



Full wwPDB EM Validation Report ⓘ

Jul 8, 2025 – 04:24 pm BST

PDB ID : 8RD4 / pdb_00008rd4
EMDB ID : EMD-19065
Title : Telomeric RAP1:DNA-PK complex
Authors : Eickhoff, P.; Fisher, C.E.L.; Inian, O.; Guettler, S.; Douglas, M.E.
Deposited on : 2023-12-07
Resolution : 3.58 Å(reported)

This is a Full wwPDB EM Validation Report for a publicly released PDB entry.

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

EMDB validation analysis : 0.0.1.dev118
MolProbity : 4-5-2 with Phenix2.0rc1
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.44

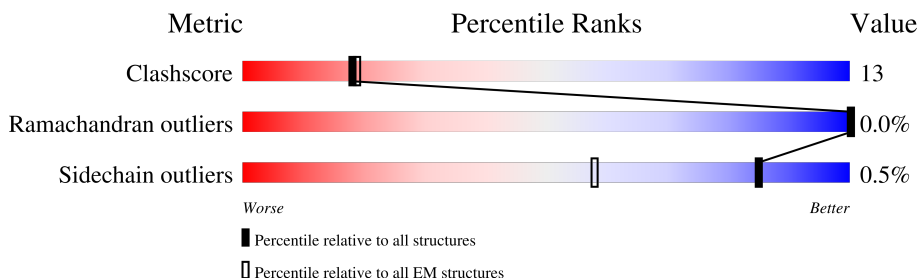
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

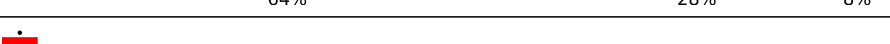
The reported resolution of this entry is 3.58 Å.

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	4128	
2	D	399	
3	E	609	
4	F	732	
5	X	100	
6	Y	100	

2 Entry composition

There are 6 unique types of molecules in this entry. The entry contains 40711 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 DNA-dependent protein kinase catalytic subunit.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	3597	Total	C	N	O	S	0	0
			28855	18531	4885	5250	189		

- Molecule 2 is a protein called Telomeric repeat-binding factor 2-interacting protein 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	D	158	Total	C	N	O	S	0	0
			1232	770	223	235	4		

- Molecule 3 is a protein called X-ray repair cross-complementing protein 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	E	560	Total	C	N	O	S	0	0
			4522	2891	764	847	20		

- Molecule 4 is a protein called X-ray repair cross-complementing protein 5.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	F	553	Total	C	N	O	S	0	0
			4421	2820	747	831	23		

- Molecule 5 is a DNA chain called DNA (41-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
5	X	41	Total	C	N	O	P	0	0
			842	401	154	246	41		

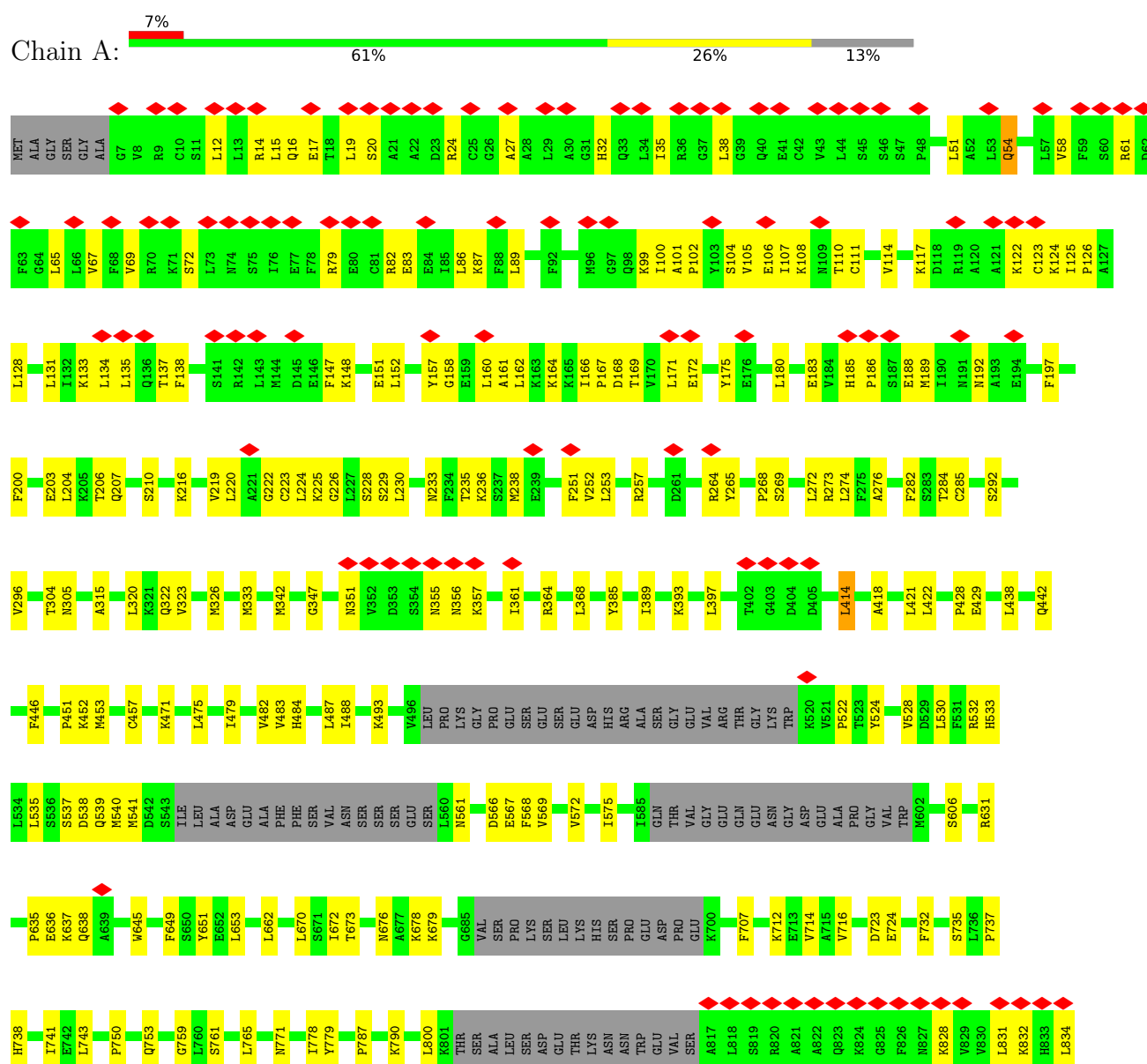
- Molecule 6 is a DNA chain called DNA (41-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
6	Y	41	Total	C	N	O	P	0	0
			839	400	152	246	41		

3 Residue-property plots

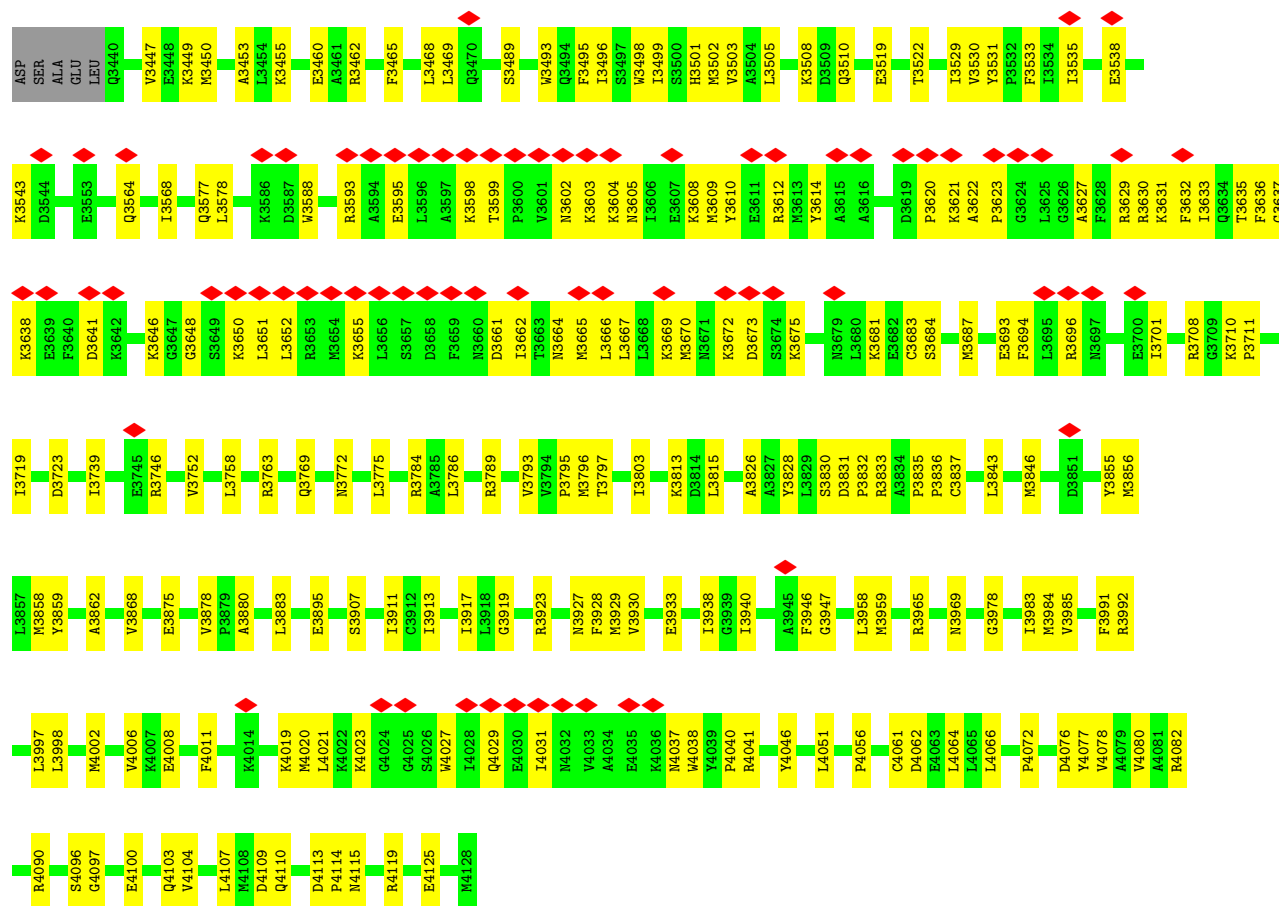
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

- Molecule 1: DNA-dependent protein kinase catalytic subunit

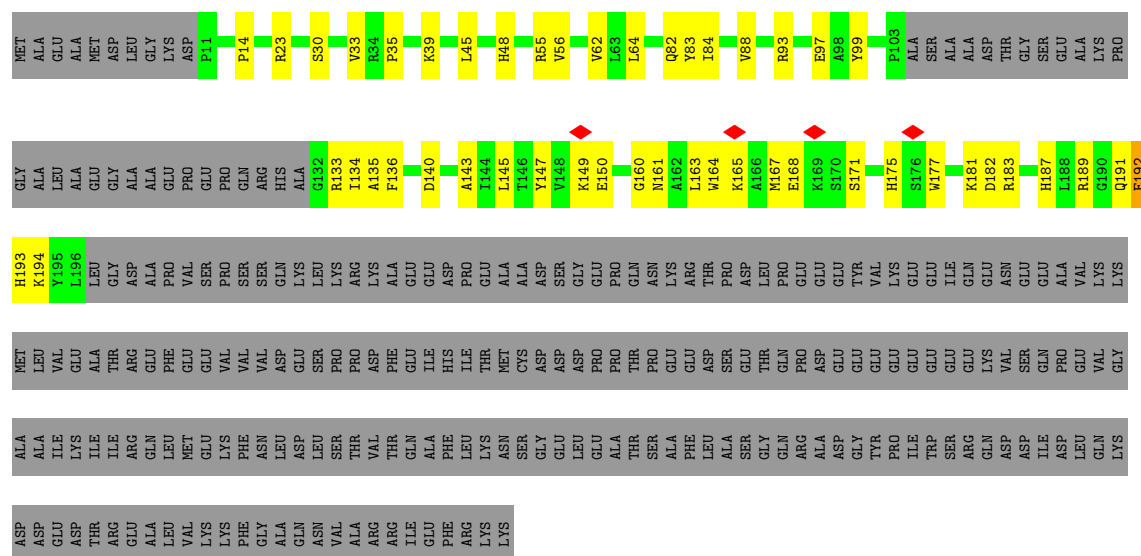


ASP	K1869	E1769	V1671	S1564	L1458	I1341	W1256	H1152	V1054	Y938	K835
GLY	K1870	Q1770	T1674	I1567	H1459	M1342	L1261	L1153	R1062	M939	LYS
PRO	M1871	Q1771	Y1675	N1568	R1460	T1347	E1265	P1154	F940	M941	THR
SER	Y1873	M1773	S1677	L1464	L1463	T1351	E1273	L1068	L1068	Q947	LYS
MET	K1875	E1775	L1575	D1576	H1465	K1357	R1274	P1070	N1071	NET	ASN
SER	L1876	E1778	V1579	M1583	I1467	K1361	L1275	K1074	K1074	PRO	LEU
LEU	L1877	F1778	D1681	K1591	Q1471	K1366	L1282	R1075	R1075	GLY	SER
SER	D1878	F1782	K1683	M1592	D1474	C1364	THR	F1082	F1082	GLN	GLY
TYR	L1879	R1783	L1684	K1591	S1478	N1365	ALA	N1083	N1083	ALA	ALA
LEU	M1880	R1784	D1685	M1592	S1478	T1366	GLU	N1083	N1083	P956	GLY
ALA	Y1881	I1785	H1687	K1591	L1484	H1367	GLN	N1084	N1084	P957	GLY
ASP	L1884	T1786	H1687	M1592	V1487	L1368	SER	N1084	N1084	N958	GLY
SER	P1885	R1787	H1687	M1592	V1487	H1369	LEU	N1084	N1084	V968	GLY
THR	K1886	R1788	L1688	M1592	F1493	M1371	L1291	R1178	R1178	E849	GLY
LEU	K1887	G1789	D1690	L1597	GLY	T1375	F1296	C1183	C1183	R854	GLY
SER	D1888	Q1602	Q1691	D1602	ASP	E1378	F1297	R1184	R1184	L859	GLY
GLY	V1889	A1692	A1692	E1607	GLU	P1379	L1298	H1185	H1185	G860	GLY
GLN	H1890	L1696	L1696	Q1614	ARG	E1378	E1299	K1186	K1186	L870	GLY
GLN	A1891	S1701	S1701	K1617	GLY	P1379	Y1299	F1191	F1191	L871	GLY
THR	K1892	Y1802	E1702	L1618	GLN	E1378	E1299	V1195	V1195	T872	GLY
PHE	E1893	E1803	L1702	A1619	CYS	F1384	I1301	R1202	R1202	V873	GLY
ASP	S1894	M1804	T1703	T1620	PRO	N1385	M1303	N1205	N1205	T874	GLY
PHE	K1895	L1805	T1703	T1621	ASP	I1386	HIS	L1206	L1206	S875	GLY
SER	L1896	R1806	R1711	L1622	S1502	G1387	ILE	K1213	K1213	S876	GLY
THR	L1897	L1812	R1712	L1623	L1503	D1388	ILE	E1214	E1214	D877	GLY
VAL	Q1898	S1813	V1713	W1626	L1515	V1398	ALA	F1219	F1219	M879	GLY
GLY	L1899	T1814	L1714	K1628	E1516	C1399	ALA	M1108	M1108	M880	GLY
GLN	V1899	T1815	Q1716	K1628	E1516	L1400	GLY	Q1107	Q1107	K881	GLY
TYR	G1902	S1818	L1717	W1633	A1520	N1401	LYS	Q1126	Q1126	D887	GLY
SER	S1903	F1819	I1718	L1639	G1523	L1402	CYS	T1223	T1223	K890	GLY
SER	C1904	D1821	H1721	L1639	L1524	M1403	PHE	F1224	F1224	R891	GLY
SER	I1905	R1822	P1723	M1643	C1525	M1403	GLY	E1225	E1225	L892	GLY
GLN	T1906	L1824	Q1725	L1646	E1526	K1407	THR	P1232	P1232	S893	GLY
ASP	L1918	C1831	E1728	A1647	L1533	M1408	ALA	S1233	S1233	F894	GLY
PRO	L1919	S1832	E1728	L1648	S1539	D1413	ALA	G1234	G1234	A895	GLY
ARG	C1919	L1833	P1734	A1650	T1540	H1418	GLY	I1235	I1235	V896	GLY
PRO	Y1920	D1834	K1651	K1651	SER	L1419	ASN	A1237	A1237	P897	GLY
ALA	L1921	L1835	I1652	L1653	LEU	R1420	THR	Q1238	Q1238	E300	GLY
THR	A1922	L1836	M1737	L1659	GLY	E1430	S1323	P1239	P1239	M901	GLY
GLY	F1923	L1836	M1738	V1659	SER	V1434	Q1325	T1240	T1240	L907	GLY
ARG	T1924	L1836	M1738	S1660	GLN	Y1437	E1326	L1241	L1241	D908	GLY
PHE	E1925	L1836	M1738	F1661	GLY	Y1437	E1326	Y1243	Y1243	V909	GLY
ARG	N1926	L1836	M1738	H1665	SER	D1440	E1326	L1244	L1244	F910	GLY
THR	R1937	L1836	M1738	S1667	ILE	D1444	E1326	R1141	R1141	T1045	GLY
GLY	L1938	L1836	M1738	E1670	H1552	D1444	E1326	K1142	K1142	E916	GLY
GLN	L1938	L1836	M1738	E1670	H1552	D1444	E1326	L1145	L1145	P1046	GLY
GLY	L1938	L1836	M1738	E1670	H1552	D1444	E1326	N1146	N1146	Q1047	GLY
ASP	Y1940	L1836	M1738	E1670	H1552	D1444	E1326	A1148	A1148	L917	GLY
ALA	H1941	L1836	M1738	E1670	H1552	D1444	E1326	K1149	K1149	C931	GLY
PRO	C1942	L1836	M1738	E1670	H1552	D1444	E1326	K1150	K1150	E932	GLY
THR	A1943	L1836	M1738	E1670	H1552	D1444	E1326	S1249	S1249	L933	GLY
VAL	A1944	L1836	M1738	E1670	H1552	D1444	E1326	L1250	L1250	M937	GLY
ALA	Y1945	L1836	M1738	E1670	H1552	D1444	E1326				
HIS	Y1946	L1836	M1738	E1670	H1552	D1444	E1326				
ASP	N1946	L1836	M1738	E1670	H1552	D1444	E1326				
ASN	C1947	L1836	M1738	E1670	H1552	D1444	E1326				
ASP	A1948	L1836	M1738	E1670	H1552	D1444	E1326				
SER	I1949	L1836	M1738	E1670	H1552	D1444	E1326				

