



Full wwPDB EM Validation Report ⓘ

Nov 5, 2024 – 08:27 AM EST

PDB ID : 9E1G
EMDB ID : EMD-47393
Title : Structure of RyR1 in the primed state in the presence of oxypurinol
Authors : Miotto, M.C.; Marks, A.R.
Deposited on : 2024-10-21
Resolution : 3.17 Å (reported)
Based on initial model : 7TZC

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

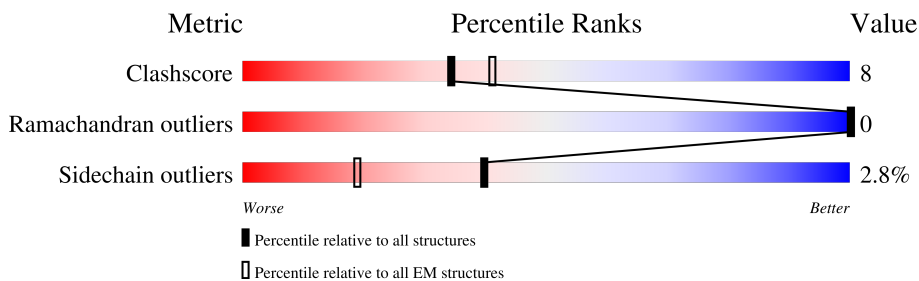
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.17 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	108	
2	F	108	
2	G	108	
2	H	108	

2 Entry composition

There are 7 unique types of molecules in this entry. The entry contains 144104 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
			Total	C	N	O	S		
1	A	4404	35150	22365	6063	6485	237	9	0
1	B	4404	35150	22365	6063	6485	237	9	0
1	D	4404	35150	22365	6063	6485	237	9	0
1	C	4404	35150	22365	6063	6485	237	9	0

- Molecule 2 is a protein called Peptidyl-prolyl cis-trans isomerase FKBP1A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	E	107	831	527	146	154	4	0	0
2	H	107	831	527	146	154	4	0	0
2	G	107	831	527	146	154	4	0	0
2	F	107	831	527	146	154	4	0	0

- Molecule 3 is ADENOSINE-5'-TRIPHOSPHATE (three-letter code: ATP) (formula: $C_{10}H_{16}N_5O_{13}P_3$).



Mol	Chain	Residues	Atoms					AltConf
3	A	1	Total	C	N	O	P	0
			31	10	5	13	3	
3	B	1	Total	C	N	O	P	0
			31	10	5	13	3	
3	D	1	Total	C	N	O	P	0
			31	10	5	13	3	
3	C	1	Total	C	N	O	P	0
			31	10	5	13	3	

- Molecule 4 is CALCIUM ION (three-letter code: CA) (formula: Ca).

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

- Molecule 5 is ZINC ION (three-letter code: ZN) (formula: Zn).

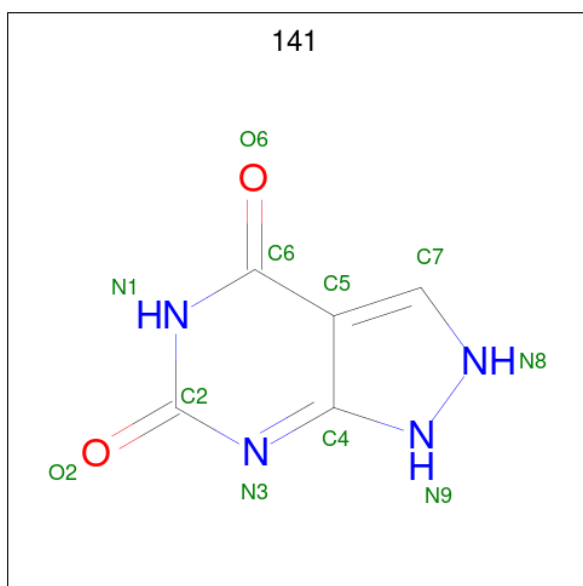
Mol	Chain	Residues	Atoms		AltConf
5	A	1	Total	Zn	0
			1	1	

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

- Molecule 6 is Oxypurinol (three-letter code: 141) (formula: C₅H₄N₄O₂) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms				AltConf
6	A	1	Total	C	N	O	0
			11	5	4	2	
6	B	1	Total	C	N	O	0
			11	5	4	2	
6	D	1	Total	C	N	O	0
			11	5	4	2	
6	C	1	Total	C	N	O	0
			11	5	4	2	

- Molecule 7 is water.

Mol	Chain	Residues	Atoms		AltConf
7	A	1	Total	O	0
			1	1	
7	B	1	Total	O	0
			1	1	

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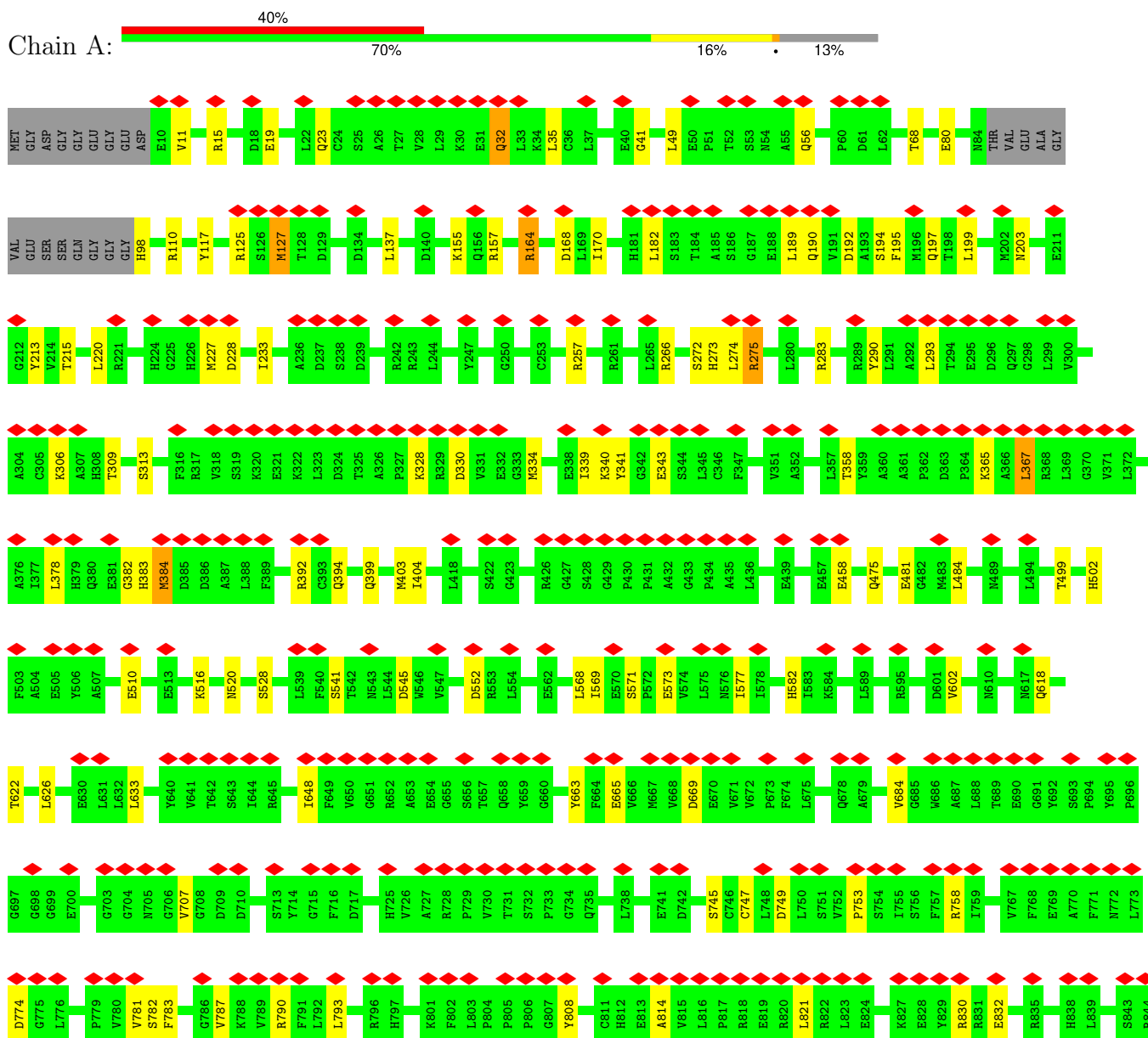
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Mol	Chain	Residues	Atoms	AltConf
7	D	1	Total O 1 1	0
7	C	1	Total O 1 1	0

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.

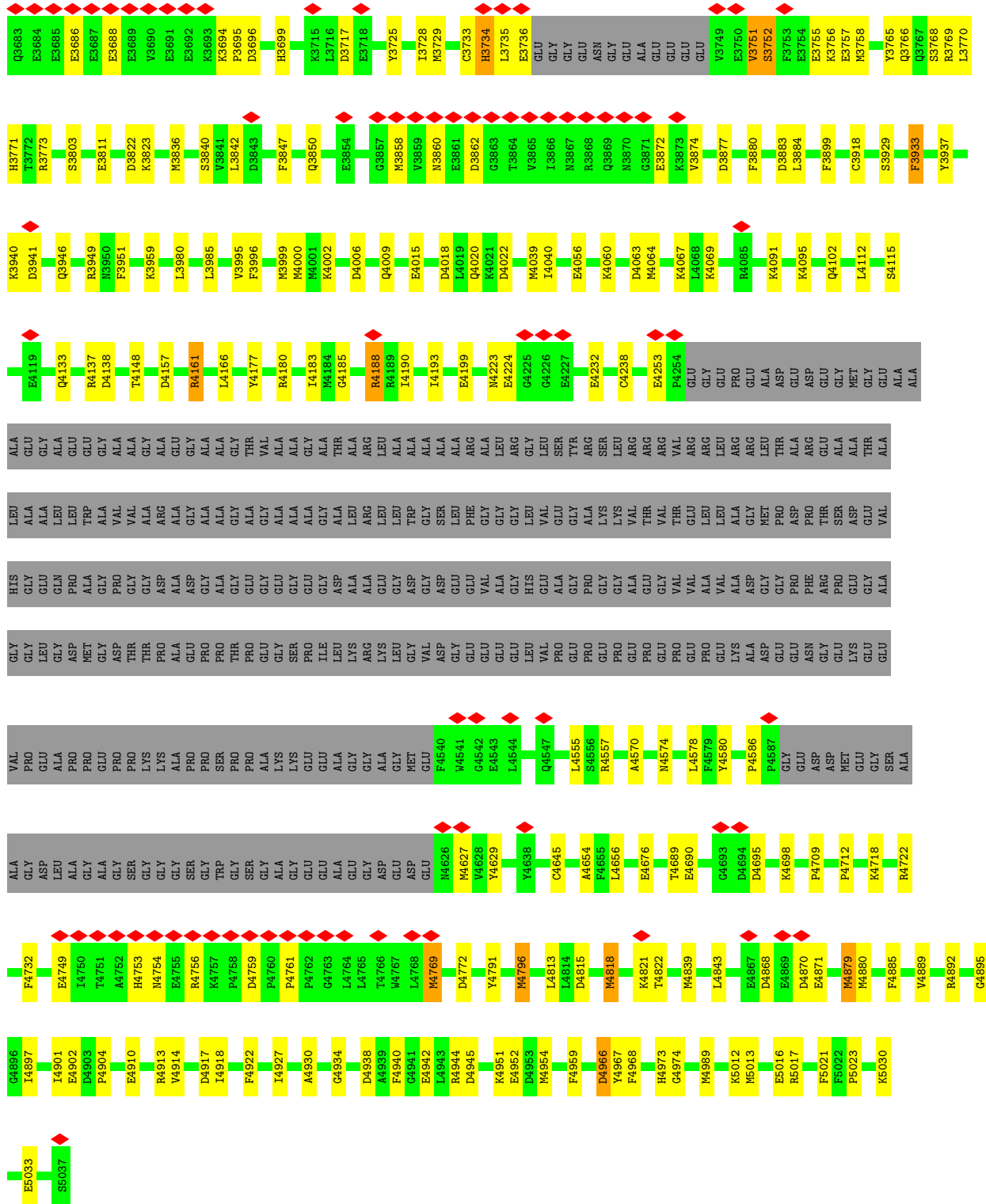
- Molecule 1: Ryanodine receptor 1



E1699	D1700	D1713	E1721	R1728	E1741	F1748	G1751	R1752	K1753	G1754	G1755	M1756	A1757	R1758	R1759	G1766	V1767	L1771	F1782	V1783	A1784	A1785	P1787	A1788	A1789	V1791	A1792	E1793	A1794	P1795	A1796	R1797	L1804	R1808	R1813	M1814	L1815	R1820	D1821	G1822	Q1823	Q1824	H1825	A1826												
G1533	K1534	E1535	S1536	N1537	T1538	F1539	F1540	Q1541	P1544	M1545	T1546	K1547	L1548	S1485	S1486	P1550	A1551	V1552	F1553	V1554	L1555	Q1559	M1560	V1561	I1562	Q1563	F1564	I1565	F1566	L1566	G1567	K1568	Q1569	K1570	N1571	I1572	M1573	P1574	L1575	M1579	F1580	R1584	K1585	M1586	P1587	P1588	P1589	Q1590	E1596	M1599	S1604	N1610				
Q1614	V1615	E1616	T1617	R1618	R1619	A1620	G1621	E1622	R1623	L1624	G1625	V1626	A1627	V1628	Q1629	C1630	Q1631	D1632	M1636	L1639	P1642	E1643	E1644	N1645	I1650	L1653	S1654	E1655	R1656	L1657	D1658	L1659	Q1660	R1661	R1668	R1671	L1676	G1677	N1678	M1679	R1680	A1684	D1690	Q1693	H1696	A1697	L1698									
G1533	K1534	E1535	S1536	N1537	T1538	F1539	F1540	Q1541	P1544	M1545	T1546	K1547	L1548	S1485	S1486	P1550	A1551	V1552	F1553	V1554	L1555	Q1559	M1560	V1561	I1562	Q1563	F1564	I1565	F1566	L1566	G1567	K1568	Q1569	K1570	N1571	I1572	M1573	P1574	L1575	M1579	F1580	R1584	K1585	M1586	P1587	P1588	P1589	Q1590	E1596	M1599	S1604	N1610				
R1470	A1471	V1472	T1473	V1474	T1475	D1478	A1479	Q1480	G1481	M1482	V1483	H1484	S1485	S1486	P1487	L1488	C1489	S1490	M1491	C1492	M1493	M1494	V1495	G1497	Q1498	D1499	F1500	V1501	S1502	P1503	G1504	Q1505	Q1506	G1507	R1508	I1509	S1510	H1511	T1512	D1513	L1514	V1515	I1516	C1517	L1518	L1519	V1520	L1522	G1525	L1526	M1527	T1530	A1531	N1532		
THR	PRO	ALA	LEU	PRO	ARG	LEU	PRO	HIS	ASP	VAL	VAL	PRO	ALA	D1419	N1420	R1421	D1422	D1423	P1424	E1425	I1426	I1427	L1428	N1429	T1430	T1431	T1432	Y1433	Y1434	Y1435	S1436	V1437	R1438	V1439	F1440	A1441	G1442	Q1443	E1444	C1447	V1448	G1451	D1456	Y1457	H1458	Q1459	H1460	L1461	M1462	N1463	F1464	D1465	L1466	S1467	K1468	V1469
ALA	GLU	GLY	LYS	GLU	GLY	THR	ALA	LYS	GLU	VAL	THR	PRO	GLY	D1419	N1420	R1421	D1422	D1423	P1424	E1425	I1426	I1427	L1428	N1429	T1430	T1431	T1432	Y1433	Y1434	Y1435	S1436	V1437	R1438	V1439	F1440	A1441	G1442	Q1443	E1444	C1447	V1448	G1451	D1456	Y1457	H1458	Q1459	H1460	L1461	M1462	N1463	F1464	D1465	L1466	S1467	K1468	V1469
L1283	V1284	E1285	M1286	L1287	F1288	L1289	L1293	V1294	L1295	Q1296	F1297	H1298	Q1299	H1300	F1301	R1302	C1303	T1304	ALA	GLY	VAL	ARG	THR	PRO	ALA	PRO	LEU	ASN	ALA	PRO	GLY	ALA	LEU	GLN	PRO	THR	GLU	LYS	ASN	GLU	ASP	GLU	ALA	ARG	ALA	ALA	GLU	PRO	LYS	PRO	ALA	GLY	TRP	GLY	GLU	
L1283	V1284	E1285	M1286	L1287	F1288	L1289	L1293	V1294	L1295	Q1296	F1297	H1298	Q1299	H1300	F1301	R1302	C1303	T1304	ALA	GLY	VAL	ARG	THR	PRO	ALA	PRO	LEU	ASN	ALA	PRO	GLY	ALA	LEU	GLN	PRO	THR	GLU	LYS	ASN	GLU	ASP	GLU	ALA	ARG	ALA	ALA	GLU	PRO	LYS	PRO	ALA	GLY	TRP	GLY	GLU	
E1108	D1112	V1113	E1114	L1115	G1116	A1117	D1118	E1119	V1123	F1124	H1127	R1128	R1131	W1132	F1139	W1143	Q1144	S1145	G1146	D1147	V1148	V1149	C1151	M1152	L1153	D1154	L1155	T1156	E1157	L1164	E1167	V1168	M1169	M1170	S1171	D1172	S1173	G1174	S1175	E1176	T1177	A1178	F1179	R1180	E1181	I1182	G1185	D1186								
E1108	D1112	V1113	E1114	L1115	G1116	A1117	D1118	E1119	V1123	F1124	H1127	R1128	R1131	W1132	F1139	W1143	Q1144	S1145	G1146	D1147	V1148	V1149	C1151	M1152	L1153	D1154	L1155	T1156	E1157	L1164	E1167	V1168	M1169	M1170	S1171	D1172	S1173	G1174	S1175	E1176	T1177	A1178	F1179	R1180	E1181	I1182	G1185	D1186								
V1191	C1192	S1193	G1200	H1201	Q1206	D1207	V1208	L1211	R1212	F1213	I1216	C1217	G1218	L1219	Q1220	E1221	G1222	F1223	I1228	N1229	M1230	Q1231	R1232	V1248	E1251	H1252	P1253	H1254	Y1255	E1256	R1259	M1260	D1261	G1262	T1263	V1264	D1265	L1270	R1271	L1272	A1273	H1274	R1275	T1276	V1277	G1278	S1279	Q1280	N1281	S1282						
V1191	C1192	S1193	G1200	H1201	Q1206	D1207	V1208	L1211	R1212	F1213	I1216	C1217	G1218	L1219	Q1220	E1221	G1222	F1223	I1228	N1229	M1230	Q1231	R1232	V1248	E1251	H1252	P1253	H1254	Y1255	E1256	R1259	M1260	D1261	G1262	T1263	V1264	D1265	L1270	R1271	L1272	A1273	H1274	R1275	T1276	V1277	G1278	S1279	Q1280	N1281	S1282						

W2819	A2759	A2699	R2575	A2500	GLU	D2320	V2214	LEU	D2014	GLU	R1827
E2820	E2760	M2700	A2576	S2501	P2410	I2321	G2217	PRO	E2015	GLY	D1828
W2821	Y2761	P2701	I2577	M2502	P2411	R2330	G2218	ALA	A2016	GLU	F1838
T2822	T2762	C2702	M2578	V2503	E2412	Y2331	G2219	GLU	D2017	LYS	I1853
L2823	H2763	L2703	D2580	L2504	E2413	R2336	T2220	ASP	E2019	ASP	G1854
K2824	K2642	C2704	S2581	V2509	M2414	R2336	K2221	K2090	L1922	L1922	G1855
K2825	L2643	A2705	M2582	W2512	R2415	Y2341	E2222	P2091	E1923	E1923	D1856
W2766	L2644	L2706	L2583	E2513	L2418	R2355	I2223	Q2095	E1924	L1927	K1864
A2767	T2645	A2707	M2584	M2514	G2419	R2355	R2224	V2098	L1927	Q1928	E1867
F2768	H2646	G2708	H2584	Q2515	H2420	R2359	F2225	S2099	M1929	M1929	F1868
D2769	H2647	A2709	T2585	D2516	M2420	K2360	M2228	M2100	K1930	K1930	E1869
K2770	Y2648	L2710	V2586	F2517	M2423	E2362	F2235	H2101	L1931	L1931	E1872
I2771	E2649	P2711	Y2587	L2518	R2435	F2361	F2238	E2108	V1935	V1935	E1873
Q2772	R2650	P2712	L2588	L2519	C2436	E2362	Y2238	L2116	L1943	L1943	E1874
Q2773	C2651	D2713	H2520	H2520	A2437	C2363	R2244	M2120	L1968	L1968	GLU
N2774	Y2655	Y2714	V2521	L2522	F2438	F2364	Q2245	F2121	L1968	L1968	GLU
W2775	C2656	Y2715	G2592	D2523	E2439	G2365	Q2245	S2122	A1962	A1962	GLU
W2776	C2656	Y2716	R2593	V2524	M2440	F2366	Q2245	R2126	Y1965	Y1965	GLU
Y2777	L2657	A2717	S2594	L2442	H2441	A2367	Y2256	Q2127	Y1965	Y1965	GLU
E2778	P2658	S2718	L2595	F2526	L2442	L2368	E2259	Q2045	L1969	L1969	GLU
E2779	Q2660	Y2719	A2598	D2529	E2449	R2369	E2259	L2046	L1969	L1969	GLU
N2780	Q2661	S2720	Q2599	M2530	L2460	G2370	G2262	GLU	L1976	L1976	GLU
V2781	A2662	S2721	R2600	R2531	D2464	E2371	I2263	GLU	R1977	R1977	GLU
D2782	M2663	K2722	I2603	A2532	D2465	G2372	G2264	GLU	Y1977	Y1977	GLU
E2783	F2664	A2723	D2605	A2533	L2466	G2372	L2265	PRO	A1978	A1978	GLU
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L2785	V2666	K2725	L2610	L2536	I2469	G2375	Q2268	GLU	L1980	L1980	GLU
K2786	T2667	LYS	L2611	D2537	I2470	L2376	Q2268	THR	M1981	M1981	ASP
T2787	S2668	ALA	R2612	T2538	L2470	L2376	G2268	SER	R1982	R1982	GLU
H2788	E2669	THR	Y2613	F2541	L2471	L2376	S2270	LEU	A1983	A1983	GLU
P2789	E2670	ASP	L2614	S2542	L2471	L2377	T2271	SER	F1984	F1984	LYS
M2790	E2671	ALA	L2615	F2545	Q2475	L2380	D2282	SER	T1985	T1985	GLU
L2791	L2672	GLU	R2616	M2546	P2477	E2381	Q2293	SER	M1986	M1986	GLU
N2855	L2673	GLY	S2617	R2546	T2478	E2382	E2296	ARG	S1987	S1987	GLU
N2856	L2674	GLY	R2618	F2546	L2479	E2383	E2296	LEU	A1988	A1988	GLU
P2857	T2675	F2735	R2619	F2546	G2480	I2386	Y2301	LEU	T1989	T1989	GLU
Q2858	T2676	D2736	L2619	A2557	K2481	S2387	L2302	LEU	M1990	M1990	GLU
P2859	T2677	D2737	R2615	V2558	G2482	E2388	A2303	THR	E1991	E1991	LYS
P2860	K2677	P2738	R2616	V2558	G2483	D2389	G2304	LEU	A1992	A1992	ASP
L2861	K2677	R2738	S2616	L2562	A2484	P2390	L2307	LEU	R1993	R1993	ALA
L2862	L2678	V2739	L2618	T2563	L2485	F2391	L2307	GLU	L1994	L1994	LYS
S2863	F2679	V2740	L2619	T2563	L2485	R2392	L2307	GLU	T1995	T1995	LYS
Q2864	G2680	E2741	Q2620	K2564	V2486	D2393	Q2308	VAL	L1996	L1996	GLU
V2865	G2681	E2742	H2621	L2566	Q2487	D2393	Q2308	VAL	R1998	R1998	GLU
T2866	I2682	L2743	L2622	T2566	Q2488	G2394	Q2308	VAL	F1999	F1999	GLU
L2867	F2683	N2744	L2623	K2566	P2488	G2396	C2310	VAL	M2003	M2003	GLU
S2868	D2684	N2745	L2624	C2565	P2488	G2396	C2310	VAL	L2009	L2009	GLU
R2869	S2685	L2746	R2625	C2565	P2488	G2396	C2310	VAL	E1997	E1997	GLU
E2870	L2686	I2747	L2626	A2566	K2489	ARG	P2311	VAL	F1998	F1998	GLU
L2871	A2687	P2748	V2627	P2667	M2490	ARG	M2312	VAL	R1999	R1999	ALA
Q2872	H2688	E2749	F2628	L2568	S2493	ARG	M2312	VAL	S2000	S2000	GLU
A2873	K2689	K2750	D2629	F2569	F2494	ARG	M2312	VAL	I2006	I2006	GLU
M2874	K2690	L2751	V2630	A2570	F2494	ARG	M2312	VAL	N2007	N2007	GLU
A2875	Y2691	D2752	P2631	G2571	F2494	GLU	M2312	VAL	M2008	M2008	GLU
E2876	D2692	S2753	L2632	T2572	D2497	HIS	M2312	VAL	L2010	L2010	GLU
Q2877	Q2693	F2754	L2633	T2572	D2497	PHE	M2312	VAL			
L2878	E2694	L2755	M2634	E2573	H2498	GLY	M2312	VAL			
	L2695	N2756	E2635	H2574	K2499	GLU	M2312	VAL			
	Y2696	K2757	F2636				M2312	VAL			
	M2698	F2758					M2312	VAL			

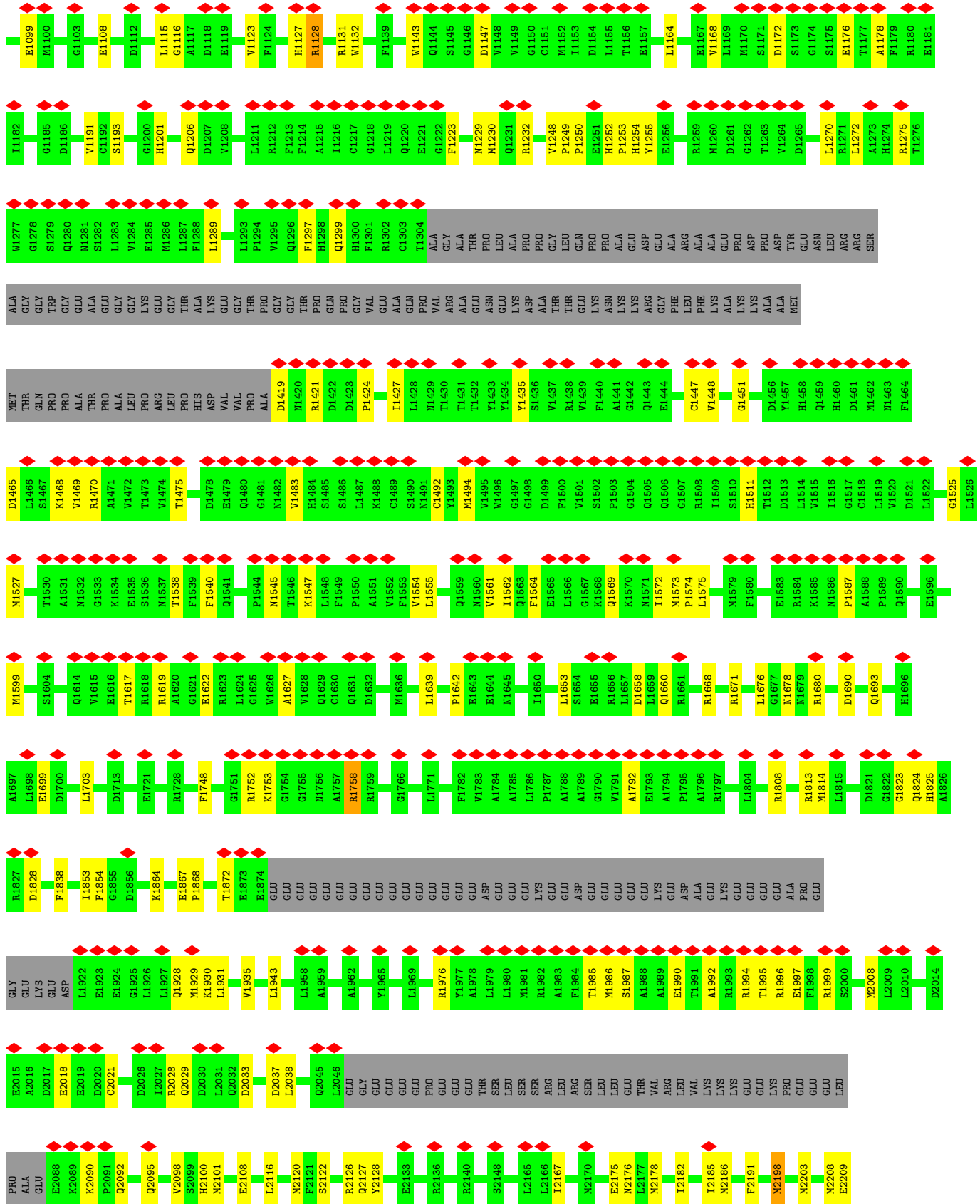
V3602	R2939	A2999	T3059	A2999	R2939
L3603	GLY	K3000	D3060	K3000	GLY
V3604	LEU	I3001	A3061	I3001	LEU
H3605	LYS	L3002	P3062	L3002	LYS
L3606	ASP	L3003	A3063	L3003	ASP
E3607	MET	L3004	V3065	L3004	MET
Q3608	GLU	L3005	N3066	L3005	GLU
T3609	L2946	I3006	D2947	I3006	L2946
E3648	D2947	N3007	C3067	N3007	D2947
V3610	T2948	Q3008	L3068	Q3008	T2948
H3611	S2949	R2888	H3069	R2888	S2949
R3612	S2950	F3009	T3100	F3009	S2950
F3652	I2951	T3010	I3070	T3010	I2951
L3653	E2952	N3011	L3071	N3011	E2952
Q3654	K2891	N3012	A3072	N3012	K2891
N3655	Q2892	H3013	R3073	H3013	Q2892
N3656	E2893	C3014	S3074	C3014	E2893
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	Y2935	F3057	T3177		Y2935
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• Molecule 1: Ryanodine receptor 1

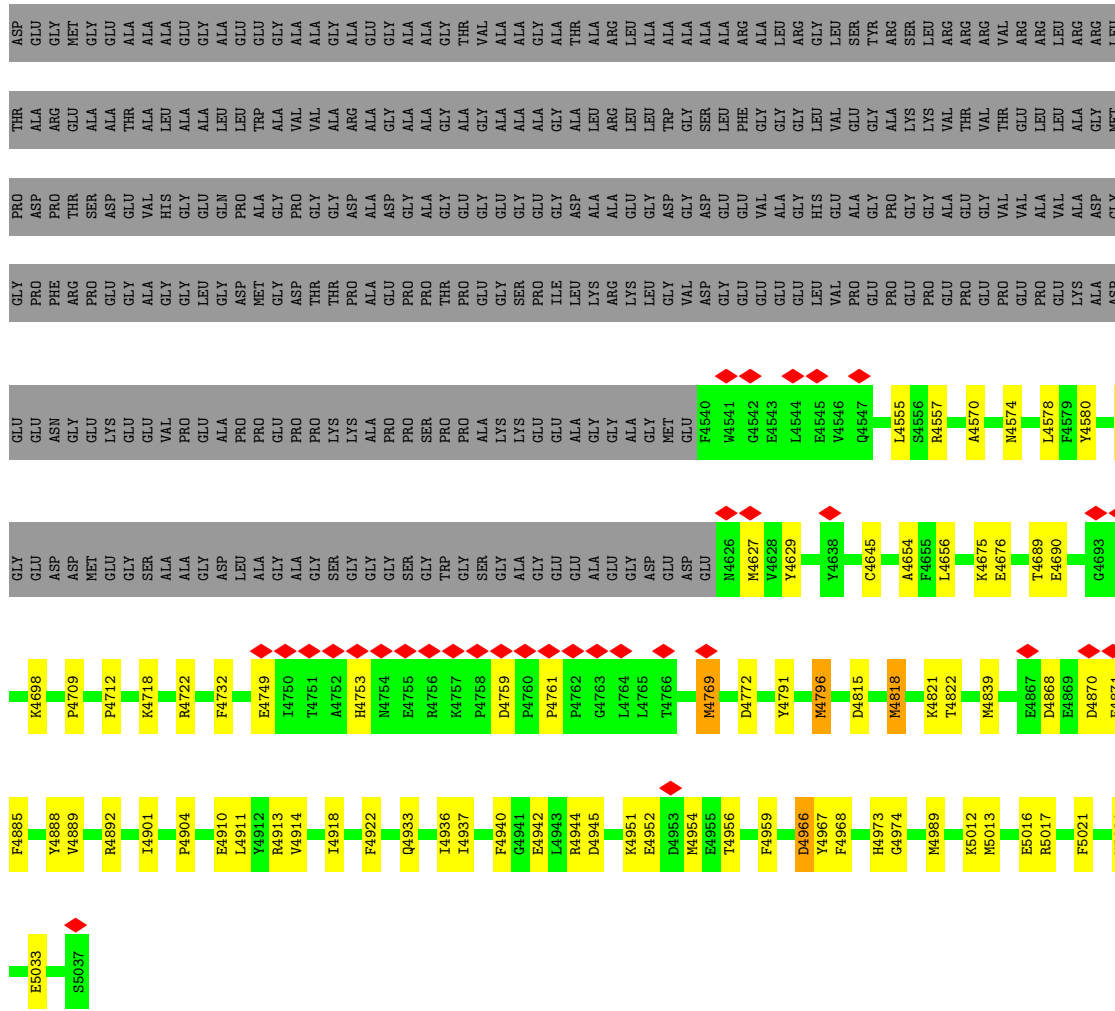


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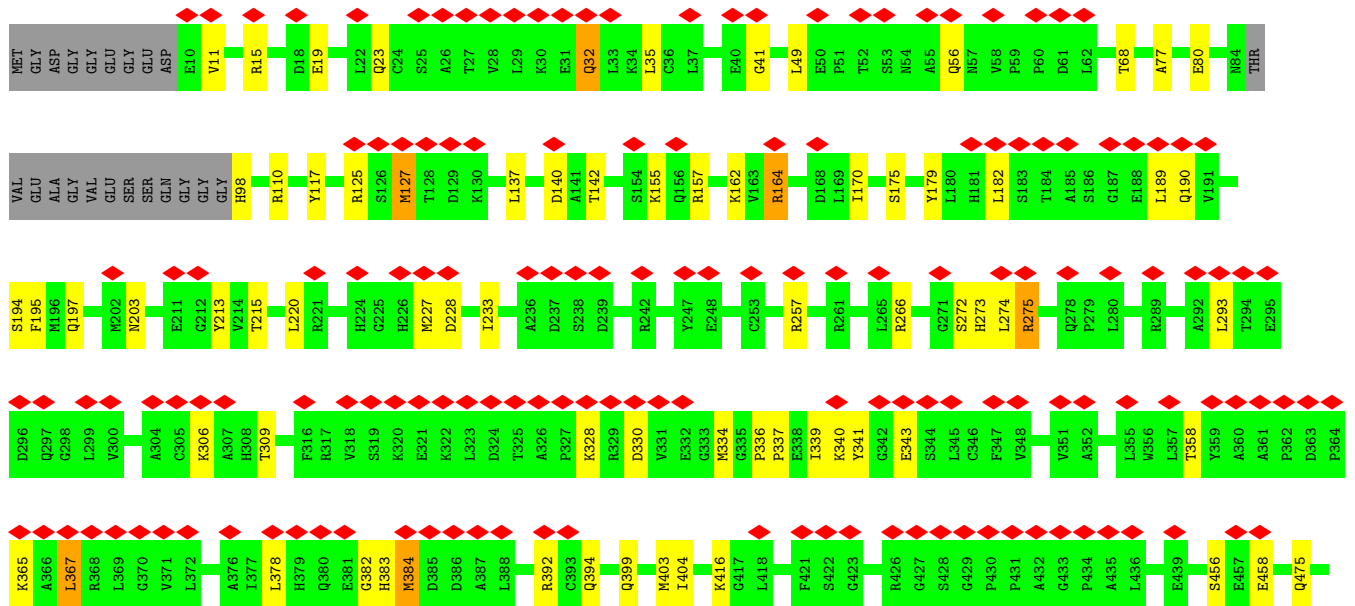


