:LYS:HG2	2.03	0.41
1:B:4801:LEU:HD23	1:B:4801:LEU:HA	1.88	0.41
1:C:394:GLN:HE22	1:C:396:GLU:HB2	1.86	0.41
1:C:733:PRO:HG2	1:C:762:CYS:HB3	2.03	0.41
1:C:838:HIS:CE1	1:C:1201:HIS:HB2	2.56	0.41
1:C:2304:GLY:HA2	1:C:2307:LEU:HG	2.02	0.41
1:D:733:PRO:HG2	1:D:762:CYS:HB3	2.03	0.41
1:D:1097:THR:HA	1:D:1143:TRP:HE1	1.85	0.41
1:D:2304:GLY:HA2	1:D:2307:LEU:HG	2.02	0.41
1:D:2616:PRO:HB3	1:D:2647:HIS:HE1	1.85	0.41
2:H:105:ASN:OD1	2:H:106:LEU:N	2.54	0.41
1:A:293:LEU:HB3	1:A:311:ALA:HB1	2.02	0.41
1:A:1634:LEU:HD23	1:A:1634:LEU:HA	1.91	0.41
1:A:2672:LEU:HD22	1:A:2710:LEU:HD23	2.02	0.41
1:A:3132:THR:HG23	1:A:3136:LEU:HD22	2.03	0.41
1:B:1042:ALA:O	1:B:1045:THR:OG1	2.36	0.41
1:B:2316:LYS:HD3	1:B:2318:TYR:HE1	1.84	0.41
1:B:3337:ARG:HA	1:B:3340:VAL:HG22	2.02	0.41
1:B:4814:LEU:HD23	1:B:4814:LEU:HA	1.91	0.41
1:C:206:CYS:SG	1:C:207:SER:N	2.93	0.41
1:C:1792:ALA:HA	1:C:2173:GLN:HA	2.03	0.41
1:C:2299:VAL:HG11	1:C:2356:LEU:HB3	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2672:LEU:HD22	1:C:2710:LEU:HD23	2.02	0.41
1:C:4989:MET:HE2	1:C:4989:MET:HB2	1.92	0.41
1:D:2960:LEU:HD23	1:D:2963:LEU:HD12	2.01	0.41
1:D:3589:PRO:HA	1:D:3592:ILE:HG22	2.03	0.41
1:D:3677:LEU:HD23	1:D:3677:LEU:HA	1.91	0.41
1:D:4823:LEU:HA	1:D:4823:LEU:HD23	1.84	0.41
1:D:4957:LYS:HE2	1:D:4957:LYS:HB2	1.64	0.41
1:A:206:CYS:SG	1:A:207:SER:N	2.93	0.41
1:A:383:HIS:N	1:A:386:ASP:OD2	2.54	0.41
1:A:2616:PRO:HB3	1:A:2647:HIS:HE1	1.85	0.41
1:A:3337:ARG:HA	1:A:3340:VAL:HG22	2.02	0.41
1:A:3589:PRO:HA	1:A:3592:ILE:HG22	2.03	0.41
1:A:3882:GLN:HG3	1:A:3957:VAL:HG22	2.03	0.41
1:A:4895:GLY:O	1:D:4892:ARG:NH1	2.46	0.41
1:A:4911:LEU:HA	1:A:4914:VAL:HG22	2.03	0.41
1:A:4944:ARG:NE	1:B:4938:ASP:OD1	2.51	0.41
1:B:356:TRP:O	1:B:379:HIS:N	2.54	0.41
1:B:638:ILE:HD11	1:B:702:TRP:HE3	1.85	0.41
1:B:878:ILE:HD11	1:B:925:SER:HB2	2.02	0.41
1:B:880:GLU:HB3	1:B:883:ALA:HB3	2.03	0.41
1:B:1091:GLU:HB2	1:B:1203:ASN:HB3	2.03	0.41
1:B:1792:ALA:HA	1:B:2173:GLN:HA	2.03	0.41
1:B:2158:CYS:O	1:B:2162:ILE:HG12	2.21	0.41
1:B:2304:GLY:HA2	1:B:2307:LEU:HG	2.02	0.41
1:B:3102:ASP:HA	1:B:3105:LYS:HE2	2.03	0.41
1:B:3104:GLU:HG2	1:B:3171:SER:HB3	2.03	0.41
1:B:5006:GLN:O	1:B:5010:VAL:HG12	2.20	0.41
1:C:293:LEU:HB3	1:C:311:ALA:HB1	2.02	0.41
1:C:1679:ASN:HA	1:C:1682:ALA:HB3	2.03	0.41
1:C:2109:ASP:OD1	1:C:2109:ASP:N	2.54	0.41
1:C:2863:SER:HA	1:C:2928:LYS:HG3	2.02	0.41
1:C:3102:ASP:HA	1:C:3105:LYS:HE2	2.03	0.41
1:C:3104:GLU:HG2	1:C:3171:SER:HB3	2.03	0.41
1:C:3400:VAL:HG23	1:C:3403:ARG:HE	1.86	0.41
1:C:3655:GLU:HA	1:C:3658:LYS:HG2	2.03	0.41
1:C:4182:GLU:HA	1:C:4191:GLU:O	2.20	0.41
1:D:356:TRP:O	1:D:379:HIS:N	2.54	0.41
1:D:383:HIS:N	1:D:386:ASP:OD2	2.54	0.41
1:D:2109:ASP:N	1:D:2109:ASP:OD1	2.54	0.41
1:D:3144:PHE:CZ	1:D:3197:LEU:HD13	2.55	0.41
1:D:3337:ARG:HA	1:D:3340:VAL:HG22	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:3752:SER:OG	1:D:3755:GLU:OE1	2.39	0.41
1:D:4839:MET:HE3	1:D:4839:MET:HB3	1.98	0.41
2:F:105:ASN:OD1	2:F:106:LEU:N	2.54	0.41
1:B:1088:TRP:HB2	1:B:1153:ILE:HG22	2.02	0.41
1:B:2109:ASP:OD1	1:B:2109:ASP:N	2.54	0.41
1:B:3888:LEU:HD23	1:B:3888:LEU:HA	1.90	0.41
1:B:4686:LEU:O	1:B:4691:GLN:N	2.50	0.41
1:C:416:LYS:HB3	1:C:416:LYS:HE2	1.76	0.41
1:C:2158:CYS:O	1:C:2162:ILE:HG12	2.21	0.41
1:C:3144:PHE:CZ	1:C:3197:LEU:HD13	2.56	0.41
1:C:4675:LYS:HD2	1:C:4679:ARG:HH21	1.86	0.41
1:D:2690:LYS:HA	1:D:2690:LYS:HD2	1.90	0.41
2:G:77:THR:HG22	2:G:80:VAL:HG22	2.03	0.41
1:A:733:PRO:HG2	1:A:762:CYS:HB3	2.03	0.40
1:A:838:HIS:CE1	1:A:1201:HIS:HB2	2.55	0.40
1:A:4029:SER:HA	1:A:4032:GLU:HG3	2.02	0.40
1:A:4675:LYS:HD2	1:A:4679:ARG:HH21	1.86	0.40
1:A:4723:LYS:HB3	1:A:4723:LYS:HE2	1.98	0.40
1:B:383:HIS:N	1:B:386:ASP:OD2	2.54	0.40
1:B:2711:PRO:HA	1:B:2712:PRO:HD3	1.94	0.40
1:B:3589:PRO:HA	1:B:3592:ILE:HG22	2.03	0.40
1:B:4029:SER:HA	1:B:4032:GLU:HG3	2.02	0.40
1:D:419:ASP:HA	1:D:422:SER:HB3	2.02	0.40
1:D:838:HIS:CE1	1:D:1201:HIS:HB2	2.55	0.40
1:D:3362:ILE:HG13	1:D:3437:MET:HG2	2.02	0.40
1:A:1128:ARG:HB2	1:A:1130:GLN:HE22	1.87	0.40
1:A:2461:VAL:O	1:A:2510:TYR:OH	2.30	0.40
1:A:3172:ILE:HG21	1:A:3194:LEU:HD13	2.03	0.40
1:A:3545:THR:HG23	1:A:3548:GLU:H	1.87	0.40
1:B:733:PRO:HG2	1:B:762:CYS:HB3	2.03	0.40
1:B:3545:THR:HG23	1:B:3548:GLU:H	1.87	0.40
1:B:3768:SER:HA	1:B:3771:HIS:CD2	2.57	0.40
1:B:3882:GLN:HG3	1:B:3957:VAL:HG22	2.03	0.40
1:C:660:GLY:O	1:C:750:LEU:N	2.53	0.40
1:C:3354:LEU:HD22	1:C:3423:TRP:HE1	1.86	0.40
1:C:3416:VAL:HG11	1:C:3517:MET:HE1	2.03	0.40
1:C:3604:TYR:O	1:C:3608:GLN:HG2	2.22	0.40
1:C:3862:ASP:OD1	1:C:3862:ASP:N	2.45	0.40
1:D:1679:ASN:HA	1:D:1682:ALA:HB3	2.03	0.40
1:D:2773:ASN:OD1	1:D:2786:LYS:NZ	2.48	0.40
1:D:3075:LEU:O	1:D:3146:HIS:NE2	2.46	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:3545:THR:HG23	1:D:3548:GLU:H	1.86	0.40
1:D:3604:TYR:O	1:D:3608:GLN:HG2	2.22	0.40
1:D:3882:GLN:HG3	1:D:3957:VAL:HG22	2.03	0.40
1:D:4686:LEU:O	1:D:4691:GLN:N	2.50	0.40
1:A:869:ARG:CZ	1:A:870:ILE:HB	2.50	0.40
1:A:2304:GLY:HA2	1:A:2307:LEU:HG	2.02	0.40
1:A:3438:VAL:HG21	1:A:3517:MET:HG3	2.03	0.40
1:A:3768:SER:HA	1:A:3771:HIS:CD2	2.56	0.40
1:B:676:THR:HG22	1:B:677:ALA:H	1.87	0.40
1:B:846:LEU:HD22	1:B:846:LEU:HA	1.89	0.40
1:B:1128:ARG:HB2	1:B:1130:GLN:HE22	1.87	0.40
1:B:3132:THR:HG23	1:B:3136:LEU:HD22	2.03	0.40
1:B:3264:THR:OG1	1:B:3265:GLU:OE1	2.39	0.40
1:B:3354:LEU:HD22	1:B:3423:TRP:HE1	1.86	0.40
1:B:3438:VAL:HG21	1:B:3517:MET:HG3	2.04	0.40
1:C:3132:THR:HG23	1:C:3136:LEU:HD22	2.03	0.40
1:C:3768:SER:HA	1:C:3771:HIS:CD2	2.57	0.40
1:C:3924:LEU:O	1:C:3928:GLU:HG2	2.20	0.40
1:C:4127:GLU:O	1:C:4131:ARG:HB2	2.22	0.40
1:D:2316:LYS:HD3	1:D:2318:TYR:HE1	1.85	0.40
1:D:3104:GLU:HG2	1:D:3171:SER:HB3	2.03	0.40
1:D:3354:LEU:HD22	1:D:3423:TRP:HE1	1.86	0.40
2:H:77:THR:HG22	2:H:80:VAL:HG22	2.03	0.40
1:A:183:SER:O	1:A:183:SER:OG	2.38	0.40
1:A:880:GLU:HB3	1:A:883:ALA:HB3	2.03	0.40
1:A:1792:ALA:HA	1:A:2173:GLN:HA	2.03	0.40
1:A:2711:PRO:HA	1:A:2712:PRO:HD3	1.94	0.40
1:A:3104:GLU:HG2	1:A:3171:SER:HB3	2.03	0.40
1:A:3400:VAL:HG23	1:A:3403:ARG:HE	1.86	0.40
1:B:2672:LEU:HD22	1:B:2710:LEU:HD23	2.02	0.40
1:B:3152:PHE:HB3	1:B:3156:VAL:HG23	2.03	0.40
1:B:3301:PRO:HA	1:B:3302:PRO:HD3	1.92	0.40
1:B:3511:VAL:HG12	1:B:3514:LEU:HD12	2.04	0.40
1:B:3655:GLU:HA	1:B:3658:LYS:HG2	2.03	0.40
1:B:4823:LEU:HA	1:B:4823:LEU:HD23	1.84	0.40
1:C:932:LEU:HD22	1:C:984:LEU:HD21	2.04	0.40
1:C:1091:GLU:HB2	1:C:1203:ASN:HB3	2.03	0.40
1:C:3589:PRO:HA	1:C:3592:ILE:HG22	2.03	0.40
1:C:3752:SER:OG	1:C:3755:GLU:OE1	2.39	0.40
1:D:932:LEU:HD22	1:D:984:LEU:HD21	2.04	0.40
1:D:3172:ILE:HG21	1:D:3194:LEU:HD13	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:3400:VAL:HG23	1:D:3403:ARG:HE	1.86	0.40
1:D:4127:GLU:O	1:D:4131:ARG:HB2	2.22	0.40
1:A:3752:SER:OG	1:A:3755:GLU:OE1	2.39	0.40
1:A:4821:LYS:H	1:A:4821:LYS:HG2	1.75	0.40
1:B:394:GLN:HE22	1:B:396:GLU:HB2	1.86	0.40
1:B:2863:SER:HA	1:B:2928:LYS:HG3	2.02	0.40
1:B:4675:LYS:HD2	1:B:4679:ARG:HH21	1.86	0.40
1:C:676:THR:HG22	1:C:677:ALA:H	1.87	0.40
1:C:3302:PRO:HA	1:C:3303:PRO:HD3	1.98	0.40
1:C:3882:GLN:HG3	1:C:3957:VAL:HG22	2.03	0.40
1:D:1000:ARG:HA	1:D:1000:ARG:HD3	1.80	0.40
1:D:1091:GLU:HB2	1:D:1203:ASN:HB3	2.03	0.40
1:D:1232:ARG:NH2	1:D:1828:ASP:O	2.41	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	4355/5037 (86%)	4218 (97%)	133 (3%)	4 (0%)	48	78
1	B	4355/5037 (86%)	4219 (97%)	132 (3%)	4 (0%)	48	78
1	C	4355/5037 (86%)	4219 (97%)	132 (3%)	4 (0%)	48	78
1	D	4355/5037 (86%)	4219 (97%)	132 (3%)	4 (0%)	48	78
2	E	105/350 (30%)	103 (98%)	2 (2%)	0	100	100
2	F	105/350 (30%)	103 (98%)	2 (2%)	0	100	100
2	G	105/350 (30%)	103 (98%)	2 (2%)	0	100	100
2	H	105/350 (30%)	103 (98%)	2 (2%)	0	100	100
All	All	17840/21548 (83%)	17287 (97%)	537 (3%)	16 (0%)	50	78