L3341	E3344	P3345	A3346	C3347	L3348	L3351	A3356	R3357	R3358	L3359	L3360	E3361	L3362	SER	H3263	K3264	E3265	S3266	V3274	S3275	W3276	Q3277	Q3278	C3281	V3297	L3298	T3299	V3300	T3303	L3306	L3307	D3308	E3309	V3312	S3313	S3314	Y3315	L3316	N3319	Q3326	N3327	I3328	L3329	L3330	G3331	T3332	R3335						
GLU	GLU	D3226	S3227	S3228	S3229	L3230	K3239	M3242	I3243	K3257	K3260	H3263	K3264	E3265	S3266	V3274	S3275	W3276	Q3277	Q3278	C3281	V3297	L3298	T3299	V3300	T3303	L3306	L3307	D3308	E3309	V3312	S3313	S3314	Y3315	L3316	N3319	Q3326	N3327	I3328	L3329	L3330	G3331	T3332	R3335									
Q3139	E3140	I3145	Q3148	L3151	Q3154	Q3155	P3156	L3157	W3164	R3167	K3172	D3180	D3181	I3182	I3183	N3185	Q3186	F3189	I3193	K3196	L3197	THR	PRO	PRO	PRO	PRO	GLU	ASN	SER	ASN	VAL	ASP	GLN	ASP	GLY	ASP	PRO	SER	PRO	ASP	ARG	MET	GLU	VAL	ALA	GLN	GLY	ILE					
W3031	S3032	E3033	P3034	F3035	Y3043	R3046	S3047	K3048	L3049	K3050	L3051	L3052	L3053	D3058	L3061	L3062	T3063	F3064	L3065	D3066	L3073	L3078	L3088	L3089	Y3090	L3091	L3092	Q3093	D3097	R3098	A3099	K3100	Q3104	I3107	Y3114	S3115	L3121	H3122	Q3123	S3124	R3125	L3135	T3136	E3137	I3138								
L2899	LEU	PRO	ALA	LEU	PRO	ALA	LYS	VAL	ARG	GLY	LYS	ALA	ARG	LEU	A2927	K2928	L2929	S2932	D2937	V2938	G2941	I2942	I2952	A2975	L2976	N2977	D2980	W2981	V2982	W2994	S2998	N3003	A3006	K3009	S3010	L3011	D3020	P3025	D3026	L3027	N3028												
W3031	S3032	E3033	P3034	F3035	Y3043	R3046	S3047	K3048	L3049	K3050	L3051	L3052	L3053	D3058	L3061	L3062	T3063	F3064	L3065	D3066	L3073	L3078	L3088	L3089	Y3090	L3091	L3092	Q3093	D3097	R3098	A3099	K3100	Q3104	I3107	Y3114	S3115	L3121	H3122	Q3123	S3124	R3125	L3135	T3136	E3137	I3138								
Q3139	E3140	I3145	Q3148	L3151	Q3154	Q3155	P3156	L3157	W3164	R3167	K3172	D3180	D3181	I3182	I3183	N3185	Q3186	F3189	I3193	K3196	L3197	THR	PRO	PRO	PRO	PRO	GLU	ASN	SER	ASN	VAL	ASP	GLN	ASP	GLY	ASP	PRO	SER	PRO	ASP	ARG	MET	GLU	VAL	ALA	GLN	GLY	ILE					
GLU	GLU	D3226	S3227	S3228	S3229	L3230	K3239	M3242	I3243	K3257	K3260	H3263	K3264	E3265	S3266	V3274	S3275	W3276	Q3277	Q3278	C3281	V3297	L3298	T3299	V3300	T3303	L3306	L3307	D3308	E3309	V3312	S3313	S3314	Y3315	L3316	N3319	Q3326	N3327	I3328	L3329	L3330	G3331	T3332	R3335									
L3341	E3344	P3345	A3346	C3347	L3348	L3351	A3356	R3357	R3358	L3359	L3360	E3361	L3362	SER	H3263	K3264	E3265	S3266	V3274	S3275	W3276	Q3277	Q3278	C3281	V3297	L3298	T3299	V3300	T3303	L3306	L3307	D3308	E3309	V3312	S3313	S3314	Y3315	L3316	N3319	Q3326	N3327	I3328	L3329	L3330	G3331	T3332	R3335						
VAL	LEU	GLU	LEU	GLU	MET	D2086	H2091	E2092	L2097	L2100	M2104	L2108	GLY	PRO	PRO	GLN	GLY	GLU	ASP	SER	VAL	PRO	R2120	D2121	L2122	P2123	S2124	W2125	N2126	K2127	N2135	V2138	P2139	L2140	K2148	L2149	V2150	F2157	R2158	Q2170	L2171	A2172	A2173	S2174	G2179	E2180	G2181						
I2182	H2183	Y2184	M2185	GLU	V2187	E2188	L2189	V2190	A2191	T2192	L2193	L2194	S2195	W2196	T2203	E2209	V2210	L2211	L2216	M2220	R2228	R2232	H2233	N2234	I2237	L2241	V2242	W2245	K2246	L2249	S2250	L2251	P2252	Y2253	R2254	L2255	F2260	K2263	N2266	S2267	K2268	D2269	N2270	V2271									
Q2275	L2276	I2279	V2280	M2281	E2282	N2283	D2284	L2285	P2286	D2289	P2290	G2293	F2300	D2301	A2302	L2303	V2304	N2305	V2310	K2313	E2314	V2315	A2320	I2326	V2329	V2330	L2337	E2338	E2339	S2340	L2341	C2342	E2343	L2344	D2358	N2365	K2366	V2367	F2371	P2372	P2373	L2374	A2375	M2379	N2380								
A2381	L2385	L2396	V2401	M2408	T2409	E2410	L2411	L2415	D2419	F2420	V2421	R2427	V2434	I2438	M2442	M2443	E2444	K2445	L2446	L2454	L2455	N2456	P2457	V2458	F2461	S2466	C2469	M2473	Y2474	N2475	I2476	L2477	M2478	W2479	D2486	P2487	E2488	S2489	E2490	T2491	L2501	A2502											
K2503	T2507	R2522	S2523	F2524	H2527	R2530	N2534	T2535	L2536	D2537	L2538	L2539	L2540	A2541	L2542	Y2546	S2547	L2550	E2551	F2554	L2555	T2559	N2560	L2561	L2562	E2563	F2564	M2565	T2566	S2567	M2568	Y2572	P2573	N2574	P2575	M2576	H2579	PRO	LEU	SER	GLU	CYS	GLU	PHE	LEU	THR	GLN	THR	THR				
ILE	ASP	SER	ASP	TRP	ARG	PHE	ARG	TRP	ASP	LEU	THR	GLY	THR	LEU	PRO	MET	PHE	VAL	GLU	THR	GLN	ALA	SER	GLY	THR	LEU	GLN	THR	ALA	HIS	LYS	GLY	PRO	LEU	LYS	SER	VAL	GLY	PRO	ASP	PHE	GLY	LYS	LYS	ARG	PHE	THR	GLY	LEU	THR	PRO	GLY	ASP
GLU	VAL	ASN	LYS	VAL	LYS	GLY	ALA	ARG	THR	THR	ASP	LEU	ARG	VAL	ARG	ARG	THR	VAL	ASP	HIS	THR	SER	PRO	GLN	ASP	SER	THR	ALA	HIS	LYS	GLY	PRO	LEU	LYS	SER	VAL	GLY	PRO	ASP	PHE	GLY	LYS	LYS	ARG	PHE	THR	GLY	LEU	THR	PRO	GLY	ASP	
LEU	TYR	ARG	SER	TYR	ARG	HIS	GLY	ASP	P2781	K2786	L2791	Q2795	A2798	L2799	D2801	L2804	K2805	K2806	E2828	L2832	K2836	D2839	A2975	L2976	N2977	S2849	F2850	F2851	F2854	V2855	S2856	C2857	L2858	Q2859	D2860	L2861	Q2864	L2871	D2872	V2876	P2887	L2898											



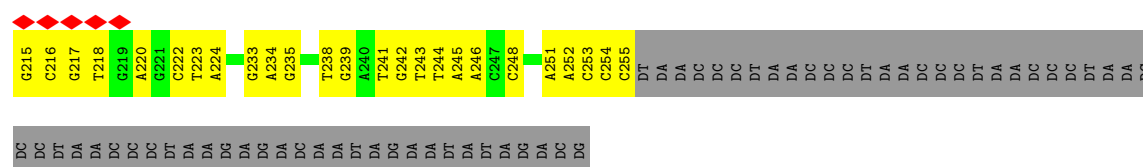
- Molecule 2: Telomeric repeat-binding factor 2-interacting protein 1



- Molecule 3: X-ray repair cross-complementing protein 6



Chain X: 6% 20% 21% 59%



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	526885	Depositor
Resolution determination method	OTHER	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS GLACIOS	Depositor
Voltage (kV)	200	Depositor
Electron dose ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	TFS FALCON 4i (4k x 4k)	Depositor
Maximum map value	57.506	Depositor
Minimum map value	-30.445	Depositor
Average map value	-0.003	Depositor
Map value standard deviation	1.084	Depositor
Recommended contour level	5.2	Depositor
Map size ($\text{\AA}$)	360.96, 360.96, 360.96	wwPDB
Map dimensions	384, 384, 384	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	0.94, 0.94, 0.94	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	0.14	0/29447	0.37	2/39776 (0.0%)
2	D	0.17	0/1257	0.52	0/1699
3	E	0.20	0/4609	0.34	0/6202
4	F	0.18	0/4511	0.36	0/6084
5	X	0.22	0/944	0.38	0/1455
6	Y	0.24	0/940	0.40	0/1448
All	All	0.16	0/41708	0.37	2/56664 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
2	D	0	1

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1734	PRO	CA-N-CD	-8.61	99.95	112.00
1	A	1991	PRO	CA-N-CD	-6.06	103.52	112.00

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	D	183	ARG	Peptide

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	28855	0	29332	749	0
2	D	1232	0	1217	40	0
3	E	4522	0	4607	134	0
4	F	4421	0	4445	130	0
5	X	842	0	463	21	0
6	Y	839	0	463	22	0
All	All	40711	0	40527	1056	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 13.