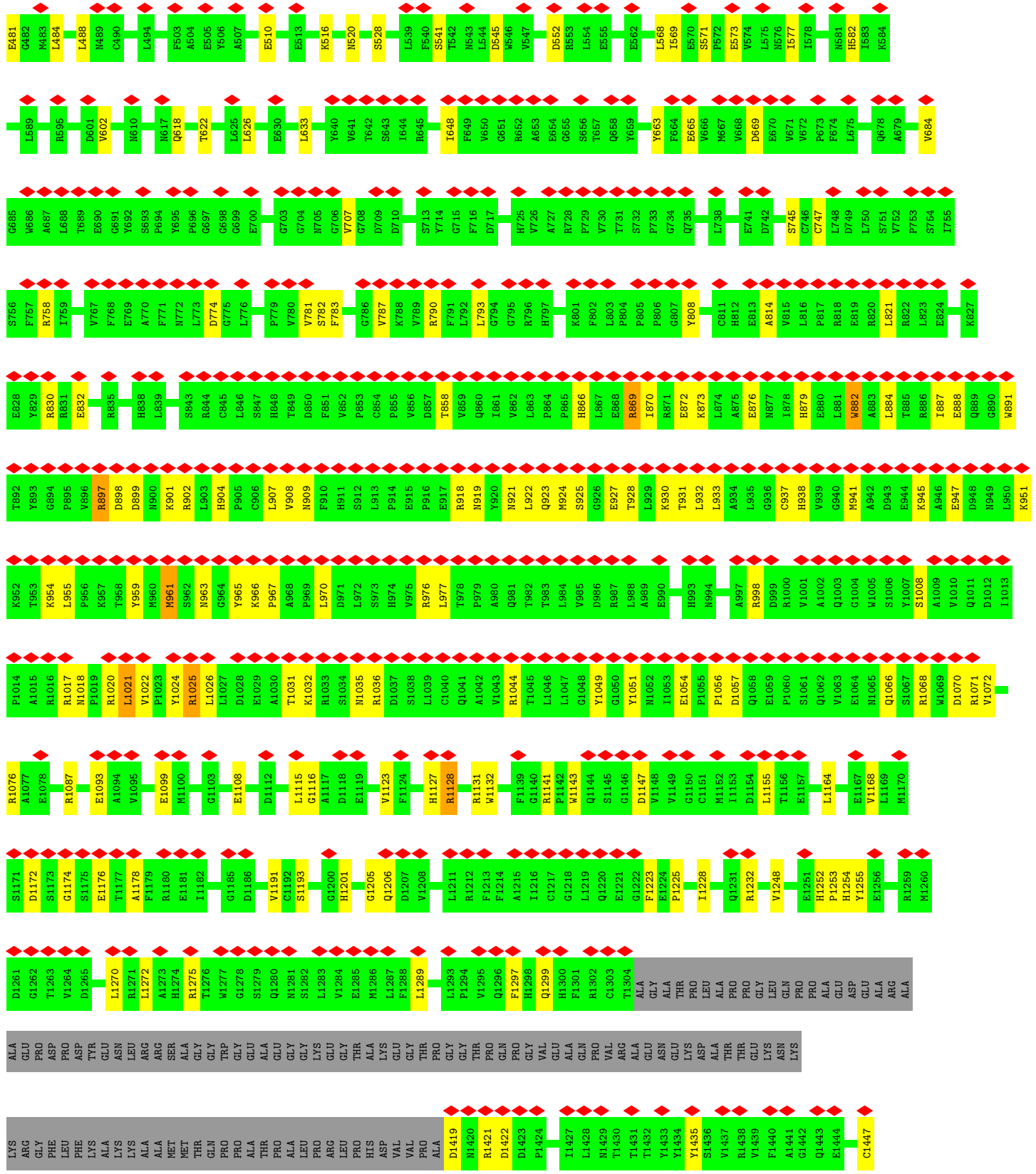
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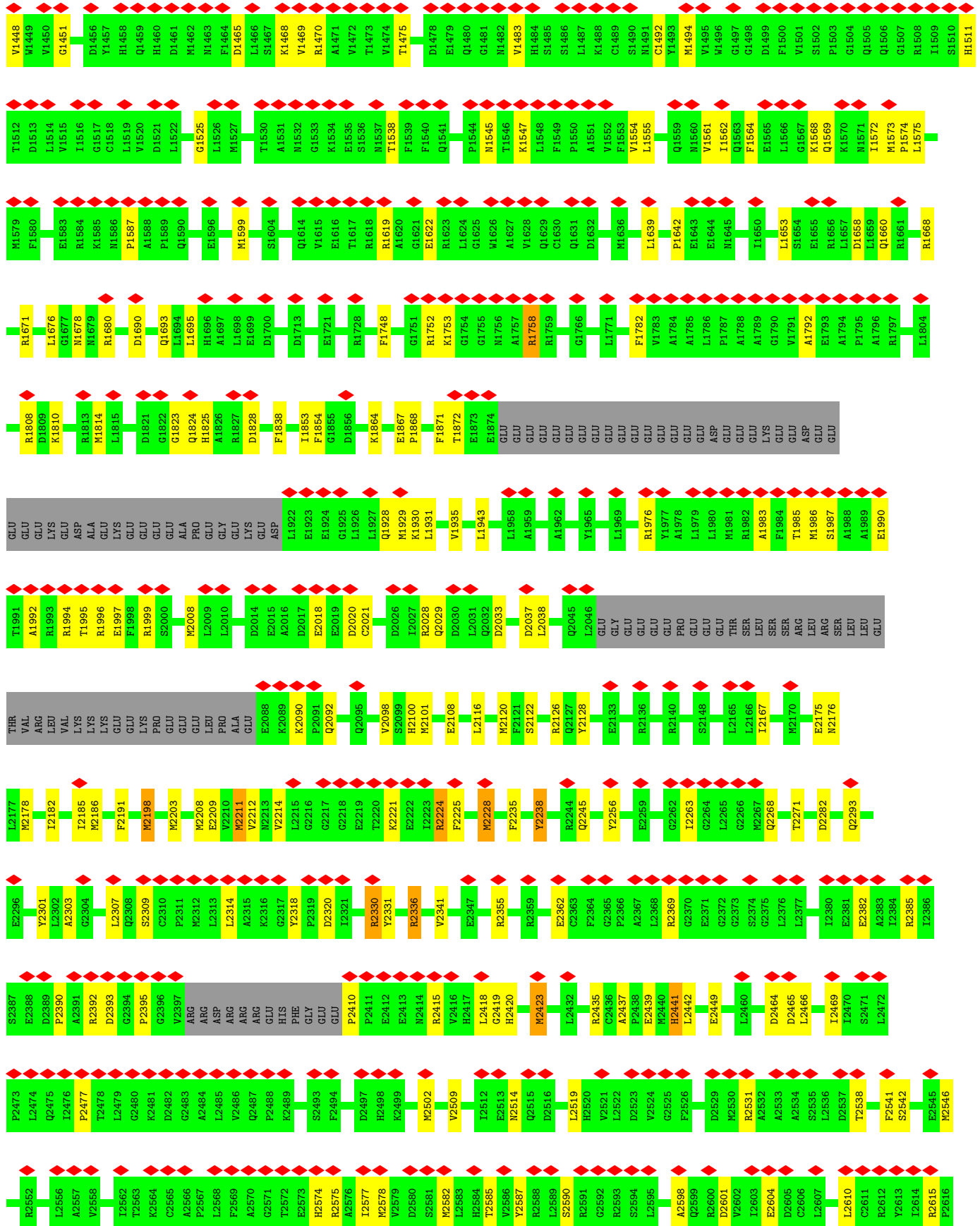
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Q4254	E3755	E3755	E3584	E3755	E3584	A3526	R3403	A3342	T3221	T3221	D3161	D3161
GLU	K3756	K3756	D3648	K3756	D3648	P3527	D3404	P3344	K3222	K3222	Q3162	Q3162
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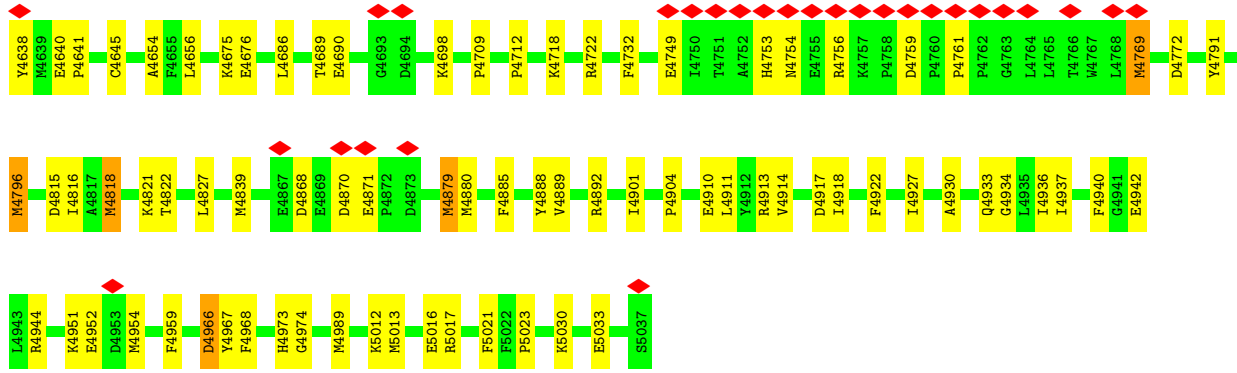
● Molecule 1: Ryanodine receptor 1





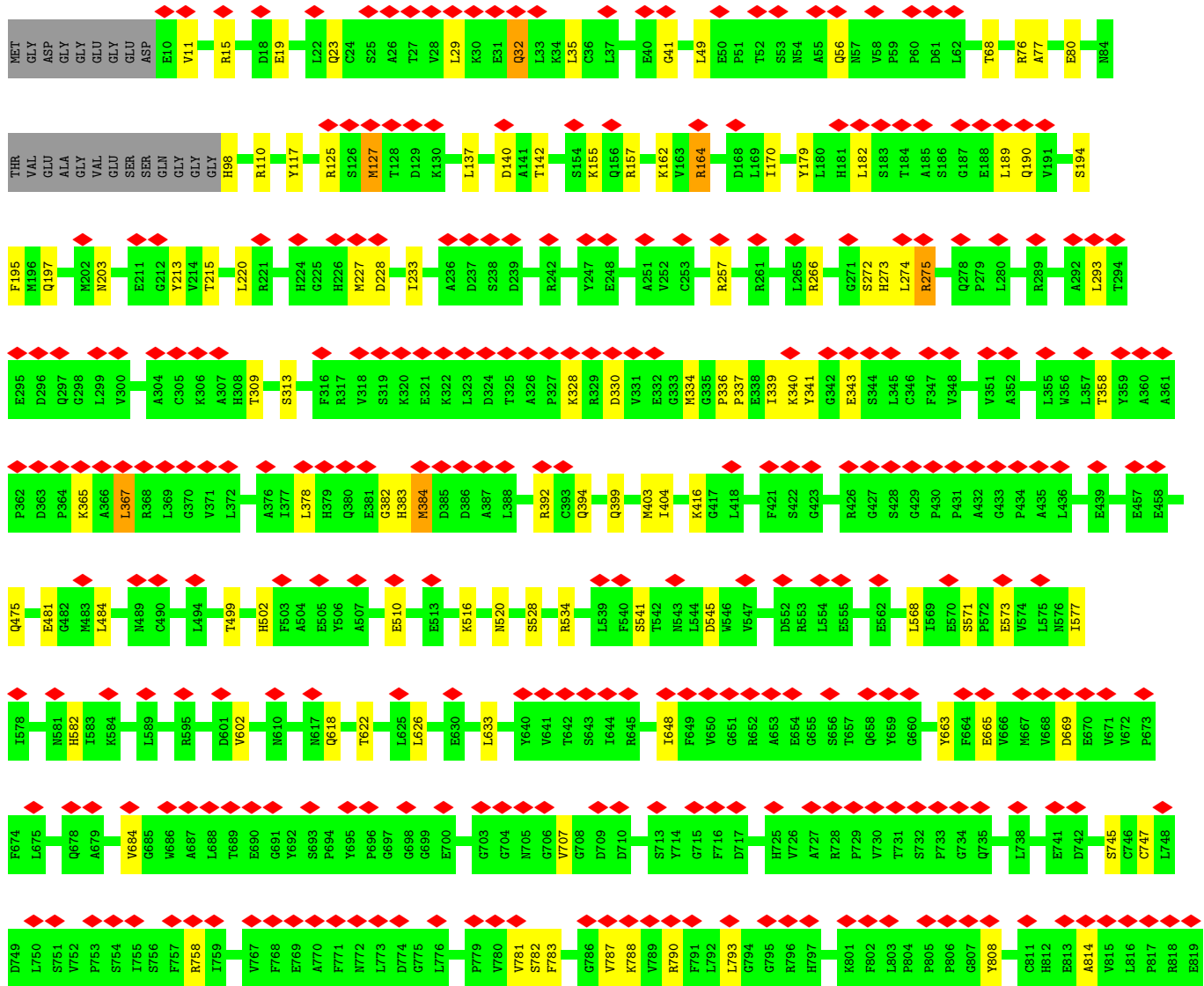


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F3398	R2737	L2796	Q2858	K2916	E2978	E3037	E3097	L3158	V3218	C3278	L3338	F3398
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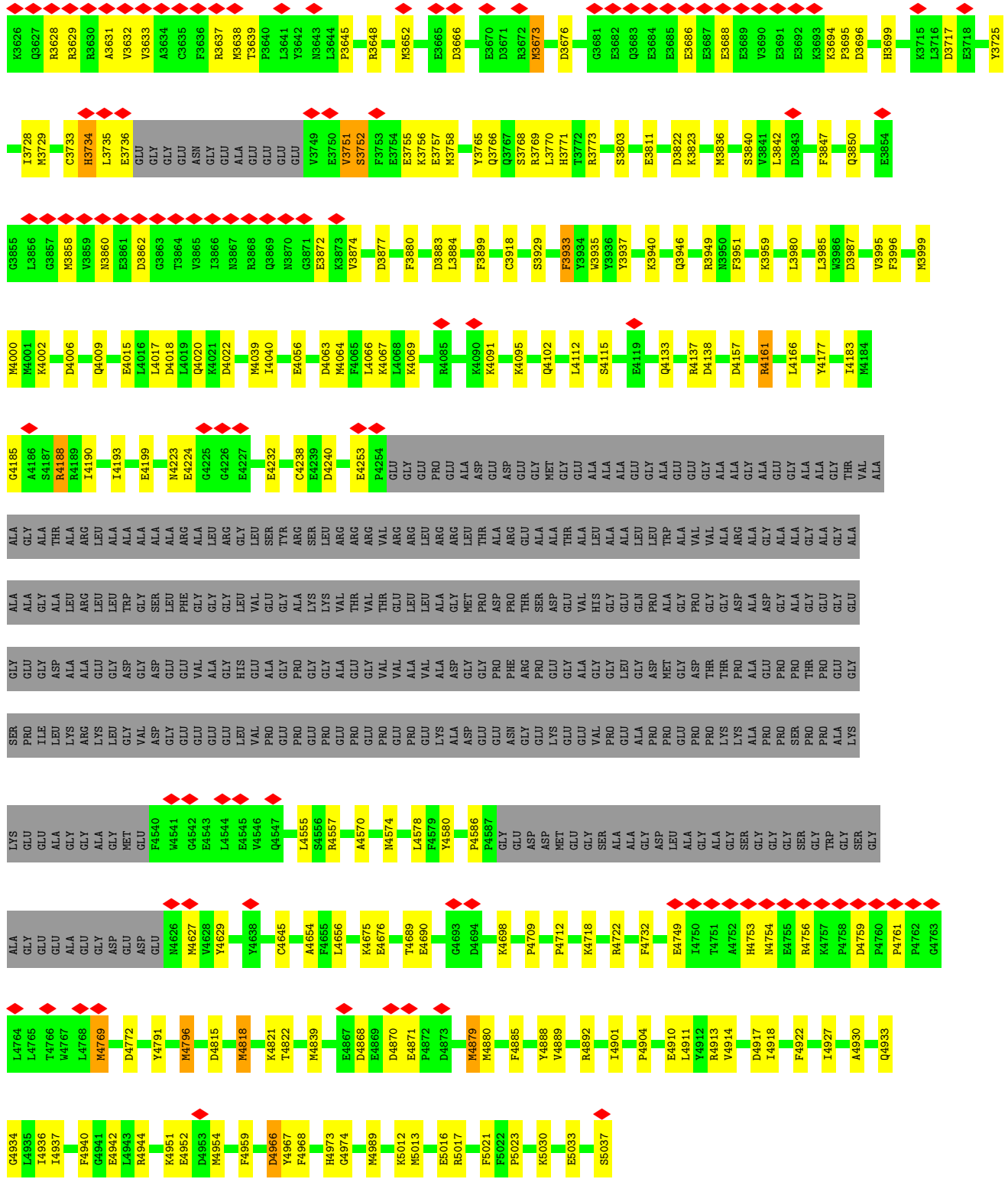
• Molecule 1: Ryanodine receptor 1

Chain C:



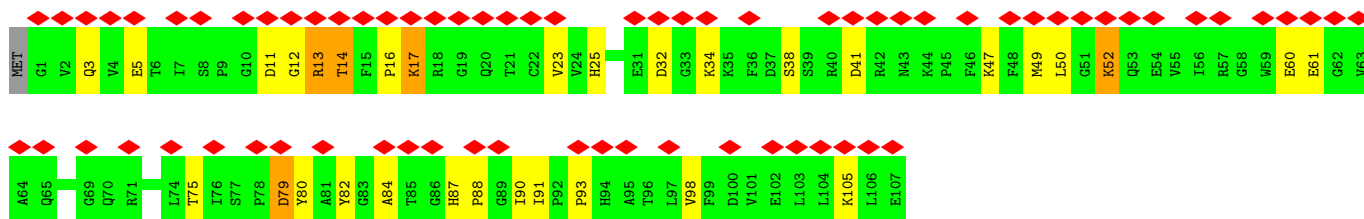
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E1655	D1658	L1659	Q1660	R1661	R1668	R1671	L1676	G1677	M1678	N1679	R1680	D1680	Q1693	L1694	L1695	H1696	A1697	L1698	E1699	D1700	D1713	E1721	R1728	F1748	G1751	R1752	K1753	G1754	G1755	N1756	A1757	V1758	R1759	G1766	L1771	F1782	V1783	A1784	A1785	L1786	P1787	N1788	A1789	G1790	V1791													

Gln	Thr	Ala	Gln	Thr	Tyr	Asp	Pro	Arg	Glu	Gly	V2855	V2856	V2857	V2858	V2859	V2860	V2861	V2862	V2863	V2864	V2865	V2867	V2868	V2869	V2870	V2871	V2872	V2873	V2874	V2875	V2876	V2877	V2878	V2879	V2880	V2881	V2882	V2883	V2884	V2885	V2886	V2887	V2888	V2889	V2890	V2891	V2892	V2893	V2894	V2895	V2896	V2897	V2898	V2899	V2900	V2901	V2902	V2903						
L2904	L2905	L2906	L2907	L2908	L2909	L2910	L2911	L2912	L2913	L2914	L2915	L2916	L2917	L2918	L2919	L2920	L2921	L2922	L2923	L2924	L2925	L2926	L2927	L2928	L2929	L2930	L2931	L2932	L2933	L2934	L2935	L2936	L2937	L2938	L2939	L2940	L2941	L2942	L2943	L2944	L2945	L2946	L2947	L2948	L2949	L2950	L2951	L2952	L2953	L2954	L2955	L2956	L2957	L2958	L2959	L2960	L2961	L2962	L2963					
L2964	R2965	W2966	M2967	D2968	L2969	S2970	Q2971	E2972	F2973	I2974	A2975	H2976	L2977	E2978	A2979	V2980	S2981	S2982	S2983	G2984	S2985	V2986	F2987	K2988	S2989	P2990	H2991	E2992	E2993	E2994	L2995	K2996	F2997	F2998	A2999	K3000	I3001	L3002	L3003	P3004	L3005	I3006	N3007	T2948	Q3008	Y3009	F3010	N3011	N3012	H3013	C3014	F2995	A2996	F2997	G2998	F3017	S3019	T3020	P3021	A3022	K3023			
V3024	L3025	G3026	S3027	G3028	G3029	A3031	S3032	N3033	K3034	E3035	K3036	E3037	M3038	I3039	T3040	S3041	L3042	F3043	C3044	K3045	L3046	A3047	L3048	L3049	V3050	R3051	H3052	R3053	V3054	S3055	L3056	F3057	G3058	T3059	D3060	A3061	P3062	A3063	V3064	V3065	N3066	C3067	L3068	H3069	I3070	L3071	N3012	R3073	S3074	L3075	D3076	A3077	R3078	T3079	V3080	H3081	K3082	S3083						
G3084	P3085	E3086	I3087	V3088	K3089	A3090	G3091	L3092	S3093	F3095	F3096	S3097	S3098	A3099	S3100	D3102	I3103	E3104	K3105	M3106	V3107	E3108	N3109	L3110	R3111	L3112	G3113	K3114	V3115	S3116	Gln	Ala	Arg	Thr	Gln	Val	K3123	G3124	V3125	G3126	N3127	N3128	L3129	T3130	F3131	T3132	T3133	V3134	A3135	L3136	L3137	P3138	V3139	L3140	T3141	T3142	L3143							
F3144	Q3145	H3146	I3147	Q3148	Q3149	H3150	Q3151	F3152	G3153	D3154	Q3155	V3156	I3157	L3158	D3159	L3160	V3161	Q3162	S3164	C3165	V3166	R3167	E3168	L3169	I3172	V3173	S3174	L3175	G3176	T3177	T3178	K3179	N3180	T3181	V3182	V3183	E3184	K3185	L3186	R3187	D3247	F3188	A3189	L3190	G3191	E3192	C3193	L3194	A3195	R3196	L3197	A3198	A3199	A3200	M3201	P3202	V3203	A3204						
F3206	L3206	E3207	P3208	Q3209	L3210	N3211	E3212	Y3213	N3214	A3215	C3216	S3217	F3218	Y3219	T3220	L3221	K3222	S3223	P3224	R3225	E3226	R3227	A3228	I3229	G3231	L3232	P3233	N3234	S3235	V3236	E3237	E3238	M3239	A3300	P3241	D3242	I3243	C3304	P3244	V3245	L3246	D3247	T3308	S3309	D3310	H3311	L3312	N3313	S3314	L3315	L3316	G3317	N3318	L3320	R3321	L3322	V3324	T3264						
E3265	M3266	P3267	H3268	V3269	I3270	E3271	I3272	T3273	L3274	P3275	M3276	L3277	C3278	S3279	Y3280	L3281	P3282	R3283	W3284	W3285	E3286	R3287	C3288	F3289	E3290	A3291	P3292	P3293	P3294	A3295	L3296	P3297	A3298	G3299	A3300	P3301	P3302	P3303	C3304	T3305	A3306	V3307	T3308	S3309	D3310	H3311	L3312	N3313	S3314	L3315	L3316	G3317	N3318	L3320	R3321	L3322	V3324	K3384						
N3325	N3326	L3327	G3328	L3329	D3330	E3331	A3332	T3333	W3334	M3335	K3336	L3337	L3338	A3339	V3340	L3401	F3342	Q3343	P3344	I3345	V3346	S3347	R3348	A3349	R3350	P3351	E3352	L3353	L3354	H3355	S3356	H3357	F3358	I3359	P3360	T3361	I3362	G3363	R3364	L3365	R3366	K3367	P3368	A3369	G3370	K3371	V3372	V3373	A3374	E3375	E3376	E3377	Q3378	L3379	R3380	L3381	E3382	A3383	K3384	F3444	T3445	Y3444		
A3385	E3386	A3387	E3388	E3389	G3390	E3391	L3392	L3393	V3394	R3395	D3396	E3397	F3398	S3399	V3400	L3401	C3402	R3403	D3404	L3405	Y3406	A3407	L3408	F3409	P3410	L3411	L3412	I3413	R3414	Y3415	V3416	D3417	N3418	N3419	R3420	A3421	H3422	W3423	L3424	T3425	E3426	P3427	N3428	A3429	N3430	A3431	E3432	E3433	L3434	F3435	R3436	G3500	D3501	F3502	H3558	L3559	Q3560	G3561	K3562	L3563	S3564			
W3445	S3446	K3447	S3448	H3449	N3450	F3451	K3452	R3453	E3454	E3455	Q3456	N3457	F3458	V3459	V3460	Q3461	N3462	E3463	I3464	N3465	N3466	N3467	S3468	F3469	L3470	T3471	A3472	D3473	S3474	K3475	S3476	K3477	N3478	A3479	Lys	Ala	Gly	Asp	Ala	Gln	Ser	Gly	Gly	Ser	Asp	Gln	Glu	Arg	Thr	Lys	Lys	Lys	R3498	R3499	G3500	D3501	F3502	H3558	L3559	Q3560	G3561	K3562	L3563	S3564
V3505	Q3506	T3507	S3508	L3509	I3510	V3511	A3512	L3513	L3514	K3515	K3516	M3517	L3518	P3519	I3520	G3521	L3522	N3523	M3524	D3585	A3526	P3527	T3528	D3529	Q3530	D3531	L3532	L3533	M3534	L3535	A3536	K3537	T3538	R3539	V3540	A3541	L3542	K3543	D3544	T3545	D3546	E3547	E3548	V3549	R3550	E3551	F3552	L3553	Q3554	N3555	N3556	L3557	H3558	L3559	Q3560	G3561	K3562	L3563	L3564					
G3565	S3566	F3567	S3568	L3569	R3570	K3571	K3572	K3573	A3574	L3575	Y3576	R3577	G3578	L3579	F3580	G3581	R3582	E3583	E3584	D3585	A3586	D3587	D3588	F3589	E3590	K3591	L3592	V3593	K3594	R3595	V3596	K3597	E3598	V3599	V3602	L3603	Y3604	H3605	L3606	E3607	Q3608	T3609	E3610	H3611	F3612	Y3613	K3614	S3615	K3616	K3617	A3618	W3620	H3621	K3622	L3623	L3624	S3625							

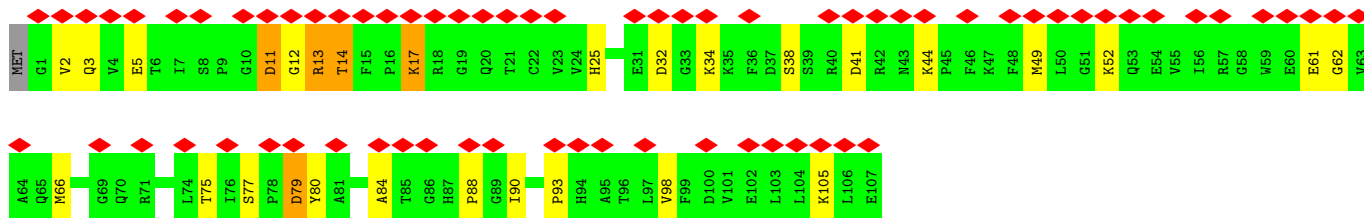


● Molecule 2: Peptidyl-prolyl cis-trans isomerase FKBP1A

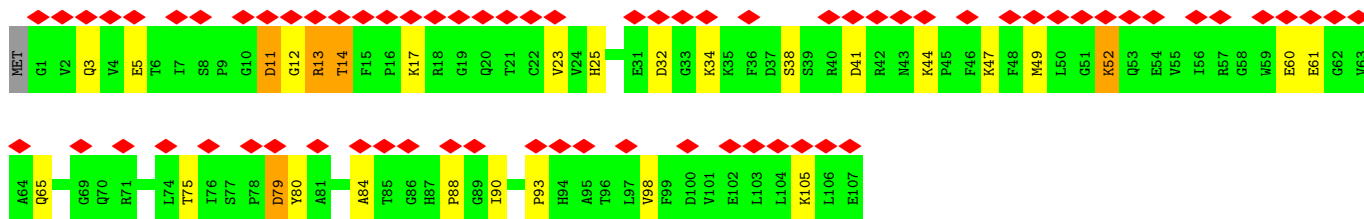




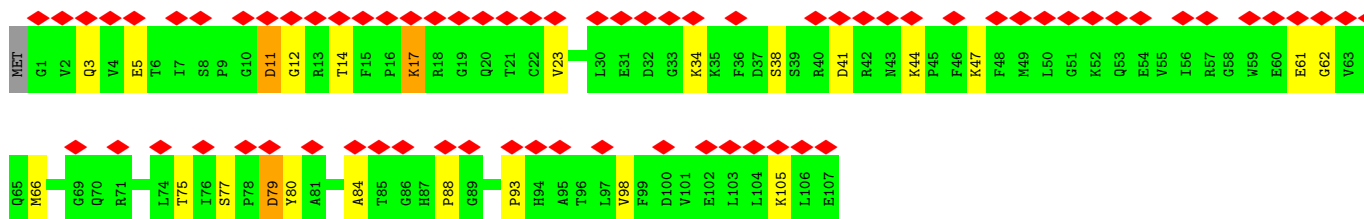
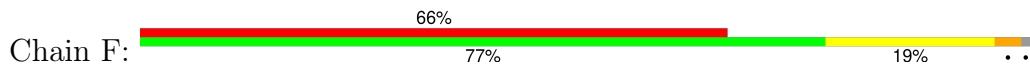
• Molecule 2: Peptidyl-prolyl cis-trans isomerase FKBP1A



• Molecule 2: Peptidyl-prolyl cis-trans isomerase FKBP1A



• Molecule 2: Peptidyl-prolyl cis-trans isomerase FKBP1A



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	17393	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 ($e^-/\text{\AA}^2$)	58	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	1500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	0.436	Depositor
Minimum map value	-0.223	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.018	Depositor
Recommended contour level	0.1	Depositor
Map size (Å)	428.288, 428.288, 428.288	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.8365, 0.8365, 0.8365	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: 141, CA, ZN, ATP

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	0.38	0/35977	0.52	3/48726 (0.0%)
1	B	0.38	0/35977	0.52	3/48726 (0.0%)
1	C	0.38	0/35977	0.52	3/48726 (0.0%)
1	D	0.38	0/35977	0.52	3/48726 (0.0%)
2	E	0.40	0/850	0.59	0/1146
2	F	0.38	0/850	0.58	0/1146
2	G	0.39	0/850	0.58	0/1146
2	H	0.39	0/850	0.58	0/1146
All	All	0.38	0/147308	0.52	12/199488 (0.0%)

There are no bond length outliers.

All (12) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	D	3239	MET	CB-CG-SD	7.11	133.72	112.40
1	A	3239	MET	CB-CG-SD	7.10	133.71	112.40
1	C	3239	MET	CB-CG-SD	7.10	133.69	112.40
1	B	3239	MET	CB-CG-SD	7.09	133.67	112.40
1	B	4796	MET	CG-SD-CE	-5.35	91.64	100.20
1	A	1419	ASP	CB-CG-OD2	-5.34	113.49	118.30
1	C	1419	ASP	CB-CG-OD2	-5.34	113.49	118.30
1	A	4796	MET	CG-SD-CE	-5.33	91.68	100.20
1	D	4796	MET	CG-SD-CE	-5.33	91.68	100.20
1	D	1419	ASP	CB-CG-OD2	-5.32	113.51	118.30
1	C	4796	MET	CG-SD-CE	-5.31	91.70	100.20
1	B	1419	ASP	CB-CG-OD2	-5.30	113.53	118.30

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	35150	0	34797	562	0
1	B	35150	0	34797	560	0
1	C	35150	0	34797	583	0
1	D	35150	0	34797	583	0
2	E	831	0	831	23	0
2	F	831	0	831	16	0
2	G	831	0	831	21	0
2	H	831	0	831	19	0
3	A	31	0	12	0	0
3	B	31	0	12	0	0
3	C	31	0	12	0	0
3	D	31	0	12	0	0
4	A	1	0	0	0	0
4	B	1	0	0	0	0
4	C	1	0	0	0	0
4	D	1	0	0	0	0
5	A	1	0	0	0	0
5	B	1	0	0	0	0
5	C	1	0	0	0	0
5	D	1	0	0	0	0
6	A	11	0	4	0	0
6	B	11	0	4	0	0
6	C	11	0	4	0	0
6	D	11	0	4	0	0
7	A	1	0	0	0	0
7	B	1	0	0	0	0
7	C	1	0	0	0	0
7	D	1	0	0	0	0
All	All	144104	0	142576	2274	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 8.