All (16) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	3615	SER
1	B	3615	SER
1	C	3615	SER
1	D	3615	SER
1	A	4691	GLN
1	B	4691	GLN
1	C	4691	GLN
1	D	4691	GLN
1	A	4712	PRO
1	B	4712	PRO
1	C	4712	PRO
1	D	4712	PRO
1	A	842	PRO
1	B	842	PRO
1	C	842	PRO
1	D	842	PRO

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	3807/4276 (89%)	3687 (97%)	120 (3%)	34	59
1	B	3807/4276 (89%)	3687 (97%)	120 (3%)	34	59
1	C	3807/4276 (89%)	3687 (97%)	120 (3%)	34	59
1	D	3807/4276 (89%)	3687 (97%)	120 (3%)	34	59
2	E	88/304 (29%)	87 (99%)	1 (1%)	70	81
2	F	88/304 (29%)	87 (99%)	1 (1%)	70	81
2	G	88/304 (29%)	87 (99%)	1 (1%)	70	81
2	H	88/304 (29%)	87 (99%)	1 (1%)	70	81
All	All	15580/18320 (85%)	15096 (97%)	484 (3%)	37	60

All (484) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	125	ARG
1	A	275	ARG
1	A	402	ARG
1	A	534	ARG
1	A	830	ARG
1	A	846	LEU
1	A	1534	LYS
1	A	1743[A]	ARG
1	A	1743[B]	ARG
1	A	1752	ARG
1	A	1758	ARG
1	A	1986	MET
1	A	2089	LYS
1	A	2178	MET
1	A	2369[A]	ARG
1	A	2369[B]	ARG
1	A	2584[A]	HIS
1	A	2584[B]	HIS
1	A	2615	ARG
1	A	2786	LYS
1	A	2806	ARG
1	A	2827	ARG
1	A	2914	LYS
1	A	3053	ARG
1	A	3225	ARG
1	A	3422[A]	HIS
1	A	3422[B]	HIS
1	A	3614	LYS
1	A	3622	LYS
1	A	4180	ARG
1	A	4181	ILE
1	A	4182	GLU
1	A	4184	MET
1	A	4188	ARG
1	A	4190	ILE
1	A	4198	SER
1	A	4202	ARG
1	A	4204	GLN
1	A	4211	LYS
1	A	4224	GLU
1	A	4227	GLU
1	A	4230	LYS
1	A	4252	SER

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Mol	Chain	Res	Type
1	A	4253	GLU
1	A	4544	LEU
1	A	4548	ARG
1	A	4550	LYS
1	A	4552	LEU
1	A	4577	LEU
1	A	4580	TYR
1	A	4581	LYS
1	A	4584	ASP
1	A	4585	SER
1	A	4628	VAL
1	A	4632	LEU
1	A	4634	GLU
1	A	4647	SER
1	A	4662	ASN
1	A	4665	LYS
1	A	4667	PRO
1	A	4669	VAL
1	A	4680	LYS
1	A	4684	ASP
1	A	4690	GLU
1	A	4692	PRO
1	A	4694	ASP
1	A	4695	ASP
1	A	4696	ASP
1	A	4698	LYS
1	A	4704	LEU
1	A	4707	ASN
1	A	4710	SER
1	A	4721	LYS
1	A	4734	ARG
1	A	4737	ILE
1	A	4739	GLU
1	A	4743	MET
1	A	4748	LEU
1	A	4750	ILE
1	A	4779	LYS
1	A	4796	MET
1	A	4809	PHE
1	A	4818	MET
1	A	4821	LYS
1	A	4822	THR

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Mol	Chain	Res	Type
1	A	4826	ILE
1	A	4835	LYS
1	A	4844	LEU
1	A	4861	LYS
1	A	4866	SER
1	A	4867	GLU
1	A	4869	GLU
1	A	4871	GLU
1	A	4876	CYS
1	A	4878	ASP
1	A	4880	MET
1	A	4889	VAL
1	A	4902	GLU
1	A	4911	LEU
1	A	4913	ARG
1	A	4945	ASP
1	A	4951	LYS
1	A	4952	GLU
1	A	4954	MET
1	A	4957	LYS
1	A	4958	CYS
1	A	4971	THR
1	A	4980	LEU
1	A	4982	GLU
1	A	4989	MET
1	A	5008	SER
1	A	5010	VAL
1	A	5011	TRP
1	A	5012	LYS
1	A	5013	MET
1	A	5027	CYS
1	A	5028	PHE
1	A	5032	TYR
1	A	5033	GLU
1	A	5036	LEU
1	B	125	ARG
1	B	275	ARG
1	B	402	ARG
1	B	534	ARG
1	B	830	ARG
1	B	846	LEU
1	B	1534	LYS

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Mol	Chain	Res	Type
1	B	1743[A]	ARG
1	B	1743[B]	ARG
1	B	1752	ARG
1	B	1758	ARG
1	B	1986	MET
1	B	2089	LYS
1	B	2178	MET
1	B	2369[A]	ARG
1	B	2369[B]	ARG
1	B	2584[A]	HIS
1	B	2584[B]	HIS
1	B	2615	ARG
1	B	2786	LYS
1	B	2806	ARG
1	B	2827	ARG
1	B	2914	LYS
1	B	3053	ARG
1	B	3225	ARG
1	B	3422[A]	HIS
1	B	3422[B]	HIS
1	B	3614	LYS
1	B	3622	LYS
1	B	4180	ARG
1	B	4181	ILE
1	B	4182	GLU
1	B	4184	MET
1	B	4188	ARG
1	B	4190	ILE
1	B	4198	SER
1	B	4202	ARG
1	B	4204	GLN
1	B	4211	LYS
1	B	4224	GLU
1	B	4227	GLU
1	B	4230	LYS
1	B	4252	SER
1	B	4253	GLU
1	B	4544	LEU
1	B	4548	ARG
1	B	4550	LYS
1	B	4552	LEU
1	B	4577	LEU

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Mol	Chain	Res	Type
1	B	4580	TYR
1	B	4581	LYS
1	B	4584	ASP
1	B	4585	SER
1	B	4628	VAL
1	B	4632	LEU
1	B	4634	GLU
1	B	4647	SER
1	B	4662	ASN
1	B	4665	LYS
1	B	4667	PRO
1	B	4669	VAL
1	B	4680	LYS
1	B	4684	ASP
1	B	4690	GLU
1	B	4692	PRO
1	B	4694	ASP
1	B	4695	ASP
1	B	4696	ASP
1	B	4698	LYS
1	B	4704	LEU
1	B	4707	ASN
1	B	4710	SER
1	B	4721	LYS
1	B	4734	ARG
1	B	4737	ILE
1	B	4739	GLU
1	B	4743	MET
1	B	4748	LEU
1	B	4750	ILE
1	B	4779	LYS
1	B	4796	MET
1	B	4809	PHE
1	B	4818	MET
1	B	4821	LYS
1	B	4822	THR
1	B	4826	ILE
1	B	4835	LYS
1	B	4844	LEU
1	B	4861	LYS
1	B	4866	SER
1	B	4867	GLU