All (1056) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1437:TYR:HH	1:A:1502:SER:N	1.47	1.12
1:A:2374:LEU:HD12	1:A:2375:ALA:H	1.37	0.88
1:A:1976:LEU:HD12	1:A:1979:GLU:HB3	1.57	0.86
3:E:411:VAL:HG11	3:E:434:LEU:HG	1.56	0.85
4:F:387:LEU:HD12	4:F:388:ASP:H	1.44	0.82
1:A:606:SER:HB3	1:A:1023:SER:HB2	1.64	0.80
1:A:86:LEU:HA	1:A:89:LEU:HB2	1.63	0.79
4:F:130:ARG:HB2	4:F:159:ILE:HG22	1.65	0.79
3:E:470:ARG:NH1	4:F:389:MET:SD	2.58	0.77
1:A:131:LEU:O	1:A:135:LEU:HB3	1.85	0.75
1:A:1245:ARG:HD2	1:A:1246:GLY:H	1.50	0.75
3:E:252:ARG:HD3	3:E:253:LYS:H	1.52	0.74
1:A:2871:LEU:HD22	1:A:2876:VAL:HG23	1.71	0.73
1:A:2234:ASN:HA	1:A:2237:ILE:HD12	1.70	0.73
3:E:413:LEU:HB3	3:E:432:PHE:HD2	1.54	0.73
4:F:93:ASP:HA	4:F:96:SER:HB3	1.70	0.73
1:A:111:CYS:SG	1:A:133:LYS:NZ	2.62	0.73
1:A:1783:ARG:HG2	1:A:1787:ARG:HH21	1.54	0.72
1:A:3603:LYS:O	1:A:3605:ASN:ND2	2.23	0.72
3:E:207:LYS:NZ	3:E:211:PHE:O	2.20	0.72
4:F:363:LYS:HG2	4:F:420:VAL:HG12	1.72	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:170:THR:HG22	3:E:172:GLU:H	1.54	0.71
1:A:160:LEU:HD21	3:E:312:LEU:HG	1.72	0.71
1:A:1833:LEU:HD23	1:A:1835:ALA:H	1.55	0.71
3:E:77:SER:HB2	3:E:249:LYS:HB3	1.70	0.71
1:A:2408:MET:HE2	1:A:2411:LEU:HG	1.73	0.71
1:A:15:LEU:HD11	1:A:65:LEU:HD21	1.72	0.70
5:X:20:DG:H2''	5:X:21:DG:H5''	1.72	0.70
4:F:50:ASN:ND2	4:F:52:ASP:OD2	2.24	0.70
1:A:1298:LEU:HD13	1:A:1364:CYS:HB3	1.74	0.69
1:A:1225:GLU:HB3	1:A:1232:PRO:HD2	1.74	0.69
3:E:515:ASN:ND2	4:F:255:SER:OG	2.25	0.69
1:A:2379:MET:HE1	1:A:2401:VAL:HA	1.75	0.68
1:A:3646:LYS:HA	1:A:3650:LYS:HD3	1.74	0.68
1:A:3710:LYS:HD2	1:A:3711:PRO:HD2	1.74	0.68
1:A:3052:LEU:HD22	1:A:3092:LEU:HD21	1.76	0.68
1:A:1602:ASP:OD1	1:A:1651:LYS:NZ	2.27	0.68
1:A:3650:LYS:HG3	1:A:3651:LEU:HD22	1.75	0.68
1:A:3665:MET:HE3	1:A:3665:MET:H	1.59	0.67
3:E:561:GLU:HG3	3:E:565:LYS:HD2	1.76	0.67
1:A:1949:ILE:HD12	1:A:2100:LEU:HD22	1.77	0.67
3:E:213:ILE:HG23	3:E:231:VAL:HG13	1.75	0.67
4:F:85:LEU:HD12	4:F:86:PRO:HD2	1.75	0.67
4:F:66:ASN:HB3	4:F:69:SER:HB2	1.77	0.67
1:A:2540:LEU:HD21	1:A:2832:ILE:HG23	1.77	0.67
3:E:570:LYS:HG3	3:E:572:THR:HG23	1.75	0.67
4:F:486:ARG:NH2	6:Y:235:DG:OP1	2.25	0.67
1:A:1876:ILE:O	1:A:1880:MET:HG2	1.94	0.67
2:D:133:ARG:NH2	5:X:29:DT:O2	2.27	0.67
3:E:317:LYS:HB2	3:E:328:ILE:HD11	1.76	0.66
1:A:3462:ARG:O	1:A:3498:TRP:NE1	2.27	0.66
3:E:252:ARG:HD3	3:E:253:LYS:N	2.10	0.66
1:A:158:GLY:HA2	1:A:161:ALA:HB3	1.76	0.66
4:F:68:LEU:HG	4:F:70:GLY:H	1.60	0.66
4:F:339:CYS:SG	4:F:394:ARG:NH1	2.69	0.66
1:A:2461:PHE:HB3	1:A:2473:MET:HE1	1.77	0.65
1:A:148:LYS:NZ	1:A:185:HIS:O	2.26	0.65
1:A:901:MET:HE1	1:A:2536:LEU:HB2	1.79	0.65
2:D:97:GLU:OE1	2:D:97:GLU:N	2.30	0.65
1:A:1868:THR:HA	1:A:1871:MET:HG3	1.79	0.65
1:A:2535:THR:HG22	1:A:2565:MET:HE2	1.79	0.64
1:A:3048:LYS:HB3	1:A:3061:LEU:HD11	1.78	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:407:PRO:HG3	4:F:486:ARG:HD2	1.78	0.64
4:F:55:ALA:HB2	4:F:83:LEU:HD22	1.80	0.64
2:D:135:ALA:HB3	2:D:175:HIS:HB3	1.79	0.64
4:F:73:GLN:O	4:F:75:GLN:NE2	2.30	0.64
4:F:138:LEU:HD11	4:F:165:LEU:HD22	1.78	0.64
1:A:1010:LEU:HD22	1:A:1054:VAL:HG13	1.80	0.64
4:F:16:VAL:HB	4:F:101:GLY:H	1.61	0.64
1:A:2381:ALA:O	1:A:2385:LEU:HD12	1.98	0.64
1:A:1132:ASP:HB3	1:A:1136:ARG:HH21	1.63	0.64
1:A:3831:ASP:O	1:A:3833:ARG:N	2.28	0.64
2:D:164:TRP:HZ2	2:D:181:LYS:HE2	1.62	0.63
3:E:214:SER:HB3	3:E:218:ARG:HD3	1.80	0.63
1:A:1261:LEU:HD13	1:A:1337:VAL:HG22	1.80	0.63
1:A:1018:VAL:HG21	1:A:1074:LYS:HA	1.81	0.63
1:A:3630:ARG:HG2	1:A:3633:ILE:H	1.62	0.63
1:A:828:LYS:HA	1:A:831:LEU:HD23	1.80	0.63
1:A:1018:VAL:HG21	1:A:1074:LYS:HD3	1.81	0.63
1:A:2550:ILE:HG13	1:A:2550:ILE:O	1.98	0.63
3:E:489:ASN:ND2	4:F:331:MET:O	2.30	0.63
4:F:381:ILE:HD11	4:F:417:GLU:HB3	1.80	0.63
1:A:123:CYS:HG	1:A:169:THR:HG1	1.46	0.63
1:A:268:PRO:O	1:A:272:LEU:HD22	1.99	0.63
1:A:901:MET:SD	1:A:2535:THR:OG1	2.56	0.63
2:D:167:MET:HA	2:D:171:SER:HB2	1.81	0.63
1:A:887:ASP:OD2	1:A:891:ARG:NH1	2.32	0.62
1:A:1178:ARG:NH1	1:A:1183:CYS:SG	2.72	0.62
1:A:2249:LEU:HG	1:A:2250:SER:HB2	1.80	0.62
3:E:427:VAL:HG23	3:E:428:THR:HG23	1.81	0.62
1:A:3499:ILE:HD11	1:A:3529:ILE:HD13	1.81	0.62
3:E:392:LYS:HG3	4:F:458:ILE:HD11	1.79	0.62
6:Y:241:DT:H2"	6:Y:242:DG:C8	2.35	0.62
1:A:1459:HIS:HB2	1:A:1464:LEU:HD22	1.81	0.62
1:A:1775:GLU:OE2	1:A:1822:ARG:NH1	2.32	0.62
4:F:386:ASP:OD1	4:F:387:LEU:N	2.33	0.62
3:E:36:ASP:OD1	3:E:37:SER:N	2.32	0.62
4:F:479:THR:HA	4:F:482:ILE:HD12	1.80	0.62
1:A:3326:GLN:O	1:A:3330:LEU:HG	2.00	0.62
3:E:588:TYR:OH	3:E:606:HIS:NE2	2.18	0.62
1:A:3630:ARG:HB3	1:A:3633:ILE:HG22	1.82	0.62
1:A:1119:LYS:HD3	1:A:1124:ILE:HD11	1.81	0.62
1:A:1145:LEU:O	1:A:1147:LYS:NZ	2.33	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3878:VAL:HG23	1:A:3965:ARG:HH21	1.65	0.62
1:A:2828:GLU:O	1:A:2832:ILE:HG12	1.99	0.62
1:A:3598:LYS:HG3	1:A:3599:THR:HG23	1.82	0.62
1:A:1400:VAL:HG11	1:A:1460:ARG:HD2	1.81	0.62
1:A:1851:LEU:HA	1:A:1870:LYS:HE3	1.81	0.62
1:A:2281:MET:HE2	1:A:2326:ILE:HA	1.82	0.62
1:A:3009:LYS:HE2	1:A:3009:LYS:HA	1.82	0.62
1:A:3319:ASN:O	1:A:3319:ASN:ND2	2.24	0.62
1:A:3693:GLU:HB3	1:A:3696:ARG:HD2	1.81	0.61
1:A:1342:MET:HE2	1:A:1402:LEU:HD22	1.82	0.61
1:A:723:ASP:OD1	1:A:724:GLU:N	2.33	0.61
1:A:2272:VAL:O	1:A:2276:LEU:HD12	2.00	0.61
3:E:596:LYS:NZ	5:X:31:DA:OP1	2.33	0.61
4:F:24:ILE:HG13	4:F:27:ILE:HD13	1.82	0.61
1:A:134:LEU:HD23	1:A:180:LEU:HD13	1.83	0.61
1:A:1017:ILE:HG12	1:A:1029:CYS:HB3	1.82	0.61
1:A:4038:TRP:HD1	1:A:4040:PRO:HG3	1.66	0.61
1:A:2941:GLY:HA3	1:A:3978:GLY:HA2	1.81	0.61
1:A:3856:MET:HE1	1:A:4072:PRO:HG2	1.80	0.61
1:A:1734:PRO:O	1:A:1738:ASN:N	2.23	0.61
1:A:1938:ARG:NH2	1:A:2092:GLU:OE1	2.34	0.61
1:A:172:GLU:HB2	1:A:222:GLY:HA3	1.83	0.61
1:A:3508:LYS:NZ	1:A:3510:GLN:OE1	2.34	0.61
3:E:304:ASN:HD22	3:E:308:GLY:HA2	1.65	0.61
2:D:45:LEU:HD23	2:D:88:VAL:HG21	1.83	0.61
4:F:140:SER:O	4:F:200:GLN:NE2	2.33	0.61
1:A:539:GLN:HB3	1:A:541:MET:HE1	1.83	0.60
1:A:897:PRO:O	1:A:2566:THR:OG1	2.19	0.60
1:A:1219:PHE:O	1:A:1223:THR:OG1	2.17	0.60
5:X:24:DA:H2'	5:X:25:DG:C8	2.36	0.60
1:A:1768:ARG:HA	1:A:1815:THR:HG22	1.83	0.60
1:A:1804:MET:HE2	1:A:1819:PHE:CE2	2.36	0.60
3:E:413:LEU:HD22	3:E:432:PHE:HB3	1.83	0.60
4:F:59:PHE:HA	4:F:77:ILE:HA	1.84	0.60
1:A:1725:GLN:HB3	1:A:1728:GLU:HB2	1.83	0.60
1:A:3708:ARG:NH2	1:A:3769:GLN:OE1	2.34	0.60
4:F:541:GLU:HB3	4:F:543:LYS:HG2	1.81	0.60
1:A:879:MET:SD	1:A:879:MET:N	2.75	0.60
1:A:2937:ASP:OD1	1:A:3784:ARG:NH2	2.32	0.60
5:X:50:DT:H2''	5:X:51:DA:C8	2.37	0.60
1:A:984:TYR:HA	1:A:987:LEU:HB3	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1892:LYS:HA	1:A:1896:ILE:HD13	1.83	0.60
1:A:2252:PRO:HB2	1:A:2255:LEU:HB3	1.83	0.60
2:D:164:TRP:HA	2:D:167:MET:HG2	1.84	0.60
1:A:3303:THR:O	1:A:3307:LEU:N	2.28	0.60
1:A:105:VAL:HA	1:A:147:PHE:HE1	1.66	0.60
1:A:304:THR:HG22	1:A:305:ASN:H	1.67	0.60
1:A:3100:LYS:O	1:A:3104:GLN:HG2	2.02	0.60
2:D:84:ILE:O	2:D:88:VAL:HG23	2.02	0.59
1:A:2242:VAL:HA	1:A:2245:TRP:HB3	1.84	0.59
3:E:157:VAL:HG12	3:E:159:PHE:H	1.68	0.59
1:A:1681:ASP:OD2	1:A:1683:LYS:NZ	2.33	0.59
4:F:368:ARG:HG3	4:F:369:ASP:H	1.68	0.59
4:F:155:LYS:HE2	4:F:215:LEU:HD11	1.83	0.59
1:A:1804:MET:HE2	1:A:1819:PHE:HE2	1.67	0.59
1:A:131:LEU:O	1:A:135:LEU:CB	2.50	0.59
1:A:1191:PHE:O	1:A:1195:VAL:HG23	2.02	0.59
1:A:175:TYR:HB3	1:A:200:PHE:HE1	1.68	0.59
1:A:1102:GLU:HA	1:A:1154:PRO:HB3	1.85	0.59
1:A:3538:GLU:OE2	1:A:3797:THR:OG1	2.21	0.59
1:A:3603:LYS:HA	1:A:3655:LYS:HZ1	1.67	0.59
3:E:215:LEU:O	3:E:217:TYR:N	2.29	0.59
4:F:362:LEU:HB2	4:F:421:TYR:HB3	1.85	0.59
1:A:3843:LEU:HD23	1:A:3858:MET:HG3	1.84	0.59
1:A:269:SER:OG	1:A:273:ARG:NH2	2.35	0.58
1:A:566:ASP:HB2	1:A:645:TRP:HE1	1.67	0.58
3:E:444:ARG:HH22	4:F:270:GLU:HB2	1.68	0.58
1:A:3630:ARG:HG3	1:A:3632:PHE:H	1.68	0.58
1:A:4090:ARG:NH2	1:A:4113:ASP:OD2	2.36	0.58
1:A:253:LEU:HD11	1:A:257:ARG:HH21	1.67	0.58
5:X:56:DA:H2''	5:X:57:DC:H5''	1.86	0.58
3:E:369:TYR:OH	4:F:436:SER:O	2.16	0.58
1:A:148:LYS:HZ1	1:A:188:GLU:HB3	1.69	0.58
1:A:1665:HIS:CD2	1:A:1667:SER:H	2.21	0.58
1:A:2844:LEU:HD12	1:A:2871:LEU:HD21	1.86	0.58
1:A:493:LYS:HE2	1:A:522:PRO:HG2	1.85	0.58
1:A:292:SER:O	1:A:296:VAL:HG22	2.02	0.57
1:A:1881:TYR:HE1	1:A:1889:VAL:HG21	1.68	0.57
1:A:2980:ASP:HB3	1:A:2981:TRP:HE3	1.69	0.57
2:D:134:ILE:HD13	3:E:596:LYS:HZ3	1.69	0.57
1:A:1539:SER:OG	1:A:1552:HIS:ND1	2.34	0.57
1:A:3006:ALA:HB3	1:A:3257:LYS:HD2	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3140:GLU:OE2	1:A:3164:TRP:NE1	2.32	0.57
1:A:3263:HIS:O	1:A:3266:SER:OG	2.22	0.57
1:A:1083:ASN:ND2	1:A:1126:GLN:OE1	2.36	0.57
1:A:1976:LEU:O	1:A:1980:ASN:ND2	2.38	0.57
1:A:1420:ARG:NH2	1:A:1466:ASN:O	2.37	0.57
1:A:1897:ASN:HA	1:A:1902:GLY:HA2	1.87	0.57
1:A:2121:ASP:HA	1:A:2126:MET:HE3	1.87	0.57
1:A:3455:LYS:NZ	1:A:3489:SER:OG	2.37	0.57
3:E:462:MET:HG2	4:F:380:LEU:HA	1.87	0.57
1:A:1407:LYS:HD3	1:A:1463:LEU:HD22	1.87	0.57
1:A:2857:CYS:O	1:A:2861:ILE:HG12	2.04	0.57
1:A:3469:LEU:HD11	1:A:3505:LEU:HD22	1.86	0.57
1:A:1836:LEU:HD21	1:A:1884:LEU:HD21	1.87	0.57
1:A:2547:SER:O	1:A:2547:SER:OG	2.21	0.57
1:A:778:ILE:HG22	1:A:779:TYR:HD1	1.69	0.57
1:A:1233:SER:HA	1:A:1236:LEU:HG	1.87	0.57
1:A:3793:VAL:HG22	1:A:3803:ILE:HG22	1.86	0.57
1:A:1619:ALA:O	1:A:1623:LEU:HD22	2.05	0.57
1:A:3358:ARG:NH1	1:A:3361:GLU:OE1	2.38	0.57
1:A:3627:ALA:HA	1:A:3629:ARG:HH12	1.70	0.57
3:E:426:GLN:HB3	4:F:434:MET:HE1	1.84	0.57
4:F:188:HIS:CE1	4:F:478:PRO:HD2	2.39	0.57
1:A:3826:ALA:O	1:A:3830:SER:OG	2.19	0.56
2:D:55:ARG:HG2	2:D:56:VAL:HG13	1.87	0.56
1:A:1167:ASP:N	1:A:1167:ASP:OD1	2.33	0.56
3:E:200:LEU:HD11	3:E:220:ILE:HG22	1.87	0.56
6:Y:217:DG:H2'	6:Y:218:DT:H71	1.87	0.56
1:A:662:LEU:HD23	1:A:662:LEU:H	1.70	0.56
1:A:931:CYS:O	1:A:984:TYR:OH	2.23	0.56
1:A:1202:ARG:HH21	1:A:1206:LEU:HD12	1.71	0.56
1:A:1652:ILE:HG13	1:A:1653:LEU:N	2.20	0.56
1:A:1684:LEU:HD21	1:A:1688:LEU:HD21	1.85	0.56
1:A:1734:PRO:HA	1:A:1737:ASN:HB2	1.87	0.56
1:A:2268:LYS:O	1:A:2271:SER:OG	2.20	0.56
1:A:2458:VAL:HG21	1:A:2476:ILE:HD11	1.87	0.56
1:A:2952:ILE:HG12	1:A:2975:ALA:HB2	1.86	0.56
1:A:3410:ILE:HG13	1:A:3453:ALA:HB1	1.86	0.56
1:A:1871:MET:HE1	1:A:1939:LEU:HB3	1.86	0.56
2:D:164:TRP:CZ2	2:D:181:LYS:HE2	2.40	0.56
1:A:168:ASP:OD2	1:A:168:ASP:N	2.35	0.56
1:A:2241:LEU:O	1:A:2245:TRP:N	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2546:TYR:OH	1:A:2551:GLU:OE2	2.24	0.56
4:F:163:PHE:HB2	4:F:224:ILE:HG22	1.87	0.56
1:A:568:PHE:O	1:A:572:VAL:HG23	2.06	0.56
1:A:3946:PHE:HZ	1:A:4002:MET:HB3	1.71	0.56
1:A:1769:GLU:O	1:A:1822:ARG:NH2	2.38	0.56
1:A:2263:LYS:N	1:A:2263:LYS:HD3	2.21	0.56
1:A:4061:CYS:SG	1:A:4078:VAL:HG23	2.46	0.56
1:A:24:ARG:HH22	1:A:27:ALA:HB3	1.71	0.56
1:A:1963:GLN:O	1:A:1968:SER:OG	2.24	0.56
3:E:420:LEU:HD21	3:E:424:LYS:HA	1.88	0.56
1:A:1301:ILE:HD13	1:A:1371:VAL:HG12	1.86	0.56
1:A:1617:LYS:O	1:A:1621:THR:OG1	2.21	0.56
1:A:2575:PRO:HD3	1:A:2786:LYS:HA	1.88	0.56
1:A:3531:TYR:O	1:A:3535:ILE:HG12	2.06	0.56
1:A:123:CYS:SG	1:A:169:THR:OG1	2.62	0.56
1:A:2563:LEU:HD12	1:A:2795:GLN:HE21	1.69	0.56
1:A:3815:LEU:HD22	1:A:3930:VAL:HG11	1.87	0.56
2:D:182:ASP:OD2	6:Y:248:DC:N4	2.39	0.56
4:F:263:ALA:HB2	4:F:364:VAL:HG12	1.88	0.56
1:A:1579:VAL:O	1:A:1583:MET:HE3	2.06	0.55
1:A:3028:ASN:H	1:A:3031:TRP:HD1	1.52	0.55
3:E:385:LEU:O	3:E:389:CYS:HB2	2.06	0.55
1:A:86:LEU:HD11	1:A:125:ILE:HG12	1.88	0.55
1:A:186:PRO:HA	1:A:189:MET:HB2	1.88	0.55
1:A:1942:CYS:O	1:A:1946:ASN:ND2	2.39	0.55
3:E:474:ARG:HH21	3:E:476:ASP:HB3	1.70	0.55
4:F:81:ARG:HH11	4:F:90:LEU:HD13	1.72	0.55
1:A:2216:LEU:O	1:A:2220:MET:HG3	2.07	0.55
1:A:2434:VAL:O	1:A:2438:ILE:HG12	2.07	0.55
4:F:91:LEU:HA	4:F:94:ILE:HG12	1.88	0.55
1:A:3684:SER:HB3	1:A:3687:MET:HB2	1.89	0.55
2:D:33:VAL:HB	2:D:39:LYS:HG3	1.88	0.55
3:E:149:VAL:O	3:E:153:LEU:HD12	2.06	0.55
3:E:204:HIS:CE1	3:E:212:ASP:HB2	2.41	0.55
1:A:978:GLN:NE2	1:A:982:GLN:OE1	2.39	0.55
1:A:3447:VAL:HG22	1:A:3468:LEU:HD22	1.88	0.55
2:D:140:ASP:OD1	2:D:140:ASP:N	2.39	0.55
1:A:941:MET:HB2	1:A:958:MET:HE1	1.87	0.55