All (2274) 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:4942:GLU:OE1	1:D:4944:ARG:NH1	2.00	0.93
1:A:1066:GLN:HB2	1:A:1071:ARG:HH22	1.39	0.88
1:D:1066:GLN:HB2	1:D:1071:ARG:HH22	1.39	0.88
1:C:1066:GLN:HB2	1:C:1071:ARG:HH22	1.39	0.88
1:B:1066:GLN:HB2	1:B:1071:ARG:HH22	1.39	0.86
1:A:4578:LEU:O	1:B:4879:MET:HB3	1.76	0.85
1:A:4892:ARG:HD3	1:B:4918:ILE:HD13	1.60	0.83
1:D:2765:LYS:HZ3	1:D:2857:PRO:HB2	1.45	0.82
1:B:4892:ARG:HD3	1:C:4918:ILE:HD13	1.60	0.81
1:C:2765:LYS:HZ3	1:C:2857:PRO:HB2	1.46	0.81
1:B:4944:ARG:NH1	1:C:4942:GLU:OE1	2.15	0.80
1:A:4892:ARG:HD3	1:B:4918:ILE:CD1	2.12	0.80
1:D:4942:GLU:OE1	1:C:4944:ARG:NH1	2.14	0.80
1:D:4918:ILE:HD13	1:C:4892:ARG:HD3	1.62	0.79
1:D:858:THR:HB	1:D:930:LYS:HD2	1.66	0.78
1:B:858:THR:HB	1:B:930:LYS:HD2	1.66	0.78
1:D:1025:ARG:H	1:D:1025:ARG:HD3	1.49	0.78
1:A:2765:LYS:HZ3	1:A:2857:PRO:HB2	1.48	0.78
1:A:858:THR:HB	1:A:930:LYS:HD2	1.66	0.77
1:A:1025:ARG:HD3	1:A:1025:ARG:H	1.49	0.77
1:C:858:THR:HB	1:C:930:LYS:HD2	1.66	0.77
1:D:2747:ILE:HD13	1:D:2814:LYS:HG2	1.67	0.77
1:B:23:GLN:NE2	1:B:203:ASN:OD1	2.18	0.77
1:C:1025:ARG:HD3	1:C:1025:ARG:H	1.49	0.77
1:C:2747:ILE:HD13	1:C:2814:LYS:HG2	1.67	0.76
1:B:2747:ILE:HD13	1:B:2814:LYS:HG2	1.67	0.76
1:C:23:GLN:NE2	1:C:203:ASN:OD1	2.18	0.76
2:G:61:GLU:OE1	2:G:61:GLU:N	2.17	0.76
1:B:2765:LYS:HZ3	1:B:2857:PRO:HB2	1.50	0.76
1:B:1025:ARG:H	1:B:1025:ARG:HD3	1.49	0.76
1:A:23:GLN:NE2	1:A:203:ASN:OD1	2.18	0.76
2:E:61:GLU:OE1	2:E:61:GLU:N	2.18	0.75
1:A:2747:ILE:HD13	1:A:2814:LYS:HG2	1.67	0.75
1:D:23:GLN:NE2	1:D:203:ASN:OD1	2.18	0.75
1:D:1174:GLY:N	1:C:3467:MET:HE2	2.00	0.75
1:D:182:LEU:HD11	1:D:189:LEU:HD12	1.70	0.74
1:B:1573:MET:HE3	1:B:1574:PRO:HD2	1.70	0.74
1:B:3467:MET:HE2	1:C:1174:GLY:N	2.03	0.74
1:D:977:LEU:HG	1:D:1044:ARG:HH12	1.51	0.74
1:B:977:LEU:HG	1:B:1044:ARG:HH12	1.51	0.74
1:C:977:LEU:HG	1:C:1044:ARG:HH12	1.51	0.74
1:B:2970:SER:HA	1:B:2973:PHE:CE1	2.23	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:182:LEU:HD11	1:C:189:LEU:HD12	1.70	0.73
1:A:182:LEU:HD11	1:A:189:LEU:HD12	1.70	0.73
1:C:2970:SER:HA	1:C:2973:PHE:CE1	2.24	0.73
1:C:3946:GLN:OE1	1:C:3949:ARG:NH1	2.17	0.73
2:E:90:ILE:HG22	2:E:91:ILE:HG13	1.70	0.73
1:A:977:LEU:HG	1:A:1044:ARG:HH12	1.52	0.73
1:D:2970:SER:HA	1:D:2973:PHE:CE1	2.24	0.73
1:A:2970:SER:HA	1:A:2973:PHE:CE1	2.24	0.73
1:A:4578:LEU:HD23	1:B:4879:MET:HG3	1.71	0.73
1:B:876:GLU:HG2	1:B:918:ARG:HD3	1.70	0.72
1:C:2867:LEU:HB2	1:C:2928:LYS:HZ3	1.54	0.72
1:A:2867:LEU:HB2	1:A:2928:LYS:HZ3	1.54	0.72
1:B:182:LEU:HD11	1:B:189:LEU:HD12	1.70	0.72
1:D:876:GLU:HG2	1:D:918:ARG:HD3	1.71	0.72
1:C:3366:ARG:NH1	1:C:3440:GLU:OE1	2.22	0.72
1:A:1174:GLY:N	1:D:3467:MET:HE2	2.04	0.72
1:D:125:ARG:NH1	1:D:190:GLN:OE1	2.23	0.72
1:C:125:ARG:NH1	1:C:190:GLN:OE1	2.23	0.72
1:D:2867:LEU:HB2	1:D:2928:LYS:HZ3	1.54	0.72
1:C:876:GLU:HG2	1:C:918:ARG:HD3	1.71	0.72
1:A:125:ARG:NH1	1:A:190:GLN:OE1	2.23	0.71
1:D:1573:MET:HE3	1:D:1587:PRO:HA	1.72	0.71
1:A:876:GLU:HG2	1:A:918:ARG:HD3	1.71	0.71
2:F:88:PRO:HB2	1:B:1680:ARG:HH12	1.55	0.71
1:B:125:ARG:NH1	1:B:190:GLN:OE1	2.23	0.71
1:B:3366:ARG:NH1	1:B:3440:GLU:OE1	2.22	0.71
1:D:3946:GLN:OE1	1:D:3949:ARG:NH1	2.17	0.71
1:A:2577:ILE:HD12	1:A:2578:MET:H	1.56	0.70
2:H:61:GLU:OE1	2:H:61:GLU:N	2.19	0.70
1:C:1573:MET:HE3	1:C:1587:PRO:HA	1.72	0.70
1:B:3946:GLN:OE1	1:B:3949:ARG:NH1	2.17	0.70
1:A:1684:ALA:HA	2:E:90:ILE:HD11	1.73	0.70
1:A:3946:GLN:OE1	1:A:3949:ARG:NH1	2.17	0.70
2:G:88:PRO:HB2	1:C:1680:ARG:HH12	1.57	0.70
1:C:2577:ILE:HD12	1:C:2578:MET:H	1.56	0.70
1:B:2577:ILE:HD12	1:B:2578:MET:H	1.56	0.70
1:B:2902:HIS:HB3	1:B:2905:LEU:HG	1.74	0.70
1:D:2902:HIS:HB3	1:D:2905:LEU:HG	1.74	0.70
1:B:3250:MET:HE2	1:B:3277:LEU:HD13	1.73	0.69
1:C:2902:HIS:HB3	1:C:2905:LEU:HG	1.74	0.69
1:A:2902:HIS:HB3	1:A:2905:LEU:HG	1.74	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3366:ARG:NH1	1:A:3440:GLU:OE1	2.22	0.69
1:D:1996:ARG:HH21	1:D:1999:ARG:HG3	1.58	0.69
2:H:88:PRO:HB2	1:D:1680:ARG:HH12	1.57	0.69
1:A:1996:ARG:HH21	1:A:1999:ARG:HG3	1.58	0.69
1:D:4966:ASP:OD2	1:D:4967:TYR:N	2.26	0.69
1:C:227:MET:HA	1:C:227:MET:HE3	1.75	0.69
1:C:1996:ARG:HH21	1:C:1999:ARG:HG3	1.58	0.69
1:A:4966:ASP:OD2	1:A:4967:TYR:N	2.26	0.69
1:D:3324:VAL:HG11	1:D:3361:THR:HG22	1.75	0.69
1:D:2577:ILE:HD12	1:D:2578:MET:H	1.56	0.69
1:D:227:MET:HA	1:D:227:MET:HE3	1.75	0.68
1:D:4818:MET:N	1:D:4818:MET:SD	2.66	0.68
1:D:1987:SER:HB2	1:D:1994:ARG:HH22	1.59	0.68
1:C:4966:ASP:OD2	1:C:4967:TYR:N	2.26	0.68
2:F:61:GLU:OE1	2:F:61:GLU:N	2.20	0.68
1:B:4818:MET:N	1:B:4818:MET:SD	2.66	0.68
1:C:891:TRP:HA	1:C:902:ARG:HB3	1.75	0.68
1:A:3250:MET:HE2	1:A:3277:LEU:HD13	1.74	0.68
1:B:2867:LEU:HB2	1:B:2928:LYS:HZ3	1.58	0.68
1:C:4818:MET:SD	1:C:4818:MET:N	2.67	0.68
1:B:3324:VAL:HG11	1:B:3361:THR:HG22	1.75	0.68
1:D:4904:PRO:HB3	1:D:4913:ARG:HG2	1.76	0.68
1:B:4966:ASP:OD2	1:B:4967:TYR:N	2.26	0.68
1:D:955:LEU:O	1:D:966:LYS:NZ	2.27	0.68
1:A:1099:GLU:OE1	1:A:1128:ARG:NH2	2.27	0.68
1:C:4904:PRO:HB3	1:C:4913:ARG:HG2	1.76	0.68
1:A:4818:MET:N	1:A:4818:MET:SD	2.66	0.68
1:D:3114:LYS:HD3	1:D:3116:SER:H	1.59	0.68
1:D:3366:ARG:NH1	1:D:3440:GLU:OE1	2.22	0.68
1:B:1996:ARG:HH21	1:B:1999:ARG:HG3	1.58	0.68
1:C:1099:GLU:OE1	1:C:1128:ARG:NH2	2.27	0.68
1:C:3114:LYS:HD3	1:C:3116:SER:H	1.59	0.67
1:A:891:TRP:HA	1:A:902:ARG:HB3	1.75	0.67
1:A:3324:VAL:HG11	1:A:3361:THR:HG22	1.75	0.67
1:B:928:THR:O	1:B:931:THR:OG1	2.12	0.67
1:D:891:TRP:HA	1:D:902:ARG:HB3	1.75	0.67
1:D:3645:PRO:HG2	1:D:3648:ARG:HH21	1.60	0.67
1:B:955:LEU:O	1:B:966:LYS:NZ	2.27	0.67
1:B:1099:GLU:OE1	1:B:1128:ARG:NH2	2.27	0.67
1:C:3324:VAL:HG11	1:C:3361:THR:HG22	1.75	0.67
1:C:3645:PRO:HG2	1:C:3648:ARG:HH21	1.60	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1987:SER:HB2	1:A:1994:ARG:HH22	1.59	0.67
1:C:3329:ILE:HD11	1:C:3332:ALA:HB2	1.76	0.67
1:C:1987:SER:HB2	1:C:1994:ARG:HH22	1.59	0.67
1:A:1573:MET:HE3	1:A:1587:PRO:HA	1.75	0.67
1:A:1985:THR:OG1	1:A:1986:MET:SD	2.53	0.67
1:A:3329:ILE:HD11	1:A:3332:ALA:HB2	1.76	0.67
1:A:4091:LYS:HZ1	1:A:4095:LYS:HB3	1.59	0.67
1:B:891:TRP:HA	1:B:902:ARG:HB3	1.75	0.67
1:B:1987:SER:HB2	1:B:1994:ARG:HH22	1.59	0.67
1:A:955:LEU:O	1:A:966:LYS:NZ	2.27	0.67
1:A:2519:LEU:HD13	1:A:2575:ARG:HG3	1.77	0.67
1:A:4904:PRO:HB3	1:A:4913:ARG:HG2	1.75	0.67
1:B:3020:THR:HG23	1:B:3023:LYS:H	1.59	0.67
1:D:2519:LEU:HD13	1:D:2575:ARG:HG3	1.77	0.67
1:A:3114:LYS:HD3	1:A:3116:SER:H	1.59	0.66
1:B:3329:ILE:HD11	1:B:3332:ALA:HB2	1.76	0.66
1:B:3114:LYS:HD3	1:B:3116:SER:H	1.59	0.66
1:B:4888:TYR:OH	1:C:4917:ASP:OD2	2.08	0.66
1:A:3523:ASN:O	1:A:3582:ARG:NH2	2.29	0.66
1:A:3645:PRO:HG2	1:A:3648:ARG:HH21	1.60	0.66
1:B:3291:ALA:O	1:B:3293:PRO:HD3	1.96	0.66
1:B:2018:GLU:OE1	1:B:2028:ARG:NH1	2.29	0.66
1:B:3523:ASN:O	1:B:3582:ARG:NH2	2.29	0.66
1:B:3645:PRO:HG2	1:B:3648:ARG:HH21	1.60	0.66
1:B:4904:PRO:HB3	1:B:4913:ARG:HG2	1.75	0.66
1:D:1099:GLU:OE1	1:D:1128:ARG:NH2	2.27	0.66
1:D:2018:GLU:OE1	1:D:2028:ARG:NH1	2.29	0.66
1:D:3250:MET:HE2	1:D:3277:LEU:HD13	1.77	0.66
1:D:3523:ASN:O	1:D:3582:ARG:NH2	2.29	0.66
1:C:955:LEU:O	1:C:966:LYS:NZ	2.27	0.66
1:C:3523:ASN:O	1:C:3582:ARG:NH2	2.29	0.66
1:A:2018:GLU:OE1	1:A:2028:ARG:NH1	2.29	0.66
1:B:2644:LEU:HD13	1:B:2678:LEU:HD21	1.78	0.66
1:D:928:THR:O	1:D:931:THR:OG1	2.12	0.66
1:C:928:THR:O	1:C:931:THR:OG1	2.12	0.66
1:A:3020:THR:HG23	1:A:3023:LYS:H	1.59	0.66
1:B:3540:TYR:HB3	1:B:3604:TYR:CD1	2.31	0.66
1:D:2644:LEU:HD13	1:D:2678:LEU:HD21	1.78	0.66
1:D:3291:ALA:O	1:D:3293:PRO:HD3	1.96	0.66
1:D:3329:ILE:HD11	1:D:3332:ALA:HB2	1.76	0.66
1:C:2018:GLU:OE1	1:C:2028:ARG:NH1	2.29	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2644:LEU:HD13	1:C:2678:LEU:HD21	1.78	0.66
1:A:2781:VAL:HA	1:A:2789:PRO:HB2	1.78	0.65
1:A:2644:LEU:HD13	1:A:2678:LEU:HD21	1.78	0.65
1:D:3020:THR:HG23	1:D:3023:LYS:H	1.59	0.65
1:B:1066:GLN:HB2	1:B:1071:ARG:NH2	2.11	0.65
1:B:2519:LEU:HD13	1:B:2575:ARG:HG3	1.77	0.65
1:D:3540:TYR:HB3	1:D:3604:TYR:CD1	2.31	0.65
1:A:3540:TYR:HB3	1:A:3604:TYR:CD1	2.31	0.65
1:A:4944:ARG:NH1	1:B:4942:GLU:OE1	2.29	0.65
1:C:3291:ALA:O	1:C:3293:PRO:HD3	1.96	0.65
1:C:4091:LYS:HZ1	1:C:4095:LYS:HB3	1.62	0.65
1:A:928:THR:O	1:A:931:THR:OG1	2.12	0.65
1:A:3291:ALA:O	1:A:3293:PRO:HD3	1.96	0.65
1:B:2781:VAL:HA	1:B:2789:PRO:HB2	1.78	0.65
1:B:2182:ILE:O	1:B:2186:MET:HG2	1.97	0.65
1:C:1066:GLN:HB2	1:C:1071:ARG:NH2	2.11	0.65
1:D:2781:VAL:HA	1:D:2789:PRO:HB2	1.78	0.65
1:C:3020:THR:HG23	1:C:3023:LYS:H	1.59	0.65
1:D:1232:ARG:NH2	1:D:1828:ASP:O	2.30	0.65
1:D:2182:ILE:O	1:D:2186:MET:HG2	1.97	0.65
1:D:2978:GLU:OE2	1:D:3053:ARG:NH1	2.30	0.65
1:C:2978:GLU:OE2	1:C:3053:ARG:NH1	2.30	0.64
1:B:1127:HIS:HB3	1:B:1128:ARG:HH21	1.63	0.64
1:B:1985:THR:OG1	1:B:1986:MET:SD	2.53	0.64
1:B:3017:PHE:O	1:B:3036:LYS:NZ	2.31	0.64
1:C:2519:LEU:HD13	1:C:2575:ARG:HG3	1.77	0.64
1:A:2794:TYR:H	1:A:2855:TYR:HB2	1.63	0.64
1:A:2978:GLU:OE2	1:A:3053:ARG:NH1	2.30	0.64
2:E:11:ASP:OD1	2:E:12:GLY:N	2.31	0.64
1:B:367:LEU:HD23	1:B:367:LEU:H	1.62	0.64
1:C:367:LEU:HD23	1:C:367:LEU:H	1.62	0.64
1:C:1127:HIS:HB3	1:C:1128:ARG:HH21	1.63	0.64
1:C:3540:TYR:HB3	1:C:3604:TYR:CD1	2.31	0.64
1:A:2182:ILE:O	1:A:2186:MET:HG2	1.97	0.64
1:B:2978:GLU:OE2	1:B:3053:ARG:NH1	2.30	0.64
1:A:1127:HIS:HB3	1:A:1128:ARG:HH21	1.63	0.64
1:B:2794:TYR:H	1:B:2855:TYR:HB2	1.63	0.64
1:D:2794:TYR:H	1:D:2855:TYR:HB2	1.63	0.64
2:G:11:ASP:OD1	2:G:12:GLY:N	2.31	0.64
1:B:19:GLU:HG2	1:B:68:THR:HG22	1.79	0.64
1:B:56:GLN:O	1:B:309:THR:OG1	2.16	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:56:GLN:O	1:C:309:THR:OG1	2.16	0.64
1:C:2182:ILE:O	1:C:2186:MET:HG2	1.97	0.64
1:C:3017:PHE:O	1:C:3036:LYS:NZ	2.31	0.64
1:C:3250:MET:HE2	1:C:3277:LEU:HD13	1.78	0.64
1:D:4091:LYS:HZ1	1:D:4095:LYS:HB3	1.63	0.64
1:C:19:GLU:HG2	1:C:68:THR:HG22	1.79	0.64
1:C:1252:HIS:O	1:C:1275:ARG:NH1	2.31	0.64
1:A:3017:PHE:O	1:A:3036:LYS:NZ	2.31	0.64
1:B:1232:ARG:NH2	1:B:1828:ASP:O	2.30	0.64
1:D:56:GLN:O	1:D:309:THR:OG1	2.16	0.64
1:A:1066:GLN:HB2	1:A:1071:ARG:NH2	2.11	0.63
2:H:11:ASP:OD1	2:H:12:GLY:N	2.31	0.63
1:B:1252:HIS:O	1:B:1275:ARG:NH1	2.31	0.63
1:B:4091:LYS:HZ1	1:B:4095:LYS:HB3	1.63	0.63
1:D:2128:TYR:OH	1:D:3676:ASP:OD2	2.16	0.63
1:D:3017:PHE:O	1:D:3036:LYS:NZ	2.31	0.63
1:C:1985:THR:OG1	1:C:1986:MET:SD	2.53	0.63
1:C:2781:VAL:HA	1:C:2789:PRO:HB2	1.78	0.63
1:A:1252:HIS:O	1:A:1275:ARG:NH1	2.31	0.63
1:D:367:LEU:H	1:D:367:LEU:HD23	1.62	0.63
1:C:1232:ARG:NH2	1:C:1828:ASP:O	2.30	0.63
1:D:1127:HIS:HB3	1:D:1128:ARG:HH21	1.63	0.63
1:D:1252:HIS:O	1:D:1275:ARG:NH1	2.31	0.63
1:A:19:GLU:HG2	1:A:68:THR:HG22	1.79	0.63
2:F:11:ASP:OD1	2:F:12:GLY:N	2.32	0.63
1:C:2777:TYR:HB3	1:C:2791:LEU:HD23	1.80	0.63
1:A:367:LEU:HD23	1:A:367:LEU:H	1.62	0.63
1:B:2128:TYR:OH	1:B:3676:ASP:OD2	2.17	0.63
1:B:4892:ARG:HD3	1:C:4918:ILE:CD1	2.27	0.63
1:D:2777:TYR:HB3	1:D:2791:LEU:HD23	1.80	0.63
1:C:4232:GLU:OE1	1:C:5017:ARG:NH2	2.32	0.63
1:A:2128:TYR:OH	1:A:3676:ASP:OD2	2.17	0.63
1:A:3034:LYS:O	1:A:3038:MET:HG3	1.99	0.63
1:B:2777:TYR:HB3	1:B:2791:LEU:HD23	1.80	0.63
1:B:4157:ASP:N	1:B:4161:ARG:HH21	1.97	0.63
1:D:1990:GLU:OE1	1:D:1994:ARG:NH2	2.32	0.63
1:D:3034:LYS:O	1:D:3038:MET:HG3	1.99	0.63
1:C:4157:ASP:N	1:C:4161:ARG:HH21	1.97	0.63
1:D:1066:GLN:HB2	1:D:1071:ARG:NH2	2.11	0.63
1:A:3377:GLU:HA	1:A:3380:ARG:HG2	1.81	0.63
1:C:2128:TYR:OH	1:C:3676:ASP:OD2	2.16	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1985:THR:OG1	1:D:1986:MET:SD	2.53	0.62
1:A:56:GLN:O	1:A:309:THR:OG1	2.16	0.62
1:B:1990:GLU:OE1	1:B:1994:ARG:NH2	2.32	0.62
1:B:4232:GLU:OE1	1:B:5017:ARG:NH2	2.32	0.62
1:A:1232:ARG:NH2	1:A:1828:ASP:O	2.30	0.62
1:A:4232:GLU:OE1	1:A:5017:ARG:NH2	2.32	0.62
1:C:2794:TYR:H	1:C:2855:TYR:HB2	1.63	0.62
1:A:4157:ASP:N	1:A:4161:ARG:HH21	1.96	0.62
1:D:4232:GLU:OE1	1:D:5017:ARG:NH2	2.32	0.62
1:C:2970:SER:HA	1:C:2973:PHE:HE1	1.64	0.62
1:A:2777:TYR:HB3	1:A:2791:LEU:HD23	1.80	0.62
1:B:1448:VAL:HG22	1:B:1554:VAL:HG23	1.82	0.62
1:D:4157:ASP:N	1:D:4161:ARG:HH21	1.96	0.62
1:C:2779:GLU:HG3	1:C:2792:ARG:HG2	1.82	0.62
1:A:1448:VAL:HG22	1:A:1554:VAL:HG23	1.82	0.62
1:B:516:LYS:O	1:B:520:ASN:ND2	2.30	0.62
1:B:2779:GLU:HG3	1:B:2792:ARG:HG2	1.82	0.62
1:B:3377:GLU:HA	1:B:3380:ARG:HG2	1.81	0.62
1:D:19:GLU:HG2	1:D:68:THR:HG22	1.79	0.62
1:C:1990:GLU:OE1	1:C:1994:ARG:NH2	2.32	0.62
1:A:1990:GLU:OE1	1:A:1994:ARG:NH2	2.32	0.62
1:A:2875:ALA:HB2	1:A:2927:LEU:HD22	1.82	0.62
1:D:897:ARG:NH2	1:D:899:ASP:OD1	2.33	0.62
1:D:4654:ALA:C	1:D:4796:MET:HE1	2.21	0.62
1:C:4654:ALA:C	1:C:4796:MET:HE1	2.20	0.62
1:A:127:MET:SD	1:A:127:MET:N	2.73	0.61
1:A:2779:GLU:HG3	1:A:2792:ARG:HG2	1.82	0.61
1:D:2779:GLU:HG3	1:D:2792:ARG:HG2	1.82	0.61
1:D:2827:ARG:NH2	1:D:2935:TYR:OH	2.33	0.61
1:D:3377:GLU:HA	1:D:3380:ARG:HG2	1.81	0.61
1:B:2875:ALA:HB2	1:B:2927:LEU:HD22	1.82	0.61
1:D:2875:ALA:HB2	1:D:2927:LEU:HD22	1.82	0.61
1:D:3235:SER:OG	1:D:3237:GLU:OE1	2.18	0.61
1:B:897:ARG:NH2	1:B:899:ASP:OD1	2.33	0.61
1:B:3850:GLN:NE2	1:B:3872:GLU:OE1	2.33	0.61
1:D:4917:ASP:OD2	1:C:4888:TYR:OH	2.09	0.61
1:A:4689:THR:OG1	1:A:4690:GLU:OE1	2.18	0.61
1:B:3034:LYS:O	1:B:3038:MET:HG3	1.99	0.61
1:C:3235:SER:OG	1:C:3237:GLU:OE1	2.18	0.61
1:A:2970:SER:HA	1:A:2973:PHE:HE1	1.64	0.61
1:A:2827:ARG:NH2	1:A:2935:TYR:OH	2.33	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3850:GLN:NE2	1:A:3872:GLU:OE1	2.33	0.61
2:F:38:SER:OG	2:F:41:ASP:OD1	2.15	0.61
1:B:951:LYS:H	1:B:951:LYS:HD2	1.66	0.61
1:B:1573:MET:HE3	1:B:1587:PRO:HA	1.83	0.61
1:B:3235:SER:OG	1:B:3237:GLU:OE1	2.18	0.61
1:D:4918:ILE:CD1	1:C:4892:ARG:HD3	2.28	0.61
1:C:3034:LYS:O	1:C:3038:MET:HG3	1.99	0.61
1:C:3377:GLU:HA	1:C:3380:ARG:HG2	1.81	0.61
1:A:1573:MET:HE3	1:A:1574:PRO:HD2	1.82	0.61
1:C:3850:GLN:NE2	1:C:3872:GLU:OE1	2.33	0.61
1:B:4689:THR:OG1	1:B:4690:GLU:OE1	2.18	0.61
1:B:2827:ARG:NH2	1:B:2935:TYR:OH	2.34	0.61
1:C:897:ARG:NH2	1:C:899:ASP:OD1	2.33	0.61
1:B:2765:LYS:NZ	1:B:2859:PRO:O	2.34	0.60
1:A:897:ARG:NH2	1:A:899:ASP:OD1	2.33	0.60
1:A:4654:ALA:C	1:A:4796:MET:HE1	2.22	0.60
1:B:4238:CYS:HA	1:B:4989:MET:HE1	1.84	0.60
1:B:4769:MET:SD	1:B:4769:MET:N	2.70	0.60
1:D:2970:SER:HA	1:D:2973:PHE:HE1	1.64	0.60
1:B:4888:TYR:HE1	1:C:4917:ASP:HB2	1.65	0.60
1:D:4238:CYS:HA	1:D:4989:MET:HE1	1.83	0.60
1:B:2970:SER:HA	1:B:2973:PHE:HE1	1.64	0.60
1:C:2875:ALA:HB2	1:C:2927:LEU:HD22	1.82	0.60
1:A:951:LYS:H	1:A:951:LYS:HD2	1.66	0.60
1:A:1066:GLN:CB	1:A:1071:ARG:HH22	2.13	0.60
1:B:4791:TYR:OH	1:B:4815:ASP:OD1	2.13	0.60
1:D:3850:GLN:NE2	1:D:3872:GLU:OE1	2.33	0.60
1:C:1448:VAL:HG22	1:C:1554:VAL:HG23	1.82	0.60
1:C:1573:MET:CE	1:C:1574:PRO:HD2	2.32	0.60
1:B:4654:ALA:C	1:B:4796:MET:HE1	2.22	0.60
1:D:1448:VAL:HG22	1:D:1554:VAL:HG23	1.82	0.60
1:A:516:LYS:O	1:A:520:ASN:ND2	2.30	0.60
1:A:3235:SER:OG	1:A:3237:GLU:OE1	2.18	0.60
1:C:2827:ARG:NH2	1:C:2935:TYR:OH	2.33	0.60
1:A:3371:LYS:NZ	1:A:3375:GLU:OE2	2.34	0.60
1:B:3995:VAL:O	1:B:3999:MET:HB2	2.02	0.60
1:C:951:LYS:H	1:C:951:LYS:HD2	1.66	0.60
1:A:1573:MET:CE	1:A:1574:PRO:HD2	2.32	0.60
1:D:951:LYS:H	1:D:951:LYS:HD2	1.66	0.59
1:D:3995:VAL:O	1:D:3999:MET:HB2	2.02	0.59
1:D:4917:ASP:HB2	1:C:4888:TYR:HE1	1.66	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:3995:VAL:O	1:C:3999:MET:HB2	2.02	0.59
1:C:4689:THR:OG1	1:C:4690:GLU:OE1	2.18	0.59
1:C:3391:GLU:O	1:C:3395:ARG:HG2	2.02	0.59
1:A:3445:TRP:NE1	1:A:3455:GLU:OE1	2.32	0.59
1:B:3391:GLU:O	1:B:3395:ARG:HG2	2.02	0.59
1:C:384:MET:SD	1:C:384:MET:N	2.72	0.59
1:A:4769:MET:SD	1:A:4769:MET:N	2.71	0.59
1:B:3445:TRP:NE1	1:B:3455:GLU:OE1	2.32	0.59
1:B:3769:ARG:O	1:B:3773:ARG:NH1	2.35	0.59
1:B:925:SER:O	1:B:928:THR:OG1	2.19	0.59
1:A:2986:VAL:HG22	1:A:2988:LYS:H	1.68	0.59
1:A:5012:LYS:NZ	1:A:5016:GLU:OE2	2.35	0.59
1:B:1573:MET:CE	1:B:1574:PRO:HD2	2.32	0.59
1:D:127:MET:SD	1:D:127:MET:N	2.73	0.59
1:B:1864:LYS:HE3	1:B:1872:THR:HA	1.84	0.59
1:B:3087:ILE:HD12	1:B:3087:ILE:H	1.68	0.59
1:D:1864:LYS:HE3	1:D:1872:THR:HA	1.84	0.59
1:C:4769:MET:SD	1:C:4769:MET:N	2.70	0.59
1:A:3995:VAL:O	1:A:3999:MET:HB2	2.02	0.59
1:B:1808:ARG:HD3	1:B:1853:ILE:HG22	1.85	0.59
1:B:3371:LYS:NZ	1:B:3375:GLU:OE2	2.34	0.59
1:D:1573:MET:CE	1:D:1574:PRO:HD2	2.32	0.59
1:D:4791:TYR:OH	1:D:4815:ASP:OD1	2.13	0.59
1:C:1108:GLU:OE2	1:C:1108:GLU:N	2.28	0.59
1:A:2765:LYS:NZ	1:A:2859:PRO:O	2.34	0.59
1:A:4934:GLY:HA3	1:D:4937:ILE:HG12	1.85	0.59
1:B:2986:VAL:HG22	1:B:2988:LYS:H	1.68	0.59
1:C:3169:LEU:HD12	1:C:3194:LEU:HD11	1.85	0.59
2:G:49:MET:HB3	2:G:52:LYS:HD3	1.83	0.59
1:B:3169:LEU:HD12	1:B:3194:LEU:HD11	1.85	0.59
1:D:4689:THR:OG1	1:D:4690:GLU:OE1	2.18	0.59
1:C:516:LYS:O	1:C:520:ASN:ND2	2.30	0.59
1:C:3836:MET:HG3	1:C:3884:LEU:HD21	1.84	0.59
1:A:3391:GLU:O	1:A:3395:ARG:HG2	2.02	0.58
2:G:38:SER:OG	2:G:41:ASP:OD1	2.14	0.58
1:D:3391:GLU:O	1:D:3395:ARG:HG2	2.02	0.58
1:C:1864:LYS:HE3	1:C:1872:THR:HA	1.84	0.58
1:A:1748:PHE:HB2	1:A:1758:ARG:HH21	1.68	0.58
1:A:1864:LYS:HE3	1:A:1872:THR:HA	1.84	0.58
1:A:2477:PRO:HD3	1:A:2546:MET:HG2	1.86	0.58
1:C:1808:ARG:HD3	1:C:1853:ILE:HG22	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2737:PRO:HD2	1:B:2891:LYS:HD3	1.86	0.58
1:B:3467:MET:HE1	1:C:1174:GLY:CA	2.33	0.58
1:D:1066:GLN:CB	1:D:1071:ARG:HH22	2.13	0.58
1:D:2737:PRO:HD2	1:D:2891:LYS:HD3	1.86	0.58
1:A:1228:ILE:HG12	1:D:3571:TRP:CE2	2.39	0.58
1:B:633:LEU:HD13	1:B:1639:LEU:HD21	1.85	0.58
1:B:3535:LEU:O	1:B:3538:THR:OG1	2.20	0.58
1:D:2271:THR:OG1	1:D:2330:ARG:NH2	2.36	0.58
1:D:3836:MET:HG3	1:D:3884:LEU:HD21	1.84	0.58
1:C:2973:PHE:CE2	1:C:2995:ILE:HG12	2.39	0.58
1:C:3769:ARG:O	1:C:3773:ARG:NH1	2.35	0.58
1:A:2419:GLY:O	1:A:2423:MET:HG3	2.04	0.58
1:A:3836:MET:HG3	1:A:3884:LEU:HD21	1.84	0.58
1:A:4676:GLU:OE2	1:A:4698:LYS:NZ	2.37	0.58
1:B:127:MET:N	1:B:127:MET:SD	2.73	0.58
1:D:3371:LYS:NZ	1:D:3375:GLU:OE2	2.34	0.58
1:C:1066:GLN:CB	1:C:1071:ARG:HH22	2.13	0.58
1:A:3400:VAL:HG23	1:A:3403:ARG:HH21	1.68	0.58
1:D:2986:VAL:HG22	1:D:2988:LYS:H	1.68	0.58
1:C:2660:GLY:HA3	1:C:2666:VAL:HG22	1.85	0.58
1:C:2737:PRO:HD2	1:C:2891:LYS:HD3	1.86	0.58
1:C:3734:HIS:CD2	1:C:3736:GLU:H	2.21	0.58
1:A:947:GLU:OE1	1:A:1051:TYR:OH	2.22	0.58
1:A:1808:ARG:HD3	1:A:1853:ILE:HG22	1.85	0.58
2:E:49:MET:HB3	2:E:52:LYS:HD3	1.86	0.58
1:B:2419:GLY:O	1:B:2423:MET:HG3	2.04	0.58
1:B:3734:HIS:CD2	1:B:3736:GLU:H	2.21	0.58
1:B:4676:GLU:OE2	1:B:4698:LYS:NZ	2.37	0.58
1:D:3169:LEU:HD12	1:D:3194:LEU:HD11	1.85	0.58
1:C:2477:PRO:HD3	1:C:2546:MET:HG2	1.86	0.58
1:A:618:GLN:OE1	1:A:1678:ASN:ND2	2.35	0.58
1:A:2737:PRO:HD2	1:A:2891:LYS:HD3	1.86	0.58
1:A:4578:LEU:HA	1:B:4879:MET:CG	2.34	0.58
1:B:2477:PRO:HD3	1:B:2546:MET:HG2	1.85	0.58
1:B:3400:VAL:HG23	1:B:3403:ARG:HH21	1.69	0.58
1:D:1748:PHE:HB2	1:D:1758:ARG:HH21	1.68	0.58
1:D:2410:PRO:HB3	1:D:2415:ARG:HB3	1.86	0.58
1:D:3162:GLN:NE2	1:D:3216:CYS:O	2.37	0.58
1:D:3400:VAL:HG23	1:D:3403:ARG:HH21	1.69	0.58
1:D:3769:ARG:O	1:D:3773:ARG:NH1	2.35	0.58
1:C:2419:GLY:O	1:C:2423:MET:HG3	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3162:GLN:NE2	1:A:3216:CYS:O	2.37	0.58
1:D:618:GLN:OE1	1:D:1678:ASN:ND2	2.35	0.58
1:D:1653:LEU:O	1:D:1660:GLN:NE2	2.37	0.58
1:A:2973:PHE:CE2	1:A:2995:ILE:HG12	2.39	0.58
1:B:2660:GLY:HA3	1:B:2666:VAL:HG22	1.85	0.58
1:D:1808:ARG:HD3	1:D:1853:ILE:HG22	1.85	0.58
1:C:925:SER:O	1:C:928:THR:OG1	2.19	0.58
1:A:1653:LEU:O	1:A:1660:GLN:NE2	2.37	0.57
1:A:3087:ILE:H	1:A:3087:ILE:HD12	1.68	0.57
1:B:4901:ILE:HG13	1:B:4913:ARG:NH2	2.19	0.57
1:D:3087:ILE:H	1:D:3087:ILE:HD12	1.68	0.57
1:C:2410:PRO:HB3	1:C:2415:ARG:HB3	1.86	0.57
1:C:4676:GLU:OE2	1:C:4698:LYS:NZ	2.37	0.57
1:A:1174:GLY:CA	1:D:3467:MET:CE	2.82	0.57
1:A:2660:GLY:HA3	1:A:2666:VAL:HG22	1.85	0.57
1:A:3169:LEU:HD12	1:A:3194:LEU:HD11	1.85	0.57
1:A:5013:MET:HE2	1:A:5021:PHE:HD1	1.69	0.57
1:B:5013:MET:HE2	1:B:5021:PHE:HD1	1.69	0.57
1:D:2973:PHE:CE2	1:D:2995:ILE:HG12	2.39	0.57
1:A:4039:MET:SD	1:A:4040:ILE:HG13	2.44	0.57
1:D:3734:HIS:CD2	1:D:3736:GLU:H	2.21	0.57
1:C:127:MET:SD	1:C:127:MET:N	2.73	0.57
1:C:3752:SER:N	1:C:3755:GLU:OE2	2.32	0.57
1:A:2967:MET:O	1:A:2970:SER:OG	2.17	0.57
1:B:3162:GLN:NE2	1:B:3216:CYS:O	2.37	0.57
1:B:3836:MET:HG3	1:B:3884:LEU:HD21	1.84	0.57
1:C:4901:ILE:HG13	1:C:4913:ARG:NH2	2.19	0.57
1:A:3535:LEU:O	1:A:3538:THR:OG1	2.20	0.57
1:A:3545:THR:HG22	1:A:3548:GLU:HG3	1.86	0.57
1:A:3734:HIS:CD2	1:A:3736:GLU:H	2.21	0.57
1:B:3467:MET:HE1	1:C:1174:GLY:HA2	1.86	0.57
1:D:3545:THR:HG22	1:D:3548:GLU:HG3	1.86	0.57
1:D:4769:MET:SD	1:D:4769:MET:N	2.71	0.57
1:C:618:GLN:OE1	1:C:1678:ASN:ND2	2.35	0.57
1:C:4570:ALA:O	1:C:4574:ASN:ND2	2.36	0.57
1:D:2419:GLY:O	1:D:2423:MET:HG3	2.04	0.57
1:D:4039:MET:SD	1:D:4040:ILE:HG13	2.44	0.57
1:D:4676:GLU:OE2	1:D:4698:LYS:NZ	2.37	0.57
1:D:5013:MET:HE2	1:D:5021:PHE:HD1	1.69	0.57
1:C:1024:TYR:CZ	1:C:1032:LYS:HG3	2.40	0.57
1:C:2986:VAL:HG22	1:C:2988:LYS:H	1.68	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:3400:VAL:HG23	1:C:3403:ARG:HH21	1.68	0.57
1:A:2410:PRO:HB3	1:A:2415:ARG:HB3	1.86	0.57
1:A:4238:CYS:HA	1:A:4989:MET:HE1	1.86	0.57
1:B:4039:MET:SD	1:B:4040:ILE:HG13	2.44	0.57
1:D:516:LYS:O	1:D:520:ASN:ND2	2.30	0.57
1:D:2660:GLY:HA3	1:D:2666:VAL:HG22	1.86	0.57
1:C:947:GLU:OE1	1:C:1051:TYR:OH	2.22	0.57
1:A:3769:ARG:O	1:A:3773:ARG:NH1	2.35	0.57
1:D:633:LEU:HD13	1:D:1639:LEU:HD21	1.86	0.57
1:C:3087:ILE:H	1:C:3087:ILE:HD12	1.68	0.57
1:C:3545:THR:HG22	1:C:3548:GLU:HG3	1.86	0.57
1:C:4039:MET:SD	1:C:4040:ILE:HG13	2.44	0.57
1:A:925:SER:O	1:A:928:THR:OG1	2.19	0.57
1:B:1653:LEU:O	1:B:1660:GLN:NE2	2.37	0.57
1:B:2973:PHE:CE2	1:B:2995:ILE:HG12	2.39	0.57
1:D:2477:PRO:HD3	1:D:2546:MET:HG2	1.85	0.57
1:D:3445:TRP:NE1	1:D:3455:GLU:OE1	2.32	0.57
1:C:3371:LYS:NZ	1:C:3375:GLU:OE2	2.34	0.57
1:C:3535:LEU:O	1:C:3538:THR:OG1	2.20	0.57
1:A:633:LEU:HD13	1:A:1639:LEU:HD21	1.85	0.57
2:E:11:ASP:OD2	2:E:14:THR:OG1	2.23	0.57
1:B:1299:GLN:NE2	1:B:1545:ASN:OD1	2.38	0.57
1:D:1299:GLN:NE2	1:D:1545:ASN:OD1	2.38	0.57
1:D:1753:LYS:HB3	1:D:1758:ARG:HA	1.87	0.57
1:C:1748:PHE:HB2	1:C:1758:ARG:HH21	1.68	0.57
1:C:5012:LYS:NZ	1:C:5016:GLU:OE2	2.35	0.57
1:A:1299:GLN:NE2	1:A:1545:ASN:OD1	2.38	0.56
1:A:4901:ILE:HG13	1:A:4913:ARG:NH2	2.19	0.56
1:A:4910:GLU:O	1:A:4914:VAL:HG13	2.05	0.56
1:B:1748:PHE:HB2	1:B:1758:ARG:HH21	1.68	0.56
1:C:633:LEU:HD13	1:C:1639:LEU:HD21	1.85	0.56
1:A:293:LEU:HD13	1:A:378:LEU:HD12	1.87	0.56
1:A:2679:PHE:HB2	1:A:2706:ILE:HG21	1.87	0.56
1:B:2410:PRO:HB3	1:B:2415:ARG:HB3	1.86	0.56
1:B:2967:MET:O	1:B:2970:SER:OG	2.17	0.56
1:B:3545:THR:HG22	1:B:3548:GLU:HG3	1.86	0.56
1:D:1087:ARG:HB3	1:D:1223:PHE:CD2	2.41	0.56
1:C:1619:ARG:NH2	1:C:1622:GLU:OE1	2.39	0.56
1:C:1653:LEU:O	1:C:1660:GLN:NE2	2.37	0.56
1:C:1753:LYS:HB3	1:C:1758:ARG:HA	1.87	0.56
1:A:1024:TYR:CZ	1:A:1032:LYS:HG3	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1087:ARG:HB3	1:A:1223:PHE:CD2	2.40	0.56
1:B:618:GLN:OE1	1:B:1678:ASN:ND2	2.35	0.56
1:B:1024:TYR:CZ	1:B:1032:LYS:HG3	2.40	0.56
1:B:2679:PHE:HB2	1:B:2706:ILE:HG21	1.87	0.56
1:B:4910:GLU:O	1:B:4914:VAL:HG13	2.05	0.56
1:D:1619:ARG:NH2	1:D:1622:GLU:OE1	2.39	0.56
1:D:2765:LYS:NZ	1:D:2859:PRO:O	2.34	0.56
1:C:1087:ARG:HB3	1:C:1223:PHE:CD2	2.40	0.56
1:C:3445:TRP:NE1	1:C:3455:GLU:OE1	2.32	0.56
1:C:5013:MET:HE2	1:C:5021:PHE:HD1	1.69	0.56
1:A:1619:ARG:NH2	1:A:1622:GLU:OE1	2.39	0.56
1:D:4910:GLU:O	1:D:4914:VAL:HG13	2.05	0.56
1:C:1299:GLN:NE2	1:C:1545:ASN:OD1	2.38	0.56
1:A:1753:LYS:HB3	1:A:1758:ARG:HA	1.87	0.56
1:B:3752:SER:N	1:B:3755:GLU:OE2	2.32	0.56
1:D:1024:TYR:CZ	1:D:1032:LYS:HG3	2.40	0.56
1:A:394:GLN:OE1	1:A:394:GLN:N	2.35	0.56
2:G:11:ASP:OD2	2:G:14:THR:OG1	2.24	0.56
1:B:1619:ARG:NH2	1:B:1622:GLU:OE1	2.39	0.56
1:B:1753:LYS:HB3	1:B:1758:ARG:HA	1.87	0.56
1:D:1289:LEU:HD12	1:D:1562:ILE:HD11	1.87	0.56
1:C:4006:ASP:N	1:C:4006:ASP:OD1	2.38	0.56
1:A:4839:MET:HG3	1:D:4822:THR:HG21	1.88	0.56
2:H:38:SER:OG	2:H:41:ASP:OD2	2.17	0.56
1:B:394:GLN:OE1	1:B:394:GLN:N	2.35	0.56
1:D:947:GLU:OE1	1:D:1051:TYR:OH	2.22	0.56
1:D:1992:ALA:HB1	1:D:1996:ARG:HH12	1.70	0.56
1:D:2116:LEU:O	1:D:2120:MET:HG2	2.06	0.56
1:D:4006:ASP:N	1:D:4006:ASP:OD1	2.38	0.56
1:C:293:LEU:HD13	1:C:378:LEU:HD12	1.87	0.56
1:A:1289:LEU:HD12	1:A:1562:ILE:HD11	1.87	0.56
1:B:1066:GLN:CB	1:B:1071:ARG:HH22	2.13	0.56
1:B:5012:LYS:NZ	1:B:5016:GLU:OE2	2.35	0.56
1:D:4901:ILE:HG13	1:D:4913:ARG:NH2	2.19	0.56
1:C:394:GLN:OE1	1:C:394:GLN:N	2.35	0.56
1:B:2970:SER:HA	1:B:2973:PHE:CD1	2.41	0.56
1:B:4006:ASP:OD1	1:B:4006:ASP:N	2.38	0.56
1:D:1108:GLU:OE2	1:D:1108:GLU:N	2.28	0.56
1:D:1573:MET:HE3	1:D:1574:PRO:HD2	1.88	0.56
1:A:1174:GLY:CA	1:D:3467:MET:HE2	2.36	0.56
1:A:2970:SER:HA	1:A:2973:PHE:CD1	2.41	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2271:THR:OG1	1:B:2330:ARG:NH2	2.36	0.56
1:B:2309:SER:OG	1:B:2320:ASP:OD1	2.24	0.56
1:B:3539:ARG:NH1	1:B:3544:ASP:OD2	2.39	0.56
1:D:4570:ALA:O	1:D:4574:ASN:ND2	2.36	0.56
1:C:2970:SER:HA	1:C:2973:PHE:CD1	2.41	0.56
1:C:4555:LEU:HD21	1:C:4656:LEU:HD22	1.87	0.56
1:B:1992:ALA:HB1	1:B:1996:ARG:HH12	1.70	0.55
1:B:3571:TRP:CE2	1:C:1228:ILE:HG12	2.41	0.55
1:D:293:LEU:HD13	1:D:378:LEU:HD12	1.87	0.55
1:C:3648:ARG:O	1:C:3652:MET:HG3	2.07	0.55
1:A:227:MET:HA	1:A:227:MET:HE3	1.88	0.55
1:A:3539:ARG:NH1	1:A:3544:ASP:OD2	2.39	0.55
1:C:545:ASP:OD1	1:C:582:HIS:NE2	2.32	0.55
1:C:3539:ARG:NH1	1:C:3544:ASP:OD2	2.39	0.55
1:A:3648:ARG:O	1:A:3652:MET:HG3	2.07	0.55
1:C:2116:LEU:O	1:C:2120:MET:HG2	2.06	0.55
1:C:2881:ASN:HA	1:C:2884:ASN:ND2	2.22	0.55
1:B:293:LEU:HD13	1:B:378:LEU:HD12	1.87	0.55
1:B:2881:ASN:HA	1:B:2884:ASN:ND2	2.22	0.55
1:B:3467:MET:CE	1:C:1174:GLY:N	2.69	0.55
1:D:648:ILE:HG23	1:D:814:ALA:HB3	1.89	0.55
1:D:3564:GLU:HA	1:D:3570:ARG:HH22	1.72	0.55
1:C:3162:GLN:NE2	1:C:3216:CYS:O	2.37	0.55
1:C:4910:GLU:O	1:C:4914:VAL:HG13	2.05	0.55
1:A:648:ILE:HG23	1:A:814:ALA:HB3	1.89	0.55
1:A:2214:VAL:HG21	1:A:2228:MET:HE1	1.89	0.55
2:G:79:ASP:OD2	2:G:80:TYR:HD2	1.89	0.55
1:B:947:GLU:OE1	1:B:1051:TYR:OH	2.22	0.55
1:B:1087:ARG:HB3	1:B:1223:PHE:CD2	2.40	0.55
1:B:3648:ARG:O	1:B:3652:MET:HG3	2.07	0.55
1:D:925:SER:O	1:D:928:THR:OG1	2.19	0.55
1:D:2679:PHE:HB2	1:D:2706:ILE:HG21	1.87	0.55
1:D:3648:ARG:O	1:D:3652:MET:HG3	2.07	0.55
1:A:1031:THR:O	1:A:1035:ASN:ND2	2.37	0.55
1:A:2116:LEU:O	1:A:2120:MET:HG2	2.06	0.55
1:B:404:ILE:HD13	1:B:481:GLU:HG3	1.89	0.55
1:D:2587:TYR:O	1:D:2590:SER:OG	2.20	0.55
1:C:275:ARG:HH12	1:C:330:ASP:HA	1.72	0.55
1:C:2309:SER:OG	1:C:2320:ASP:OD1	2.24	0.55
1:A:1174:GLY:HA2	1:D:3467:MET:HE1	1.88	0.55
1:B:275:ARG:HH12	1:B:330:ASP:HA	1.72	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:4555:LEU:HD21	1:D:4656:LEU:HD22	1.88	0.55
1:C:1289:LEU:HD12	1:C:1562:ILE:HD11	1.87	0.55
1:A:2881:ASN:HA	1:A:2884:ASN:ND2	2.22	0.55
1:A:3442:PHE:HE1	1:A:3511:VAL:HG12	1.72	0.55
1:D:1867:GLU:OE2	1:D:1928:GLN:NE2	2.40	0.55
1:D:2970:SER:HA	1:D:2973:PHE:CD1	2.41	0.55
1:D:3442:PHE:HE1	1:D:3511:VAL:HG12	1.72	0.55
1:C:2679:PHE:HB2	1:C:2706:ILE:HG21	1.87	0.55
1:A:3564:GLU:HA	1:A:3570:ARG:HH22	1.72	0.55
2:F:79:ASP:OD2	2:F:80:TYR:N	2.40	0.55
1:B:2214:VAL:HG21	1:B:2228:MET:HE1	1.89	0.55
1:B:2661:TRP:HB3	1:B:2664:PHE:HB2	1.89	0.55
1:B:3467:MET:CE	1:C:1174:GLY:CA	2.85	0.55
1:B:4555:LEU:HD21	1:B:4656:LEU:HD22	1.88	0.55
1:D:919:ASN:HA	1:D:922:LEU:HD23	1.89	0.55
1:D:1561:VAL:HG12	1:D:1562:ILE:HG23	1.89	0.55
1:C:404:ILE:HD13	1:C:481:GLU:HG3	1.89	0.55
1:C:1031:THR:O	1:C:1035:ASN:ND2	2.37	0.55
1:C:1992:ALA:HB1	1:C:1996:ARG:HH12	1.70	0.55
1:C:3442:PHE:HE1	1:C:3511:VAL:HG12	1.72	0.55
1:A:275:ARG:HH12	1:A:330:ASP:HA	1.72	0.55
1:A:1992:ALA:HB1	1:A:1996:ARG:HH12	1.70	0.55
2:F:79:ASP:OD2	2:F:80:TYR:HD1	1.90	0.55
1:D:266:ARG:NH2	1:D:272:SER:OG	2.40	0.55
1:D:404:ILE:HD13	1:D:481:GLU:HG3	1.89	0.55
1:D:2309:SER:OG	1:D:2320:ASP:OD1	2.25	0.55
1:C:648:ILE:HG23	1:C:814:ALA:HB3	1.89	0.55
1:C:4238:CYS:HA	1:C:4989:MET:HE1	1.89	0.55
1:A:3752:SER:N	1:A:3755:GLU:OE2	2.32	0.54
1:A:4555:LEU:HD21	1:A:4656:LEU:HD22	1.88	0.54
2:H:79:ASP:OD2	2:H:80:TYR:N	2.40	0.54
1:B:1561:VAL:HG12	1:B:1562:ILE:HG23	1.89	0.54
1:D:2108:GLU:O	1:D:3694:LYS:NZ	2.40	0.54
1:C:1867:GLU:OE2	1:C:1928:GLN:NE2	2.40	0.54
1:A:1867:GLU:OE2	1:A:1928:GLN:NE2	2.40	0.54
1:A:4570:ALA:O	1:A:4574:ASN:ND2	2.36	0.54
1:B:266:ARG:NH2	1:B:272:SER:OG	2.40	0.54
1:B:1867:GLU:OE2	1:B:1928:GLN:NE2	2.40	0.54
1:B:3564:GLU:HA	1:B:3570:ARG:HH22	1.72	0.54
1:D:3539:ARG:NH1	1:D:3544:ASP:OD2	2.39	0.54
1:C:919:ASN:HA	1:C:922:LEU:HD23	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:11:VAL:HG11	1:A:164:ARG:HH11	1.73	0.54
1:A:2108:GLU:O	1:A:3694:LYS:NZ	2.40	0.54
1:A:2309:SER:OG	1:A:2320:ASP:OD1	2.24	0.54
1:B:1289:LEU:HD12	1:B:1562:ILE:HD11	1.87	0.54
1:B:2116:LEU:O	1:B:2120:MET:HG2	2.06	0.54
1:D:1228:ILE:HG12	1:C:3571:TRP:CE2	2.42	0.54
1:D:2881:ASN:HA	1:D:2884:ASN:ND2	2.22	0.54
1:D:3604:TYR:O	1:D:3607:GLU:HG3	2.08	0.54
1:C:266:ARG:NH2	1:C:272:SER:OG	2.40	0.54
1:C:3564:GLU:HA	1:C:3570:ARG:HH22	1.72	0.54
1:A:1131:ARG:NH1	1:A:1178:ALA:O	2.40	0.54
1:B:648:ILE:HG23	1:B:814:ALA:HB3	1.89	0.54
1:B:3465:ASN:ND2	1:B:3468:SER:OG	2.41	0.54
1:D:275:ARG:HH12	1:D:330:ASP:HA	1.72	0.54
1:D:1174:GLY:N	1:C:3467:MET:CE	2.71	0.54
1:A:919:ASN:HA	1:A:922:LEU:HD23	1.89	0.54
1:A:4791:TYR:OH	1:A:4815:ASP:OD1	2.13	0.54
1:B:3442:PHE:HE1	1:B:3511:VAL:HG12	1.72	0.54
1:D:1071:ARG:NE	1:D:1071:ARG:HA	2.23	0.54
1:D:4000:MET:SD	1:D:4020:GLN:NE2	2.79	0.54
1:D:4759:ASP:O	1:D:4761:PRO:HD3	2.08	0.54
1:D:4967:TYR:OH	1:D:5033:GLU:OE2	2.24	0.54
1:A:266:ARG:NH2	1:A:272:SER:OG	2.40	0.54
1:A:404:ILE:HD13	1:A:481:GLU:HG3	1.89	0.54
1:A:3604:TYR:O	1:A:3607:GLU:HG3	2.08	0.54
1:A:4006:ASP:N	1:A:4006:ASP:OD1	2.38	0.54
1:B:11:VAL:HG11	1:B:164:ARG:HH11	1.73	0.54
1:B:227:MET:HA	1:B:227:MET:HE3	1.89	0.54
1:B:1108:GLU:OE2	1:B:1108:GLU:N	2.28	0.54
1:B:3604:TYR:O	1:B:3607:GLU:HG3	2.08	0.54
1:D:394:GLN:OE1	1:D:394:GLN:N	2.35	0.54
1:D:2967:MET:O	1:D:2970:SER:OG	2.17	0.54
1:C:1931:LEU:HB3	1:C:1935:VAL:HB	1.90	0.54
1:C:2108:GLU:O	1:C:3694:LYS:NZ	2.40	0.54
1:C:3840:SER:OG	1:C:3877:ASP:OD1	2.24	0.54
1:A:2198:MET:HG3	1:A:2203:MET:SD	2.48	0.54
1:A:2661:TRP:HB3	1:A:2664:PHE:HB2	1.89	0.54
1:A:4223:ASN:ND2	1:A:4224:GLU:OE1	2.41	0.54
1:D:1174:GLY:CA	1:C:3467:MET:CE	2.86	0.54
1:D:2661:TRP:HB3	1:D:2664:PHE:HB2	1.89	0.54
1:D:4223:ASN:ND2	1:D:4224:GLU:OE1	2.41	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1131:ARG:NH1	1:C:1178:ALA:O	2.40	0.54
1:C:2765:LYS:NZ	1:C:2859:PRO:O	2.34	0.54
1:C:2967:MET:O	1:C:2970:SER:OG	2.17	0.54
1:B:4759:ASP:O	1:B:4761:PRO:HD3	2.08	0.54
1:D:334:MET:HE2	1:D:334:MET:HA	1.90	0.54
1:D:1131:ARG:NH1	1:D:1178:ALA:O	2.40	0.54
1:D:3465:ASN:ND2	1:D:3468:SER:OG	2.41	0.54
1:C:2587:TYR:O	1:C:2590:SER:OG	2.20	0.54
1:B:919:ASN:HA	1:B:922:LEU:HD23	1.89	0.54
1:D:669:ASP:OD2	1:D:790:ARG:NE	2.41	0.54
1:D:2307:LEU:HD11	1:D:2362:GLU:HG3	1.90	0.54
1:C:951:LYS:HD2	1:C:951:LYS:N	2.23	0.54
1:A:951:LYS:HD2	1:A:951:LYS:N	2.23	0.54
1:D:1996:ARG:NE	1:D:1996:ARG:HA	2.23	0.54
1:D:2214:VAL:HG21	1:D:2228:MET:HE1	1.89	0.54
1:D:2439:GLU:HB2	1:D:2442:LEU:HD23	1.89	0.54
1:C:11:VAL:HG11	1:C:164:ARG:HH11	1.73	0.54
1:A:2293:GLN:OE1	1:A:2293:GLN:N	2.41	0.53
1:B:4223:ASN:ND2	1:B:4224:GLU:OE1	2.41	0.53
1:D:2198:MET:HG3	1:D:2203:MET:SD	2.48	0.53
1:C:334:MET:HE2	1:C:334:MET:HA	1.90	0.53
1:C:2293:GLN:OE1	1:C:2293:GLN:N	2.41	0.53
1:A:872:GLU:HG2	1:A:922:LEU:HD11	1.90	0.53
1:A:2307:LEU:HD11	1:A:2362:GLU:HG3	1.90	0.53
2:G:79:ASP:OD2	2:G:80:TYR:N	2.41	0.53
1:B:1996:ARG:HA	1:B:1996:ARG:NE	2.23	0.53
1:B:2307:LEU:HD11	1:B:2362:GLU:HG3	1.90	0.53
1:B:3725:TYR:O	1:B:3729:MET:HG3	2.08	0.53
1:D:11:VAL:HG11	1:D:164:ARG:HH11	1.73	0.53
1:D:872:GLU:HG2	1:D:922:LEU:HD11	1.90	0.53
1:C:1573:MET:HE3	1:C:1574:PRO:HD2	1.90	0.53
1:C:3465:ASN:ND2	1:C:3468:SER:OG	2.41	0.53
1:C:3725:TYR:O	1:C:3729:MET:HG3	2.08	0.53
1:A:1049:TYR:HB3	1:A:1051:TYR:CZ	2.43	0.53
1:A:1108:GLU:OE2	1:A:1108:GLU:N	2.28	0.53
1:A:1996:ARG:NE	1:A:1996:ARG:HA	2.23	0.53
1:B:545:ASP:OD1	1:B:582:HIS:NE2	2.32	0.53
1:B:1071:ARG:NE	1:B:1071:ARG:HA	2.23	0.53
1:B:1931:LEU:HB3	1:B:1935:VAL:HB	1.90	0.53
1:B:2293:GLN:OE1	1:B:2293:GLN:N	2.42	0.53
1:D:2293:GLN:OE1	1:D:2293:GLN:N	2.41	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:3412:LEU:HD11	1:C:3434:LEU:HD21	1.90	0.53
1:C:3604:TYR:O	1:C:3607:GLU:HG3	2.08	0.53
1:C:4000:MET:SD	1:C:4020:GLN:NE2	2.79	0.53
1:A:571:SER:OG	1:A:573:GLU:OE1	2.21	0.53
1:A:938:HIS:HB3	1:A:1054:GLU:HB3	1.90	0.53
1:A:3465:ASN:ND2	1:A:3468:SER:OG	2.41	0.53
1:D:866:HIS:O	1:D:869:ARG:HG3	2.09	0.53
1:D:3725:TYR:O	1:D:3729:MET:HG3	2.08	0.53
1:D:4879:MET:HG3	1:C:4578:LEU:HD23	1.89	0.53
1:C:1561:VAL:HG12	1:C:1562:ILE:HG23	1.89	0.53
1:C:1748:PHE:HB2	1:C:1758:ARG:NH2	2.24	0.53
1:C:1996:ARG:NE	1:C:1996:ARG:HA	2.23	0.53
1:C:4223:ASN:ND2	1:C:4224:GLU:OE1	2.41	0.53
1:A:4759:ASP:O	1:A:4761:PRO:HD3	2.08	0.53
2:H:11:ASP:OD2	2:H:14:THR:OG1	2.24	0.53
1:B:1031:THR:O	1:B:1035:ASN:ND2	2.37	0.53
1:B:2108:GLU:O	1:B:3694:LYS:NZ	2.40	0.53
1:B:2198:MET:HG3	1:B:2203:MET:SD	2.48	0.53
1:C:1248:VAL:HG22	1:C:1599:MET:HE3	1.89	0.53
1:A:2439:GLU:HB2	1:A:2442:LEU:HD23	1.89	0.53
1:A:3412:LEU:HD11	1:A:3434:LEU:HD21	1.90	0.53
2:E:79:ASP:OD2	2:E:80:TYR:N	2.42	0.53
1:B:866:HIS:O	1:B:869:ARG:HG3	2.09	0.53
1:B:3412:LEU:HD11	1:B:3434:LEU:HD21	1.90	0.53
1:B:4578:LEU:HD23	1:C:4879:MET:HG3	1.90	0.53
1:D:1931:LEU:HB3	1:D:1935:VAL:HB	1.90	0.53
1:C:938:HIS:HB3	1:C:1054:GLU:HB3	1.90	0.53
1:C:2439:GLU:HB2	1:C:2442:LEU:HD23	1.89	0.53
1:A:1071:ARG:NE	1:A:1071:ARG:HA	2.23	0.53
1:A:1561:VAL:HG12	1:A:1562:ILE:HG23	1.89	0.53
1:A:2271:THR:OG1	1:A:2330:ARG:NH2	2.36	0.53
1:B:3768:SER:HA	1:B:3771:HIS:CD2	2.44	0.53
1:A:2924:GLN:O	1:A:2928:LYS:HG2	2.08	0.53
1:A:4000:MET:SD	1:A:4020:GLN:NE2	2.79	0.53
1:B:334:MET:HA	1:B:334:MET:HE2	1.91	0.53
1:B:938:HIS:HB3	1:B:1054:GLU:HB3	1.90	0.53
1:B:1049:TYR:HB3	1:B:1051:TYR:CZ	2.44	0.53
1:B:4570:ALA:O	1:B:4574:ASN:ND2	2.36	0.53
1:D:2924:GLN:O	1:D:2928:LYS:HG2	2.08	0.53
1:D:3768:SER:HA	1:D:3771:HIS:CD2	2.44	0.53
1:C:4759:ASP:O	1:C:4761:PRO:HD3	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2924:GLN:O	1:B:2928:LYS:HG2	2.08	0.53
1:D:830:ARG:NH2	1:D:832:GLU:OE2	2.42	0.53
1:D:951:LYS:HD2	1:D:951:LYS:N	2.23	0.53
1:D:1049:TYR:HB3	1:D:1051:TYR:CZ	2.44	0.53
1:D:3412:LEU:HD11	1:D:3434:LEU:HD21	1.90	0.53
1:D:4069:LYS:NZ	1:D:4133:GLN:OE1	2.41	0.53
1:C:866:HIS:O	1:C:869:ARG:HG3	2.09	0.53
1:C:2185:ILE:HG21	1:C:2203:MET:HE1	1.91	0.53
1:C:2307:LEU:HD11	1:C:2362:GLU:HG3	1.90	0.53
1:A:866:HIS:O	1:A:869:ARG:HG3	2.09	0.53
1:A:1748:PHE:HB2	1:A:1758:ARG:NH2	2.24	0.53
1:A:3768:SER:HA	1:A:3771:HIS:CD2	2.44	0.53
1:A:4069:LYS:NZ	1:A:4133:GLN:OE1	2.41	0.53
1:B:1131:ARG:NH1	1:B:1178:ALA:O	2.40	0.53
1:D:1116:GLY:HA3	1:D:1132:TRP:HB3	1.90	0.53
1:D:5012:LYS:NZ	1:D:5016:GLU:OE2	2.35	0.53
1:C:1808:ARG:NH1	1:C:1853:ILE:O	2.42	0.53
1:C:3185:LYS:HD2	1:C:3186:LEU:HG	1.91	0.53
1:C:4069:LYS:NZ	1:C:4133:GLN:OE1	2.41	0.53
1:A:1116:GLY:HA3	1:A:1132:TRP:HB3	1.90	0.52
1:A:3335:MET:SD	1:A:3403:ARG:NH1	2.82	0.52
1:B:830:ARG:NH2	1:B:832:GLU:OE2	2.42	0.52
1:B:3935:TRP:O	1:C:80:GLU:HG3	2.10	0.52