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Mol	Chain	Res	Type
1	B	4869	GLU
1	B	4871	GLU
1	B	4876	CYS
1	B	4878	ASP
1	B	4880	MET
1	B	4889	VAL
1	B	4902	GLU
1	B	4911	LEU
1	B	4913	ARG
1	B	4945	ASP
1	B	4951	LYS
1	B	4952	GLU
1	B	4954	MET
1	B	4957	LYS
1	B	4958	CYS
1	B	4971	THR
1	B	4980	LEU
1	B	4982	GLU
1	B	4989	MET
1	B	5008	SER
1	B	5010	VAL
1	B	5011	TRP
1	B	5012	LYS
1	B	5013	MET
1	B	5027	CYS
1	B	5028	PHE
1	B	5032	TYR
1	B	5033	GLU
1	B	5036	LEU
1	C	125	ARG
1	C	275	ARG
1	C	402	ARG
1	C	534	ARG
1	C	830	ARG
1	C	846	LEU
1	C	1534	LYS
1	C	1743[A]	ARG
1	C	1743[B]	ARG
1	C	1752	ARG
1	C	1758	ARG
1	C	1986	MET
1	C	2089	LYS

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Mol	Chain	Res	Type
1	C	2178	MET
1	C	2369[A]	ARG
1	C	2369[B]	ARG
1	C	2584[A]	HIS
1	C	2584[B]	HIS
1	C	2615	ARG
1	C	2786	LYS
1	C	2806	ARG
1	C	2827	ARG
1	C	2914	LYS
1	C	3053	ARG
1	C	3225	ARG
1	C	3422[A]	HIS
1	C	3422[B]	HIS
1	C	3614	LYS
1	C	3622	LYS
1	C	4180	ARG
1	C	4181	ILE
1	C	4182	GLU
1	C	4184	MET
1	C	4188	ARG
1	C	4190	ILE
1	C	4198	SER
1	C	4202	ARG
1	C	4204	GLN
1	C	4211	LYS
1	C	4224	GLU
1	C	4227	GLU
1	C	4230	LYS
1	C	4252	SER
1	C	4253	GLU
1	C	4544	LEU
1	C	4548	ARG
1	C	4550	LYS
1	C	4552	LEU
1	C	4577	LEU
1	C	4580	TYR
1	C	4581	LYS
1	C	4584	ASP
1	C	4585	SER
1	C	4628	VAL
1	C	4632	LEU

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Mol	Chain	Res	Type
1	C	4634	GLU
1	C	4647	SER
1	C	4662	ASN
1	C	4665	LYS
1	C	4667	PRO
1	C	4669	VAL
1	C	4680	LYS
1	C	4684	ASP
1	C	4690	GLU
1	C	4692	PRO
1	C	4694	ASP
1	C	4695	ASP
1	C	4696	ASP
1	C	4698	LYS
1	C	4704	LEU
1	C	4707	ASN
1	C	4710	SER
1	C	4721	LYS
1	C	4734	ARG
1	C	4737	ILE
1	C	4739	GLU
1	C	4743	MET
1	C	4748	LEU
1	C	4750	ILE
1	C	4779	LYS
1	C	4796	MET
1	C	4809	PHE
1	C	4818	MET
1	C	4821	LYS
1	C	4822	THR
1	C	4826	ILE
1	C	4835	LYS
1	C	4844	LEU
1	C	4861	LYS
1	C	4866	SER
1	C	4867	GLU
1	C	4869	GLU
1	C	4871	GLU
1	C	4876	CYS
1	C	4878	ASP
1	C	4880	MET
1	C	4889	VAL

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Mol	Chain	Res	Type
1	C	4902	GLU
1	C	4911	LEU
1	C	4913	ARG
1	C	4945	ASP
1	C	4951	LYS
1	C	4952	GLU
1	C	4954	MET
1	C	4957	LYS
1	C	4958	CYS
1	C	4971	THR
1	C	4980	LEU
1	C	4982	GLU
1	C	4989	MET
1	C	5008	SER
1	C	5010	VAL
1	C	5011	TRP
1	C	5012	LYS
1	C	5013	MET
1	C	5027	CYS
1	C	5028	PHE
1	C	5032	TYR
1	C	5033	GLU
1	C	5036	LEU
1	D	125	ARG
1	D	275	ARG
1	D	402	ARG
1	D	534	ARG
1	D	830	ARG
1	D	846	LEU
1	D	1534	LYS
1	D	1743[A]	ARG
1	D	1743[B]	ARG
1	D	1752	ARG
1	D	1758	ARG
1	D	1986	MET
1	D	2089	LYS
1	D	2178	MET
1	D	2369[A]	ARG
1	D	2369[B]	ARG
1	D	2584[A]	HIS
1	D	2584[B]	HIS
1	D	2615	ARG

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Mol	Chain	Res	Type
1	D	2786	LYS
1	D	2806	ARG
1	D	2827	ARG
1	D	2914	LYS
1	D	3053	ARG
1	D	3225	ARG
1	D	3422[A]	HIS
1	D	3422[B]	HIS
1	D	3614	LYS
1	D	3622	LYS
1	D	4180	ARG
1	D	4181	ILE
1	D	4182	GLU
1	D	4184	MET
1	D	4188	ARG
1	D	4190	ILE
1	D	4198	SER
1	D	4202	ARG
1	D	4204	GLN
1	D	4211	LYS
1	D	4224	GLU
1	D	4227	GLU
1	D	4230	LYS
1	D	4252	SER
1	D	4253	GLU
1	D	4544	LEU
1	D	4548	ARG
1	D	4550	LYS
1	D	4552	LEU
1	D	4577	LEU
1	D	4580	TYR
1	D	4581	LYS
1	D	4584	ASP
1	D	4585	SER
1	D	4628	VAL
1	D	4632	LEU
1	D	4634	GLU
1	D	4647	SER
1	D	4662	ASN
1	D	4665	LYS
1	D	4667	PRO
1	D	4669	VAL

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Mol	Chain	Res	Type
1	D	4680	LYS
1	D	4684	ASP
1	D	4690	GLU
1	D	4692	PRO
1	D	4694	ASP
1	D	4695	ASP
1	D	4696	ASP
1	D	4698	LYS
1	D	4704	LEU
1	D	4707	ASN
1	D	4710	SER
1	D	4721	LYS
1	D	4734	ARG
1	D	4737	ILE
1	D	4739	GLU
1	D	4743	MET
1	D	4748	LEU
1	D	4750	ILE
1	D	4779	LYS
1	D	4796	MET
1	D	4809	PHE
1	D	4818	MET
1	D	4821	LYS
1	D	4822	THR
1	D	4826	ILE
1	D	4835	LYS
1	D	4844	LEU
1	D	4861	LYS
1	D	4866	SER
1	D	4867	GLU
1	D	4869	GLU
1	D	4871	GLU
1	D	4876	CYS
1	D	4878	ASP
1	D	4880	MET
1	D	4889	VAL
1	D	4902	GLU
1	D	4911	LEU
1	D	4913	ARG
1	D	4945	ASP
1	D	4951	LYS
1	D	4952	GLU

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Mol	Chain	Res	Type
1	D	4954	MET
1	D	4957	LYS
1	D	4958	CYS
1	D	4971	THR
1	D	4980	LEU
1	D	4982	GLU
1	D	4989	MET
1	D	5008	SER
1	D	5010	VAL
1	D	5011	TRP
1	D	5012	LYS
1	D	5013	MET
1	D	5027	CYS
1	D	5028	PHE
1	D	5032	TYR
1	D	5033	GLU
1	D	5036	LEU
2	E	42	ARG
2	F	42	ARG
2	G	42	ARG
2	H	42	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (66) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	636	ASN
1	A	877	ASN
1	A	1660	GLN
1	A	2284	ASN
1	A	2962	GLN
1	A	3162	GLN
1	A	3461	GLN
1	A	3605	HIS
1	A	4043	GLN
1	A	4246	GLN
1	A	4707	ASN
1	A	4728	HIS
1	A	4973	HIS
1	A	4984	ASN
1	A	5003	HIS
1	A	5035	GLN
1	B	636	ASN

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Mol	Chain	Res	Type
1	B	877	ASN
1	B	1660	GLN
1	B	2284	ASN
1	B	2962	GLN
1	B	3162	GLN
1	B	3461	GLN
1	B	3605	HIS
1	B	4043	GLN
1	B	4246	GLN
1	B	4707	ASN
1	B	4728	HIS
1	B	4973	HIS
1	B	4984	ASN
1	B	5003	HIS
1	B	5035	GLN
1	C	636	ASN
1	C	877	ASN
1	C	1660	GLN
1	C	2284	ASN
1	C	2962	GLN
1	C	3162	GLN
1	C	3461	GLN
1	C	3605	HIS
1	C	4043	GLN
1	C	4246	GLN
1	C	4707	ASN
1	C	4728	HIS
1	C	4973	HIS
1	C	4984	ASN
1	C	5003	HIS
1	C	5035	GLN
1	D	636	ASN
1	D	877	ASN
1	D	2284	ASN
1	D	2772	GLN
1	D	2962	GLN
1	D	3162	GLN
1	D	3461	GLN
1	D	4043	GLN
1	D	4246	GLN
1	D	4707	ASN
1	D	4728	HIS

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Mol	Chain	Res	Type
1	D	4984	ASN
1	D	5003	HIS
1	D	5035	GLN
2	E	87	HIS
2	F	87	HIS
2	G	87	HIS
2	H	87	HIS

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 oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 8 ligands modelled in this entry, 4 are monoatomic - leaving 4 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
3	CMP	D	5101	-	21,25,25	1.31	3 (14%)	24,39,39	1.67	6 (25%)
3	CMP	A	5101	-	21,25,25	1.31	3 (14%)	24,39,39	1.67	6 (25%)
3	CMP	C	5101	-	21,25,25	1.31	3 (14%)	24,39,39	1.67	6 (25%)
3	CMP	B	5101	-	21,25,25	1.31	3 (14%)	24,39,39	1.67	6 (25%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	CMP	D	5101	-	-	0/0/31/31	0/4/4/4
3	CMP	A	5101	-	-	0/0/31/31	0/4/4/4
3	CMP	C	5101	-	-	0/0/31/31	0/4/4/4
3	CMP	B	5101	-	-	0/0/31/31	0/4/4/4

All (12) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	B	5101	CMP	P-O3'	3.21	1.63	1.57
3	D	5101	CMP	P-O3'	3.21	1.63	1.57
3	C	5101	CMP	P-O3'	3.21	1.63	1.57
3	A	5101	CMP	P-O3'	3.21	1.63	1.57
3	D	5101	CMP	O5'-C5'	-2.57	1.42	1.46
3	B	5101	CMP	O5'-C5'	-2.56	1.42	1.46
3	C	5101	CMP	O5'-C5'	-2.56	1.42	1.46
3	A	5101	CMP	O5'-C5'	-2.56	1.42	1.46
3	B	5101	CMP	P-O5'	2.08	1.60	1.57
3	D	5101	CMP	P-O5'	2.08	1.60	1.57
3	C	5101	CMP	P-O5'	2.08	1.60	1.57
3	A	5101	CMP	P-O5'	2.08	1.60	1.57