1:A:1273:GLU:HG3	1:A:1275:THR:HG23	1.88	0.55
1:A:2123:PRO:HA	1:A:2127:LYS:HB2	1.89	0.55
1:A:2461:PHE:HB3	1:A:2473:MET:CE	2.37	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:F:13:CYS:SG	4:F:110:ALA:HB1	2.47	0.55
1:A:1564:SER:O	1:A:1568:ASN:ND2	2.40	0.55
1:A:1711:ARG:NH1	1:A:1760:GLU:OE2	2.38	0.55
4:F:90:LEU:O	4:F:94:ILE:HG23	2.06	0.55
1:A:3011:LEU:HD22	1:A:3047:SER:HB3	1.87	0.54
1:A:3356:ALA:O	1:A:3360:LEU:HB2	2.07	0.54
4:F:267:ILE:HD12	4:F:267:ILE:H	1.72	0.54
6:Y:215:DG:N3	6:Y:215:DG:H2'	2.22	0.54
1:A:2339:GLU:O	1:A:2343:GLU:HG2	2.07	0.54
1:A:631:ARG:HG3	1:A:672:ILE:HD11	1.89	0.54
1:A:1265:GLU:OE1	1:A:1340:ARG:NE	2.39	0.54
1:A:3530:VAL:HG11	1:A:3568:ILE:HG21	1.89	0.54
2:D:145:LEU:HD21	2:D:187:HIS:NE2	2.22	0.54
3:E:412:ALA:HB2	3:E:437:LEU:HD11	1.89	0.54
4:F:409:PHE:HD2	4:F:420:VAL:HG23	1.71	0.54
1:A:533:HIS:O	1:A:537:SER:OG	2.19	0.54
1:A:1714:LEU:HD12	1:A:1717:LEU:HD21	1.89	0.54
1:A:3758:LEU:HB2	1:A:3795:PRO:HB3	1.88	0.54
1:A:3828:TYR:HE1	1:A:3835:PRO:HG2	1.72	0.54
3:E:252:ARG:HH11	3:E:253:LYS:H	1.55	0.54
1:A:3608:LYS:HG3	1:A:3612:ARG:HH22	1.72	0.54
3:E:567:HIS:O	3:E:571:GLY:N	2.34	0.54
3:E:71:TYR:O	3:E:75:ILE:HG22	2.08	0.54
4:F:526:SER:HB2	4:F:530:LEU:HD23	1.90	0.54
1:A:87:LYS:HE3	1:A:124:LYS:HG2	1.89	0.54
1:A:1623:LEU:HA	1:A:1626:TRP:HD1	1.72	0.54
1:A:3031:TRP:HE1	1:A:3064:PHE:HE1	1.55	0.54
1:A:87:LYS:HD2	1:A:128:LEU:HD13	1.90	0.53
1:A:1151:ARG:NH1	1:A:1163:LEU:O	2.42	0.53
1:A:1364:CYS:HB2	1:A:1368:LEU:H	1.72	0.53
1:A:3049:LEU:O	1:A:3053:LEU:HD12	2.08	0.53
1:A:3630:ARG:HD2	1:A:3683:CYS:HB3	1.90	0.53
1:A:3665:MET:H	1:A:3665:MET:CE	2.21	0.53
3:E:167:MET:HG2	3:E:203:MET:HE3	1.90	0.53
3:E:245:LYS:HD2	3:E:247:ARG:HH21	1.72	0.53
3:E:491:GLU:OE1	4:F:316:TYR:OH	2.23	0.53
1:A:79:ARG:O	1:A:82:ARG:NH2	2.41	0.53
4:F:104:GLN:OE1	4:F:140:SER:OG	2.24	0.53
1:A:1047:GLN:OE1	1:A:1047:GLN:N	2.33	0.53
1:A:1147:LYS:HD2	1:A:1149:LYS:HE3	1.90	0.53
1:A:1623:LEU:HA	1:A:1626:TRP:CD1	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2443:MET:HE3	1:A:2479:TRP:CE3	2.43	0.53
4:F:153:SER:O	4:F:153:SER:OG	2.25	0.53
1:A:126:PRO:C	1:A:128:LEU:H	2.15	0.53
1:A:162:LEU:HD23	3:E:301:ARG:HB3	1.90	0.53
1:A:2304:VAL:HG11	1:A:2344:LEU:HG	1.91	0.53
2:D:140:ASP:HA	2:D:143:ALA:HB3	1.91	0.53
4:F:128:GLU:HG2	4:F:129:LYS:HE3	1.89	0.53
5:X:43:DC:H2"	5:X:44:DA:H8	1.73	0.53
1:A:635:PRO:O	1:A:638:GLN:NE2	2.41	0.53
1:A:1772:HIS:N	1:A:1775:GLU:OE1	2.41	0.53
4:F:133:GLU:HG2	4:F:164:PHE:HE1	1.74	0.53
5:X:19:DG:H22	6:Y:255:DC:H2"	1.73	0.53
1:A:3992:ARG:HD3	1:A:4100:GLU:HG2	1.90	0.53
6:Y:252:DA:H2"	6:Y:253:DC:OP2	2.08	0.53
1:A:228:SER:HB3	1:A:274:LEU:HD12	1.91	0.53
1:A:3180:ASP:HA	1:A:3242:MET:HE1	1.90	0.53
1:A:1101:PHE:HD1	1:A:1168:LEU:HD22	1.72	0.53
1:A:1296:PHE:O	1:A:1299:GLU:N	2.40	0.53
1:A:1437:TYR:OH	1:A:1502:SER:N	2.29	0.53
4:F:81:ARG:HD2	4:F:90:LEU:HD13	1.90	0.53
1:A:1104:LEU:O	1:A:1108:MET:HG2	2.09	0.53
1:A:2189:ILE:O	1:A:2193:ILE:HG12	2.09	0.53
1:A:1239:PRO:HD3	1:A:1256:TRP:CD2	2.44	0.52
1:A:1245:ARG:CD	1:A:1246:GLY:H	2.20	0.52
1:A:3661:ASP:O	1:A:3664:ASN:ND2	2.42	0.52
1:A:4020:MET:HE3	1:A:4027:TRP:HD1	1.74	0.52
1:A:1082:PHE:HA	1:A:1085:ILE:HG12	1.91	0.52
4:F:347:LYS:HA	4:F:389:MET:HA	1.91	0.52
1:A:72:SER:OG	1:A:82:ARG:NH1	2.36	0.52
1:A:1408:MET:HE3	1:A:1408:MET:HA	1.91	0.52
3:E:43:ASP:OD1	3:E:44:ALA:N	2.42	0.52
3:E:48:MET:HE3	3:E:48:MET:O	2.10	0.52
1:A:418:ALA:O	1:A:422:LEU:HD12	2.09	0.52
1:A:446:PHE:CG	1:A:530:LEU:HD22	2.45	0.52
1:A:2250:SER:C	1:A:2251:ILE:HD12	2.35	0.52
1:A:3666:LEU:O	1:A:3670:MET:HG2	2.09	0.52
1:A:442:GLN:HE21	1:A:457:CYS:HB2	1.75	0.52
1:A:487:LEU:HD11	1:A:568:PHE:HE1	1.73	0.52
1:A:1487:VAL:HG11	1:A:1515:LEU:HD22	1.92	0.52
1:A:2572:TYR:N	1:A:2573:PRO:HD3	2.25	0.52
1:A:2798:ALA:HA	1:A:2804:ILE:HG23	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3274:VAL:O	1:A:3278:GLN:HG3	2.10	0.52
1:A:3564:GLN:OE1	1:A:3564:GLN:N	2.42	0.52
6:Y:253:DC:H5'	6:Y:253:DC:C6	2.44	0.52
1:A:83:GLU:CD	1:A:124:LYS:HD3	2.35	0.52
1:A:3859:TYR:HE2	1:A:4080:VAL:HG11	1.74	0.52
3:E:357:LYS:HD2	3:E:360:HIS:HE1	1.74	0.52
4:F:106:ASP:OD2	4:F:109:ASP:N	2.41	0.52
5:X:49:DT:H2''	5:X:50:DT:H5''	1.91	0.52
1:A:1793:THR:O	1:A:1797:LEU:HG	2.10	0.52
1:A:2091:HIS:O	1:A:2091:HIS:ND1	2.42	0.52
1:A:3786:LEU:HD21	1:A:3983:ILE:HD12	1.92	0.52
2:D:193:HIS:CD2	2:D:194:LYS:HD3	2.44	0.52
3:E:461:LYS:O	3:E:465:ILE:HG13	2.09	0.52
4:F:10:VAL:HB	4:F:240:ILE:HD11	1.92	0.52
4:F:107:PHE:HE1	4:F:134:ILE:HG21	1.75	0.52
1:A:743:LEU:HD12	1:A:743:LEU:H	1.74	0.52
1:A:1893:GLU:OE1	1:A:1893:GLU:N	2.40	0.52
1:A:2927:ALA:HB2	1:A:2942:ILE:HD11	1.91	0.52
3:E:484:GLN:OE1	3:E:488:ARG:NH1	2.43	0.52
4:F:91:LEU:H	4:F:91:LEU:HD23	1.75	0.52
1:A:892:LEU:HD13	1:A:908:ASP:HB3	1.92	0.52
1:A:1238:GLN:HG2	1:A:1296:PHE:HB3	1.92	0.52
1:A:3460:GLU:OE2	1:A:3460:GLU:N	2.27	0.52
1:A:1960:LYS:O	1:A:1963:GLN:NE2	2.37	0.51
1:A:3578:LEU:HD23	1:A:3752:VAL:HG21	1.91	0.51
1:A:566:ASP:OD1	1:A:567:GLU:N	2.44	0.51
1:A:2365:ASN:OD1	1:A:2396:LEU:HD23	2.10	0.51
1:A:3855:TYR:HA	1:A:3858:MET:HB3	1.91	0.51
2:D:189:ARG:HD3	2:D:194:LYS:HG3	1.92	0.51
3:E:386:LEU:HB2	3:E:432:PHE:HE1	1.75	0.51
1:A:14:ARG:HD3	1:A:38:LEU:HD11	1.91	0.51
1:A:1238:GLN:O	1:A:1240:THR:N	2.39	0.51
1:A:2503:LYS:O	1:A:2507:ILE:HG13	2.11	0.51
1:A:2860:ASP:OD1	1:A:2864:GLN:NE2	2.43	0.51
1:A:479:ILE:O	1:A:483:VAL:HG22	2.10	0.51
1:A:990:GLN:HG3	1:A:2781:PRO:HA	1.92	0.51
1:A:2474:TYR:O	1:A:2478:MET:HE3	2.10	0.51
1:A:3307:LEU:HD21	1:A:3330:LEU:HD23	1.92	0.51
1:A:2780:LEU:N	1:A:2781:PRO:HD2	2.25	0.51
1:A:3693:GLU:OE2	1:A:3694:PHE:N	2.43	0.51
3:E:347:LEU:HD23	3:E:349:GLY:H	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2358:ASP:OD1	1:A:2358:ASP:N	2.43	0.51
1:A:3772:ASN:HA	1:A:3775:LEU:HB2	1.92	0.51
1:A:16:GLN:N	1:A:16:GLN:OE1	2.44	0.51
1:A:3648:GLY:O	1:A:3652:LEU:HB3	2.11	0.51
3:E:341:ASP:OD2	3:E:399:ARG:NH2	2.41	0.51
3:E:357:LYS:HD2	3:E:360:HIS:CE1	2.46	0.51
4:F:405:VAL:HG23	4:F:424:LEU:HB2	1.93	0.51
1:A:2172:ALA:HB2	1:A:2189:ILE:HG21	1.92	0.51
3:E:304:ASN:OD1	3:E:304:ASN:N	2.44	0.51
4:F:461:MET:HG2	4:F:522:VAL:HG13	1.92	0.51
1:A:385:TYR:CE1	1:A:389:ILE:HD11	2.45	0.51
1:A:2280:VAL:O	1:A:2285:LEU:HB2	2.11	0.51
1:A:2565:MET:O	1:A:2568:MET:HG3	2.11	0.51
1:A:2849:SER:O	1:A:2849:SER:OG	2.28	0.51
1:A:4115:ASN:OD1	1:A:4119:ARG:NH2	2.44	0.51
2:D:39:LYS:HE2	3:E:498:MET:HE1	1.93	0.51
3:E:48:MET:HE1	3:E:59:PRO:HB2	1.93	0.51
3:E:372:GLU:OE2	3:E:379:SER:OG	2.26	0.51
1:A:985:GLU:O	1:A:989:MET:HG2	2.11	0.50
1:A:1045:THR:OG1	1:A:1047:GLN:OE1	2.17	0.50
1:A:1347:THR:O	1:A:1351:THR:HG22	2.11	0.50
1:A:1413:ASP:OD1	1:A:1413:ASP:N	2.44	0.50
1:A:1335:CYS:HA	1:A:1338:VAL:HG22	1.93	0.50
1:A:2158:ARG:HG2	1:A:2196:TRP:HE3	1.77	0.50
5:X:44:DA:H2'	5:X:45:DT:C6	2.46	0.50
1:A:2289:ASP:N	1:A:2290:PRO:HD3	2.26	0.50
1:A:3998:LEU:O	1:A:4002:MET:HG3	2.11	0.50
3:E:109:ASP:OD1	3:E:110:ASN:N	2.41	0.50
1:A:117:LYS:HE3	4:F:299:ASP:HA	1.93	0.50
1:A:3602:ASN:HD21	1:A:3605:ASN:HB2	1.76	0.50
1:A:1646:LEU:HD21	1:A:1688:LEU:HB2	1.94	0.50
1:A:1661:PHE:H	1:A:1665:HIS:HB2	1.77	0.50
1:A:1952:ILE:O	1:A:1955:VAL:HG12	2.12	0.50
1:A:2421:VAL:HG13	1:A:2457:PRO:HG3	1.94	0.50
1:A:4064:LEU:HD13	1:A:4077:TYR:HB3	1.92	0.50
1:A:3332:THR:HA	1:A:3335:ARG:HG2	1.94	0.50
2:D:163:LEU:H	2:D:165:LYS:HE2	1.76	0.50
5:X:19:DG:H2''	5:X:20:DG:H5''	1.92	0.50
1:A:122:LYS:CB	1:A:167:PRO:HG2	2.42	0.50
1:A:2246:LYS:HZ2	1:A:2285:LEU:HG	1.77	0.50
1:A:2260:PHE:HA	1:A:2270:ASN:HA	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:132:GLN:HE22	3:E:137:HIS:CE1	2.30	0.50
4:F:20:MET:SD	4:F:30:PRO:HB2	2.52	0.50
1:A:651:TYR:HE1	1:A:1386:ILE:HD11	1.77	0.50
1:A:2183:HIS:HA	1:A:2186:VAL:HG22	1.94	0.50
1:A:4046:TYR:HE2	1:A:4066:LEU:HD22	1.76	0.50
1:A:540:MET:HA	1:A:540:MET:HE2	1.93	0.50
1:A:3701:ILE:HB	1:A:3719:ILE:HG23	1.94	0.50
3:E:473:TYR:HB2	4:F:392:ILE:HD11	1.94	0.50
1:A:1440:ASP:OD1	1:A:1440:ASP:N	2.41	0.49
1:A:2446:LEU:HD11	1:A:2454:LEU:HD12	1.94	0.49
3:E:120:ASP:HB2	3:E:123:LYS:HE2	1.94	0.49
4:F:178:ARG:HG3	4:F:182:PRO:HB3	1.94	0.49
1:A:638:GLN:HG3	1:A:679:LYS:HG2	1.93	0.49
1:A:2337:LEU:HG	1:A:2341:LEU:HD11	1.94	0.49
1:A:3157:LEU:HD11	1:A:3193:ILE:HG21	1.93	0.49
3:E:312:LEU:C	3:E:314:SER:H	2.20	0.49
4:F:364:VAL:HG23	4:F:419:LEU:HB2	1.94	0.49
1:A:265:TYR:N	5:X:53:DC:OP1	2.41	0.49
1:A:3316:LEU:HD12	1:A:3316:LEU:O	2.12	0.49
4:F:461:MET:HG3	4:F:526:SER:HB3	1.94	0.49
1:A:771:ASN:OD1	1:A:854:ARG:NH1	2.43	0.49
1:A:1235:ILE:O	1:A:1235:ILE:HG13	2.13	0.49
1:A:108:LYS:NZ	1:A:151:GLU:OE2	2.34	0.49
1:A:678:LYS:HD2	1:A:737:PRO:HA	1.94	0.49
1:A:984:TYR:HD1	1:A:987:LEU:HD23	1.77	0.49
1:A:1364:CYS:O	1:A:1367:HIS:ND1	2.39	0.49
1:A:787:PRO:O	1:A:790:LYS:NZ	2.34	0.49
1:A:1068:LEU:HG	1:A:1106:ILE:HD11	1.93	0.49
1:A:1108:MET:HE1	1:A:1186:LYS:HB3	1.93	0.49
1:A:1164:CYS:SG	1:A:1165:LEU:N	2.85	0.49
1:A:3416:LEU:HD23	1:A:3449:LYS:HG3	1.93	0.49
3:E:41:LEU:HB3	3:E:168:LEU:HD12	1.95	0.49
3:E:473:TYR:CZ	4:F:424:LEU:HD13	2.48	0.49
4:F:542:ALA:O	4:F:544:LYS:NZ	2.42	0.49
1:A:220:LEU:HA	1:A:223:CYS:HB3	1.95	0.49
1:A:1139:GLU:OE2	1:A:1140:LYS:NZ	2.45	0.49
1:A:1399:CYS:O	1:A:1403:MET:HG2	2.12	0.49
1:A:1973:LYS:HB2	1:A:1975:LEU:HG	1.95	0.49
3:E:61:ASP:OD2	3:E:124:GLY:N	2.41	0.49
1:A:364:ARG:O	1:A:368:LEU:HG	2.12	0.49
1:A:939:MET:HE1	1:A:987:LEU:HD13	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1205:ASN:HB3	1:A:1275:THR:HA	1.95	0.49
1:A:2473:MET:O	1:A:2476:ILE:HG12	2.12	0.49
1:A:3746:ARG:HG3	1:A:3746:ARG:HH11	1.77	0.49
1:A:4038:TRP:CD1	1:A:4040:PRO:HG3	2.45	0.49
2:D:33:VAL:HG22	2:D:64:LEU:HB2	1.95	0.49
3:E:278:GLN:NE2	6:Y:233:DG:OP2	2.28	0.49
1:A:224:LEU:C	1:A:226:GLY:H	2.20	0.49
1:A:3846:MET:SD	1:A:3862:ALA:HB2	2.52	0.49
1:A:152:LEU:HD21	1:A:192:ASN:CG	2.38	0.48
1:A:538:ASP:N	1:A:538:ASP:OD1	2.45	0.48
1:A:636:GLU:HA	1:A:638:GLN:NE2	2.28	0.48
1:A:636:GLU:O	1:A:637:LYS:HG2	2.13	0.48
6:Y:222:DC:H2"	6:Y:223:DT:C6	2.48	0.48
1:A:414:LEU:HD11	1:A:438:LEU:HG	1.95	0.48
1:A:2185:MET:HE3	1:A:2185:MET:HA	1.95	0.48
1:A:2190:VAL:O	1:A:2194:LEU:HD12	2.13	0.48
3:E:204:HIS:HB3	3:E:237:SER:OG	2.13	0.48
4:F:469:LYS:HA	4:F:469:LYS:HD3	1.61	0.48
1:A:2371:PHE:CD1	1:A:2373:PRO:HD2	2.49	0.48
1:A:3239:LYS:O	1:A:3243:ILE:HG12	2.13	0.48
1:A:3739:ILE:HG22	1:A:3739:ILE:O	2.12	0.48
3:E:34:GLY:HA2	3:E:160:LYS:HB2	1.95	0.48
4:F:377:LEU:O	4:F:381:ILE:HG23	2.13	0.48
1:A:1820:VAL:HG12	1:A:1824:LEU:HD23	1.94	0.48
1:A:1850:VAL:O	1:A:1853:SER:OG	2.29	0.48
1:A:2189:ILE:O	1:A:2192:THR:OG1	2.25	0.48
1:A:3025:PRO:O	1:A:3027:LEU:N	2.46	0.48
4:F:136:THR:OG1	4:F:137:ASP:N	2.47	0.48
1:A:1088:GLU:C	1:A:1090:ARG:H	2.22	0.48
1:A:1202:ARG:HB3	1:A:1206:LEU:HD11	1.95	0.48
1:A:2473:MET:HE2	1:A:2473:MET:HB2	1.70	0.48
1:A:3114:TYR:HE1	1:A:3125:ARG:HH21	1.62	0.48
4:F:357:MET:HE2	4:F:429:ASP:OD1	2.13	0.48
1:A:252:VAL:HG11	1:A:274:LEU:HD22	1.96	0.48
1:A:800:LEU:O	1:A:3115:SER:OG	2.31	0.48
1:A:1160:SER:OG	1:A:1162:SER:O	2.32	0.48
1:A:1926:ASN:HD21	1:A:1974:ASN:HB3	1.79	0.48
4:F:450:GLN:HB3	4:F:537:PHE:CZ	2.49	0.48
1:A:122:LYS:HB2	1:A:167:PRO:HG2	1.96	0.48
1:A:1379:PRO:O	1:A:1384:PHE:HB2	2.14	0.48
1:A:2929:LEU:O	1:A:2932:SER:OG	2.29	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:896:VAL:HG23	1:A:2791:ILE:HD11	1.96	0.48
1:A:1366:THR:HB	1:A:1418:HIS:CE1	2.49	0.48
1:A:1633:TRP:CE2	1:A:1674:THR:HG22	2.48	0.48
3:E:465:ILE:HG23	3:E:518:LEU:HD11	1.96	0.48
1:A:849:GLU:H	1:A:849:GLU:CD	2.19	0.48
1:A:3298:LEU:HD21	1:A:3351:ILE:HG12	1.95	0.48
4:F:434:MET:HE3	4:F:434:MET:HA	1.95	0.48
1:A:110:THR:O	1:A:114:VAL:HG23	2.14	0.47
1:A:162:LEU:HA	3:E:300:THR:O	2.14	0.47
1:A:1093:GLU:O	1:A:1095:LEU:HD12	2.14	0.47
1:A:3181:ASP:O	1:A:3185:ASN:ND2	2.47	0.47
2:D:35:PRO:HB2	3:E:500:PRO:HD3	1.96	0.47
3:E:273:ILE:HD13	3:E:400:TYR:HE1	1.78	0.47
3:E:498:MET:HE2	3:E:498:MET:HA	1.96	0.47
1:A:1607:GLU:OE1	1:A:1614:GLN:NE2	2.47	0.47
1:A:1878:ASP:HB3	1:A:1947:CYS:HA	1.96	0.47
1:A:1943:ALA:HA	1:A:1946:ASN:HD22	1.79	0.47