1:D:1748:PHE:HB2	1:D:1758:ARG:NH2	2.24	0.52
1:C:1049:TYR:HB3	1:C:1051:TYR:CZ	2.44	0.52
1:C:1071:ARG:HA	1:C:1071:ARG:NE	2.23	0.52
1:C:2198:MET:HG3	1:C:2203:MET:SD	2.48	0.52
1:C:2271:THR:OG1	1:C:2330:ARG:NH2	2.36	0.52
1:B:872:GLU:HG2	1:B:922:LEU:HD11	1.90	0.52
1:B:3959:LYS:NZ	1:B:4022:ASP:OD2	2.40	0.52
1:D:876:GLU:OE2	1:D:918:ARG:NH1	2.43	0.52
1:D:3535:LEU:O	1:D:3538:THR:OG1	2.20	0.52
1:C:2661:TRP:HB3	1:C:2664:PHE:HB2	1.89	0.52
1:A:334:MET:HE2	1:A:334:MET:HA	1.91	0.52
2:H:79:ASP:OD2	2:H:80:TYR:HD1	1.91	0.52
1:B:1808:ARG:NH1	1:B:1853:ILE:O	2.42	0.52
1:B:3335:MET:SD	1:B:3403:ARG:NH1	2.82	0.52
1:B:4000:MET:SD	1:B:4020:GLN:NE2	2.79	0.52
1:B:4069:LYS:NZ	1:B:4133:GLN:OE1	2.41	0.52
1:A:622:THR:HG23	1:A:626:LEU:HD12	1.92	0.52
1:A:830:ARG:NH2	1:A:832:GLU:OE2	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1116:GLY:HA3	1:B:1132:TRP:HB3	1.90	0.52
1:B:3185:LYS:HD2	1:B:3186:LEU:HG	1.91	0.52
1:D:622:THR:HG23	1:D:626:LEU:HD12	1.92	0.52
1:D:2765:LYS:NZ	1:D:2857:PRO:HB2	2.22	0.52
1:C:830:ARG:NH2	1:C:832:GLU:OE2	2.42	0.52
1:C:2924:GLN:O	1:C:2928:LYS:HG2	2.08	0.52
1:A:1931:LEU:HB3	1:A:1935:VAL:HB	1.90	0.52
1:B:951:LYS:HD2	1:B:951:LYS:N	2.23	0.52
1:B:2439:GLU:HB2	1:B:2442:LEU:HD23	1.89	0.52
1:D:3465:ASN:OD1	1:D:3468:SER:N	2.42	0.52
1:C:3538:THR:O	1:C:3542:LEU:HD12	2.10	0.52
1:C:3768:SER:HA	1:C:3771:HIS:CD2	2.44	0.52
1:A:3420:ARG:HG3	1:A:3520:ILE:HD11	1.92	0.52
1:A:3725:TYR:O	1:A:3729:MET:HG3	2.08	0.52
1:D:3335:MET:SD	1:D:3403:ARG:NH1	2.82	0.52
1:C:2765:LYS:NZ	1:C:2857:PRO:HB2	2.22	0.52
1:A:669:ASP:OD2	1:A:790:ARG:NE	2.41	0.52
1:A:3465:ASN:OD1	1:A:3468:SER:N	2.42	0.52
1:B:3420:ARG:HG3	1:B:3520:ILE:HD11	1.92	0.52
1:C:872:GLU:HG2	1:C:922:LEU:HD11	1.90	0.52
1:C:4791:TYR:OH	1:C:4815:ASP:OD1	2.13	0.52
1:A:882:TRP:HE1	1:A:904:HIS:HE2	1.58	0.52
1:A:4839:MET:HG3	1:D:4822:THR:CG2	2.40	0.52
1:C:669:ASP:OD2	1:C:790:ARG:NE	2.41	0.52
1:A:977:LEU:HG	1:A:1044:ARG:NH1	2.24	0.52
1:B:876:GLU:OE2	1:B:918:ARG:NH1	2.43	0.52
1:D:2185:ILE:HG21	1:D:2203:MET:HE1	1.92	0.52
1:D:3185:LYS:HD2	1:D:3186:LEU:HG	1.91	0.52
1:C:876:GLU:OE2	1:C:918:ARG:NH1	2.43	0.52
1:C:1116:GLY:HA3	1:C:1132:TRP:HB3	1.90	0.52
1:A:1547:LYS:NZ	1:A:1642:PRO:O	2.43	0.52
1:B:1272:LEU:HD22	1:B:1289:LEU:HD11	1.91	0.52
1:C:3335:MET:SD	1:C:3403:ARG:NH1	2.83	0.52
1:C:3420:ARG:HG3	1:C:3520:ILE:HD11	1.92	0.52
1:A:876:GLU:OE2	1:A:918:ARG:NH1	2.43	0.51
1:D:938:HIS:HB3	1:D:1054:GLU:HB3	1.90	0.51
1:D:1174:GLY:HA2	1:C:3467:MET:HE1	1.92	0.51
1:D:1547:LYS:NZ	1:D:1642:PRO:O	2.43	0.51
1:C:1838:PHE:CZ	1:C:1929:MET:HE1	2.46	0.51
2:E:38:SER:OG	2:E:41:ASP:OD1	2.16	0.51
1:B:1748:PHE:HB2	1:B:1758:ARG:NH2	2.24	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:4185:GLY:O	1:C:4188:ARG:NH1	2.44	0.51
1:A:4930:ALA:HB2	1:D:4933:GLN:HG2	1.91	0.51
1:B:882:TRP:HE1	1:B:904:HIS:HE2	1.58	0.51
1:B:1093:GLU:HB3	1:B:1201:HIS:HB3	1.93	0.51
1:B:1248:VAL:HG22	1:B:1599:MET:HE3	1.92	0.51
1:B:1547:LYS:NZ	1:B:1642:PRO:O	2.43	0.51
1:D:3420:ARG:HG3	1:D:3520:ILE:HD11	1.92	0.51
1:D:3538:THR:O	1:D:3542:LEU:HD12	2.10	0.51
1:D:4185:GLY:O	1:D:4188:ARG:NH1	2.44	0.51
1:A:1272:LEU:HD22	1:A:1289:LEU:HD11	1.91	0.51
1:A:2751:LEU:O	1:A:2755:ILE:HG12	2.11	0.51
1:B:1838:PHE:CZ	1:B:1929:MET:HE1	2.45	0.51
1:B:3538:THR:O	1:B:3542:LEU:HD12	2.10	0.51
1:B:4185:GLY:O	1:B:4188:ARG:NH1	2.44	0.51
1:D:80:GLU:HG3	1:C:3935:TRP:O	2.10	0.51
1:C:2214:VAL:HG21	1:C:2228:MET:HE1	1.92	0.51
1:A:2185:ILE:HG21	1:A:2203:MET:HE1	1.91	0.51
1:D:1808:ARG:NH1	1:D:1853:ILE:O	2.42	0.51
1:C:215:THR:HG22	1:C:273:HIS:HA	1.93	0.51
1:A:1068:ARG:HH21	1:A:1071:ARG:HG3	1.76	0.51
1:A:1093:GLU:HB3	1:A:1201:HIS:HB3	1.93	0.51
1:A:1808:ARG:NH1	1:A:1853:ILE:O	2.42	0.51
1:A:3538:THR:O	1:A:3542:LEU:HD12	2.10	0.51
1:B:1068:ARG:HH21	1:B:1071:ARG:HG3	1.76	0.51
1:B:2185:ILE:HG21	1:B:2203:MET:HE1	1.91	0.51
1:D:2751:LEU:O	1:D:2755:ILE:HG12	2.11	0.51
1:D:3357:HIS:O	1:D:3361:THR:HG23	2.10	0.51
1:D:4056:GLU:HG2	1:D:4166:LEU:HD13	1.93	0.51
1:C:309:THR:O	1:C:313:SER:OG	2.22	0.51
1:C:932:LEU:HD23	1:C:932:LEU:H	1.76	0.51
1:C:1068:ARG:HH21	1:C:1071:ARG:HG3	1.76	0.51
1:C:1093:GLU:HB3	1:C:1201:HIS:HB3	1.93	0.51
1:C:2626:LEU:HD22	1:C:2640:PRO:HB3	1.92	0.51
1:A:4112:LEU:O	1:A:4115:SER:OG	2.27	0.51
1:D:215:THR:HG22	1:D:273:HIS:HA	1.93	0.51
1:D:1093:GLU:HB3	1:D:1201:HIS:HB3	1.93	0.51
1:D:1838:PHE:CZ	1:D:1929:MET:HE1	2.46	0.51
1:C:3570:ARG:CZ	1:C:3570:ARG:HB2	2.41	0.51
1:C:3695:PRO:HB3	1:C:3699:HIS:HB3	1.93	0.51
1:A:1680:ARG:HH12	2:E:88:PRO:HB2	1.75	0.51
1:A:3185:LYS:HD2	1:A:3186:LEU:HG	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4917:ASP:HB2	1:D:4888:TYR:HE1	1.76	0.51
1:B:622:THR:HG23	1:B:626:LEU:HD12	1.92	0.51
1:B:2792:ARG:NH2	1:B:2798:SER:OG	2.44	0.51
1:D:1068:ARG:HH21	1:D:1071:ARG:HG3	1.76	0.51
1:A:215:THR:HG22	1:A:273:HIS:HA	1.93	0.51
1:A:3357:HIS:O	1:A:3361:THR:HG23	2.10	0.51
1:B:932:LEU:HD23	1:B:932:LEU:H	1.76	0.51
1:D:977:LEU:HG	1:D:1044:ARG:NH1	2.24	0.51
1:D:3695:PRO:HB3	1:D:3699:HIS:HB3	1.93	0.51
1:C:510:GLU:OE2	1:C:510:GLU:N	2.44	0.51
1:C:1547:LYS:NZ	1:C:1642:PRO:O	2.43	0.51
1:A:545:ASP:OD1	1:A:582:HIS:NE2	2.32	0.51
1:A:1838:PHE:CZ	1:A:1929:MET:HE1	2.46	0.51
1:B:2587:TYR:O	1:B:2590:SER:OG	2.20	0.51
1:B:2751:LEU:O	1:B:2755:ILE:HG12	2.11	0.51
1:D:2792:ARG:NH2	1:D:2798:SER:OG	2.44	0.51
1:A:2792:ARG:NH2	1:A:2798:SER:OG	2.44	0.50
1:A:4056:GLU:HG2	1:A:4166:LEU:HD13	1.93	0.50
2:F:11:ASP:OD2	2:F:14:THR:OG1	2.27	0.50
1:B:215:THR:HG22	1:B:273:HIS:HA	1.93	0.50
1:B:510:GLU:N	1:B:510:GLU:OE2	2.44	0.50
1:D:1174:GLY:CA	1:C:3467:MET:HE1	2.41	0.50
1:D:1248:VAL:HG22	1:D:1599:MET:HE3	1.93	0.50
1:C:622:THR:HG23	1:C:626:LEU:HD12	1.92	0.50
1:C:1272:LEU:HD22	1:C:1289:LEU:HD11	1.91	0.50
1:A:3570:ARG:CZ	1:A:3570:ARG:HB2	2.41	0.50
1:A:4917:ASP:OD2	1:D:4888:TYR:OH	2.13	0.50
1:B:3695:PRO:HB3	1:B:3699:HIS:HB3	1.93	0.50
1:D:684:VAL:HG22	1:D:781:VAL:HG12	1.94	0.50
1:C:882:TRP:HE1	1:C:904:HIS:HE2	1.58	0.50
1:A:2626:LEU:HD22	1:A:2640:PRO:HB3	1.93	0.50
1:A:3695:PRO:HB3	1:A:3699:HIS:HB3	1.93	0.50
1:A:4185:GLY:O	1:A:4188:ARG:NH1	2.44	0.50
1:B:2626:LEU:HD22	1:B:2640:PRO:HB3	1.92	0.50
1:B:3465:ASN:OD1	1:B:3468:SER:N	2.42	0.50
1:D:882:TRP:HE1	1:D:904:HIS:HE2	1.58	0.50
1:D:3570:ARG:CZ	1:D:3570:ARG:HB2	2.41	0.50
1:A:3686:GLU:HB2	1:A:3688:GLU:OE1	2.11	0.50
1:A:4067:LYS:NZ	1:A:4102:GLN:O	2.44	0.50
2:F:88:PRO:HB2	1:B:1680:ARG:NH1	2.24	0.50
1:B:3357:HIS:O	1:B:3361:THR:HG23	2.10	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3840:SER:OG	1:B:3877:ASP:OD1	2.24	0.50
1:D:2736:ASP:OD1	1:D:2736:ASP:N	2.44	0.50
1:C:684:VAL:HG22	1:C:781:VAL:HG12	1.94	0.50
1:C:2751:LEU:O	1:C:2755:ILE:HG12	2.11	0.50
1:B:3570:ARG:HB2	1:B:3570:ARG:CZ	2.41	0.50
1:D:2021:CYS:O	1:D:2028:ARG:NH2	2.45	0.50
1:C:3357:HIS:O	1:C:3361:THR:HG23	2.10	0.50
1:C:4056:GLU:HG2	1:C:4166:LEU:HD13	1.93	0.50
1:A:3105:LYS:O	1:A:3108:GLU:HG3	2.12	0.50
1:A:3527:PRO:HD2	1:A:3573:MET:SD	2.52	0.50
1:B:3686:GLU:HB2	1:B:3688:GLU:OE1	2.11	0.50
1:D:932:LEU:HD23	1:D:932:LEU:H	1.76	0.50
1:D:3527:PRO:HD2	1:D:3573:MET:SD	2.52	0.50
1:D:3686:GLU:HB2	1:D:3688:GLU:OE1	2.11	0.50
1:D:4112:LEU:O	1:D:4115:SER:OG	2.27	0.50
1:C:2175:GLU:HG3	1:C:2228:MET:HB2	1.94	0.50
1:A:1248:VAL:HG22	1:A:1599:MET:HE3	1.94	0.50
1:B:2175:GLU:HG3	1:B:2228:MET:HB2	1.94	0.50
1:D:2441:HIS:CE1	1:D:2442:LEU:HD22	2.47	0.50
1:D:2626:LEU:HD22	1:D:2640:PRO:HB3	1.92	0.50
1:D:3105:LYS:O	1:D:3108:GLU:HG3	2.12	0.50
1:D:3959:LYS:NZ	1:D:4022:ASP:OD2	2.40	0.50
1:C:2441:HIS:CE1	1:C:2442:LEU:HD22	2.47	0.50
1:C:3527:PRO:HD2	1:C:3573:MET:SD	2.52	0.50
1:A:510:GLU:N	1:A:510:GLU:OE2	2.44	0.50
1:A:2858:GLN:HB2	1:A:2859:PRO:HD3	1.94	0.50
1:A:3862:ASP:OD1	1:A:3862:ASP:N	2.45	0.50
1:B:684:VAL:HG22	1:B:781:VAL:HG12	1.94	0.50
1:B:3465:ASN:OD1	1:B:3467:MET:N	2.34	0.50
1:D:1272:LEU:HD22	1:D:1289:LEU:HD11	1.91	0.50
1:D:2858:GLN:HB2	1:D:2859:PRO:HD3	1.94	0.50
1:A:663:TYR:OH	1:A:665:GLU:OE2	2.24	0.50
1:A:684:VAL:HG22	1:A:781:VAL:HG12	1.94	0.50
1:A:2021:CYS:O	1:A:2028:ARG:NH2	2.45	0.50
1:A:2765:LYS:NZ	1:A:2857:PRO:HB2	2.22	0.50
1:B:2021:CYS:O	1:B:2028:ARG:NH2	2.45	0.50
1:D:1031:THR:O	1:D:1035:ASN:ND2	2.37	0.50
1:C:2021:CYS:O	1:C:2028:ARG:NH2	2.45	0.50
1:C:2792:ARG:NH2	1:C:2798:SER:OG	2.44	0.50
1:B:4056:GLU:HG2	1:B:4166:LEU:HD13	1.93	0.49
1:D:3535:LEU:O	1:D:3539:ARG:HG2	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2858:GLN:HB2	1:C:2859:PRO:HD3	1.94	0.49
1:C:4712:PRO:O	1:C:4718:LYS:NZ	2.32	0.49
1:B:4063:ASP:OD1	1:B:4064:MET:N	2.45	0.49
1:B:4822:THR:HG21	1:C:4839:MET:HG3	1.94	0.49
1:D:510:GLU:N	1:D:510:GLU:OE2	2.44	0.49
1:D:4839:MET:HG3	1:C:4822:THR:HG21	1.93	0.49
1:C:1676:LEU:HD22	1:C:2167:ILE:HD12	1.94	0.49
1:C:3686:GLU:HB2	1:C:3688:GLU:OE1	2.11	0.49
1:C:3734:HIS:CG	1:C:3735:LEU:N	2.80	0.49
1:A:2441:HIS:CE1	1:A:2442:LEU:HD22	2.47	0.49
1:A:3535:LEU:O	1:A:3539:ARG:HG2	2.12	0.49
1:B:2441:HIS:CE1	1:B:2442:LEU:HD22	2.47	0.49
1:D:384:MET:SD	1:D:384:MET:N	2.72	0.49
1:D:3465:ASN:OD1	1:D:3467:MET:N	2.34	0.49
1:C:2615:ARG:HG2	1:C:2664:PHE:HE1	1.78	0.49
1:C:3535:LEU:O	1:C:3539:ARG:HG2	2.12	0.49
1:A:2700:MET:HE3	1:A:2701:PRO:HD3	1.95	0.49
1:A:3872:GLU:HG3	1:A:3874:VAL:H	1.77	0.49
1:A:4063:ASP:OD1	1:A:4064:MET:N	2.45	0.49
1:A:3734:HIS:CG	1:A:3735:LEU:N	2.80	0.49
1:A:4918:ILE:HD11	1:D:4888:TYR:HA	1.93	0.49
1:B:384:MET:SD	1:B:384:MET:N	2.72	0.49
1:B:571:SER:OG	1:B:573:GLU:OE1	2.21	0.49
1:B:2765:LYS:NZ	1:B:2857:PRO:HB2	2.22	0.49
1:B:3880:PHE:HA	1:B:3883:ASP:OD2	2.13	0.49
1:B:4954:MET:HE3	1:B:4959:PHE:HD1	1.77	0.49
1:D:1172:ASP:OD1	1:D:1172:ASP:N	2.37	0.49
1:D:3734:HIS:CG	1:D:3735:LEU:N	2.80	0.49
1:D:3880:PHE:HA	1:D:3883:ASP:OD2	2.13	0.49
1:D:4063:ASP:OD1	1:D:4064:MET:N	2.45	0.49
1:C:3105:LYS:O	1:C:3108:GLU:HG3	2.12	0.49
1:C:3114:LYS:HE3	1:C:3123:LYS:HD2	1.95	0.49
1:C:5033:GLU:O	1:C:5037:SER:OG	2.19	0.49
1:A:2929:PHE:HA	1:A:2932:MET:SD	2.52	0.49
1:C:3624:LEU:HD13	1:C:3628:ARG:HB3	1.94	0.49
1:A:3629:ARG:HA	1:A:3632:VAL:HG22	1.95	0.49
1:B:3535:LEU:O	1:B:3539:ARG:HG2	2.12	0.49
1:B:3862:ASP:N	1:B:3862:ASP:OD1	2.45	0.49
1:D:2615:ARG:HG2	1:D:2664:PHE:HE1	1.78	0.49
1:D:3629:ARG:HA	1:D:3632:VAL:HG22	1.95	0.49
1:D:4954:MET:HE3	1:D:4959:PHE:HD1	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:384:MET:SD	1:A:384:MET:N	2.72	0.49
1:A:2175:GLU:HG3	1:A:2228:MET:HB2	1.94	0.49
2:H:75:THR:HG23	2:H:98:VAL:HG22	1.95	0.49
1:B:1072:VAL:HG23	1:B:1193:SER:HB2	1.95	0.49
1:B:2929:PHE:HA	1:B:2932:MET:SD	2.52	0.49
1:B:3105:LYS:O	1:B:3108:GLU:HG3	2.12	0.49
1:D:1128:ARG:H	1:D:1128:ARG:HE	1.61	0.49
1:C:4063:ASP:OD1	1:C:4064:MET:N	2.45	0.49
1:D:3261:ALA:HB1	1:D:3265:GLU:HG3	1.95	0.49
1:D:3540:TYR:HB3	1:D:3604:TYR:HD1	1.77	0.49
1:C:663:TYR:OH	1:C:665:GLU:OE2	2.24	0.49
1:C:1792:ALA:O	1:C:2176:ASN:ND2	2.46	0.49
1:C:3629:ARG:HA	1:C:3632:VAL:HG22	1.95	0.49
1:A:1128:ARG:H	1:A:1128:ARG:HE	1.61	0.49
1:A:3261:ALA:HB1	1:A:3265:GLU:HG3	1.95	0.49
2:G:49:MET:SD	2:G:52:LYS:HE2	2.53	0.49
1:D:2282:ASP:HA	1:D:2341:VAL:HG13	1.94	0.49
1:C:707:VAL:HG23	1:C:782:SER:HB3	1.95	0.49
1:C:3862:ASP:N	1:C:3862:ASP:OD1	2.45	0.49
1:A:2615:ARG:HG2	1:A:2664:PHE:HE1	1.78	0.48
2:E:60:GLU:HA	2:E:60:GLU:OE2	2.13	0.48
1:B:669:ASP:OD2	1:B:790:ARG:NE	2.41	0.48
1:B:707:VAL:HG23	1:B:782:SER:HB3	1.95	0.48
1:B:1676:LEU:HD22	1:B:2167:ILE:HD12	1.94	0.48
1:B:1792:ALA:O	1:B:2176:ASN:ND2	2.46	0.48
1:B:3261:ALA:HB1	1:B:3265:GLU:HG3	1.95	0.48
1:B:3527:PRO:HD2	1:B:3573:MET:SD	2.52	0.48
1:B:4712:PRO:O	1:B:4718:LYS:NZ	2.32	0.48
1:D:3872:GLU:HG3	1:D:3874:VAL:H	1.77	0.48
1:A:932:LEU:H	1:A:932:LEU:HD23	1.76	0.48
1:A:3717:ASP:OD1	1:A:3717:ASP:N	2.46	0.48
1:B:2282:ASP:HA	1:B:2341:VAL:HG13	1.94	0.48
1:B:2858:GLN:HB2	1:B:2859:PRO:HD3	1.94	0.48
1:D:941:MET:HE2	1:D:941:MET:HB2	1.67	0.48
1:C:887:ILE:HD12	1:C:888:GLU:N	2.28	0.48
1:C:3261:ALA:HB1	1:C:3265:GLU:HG3	1.95	0.48
1:A:3880:PHE:HA	1:A:3883:ASP:OD2	2.13	0.48
1:B:2393:ASP:OD1	1:B:2418:LEU:N	2.46	0.48
1:B:3624:LEU:HD13	1:B:3628:ARG:HB3	1.94	0.48
1:B:3734:HIS:CG	1:B:3735:LEU:N	2.80	0.48
1:B:3872:GLU:HG3	1:B:3874:VAL:H	1.77	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1676:LEU:HD22	1:D:2167:ILE:HD12	1.94	0.48
1:D:3717:ASP:OD1	1:D:3717:ASP:N	2.46	0.48
1:C:1527:MET:HE2	1:C:1540:PHE:HB2	1.96	0.48
1:C:3540:TYR:HB3	1:C:3604:TYR:HD1	1.77	0.48
1:C:3880:PHE:HA	1:C:3883:ASP:OD2	2.13	0.48
1:C:4709:PRO:HD2	1:C:4772:ASP:OD2	2.13	0.48
1:A:707:VAL:HG23	1:A:782:SER:HB3	1.95	0.48
1:A:954:LYS:HB3	1:A:966:LYS:HE3	1.95	0.48
1:A:2191:PHE:HD1	1:A:2198:MET:HG2	1.79	0.48
1:A:3624:LEU:HD13	1:A:3628:ARG:HB3	1.94	0.48
1:A:4843:LEU:HD21	1:D:4827:LEU:HD21	1.94	0.48
1:B:954:LYS:HB3	1:B:966:LYS:HE3	1.96	0.48
1:D:2514:ASN:N	1:D:2514:ASN:OD1	2.47	0.48
1:D:2929:PHE:HA	1:D:2932:MET:SD	2.52	0.48
1:D:3114:LYS:HE3	1:D:3123:LYS:HD2	1.95	0.48
1:D:4709:PRO:HD2	1:D:4772:ASP:OD2	2.14	0.48
1:C:904:HIS:HB3	1:C:907:LEU:HG	1.94	0.48
1:C:954:LYS:HB3	1:C:966:LYS:HE3	1.95	0.48
1:B:1668:ARG:HG3	1:B:1671:ARG:NH2	2.29	0.48
1:B:4709:PRO:HD2	1:B:4772:ASP:OD2	2.13	0.48
1:D:2175:GLU:HG3	1:D:2228:MET:HB2	1.94	0.48
1:D:2974:ILE:HG13	1:D:2975:ALA:N	2.29	0.48
1:C:2191:PHE:HD1	1:C:2198:MET:HG2	1.79	0.48
1:C:2514:ASN:N	1:C:2514:ASN:OD1	2.47	0.48
1:C:4868:ASP:OD1	1:C:4870:ASP:N	2.47	0.48
1:A:1676:LEU:HD22	1:A:2167:ILE:HD12	1.94	0.48
1:A:2736:ASP:OD1	1:A:2736:ASP:N	2.44	0.48
1:B:2466:LEU:HD23	1:B:2502:MET:HE3	1.96	0.48
1:D:545:ASP:OD1	1:D:582:HIS:NE2	2.32	0.48
1:D:887:ILE:HD12	1:D:888:GLU:N	2.28	0.48
1:C:110:ARG:NH2	1:C:117:TYR:OH	2.47	0.48
1:A:1792:ALA:O	1:A:2176:ASN:ND2	2.46	0.48
1:A:2282:ASP:HA	1:A:2341:VAL:HG13	1.94	0.48
1:A:2393:ASP:OD1	1:A:2418:LEU:N	2.46	0.48
1:A:2514:ASN:N	1:A:2514:ASN:OD1	2.47	0.48
1:A:3842:LEU:HB2	1:A:3929:SER:HB2	1.96	0.48
1:A:4709:PRO:HD2	1:A:4772:ASP:OD2	2.13	0.48
2:F:62:GLY:O	2:F:66:MET:HG3	2.14	0.48
2:F:75:THR:HG23	2:F:98:VAL:HG22	1.96	0.48
1:B:3629:ARG:HA	1:B:3632:VAL:HG22	1.95	0.48
1:B:4091:LYS:HA	1:B:4091:LYS:HD2	1.70	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1792:ALA:O	1:D:2176:ASN:ND2	2.46	0.48
1:D:2871:LEU:HG	1:D:2927:LEU:HD21	1.96	0.48
1:D:4006:ASP:OD1	1:D:4009:GLN:NE2	2.47	0.48
1:C:1668:ARG:HG3	1:C:1671:ARG:NH2	2.29	0.48
1:C:2929:PHE:HA	1:C:2932:MET:SD	2.53	0.48
1:A:904:HIS:HB3	1:A:907:LEU:HG	1.95	0.48
1:A:1668:ARG:HG3	1:A:1671:ARG:NH2	2.29	0.48
1:A:2587:TYR:O	1:A:2590:SER:OG	2.20	0.48
1:B:2384:ILE:O	1:B:2387:SER:OG	2.26	0.48
1:D:456:SER:OG	1:D:458:GLU:OE2	2.25	0.48
1:D:3624:LEU:HD13	1:D:3628:ARG:HB3	1.94	0.48
1:C:977:LEU:HG	1:C:1044:ARG:NH1	2.24	0.48
1:A:1172:ASP:OD1	1:A:1172:ASP:N	2.37	0.48
2:E:75:THR:HG23	2:E:98:VAL:HG22	1.96	0.48
1:B:2514:ASN:OD1	1:B:2514:ASN:N	2.47	0.48
1:B:3842:LEU:HB2	1:B:3929:SER:HB2	1.96	0.48
1:D:1072:VAL:HG23	1:D:1193:SER:HB2	1.95	0.48
1:D:2393:ASP:OD1	1:D:2418:LEU:N	2.46	0.48
1:C:2309:SER:OG	1:C:2321:ILE:O	2.22	0.48
1:C:2871:LEU:HG	1:C:2927:LEU:HD21	1.95	0.48
1:C:4954:MET:HE2	1:C:4954:MET:HA	1.96	0.48
1:A:1072:VAL:HG23	1:A:1193:SER:HB2	1.95	0.48
1:A:3940:LYS:O	1:A:4002:LYS:NZ	2.36	0.48
2:G:75:THR:HG23	2:G:98:VAL:HG22	1.96	0.48
1:B:110:ARG:NH2	1:B:117:TYR:OH	2.47	0.48
1:B:2538:THR:O	1:B:2542:SER:HB2	2.14	0.48
1:D:707:VAL:HG23	1:D:782:SER:HB3	1.95	0.48
1:D:2700:MET:HE3	1:D:2701:PRO:HD3	1.96	0.48
1:D:3752:SER:N	1:D:3755:GLU:OE2	2.32	0.48
1:C:2538:THR:O	1:C:2542:SER:HB2	2.14	0.48
1:A:2303:ALA:O	1:A:2307:LEU:HD12	2.14	0.47
1:A:3114:LYS:HE3	1:A:3123:LYS:HD2	1.95	0.47
1:B:2973:PHE:HE2	1:B:2995:ILE:HG12	1.79	0.47
1:D:2538:THR:O	1:D:2542:SER:HB2	2.14	0.47
1:C:924:MET:O	1:C:928:THR:HG23	2.14	0.47
1:C:1072:VAL:HG23	1:C:1193:SER:HB2	1.95	0.47
1:C:2282:ASP:HA	1:C:2341:VAL:HG13	1.94	0.47
1:C:2736:ASP:OD1	1:C:2736:ASP:N	2.44	0.47
1:B:924:MET:O	1:B:928:THR:HG23	2.14	0.47
1:B:2245:GLN:NE2	1:B:3860:ASN:HB2	2.29	0.47
1:B:2309:SER:OG	1:B:2321:ILE:O	2.22	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:904:HIS:HB3	1:D:907:LEU:HG	1.94	0.47
1:D:2303:ALA:O	1:D:2307:LEU:HD12	2.14	0.47
1:D:4868:ASP:OD1	1:D:4870:ASP:N	2.47	0.47
1:C:3872:GLU:HG3	1:C:3874:VAL:H	1.78	0.47
1:C:4967:TYR:OH	1:C:5033:GLU:OE2	2.24	0.47
1:A:3628:ARG:HG3	1:A:3631:ALA:HB3	1.96	0.47
1:B:157:ARG:HE	1:B:164:ARG:HD2	1.79	0.47
1:B:3628:ARG:HG3	1:B:3631:ALA:HB3	1.96	0.47
1:D:157:ARG:HE	1:D:164:ARG:HD2	1.79	0.47
1:D:2191:PHE:HD1	1:D:2198:MET:HG2	1.79	0.47
1:C:157:ARG:HE	1:C:164:ARG:HD2	1.79	0.47
1:C:2393:ASP:OD1	1:C:2418:LEU:N	2.46	0.47
1:C:3465:ASN:OD1	1:C:3468:SER:N	2.42	0.47
1:A:2538:THR:O	1:A:2542:SER:HB2	2.14	0.47
1:A:4006:ASP:OD1	1:A:4009:GLN:NE2	2.47	0.47
1:B:904:HIS:HB3	1:B:907:LEU:HG	1.95	0.47
1:B:2191:PHE:HD1	1:B:2198:MET:HG2	1.79	0.47
1:B:2303:ALA:O	1:B:2307:LEU:HD12	2.14	0.47
1:B:2871:LEU:HG	1:B:2927:LEU:HD21	1.96	0.47
1:C:1025:ARG:H	1:C:1025:ARG:CD	2.25	0.47
1:A:2973:PHE:HE2	1:A:2995:ILE:HG12	1.79	0.47
1:A:4868:ASP:OD1	1:A:4870:ASP:N	2.47	0.47
1:B:887:ILE:HD12	1:B:888:GLU:N	2.28	0.47
1:D:110:ARG:NH2	1:D:117:TYR:OH	2.47	0.47
1:D:954:LYS:HB3	1:D:966:LYS:HE3	1.95	0.47
1:D:1996:ARG:HA	1:D:1996:ARG:HE	1.80	0.47
1:D:4968:PHE:O	1:D:4974:GLY:HA3	2.15	0.47
1:C:1128:ARG:HE	1:C:1128:ARG:H	1.61	0.47
1:C:1996:ARG:HA	1:C:1996:ARG:HE	1.80	0.47
1:C:2245:GLN:NE2	1:C:3860:ASN:HB2	2.30	0.47
1:C:3842:LEU:HB2	1:C:3929:SER:HB2	1.96	0.47
1:C:4006:ASP:OD1	1:C:4009:GLN:NE2	2.47	0.47
2:E:3:GLN:NE2	2:E:5:GLU:HG2	2.30	0.47
1:C:4968:PHE:O	1:C:4974:GLY:HA3	2.15	0.47
1:A:157:ARG:HE	1:A:164:ARG:HD2	1.79	0.47
1:A:887:ILE:HD12	1:A:888:GLU:N	2.28	0.47
1:A:924:MET:O	1:A:928:THR:HG23	2.14	0.47
1:A:930:LYS:HA	1:A:933:LEU:HD12	1.97	0.47
1:A:1025:ARG:H	1:A:1025:ARG:CD	2.25	0.47
1:A:1174:GLY:CA	1:D:3467:MET:HE1	2.44	0.47
1:A:4927:ILE:HG23	1:D:4936:ILE:CD1	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1128:ARG:HE	1:B:1128:ARG:H	1.61	0.47
1:B:2224:ARG:HG2	1:B:2225:PHE:CD2	2.50	0.47
1:B:2615:ARG:HG2	1:B:2664:PHE:HE1	1.78	0.47
1:B:3114:LYS:HE3	1:B:3123:LYS:HD2	1.95	0.47
1:B:3477:LYS:HB3	1:C:1141:ARG:HD3	1.97	0.47
1:B:4006:ASP:OD1	1:B:4009:GLN:NE2	2.47	0.47
1:D:228:ASP:OD1	1:D:228:ASP:N	2.48	0.47
1:D:1668:ARG:HG3	1:D:1671:ARG:NH2	2.29	0.47
1:D:3842:LEU:HB2	1:D:3929:SER:HB2	1.96	0.47
1:D:4749:GLU:O	1:D:4753:HIS:ND1	2.48	0.47
1:C:228:ASP:N	1:C:228:ASP:OD1	2.48	0.47
1:C:2974:ILE:HG13	1:C:2975:ALA:N	2.29	0.47
1:C:3628:ARG:HG3	1:C:3631:ALA:HB3	1.97	0.47
1:A:110:ARG:NH2	1:A:117:TYR:OH	2.47	0.47
1:A:2871:LEU:HG	1:A:2927:LEU:HD21	1.95	0.47
1:B:1868:PRO:O	1:B:1872:THR:OG1	2.33	0.47
1:B:2700:MET:HE3	1:B:2701:PRO:HD3	1.97	0.47
1:B:2974:ILE:HG13	1:B:2975:ALA:N	2.29	0.47
1:B:4749:GLU:O	1:B:4753:HIS:ND1	2.48	0.47
1:D:924:MET:O	1:D:928:THR:HG23	2.14	0.47
1:D:1465:ASP:OD1	1:D:1468:LYS:HG2	2.15	0.47
1:D:2973:PHE:HE2	1:D:2995:ILE:HG12	1.79	0.47
1:A:3840:SER:OG	1:A:3877:ASP:OD1	2.24	0.47
1:A:4954:MET:HE3	1:A:4959:PHE:HD1	1.80	0.47
1:B:1996:ARG:HA	1:B:1996:ARG:HE	1.80	0.47
1:D:1983:ALA:O	1:D:1987:SER:OG	2.25	0.47
1:D:3199:ALA:HB2	1:D:3279:SER:OG	2.15	0.47
1:C:2186:MET:SD	1:C:2235:PHE:HD1	2.37	0.47
1:C:2224:ARG:HG2	1:C:2225:PHE:CD2	2.50	0.47
1:C:3199:ALA:HB2	1:C:3279:SER:OG	2.15	0.47
1:C:3206:LEU:HD11	1:C:3276:MET:HE3	1.97	0.47
1:A:228:ASP:OD1	1:A:228:ASP:N	2.48	0.47
1:A:2224:ARG:HG2	1:A:2225:PHE:CD2	2.50	0.47
1:B:4936:ILE:CD1	1:C:4927:ILE:HG23	2.45	0.47
1:D:1127:HIS:HB3	1:D:1128:ARG:NH2	2.29	0.47
1:D:1868:PRO:O	1:D:1872:THR:OG1	2.33	0.47
1:D:3540:TYR:CZ	1:D:3549:VAL:HG21	2.50	0.47
1:C:1465:ASP:OD1	1:C:1468:LYS:HG2	2.15	0.47
1:C:2090:LYS:HZ2	1:C:2092:GLN:HG3	1.80	0.47
1:C:4749:GLU:O	1:C:4753:HIS:ND1	2.48	0.47
1:A:1465:ASP:OD1	1:A:1468:LYS:HG2	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2245:GLN:NE2	1:A:3860:ASN:HB2	2.30	0.46
1:A:3540:TYR:CZ	1:A:3549:VAL:HG21	2.50	0.46
1:A:4954:MET:HA	1:A:4954:MET:HE2	1.97	0.46
1:B:1057:ASP:OD1	1:B:1057:ASP:N	2.48	0.46
1:B:1076:ARG:HB3	1:B:1191:VAL:HG23	1.97	0.46
1:B:3206:LEU:HD11	1:B:3276:MET:HE3	1.97	0.46
1:B:4112:LEU:O	1:B:4115:SER:OG	2.27	0.46
1:D:2224:ARG:HG2	1:D:2225:PHE:CD2	2.50	0.46
1:D:4927:ILE:HG23	1:C:4936:ILE:CD1	2.45	0.46
1:C:1172:ASP:OD1	1:C:1172:ASP:N	2.37	0.46
1:C:1868:PRO:O	1:C:1872:THR:OG1	2.33	0.46
1:C:2303:ALA:O	1:C:2307:LEU:HD12	2.14	0.46
1:C:4015:GLU:HA	1:C:4018:ASP:OD2	2.16	0.46
1:A:1868:PRO:O	1:A:1872:THR:OG1	2.33	0.46
1:A:2208:MET:HB2	1:A:2208:MET:HE2	1.77	0.46
1:A:4749:GLU:O	1:A:4753:HIS:ND1	2.48	0.46
2:E:17:LYS:HB3	2:E:17:LYS:HE3	1.80	0.46
1:B:930:LYS:HA	1:B:933:LEU:HD12	1.97	0.46
1:B:2029:GLN:NE2	1:B:2033:ASP:OD1	2.49	0.46
1:B:4067:LYS:NZ	1:B:4102:GLN:O	2.44	0.46
1:B:4868:ASP:OD1	1:B:4870:ASP:N	2.47	0.46
1:B:4888:TYR:HA	1:C:4918:ILE:HD11	1.97	0.46
1:D:930:LYS:HA	1:D:933:LEU:HD12	1.97	0.46
1:D:961:MET:HE2	1:D:965:TYR:H	1.80	0.46
1:D:1025:ARG:HG2	1:D:1026:LEU:HD12	1.97	0.46
1:D:3226:GLU:C	1:D:3228:ALA:H	2.19	0.46
1:C:1025:ARG:HG2	1:C:1026:LEU:HD12	1.97	0.46
1:C:1076:ARG:HB3	1:C:1191:VAL:HG23	1.97	0.46
1:A:3442:PHE:CE1	1:A:3511:VAL:HG12	2.51	0.46
2:E:16:PRO:HB2	2:E:50:LEU:HD11	1.97	0.46
1:B:1569:GLN:HB2	1:B:1572:ILE:HD12	1.97	0.46
1:B:2736:ASP:OD1	1:B:2736:ASP:N	2.44	0.46
1:B:3540:TYR:CZ	1:B:3549:VAL:HG21	2.50	0.46
1:D:3628:ARG:HG3	1:D:3631:ALA:HB3	1.96	0.46
1:D:4015:GLU:HA	1:D:4018:ASP:OD2	2.15	0.46
1:C:2029:GLN:NE2	1:C:2033:ASP:OD1	2.48	0.46
1:C:3959:LYS:NZ	1:C:4022:ASP:OD2	2.40	0.46
1:A:213:TYR:CE1	1:A:340:LYS:HG2	2.51	0.46
1:B:228:ASP:OD1	1:B:228:ASP:N	2.48	0.46
1:B:774:ASP:OD2	1:B:1470:ARG:NH2	2.35	0.46
1:B:1527:MET:HE2	1:B:1527:MET:HB2	1.70	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3316:LEU:HD21	1:B:3346:VAL:HG23	1.97	0.46
1:D:3263:TYR:HD1	1:D:3270:ILE:HD12	1.80	0.46
1:C:930:LYS:HA	1:C:933:LEU:HD12	1.97	0.46
1:C:4954:MET:HE3	1:C:4959:PHE:HD1	1.81	0.46
1:A:2029:GLN:NE2	1:A:2033:ASP:OD1	2.48	0.46
1:A:2974:ILE:HG13	1:A:2975:ALA:N	2.29	0.46
1:B:2186:MET:SD	1:B:2235:PHE:HD1	2.38	0.46
1:B:4967:TYR:OH	1:B:5033:GLU:OE2	2.24	0.46
1:D:2029:GLN:NE2	1:D:2033:ASP:OD1	2.48	0.46
1:C:2700:MET:HE3	1:C:2701:PRO:HD3	1.97	0.46
1:C:4954:MET:HA	1:C:4954:MET:CE	2.46	0.46
1:A:4578:LEU:HA	1:B:4879:MET:HG3	1.98	0.46
1:A:4968:PHE:O	1:A:4974:GLY:HA3	2.15	0.46
1:B:4968:PHE:O	1:B:4974:GLY:HA3	2.15	0.46
1:D:399:GLN:O	1:D:403:MET:HG3	2.16	0.46
1:D:571:SER:OG	1:D:573:GLU:OE1	2.21	0.46
1:C:571:SER:OG	1:C:573:GLU:OE1	2.21	0.46
1:A:399:GLN:O	1:A:403:MET:HG3	2.16	0.46
1:A:955:LEU:HD12	1:A:967:PRO:HD2	1.98	0.46
1:A:1527:MET:HE2	1:A:1527:MET:HB2	1.71	0.46
1:B:213:TYR:CE1	1:B:340:LYS:HG2	2.51	0.46
1:B:328:LYS:HE3	1:B:328:LYS:HB3	1.74	0.46
1:B:4039:MET:SD	1:B:4040:ILE:N	2.89	0.46
1:D:1076:ARG:HB3	1:D:1191:VAL:HG23	1.97	0.46
1:D:3316:LEU:HD21	1:D:3346:VAL:HG23	1.97	0.46
1:D:3696:ASP:OD2	1:D:3773:ARG:NE	2.47	0.46
1:D:4091:LYS:HA	1:D:4091:LYS:HD2	1.70	0.46
1:C:3262:ARG:O	1:C:3266:MET:HG2	2.16	0.46
1:C:3717:ASP:N	1:C:3717:ASP:OD1	2.46	0.46
1:C:4039:MET:SD	1:C:4040:ILE:N	2.89	0.46
1:A:3540:TYR:HB3	1:A:3604:TYR:HD1	1.77	0.46
1:A:4578:LEU:HA	1:B:4879:MET:HG2	1.98	0.46
2:H:62:GLY:O	2:H:66:MET:HG3	2.15	0.46
1:B:955:LEU:HD12	1:B:967:PRO:HD2	1.98	0.46
1:B:1465:ASP:OD1	1:B:1468:LYS:HG2	2.15	0.46
1:B:3199:ALA:HB2	1:B:3279:SER:OG	2.15	0.46
1:D:213:TYR:CE1	1:D:340:LYS:HG2	2.51	0.46
1:D:2186:MET:SD	1:D:2235:PHE:HD1	2.38	0.46
1:D:2245:GLN:NE2	1:D:3860:ASN:HB2	2.30	0.46
1:D:3262:ARG:O	1:D:3266:MET:HG2	2.16	0.46
1:C:213:TYR:CE1	1:C:340:LYS:HG2	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:941:MET:HE2	1:C:941:MET:HB2	1.66	0.46
1:C:3263:TYR:HD1	1:C:3270:ILE:HD12	1.80	0.46
1:C:4112:LEU:O	1:C:4115:SER:OG	2.27	0.46
1:A:961:MET:HE2	1:A:965:TYR:H	1.80	0.46
1:A:3226:GLU:C	1:A:3228:ALA:H	2.19	0.46
1:A:3263:TYR:HD1	1:A:3270:ILE:HD12	1.80	0.46
1:A:4091:LYS:HA	1:A:4091:LYS:HD2	1.70	0.46
1:B:4015:GLU:HA	1:B:4018:ASP:OD2	2.15	0.46
1:D:955:LEU:HD12	1:D:967:PRO:HD2	1.98	0.46
1:D:2355:ARG:NH2	1:D:2449:GLU:OE2	2.47	0.46
1:D:4712:PRO:O	1:D:4718:LYS:NZ	2.32	0.46
1:D:5030:LYS:HA	1:D:5033:GLU:HG2	1.98	0.46
1:A:365:LYS:HE3	1:A:365:LYS:HB3	1.81	0.46
1:A:774:ASP:OD2	1:A:1470:ARG:NH2	2.35	0.46
1:A:2186:MET:SD	1:A:2235:PHE:HD1	2.37	0.46
1:A:3199:ALA:HB2	1:A:3279:SER:OG	2.15	0.46
1:A:4015:GLU:HA	1:A:4018:ASP:OD2	2.15	0.46
1:B:879:HIS:NE2	1:B:921:ASN:HB2	2.31	0.46
1:D:1174:GLY:CA	1:C:3467:MET:HE2	2.45	0.46
1:D:1569:GLN:HB2	1:D:1572:ILE:HD12	1.98	0.46
1:D:4039:MET:SD	1:D:4040:ILE:N	2.89	0.46
1:D:4918:ILE:HD11	1:C:4888:TYR:HA	1.98	0.46
1:D:4954:MET:CE	1:D:4954:MET:HA	2.46	0.46
1:C:3316:LEU:HD21	1:C:3346:VAL:HG23	1.97	0.46
1:A:1996:ARG:HA	1:A:1996:ARG:HE	1.80	0.45
1:A:3206:LEU:HD11	1:A:3276:MET:HE3	1.98	0.45
1:A:4039:MET:SD	1:A:4040:ILE:N	2.89	0.45
2:E:79:ASP:OD2	2:E:80:TYR:HD1	1.99	0.45
1:B:399:GLN:O	1:B:403:MET:HG3	2.16	0.45
1:B:3540:TYR:HB3	1:B:3604:TYR:HD1	1.77	0.45
1:C:3442:PHE:CE1	1:C:3511:VAL:HG12	2.51	0.45
1:C:3540:TYR:CZ	1:C:3549:VAL:HG21	2.50	0.45
1:A:1569:GLN:HB2	1:A:1572:ILE:HD12	1.97	0.45
1:A:3263:TYR:N	1:A:3326:ASN:OD1	2.50	0.45
1:B:1025:ARG:HG2	1:B:1026:LEU:HD12	1.97	0.45
1:B:2358:ILE:HB	1:C:195:PHE:CE1	2.52	0.45
1:B:3263:TYR:HD1	1:B:3270:ILE:HD12	1.80	0.45
1:D:475:GLN:NE2	1:D:528:SER:O	2.49	0.45
1:D:2677:LYS:HE2	1:D:2677:LYS:HB3	1.79	0.45
1:D:3206:LEU:HD11	1:D:3276:MET:HE3	1.97	0.45
1:C:955:LEU:HD12	1:C:967:PRO:HD2	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:3579:LEU:HB2	1:C:3582:ARG:HG2	1.98	0.45
1:A:1823:GLY:O	1:A:1825:HIS:ND1	2.48	0.45
1:A:4954:MET:HA	1:A:4954:MET:CE	2.46	0.45
1:B:3262:ARG:O	1:B:3266:MET:HG2	2.16	0.45
1:B:3717:ASP:N	1:B:3717:ASP:OD1	2.46	0.45
1:B:4954:MET:HA	1:B:4954:MET:CE	2.46	0.45
1:D:3159:ASP:OD1	1:D:3159:ASP:N	2.48	0.45
1:D:4879:MET:HB3	1:C:4578:LEU:O	2.17	0.45
1:C:1127:HIS:HB3	1:C:1128:ARG:NH2	2.29	0.45
1:C:3263:TYR:N	1:C:3326:ASN:OD1	2.50	0.45
1:A:1469:VAL:HG13	1:A:1492:CYS:HB3	1.99	0.45
2:G:90:ILE:HD13	1:C:1782:PHE:CD1	2.51	0.45
2:F:17:LYS:HE3	2:F:17:LYS:HB3	1.78	0.45
1:D:3840:SER:OG	1:D:3877:ASP:OD1	2.24	0.45
1:D:4904:PRO:CB	1:D:4913:ARG:HG2	2.45	0.45
1:C:399:GLN:O	1:C:403:MET:HG3	2.16	0.45
1:C:2768:PHE:O	1:C:2771:ILE:HG22	2.17	0.45
1:C:3226:GLU:C	1:C:3228:ALA:H	2.19	0.45
1:A:1127:HIS:HB3	1:A:1128:ARG:NH2	2.29	0.45
1:A:3262:ARG:O	1:A:3266:MET:HG2	2.16	0.45
1:A:4689:THR:HG22	1:A:4732:PHE:CZ	2.52	0.45
1:B:1068:ARG:NH2	1:B:1071:ARG:HG3	2.32	0.45
1:B:2574:HIS:CD2	1:B:2574:HIS:H	2.35	0.45
1:B:2627:VAL:HA	1:B:2678:LEU:HD13	1.99	0.45
1:D:879:HIS:NE2	1:D:921:ASN:HB2	2.31	0.45
1:C:4067:LYS:NZ	1:C:4102:GLN:O	2.44	0.45
1:A:879:HIS:NE2	1:A:921:ASN:HB2	2.31	0.45
1:A:2531:ARG:HG2	1:A:2585:THR:HG21	1.98	0.45
1:A:5030:LYS:HA	1:A:5033:GLU:HG2	1.98	0.45
1:B:961:MET:HE2	1:B:965:TYR:H	1.81	0.45
1:B:1020:ARG:O	1:B:1022:VAL:N	2.49	0.45
1:B:1127:HIS:HB3	1:B:1128:ARG:NH2	2.29	0.45
1:D:1141:ARG:HD3	1:C:3477:LYS:HB3	1.98	0.45
1:D:1469:VAL:HG13	1:D:1492:CYS:HB3	1.99	0.45
1:D:3263:TYR:N	1:D:3326:ASN:OD1	2.50	0.45
1:C:140:ASP:OD1	1:C:142:THR:OG1	2.29	0.45
1:A:3823:LYS:HD3	1:A:3823:LYS:HA	1.76	0.45
1:B:233:ILE:O	1:B:257:ARG:NH1	2.49	0.45
1:B:977:LEU:HG	1:B:1044:ARG:NH1	2.24	0.45
1:B:2355:ARG:NH2	1:B:2449:GLU:OE2	2.47	0.45
1:B:3226:GLU:C	1:B:3228:ALA:H	2.19	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:923:GLN:O	1:D:927:GLU:HG2	2.17	0.45
1:D:2768:PHE:O	1:D:2771:ILE:HG22	2.17	0.45
1:D:3442:PHE:CE1	1:D:3511:VAL:HG12	2.51	0.45
1:D:4689:THR:HG22	1:D:4732:PHE:CZ	2.52	0.45
1:C:1469:VAL:HG13	1:C:1492:CYS:HB3	1.99	0.45
1:C:2420:HIS:HA	1:C:2423:MET:HE2	1.99	0.45
1:A:923:GLN:O	1:A:927:GLU:HG2	2.17	0.45
2:F:34:LYS:HD2	1:B:629:ARG:HD2	1.99	0.45
1:B:908:VAL:HG23	1:B:909:ASN:H	1.82	0.45
1:B:3735:LEU:HD12	1:B:3766:GLN:NE2	2.32	0.45
1:D:328:LYS:HE3	1:D:328:LYS:HB3	1.73	0.45
1:D:2765:LYS:HD3	1:D:2765:LYS:HA	1.80	0.45
1:D:3579:LEU:HB2	1:D:3582:ARG:HG2	1.98	0.45
1:C:1031:THR:HG22	1:C:1035:ASN:HD21	1.82	0.45
1:C:1569:GLN:HB2	1:C:1572:ILE:HD12	1.97	0.45
1:C:1573:MET:HE2	1:C:1574:PRO:HD2	1.98	0.45
1:A:1076:ARG:HB3	1:A:1191:VAL:HG23	1.97	0.45
1:A:1492:CYS:SG	1:A:1494:MET:HG3	2.57	0.45
1:A:3316:LEU:HD21	1:A:3346:VAL:HG23	1.97	0.45
1:B:774:ASP:OD1	1:B:774:ASP:N	2.45	0.45
1:B:1575:LEU:HD23	1:B:1575:LEU:HA	1.81	0.45
1:D:870:ILE:HG12	1:D:1051:TYR:HE2	1.82	0.45
1:D:2650:ARG:NH1	1:D:2651:CYS:SG	2.90	0.45
1:C:41:GLY:HA2	1:C:137:LEU:HD12	1.99	0.45
1:C:879:HIS:NE2	1:C:921:ASN:HB2	2.31	0.45
1:C:2627:VAL:HA	1:C:2678:LEU:HD13	1.99	0.45
1:C:3194:LEU:HD12	1:C:3194:LEU:HA	1.76	0.45
1:A:1025:ARG:HG2	1:A:1026:LEU:HD12	1.97	0.45
1:A:1057:ASP:N	1:A:1057:ASP:OD1	2.48	0.45
1:A:2469:ILE:HD12	1:A:2502:MET:HE1	1.99	0.45
1:A:2768:PHE:O	1:A:2771:ILE:HG22	2.17	0.45
1:A:3159:ASP:OD1	1:A:3159:ASP:N	2.48	0.45
1:A:3735:LEU:HD12	1:A:3766:GLN:NE2	2.32	0.45
1:A:3933:PHE:HD2	1:A:3951:PHE:CE2	2.35	0.45
1:A:4918:ILE:HD13	1:D:4892:ARG:HD3	1.99	0.45
1:B:1492:CYS:SG	1:B:1494:MET:HG3	2.57	0.45
1:D:340:LYS:HE3	1:D:343:GLU:OE1	2.17	0.45
1:D:3933:PHE:HD2	1:D:3951:PHE:CE2	2.35	0.45
1:C:1057:ASP:OD1	1:C:1057:ASP:N	2.48	0.45
1:C:1068:ARG:NH2	1:C:1071:ARG:HG3	2.32	0.45
1:C:2782:ASP:OD1	1:C:2782:ASP:N	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2973:PHE:HE2	1:C:2995:ILE:HG12	1.79	0.45
1:C:3227:ARG:HB3	1:C:3232:LEU:HD12	1.99	0.45
1:A:194:SER:OG	1:A:195:PHE:N	2.50	0.44
1:A:2574:HIS:CD2	1:A:2574:HIS:H	2.35	0.44
1:A:3227:ARG:HB3	1:A:3232:LEU:HD12	1.99	0.44
1:B:1469:VAL:HG13	1:B:1492:CYS:HB3	1.99	0.44
1:B:3227:ARG:HB3	1:B:3232:LEU:HD12	1.99	0.44
1:B:3442:PHE:CE1	1:B:3511:VAL:HG12	2.51	0.44
1:B:3579:LEU:HB2	1:B:3582:ARG:HG2	1.98	0.44
1:B:3933:PHE:HD2	1:B:3951:PHE:CE2	2.35	0.44
1:B:4689:THR:HG22	1:B:4732:PHE:CZ	2.52	0.44
1:B:4952:GLU:O	1:B:4956:THR:OG1	2.26	0.44
1:D:195:PHE:CE1	1:C:2358:ILE:HB	2.53	0.44
1:D:1492:CYS:SG	1:D:1494:MET:HG3	2.57	0.44
1:D:3227:ARG:HB3	1:D:3232:LEU:HD12	1.99	0.44
1:C:2574:HIS:CD2	1:C:2574:HIS:H	2.35	0.44
1:C:2650:ARG:NH1	1:C:2651:CYS:SG	2.90	0.44
1:C:3933:PHE:HD2	1:C:3951:PHE:CE2	2.35	0.44
1:C:4904:PRO:CB	1:C:4913:ARG:HG2	2.45	0.44
1:C:5030:LYS:HA	1:C:5033:GLU:HG2	1.98	0.44
1:A:2782:ASP:N	1:A:2782:ASP:OD1	2.50	0.44
1:A:3633:VAL:HG13	1:A:3637:ARG:HH21	1.83	0.44
2:H:17:LYS:HE3	2:H:17:LYS:HB3	1.79	0.44
2:H:90:ILE:HD13	1:D:1782:PHE:CD1	2.52	0.44
1:B:1253:PRO:HG2	1:B:1254:HIS:CD2	2.53	0.44
1:B:2420:HIS:HA	1:B:2423:MET:HE2	1.99	0.44
1:C:870:ILE:HG12	1:C:1051:TYR:HE2	1.82	0.44
1:C:2355:ARG:NH2	1:C:2449:GLU:OE2	2.47	0.44
1:C:2469:ILE:HD12	1:C:2502:MET:HE1	1.97	0.44
1:A:340:LYS:HE3	1:A:343:GLU:OE1	2.17	0.44
1:A:341:TYR:CZ	1:A:392:ARG:HD3	2.53	0.44
1:A:870:ILE:HG12	1:A:1051:TYR:HE2	1.82	0.44
1:A:1168:VAL:HG11	1:A:1176:GLU:HG2	1.99	0.44
1:B:340:LYS:HE3	1:B:343:GLU:OE1	2.17	0.44
1:B:2615:ARG:HG2	1:B:2664:PHE:CE1	2.53	0.44
1:D:41:GLY:HA2	1:D:137:LEU:HD12	1.99	0.44
1:D:2782:ASP:N	1:D:2782:ASP:OD1	2.50	0.44
1:D:3633:VAL:HG13	1:D:3637:ARG:HH21	1.83	0.44
1:D:4253:GLU:HG3	1:D:4557:ARG:NH2	2.33	0.44
1:C:340:LYS:HE3	1:C:343:GLU:OE1	2.17	0.44
1:C:908:VAL:HG23	1:C:909:ASN:H	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1255:TYR:O	1:C:1275:ARG:NH1	2.51	0.44
1:C:2615:ARG:HG2	1:C:2664:PHE:CE1	2.53	0.44
1:C:3633:VAL:HG13	1:C:3637:ARG:HH21	1.83	0.44
1:A:2627:VAL:HA	1:A:2678:LEU:HD13	1.99	0.44
1:A:2650:ARG:NH1	1:A:2651:CYS:SG	2.90	0.44
1:A:4904:PRO:CB	1:A:4913:ARG:HG2	2.45	0.44
1:B:901:LYS:HA	1:B:901:LYS:HD2	1.84	0.44
1:B:1031:THR:HG22	1:B:1035:ASN:HD21	1.82	0.44
1:B:1168:VAL:HG11	1:B:1176:GLU:HG2	1.99	0.44
1:B:1668:ARG:HG3	1:B:1671:ARG:HH21	1.82	0.44
1:D:1068:ARG:NH2	1:D:1071:ARG:HG3	2.32	0.44
1:D:1255:TYR:O	1:D:1275:ARG:NH1	2.51	0.44
1:D:1475:THR:HG23	1:D:1483:VAL:HG13	2.00	0.44
1:D:2531:ARG:HG2	1:D:2585:THR:HG21	1.98	0.44
1:D:3036:LYS:O	1:D:3039:ILE:HG22	2.18	0.44
1:D:4586:PRO:HA	1:D:4629:TYR:CD1	2.52	0.44
1:C:1071:ARG:HA	1:C:1071:ARG:HE	1.82	0.44
1:C:1253:PRO:HG2	1:C:1254:HIS:CD2	2.53	0.44
1:C:1270:LEU:HB2	1:C:1564:PHE:HB2	2.00	0.44
1:A:908:VAL:HG23	1:A:909:ASN:H	1.82	0.44
1:A:1071:ARG:HA	1:A:1071:ARG:HE	1.82	0.44
1:A:3132:THR:HG23	1:A:3136:LEU:HD23	2.00	0.44
1:A:3579:LEU:HB2	1:A:3582:ARG:HG2	1.98	0.44
1:A:4586:PRO:HA	1:A:4629:TYR:CD1	2.52	0.44
2:F:3:GLN:HB3	2:F:5:GLU:OE2	2.17	0.44
1:B:1475:THR:HG23	1:B:1483:VAL:HG13	2.00	0.44
1:B:1823:GLY:O	1:B:1825:HIS:ND1	2.48	0.44
1:B:2768:PHE:O	1:B:2771:ILE:HG22	2.17	0.44
1:B:3003:LEU:HB2	1:B:3004:PRO:HD3	2.00	0.44
1:B:3036:LYS:O	1:B:3039:ILE:HG22	2.18	0.44
1:B:3455:GLU:OE2	1:B:3508:SER:OG	2.36	0.44
1:B:3987:ASP:OD2	1:C:162:LYS:HE3	2.17	0.44
1:D:3003:LEU:HB2	1:D:3004:PRO:HD3	2.00	0.44
1:D:3260:GLY:HA2	1:D:3325:ASN:ND2	2.33	0.44
1:C:341:TYR:CZ	1:C:392:ARG:HD3	2.53	0.44
1:C:475:GLN:NE2	1:C:528:SER:O	2.49	0.44
1:C:1668:ARG:HG3	1:C:1671:ARG:HH21	1.82	0.44
1:C:3003:LEU:HB2	1:C:3004:PRO:HD3	2.00	0.44
1:A:1451:GLY:HA3	1:A:1494:MET:HA	1.99	0.44
1:A:1668:ARG:HG3	1:A:1671:ARG:HH21	1.82	0.44
1:A:3765:TYR:CD2	1:A:4753:HIS:HA	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1071:ARG:HA	1:B:1071:ARG:HE	1.81	0.44
1:B:1270:LEU:HB2	1:B:1564:PHE:HB2	2.00	0.44
1:B:3263:TYR:N	1:B:3326:ASN:OD1	2.50	0.44
1:D:2224:ARG:HG2	1:D:2225:PHE:CE2	2.53	0.44
1:D:3751:VAL:O	1:D:3756:LYS:NZ	2.51	0.44
1:D:3862:ASP:OD1	1:D:3862:ASP:N	2.45	0.44
1:D:4138:ASP:OD1	1:D:4138:ASP:N	2.51	0.44
1:C:923:GLN:O	1:C:927:GLU:HG2	2.17	0.44
1:C:3751:VAL:O	1:C:3756:LYS:NZ	2.51	0.44
1:A:3003:LEU:HB2	1:A:3004:PRO:HD3	2.00	0.44
1:A:3734:HIS:O	1:A:3736:GLU:HG3	2.17	0.44
1:A:4253:GLU:HG3	1:A:4557:ARG:NH2	2.32	0.44
1:B:1808:ARG:HB2	1:B:1854:PHE:CE1	2.53	0.44
1:B:2650:ARG:NH1	1:B:2651:CYS:SG	2.90	0.44
1:B:3823:LYS:HD3	1:B:3823:LYS:HA	1.76	0.44
1:D:194:SER:OG	1:D:195:PHE:N	2.50	0.44
1:D:1422:ASP:OD2	1:D:1568:LYS:NZ	2.40	0.44
1:D:1943:LEU:HD13	1:D:2098:VAL:HG22	2.00	0.44
1:D:3132:THR:HG23	1:D:3136:LEU:HD23	2.00	0.44
1:C:534:ARG:HE	1:C:534:ARG:HB3	1.66	0.44
1:C:961:MET:HE2	1:C:965:TYR:H	1.82	0.44
1:C:1032:LYS:HG2	1:C:1036:ARG:NH1	2.33	0.44
1:C:1808:ARG:HB2	1:C:1854:PHE:CE1	2.53	0.44
1:C:2862:LEU:HD11	1:C:2865:VAL:HG13	2.00	0.44
1:C:3980:LEU:HD13	1:C:3985:LEU:HD22	2.00	0.44
1:A:1068:ARG:NH2	1:A:1071:ARG:HG3	2.32	0.44
1:A:3036:LYS:O	1:A:3039:ILE:HG22	2.18	0.44
2:G:23:VAL:HG22	2:G:47:LYS:HD3	1.99	0.44
1:B:41:GLY:HA2	1:B:137:LEU:HD12	1.99	0.44
1:B:870:ILE:HG12	1:B:1051:TYR:HE2	1.82	0.44
1:B:1451:GLY:HA3	1:B:1494:MET:HA	1.99	0.44
1:B:2531:ARG:HG2	1:B:2585:THR:HG21	1.98	0.44
1:B:2736:ASP:O	1:B:2738:ARG:NH1	2.51	0.44
1:B:2782:ASP:N	1:B:2782:ASP:OD1	2.50	0.44
1:B:3260:GLY:HA2	1:B:3325:ASN:ND2	2.33	0.44
1:B:3367:LYS:HB2	1:B:3367:LYS:HE3	1.85	0.44
1:B:3734:HIS:O	1:B:3736:GLU:HG3	2.17	0.44
1:B:4253:GLU:HG3	1:B:4557:ARG:NH2	2.33	0.44
1:B:5030:LYS:HA	1:B:5033:GLU:HG2	1.98	0.44
1:D:336:PRO:HA	1:D:337:PRO:HD3	1.85	0.44
1:D:1031:THR:HG22	1:D:1035:ASN:HD21	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1057:ASP:N	1:D:1057:ASP:OD1	2.48	0.44
1:D:1270:LEU:HB2	1:D:1564:PHE:HB2	2.00	0.44
1:D:2627:VAL:HA	1:D:2678:LEU:HD13	1.99	0.44
1:D:3137:LEU:HD23	1:D:3137:LEU:HA	1.84	0.44
1:D:3765:TYR:CD2	1:D:4753:HIS:HA	2.53	0.44
1:D:4067:LYS:NZ	1:D:4102:GLN:O	2.44	0.44
1:C:3734:HIS:O	1:C:3736:GLU:HG3	2.17	0.44