All (24) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	C	5101	CMP	N3-C2-N1	-3.86	123.44	128.67
3	A	5101	CMP	N3-C2-N1	-3.85	123.44	128.67
3	D	5101	CMP	N3-C2-N1	-3.85	123.44	128.67
3	B	5101	CMP	N3-C2-N1	-3.85	123.45	128.67
3	B	5101	CMP	C4'-O4'-C1'	-3.38	106.83	109.92
3	D	5101	CMP	C4'-O4'-C1'	-3.38	106.83	109.92
3	A	5101	CMP	C4'-O4'-C1'	-3.38	106.83	109.92
3	C	5101	CMP	C4'-O4'-C1'	-3.38	106.83	109.92
3	B	5101	CMP	O2P-P-O1P	3.35	118.86	108.56
3	C	5101	CMP	O2P-P-O1P	3.35	118.85	108.56
3	D	5101	CMP	O2P-P-O1P	3.35	118.85	108.56
3	A	5101	CMP	O2P-P-O1P	3.35	118.85	108.56
3	B	5101	CMP	O5'-P-O3'	-3.12	101.53	105.70
3	D	5101	CMP	O5'-P-O3'	-3.12	101.53	105.70
3	A	5101	CMP	O5'-P-O3'	-3.12	101.53	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	C	5101	CMP	O5'-P-O3'	-3.11	101.53	105.70
3	B	5101	CMP	C4-C5-N7	-2.25	106.96	109.34
3	A	5101	CMP	C4-C5-N7	-2.25	106.96	109.34
3	C	5101	CMP	C4-C5-N7	-2.25	106.96	109.34
3	D	5101	CMP	C4-C5-N7	-2.25	106.96	109.34
3	A	5101	CMP	O3'-C3'-C2'	2.05	117.61	115.61
3	B	5101	CMP	O3'-C3'-C2'	2.05	117.61	115.61
3	D	5101	CMP	O3'-C3'-C2'	2.05	117.61	115.61
3	C	5101	CMP	O3'-C3'-C2'	2.04	117.61	115.61

There are no chirality outliers.

There are no torsion outliers.

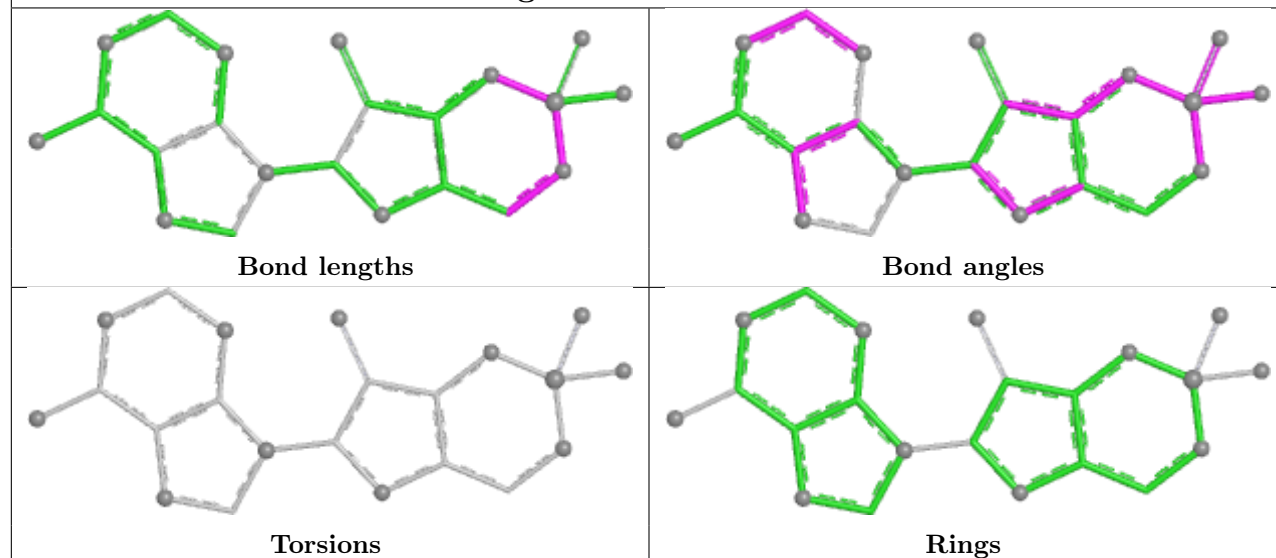
There are no ring outliers.

4 monomers are involved in 8 short contacts:

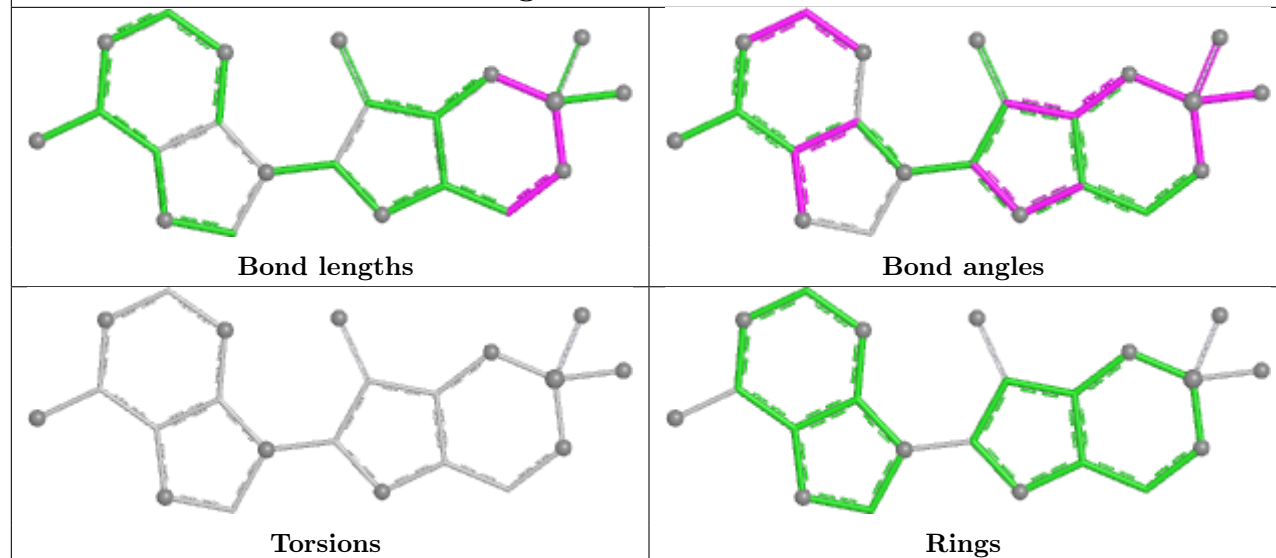
Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	D	5101	CMP	2	0
3	A	5101	CMP	2	0
3	C	5101	CMP	2	0
3	B	5101	CMP	2	0

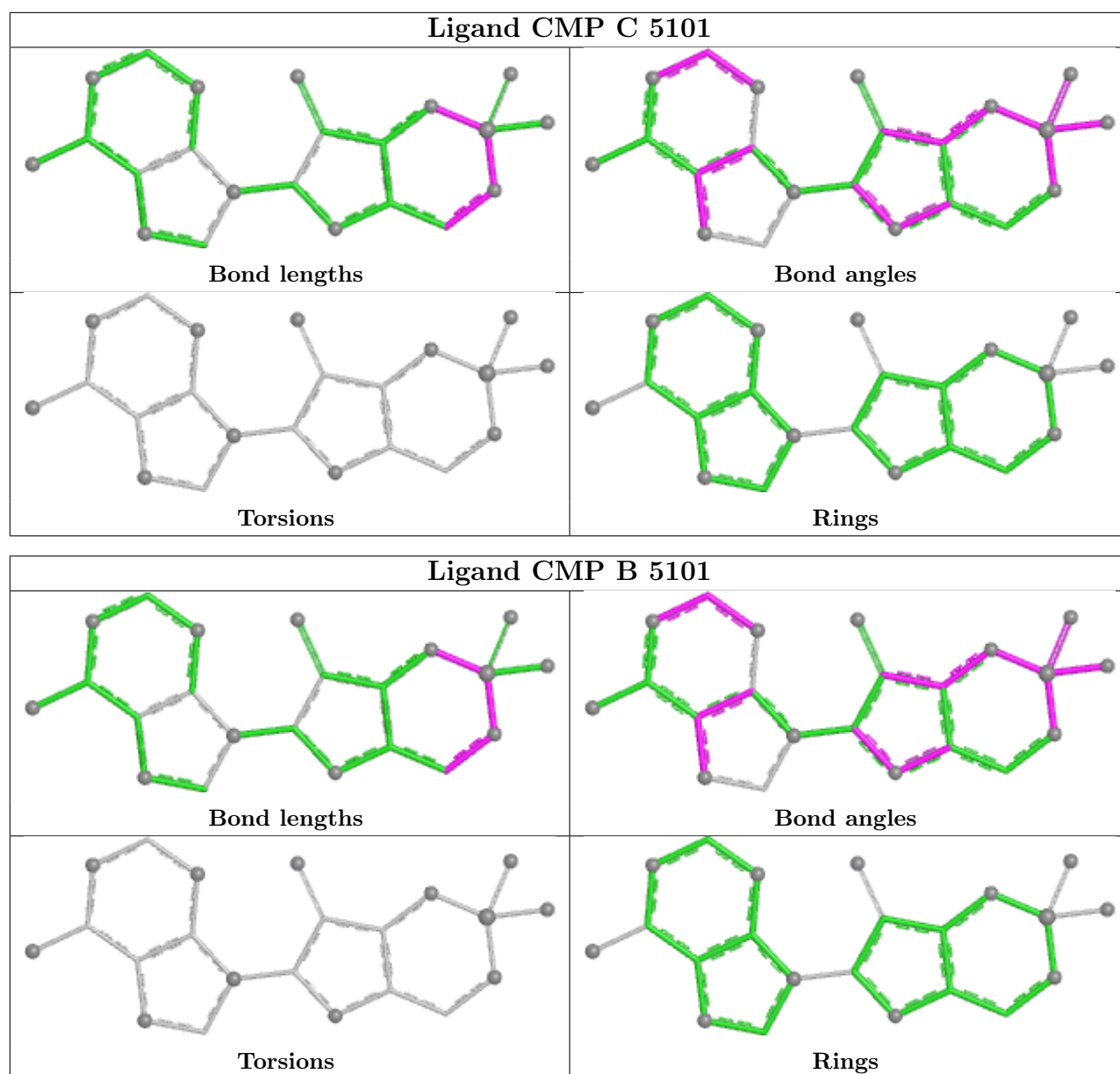
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

Ligand CMP D 5101



Ligand CMP A 5101





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.