1:A:2173:ALA:HB3	1:A:2211:LEU:HD12	1.96	0.47
1:A:2300:PHE:O	1:A:2304:VAL:HG12	2.14	0.47
1:A:2980:ASP:HB3	1:A:2981:TRP:CE3	2.49	0.47
1:A:3328:ILE:HD11	1:A:3412:ALA:HB2	1.96	0.47
1:A:1676:ILE:HG23	1:A:1713:VAL:HG21	1.96	0.47
1:A:3050:LYS:NZ	1:A:3180:ASP:OD1	2.47	0.47
1:A:4082:ARG:HD2	1:A:4082:ARG:HA	1.63	0.47
3:E:38:LEU:HD11	3:E:167:MET:SD	2.54	0.47
6:Y:233:DG:H2"	6:Y:234:DA:C8	2.50	0.47
1:A:61:ARG:HA	1:A:67:VAL:HG11	1.95	0.47
1:A:171:LEU:HB2	1:A:219:VAL:HG22	1.97	0.47
1:A:471:LYS:HD2	1:A:475:LEU:HD21	1.96	0.47
1:A:133:LYS:HA	1:A:137:THR:OG1	2.15	0.47
1:A:183:GLU:HA	1:A:233:ASN:ND2	2.30	0.47
1:A:561:ASN:N	1:A:561:ASN:OD1	2.47	0.47
1:A:1366:THR:O	1:A:1370:ARG:NE	2.37	0.47
1:A:158:GLY:HA3	1:A:162:LEU:HG	1.96	0.47
1:A:3875:GLU:OE2	1:A:3965:ARG:HB2	2.15	0.47
4:F:111:LEU:HD11	4:F:161:LEU:HD11	1.95	0.47
4:F:219:ASP:OD1	4:F:219:ASP:N	2.47	0.47
1:A:12:LEU:HA	1:A:16:GLN:OE1	2.15	0.47
1:A:1238:GLN:CG	1:A:1296:PHE:HB3	2.44	0.47
1:A:1459:HIS:CE1	1:A:1520:ALA:HB1	2.49	0.47
1:A:1686:LEU:HD11	1:A:1721:HIS:HB3	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1920:TYR:O	1:A:1924:THR:OG1	2.22	0.47
1:A:2310:VAL:HG23	1:A:2310:VAL:O	2.15	0.47
1:A:3411:ASP:O	1:A:3415:THR:OG1	2.30	0.47
3:E:348:MET:HE1	3:E:399:ARG:HD3	1.95	0.47
4:F:57:VAL:HG12	4:F:79:VAL:HG13	1.97	0.47
4:F:307:LYS:HD2	4:F:307:LYS:O	2.14	0.47
1:A:1069:HIS:O	1:A:1075:ARG:NH1	2.48	0.47
1:A:2555:LEU:HD11	1:A:2854:PHE:HA	1.97	0.47
4:F:366:ALA:HA	4:F:377:LEU:HD23	1.97	0.47
1:A:984:TYR:CD1	1:A:987:LEU:HD23	2.50	0.47
1:A:3137:GLU:OE1	1:A:3167:ARG:NH2	2.48	0.47
1:A:3595:GLU:O	1:A:3599:THR:OG1	2.22	0.47
2:D:168:GLU:OE2	2:D:177:TRP:HA	2.15	0.47
1:A:347:GLY:O	1:A:351:ASN:ND2	2.48	0.47
1:A:915:THR:HG23	1:A:968:VAL:HG11	1.96	0.47
1:A:566:ASP:O	1:A:569:VAL:HG12	2.14	0.46
1:A:1789:GLY:O	1:A:1794:GLN:NE2	2.48	0.46
1:A:1938:ARG:NH1	1:A:1981:LEU:O	2.39	0.46
1:A:2135:ASN:O	1:A:2138:VAL:HG12	2.16	0.46
1:A:2203:THR:HA	1:A:2209:GLU:HG3	1.96	0.46
1:A:3917:ILE:HG13	1:A:3991:PHE:HD2	1.79	0.46
3:E:129:LYS:NZ	3:E:133:ASP:OD2	2.47	0.46
4:F:11:VAL:HG22	4:F:55:ALA:HB3	1.97	0.46
4:F:97:LYS:HD2	4:F:97:LYS:HA	1.69	0.46
1:A:1648:LEU:O	1:A:1652:ILE:HG23	2.15	0.46
1:A:1875:LYS:HA	1:A:1878:ASP:OD2	2.14	0.46
1:A:2276:LEU:HA	1:A:2279:ILE:HG12	1.98	0.46
1:A:2466:SER:OG	1:A:2469:CYS:SG	2.57	0.46
1:A:2994:TRP:O	1:A:2998:SER:OG	2.29	0.46
1:A:3281:CYS:SG	1:A:3307:LEU:HD22	2.55	0.46
2:D:136:PHE:HD2	6:Y:246:DA:H5"	1.80	0.46
1:A:282:PHE:HB3	1:A:285:CYS:SG	2.55	0.46
1:A:1456:LYS:HD3	1:A:1516:GLU:HG2	1.96	0.46
2:D:193:HIS:HD2	2:D:194:LYS:HD3	1.80	0.46
1:A:12:LEU:O	1:A:16:GLN:HB2	2.16	0.46
1:A:67:VAL:C	1:A:69:VAL:H	2.23	0.46
1:A:1014:LEU:HD23	1:A:1014:LEU:HA	1.76	0.46
1:A:1653:LEU:HD12	1:A:1695:LEU:HD23	1.96	0.46
1:A:3228:SER:C	1:A:3230:LEU:H	2.22	0.46
1:A:3789:ARG:HB3	1:A:3938:ILE:HG22	1.97	0.46
4:F:343:LEU:HD21	4:F:394:ARG:HB2	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1765:VAL:HG23	1:A:1768:ARG:HH12	1.81	0.46
1:A:2938:VAL:O	1:A:2942:ILE:HG23	2.15	0.46
1:A:3155:VAL:HG12	1:A:3156:PRO:HD3	1.98	0.46
1:A:3669:LYS:HA	1:A:3672:LYS:HD3	1.96	0.46
3:E:237:SER:O	3:E:239:LEU:N	2.47	0.46
1:A:1670:GLU:O	1:A:1674:THR:HG23	2.16	0.46
1:A:1688:LEU:O	1:A:1692:ALA:N	2.41	0.46
1:A:1945:TYR:O	1:A:1949:ILE:HG12	2.15	0.46
1:A:2330:VAL:HG13	1:A:2338:GLU:HB2	1.97	0.46
1:A:2443:MET:HA	1:A:2446:LEU:HD12	1.97	0.46
1:A:4056:PRO:HG3	1:A:4107:LEU:HD12	1.96	0.46
4:F:361:VAL:HG22	4:F:422:VAL:HG12	1.98	0.46
1:A:1239:PRO:O	1:A:1245:ARG:HD3	2.15	0.46
1:A:225:LYS:HA	1:A:228:SER:OG	2.16	0.46
1:A:487:LEU:HB3	1:A:575:ILE:HD11	1.98	0.46
1:A:881:LYS:HG2	1:A:3933:GLU:OE1	2.16	0.46
1:A:1766:LEU:HD22	1:A:1778:PHE:CD1	2.50	0.46
1:A:3917:ILE:HG13	1:A:3991:PHE:CD2	2.51	0.46
1:A:19:LEU:H	1:A:19:LEU:HD23	1.81	0.46
3:E:173:ASP:HB3	3:E:204:HIS:CE1	2.50	0.46
4:F:142:PHE:CZ	4:F:207:ILE:HD11	2.51	0.46
6:Y:222:DC:H2"	6:Y:223:DT:C5	2.51	0.46
1:A:203:GLU:HG3	1:A:204:LEU:H	1.80	0.46
1:A:207:GLN:OE1	1:A:216:LYS:N	2.33	0.46
1:A:220:LEU:HD11	4:F:554:PHE:HE2	1.81	0.46
1:A:759:GLY:C	1:A:761:SER:H	2.24	0.46
1:A:1245:ARG:HD2	1:A:1246:GLY:N	2.27	0.46
1:A:2266:ASN:OD1	1:A:2266:ASN:N	2.48	0.46
1:A:2575:PRO:O	1:A:2576:MET:HG3	2.16	0.46
1:A:3959:MET:SD	1:A:3959:MET:N	2.87	0.46
2:D:149:LYS:HE3	2:D:149:LYS:HB3	1.79	0.46
4:F:12:LEU:HB2	4:F:56:LEU:HD13	1.98	0.46
4:F:409:PHE:CD2	4:F:420:VAL:HG23	2.49	0.46
1:A:1949:ILE:HD13	1:A:1966:LEU:HD22	1.98	0.45
1:A:2245:TRP:NE1	1:A:2249:LEU:O	2.49	0.45
1:A:3662:ILE:C	1:A:3665:MET:HE1	2.41	0.45
3:E:278:GLN:HB3	4:F:431:ARG:HH21	1.81	0.45
3:E:494:ALA:HB2	4:F:321:VAL:HG11	1.97	0.45
3:E:603:LEU:HD23	3:E:603:LEU:HA	1.82	0.45
1:A:166:ILE:HD12	1:A:166:ILE:H	1.81	0.45
1:A:2275:GLN:O	1:A:2279:ILE:HG12	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:X:24:DA:N1	6:Y:251:DA:N6	2.64	0.45
1:A:1238:GLN:HA	1:A:1256:TRP:CE2	2.51	0.45
1:A:1678:LEU:HD23	1:A:1678:LEU:HA	1.84	0.45
1:A:1893:GLU:CD	1:A:1894:SER:H	2.24	0.45
1:A:1926:ASN:ND2	1:A:1974:ASN:HB3	2.32	0.45
1:A:3543:LYS:HA	1:A:3543:LYS:HD3	1.76	0.45
1:A:3610:TYR:CZ	1:A:3614:TYR:HE2	2.35	0.45
3:E:261:LEU:HB3	3:E:269:ILE:HG12	1.98	0.45
3:E:353:LEU:HD23	3:E:353:LEU:HA	1.81	0.45
3:E:416:GLN:NE2	3:E:429:PRO:O	2.49	0.45
4:F:532:LYS:O	4:F:536:LEU:HB2	2.16	0.45
1:A:204:LEU:HB3	1:A:251:PHE:CE2	2.52	0.45
1:A:479:ILE:HA	1:A:482:VAL:HG12	1.98	0.45
1:A:2851:PHE:HB3	1:A:2854:PHE:HB3	1.97	0.45
1:A:3078:LEU:HD12	1:A:3078:LEU:HA	1.82	0.45
1:A:3763:ARG:NE	1:A:4008:GLU:OE1	2.39	0.45
1:A:87:LYS:HA	1:A:128:LEU:HD21	1.98	0.45
1:A:355:ASN:OD1	1:A:357:LYS:N	2.35	0.45
1:A:2320:ALA:HB1	1:A:2367:VAL:HG23	1.97	0.45
1:A:2855:VAL:O	1:A:2859:GLN:HG3	2.16	0.45
4:F:34:ALA:HB2	4:F:227:PHE:CE2	2.52	0.45
4:F:364:VAL:CG2	4:F:419:LEU:HB2	2.46	0.45
1:A:428:PRO:O	1:A:429:GLU:HG2	2.16	0.45
1:A:1178:ARG:O	1:A:1184:ARG:NH1	2.49	0.45
1:A:1643:MET:HE2	1:A:1688:LEU:HD23	1.97	0.45
1:A:3632:PHE:O	1:A:3636:PHE:N	2.35	0.45
2:D:134:ILE:HD13	3:E:596:LYS:NZ	2.32	0.45
2:D:193:HIS:CE1	4:F:128:GLU:HA	2.52	0.45
3:E:392:LYS:C	3:E:393:GLU:HG3	2.42	0.45
1:A:1818:SER:OG	1:A:1822:ARG:NE	2.46	0.45
1:A:3011:LEU:HD21	1:A:3043:TYR:HB3	1.99	0.45
1:A:3997:LEU:H	1:A:3997:LEU:HD12	1.81	0.45
3:E:102:ILE:HD12	3:E:146:VAL:HB	1.98	0.45
3:E:588:TYR:CE2	3:E:590:LEU:HB2	2.51	0.45
1:A:148:LYS:NZ	1:A:188:GLU:HB3	2.32	0.45
1:A:750:PRO:HA	1:A:753:GLN:HG2	1.99	0.45
1:A:1628:LYS:HD3	1:A:1628:LYS:HA	1.77	0.45
1:A:3637:GLY:HA2	1:A:3641:ASP:HB3	1.98	0.45
1:A:1812:LEU:HG	1:A:1814:PHE:H	1.82	0.45
2:D:160:GLY:HA2	5:X:23:DT:H71	1.99	0.45
5:X:46:DA:H2''	5:X:47:DG:C8	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1773:VAL:HB	1:A:1774:MET:HE2	1.99	0.45
1:A:1990:PHE:HD2	1:A:2182:ILE:HG21	1.82	0.45
1:A:3499:ILE:O	1:A:3503:VAL:HG23	2.17	0.45
1:A:3620:PRO:HB3	1:A:3641:ASP:HB2	1.98	0.45
1:A:3622:ALA:N	1:A:3623:PRO:HD2	2.32	0.45
1:A:3919:GLY:HA3	1:A:3947:GLY:N	2.31	0.45
2:D:161:ASN:OD1	2:D:177:TRP:HH2	2.00	0.45
3:E:74:LYS:HD3	3:E:83:LEU:HD11	1.98	0.45
3:E:171:ASN:OD1	3:E:171:ASN:C	2.59	0.45
4:F:27:ILE:HA	4:F:183:PHE:CE2	2.51	0.45
4:F:113:VAL:HA	4:F:116:ASP:OD2	2.17	0.45
1:A:17:GLU:O	1:A:20:SER:OG	2.29	0.44
1:A:54:GLN:O	1:A:58:VAL:HG12	2.16	0.44
1:A:134:LEU:H	1:A:138:PHE:HD2	1.65	0.44
1:A:875:SER:HA	1:A:879:MET:HB2	2.00	0.44
1:A:1471:GLN:O	1:A:1478:SER:N	2.39	0.44
1:A:2539:LEU:HA	1:A:2542:LEU:HD12	1.99	0.44
1:A:3449:LYS:HA	1:A:3449:LYS:HD2	1.74	0.44
2:D:145:LEU:HD21	2:D:187:HIS:CE1	2.51	0.44
3:E:451:LYS:HZ3	4:F:415:ASN:C	2.26	0.44
1:A:1250:LEU:HD21	1:A:1326:GLU:HB3	1.97	0.44
1:A:3154:GLN:HG3	1:A:3227:ILE:HD11	1.99	0.44
1:A:1360:LYS:C	1:A:1361:LYS:HG3	2.42	0.44
1:A:1557:GLU:OE2	1:A:1591:LYS:NZ	2.47	0.44
1:A:1661:PHE:CE1	1:A:1671:VAL:HG11	2.52	0.44
1:A:1924:THR:HG22	1:A:1977:ILE:HG12	1.99	0.44
3:E:340:PHE:HB2	3:E:408:PRO:HD3	1.99	0.44
3:E:462:MET:HE3	3:E:465:ILE:HB	1.98	0.44
1:A:180:LEU:O	1:A:183:GLU:HG3	2.17	0.44
1:A:1715:GLU:HA	1:A:1718:ILE:HG22	2.00	0.44
1:A:3878:VAL:O	1:A:3965:ARG:NH2	2.51	0.44
4:F:87:ASP:OD1	4:F:88:PHE:N	2.50	0.44
1:A:1873:TYR:O	1:A:1876:ILE:HG13	2.17	0.44
1:A:2871:LEU:HD23	1:A:2872:ASP:N	2.33	0.44
1:A:3603:LYS:C	1:A:3604:LYS:HG3	2.43	0.44
3:E:362:LEU:HD23	3:E:362:LEU:HA	1.72	0.44
4:F:91:LEU:HD12	4:F:495:LEU:HD22	1.99	0.44
1:A:446:PHE:CD2	1:A:530:LEU:HD22	2.52	0.44
1:A:732:PHE:O	1:A:735:SER:OG	2.31	0.44
1:A:2527:HIS:HB3	1:A:2530:ARG:HH11	1.83	0.44
1:A:3880:ALA:HB1	1:A:3969:ASN:HD22	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3923:ARG:HB3	1:A:3928:PHE:HE1	1.82	0.44
3:E:31:LYS:HD2	3:E:31:LYS:HA	1.81	0.44
4:F:188:HIS:O	4:F:190:PRO:HD2	2.17	0.44
6:Y:220:DA:H5'	6:Y:220:DA:C8	2.52	0.44
1:A:421:LEU:HD12	1:A:421:LEU:HA	1.81	0.44
1:A:1296:PHE:CD1	1:A:1296:PHE:C	2.95	0.44
1:A:1525:CYS:SG	1:A:1526:GLU:N	2.91	0.44
1:A:1696:LEU:HD23	1:A:1696:LEU:HA	1.86	0.44
1:A:1987:ARG:HH12	1:A:2140:LEU:HB3	1.82	0.44
1:A:2254:ARG:CZ	1:A:2293:GLY:HA2	2.48	0.44
1:A:2559:THR:C	1:A:2795:GLN:HE22	2.25	0.44
1:A:2887:PRO:HB2	1:A:3895:GLU:HA	1.99	0.44
1:A:3107:ILE:HG13	1:A:3135:LEU:HD12	1.99	0.44
1:A:3602:ASN:OD1	1:A:3605:ASN:ND2	2.50	0.44
3:E:411:VAL:CG1	3:E:434:LEU:HG	2.39	0.44
1:A:566:ASP:OD1	1:A:566:ASP:C	2.61	0.44
1:A:714:VAL:HG11	1:A:732:PHE:HE2	1.82	0.44
1:A:738:HIS:ND1	1:A:741:ILE:O	2.51	0.44
1:A:1360:LYS:HG3	1:A:1361:LYS:HE3	1.99	0.44
1:A:1484:LEU:HD12	1:A:1524:LEU:HD22	2.00	0.44
1:A:1533:LEU:HD23	1:A:1592:MET:HG3	2.00	0.44
1:A:2150:VAL:HA	1:A:2157:PHE:HE2	1.83	0.44
1:A:2314:GLU:OE2	1:A:2314:GLU:N	2.50	0.44
1:A:3137:GLU:OE2	1:A:3186:ARG:NE	2.44	0.44
1:A:3493:TRP:CD1	1:A:3493:TRP:H	2.35	0.44
6:Y:238:DT:H2''	6:Y:239:DG:C8	2.53	0.44
1:A:355:ASN:OD1	1:A:356:ASN:N	2.51	0.43
1:A:393:LYS:HA	1:A:397:LEU:HB2	2.00	0.43
1:A:910:PHE:HB3	1:A:2804:ILE:HD11	1.99	0.43
1:A:1772:HIS:CE1	1:A:1774:MET:HE3	2.53	0.43
1:A:1937:ARG:O	1:A:1941:HIS:ND1	2.51	0.43
1:A:3796:MET:HE3	1:A:3796:MET:HB2	1.77	0.43
1:A:3929:MET:HB2	1:A:3938:ILE:HG13	2.00	0.43
3:E:369:TYR:CG	3:E:370:PRO:HD2	2.53	0.43
1:A:100:ILE:HD12	1:A:100:ILE:O	2.17	0.43
1:A:990:GLN:NE2	1:A:2781:PRO:O	2.51	0.43
1:A:1134:LEU:O	1:A:1137:ILE:HG22	2.18	0.43
1:A:2806:LYS:NZ	1:A:2856:SER:OG	2.44	0.43
1:A:3297:VAL:HA	1:A:3300:VAL:HG22	2.00	0.43
1:A:3638:LYS:HA	1:A:3638:LYS:HD3	1.62	0.43
2:D:14:PRO:HB2	2:D:48:HIS:CE1	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:76:ILE:HD11	3:E:487:PHE:CE1	2.53	0.43
4:F:273:LYS:HE2	4:F:273:LYS:HB2	1.86	0.43
1:A:197:PHE:HE2	1:A:236:LYS:HZ3	1.66	0.43
1:A:484:HIS:CE1	1:A:488:ILE:HD11	2.53	0.43
1:A:834:LEU:O	1:A:835:LYS:HG2	2.19	0.43
1:A:1153:LEU:HD12	1:A:1154:PRO:HD2	2.00	0.43
1:A:1357:LYS:HD2	1:A:1357:LYS:HA	1.80	0.43
1:A:3033:GLU:O	1:A:3035:PHE:N	2.51	0.43
1:A:3341:LEU:HD13	1:A:3348:LEU:HD13	2.00	0.43
1:A:3913:ILE:HB	1:A:3984:MET:HG2	2.00	0.43
1:A:4103:GLN:O	1:A:4107:LEU:HD13	2.19	0.43
2:D:147:TYR:HE2	2:D:167:MET:SD	2.41	0.43
3:E:45:SER:OG	3:E:46:LYS:N	2.51	0.43
1:A:361:ILE:HD12	1:A:361:ILE:HA	1.87	0.43
1:A:1368:LEU:HA	1:A:1371:VAL:HG22	2.00	0.43
1:A:3907:SER:O	1:A:3911:ILE:HG23	2.18	0.43
1:A:3985:VAL:HG23	1:A:4104:VAL:HG11	1.99	0.43
1:A:4046:TYR:CZ	1:A:4062:ASP:HB3	2.54	0.43
4:F:299:ASP:OD1	4:F:299:ASP:N	2.50	0.43
1:A:101:ALA:N	1:A:102:PRO:HD3	2.33	0.43
1:A:1071:ASN:HB3	1:A:1074:LYS:HB2	2.01	0.43
1:A:1539:SER:HG	1:A:1552:HIS:CE1	2.31	0.43
1:A:2302:ALA:HA	1:A:2305:ASN:ND2	2.33	0.43
1:A:3588:TRP:CD1	1:A:3609:MET:HE1	2.54	0.43
1:A:1135:CYS:HA	1:A:1138:ILE:HG22	2.01	0.43
1:A:1375:THR:HA	1:A:1379:PRO:HB3	2.00	0.43
1:A:3145:ILE:HD13	1:A:3145:ILE:HA	1.87	0.43
1:A:3260:LYS:HA	1:A:3260:LYS:HD3	1.59	0.43
1:A:4021:LEU:HD21	1:A:4029:GLN:HB3	1.99	0.43
1:A:4096:SER:OG	1:A:4097:GLY:N	2.51	0.43
4:F:340:PHE:CE1	4:F:393:VAL:HG11	2.53	0.43
1:A:104:SER:O	1:A:107:ILE:HG22	2.18	0.43
1:A:200:PHE:HE2	1:A:230:LEU:HD13	1.84	0.43
1:A:451:PRO:C	1:A:453:MET:H	2.27	0.43
1:A:645:TRP:O	1:A:649:PHE:HB2	2.19	0.43
1:A:1400:VAL:HG21	1:A:1460:ARG:HE	1.84	0.43
1:A:1575:LEU:HG	1:A:1576:ASP:OD1	2.19	0.43
1:A:1639:LEU:HD22	1:A:1684:LEU:HD13	2.01	0.43