1:C:4240:ASP:OD1	1:C:4675:LYS:NZ	2.50	0.44
1:A:1255:TYR:O	1:A:1275:ARG:NH1	2.51	0.44
1:A:1808:ARG:HB2	1:A:1854:PHE:CE1	2.53	0.44
1:B:341:TYR:CZ	1:B:392:ARG:HD3	2.53	0.44
1:B:475:GLN:NE2	1:B:528:SER:O	2.49	0.44
1:B:1032:LYS:HG2	1:B:1036:ARG:NH1	2.33	0.44
1:B:1255:TYR:O	1:B:1275:ARG:NH1	2.51	0.44
1:B:4578:LEU:O	1:C:4879:MET:HB3	2.17	0.44
1:B:4951:LYS:HZ3	1:B:4951:LYS:HB2	1.83	0.44
1:D:341:TYR:CZ	1:D:392:ARG:HD3	2.53	0.44
1:D:908:VAL:HG23	1:D:909:ASN:H	1.82	0.44
1:D:2420:HIS:HA	1:D:2423:MET:HE2	1.99	0.44
1:D:3733:CYS:HB2	1:D:3803:SER:OG	2.18	0.44
1:D:3735:LEU:HD12	1:D:3766:GLN:NE2	2.32	0.44
1:C:1475:THR:HG23	1:C:1483:VAL:HG13	2.00	0.44
1:C:4253:GLU:HG3	1:C:4557:ARG:NH2	2.33	0.44
1:C:4586:PRO:HA	1:C:4629:TYR:CD1	2.53	0.44
1:C:4689:THR:HG22	1:C:4732:PHE:CZ	2.52	0.44
1:A:783:PHE:HB2	1:A:787:VAL:HG21	2.01	0.43
1:A:1475:THR:HG23	1:A:1483:VAL:HG13	2.00	0.43
1:A:3260:GLY:HA2	1:A:3325:ASN:ND2	2.33	0.43
1:A:3733:CYS:HB2	1:A:3803:SER:OG	2.18	0.43
1:A:3751:VAL:O	1:A:3756:LYS:NZ	2.51	0.43
1:A:3847:PHE:HZ	1:A:3937:TYR:HH	1.65	0.43
2:H:3:GLN:HB3	2:H:5:GLU:OE2	2.17	0.43
1:B:747:CYS:HB3	1:B:808:TYR:CE2	2.53	0.43
1:B:923:GLN:O	1:B:927:GLU:HG2	2.17	0.43
1:B:3980:LEU:HD13	1:B:3985:LEU:HD22	2.00	0.43
1:B:4586:PRO:HA	1:B:4629:TYR:CD1	2.53	0.43
1:D:15:ARG:HD2	1:D:98:HIS:HB3	2.00	0.43
1:D:1808:ARG:HB2	1:D:1854:PHE:CE1	2.53	0.43
1:D:2466:LEU:HD23	1:D:2502:MET:HE3	1.99	0.43
1:D:2615:ARG:HG2	1:D:2664:PHE:CE1	2.53	0.43
1:D:3734:HIS:O	1:D:3736:GLU:HG3	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:941:MET:SD	1:C:1051:TYR:CE1	3.11	0.43
1:C:1008:SER:HB3	1:C:1017:ARG:HB3	2.00	0.43
1:C:1018:ASN:HB3	1:C:1021:LEU:HB2	2.00	0.43
1:C:1128:ARG:H	1:C:1128:ARG:NE	2.16	0.43
1:C:1492:CYS:SG	1:C:1494:MET:HG3	2.57	0.43
1:C:3733:CYS:HB2	1:C:3803:SER:OG	2.18	0.43
1:C:3765:TYR:CD2	1:C:4753:HIS:HA	2.53	0.43
1:A:747:CYS:HB3	1:A:808:TYR:CE2	2.53	0.43
1:A:2862:LEU:HD11	1:A:2865:VAL:HG13	2.00	0.43
1:B:140:ASP:OD1	1:B:142:THR:OG1	2.30	0.43
1:B:1943:LEU:HD13	1:B:2098:VAL:HG22	2.00	0.43
1:D:162:LYS:HE3	1:C:3987:ASP:OD2	2.18	0.43
1:D:745:SER:HB2	1:D:758:ARG:HB2	2.00	0.43
1:D:1018:ASN:HB3	1:D:1021:LEU:HB2	2.00	0.43
1:D:2502:MET:H	1:D:2502:MET:HG2	1.57	0.43
1:D:2736:ASP:O	1:D:2738:ARG:NH1	2.51	0.43
1:D:3194:LEU:HD12	1:D:3194:LEU:HA	1.76	0.43
1:D:3847:PHE:HZ	1:D:3937:TYR:HH	1.65	0.43
1:C:15:ARG:HD2	1:C:98:HIS:HB3	2.00	0.43
1:C:1451:GLY:HA3	1:C:1494:MET:HA	1.99	0.43
1:C:2531:ARG:HG2	1:C:2585:THR:HG21	1.98	0.43
1:C:2758:PHE:O	1:C:2762:THR:HG23	2.18	0.43
1:C:3765:TYR:CE2	1:C:4753:HIS:HA	2.54	0.43
1:A:41:GLY:HA2	1:A:137:LEU:HD12	1.99	0.43
1:A:1018:ASN:HB3	1:A:1021:LEU:HB2	2.00	0.43
1:A:1690:ASP:OD2	1:A:1693:GLN:NE2	2.52	0.43
1:A:4138:ASP:OD1	1:A:4138:ASP:N	2.51	0.43
1:A:4951:LYS:HB2	1:A:4951:LYS:HZ3	1.83	0.43
2:E:3:GLN:HE21	2:E:5:GLU:HG2	1.82	0.43
2:E:49:MET:SD	2:E:52:LYS:HE2	2.59	0.43
1:B:306:LYS:HB2	1:B:306:LYS:HE3	1.83	0.43
1:B:569:ILE:HD13	1:B:569:ILE:HA	1.89	0.43
1:B:783:PHE:HB2	1:B:787:VAL:HG21	2.00	0.43
1:B:1128:ARG:H	1:B:1128:ARG:NE	2.16	0.43
1:B:2862:LEU:HD11	1:B:2865:VAL:HG13	2.00	0.43
1:B:3633:VAL:HG13	1:B:3637:ARG:HH21	1.83	0.43
1:B:3765:TYR:CD2	1:B:4753:HIS:HA	2.53	0.43
1:D:941:MET:SD	1:D:1051:TYR:CE1	3.11	0.43
1:D:1032:LYS:HG2	1:D:1036:ARG:NH1	2.33	0.43
1:D:1573:MET:HE2	1:D:1574:PRO:HD2	2.00	0.43
1:C:274:LEU:HB3	1:C:339:ILE:HD12	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:745:SER:HB2	1:C:758:ARG:HB2	2.00	0.43
1:C:2198:MET:N	1:C:2198:MET:HE2	2.34	0.43
1:A:384:MET:H	1:A:384:MET:CE	2.32	0.43
1:A:1031:THR:HG22	1:A:1035:ASN:HD21	1.82	0.43
1:B:194:SER:OG	1:B:195:PHE:N	2.50	0.43
1:B:384:MET:H	1:B:384:MET:CE	2.32	0.43
1:B:663:TYR:OH	1:B:665:GLU:OE2	2.24	0.43
1:B:1018:ASN:HB3	1:B:1021:LEU:HB2	2.00	0.43
1:B:1070:ASP:O	1:B:1071:ARG:NH2	2.52	0.43
1:B:2905:LEU:HD23	1:B:2905:LEU:HA	1.88	0.43
1:B:3751:VAL:O	1:B:3756:LYS:NZ	2.51	0.43
1:D:1253:PRO:HG2	1:D:1254:HIS:CD2	2.53	0.43
1:D:2186:MET:HG2	1:D:2186:MET:H	1.70	0.43
1:D:2574:HIS:CD2	1:D:2574:HIS:H	2.35	0.43
1:C:233:ILE:O	1:C:257:ARG:NH1	2.49	0.43
1:C:1823:GLY:O	1:C:1825:HIS:ND1	2.48	0.43
1:C:2230:THR:HB	1:C:2267:MET:HE3	2.01	0.43
1:C:2736:ASP:O	1:C:2738:ARG:NH1	2.51	0.43
1:C:2821:TRP:HD1	1:C:2939:ARG:HA	1.84	0.43
1:C:3260:GLY:HA2	1:C:3325:ASN:ND2	2.33	0.43
1:A:80:GLU:HG3	1:D:3935:TRP:O	2.19	0.43
1:A:484:LEU:HD12	1:A:484:LEU:HA	1.79	0.43
1:A:1253:PRO:HG2	1:A:1254:HIS:CD2	2.53	0.43
1:A:1270:LEU:HB2	1:A:1564:PHE:HB2	2.00	0.43
1:A:1527:MET:HE2	1:A:1540:PHE:HB2	2.01	0.43
1:A:2336:ARG:HG2	1:A:2435:ARG:HD2	2.00	0.43
1:A:2355:ARG:NH2	1:A:2449:GLU:OE2	2.47	0.43
1:A:3367:LYS:HE3	1:A:3367:LYS:HB2	1.85	0.43
1:A:3765:TYR:CE2	1:A:4753:HIS:HA	2.54	0.43
1:A:4822:THR:HG21	1:B:4839:MET:HG3	2.00	0.43
2:E:84:ALA:O	2:E:93:PRO:HB3	2.19	0.43
2:H:84:ALA:O	2:H:93:PRO:HB3	2.19	0.43
2:G:3:GLN:HB3	2:G:5:GLU:OE2	2.18	0.43
1:B:1008:SER:HB3	1:B:1017:ARG:HB3	2.00	0.43
1:B:2758:PHE:O	1:B:2762:THR:HG23	2.18	0.43
1:D:233:ILE:O	1:D:257:ARG:NH1	2.49	0.43
1:D:747:CYS:HB3	1:D:808:TYR:CE2	2.53	0.43
1:D:1071:ARG:HA	1:D:1071:ARG:HE	1.82	0.43
1:D:1451:GLY:HA3	1:D:1494:MET:HA	1.99	0.43
1:D:2198:MET:HE2	1:D:2198:MET:N	2.34	0.43
1:D:2821:TRP:HD1	1:D:2939:ARG:HA	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:3453:ARG:NH2	1:D:3456:GLN:HB3	2.34	0.43
1:D:3604:TYR:O	1:D:3608:GLN:HG2	2.19	0.43
1:C:747:CYS:HB3	1:C:808:TYR:CE2	2.53	0.43
1:C:783:PHE:HB2	1:C:787:VAL:HG21	2.00	0.43
1:C:3036:LYS:O	1:C:3039:ILE:HG22	2.18	0.43
1:C:3696:ASP:OD2	1:C:3773:ARG:NE	2.47	0.43
1:C:3735:LEU:HD12	1:C:3766:GLN:NE2	2.32	0.43
1:A:2641:LEU:HD23	1:A:2641:LEU:HA	1.88	0.43
1:A:3959:LYS:NZ	1:A:4022:ASP:OD2	2.40	0.43
1:A:3996:PHE:CD2	1:A:4020:GLN:HG2	2.53	0.43
2:G:84:ALA:O	2:G:93:PRO:HB3	2.19	0.43
1:B:941:MET:SD	1:B:1051:TYR:CE1	3.11	0.43
1:B:1297:PHE:CE2	1:B:1525:GLY:HA2	2.54	0.43
1:B:2224:ARG:HG2	1:B:2225:PHE:CE2	2.53	0.43
1:B:2582:MET:CE	1:B:2610:LEU:HD13	2.49	0.43
1:B:3132:THR:HG23	1:B:3136:LEU:HD23	2.00	0.43
1:B:3288:GLY:HA2	1:B:3303:PRO:HB3	2.01	0.43
1:D:274:LEU:HB3	1:D:339:ILE:HD12	1.99	0.43
1:D:1147:ASP:HB3	1:D:1164:LEU:HD11	2.00	0.43
1:D:3823:LYS:HD3	1:D:3823:LYS:HA	1.76	0.43
1:C:1070:ASP:O	1:C:1071:ARG:NH2	2.52	0.43
1:C:1168:VAL:HG11	1:C:1176:GLU:HG2	1.99	0.43
1:C:1447:CYS:HB3	1:C:1555:LEU:HB3	2.00	0.43
1:C:2122:SER:O	1:C:2126:ARG:HG3	2.18	0.43
1:C:3570:ARG:HB2	1:C:3570:ARG:NH1	2.33	0.43
1:A:15:ARG:HD2	1:A:98:HIS:HB3	2.01	0.43
1:A:274:LEU:HB3	1:A:339:ILE:HD12	1.99	0.43
1:A:1032:LYS:HG2	1:A:1036:ARG:NH1	2.33	0.43
1:A:1447:CYS:HB3	1:A:1555:LEU:HB3	2.00	0.43
1:A:2224:ARG:HG2	1:A:2225:PHE:CE2	2.53	0.43
1:A:3395:ARG:HD2	1:A:3454:GLU:OE2	2.19	0.43
1:B:3733:CYS:HB2	1:B:3803:SER:OG	2.18	0.43
1:B:4240:ASP:OD1	1:B:4675:LYS:NZ	2.50	0.43
1:D:2336:ARG:HG2	1:D:2435:ARG:HD2	2.00	0.43
1:D:2469:ILE:HD12	1:D:2502:MET:HE1	2.00	0.43
1:D:3765:TYR:CE2	1:D:4753:HIS:HA	2.54	0.43
1:D:3996:PHE:CD2	1:D:4020:GLN:HG2	2.53	0.43
1:C:365:LYS:HE3	1:C:365:LYS:HB3	1.81	0.43
1:C:1690:ASP:OD2	1:C:1693:GLN:NE2	2.52	0.43
1:C:2224:ARG:HG2	1:C:2225:PHE:CE2	2.53	0.43
1:C:2881:ASN:HA	1:C:2884:ASN:HD21	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:3996:PHE:CD2	1:C:4020:GLN:HG2	2.53	0.43
1:A:1943:LEU:HD13	1:A:2098:VAL:HG22	2.00	0.43
1:A:2736:ASP:O	1:A:2738:ARG:NH1	2.51	0.43
2:E:23:VAL:HG22	2:E:47:LYS:HD3	2.00	0.43
2:G:44:LYS:HB3	2:G:44:LYS:HE3	1.78	0.43
2:G:88:PRO:HB2	1:C:1680:ARG:NH1	2.31	0.43
1:B:2090:LYS:HZ2	1:B:2092:GLN:HG3	1.84	0.43
1:B:3230:LEU:HD23	1:B:3230:LEU:H	1.84	0.43
1:B:3765:TYR:CE2	1:B:4753:HIS:HA	2.54	0.43
1:B:3935:TRP:CE2	1:C:77:ALA:HB2	2.53	0.43
1:D:11:VAL:HG11	1:D:164:ARG:NH1	2.33	0.43
1:D:1070:ASP:O	1:D:1071:ARG:NH2	2.52	0.43
1:D:1128:ARG:H	1:D:1128:ARG:NE	2.16	0.43
1:D:1168:VAL:HG11	1:D:1176:GLU:HG2	1.99	0.43
1:D:1668:ARG:HG3	1:D:1671:ARG:HH21	1.82	0.43
1:D:1748:PHE:HB2	1:D:1758:ARG:HE	1.84	0.43
1:D:1864:LYS:NZ	1:D:1871:PHE:O	2.49	0.43
1:D:2751:LEU:HD13	1:D:2823:ILE:HD13	2.01	0.43
1:C:3847:PHE:HZ	1:C:3937:TYR:HH	1.65	0.43
1:A:458:GLU:H	1:A:458:GLU:HG3	1.69	0.43
1:A:745:SER:HB2	1:A:758:ARG:HB2	2.00	0.43
1:A:1020:ARG:O	1:A:1022:VAL:N	2.49	0.43
1:A:1070:ASP:O	1:A:1071:ARG:NH2	2.52	0.43
1:A:1128:ARG:H	1:A:1128:ARG:NE	2.16	0.43
1:A:1748:PHE:HB2	1:A:1758:ARG:HE	1.84	0.43
1:A:2318:TYR:CZ	1:A:2395:PRO:HD3	2.54	0.43
1:A:2758:PHE:O	1:A:2762:THR:HG23	2.18	0.43
1:A:3453:ARG:NH2	1:A:3456:GLN:HB3	2.34	0.43
1:A:3455:GLU:OE2	1:A:3508:SER:OG	2.36	0.43
1:A:3604:TYR:O	1:A:3608:GLN:HG2	2.19	0.43
1:A:3980:LEU:HD13	1:A:3985:LEU:HD22	2.00	0.43
1:B:274:LEU:HB3	1:B:339:ILE:HD12	1.99	0.43
1:B:927:GLU:O	1:B:931:THR:HG23	2.19	0.43
1:B:2318:TYR:CZ	1:B:2395:PRO:HD3	2.54	0.43
1:D:384:MET:H	1:D:384:MET:CE	2.32	0.43
1:D:2437:ALA:HB2	1:D:2509:VAL:HG22	2.01	0.43
1:D:3230:LEU:H	1:D:3230:LEU:HD23	1.84	0.43
1:D:3395:ARG:HD2	1:D:3454:GLU:OE2	2.19	0.43
1:C:1147:ASP:HB3	1:C:1164:LEU:HD11	2.00	0.43
1:C:3288:GLY:HA2	1:C:3303:PRO:HB3	2.01	0.43
1:A:306:LYS:HB2	1:A:306:LYS:HE3	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:941:MET:SD	1:A:1051:TYR:CE1	3.11	0.43
1:A:1297:PHE:CE2	1:A:1525:GLY:HA2	2.54	0.43
1:A:1992:ALA:HB1	1:A:1996:ARG:NH1	2.34	0.43
1:A:2437:ALA:HB2	1:A:2509:VAL:HG22	2.01	0.43
1:A:2615:ARG:HG2	1:A:2664:PHE:CE1	2.53	0.43
1:A:2637:ALA:C	1:A:2640:PRO:HD2	2.40	0.43
1:A:2754:PHE:HE2	1:A:2813:LEU:HD11	1.84	0.43
1:A:3570:ARG:HB2	1:A:3570:ARG:NH1	2.33	0.43
1:A:3696:ASP:OD2	1:A:3773:ARG:NE	2.47	0.43
1:A:4183:ILE:HG12	1:A:4193:ILE:HD13	2.00	0.43
1:B:15:ARG:HD2	1:B:98:HIS:HB3	2.01	0.43
1:B:2198:MET:HE2	1:B:2198:MET:N	2.33	0.43
1:B:2821:TRP:HD1	1:B:2939:ARG:HA	1.84	0.43
1:B:3570:ARG:HB2	1:B:3570:ARG:NH1	2.34	0.43
1:B:4138:ASP:OD1	1:B:4138:ASP:N	2.51	0.43
1:D:1008:SER:HB3	1:D:1017:ARG:HB3	2.00	0.43
1:D:2122:SER:O	1:D:2126:ARG:HG3	2.18	0.43
1:D:4240:ASP:OD1	1:D:4675:LYS:NZ	2.50	0.43
1:C:2637:ALA:C	1:C:2640:PRO:HD2	2.40	0.43
1:C:2754:PHE:HE2	1:C:2813:LEU:HD11	1.84	0.43
1:C:3940:LYS:O	1:C:4002:LYS:NZ	2.36	0.43
1:A:2464:ASP:OD1	1:A:2465:ASP:N	2.52	0.42
1:A:2821:TRP:HD1	1:A:2939:ARG:HA	1.84	0.42
1:A:3230:LEU:HD23	1:A:3230:LEU:H	1.84	0.42
2:H:44:LYS:HE3	2:H:44:LYS:HB3	1.78	0.42
1:B:1447:CYS:HB3	1:B:1555:LEU:HB3	2.00	0.42
1:B:1976:ARG:HH22	1:B:1997:GLU:CD	2.20	0.42
1:B:2751:LEU:HD13	1:B:2823:ILE:HD13	2.01	0.42
1:B:2754:PHE:HE2	1:B:2813:LEU:HD11	1.84	0.42
1:B:4183:ILE:HG12	1:B:4193:ILE:HD13	2.00	0.42
1:B:4954:MET:HA	1:B:4954:MET:HE2	2.01	0.42
1:D:1992:ALA:HB1	1:D:1996:ARG:NH1	2.34	0.42
1:D:3570:ARG:HB2	1:D:3570:ARG:NH1	2.33	0.42
1:D:4934:GLY:HA3	1:C:4937:ILE:HG12	2.01	0.42
1:C:11:VAL:HG11	1:C:164:ARG:NH1	2.33	0.42
1:C:358:THR:HG21	1:C:382:GLY:HA2	2.02	0.42
1:C:2751:LEU:HD13	1:C:2823:ILE:HD13	2.01	0.42
1:C:3455:GLU:OE2	1:C:3508:SER:OG	2.36	0.42
1:C:3666:ASP:OD2	1:C:3666:ASP:N	2.45	0.42
1:A:891:TRP:CZ2	1:A:899:ASP:HA	2.55	0.42
1:A:1147:ASP:HB3	1:A:1164:LEU:HD11	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3233:PRO:HD2	1:A:3239:MET:HG2	2.01	0.42
1:A:3461:GLN:HG2	1:A:3462:ASN:ND2	2.34	0.42
2:G:13:ARG:HB3	2:G:13:ARG:NH1	2.34	0.42
1:B:358:THR:HG21	1:B:382:GLY:HA2	2.01	0.42
1:B:1147:ASP:HB3	1:B:1164:LEU:HD11	2.00	0.42
1:B:2464:ASP:OD1	1:B:2465:ASP:N	2.52	0.42
1:B:2677:LYS:HE2	1:B:2677:LYS:HB3	1.79	0.42
1:B:2888:ARG:O	1:B:2892:GLN:HG2	2.19	0.42
1:B:3996:PHE:CD2	1:B:4020:GLN:HG2	2.53	0.42
1:D:783:PHE:HB2	1:D:787:VAL:HG21	2.00	0.42
1:D:1575:LEU:HA	1:D:1575:LEU:HD23	1.81	0.42
1:D:2758:PHE:O	1:D:2762:THR:HG23	2.18	0.42
1:D:3288:GLY:HA2	1:D:3303:PRO:HB3	2.01	0.42
1:D:3554:GLN:HE21	1:D:3593:VAL:HG21	1.84	0.42
1:D:3980:LEU:HD13	1:D:3985:LEU:HD22	2.00	0.42
1:D:4954:MET:HA	1:D:4954:MET:HE2	2.01	0.42
1:C:3132:THR:HG23	1:C:3136:LEU:HD23	2.00	0.42
1:C:3395:ARG:HD2	1:C:3454:GLU:OE2	2.19	0.42
1:A:669:ASP:OD1	1:A:790:ARG:NH2	2.52	0.42
1:A:1008:SER:HB3	1:A:1017:ARG:HB3	2.00	0.42
1:A:2222:GLU:O	1:A:2224:ARG:NH2	2.32	0.42
1:B:891:TRP:CZ2	1:B:899:ASP:HA	2.55	0.42
1:B:1172:ASP:OD1	1:B:1172:ASP:N	2.37	0.42
1:B:2122:SER:O	1:B:2126:ARG:HG3	2.18	0.42
1:B:2538:THR:HG23	1:B:2541:PHE:H	1.85	0.42
1:B:3233:PRO:HD2	1:B:3239:MET:HG2	2.01	0.42
1:B:3847:PHE:HZ	1:B:3937:TYR:HH	1.66	0.42
1:B:4885:PHE:O	1:B:4889:VAL:HG22	2.20	0.42
1:B:4937:ILE:HG12	1:C:4934:GLY:HA3	2.01	0.42
1:D:365:LYS:HB3	1:D:365:LYS:HE3	1.81	0.42
1:D:2318:TYR:CZ	1:D:2395:PRO:HD3	2.54	0.42
1:D:2765:LYS:NZ	1:D:2860:PRO:HA	2.34	0.42
1:D:3347:SER:HA	1:D:3418:ASN:ND2	2.35	0.42
1:D:3666:ASP:OD2	1:D:3666:ASP:N	2.45	0.42
1:C:194:SER:OG	1:C:195:PHE:N	2.50	0.42
1:C:1976:ARG:HH22	1:C:1997:GLU:CD	2.20	0.42
1:C:3230:LEU:HD23	1:C:3230:LEU:H	1.84	0.42
1:C:4885:PHE:O	1:C:4889:VAL:HG22	2.20	0.42
1:A:11:VAL:HG11	1:A:164:ARG:NH1	2.33	0.42
1:A:475:GLN:NE2	1:A:528:SER:O	2.49	0.42
1:A:901:LYS:HD2	1:A:901:LYS:HA	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3288:GLY:HA2	1:A:3303:PRO:HB3	2.01	0.42
1:A:3941:ASP:OD1	1:A:3941:ASP:N	2.53	0.42
1:A:4938:ASP:OD1	1:D:4944:ARG:NH2	2.51	0.42
2:E:13:ARG:HB3	2:E:13:ARG:NH1	2.34	0.42
1:B:3453:ARG:NH2	1:B:3456:GLN:HB3	2.34	0.42
1:B:4904:PRO:CB	1:B:4913:ARG:HG2	2.45	0.42
1:D:416:LYS:HE3	1:D:416:LYS:HB2	1.84	0.42
1:D:1025:ARG:H	1:D:1025:ARG:CD	2.25	0.42
1:D:3461:GLN:HG2	1:D:3462:ASN:ND2	2.34	0.42
1:C:384:MET:H	1:C:384:MET:CE	2.32	0.42
1:C:416:LYS:HE3	1:C:416:LYS:HB2	1.84	0.42
1:C:2037:ASP:OD2	1:C:2038:LEU:N	2.53	0.42
1:C:2384:ILE:O	1:C:2387:SER:OG	2.26	0.42
1:C:2464:ASP:OD1	1:C:2465:ASP:N	2.52	0.42
1:C:2538:THR:HG23	1:C:2541:PHE:H	1.85	0.42
1:C:2582:MET:CE	1:C:2610:LEU:HD13	2.49	0.42
1:A:273:HIS:CE1	1:A:334:MET:HB3	2.55	0.42
1:A:358:THR:HG21	1:A:382:GLY:HA2	2.01	0.42
1:A:3465:ASN:OD1	1:A:3467:MET:N	2.34	0.42
1:A:4695:ASP:OD1	1:A:4695:ASP:N	2.35	0.42
2:H:13:ARG:NH1	2:H:13:ARG:HB3	2.35	0.42
1:B:11:VAL:HG11	1:B:164:ARG:NH1	2.33	0.42
1:B:745:SER:HB2	1:B:758:ARG:HB2	2.00	0.42
1:B:2209:GLU:HA	1:B:2212:VAL:HG22	2.02	0.42
1:B:2711:PRO:HA	1:B:2712:PRO:HD3	1.93	0.42
1:B:3395:ARG:HD2	1:B:3454:GLU:OE2	2.19	0.42
1:B:3554:GLN:HE21	1:B:3593:VAL:HG21	1.84	0.42
1:B:3996:PHE:O	1:B:4000:MET:HG3	2.20	0.42
1:B:4066:LEU:HA	1:B:4066:LEU:HD23	1.81	0.42
1:D:77:ALA:HB2	1:C:3935:TRP:CE2	2.55	0.42
1:D:1447:CYS:HB3	1:D:1555:LEU:HB3	2.00	0.42
1:D:4066:LEU:HD23	1:D:4066:LEU:HA	1.81	0.42
1:C:1943:LEU:HD13	1:C:2098:VAL:HG22	2.00	0.42
1:C:3347:SER:HA	1:C:3418:ASN:ND2	2.35	0.42
1:C:3554:GLN:HE21	1:C:3593:VAL:HG21	1.85	0.42
1:C:3604:TYR:O	1:C:3608:GLN:HG2	2.18	0.42
1:A:2711:PRO:HA	1:A:2712:PRO:HD3	1.93	0.42
1:A:2751:LEU:HD13	1:A:2823:ILE:HD13	2.01	0.42
1:A:2765:LYS:NZ	1:A:2860:PRO:HA	2.34	0.42
1:B:1690:ASP:OD2	1:B:1693:GLN:NE2	2.52	0.42
1:D:2754:PHE:HE2	1:D:2813:LEU:HD11	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:4137:ARG:NH2	1:D:4199:GLU:OE2	2.53	0.42
1:D:4183:ILE:HG12	1:D:4193:ILE:HD13	2.00	0.42
1:C:2886:TRP:HA	1:C:2889:LYS:HG2	2.02	0.42
1:C:4138:ASP:N	1:C:4138:ASP:OD1	2.51	0.42
1:A:793:LEU:HD12	1:A:821:LEU:HD21	2.02	0.42
2:E:13:ARG:HB3	2:E:13:ARG:CZ	2.49	0.42
2:H:13:ARG:HB3	2:H:13:ARG:CZ	2.49	0.42
2:F:23:VAL:HG22	2:F:47:LYS:HD3	2.02	0.42
1:B:273:HIS:CE1	1:B:334:MET:HB3	2.55	0.42
1:B:2881:ASN:HA	1:B:2884:ASN:HD21	1.84	0.42
1:D:273:HIS:CE1	1:D:334:MET:HB3	2.55	0.42
1:D:1297:PHE:CE2	1:D:1525:GLY:HA2	2.54	0.42
1:D:2464:ASP:OD1	1:D:2465:ASP:N	2.52	0.42
1:D:2582:MET:CE	1:D:2610:LEU:HD13	2.49	0.42
1:D:2888:ARG:O	1:D:2892:GLN:HG2	2.20	0.42
1:C:336:PRO:HA	1:C:337:PRO:HD3	1.85	0.42
1:C:891:TRP:CZ2	1:C:899:ASP:HA	2.55	0.42
1:C:1527:MET:HE2	1:C:1527:MET:HB2	1.75	0.42
1:C:3822:ASP:OD1	1:C:3823:LYS:N	2.53	0.42
1:A:1976:ARG:HH22	1:A:1997:GLU:CD	2.20	0.42
1:A:2888:ARG:O	1:A:2892:GLN:HG2	2.19	0.42
1:A:3554:GLN:HE21	1:A:3593:VAL:HG21	1.84	0.42
1:A:3729:MET:HE3	1:A:3770:LEU:HD22	2.02	0.42
1:A:4060:LYS:HA	1:A:4060:LYS:HD2	1.89	0.42
1:A:4885:PHE:O	1:A:4889:VAL:HG22	2.20	0.42
1:B:2886:TRP:HA	1:B:2889:LYS:HG2	2.02	0.42
1:D:552:ASP:OD1	1:D:552:ASP:N	2.52	0.42
1:D:891:TRP:CZ2	1:D:899:ASP:HA	2.55	0.42
1:D:2037:ASP:OD2	1:D:2038:LEU:N	2.52	0.42
1:D:2090:LYS:HZ2	1:D:2092:GLN:HG3	1.85	0.42
1:D:2538:THR:HG23	1:D:2541:PHE:H	1.85	0.42
1:D:2862:LEU:HD11	1:D:2865:VAL:HG13	2.00	0.42
1:D:3158:LEU:HD23	1:D:3158:LEU:HA	1.89	0.42
1:C:2228:MET:HB3	1:C:2228:MET:HE2	1.86	0.42
1:C:2336:ARG:HG2	1:C:2435:ARG:HD2	2.00	0.42
1:C:3453:ARG:NH2	1:C:3456:GLN:HB3	2.34	0.42
1:C:4951:LYS:NZ	1:C:4951:LYS:HB2	2.35	0.42
1:A:170:ILE:HD12	1:A:197:GLN:HB2	2.02	0.42
1:A:927:GLU:O	1:A:931:THR:HG23	2.19	0.42
1:A:1658:ASP:N	1:A:1658:ASP:OD1	2.53	0.42
1:A:2122:SER:O	1:A:2126:ARG:HG3	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3347:SER:HA	1:A:3418:ASN:ND2	2.35	0.42
1:A:3996:PHE:O	1:A:4000:MET:HG3	2.20	0.42
2:F:84:ALA:O	2:F:93:PRO:HB3	2.19	0.42
1:B:2765:LYS:NZ	1:B:2860:PRO:HA	2.34	0.42
1:B:3696:ASP:OD2	1:B:3773:ARG:NE	2.47	0.42
1:B:3729:MET:HE3	1:B:3770:LEU:HD22	2.02	0.42
1:D:793:LEU:HD12	1:D:821:LEU:HD21	2.02	0.42
1:D:1690:ASP:OD2	1:D:1693:GLN:NE2	2.52	0.42
1:D:2301:TYR:HB3	1:D:2331:TYR:CZ	2.55	0.42
1:D:2637:ALA:C	1:D:2640:PRO:HD2	2.40	0.42
1:D:3455:GLU:OE2	1:D:3508:SER:OG	2.36	0.42
1:C:1297:PHE:CE2	1:C:1525:GLY:HA2	2.54	0.42
1:C:1634:LEU:HD23	1:C:1634:LEU:HA	1.95	0.42
1:C:2209:GLU:HA	1:C:2212:VAL:HG22	2.02	0.42
1:C:2765:LYS:NZ	1:C:2860:PRO:HA	2.34	0.42
1:C:4137:ARG:NH2	1:C:4199:GLU:OE2	2.53	0.42
1:C:4183:ILE:HG12	1:C:4193:ILE:HD13	2.00	0.42
1:A:328:LYS:HB3	1:A:328:LYS:HE3	1.74	0.42
1:A:1115:LEU:HD13	1:A:1123:VAL:HG11	2.02	0.42
1:A:2301:TYR:HB3	1:A:2331:TYR:CZ	2.55	0.42
1:A:2538:THR:HG23	1:A:2541:PHE:H	1.85	0.42
1:A:2881:ASN:HA	1:A:2884:ASN:HD21	1.84	0.42
1:A:3194:LEU:HA	1:A:3194:LEU:HD12	1.76	0.42
1:A:4967:TYR:OH	1:A:5033:GLU:OE2	2.24	0.42
2:E:32:ASP:OD2	2:E:34:LYS:HG3	2.20	0.42
1:B:1115:LEU:HD13	1:B:1123:VAL:HG11	2.02	0.42
1:B:2336:ARG:HG2	1:B:2435:ARG:HD2	2.00	0.42
1:B:2637:ALA:C	1:B:2640:PRO:HD2	2.40	0.42
1:B:3384:LYS:HD2	1:B:3386:GLU:HB3	2.02	0.42
1:B:3461:GLN:HG2	1:B:3462:ASN:ND2	2.34	0.42
1:B:3604:TYR:O	1:B:3608:GLN:HG2	2.19	0.42
1:D:170:ILE:HD12	1:D:197:GLN:HB2	2.02	0.42
1:D:358:THR:HG21	1:D:382:GLY:HA2	2.01	0.42
1:D:1020:ARG:O	1:D:1022:VAL:N	2.49	0.42
1:D:3128:ASN:O	1:D:3132:THR:OG1	2.30	0.42
1:D:3384:LYS:HD2	1:D:3386:GLU:HB3	2.02	0.42
1:C:2301:TYR:HB3	1:C:2331:TYR:CZ	2.55	0.42
1:C:2888:ARG:O	1:C:2892:GLN:HG2	2.19	0.42
1:C:3384:LYS:HD2	1:C:3386:GLU:HB3	2.02	0.42
1:C:3823:LYS:HA	1:C:3823:LYS:HD3	1.76	0.42
1:A:309:THR:O	1:A:313:SER:OG	2.22	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:552:ASP:OD1	1:A:552:ASP:N	2.52	0.41
1:A:2209:GLU:HA	1:A:2212:VAL:HG22	2.02	0.41
1:A:2466:LEU:HD23	1:A:2502:MET:HE3	2.01	0.41
1:A:2886:TRP:HA	1:A:2889:LYS:HG2	2.02	0.41
1:A:4712:PRO:O	1:A:4718:LYS:NZ	2.32	0.41
2:G:13:ARG:HB3	2:G:13:ARG:CZ	2.50	0.41
1:B:35:LEU:HD13	1:B:49:LEU:HD13	2.02	0.41
1:B:568:LEU:HD12	1:B:602:VAL:HG13	2.02	0.41
1:B:1748:PHE:HB2	1:B:1758:ARG:HE	1.84	0.41
1:B:1992:ALA:HB1	1:B:1996:ARG:NH1	2.34	0.41
1:B:3212:GLU:HG2	1:B:3213:TYR:CD1	2.55	0.41
1:B:3666:ASP:OD2	1:B:3666:ASP:N	2.45	0.41
1:B:4177:TYR:CE1	1:B:4199:GLU:HG3	2.55	0.41
1:B:4951:LYS:HB2	1:B:4951:LYS:NZ	2.35	0.41
1:D:4188:ARG:NH1	1:D:4188:ARG:H	2.18	0.41
1:C:1983:ALA:O	1:C:1987:SER:OG	2.25	0.41
1:C:2318:TYR:CZ	1:C:2395:PRO:HD3	2.54	0.41
1:C:3569:LEU:O	1:C:3573:MET:HB2	2.20	0.41
1:C:4091:LYS:HA	1:C:4091:LYS:HD2	1.70	0.41
1:A:330:ASP:N	1:A:330:ASP:OD1	2.53	0.41
1:A:2198:MET:HE2	1:A:2198:MET:N	2.35	0.41
1:A:2582:MET:CE	1:A:2610:LEU:HD13	2.49	0.41
1:A:3062:PRO:HA	1:A:3065:VAL:HG22	2.02	0.41
1:B:669:ASP:OD1	1:B:790:ARG:NH2	2.52	0.41
1:B:2359:ARG:NE	1:C:179:TYR:OH	2.53	0.41
1:B:2516:ASP:OD1	1:B:2517:PHE:N	2.53	0.41
1:B:2749:GLU:HG3	1:B:2752:ASP:HB2	2.02	0.41
1:D:774:ASP:OD2	1:D:1470:ARG:NH2	2.35	0.41
1:D:873:LYS:NZ	1:D:970:LEU:HD21	2.35	0.41
1:D:961:MET:HE2	1:D:965:TYR:N	2.36	0.41
1:D:3233:PRO:HD2	1:D:3239:MET:HG2	2.02	0.41
1:D:3822:ASP:OD1	1:D:3823:LYS:N	2.53	0.41
1:C:1020:ARG:O	1:C:1022:VAL:N	2.49	0.41
1:C:2437:ALA:HB2	1:C:2509:VAL:HG22	2.01	0.41
1:C:3062:PRO:HA	1:C:3065:VAL:HG22	2.02	0.41
1:A:3822:ASP:OD1	1:A:3823:LYS:N	2.53	0.41
1:B:170:ILE:HD12	1:B:197:GLN:HB2	2.02	0.41
1:B:2439:GLU:HB2	1:B:2442:LEU:CD2	2.51	0.41
1:B:3347:SER:HA	1:B:3418:ASN:ND2	2.35	0.41
1:B:4188:ARG:NH1	1:B:4188:ARG:H	2.18	0.41
1:D:179:TYR:OH	1:C:2359:ARG:NE	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:306:LYS:HB2	1:D:306:LYS:HE3	1.83	0.41
1:D:569:ILE:HD13	1:D:569:ILE:HA	1.89	0.41
1:D:1658:ASP:OD1	1:D:1658:ASP:N	2.53	0.41
1:D:2420:HIS:HA	1:D:2423:MET:CE	2.51	0.41
1:D:2886:TRP:HA	1:D:2889:LYS:HG2	2.02	0.41
1:C:35:LEU:HD13	1:C:49:LEU:HD13	2.02	0.41
1:C:873:LYS:NZ	1:C:970:LEU:HD21	2.36	0.41
1:C:4066:LEU:HA	1:C:4066:LEU:HD23	1.81	0.41
1:A:873:LYS:NZ	1:A:970:LEU:HD21	2.35	0.41
1:A:3384:LYS:HD2	1:A:3386:GLU:HB3	2.02	0.41
2:G:61:GLU:O	2:G:65:GLN:HG3	2.20	0.41
1:B:873:LYS:NZ	1:B:970:LEU:HD21	2.36	0.41
1:B:2037:ASP:OD2	1:B:2038:LEU:N	2.53	0.41
1:B:2208:MET:HB2	1:B:2208:MET:HE2	1.77	0.41
1:B:2263:ILE:HD12	1:B:2263:ILE:HA	1.94	0.41
1:B:3062:PRO:HA	1:B:3065:VAL:HG22	2.02	0.41
1:D:541:SER:O	1:D:577:ILE:HD13	2.20	0.41
1:D:884:LEU:HG	1:D:955:LEU:HD21	2.03	0.41
1:D:2020:ASP:OD1	1:D:2020:ASP:N	2.45	0.41
1:D:3062:PRO:HA	1:D:3065:VAL:HG22	2.02	0.41
1:D:3959:LYS:HG2	1:D:4022:ASP:OD2	2.21	0.41
1:C:273:HIS:CE1	1:C:334:MET:HB3	2.55	0.41
1:C:499:THR:HG23	1:C:502:HIS:H	1.86	0.41
1:C:568:LEU:HD12	1:C:602:VAL:HG13	2.02	0.41
1:C:1748:PHE:HB2	1:C:1758:ARG:HE	1.84	0.41
1:C:2420:HIS:HA	1:C:2423:MET:CE	2.51	0.41
1:C:4911:LEU:O	1:C:4914:VAL:HG22	2.21	0.41
1:A:2037:ASP:OD2	1:A:2038:LEU:N	2.53	0.41
1:A:2478:THR:OG1	1:A:2479:LEU:N	2.54	0.41
1:A:3212:GLU:HG2	1:A:3213:TYR:CD1	2.55	0.41
1:A:4177:TYR:CE1	1:A:4199:GLU:HG3	2.55	0.41
1:B:484:LEU:HD12	1:B:484:LEU:HA	1.79	0.41
1:B:1658:ASP:OD1	1:B:1658:ASP:N	2.53	0.41
1:B:2912:THR:HG23	1:B:2914:LYS:HG3	2.03	0.41
1:B:3209:GLN:HG2	1:B:3210:LEU:HG	2.02	0.41
1:B:3569:LEU:O	1:B:3573:MET:HB2	2.20	0.41
1:B:3822:ASP:OD1	1:B:3823:LYS:N	2.53	0.41
1:B:4137:ARG:NH2	1:B:4199:GLU:OE2	2.53	0.41
1:D:140:ASP:OD1	1:D:142:THR:OG1	2.29	0.41
1:D:3501:ASP:N	1:D:3501:ASP:OD1	2.54	0.41
1:C:793:LEU:HD12	1:C:821:LEU:HD21	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:927:GLU:O	1:C:931:THR:HG23	2.19	0.41
1:C:1658:ASP:N	1:C:1658:ASP:OD1	2.53	0.41
1:C:2516:ASP:OD1	1:C:2517:PHE:N	2.53	0.41
1:C:2615:ARG:HB2	1:C:2618:MET:HE3	2.01	0.41
1:C:2749:GLU:HG3	1:C:2752:ASP:HB2	2.03	0.41
1:C:3212:GLU:HG2	1:C:3213:TYR:CD1	2.55	0.41
1:C:3461:GLN:HG2	1:C:3462:ASN:ND2	2.34	0.41
1:A:941:MET:HB2	1:A:941:MET:HE2	1.66	0.41
1:A:3569:LEU:O	1:A:3573:MET:HB2	2.20	0.41
1:A:3836:MET:CE	1:A:3918:CYS:HB3	2.51	0.41
1:A:4188:ARG:NH1	1:A:4188:ARG:H	2.18	0.41
2:H:32:ASP:OD2	2:H:34:LYS:HG3	2.21	0.41
1:B:793:LEU:HD12	1:B:821:LEU:HD21	2.02	0.41
1:B:2437:ALA:HB2	1:B:2509:VAL:HG22	2.01	0.41
1:B:2478:THR:OG1	1:B:2479:LEU:N	2.54	0.41
1:D:484:LEU:HD12	1:D:484:LEU:HA	1.79	0.41
1:D:927:GLU:O	1:D:931:THR:HG23	2.19	0.41
1:D:2263:ILE:HD12	1:D:2263:ILE:HA	1.94	0.41
1:D:4060:LYS:HA	1:D:4060:LYS:HD2	1.89	0.41
1:D:4951:LYS:NZ	1:D:4951:LYS:HB2	2.35	0.41
1:C:170:ILE:HD12	1:C:197:GLN:HB2	2.02	0.41
1:C:328:LYS:HB3	1:C:328:LYS:HE3	1.73	0.41
1:C:1155:LEU:HD23	1:C:1155:LEU:HA	1.92	0.41
1:C:2912:THR:HG23	1:C:2914:LYS:HG3	2.03	0.41
1:C:3209:GLN:HG2	1:C:3210:LEU:HG	2.02	0.41
1:C:3233:PRO:HD2	1:C:3239:MET:HG2	2.02	0.41
1:C:3400:VAL:HG23	1:C:3403:ARG:NH2	2.35	0.41
1:C:3501:ASP:OD1	1:C:3501:ASP:N	2.54	0.41
1:C:3996:PHE:O	1:C:4000:MET:HG3	2.20	0.41
1:A:32:GLN:HA	1:A:32:GLN:OE1	2.21	0.41
1:A:35:LEU:HD13	1:A:49:LEU:HD13	2.02	0.41
1:A:2390:PRO:C	1:A:2392:ARG:H	2.24	0.41
1:A:2439:GLU:HB2	1:A:2442:LEU:CD2	2.51	0.41
1:A:4952:GLU:OE1	1:A:4952:GLU:N	2.54	0.41
1:B:238:SER:OG	1:B:240:ASP:OD1	2.36	0.41
1:B:2309:SER:HB2	1:B:2314:LEU:HD11	2.03	0.41
1:B:4091:LYS:NZ	1:B:4095:LYS:HB3	2.34	0.41
1:B:4695:ASP:OD1	1:B:4695:ASP:N	2.35	0.41
1:B:4911:LEU:O	1:B:4914:VAL:HG22	2.21	0.41
1:D:1115:LEU:HD13	1:D:1123:VAL:HG11	2.02	0.41
1:D:2604:GLU:HG2	1:D:2639:MET:HG3	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2819:TRP:O	1:D:2820:GLU:HG3	2.21	0.41
1:D:2881:ASN:HA	1:D:2884:ASN:HD21	1.84	0.41
1:D:3459:VAL:HG11	1:D:3503:TYR:HD1	1.86	0.41
1:D:4177:TYR:CE1	1:D:4199:GLU:HG3	2.55	0.41
1:D:4952:GLU:N	1:D:4952:GLU:OE1	2.54	0.41
1:C:541:SER:O	1:C:577:ILE:HD13	2.20	0.41
1:C:2238:TYR:HD2	1:C:2238:TYR:O	2.03	0.41
1:C:2478:THR:OG1	1:C:2479:LEU:N	2.54	0.41
1:C:2996:LYS:HD3	1:C:2996:LYS:HA	1.89	0.41
1:C:3465:ASN:OD1	1:C:3467:MET:N	2.34	0.41
1:C:4177:TYR:CE1	1:C:4199:GLU:HG3	2.55	0.41
1:A:499:THR:HG23	1:A:502:HIS:H	1.86	0.41
1:A:569:ILE:HD13	1:A:569:ILE:HA	1.89	0.41
1:A:884:LEU:HG	1:A:955:LEU:HD21	2.03	0.41
1:A:2749:GLU:HG3	1:A:2752:ASP:HB2	2.03	0.41
1:A:2775:TRP:CD2	1:A:2786:LYS:HE3	2.56	0.41
1:A:4190:ILE:HD12	1:A:5023:PRO:HB3	2.03	0.41
1:B:330:ASP:N	1:B:330:ASP:OD1	2.53	0.41
1:B:891:TRP:HB3	1:B:907:LEU:HD11	2.03	0.41
1:B:1424:PRO:HA	1:B:1427:ILE:HG22	2.03	0.41
1:B:3400:VAL:HG23	1:B:3403:ARG:NH2	2.35	0.41
1:B:3941:ASP:OD1	1:B:3941:ASP:N	2.53	0.41
1:B:3959:LYS:HG2	1:B:4022:ASP:OD2	2.21	0.41
1:D:663:TYR:OH	1:D:665:GLU:OE2	2.24	0.41
1:D:1155:LEU:HD23	1:D:1155:LEU:HA	1.92	0.41
1:D:3562:LYS:HE2	1:D:3562:LYS:HB2	1.91	0.41
1:D:3836:MET:CE	1:D:3918:CYS:HB3	2.51	0.41
1:C:1575:LEU:HA	1:C:1575:LEU:HD23	1.81	0.41
1:C:3729:MET:HE3	1:C:3770:LEU:HD22	2.02	0.41
1:A:1575:LEU:HD23	1:A:1575:LEU:HA	1.81	0.41
1:A:1995:THR:O	1:A:1999:ARG:HG2	2.21	0.41
1:A:2238:TYR:HD2	1:A:2238:TYR:O	2.03	0.41
1:A:2420:HIS:HA	1:A:2423:MET:CE	2.51	0.41
1:A:2577:ILE:HD12	1:A:2578:MET:N	2.32	0.41
1:A:2604:GLU:HG2	1:A:2639:MET:HG3	2.03	0.41
1:A:2677:LYS:HB3	1:A:2677:LYS:HE2	1.79	0.41
1:A:3209:GLN:HG2	1:A:3210:LEU:HG	2.02	0.41
1:A:3400:VAL:HG23	1:A:3403:ARG:NH2	2.35	0.41
2:H:2:VAL:HG11	2:H:61:GLU:HB2	2.03	0.41
2:G:32:ASP:OD2	2:G:34:LYS:HG3	2.21	0.41
1:B:499:THR:HG23	1:B:502:HIS:H	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1249:PRO:HA	1:B:1250:PRO:HD3	1.96	0.41
1:B:1995:THR:O	1:B:1999:ARG:HG2	2.21	0.41
1:B:2238:TYR:O	1:B:2238:TYR:HD2	2.03	0.41
1:B:2301:TYR:HB3	1:B:2331:TYR:CZ	2.55	0.41
1:B:2390:PRO:C	1:B:2392:ARG:H	2.24	0.41
1:B:2420:HIS:HA	1:B:2423:MET:CE	2.51	0.41
1:B:3194:LEU:HD12	1:B:3194:LEU:HA	1.76	0.41
1:B:3564:GLU:HA	1:B:3570:ARG:NH2	2.36	0.41
1:B:4942:GLU:HA	1:B:4945:ASP:OD2	2.21	0.41
1:B:4952:GLU:OE1	1:B:4952:GLU:N	2.54	0.41
1:D:901:LYS:HA	1:D:901:LYS:HD2	1.84	0.41
1:D:1992:ALA:HA	1:D:1995:THR:HG22	2.02	0.41
1:D:2208:MET:HG2	1:D:2211:MET:HE3	2.02	0.41
1:D:2209:GLU:HA	1:D:2212:VAL:HG22	2.02	0.41
1:D:2238:TYR:HD2	1:D:2238:TYR:O	2.03	0.41
1:D:2439:GLU:HB2	1:D:2442:LEU:CD2	2.51	0.41
1:D:2749:GLU:HG3	1:D:2752:ASP:HB2	2.03	0.41
1:D:3569:LEU:O	1:D:3573:MET:HB2	2.20	0.41
1:D:3729:MET:HE3	1:D:3770:LEU:HD22	2.02	0.41
1:D:3852:LYS:HE3	1:D:3852:LYS:HB3	1.85	0.41
1:D:4754:ASN:HB3	1:D:4756:ARG:HH21	1.86	0.41
1:C:788:LYS:HE3	1:C:788:LYS:HB2	1.79	0.41
1:C:884:LEU:HG	1:C:955:LEU:HD21	2.03	0.41
1:C:1229:ASN:C	1:C:1230:MET:HG2	2.41	0.41
1:C:1695:LEU:HB3	1:C:1810:LYS:NZ	2.36	0.41
1:C:2095:GLN:HG3	1:C:2127:GLN:HB3	2.03	0.41
1:C:2208:MET:HB2	1:C:2208:MET:HE2	1.77	0.41
1:C:2309:SER:HB2	1:C:2314:LEU:HD11	2.03	0.41
1:C:2527:LEU:HD12	1:C:2527:LEU:HA	1.82	0.41
1:C:3158:LEU:HA	1:C:3158:LEU:HD23	1.89	0.41
1:C:3959:LYS:HG2	1:C:4022:ASP:OD2	2.21	0.41
1:C:4017:LEU:HD23	1:C:4017:LEU:HA	1.93	0.41
1:A:1174:GLY:N	1:D:3467:MET:CE	2.80	0.41
1:A:2764:GLU:HG3	1:A:2857:PRO:HB3	2.04	0.41
1:A:2912:THR:HG23	1:A:2914:LYS:HG3	2.03	0.41
1:A:3959:LYS:HG2	1:A:4022:ASP:OD2	2.21	0.41
1:A:4879:MET:HG3	1:D:4578:LEU:HD23	2.03	0.41
1:A:4902:GLU:O	1:A:4913:ARG:NH1	2.53	0.41
1:B:2382:GLU:OE1	1:B:2385:ARG:NH1	2.49	0.41
1:B:2413:GLU:OE1	1:B:2413:GLU:N	2.54	0.41
1:B:2604:GLU:HG2	1:B:2639:MET:HG3	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3693:LYS:HA	1:B:3693:LYS:HD2	1.85	0.41
1:D:937:CYS:N	1:D:1056:PRO:HG3	2.36	0.41
1:D:2382:GLU:OE1	1:D:2385:ARG:NH1	2.49	0.41
1:D:2615:ARG:HB2	1:D:2618:MET:CE	2.51	0.41
1:D:2716:ASP:OD1	1:D:2716:ASP:N	2.54	0.41
1:D:4930:ALA:HB2	1:C:4933:GLN:HG2	2.03	0.41
1:C:891:TRP:HB3	1:C:907:LEU:HD11	2.03	0.41
1:C:1992:ALA:HB1	1:C:1996:ARG:NH1	2.34	0.41
1:C:2615:ARG:HB2	1:C:2618:MET:CE	2.51	0.41
1:C:2977:LEU:HA	1:C:2980:VAL:HG22	2.02	0.41
1:C:4952:GLU:OE1	1:C:4952:GLU:N	2.54	0.41
1:A:192:ASP:OD1	1:A:192:ASP:N	2.54	0.40
1:A:233:ILE:O	1:A:257:ARG:NH1	2.49	0.40
1:A:1229:ASN:C	1:A:1230:MET:HG2	2.41	0.40
1:A:2615:ARG:HB2	1:A:2618:MET:CE	2.51	0.40
1:A:4754:ASN:HB3	1:A:4756:ARG:HH21	1.86	0.40
1:A:4813:LEU:HD23	1:A:4813:LEU:HA	1.84	0.40
1:A:4895:GLY:O	1:D:4892:ARG:NH1	2.45	0.40
2:H:49:MET:SD	2:H:52:LYS:NZ	2.94	0.40
1:B:1055:PRO:HA	1:B:1056:PRO:HD3	1.97	0.40
1:B:2615:ARG:HB2	1:B:2618:MET:CE	2.51	0.40
1:B:2825:LYS:HG3	1:B:2935:TYR:CE2	2.57	0.40
1:B:3132:THR:HA	1:B:3136:LEU:HB3	2.03	0.40
1:B:3501:ASP:OD1	1:B:3501:ASP:N	2.54	0.40
1:B:3508:SER:HB3	1:B:3511:VAL:HG22	2.04	0.40
1:B:4091:LYS:HG3	1:B:4095:LYS:NZ	2.37	0.40
1:D:35:LEU:HD13	1:D:49:LEU:HD13	2.03	0.40
1:D:955:LEU:HD23	1:D:955:LEU:HA	1.91	0.40
1:D:1976:ARG:HH22	1:D:1997:GLU:CD	2.20	0.40
1:D:3209:GLN:HG2	1:D:3210:LEU:HG	2.02	0.40
1:D:3996:PHE:O	1:D:4000:MET:HG3	2.20	0.40
1:D:4885:PHE:O	1:D:4889:VAL:HG22	2.20	0.40
1:D:4911:LEU:O	1:D:4914:VAL:HG22	2.21	0.40
1:C:32:GLN:OE1	1:C:32:GLN:HA	2.21	0.40
1:C:1424:PRO:HA	1:C:1427:ILE:HG22	2.03	0.40
1:C:2598:ALA:HA	1:C:2601:ASP:OD2	2.22	0.40
1:C:3836:MET:CE	1:C:3918:CYS:HB3	2.51	0.40
1:C:4188:ARG:NH1	1:C:4188:ARG:H	2.18	0.40
1:A:541:SER:O	1:A:577:ILE:HD13	2.20	0.40
1:A:568:LEU:HD12	1:A:602:VAL:HG13	2.02	0.40
1:A:1118:ASP:N	1:A:1118:ASP:OD1	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2095:GLN:HG3	1:A:2127:GLN:HB3	2.03	0.40
1:A:2413:GLU:N	1:A:2413:GLU:OE1	2.54	0.40
1:A:3501:ASP:N	1:A:3501:ASP:OD1	2.54	0.40
1:A:3564:GLU:HA	1:A:3570:ARG:NH2	2.36	0.40
1:A:3673:MET:CE	1:A:3728:ILE:HD13	2.52	0.40
1:A:4137:ARG:NH2	1:A:4199:GLU:OE2	2.53	0.40
1:A:4942:GLU:HA	1:A:4945:ASP:OD2	2.21	0.40
2:G:60:GLU:HA	2:G:60:GLU:OE1	2.22	0.40
1:B:416:LYS:HB2	1:B:416:LYS:HE3	1.84	0.40
1:B:1229:ASN:C	1:B:1230:MET:HG2	2.41	0.40
1:B:2208:MET:HG2	1:B:2211:MET:HE3	2.04	0.40
1:D:891:TRP:HB3	1:D:907:LEU:HD11	2.03	0.40
1:D:1695:LEU:HB3	1:D:1810:LYS:NZ	2.36	0.40
1:D:1823:GLY:O	1:D:1825:HIS:ND1	2.48	0.40
1:D:2598:ALA:HA	1:D:2601:ASP:OD2	2.22	0.40
1:C:1115:LEU:HD13	1:C:1123:VAL:HG11	2.02	0.40
1:A:891:TRP:HB3	1:A:907:LEU:HD11	2.03	0.40
1:A:961:MET:HE2	1:A:965:TYR:N	2.36	0.40
1:A:1155:LEU:HD23	1:A:1155:LEU:HA	1.92	0.40
1:A:1992:ALA:HA	1:A:1995:THR:HG22	2.02	0.40
1:A:2516:ASP:OD1	1:A:2517:PHE:N	2.53	0.40
1:A:3112:LEU:HD21	1:A:3180:ASN:ND2	2.37	0.40
1:A:4148:THR:HG21	1:A:4180:ARG:HH21	1.86	0.40
1:A:4897:ILE:HD12	1:A:4897:ILE:HA	1.95	0.40
1:A:4951:LYS:HB2	1:A:4951:LYS:NZ	2.35	0.40
2:F:44:LYS:HE3	2:F:44:LYS:HB3	1.78	0.40
1:B:541:SER:O	1:B:577:ILE:HD13	2.20	0.40
1:B:3354:LEU:HD22	1:B:3423:TRP:CZ2	2.56	0.40
1:D:484:LEU:O	1:D:488:LEU:HG	2.22	0.40
1:D:1995:THR:O	1:D:1999:ARG:HG2	2.21	0.40
1:D:2711:PRO:HA	1:D:2712:PRO:HD3	1.93	0.40
1:D:2775:TRP:CD2	1:D:2786:LYS:HE3	2.56	0.40
1:D:3955:MET:HG2	1:D:4019:LEU:HD22	2.04	0.40
1:D:4816:ILE:H	1:D:4816:ILE:HG13	1.73	0.40
1:C:937:CYS:N	1:C:1056:PRO:HG3	2.36	0.40
1:C:970:LEU:HD11	1:C:1049:TYR:CZ	2.57	0.40
1:C:1995:THR:O	1:C:1999:ARG:HG2	2.21	0.40
1:C:2123:LEU:O	1:C:2127:GLN:HG2	2.22	0.40
1:C:2466:LEU:HD23	1:C:2502:MET:HE3	2.04	0.40
1:C:2819:TRP:O	1:C:2820:GLU:HG3	2.21	0.40
1:C:2965:ARG:HA	1:C:2968:ASP:OD2	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:3128:ASN:O	1:C:3132:THR:OG1	2.30	0.40
1:C:3132:THR:HA	1:C:3136:LEU:HB3	2.03	0.40
1:C:3354:LEU:HD22	1:C:3423:TRP:CZ2	2.56	0.40
1:C:3459:VAL:HG11	1:C:3503:TYR:HD1	1.86	0.40
1:C:3508:SER:HB3	1:C:3511:VAL:HG22	2.03	0.40
1:C:3673:MET:CE	1:C:3728:ILE:HD13	2.52	0.40
1:A:168:ASP:HB3	1:A:199:LEU:HD23	2.04	0.40
1:A:749:ASP:O	1:A:753:PRO:HA	2.22	0.40
1:A:898:ASP:OD1	1:A:898:ASP:N	2.55	0.40
1:A:1617:THR:HA	1:A:1627:ALA:O	2.22	0.40
1:A:2819:TRP:O	1:A:2820:GLU:HG3	2.21	0.40
1:A:3459:VAL:HG11	1:A:3503:TYR:HD1	1.86	0.40
1:B:1699:GLU:OE2	1:B:1813:ARG:NH2	2.45	0.40
1:B:2095:GLN:HG3	1:B:2127:GLN:HB3	2.03	0.40
1:B:2775:TRP:CD2	1:B:2786:LYS:HE3	2.56	0.40
1:B:3836:MET:CE	1:B:3918:CYS:HB3	2.51	0.40
1:D:189:LEU:HD13	1:D:189:LEU:HA	1.91	0.40
1:D:970:LEU:HD11	1:D:1049:TYR:CZ	2.57	0.40
1:D:1205:GLY:HA3	1:D:1225:PRO:HB3	2.04	0.40
1:D:2309:SER:HB2	1:D:2314:LEU:HD11	2.03	0.40
1:D:2390:PRO:C	1:D:2392:ARG:H	2.24	0.40
1:D:2825:LYS:HG3	1:D:2935:TYR:CE2	2.57	0.40
1:D:3693:LYS:HD2	1:D:3693:LYS:HA	1.85	0.40
1:D:4686:LEU:HD12	1:D:4686:LEU:HA	1.88	0.40
1:C:29:LEU:HD13	1:C:29:LEU:HA	1.93	0.40
1:C:484:LEU:HA	1:C:484:LEU:HD12	1.79	0.40
1:C:2775:TRP:CD2	1:C:2786:LYS:HE3	2.56	0.40
1:C:2825:LYS:HG3	1:C:2935:TYR:CE2	2.57	0.40
1:C:4190:ILE:HD12	1:C:5023:PRO:HB3	2.03	0.40
1:C:4754:ASN:HB3	1:C:4756:ARG:HH21	1.86	0.40
1:A:283:ARG:HB2	1:A:290:TYR:CE2	2.57	0.40
1:A:1782:PHE:O	2:E:82:TYR:OH	2.29	0.40
1:A:3132:THR:HA	1:A:3136:LEU:HB3	2.03	0.40
1:A:4091:LYS:NZ	1:A:4095:LYS:HB3	2.34	0.40
1:B:937:CYS:N	1:B:1056:PRO:HG3	2.36	0.40
1:B:1527:MET:HE2	1:B:1540:PHE:HB2	2.04	0.40
1:B:1617:THR:HA	1:B:1627:ALA:O	2.22	0.40
1:B:1703:LEU:HD23	1:B:1703:LEU:HA	1.94	0.40
1:B:3112:LEU:HD21	1:B:3180:ASN:ND2	2.37	0.40
1:B:3844:LEU:HD13	1:C:76:ARG:NE	2.37	0.40
1:B:4933:GLN:HG2	1:C:4930:ALA:HB2	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:32:GLN:HA	1:D:32:GLN:OE1	2.21	0.40
1:D:175:SER:O	1:C:2452:ARG:HG3	2.22	0.40
1:D:568:LEU:HD12	1:D:602:VAL:HG13	2.02	0.40
1:D:669:ASP:OD1	1:D:790:ARG:NH2	2.52	0.40
1:D:2965:ARG:HA	1:D:2968:ASP:OD2	2.22	0.40
1:D:3354:LEU:HD22	1:D:3423:TRP:CZ2	2.56	0.40
1:D:4092:ASP:HA	1:D:4095:LYS:HG2	2.04	0.40
1:D:4190:ILE:HD12	1:D:5023:PRO:HB3	2.03	0.40
1:D:4638:TYR:C	1:D:4641:PRO:HD2	2.42	0.40
1:D:4640:GLU:HB3	1:D:4641:PRO:HD3	2.04	0.40
1:C:330:ASP:OD1	1:C:330:ASP:N	2.53	0.40
1:C:1205:GLY:HA3	1:C:1225:PRO:HB3	2.04	0.40
1:C:1231[B]:GLN:H	1:C:1231[B]:GLN:HG3	1.74	0.40
1:C:2208:MET:HA	1:C:2211:MET:HE3	2.03	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	4385/5037 (87%)	4246 (97%)	139 (3%)	0	100	100
1	B	4385/5037 (87%)	4245 (97%)	140 (3%)	0	100	100
1	C	4385/5037 (87%)	4247 (97%)	138 (3%)	0	100	100
1	D	4385/5037 (87%)	4246 (97%)	139 (3%)	0	100	100
2	E	105/108 (97%)	102 (97%)	3 (3%)	0	100	100
2	F	105/108 (97%)	103 (98%)	2 (2%)	0	100	100
2	G	105/108 (97%)	102 (97%)	3 (3%)	0	100	100
2	H	105/108 (97%)	101 (96%)	4 (4%)	0	100	100
All	All	17960/20580 (87%)	17392 (97%)	568 (3%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	3836/4276 (90%)	3730 (97%)	106 (3%)	38	66
1	B	3836/4276 (90%)	3730 (97%)	106 (3%)	38	66
1	C	3836/4276 (90%)	3730 (97%)	106 (3%)	38	66
1	D	3836/4276 (90%)	3730 (97%)	106 (3%)	38	66
2	E	89/90 (99%)	81 (91%)	8 (9%)	8	28
2	F	89/90 (99%)	84 (94%)	5 (6%)	17	47
2	G	89/90 (99%)	81 (91%)	8 (9%)	8	28
2	H	89/90 (99%)	81 (91%)	8 (9%)	8	28
All	All	15700/17464 (90%)	15247 (97%)	453 (3%)	40	65