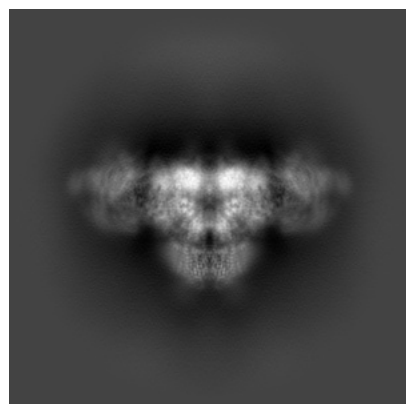
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-40428. These allow visual inspection of the internal detail of the map and identification of artifacts.

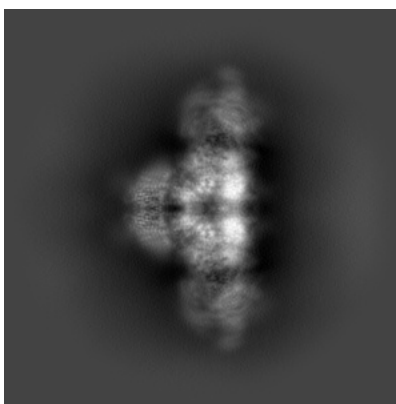
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

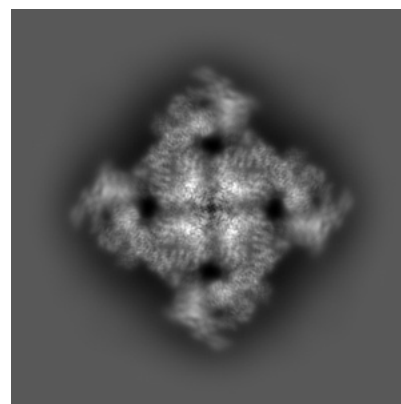
6.1.1 Primary map



X

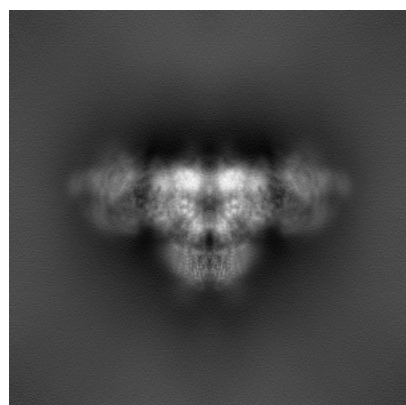


Y

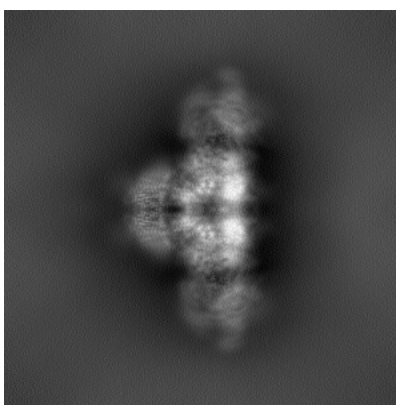


Z

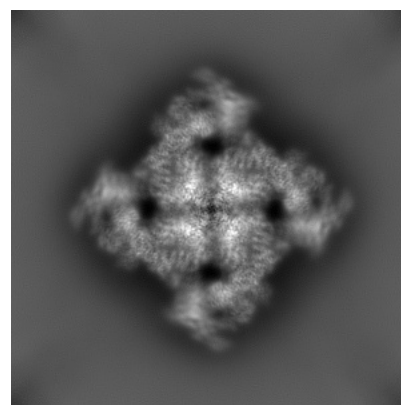
6.1.2 Raw map



X



Y

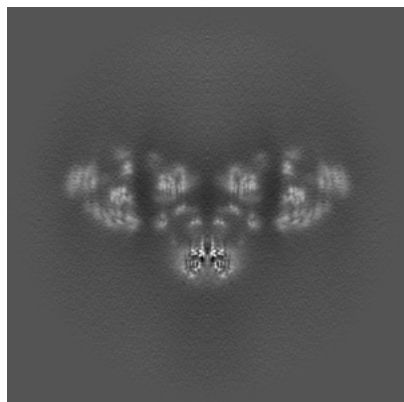


Z

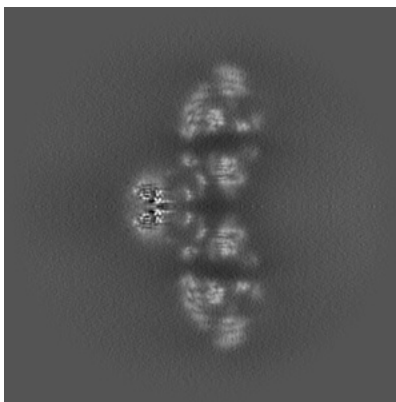
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

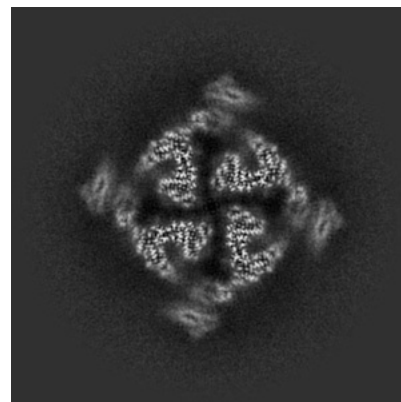
6.2.1 Primary map



X Index: 200

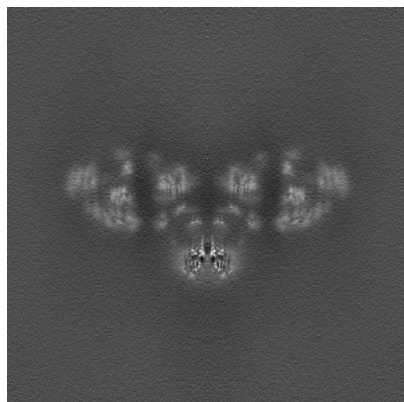


Y Index: 200

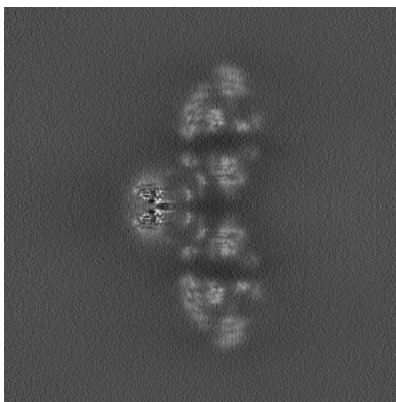


Z Index: 200

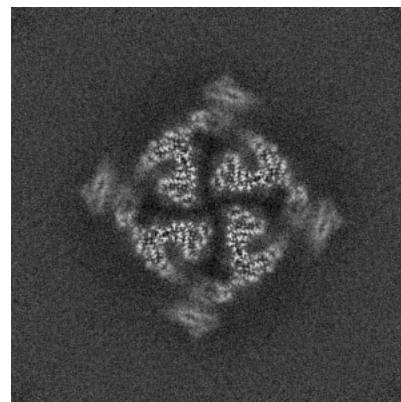
6.2.2 Raw map



X Index: 200



Y Index: 200

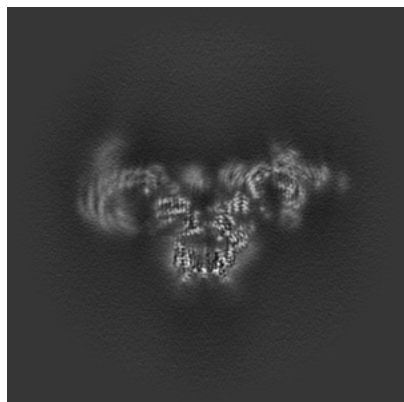


Z Index: 200

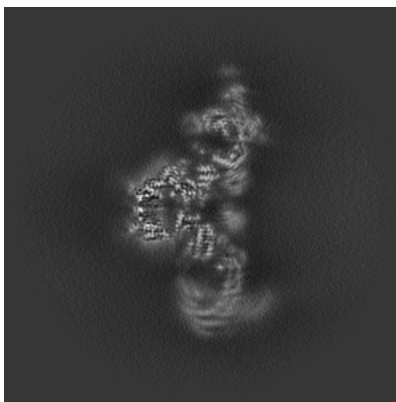
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

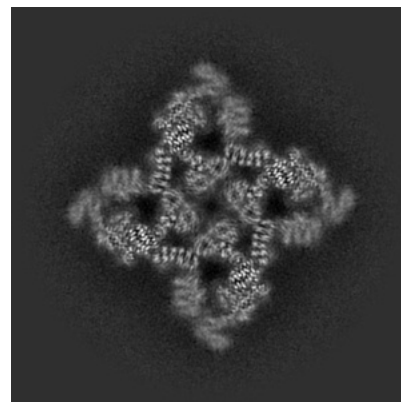
6.3.1 Primary map



X Index: 182

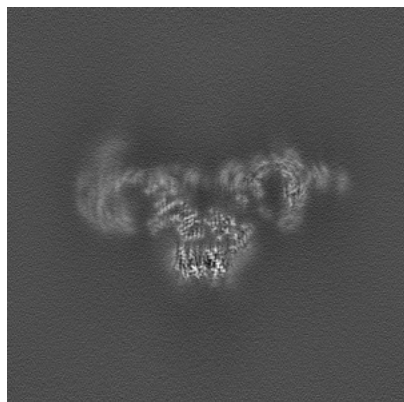


Y Index: 218

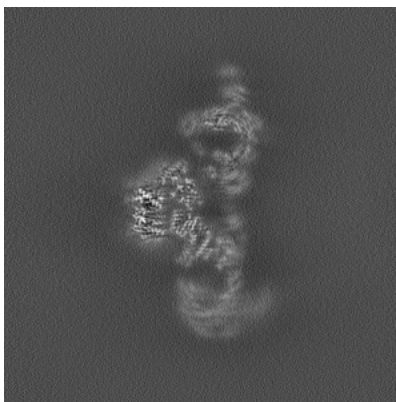


Z Index: 224

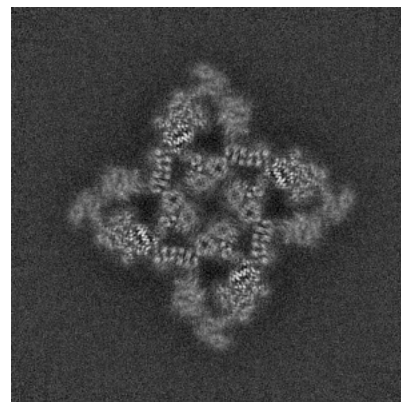
6.3.2 Raw map



X Index: 186



Y Index: 214

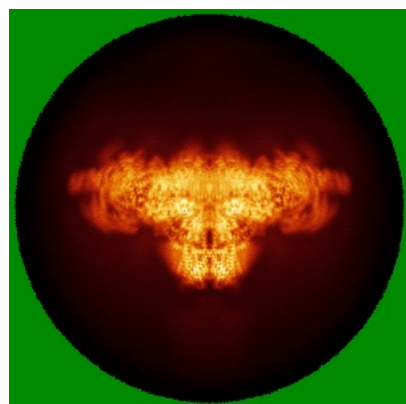


Z Index: 223

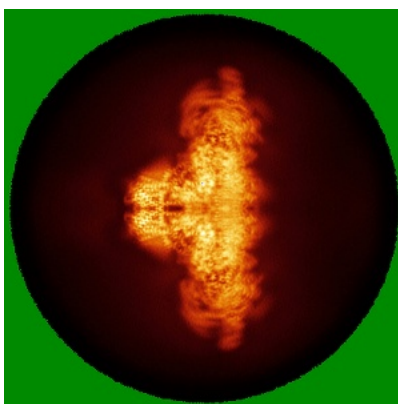
The images above show the largest variance slices of the map in three orthogonal directions.