1:A:1938:ARG:HG3	1:A:1981:LEU:HA	2.01	0.43
1:A:2302:ALA:HA	1:A:2305:ASN:HD21	1.84	0.43
1:A:2313:LYS:H	1:A:2313:LYS:HG2	1.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2898:LEU:HD23	1:A:2898:LEU:HA	1.86	0.43
1:A:3090:TYR:HE2	1:A:3098:ARG:HE	1.67	0.43
1:A:3832:PRO:HB3	1:A:3837:CYS:SG	2.59	0.43
2:D:30:SER:O	2:D:62:VAL:N	2.51	0.43
3:E:362:LEU:HD21	4:F:267:ILE:HG22	2.00	0.43
1:A:1802:TYR:CZ	1:A:1806:ARG:HD2	2.54	0.43
1:A:3348:LEU:H	1:A:3348:LEU:HD12	1.84	0.43
1:A:3681:LYS:NZ	1:A:3723:ASP:O	2.50	0.43
3:E:247:ARG:HH12	3:E:488:ARG:CZ	2.32	0.43
4:F:176:GLY:HA2	4:F:178:ARG:HH21	1.83	0.43
1:A:3183:ILE:HD13	1:A:3183:ILE:HA	1.87	0.43
1:A:3330:LEU:HD12	1:A:3384:HIS:CD2	2.54	0.43
1:A:3465:PHE:CE2	1:A:3502:MET:HE2	2.54	0.43
1:A:3498:TRP:HE3	1:A:3501:HIS:CD2	2.36	0.43
1:A:3859:TYR:HB3	1:A:4076:ASP:OD1	2.19	0.43
3:E:370:PRO:HD3	3:E:382:PHE:CE2	2.54	0.43
3:E:483:LEU:HD12	3:E:487:PHE:CZ	2.54	0.43
3:E:567:HIS:HA	3:E:570:LYS:HB3	2.01	0.43
4:F:532:LYS:HB2	4:F:532:LYS:HE2	1.84	0.43
1:A:649:PHE:O	1:A:653:LEU:HG	2.19	0.43
1:A:890:LYS:HE3	1:A:890:LYS:HB2	1.81	0.43
1:A:987:LEU:O	1:A:987:LEU:HD12	2.18	0.43
1:A:2427:ARG:HD2	1:A:2427:ARG:HA	1.82	0.43
1:A:2801:ASP:OD1	1:A:2804:ILE:HG22	2.18	0.43
1:A:3312:VAL:O	1:A:3314:SER:N	2.51	0.43
1:A:3344:GLU:HB2	1:A:3348:LEU:HD11	2.01	0.43
1:A:3508:LYS:HE2	1:A:3508:LYS:HB2	1.87	0.43
3:E:216:PHE:O	3:E:216:PHE:CG	2.71	0.43
3:E:580:MET:O	3:E:583:GLU:HG3	2.19	0.43
4:F:221:LEU:HD23	4:F:221:LEU:HA	1.82	0.43
5:X:43:DC:H2"	5:X:44:DA:C8	2.53	0.43
1:A:393:LYS:O	1:A:397:LEU:HB2	2.19	0.42
1:A:451:PRO:O	1:A:452:LYS:HB3	2.19	0.42
1:A:524:TYR:O	1:A:528:VAL:HG13	2.18	0.42
1:A:977:ASP:HB3	1:A:980:THR:HB	2.01	0.42
1:A:1027:ASP:OD1	1:A:1027:ASP:N	2.50	0.42
1:A:1751:GLU:HA	1:A:1785:ILE:HG22	2.01	0.42
1:A:2534:ASN:HB3	1:A:2537:ASP:HB2	2.00	0.42
1:A:3608:LYS:HG3	1:A:3612:ARG:NH2	2.34	0.42
1:A:3631:LYS:O	1:A:3635:THR:OG1	2.26	0.42
3:E:187:ARG:HG2	3:E:220:ILE:HD11	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:580:MET:HA	3:E:583:GLU:HG3	2.02	0.42
4:F:20:MET:HE2	4:F:137:ASP:HB2	2.01	0.42
4:F:155:LYS:C	4:F:157:CYS:H	2.27	0.42
4:F:185:LEU:HA	4:F:185:LEU:HD12	1.68	0.42
6:Y:243:DT:H2'	6:Y:244:DT:H72	2.01	0.42
1:A:164:LYS:NZ	1:A:167:PRO:HD3	2.34	0.42
1:A:670:LEU:HA	1:A:673:THR:HG22	2.00	0.42
1:A:765:LEU:HA	1:A:765:LEU:HD12	1.82	0.42
1:A:1523:GLY:C	1:A:1524:LEU:HD12	2.43	0.42
1:A:1701:SER:O	1:A:1701:SER:OG	2.36	0.42
1:A:2104:MET:HE1	1:A:2125:TRP:CD1	2.54	0.42
1:A:3122:HIS:C	1:A:3124:SER:H	2.27	0.42
1:A:3868:VAL:HG23	1:A:4114:PRO:HB2	2.02	0.42
3:E:605:LYS:HD2	3:E:606:HIS:N	2.34	0.42
4:F:38:ILE:HD11	4:F:135:PHE:CE1	2.53	0.42
1:A:1326:GLU:OE1	1:A:1326:GLU:N	2.49	0.42
1:A:2522:ARG:HG3	1:A:2561:PHE:HE1	1.82	0.42
1:A:3028:ASN:HA	1:A:3031:TRP:HB2	2.02	0.42
1:A:3197:LEU:HD23	1:A:3197:LEU:HA	1.81	0.42
1:A:3276:TRP:HZ3	1:A:3306:LEU:HD21	1.84	0.42
2:D:167:MET:SD	2:D:167:MET:N	2.92	0.42
3:E:437:LEU:HD13	4:F:479:THR:HG21	2.00	0.42
3:E:559:TYR:CD1	3:E:564:LEU:HD11	2.54	0.42
1:A:233:ASN:C	1:A:235:THR:H	2.27	0.42
1:A:1444:ASP:OD1	1:A:1444:ASP:N	2.48	0.42
1:A:1456:LYS:HB3	1:A:1456:LYS:HE3	1.68	0.42
1:A:1874:TYR:HE2	1:A:1940:TYR:HE1	1.67	0.42
1:A:1876:ILE:HA	1:A:1879:VAL:HG12	2.01	0.42
1:A:1894:SER:O	1:A:1898:GLN:HG2	2.19	0.42
1:A:3154:GLN:NE2	1:A:3227:ILE:HG12	2.35	0.42
1:A:322:GLN:O	1:A:326:MET:SD	2.77	0.42
1:A:1458:LEU:HD21	1:A:1467:ILE:HD13	2.01	0.42
1:A:1770:GLN:HA	1:A:1770:GLN:OE1	2.19	0.42
1:A:3495:PHE:CG	1:A:3502:MET:HE1	2.54	0.42
3:E:472:THR:O	3:E:472:THR:OG1	2.31	0.42
3:E:487:PHE:O	3:E:491:GLU:HG2	2.20	0.42
4:F:229:GLU:HG2	4:F:233:LYS:HD2	2.02	0.42
5:X:45:DT:H2''	5:X:46:DA:C8	2.55	0.42
1:A:2341:LEU:HD12	1:A:2341:LEU:H	1.85	0.42
1:A:3344:GLU:C	1:A:3346:ALA:H	2.28	0.42
3:E:48:MET:HA	3:E:171:ASN:ND2	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:Y:216:DC:H1'	6:Y:217:DG:C8	2.55	0.42
1:A:204:LEU:HB3	1:A:251:PHE:HE2	1.85	0.42
1:A:238:MET:HG2	1:A:284:THR:HG22	2.02	0.42
1:A:1011:GLU:OE1	1:A:1062:ARG:NH1	2.53	0.42
1:A:1886:LYS:H	1:A:1886:LYS:HG2	1.61	0.42
1:A:3121:LEU:HD12	1:A:3121:LEU:HA	1.81	0.42
1:A:3927:ASN:O	1:A:3940:ILE:HG12	2.20	0.42
2:D:82:GLN:HA	2:D:82:GLN:OE1	2.18	0.42
3:E:243:LEU:O	3:E:246:VAL:HG13	2.20	0.42
3:E:428:THR:O	3:E:428:THR:OG1	2.28	0.42
6:Y:223:DT:H2''	6:Y:224:DA:C8	2.55	0.42
1:A:206:THR:O	1:A:210:SER:HB2	2.19	0.42
1:A:1238:GLN:NE2	1:A:1296:PHE:H	2.18	0.42
1:A:1245:ARG:HA	1:A:1248:PHE:HE1	1.84	0.42
1:A:1722:PHE:CZ	1:A:1743:MET:HE1	2.55	0.42
1:A:2443:MET:N	1:A:2444:PRO:HD2	2.35	0.42
1:A:2455:LEU:HD23	1:A:2501:LEU:HD23	2.02	0.42
1:A:2800:ARG:HD3	1:A:2800:ARG:HA	1.76	0.42
1:A:3360:LEU:HD12	1:A:3360:LEU:HA	1.94	0.42
1:A:3813:LYS:NZ	1:A:4125:GLU:OE2	2.53	0.42
1:A:3835:PRO:N	1:A:3836:PRO:HD2	2.35	0.42
1:A:4019:LYS:HB3	1:A:4019:LYS:HE3	1.85	0.42
3:E:121:GLN:O	3:E:130:ARG:NH2	2.51	0.42
1:A:99:LYS:HA	1:A:99:LYS:HD2	1.84	0.42
1:A:276:ALA:HB2	1:A:315:ALA:HA	2.02	0.42
1:A:638:GLN:OE1	1:A:676:ASN:HA	2.20	0.42
1:A:933:LEU:O	1:A:937:MET:HG3	2.20	0.42
1:A:2454:LEU:HD23	1:A:2454:LEU:HA	1.80	0.42
1:A:3138:ILE:HG12	1:A:3189:PHE:HZ	1.84	0.42
1:A:3605:ASN:O	1:A:3608:LYS:HG2	2.18	0.42
1:A:3673:ASP:HB2	1:A:3675:LYS:HE3	2.02	0.42
3:E:168:LEU:HB3	3:E:202:LEU:HB3	2.01	0.42
1:A:106:GLU:OE1	1:A:106:GLU:N	2.33	0.42
1:A:157:TYR:O	1:A:157:TYR:CG	2.73	0.42
1:A:228:SER:O	1:A:229:SER:HB2	2.20	0.42
1:A:859:LEU:HD23	1:A:859:LEU:HA	1.88	0.42
1:A:2478:MET:HG2	1:A:2524:PHE:CE1	2.55	0.42
4:F:107:PHE:HD2	4:F:142:PHE:HZ	1.67	0.42
4:F:383:ALA:O	4:F:387:LEU:HB3	2.20	0.42
1:A:2806:LYS:HG3	1:A:2857:CYS:HB2	2.01	0.41
1:A:3519:GLU:O	1:A:3522:THR:HG22	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:F:406:GLY:HA3	4:F:421:TYR:CE1	2.55	0.41
1:A:1142:HIS:NE2	1:A:1146:ASN:OD1	2.53	0.41
1:A:1567:ILE:H	1:A:1567:ILE:HG12	1.63	0.41
1:A:1969:GLU:HG3	1:A:1975:LEU:O	2.20	0.41
1:A:3503:VAL:HG11	1:A:3533:PHE:HA	2.02	0.41
4:F:12:LEU:HD11	4:F:41:PHE:CE2	2.54	0.41
4:F:155:LYS:HD2	4:F:159:ILE:HG12	2.02	0.41
1:A:894:PHE:HB2	1:A:907:LEU:HG	2.03	0.41
1:A:2097:LEU:HD12	1:A:2097:LEU:HA	1.80	0.41
1:A:2438:ILE:O	1:A:2442:MET:HG2	2.20	0.41
1:A:2486:ASP:C	1:A:2488:GLU:H	2.27	0.41
1:A:3630:ARG:CG	1:A:3633:ILE:H	2.31	0.41
1:A:3917:ILE:HD12	1:A:4051:LEU:HD13	2.03	0.41
3:E:526:LYS:O	3:E:530:TYR:HB2	2.21	0.41
4:F:123:ILE:HD12	4:F:123:ILE:H	1.85	0.41
1:A:1820:VAL:O	1:A:1825:LEU:HD23	2.21	0.41
1:A:3372:LYS:HE3	1:A:3372:LYS:HB2	1.80	0.41
2:D:83:TYR:HB2	2:D:99:TYR:HD2	1.86	0.41
3:E:270:SER:OG	3:E:371:GLU:OE2	2.30	0.41
4:F:115:MET:HE2	4:F:115:MET:HB3	1.85	0.41
4:F:247:TRP:CE3	4:F:263:ALA:HB3	2.56	0.41
1:A:108:LYS:HD3	1:A:147:PHE:HD1	1.86	0.41
1:A:264:ARG:NH1	5:X:52:DG:H4'	2.36	0.41
1:A:333:MET:HE2	1:A:333:MET:HB3	1.78	0.41
1:A:1661:PHE:HE1	1:A:1671:VAL:HG11	1.85	0.41
1:A:1922:ALA:C	1:A:1924:THR:H	2.28	0.41
3:E:346:MET:HE2	3:E:346:MET:HB3	1.93	0.41
3:E:420:LEU:HD21	3:E:424:LYS:HD3	2.03	0.41
3:E:572:THR:OG1	3:E:573:LEU:N	2.52	0.41
4:F:408:ALA:HA	4:F:420:VAL:O	2.19	0.41
1:A:51:LEU:H	1:A:51:LEU:HD12	1.85	0.41
1:A:1684:LEU:HD11	1:A:1688:LEU:HD21	2.02	0.41
1:A:1937:ARG:HD2	1:A:1937:ARG:HA	1.90	0.41
1:A:2170:GLN:O	1:A:2174:SER:OG	2.28	0.41
1:A:2474:TYR:C	1:A:2478:MET:HE3	2.46	0.41
1:A:3831:ASP:C	1:A:3833:ARG:H	2.24	0.41
1:A:3984:MET:HB3	1:A:4104:VAL:HG21	2.03	0.41
4:F:390:VAL:HG23	4:F:409:PHE:HA	2.03	0.41
1:A:917:LEU:HD23	1:A:917:LEU:HA	1.89	0.41
1:A:1186:LYS:HD3	1:A:1186:LYS:HA	1.70	0.41
1:A:1334:LYS:HB3	1:A:1334:LYS:HE3	1.81	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1646:LEU:HD12	1:A:1647:ALA:N	2.36	0.41
1:A:3577:GLN:OE1	1:A:3577:GLN:HA	2.21	0.41
1:A:3667:LEU:HA	1:A:3670:MET:HE3	2.03	0.41
3:E:165:ARG:HA	3:E:199:PHE:O	2.20	0.41
3:E:178:ASN:OD1	3:E:178:ASN:N	2.51	0.41
4:F:454:VAL:O	4:F:458:ILE:HG23	2.21	0.41
1:A:4031:ILE:HD12	1:A:4031:ILE:HA	1.89	0.41
2:D:23:ARG:HA	2:D:93:ARG:HH12	1.86	0.41
4:F:33:GLN:HG2	4:F:185:LEU:HD11	2.03	0.41
4:F:134:ILE:HD13	4:F:163:PHE:CE1	2.56	0.41
4:F:286:LYS:HE3	4:F:286:LYS:HB3	1.82	0.41
4:F:369:ASP:OD1	4:F:369:ASP:N	2.53	0.41
1:A:32:HIS:HA	1:A:35:ILE:HG12	2.02	0.41
1:A:125:ILE:HB	1:A:126:PRO:HD3	2.02	0.41
1:A:236:LYS:HD2	1:A:236:LYS:HA	1.94	0.41
1:A:320:LEU:HA	1:A:323:VAL:HG12	2.02	0.41
1:A:651:TYR:CE1	1:A:1386:ILE:HD11	2.56	0.41
1:A:859:LEU:HD11	1:A:870:LEU:HD13	2.02	0.41
1:A:988:VAL:HG11	1:A:1028:PHE:HZ	1.86	0.41
1:A:1366:THR:O	1:A:1370:ARG:HB2	2.21	0.41
1:A:1782:PHE:HA	1:A:1785:ILE:HG12	2.03	0.41
1:A:1783:ARG:O	1:A:1787:ARG:HG2	2.20	0.41
1:A:1786:ALA:HB1	1:A:1831:CYS:O	2.21	0.41
1:A:2409:THR:OG1	1:A:2410:GLU:N	2.54	0.41
1:A:3062:LEU:HD21	1:A:3093:GLN:HG3	2.02	0.41
1:A:3151:LEU:HD11	1:A:3196:LYS:HB2	2.02	0.41
1:A:3172:LYS:HE2	1:A:3172:LYS:HB2	1.89	0.41
1:A:3351:ILE:HD12	1:A:3351:ILE:HA	1.93	0.41
2:D:191:GLN:O	2:D:192:GLU:HB2	2.21	0.41
3:E:215:LEU:HD23	3:E:215:LEU:HA	1.74	0.41
3:E:261:LEU:HD23	3:E:269:ILE:HD11	2.02	0.41
3:E:418:GLU:HB2	3:E:430:PRO:HB3	2.03	0.41
3:E:574:GLY:C	3:E:576:PHE:N	2.79	0.41
4:F:12:LEU:HD11	4:F:41:PHE:HE2	1.86	0.41
4:F:356:PHE:CZ	4:F:409:PHE:HZ	2.39	0.41
4:F:365:PHE:HA	4:F:418:CYS:HB2	2.03	0.41
5:X:34:DT:H6	5:X:34:DT:H5'	1.86	0.41
6:Y:245:DA:C2	6:Y:246:DA:C6	3.08	0.41
1:A:257:ARG:HD3	1:A:296:VAL:HG11	2.03	0.41
1:A:860:GLY:HA3	1:A:3136:THR:OG1	2.20	0.41
1:A:900:GLU:N	1:A:900:GLU:OE1	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1086:TYR:CE1	1:A:1087:ARG:HG3	2.56	0.41
1:A:1579:VAL:HG21	1:A:1621:THR:HG21	2.03	0.41
1:A:2184:TYR:O	1:A:2187:VAL:HG12	2.21	0.41
1:A:2551:GLU:HA	1:A:2554:PHE:HB2	2.02	0.41
1:A:4006:VAL:HG23	1:A:4011:PHE:HE2	1.86	0.41
2:D:150:GLU:OE1	2:D:150:GLU:N	2.54	0.41
3:E:249:LYS:HB3	3:E:249:LYS:HE2	1.91	0.41
4:F:34:ALA:O	4:F:38:ILE:HG12	2.20	0.41
1:A:532:ARG:HA	1:A:535:LEU:HD23	2.02	0.40
1:A:1339:VAL:HG13	1:A:1398:VAL:HG21	2.02	0.40
1:A:1686:LEU:O	1:A:1690:GLY:N	2.50	0.40
1:A:3088:LEU:O	1:A:3092:LEU:HB2	2.21	0.40
1:A:3883:LEU:HD12	1:A:3883:LEU:HA	1.84	0.40
3:E:36:ASP:OD1	3:E:36:ASP:C	2.64	0.40
1:A:99:LYS:O	1:A:99:LYS:NZ	2.54	0.40
1:A:832:LYS:NZ	6:Y:218:DT:H3'	2.37	0.40
1:A:1407:LYS:NZ	1:A:1408:MET:SD	2.77	0.40
1:A:1597:LEU:HD23	1:A:1597:LEU:HA	1.92	0.40
1:A:2148:LYS:HD2	1:A:2148:LYS:HA	1.95	0.40
1:A:2286:PRO:HB3	1:A:2329:TYR:CZ	2.56	0.40
1:A:3264:LYS:HE2	1:A:3264:LYS:HB2	1.86	0.40
1:A:3911:ILE:HD11	1:A:3928:PHE:CE2	2.56	0.40
3:E:202:LEU:HD21	3:E:217:TYR:HB3	2.03	0.40
5:X:34:DT:H5'	5:X:34:DT:C6	2.55	0.40
1:A:1037:LEU:HD12	1:A:1037:LEU:HA	1.80	0.40
1:A:1242:LEU:HA	1:A:1242:LEU:HD23	1.80	0.40
1:A:1649:LEU:HD12	1:A:1649:LEU:HA	1.90	0.40
1:A:1878:ASP:OD1	1:A:1879:VAL:N	2.54	0.40
1:A:1895:LYS:O	1:A:1899:VAL:HG23	2.20	0.40
1:A:2228:ARG:HH21	1:A:2232:ARG:HD3	1.85	0.40
1:A:2415:LEU:HD13	1:A:2420:PHE:CD2	2.56	0.40
1:A:3496:ILE:H	1:A:3496:ILE:HG12	1.72	0.40
1:A:3623:PRO:HD3	1:A:3629:ARG:NH2	2.37	0.40
1:A:3958:LEU:O	1:A:4110:GLN:NE2	2.45	0.40
4:F:442:LYS:HE2	4:F:442:LYS:HB2	1.78	0.40
1:A:342:MET:HE2	1:A:342:MET:N	2.36	0.40
1:A:712:LYS:O	1:A:716:VAL:HG13	2.22	0.40
1:A:1788:ARG:HA	1:A:1788:ARG:HD2	1.79	0.40
1:A:2835:LYS:NZ	1:A:2839:ASP:OD2	2.54	0.40
1:A:3593:ARG:NH1	1:A:3661:ASP:OD1	2.52	0.40
1:A:3681:LYS:HD2	1:A:3687:MET:HB3	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4037:ASN:OD1	1:A:4037:ASN:N	2.55	0.40
3:E:277:VAL:HG22	4:F:357:MET:SD	2.61	0.40
4:F:229:GLU:HG3	4:F:232:ARG:NH2	2.37	0.40
1:A:1463:LEU:HD12	1:A:1463:LEU:HA	1.93	0.40
1:A:3003:ASN:HD21	1:A:3046:ARG:CZ	2.34	0.40
1:A:3621:LYS:HD2	1:A:3621:LYS:HA	1.78	0.40
1:A:4023:LYS:HE3	1:A:4023:LYS:HB2	1.88	0.40
1:A:4040:PRO:HD2	1:A:4041:ARG:NH1	2.37	0.40
5:X:43:DC:C2	5:X:44:DA:N7	2.89	0.40
6:Y:253:DC:H1'	6:Y:254:DC:O4'	2.21	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	3557/4128 (86%)	3192 (90%)	365 (10%)	0	100	100
2	D	154/399 (39%)	132 (86%)	21 (14%)	1 (1%)	22	55
3	E	556/609 (91%)	513 (92%)	43 (8%)	0	100	100
4	F	551/732 (75%)	493 (90%)	58 (10%)	0	100	100
All	All	4818/5868 (82%)	4330 (90%)	487 (10%)	1 (0%)	100	100