All (453) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	32	GLN
1	A	127	MET
1	A	155	LYS
1	A	164	ARG
1	A	220	LEU
1	A	275	ARG
1	A	367	LEU
1	A	383	HIS
1	A	384	MET
1	A	869	ARG
1	A	882	TRP
1	A	897	ARG
1	A	898	ASP
1	A	945	LYS
1	A	959	TYR
1	A	961	MET

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Mol	Chain	Res	Type
1	A	963	ASN
1	A	976	ARG
1	A	998	ARG
1	A	1021	LEU
1	A	1025	ARG
1	A	1128	ARG
1	A	1143	TRP
1	A	1421	ARG
1	A	1435	TYR
1	A	1511	HIS
1	A	1538	THR
1	A	1752	ARG
1	A	1758	ARG
1	A	1814	MET
1	A	1824	GLN
1	A	1930	LYS
1	A	2008	MET
1	A	2100[A]	HIS
1	A	2100[B]	HIS
1	A	2101	MET
1	A	2178	MET
1	A	2198	MET
1	A	2211	MET
1	A	2221	LYS
1	A	2224	ARG
1	A	2228	MET
1	A	2238	TYR
1	A	2256	TYR
1	A	2268[A]	GLN
1	A	2268[B]	GLN
1	A	2330	ARG
1	A	2336	ARG
1	A	2369[A]	ARG
1	A	2369[B]	ARG
1	A	2423	MET
1	A	2441	HIS
1	A	2636	PHE
1	A	2697	ARG
1	A	2698	MET
1	A	2700	MET
1	A	2738	ARG
1	A	2742	THR