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

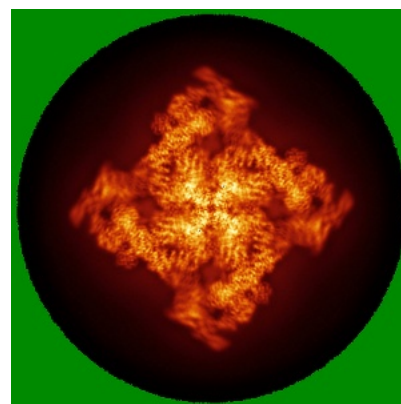
6.4.1 Primary map



X

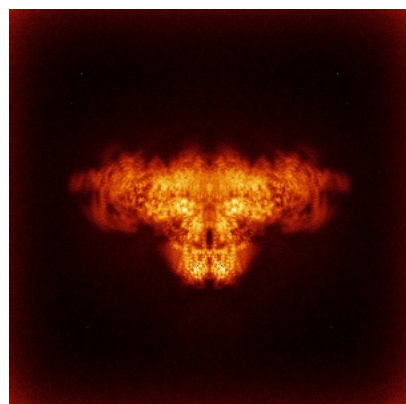


Y

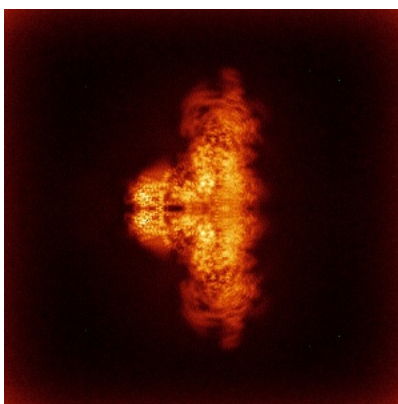


Z

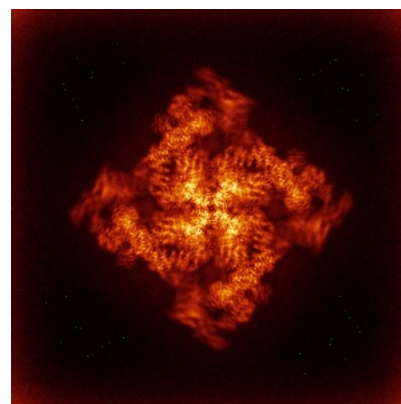
6.4.2 Raw map



X



Y

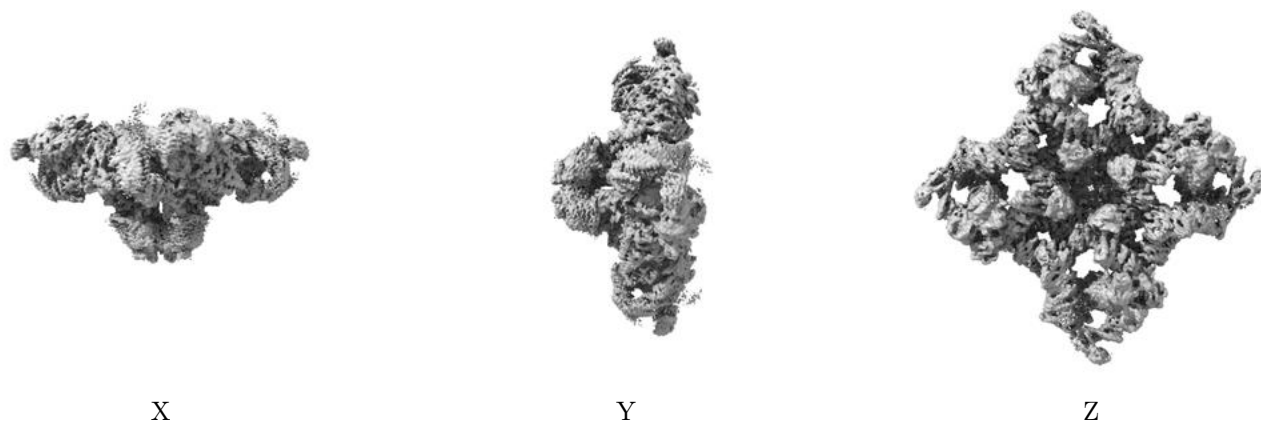


Z

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

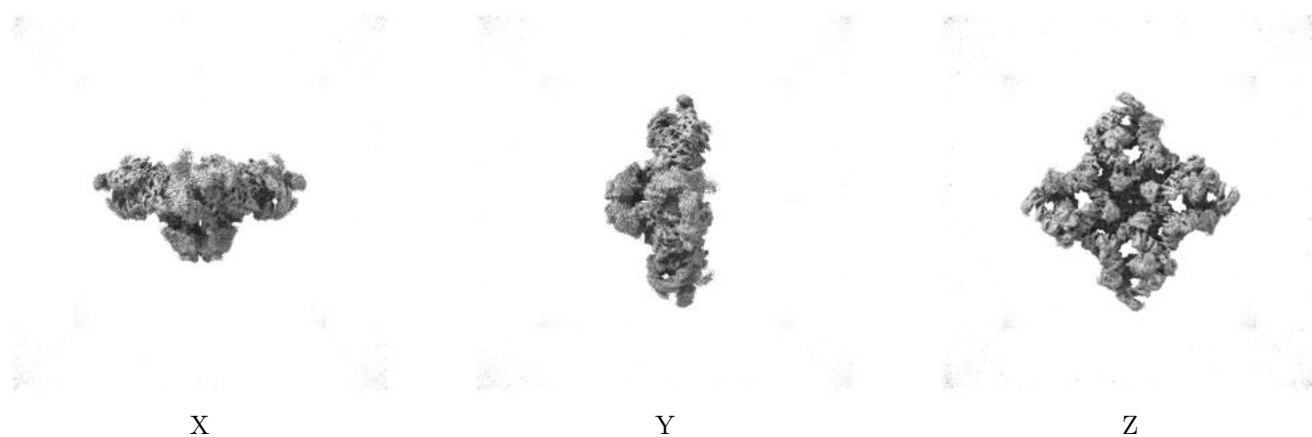
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.126. 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.

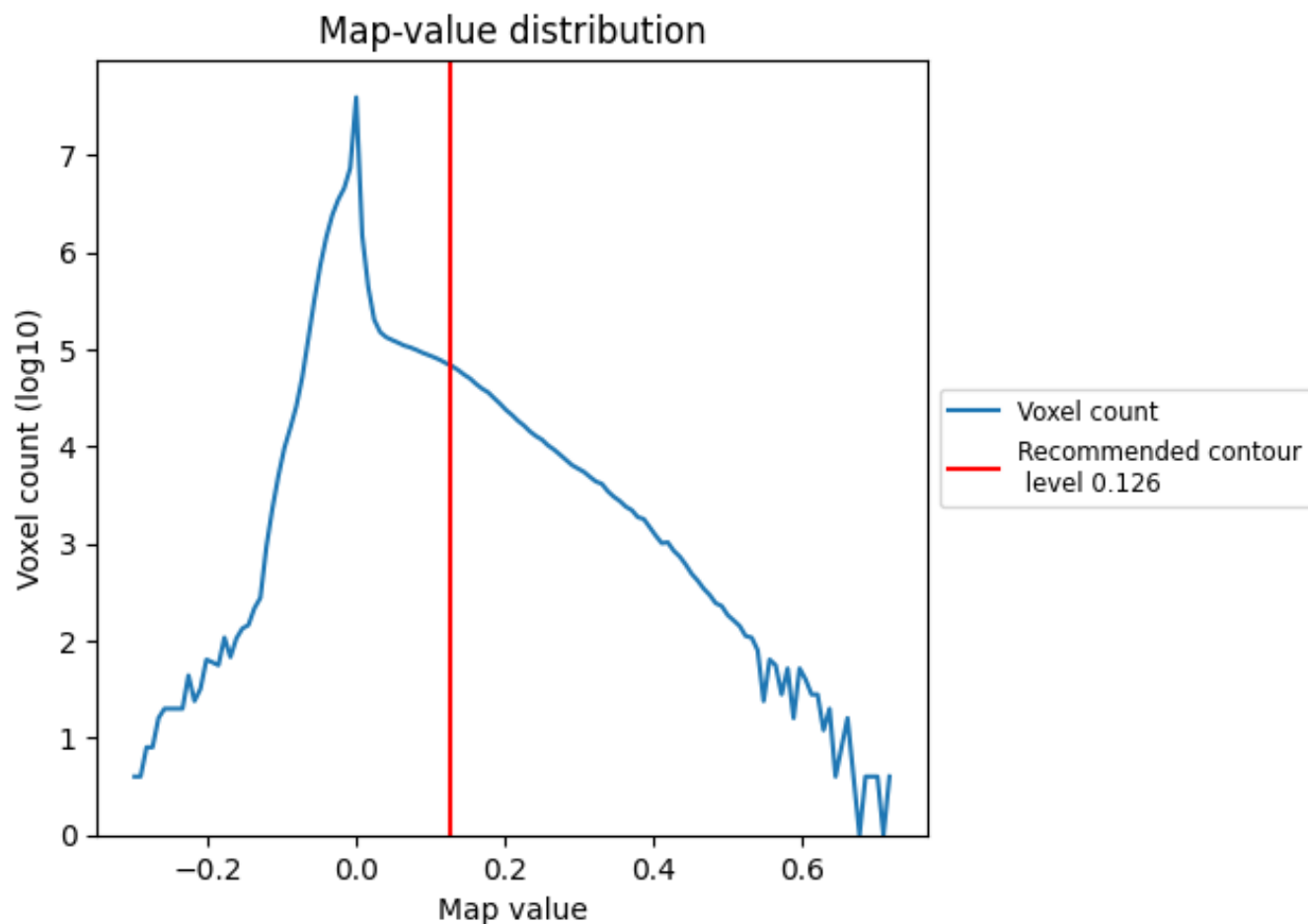
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