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	D	192	GLU

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	3218/3671 (88%)	3202 (100%)	16 (0%)	86	93
2	D	133/336 (40%)	133 (100%)	0	100	100
3	E	507/548 (92%)	504 (99%)	3 (1%)	84	92
4	F	496/649 (76%)	494 (100%)	2 (0%)	89	95
All	All	4354/5204 (84%)	4333 (100%)	21 (0%)	85	93

All (21) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	54	GLN
1	A	414	LEU
1	A	707	PHE
1	A	1021	VAL
1	A	1167	ASP
1	A	1250	LEU
1	A	1325	GLN
1	A	1906	THR
1	A	1918	LEU
1	A	2283	ASN
1	A	2315	VAL
1	A	2408	MET
1	A	2977	ASN
1	A	3145	ILE
1	A	3450	MET
1	A	4109	ASP
3	E	85	VAL
3	E	205	LEU
3	E	281	LEU
4	F	261	ILE
4	F	353	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (45) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	136	GLN
1	A	243	GLN
1	A	250	ASN
1	A	377	ASN
1	A	484	HIS
1	A	753	GLN
1	A	783	HIS
1	A	1049	GLN
1	A	1083	ASN
1	A	1125	GLN
1	A	1126	GLN
1	A	1325	GLN
1	A	1374	GLN
1	A	1442	GLN
1	A	1459	HIS
1	A	1779	GLN
1	A	1897	ASN
1	A	1946	ASN
1	A	2103	HIS
1	A	2170	GLN
1	A	2270	ASN
1	A	2493	ASN
1	A	2795	GLN
1	A	2845	ASN
1	A	2971	GLN
1	A	3074	GLN
1	A	3081	HIS
1	A	3122	HIS
1	A	3339	ASN
1	A	3379	GLN
1	A	3383	GLN
1	A	3422	GLN
1	A	3423	GLN
1	A	3573	ASN
1	A	3783	GLN
1	A	3903	HIS
1	A	4032	ASN
2	D	48	HIS
3	E	52	GLN
3	E	204	HIS
3	E	515	ASN
3	E	535	ASN
4	F	162	GLN

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Mol	Chain	Res	Type
4	F	298	ASN
4	F	510	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

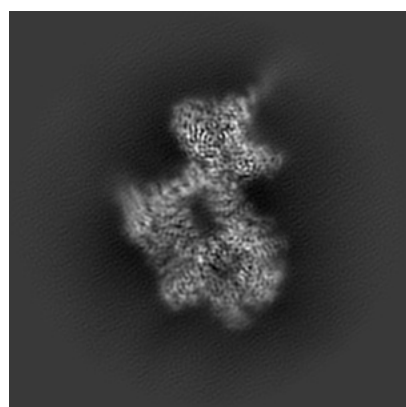
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-19065. These allow visual inspection of the internal detail of the map and identification of artifacts.

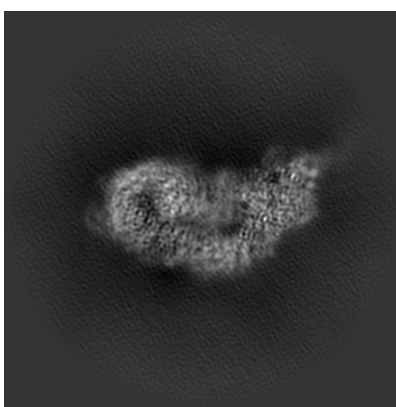
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

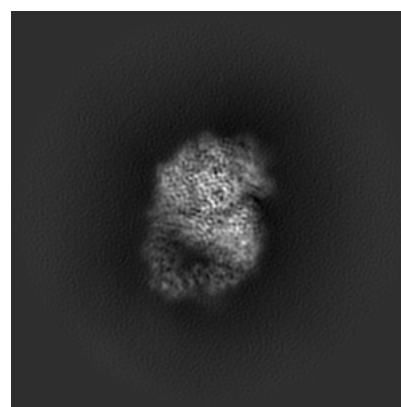
6.1.1 Primary map



X



Y

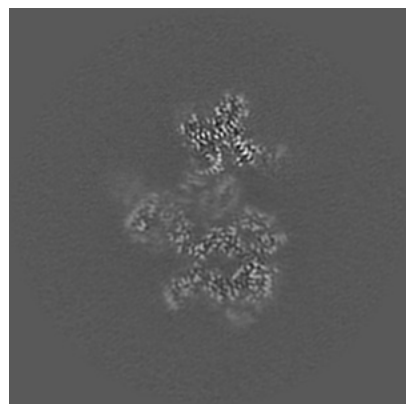


Z

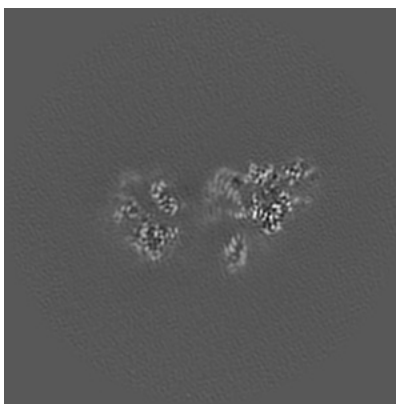
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

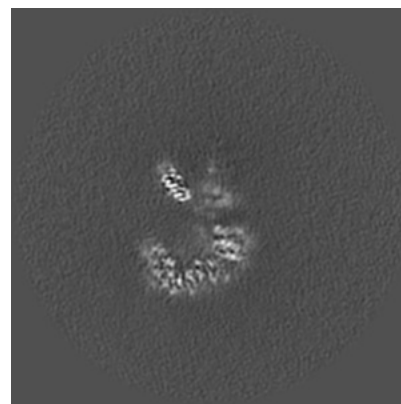
6.2.1 Primary map



X Index: 192



Y Index: 192

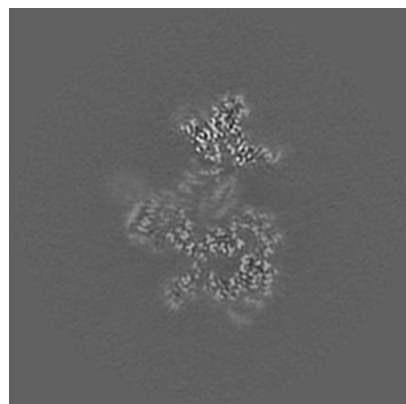


Z Index: 192

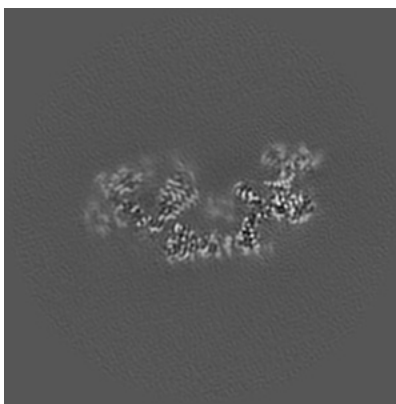
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

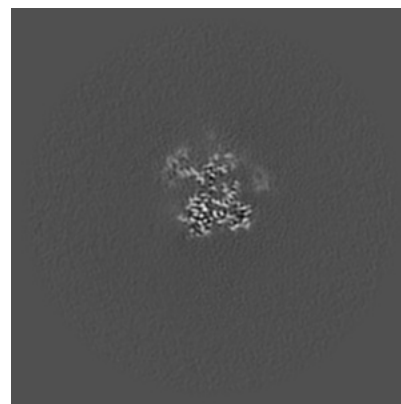
6.3.1 Primary map



X Index: 194



Y Index: 217

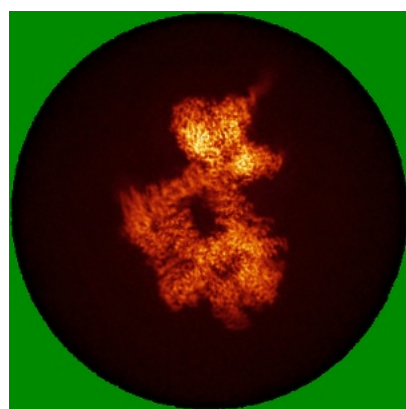


Z Index: 251

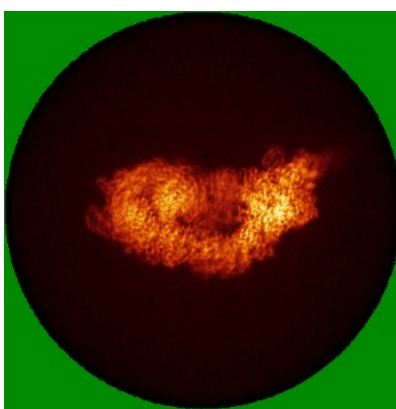
The images above show the largest variance slices of the map in three orthogonal directions.

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

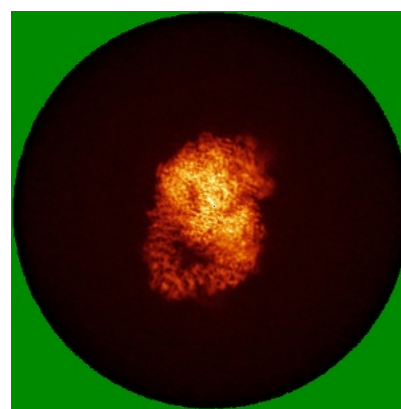
6.4.1 Primary map



X



Y

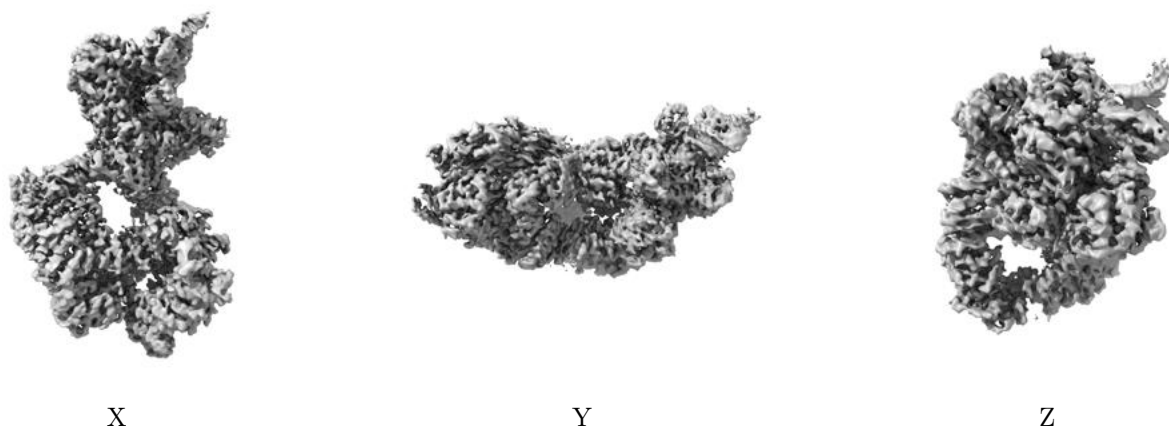


Z

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

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 5.2. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