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Mol	Chain	Res	Type
1	A	2751	LEU
1	A	2786	LYS
1	A	2797	PHE
1	A	2806	ARG
1	A	2827	ARG
1	A	2914	LYS
1	A	2932	MET
1	A	3053	ARG
1	A	3182	TYR
1	A	3185	LYS
1	A	3201	MET
1	A	3392	LEU
1	A	3451	PHE
1	A	3461	GLN
1	A	3466	ASN
1	A	3467	MET
1	A	3558	HIS
1	A	3577	ARG
1	A	3614	LYS
1	A	3622	LYS
1	A	3638	MET
1	A	3639	THR
1	A	3673	MET
1	A	3734	HIS
1	A	3751	VAL
1	A	3752	SER
1	A	3757	GLU
1	A	3758	MET
1	A	3811	GLU
1	A	3858	MET
1	A	3899	PHE
1	A	3933	PHE
1	A	4161	ARG
1	A	4188	ARG
1	A	4580	TYR
1	A	4627	MET
1	A	4645	CYS
1	A	4722	ARG
1	A	4769	MET
1	A	4818	MET
1	A	4821	LYS
1	A	4871	GLU

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Mol	Chain	Res	Type
1	A	4879	MET
1	A	4880	MET
1	A	4922	PHE
1	A	4940	PHE
1	A	4966	ASP
1	A	4973	HIS
2	E	13	ARG
2	E	14	THR
2	E	17	LYS
2	E	25	HIS
2	E	52	LYS
2	E	79	ASP
2	E	87	HIS
2	E	105	LYS
2	H	11	ASP
2	H	13	ARG
2	H	14	THR
2	H	17	LYS
2	H	25	HIS
2	H	77	SER
2	H	79	ASP
2	H	105	LYS
2	G	11	ASP
2	G	13	ARG
2	G	14	THR
2	G	17	LYS
2	G	25	HIS
2	G	52	LYS
2	G	79	ASP
2	G	105	LYS
2	F	11	ASP
2	F	17	LYS
2	F	77	SER
2	F	79	ASP
2	F	105	LYS
1	B	32	GLN
1	B	127	MET
1	B	155	LYS
1	B	164	ARG
1	B	220	LEU
1	B	275	ARG
1	B	367	LEU