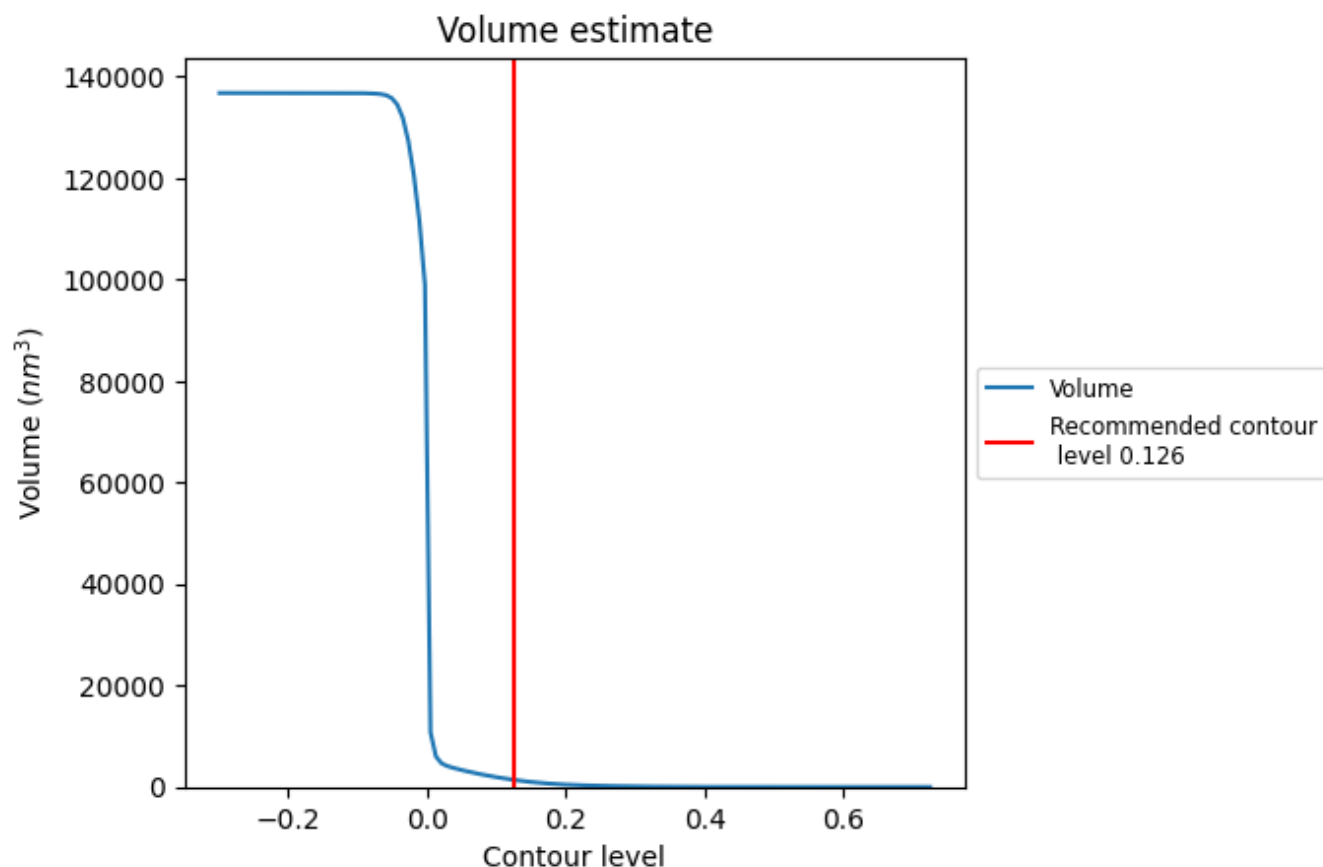
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

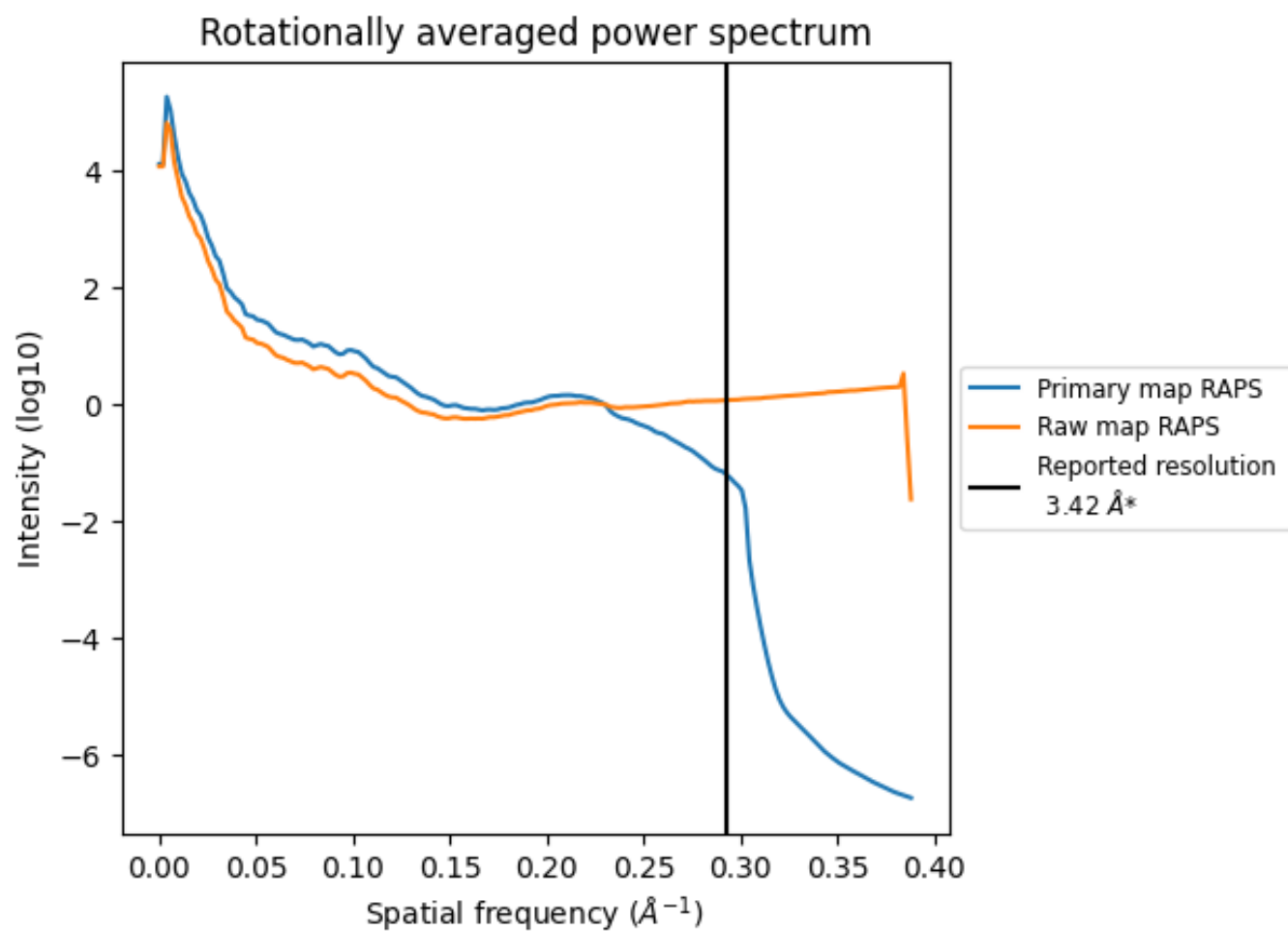
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1379 nm^3 ; this corresponds to an approximate mass of 1246 kDa.

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

7.3 Rotationally averaged power spectrum ⓘ

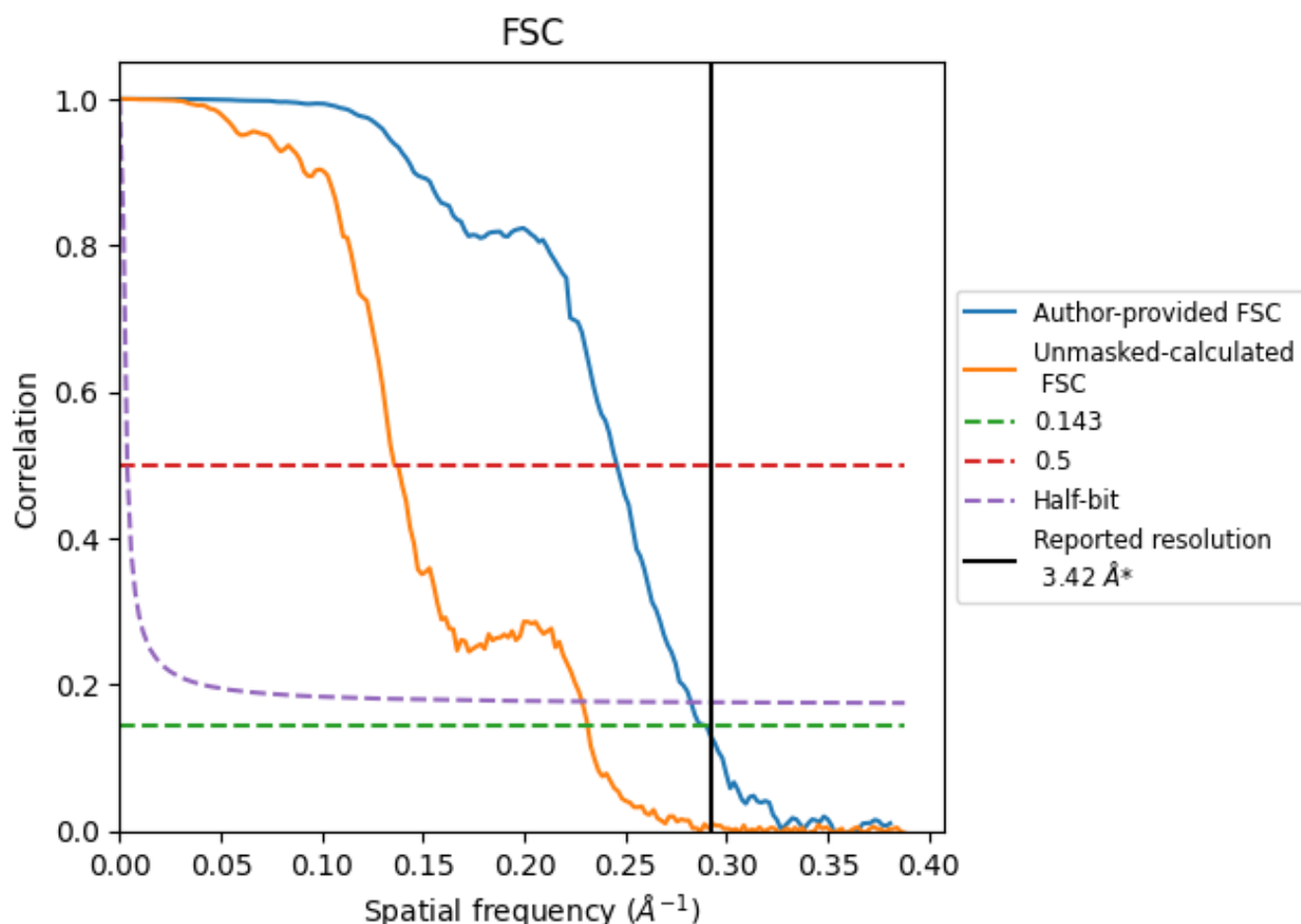


*Reported resolution corresponds to spatial frequency of 0.292 \AA^{-1}

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.292 \AA^{-1}

8.2 Resolution estimates [i](#)

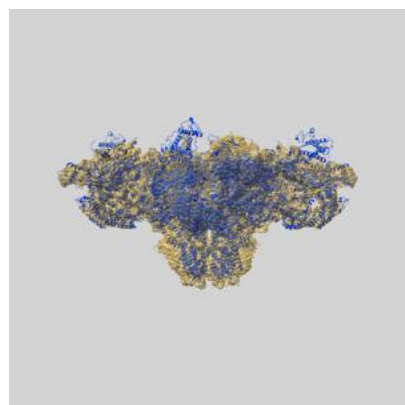
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.42	-	-
Author-provided FSC curve	3.45	4.07	3.54
Unmasked-calculated*	4.32	7.36	4.37