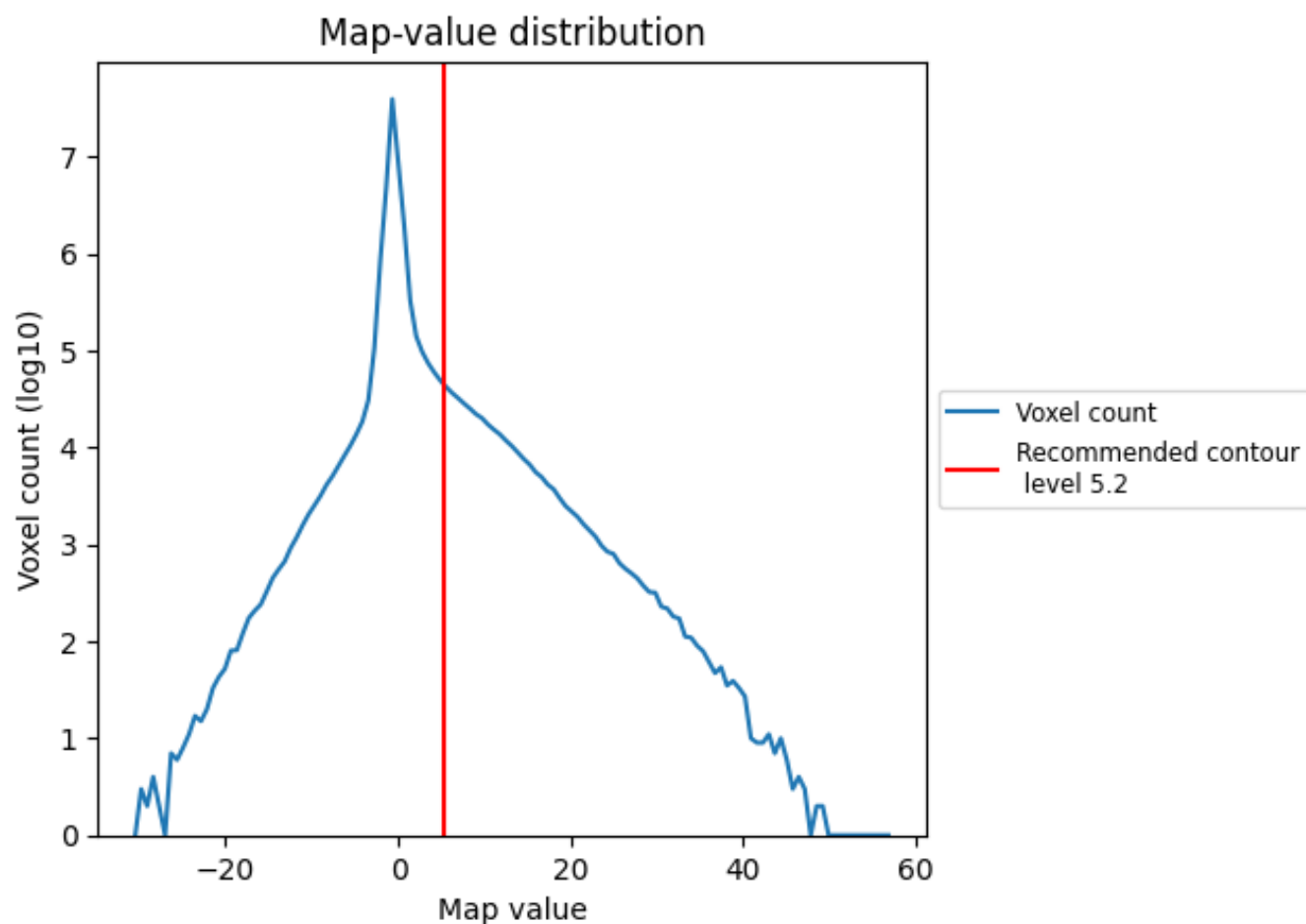
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

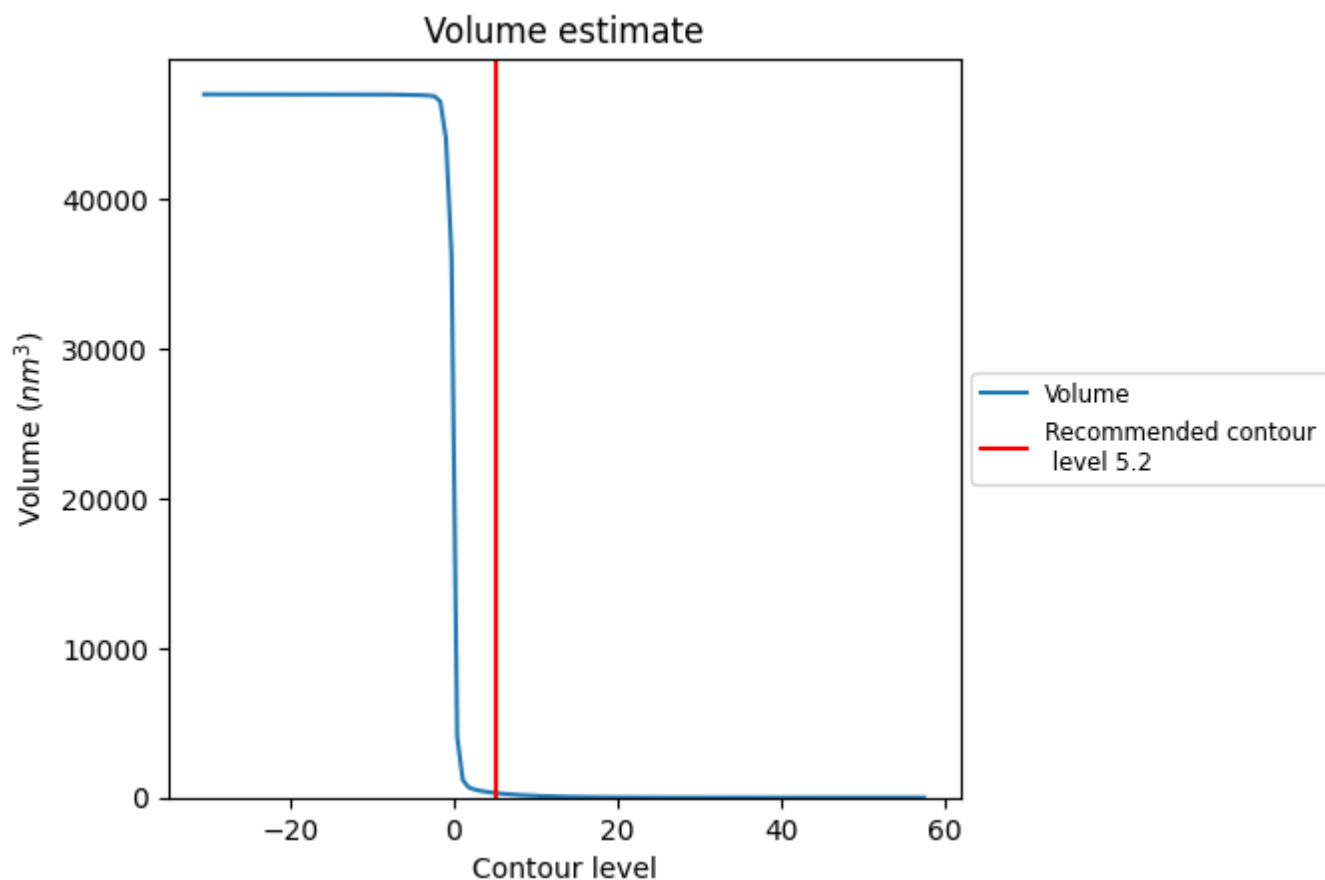
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

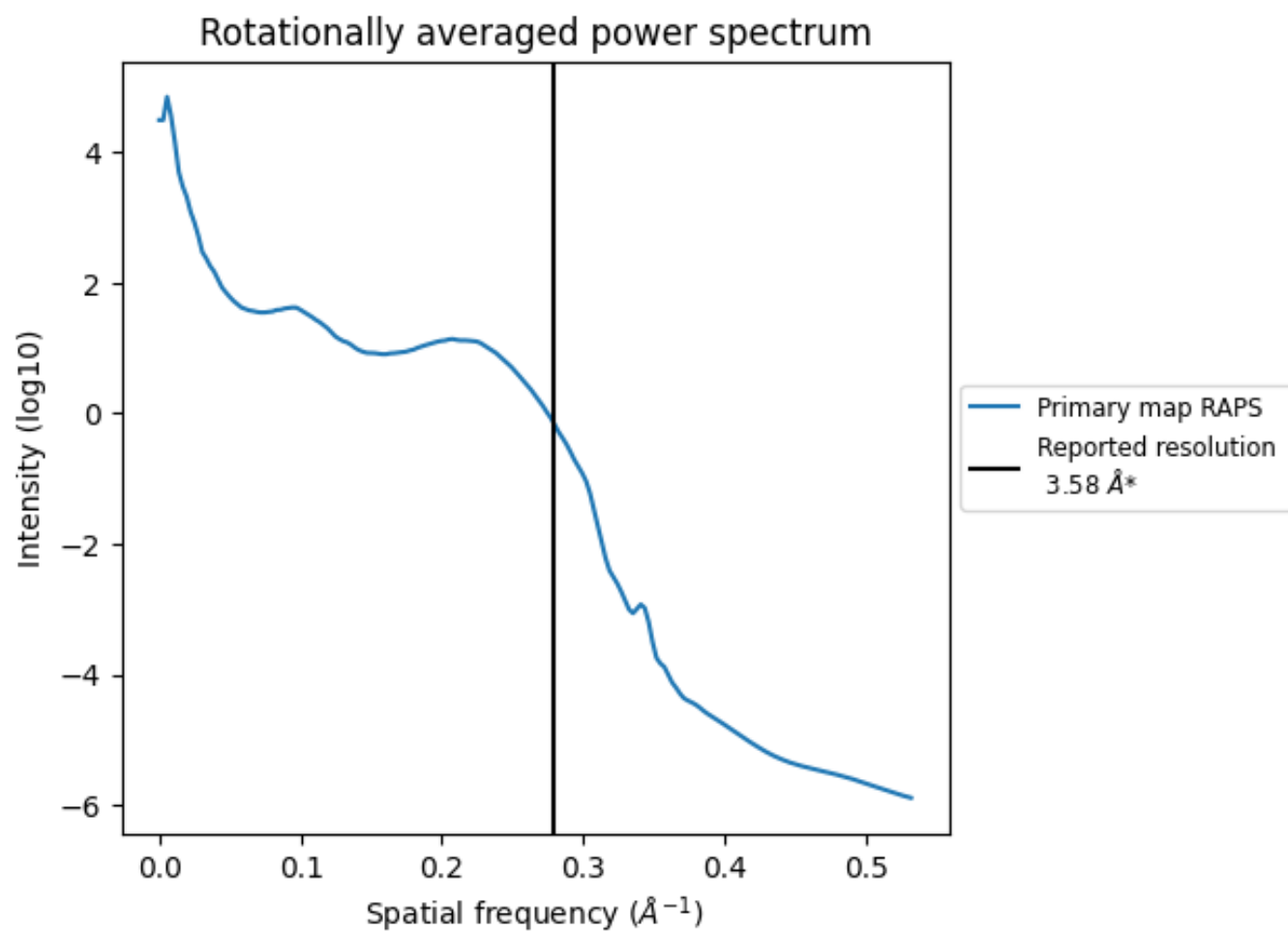
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 301 nm^3 ; this corresponds to an approximate mass of 272 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 0.279 Å⁻¹

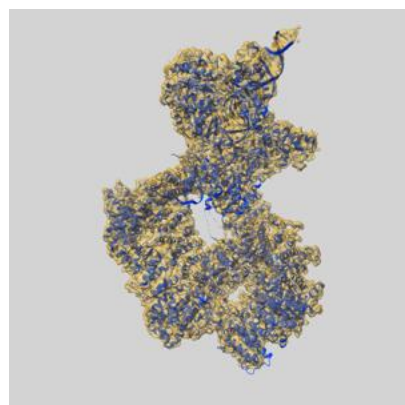
8 Fourier-Shell correlation

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

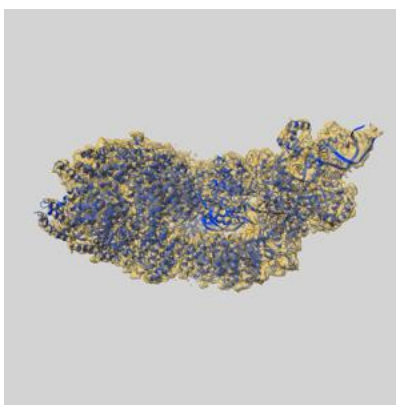
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-19065 and PDB model 8RD4. Per-residue inclusion information can be found in [section 3](#) on [page 4](#).

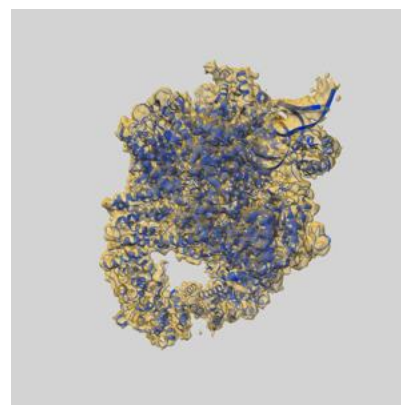
9.1 Map-model overlay [i](#)



X



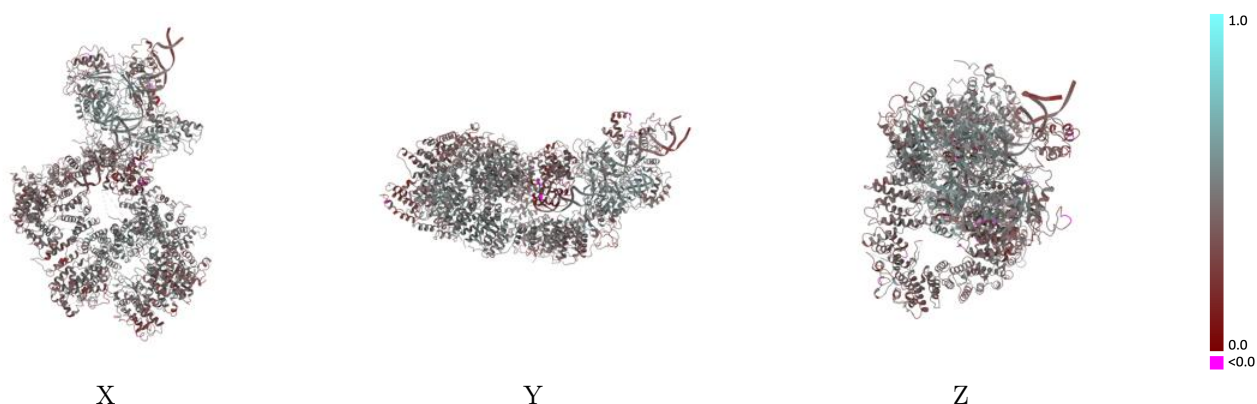
Y



Z

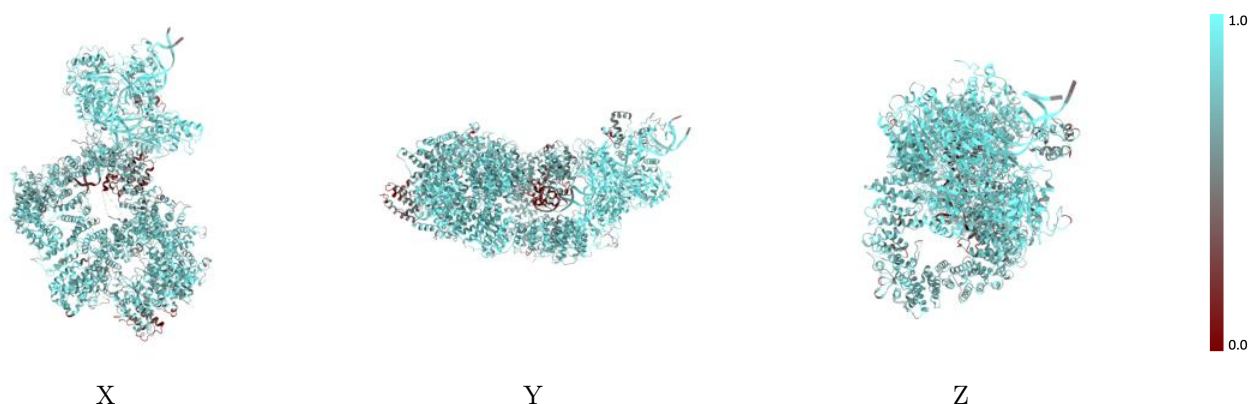
The images above show the 3D surface view of the map at the recommended contour level 5.2 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



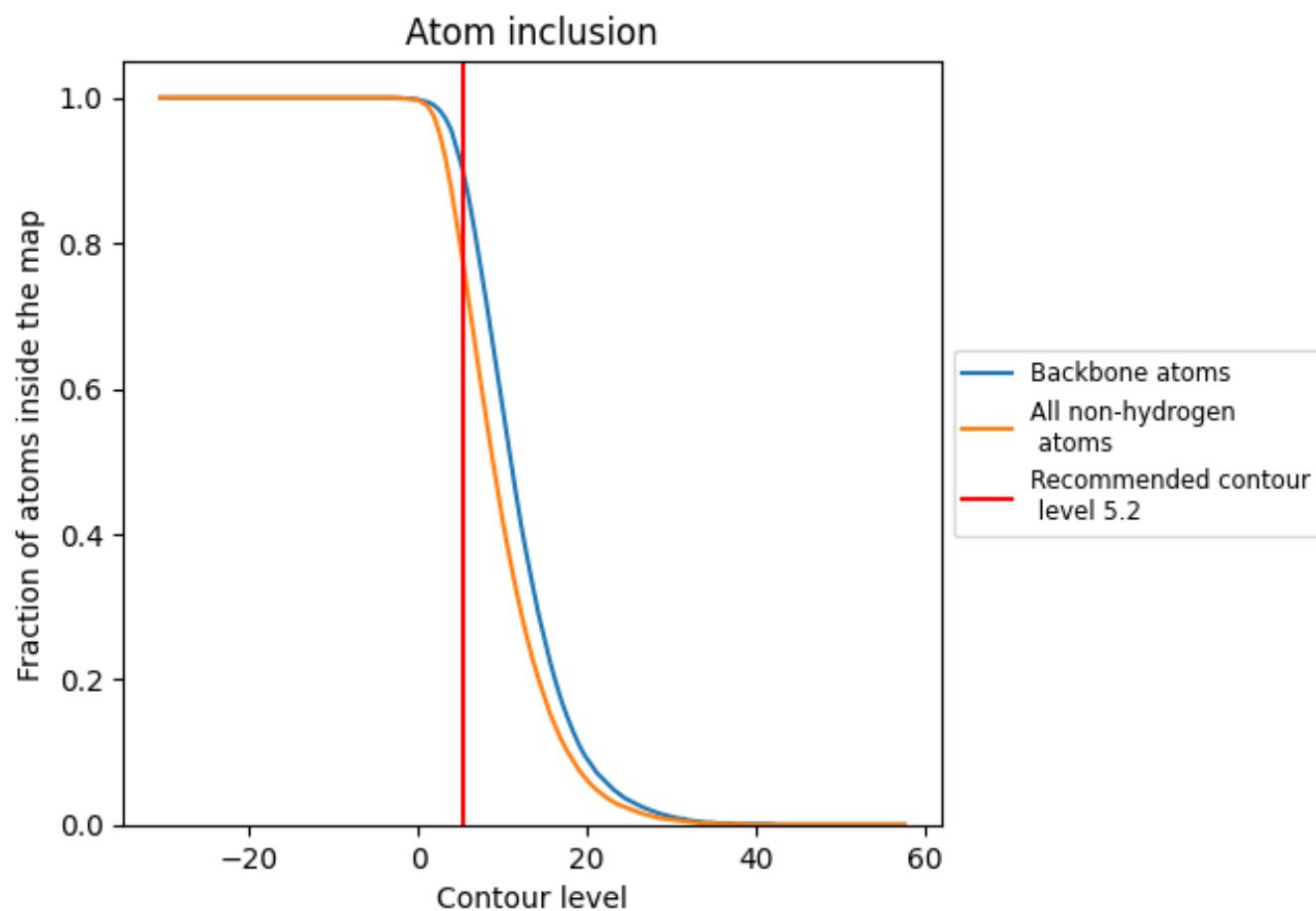
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (5.2).

9.4 Atom inclusion [i](#)



At the recommended contour level, 90% of all backbone atoms, 78% 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 (5.2) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7820	0.4280
A	0.7570	0.4190
D	0.8340	0.4110
E	0.8580	0.4590
F	0.8440	0.4610
X	0.8110	0.4230
Y	0.8090	0.4170

1.0

0.0

<0.0