*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 4.32 differs from the reported value 3.42 by more than 10 %

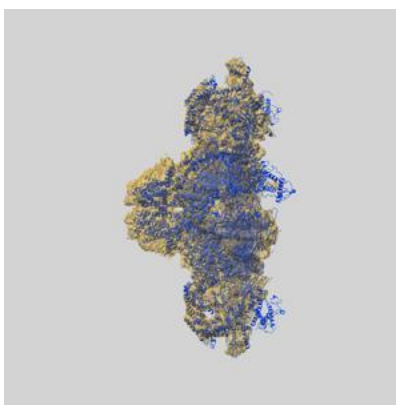
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-40428 and PDB model 8SET. Per-residue inclusion information can be found in section [3](#) on page [8](#).

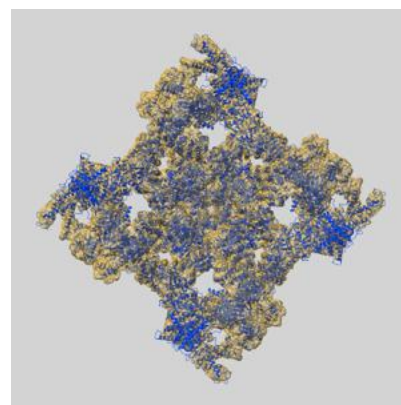
9.1 Map-model overlay [i](#)



X



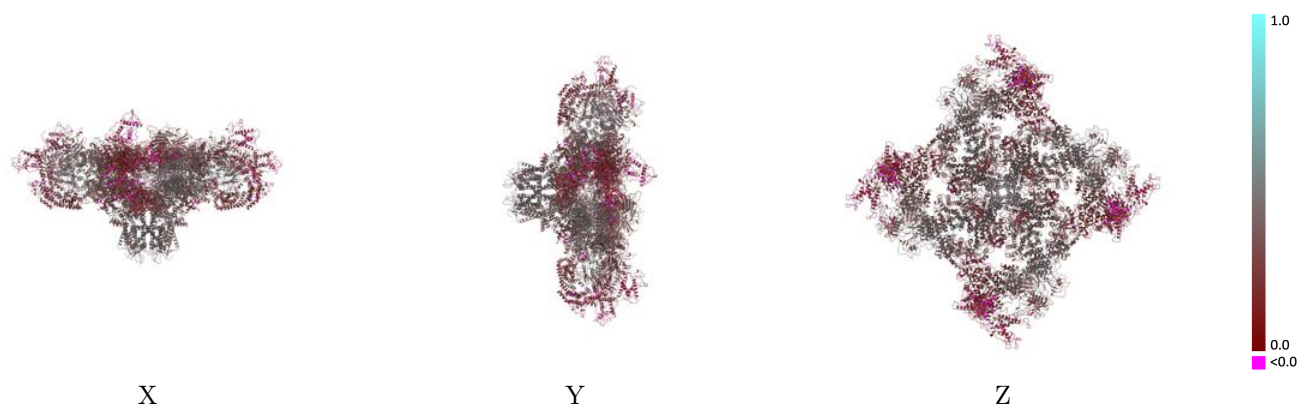
Y



Z

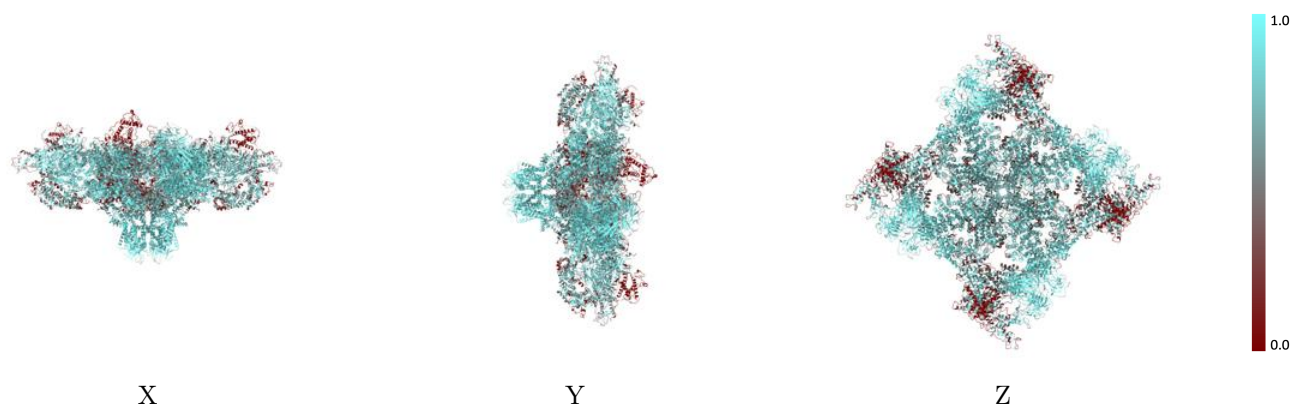
The images above show the 3D surface view of the map at the recommended contour level 0.126 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



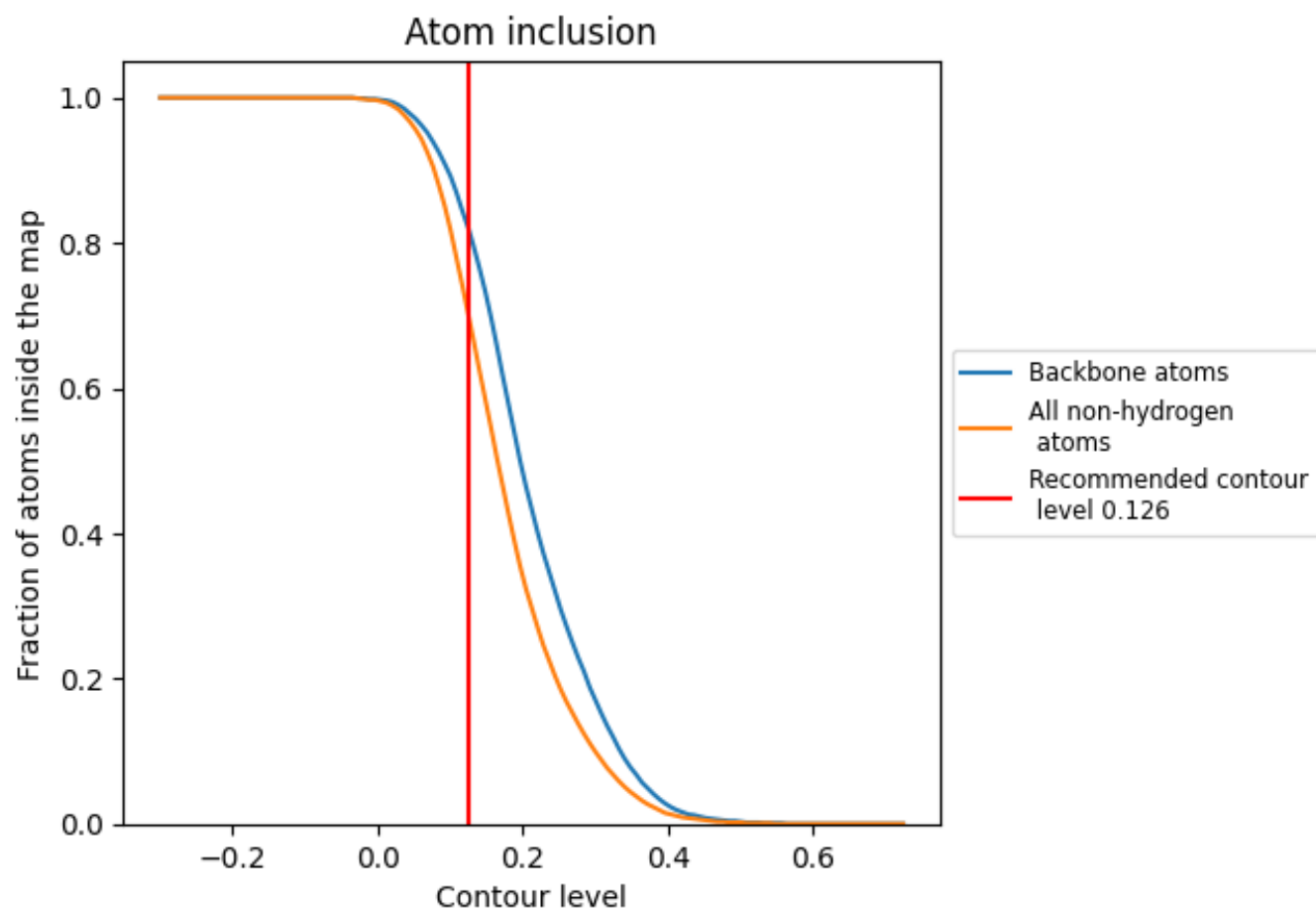
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.126).

9.4 Atom inclusion [i](#)



At the recommended contour level, 82% of all backbone atoms, 70% 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 (0.126) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	<div></div> 0.6990	<div></div> 0.3090
A	<div></div> 0.6960	<div></div> 0.3070
B	<div></div> 0.6960	<div></div> 0.3070
C	<div></div> 0.6960	<div></div> 0.3070
D	<div></div> 0.6960	<div></div> 0.3070
E	<div></div> 0.8410	<div></div> 0.3850
F	<div></div> 0.8410	<div></div> 0.3870
G	<div></div> 0.8410	<div></div> 0.3850
H	<div></div> 0.8410	<div></div> 0.3860

1.0

0.0

<0.0