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Mol	Chain	Res	Type
1	B	383	HIS
1	B	384	MET
1	B	869	ARG
1	B	882	TRP
1	B	897	ARG
1	B	898	ASP
1	B	945	LYS
1	B	959	TYR
1	B	961	MET
1	B	963	ASN
1	B	976	ARG
1	B	998	ARG
1	B	1021	LEU
1	B	1025	ARG
1	B	1128	ARG
1	B	1143	TRP
1	B	1421	ARG
1	B	1435	TYR
1	B	1511	HIS
1	B	1538	THR
1	B	1752	ARG
1	B	1758	ARG
1	B	1814	MET
1	B	1824	GLN
1	B	1930	LYS
1	B	2008	MET
1	B	2100[A]	HIS
1	B	2100[B]	HIS
1	B	2101	MET
1	B	2178	MET
1	B	2198	MET
1	B	2211	MET
1	B	2221	LYS
1	B	2224	ARG
1	B	2228	MET
1	B	2238	TYR
1	B	2256	TYR
1	B	2268[A]	GLN
1	B	2268[B]	GLN
1	B	2330	ARG
1	B	2336	ARG
1	B	2369[A]	ARG

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Mol	Chain	Res	Type
1	B	2369[B]	ARG
1	B	2423	MET
1	B	2441	HIS
1	B	2636	PHE
1	B	2697	ARG
1	B	2698	MET
1	B	2700	MET
1	B	2738	ARG
1	B	2742	THR
1	B	2751	LEU
1	B	2786	LYS
1	B	2797	PHE
1	B	2806	ARG
1	B	2827	ARG
1	B	2914	LYS
1	B	2932	MET
1	B	3053	ARG
1	B	3182	TYR
1	B	3185	LYS
1	B	3201	MET
1	B	3392	LEU
1	B	3451	PHE
1	B	3461	GLN
1	B	3466	ASN
1	B	3467	MET
1	B	3558	HIS
1	B	3577	ARG
1	B	3614	LYS
1	B	3622	LYS
1	B	3638	MET
1	B	3639	THR
1	B	3673	MET
1	B	3734	HIS
1	B	3751	VAL
1	B	3752	SER
1	B	3757	GLU
1	B	3758	MET
1	B	3811	GLU
1	B	3858	MET
1	B	3899	PHE
1	B	3933	PHE
1	B	4161	ARG

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Mol	Chain	Res	Type
1	B	4188	ARG
1	B	4580	TYR
1	B	4627	MET
1	B	4645	CYS
1	B	4722	ARG
1	B	4769	MET
1	B	4818	MET
1	B	4821	LYS
1	B	4871	GLU
1	B	4879	MET
1	B	4880	MET
1	B	4922	PHE
1	B	4940	PHE
1	B	4966	ASP
1	B	4973	HIS
1	D	32	GLN
1	D	127	MET
1	D	155	LYS
1	D	164	ARG
1	D	220	LEU
1	D	275	ARG
1	D	367	LEU
1	D	383	HIS
1	D	384	MET
1	D	869	ARG
1	D	882	TRP
1	D	897	ARG
1	D	898	ASP
1	D	945	LYS
1	D	959	TYR
1	D	961	MET
1	D	963	ASN
1	D	976	ARG
1	D	998	ARG
1	D	1021	LEU
1	D	1025	ARG
1	D	1128	ARG
1	D	1143	TRP
1	D	1421	ARG
1	D	1435	TYR
1	D	1511	HIS
1	D	1538	THR

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Mol	Chain	Res	Type
1	D	1752	ARG
1	D	1758	ARG
1	D	1814	MET
1	D	1824	GLN
1	D	1930	LYS
1	D	2008	MET
1	D	2100[A]	HIS
1	D	2100[B]	HIS
1	D	2101	MET
1	D	2178	MET
1	D	2198	MET
1	D	2211	MET
1	D	2221	LYS
1	D	2224	ARG
1	D	2228	MET
1	D	2238	TYR
1	D	2256	TYR
1	D	2268[A]	GLN
1	D	2268[B]	GLN
1	D	2330	ARG
1	D	2336	ARG
1	D	2369[A]	ARG
1	D	2369[B]	ARG
1	D	2423	MET
1	D	2441	HIS
1	D	2636	PHE
1	D	2697	ARG
1	D	2698	MET
1	D	2700	MET
1	D	2738	ARG
1	D	2742	THR
1	D	2751	LEU
1	D	2786	LYS
1	D	2797	PHE
1	D	2806	ARG
1	D	2827	ARG
1	D	2914	LYS
1	D	2932	MET
1	D	3053	ARG
1	D	3182	TYR
1	D	3185	LYS
1	D	3201	MET

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Mol	Chain	Res	Type
1	D	3392	LEU
1	D	3451	PHE
1	D	3461	GLN
1	D	3466	ASN
1	D	3467	MET
1	D	3558	HIS
1	D	3577	ARG
1	D	3614	LYS
1	D	3622	LYS
1	D	3638	MET
1	D	3639	THR
1	D	3673	MET
1	D	3734	HIS
1	D	3751	VAL
1	D	3752	SER
1	D	3757	GLU
1	D	3758	MET
1	D	3811	GLU
1	D	3858	MET
1	D	3899	PHE
1	D	3933	PHE
1	D	4161	ARG
1	D	4188	ARG
1	D	4580	TYR
1	D	4627	MET
1	D	4645	CYS
1	D	4722	ARG
1	D	4769	MET
1	D	4818	MET
1	D	4821	LYS
1	D	4871	GLU
1	D	4879	MET
1	D	4880	MET
1	D	4922	PHE
1	D	4940	PHE
1	D	4966	ASP
1	D	4973	HIS
1	C	32	GLN
1	C	127	MET
1	C	155	LYS
1	C	164	ARG
1	C	220	LEU

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Mol	Chain	Res	Type
1	C	275	ARG
1	C	367	LEU
1	C	383	HIS
1	C	384	MET
1	C	869	ARG
1	C	882	TRP
1	C	897	ARG
1	C	898	ASP
1	C	945	LYS
1	C	959	TYR
1	C	961	MET
1	C	963	ASN
1	C	976	ARG
1	C	998	ARG
1	C	1021	LEU
1	C	1025	ARG
1	C	1128	ARG
1	C	1143	TRP
1	C	1421	ARG
1	C	1435	TYR
1	C	1511	HIS
1	C	1538	THR
1	C	1752	ARG
1	C	1758	ARG
1	C	1814	MET
1	C	1824	GLN
1	C	1930	LYS
1	C	2008	MET
1	C	2100[A]	HIS
1	C	2100[B]	HIS
1	C	2101	MET
1	C	2178	MET
1	C	2198	MET
1	C	2211	MET
1	C	2221	LYS
1	C	2224	ARG
1	C	2228	MET
1	C	2238	TYR
1	C	2256	TYR
1	C	2268[A]	GLN
1	C	2268[B]	GLN
1	C	2330	ARG

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Mol	Chain	Res	Type
1	C	2336	ARG
1	C	2369[A]	ARG
1	C	2369[B]	ARG
1	C	2423	MET
1	C	2441	HIS
1	C	2636	PHE
1	C	2697	ARG
1	C	2698	MET
1	C	2700	MET
1	C	2738	ARG
1	C	2742	THR
1	C	2751	LEU
1	C	2786	LYS
1	C	2797	PHE
1	C	2806	ARG
1	C	2827	ARG
1	C	2914	LYS
1	C	2932	MET
1	C	3053	ARG
1	C	3182	TYR
1	C	3185	LYS
1	C	3201	MET
1	C	3392	LEU
1	C	3451	PHE
1	C	3461	GLN
1	C	3466	ASN
1	C	3467	MET
1	C	3558	HIS
1	C	3577	ARG
1	C	3614	LYS
1	C	3622	LYS
1	C	3638	MET
1	C	3639	THR
1	C	3673	MET
1	C	3734	HIS
1	C	3751	VAL
1	C	3752	SER
1	C	3757	GLU
1	C	3758	MET
1	C	3811	GLU
1	C	3858	MET
1	C	3899	PHE

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Mol	Chain	Res	Type
1	C	3933	PHE
1	C	4161	ARG
1	C	4188	ARG
1	C	4580	TYR
1	C	4627	MET
1	C	4645	CYS
1	C	4722	ARG
1	C	4769	MET
1	C	4818	MET
1	C	4821	LYS
1	C	4871	GLU
1	C	4879	MET
1	C	4880	MET
1	C	4922	PHE
1	C	4940	PHE
1	C	4966	ASP
1	C	4973	HIS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (7) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	3180	ASN
2	E	3	GLN
1	B	3180	ASN
1	D	1220	GLN
1	D	3180	ASN
1	C	1220	GLN
1	C	3180	ASN

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

Of 16 ligands modelled in this entry, 8 are monoatomic - leaving 8 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
6	141	B	5304	-	11,12,12	1.76	3 (27%)	11,17,17	0.97	0
6	141	D	5304	-	11,12,12	1.77	3 (27%)	11,17,17	0.97	0
3	ATP	A	5301	-	28,33,33	0.74	0	34,52,52	0.92	2 (5%)
6	141	A	5304	-	11,12,12	1.76	3 (27%)	11,17,17	0.97	0
6	141	C	5304	-	11,12,12	1.76	3 (27%)	11,17,17	0.98	0
3	ATP	C	5301	-	28,33,33	0.74	0	34,52,52	0.93	2 (5%)
3	ATP	D	5301	-	28,33,33	0.75	0	34,52,52	0.92	2 (5%)
3	ATP	B	5301	-	28,33,33	0.74	0	34,52,52	0.92	2 (5%)

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
6	141	B	5304	-	-	-	0/2/2/2
6	141	D	5304	-	-	-	0/2/2/2
3	ATP	A	5301	-	-	6/18/38/38	0/3/3/3
6	141	A	5304	-	-	-	0/2/2/2
6	141	C	5304	-	-	-	0/2/2/2
3	ATP	C	5301	-	-	6/18/38/38	0/3/3/3
3	ATP	D	5301	-	-	6/18/38/38	0/3/3/3
3	ATP	B	5301	-	-	6/18/38/38	0/3/3/3

All (12) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	C	5304	141	C5-C4	-4.04	1.38	1.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	A	5304	141	C5-C4	-4.01	1.38	1.45
6	B	5304	141	C5-C4	-3.99	1.38	1.45
6	D	5304	141	C5-C4	-3.99	1.38	1.45
6	B	5304	141	C7-N8	2.49	1.35	1.33
6	D	5304	141	C7-N8	2.49	1.35	1.33
6	A	5304	141	C7-N8	2.44	1.35	1.33
6	C	5304	141	C7-N8	2.44	1.35	1.33
6	B	5304	141	C2-N1	-2.17	1.34	1.39
6	A	5304	141	C2-N1	-2.16	1.34	1.39
6	D	5304	141	C2-N1	-2.15	1.34	1.39
6	C	5304	141	C2-N1	-2.13	1.34	1.39

All (8) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	D	5301	ATP	C4'-O4'-C1'	-4.10	106.17	109.92
3	A	5301	ATP	C4'-O4'-C1'	-4.09	106.18	109.92
3	B	5301	ATP	C4'-O4'-C1'	-4.08	106.19	109.92
3	C	5301	ATP	C4'-O4'-C1'	-4.08	106.19	109.92
3	C	5301	ATP	C5-C6-N6	2.35	123.89	120.31
3	A	5301	ATP	C5-C6-N6	2.32	123.84	120.31
3	B	5301	ATP	C5-C6-N6	2.31	123.84	120.31
3	D	5301	ATP	C5-C6-N6	2.29	123.81	120.31

There are no chirality outliers.

All (24) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	A	5301	ATP	PB-O3B-PG-O2G
3	B	5301	ATP	PB-O3B-PG-O2G
3	D	5301	ATP	PB-O3B-PG-O2G
3	C	5301	ATP	PB-O3B-PG-O2G
3	A	5301	ATP	O4'-C4'-C5'-O5'
3	A	5301	ATP	C3'-C4'-C5'-O5'
3	B	5301	ATP	O4'-C4'-C5'-O5'
3	B	5301	ATP	C3'-C4'-C5'-O5'
3	D	5301	ATP	O4'-C4'-C5'-O5'
3	D	5301	ATP	C3'-C4'-C5'-O5'
3	C	5301	ATP	O4'-C4'-C5'-O5'
3	C	5301	ATP	C3'-C4'-C5'-O5'
3	A	5301	ATP	PA-O3A-PB-O2B
3	B	5301	ATP	PA-O3A-PB-O2B

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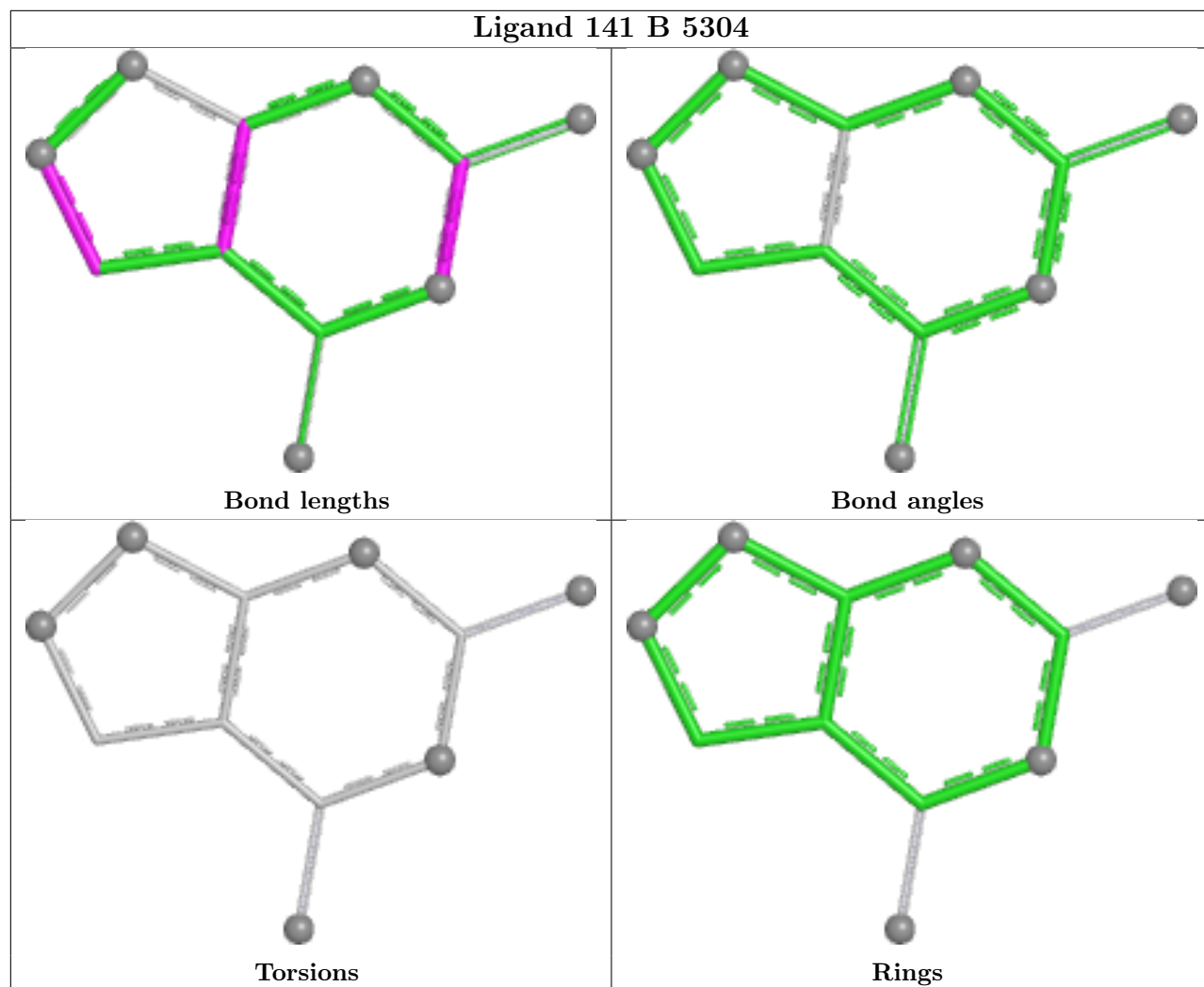
Continued from previous page...

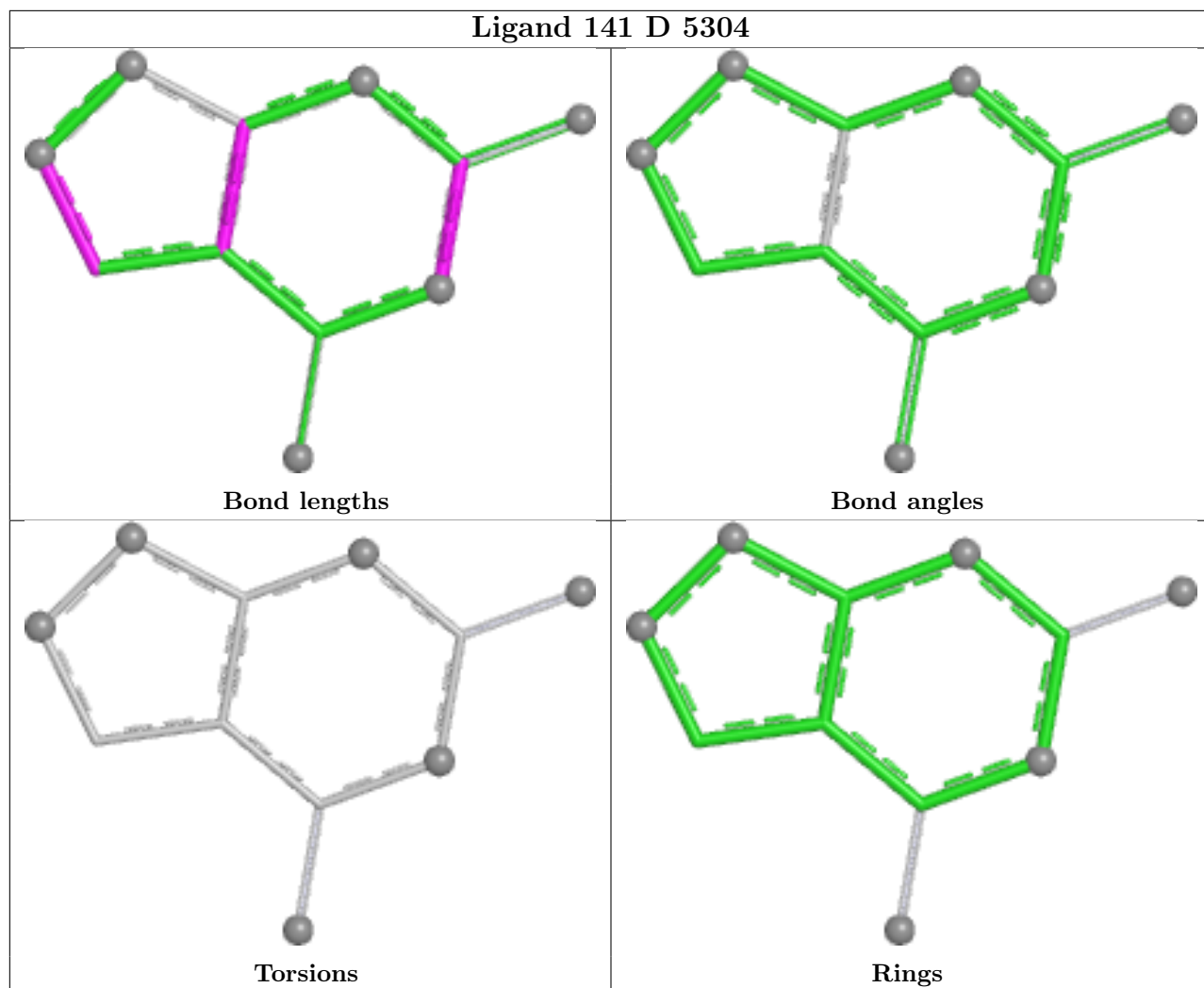
Mol	Chain	Res	Type	Atoms
3	D	5301	ATP	PA-O3A-PB-O2B
3	C	5301	ATP	PA-O3A-PB-O2B
3	A	5301	ATP	PB-O3B-PG-O1G
3	B	5301	ATP	PB-O3B-PG-O1G
3	D	5301	ATP	PB-O3B-PG-O1G
3	C	5301	ATP	PB-O3B-PG-O1G
3	A	5301	ATP	PB-O3A-PA-O2A
3	B	5301	ATP	PB-O3A-PA-O2A
3	D	5301	ATP	PB-O3A-PA-O2A
3	C	5301	ATP	PB-O3A-PA-O2A

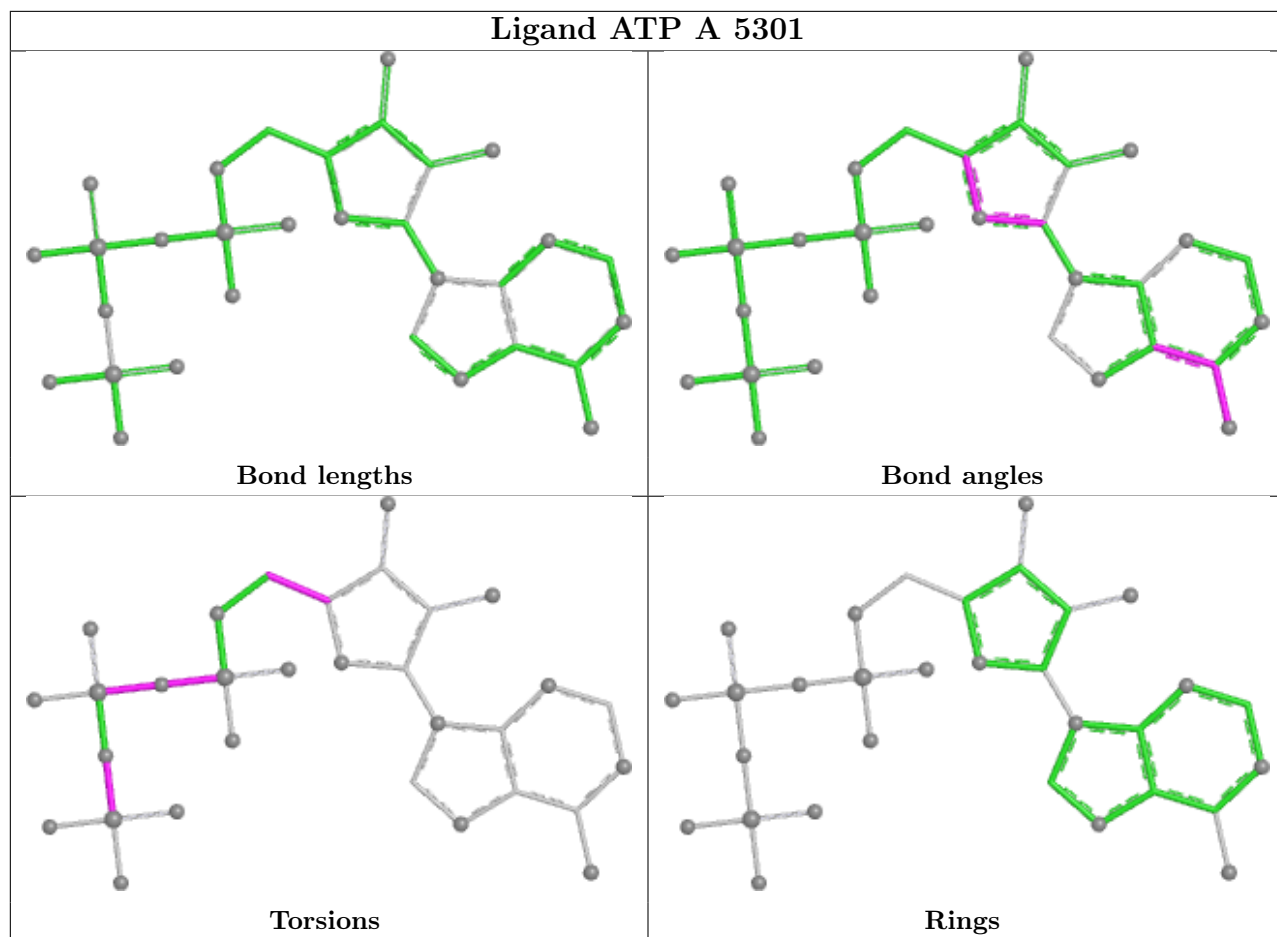
There are no ring outliers.

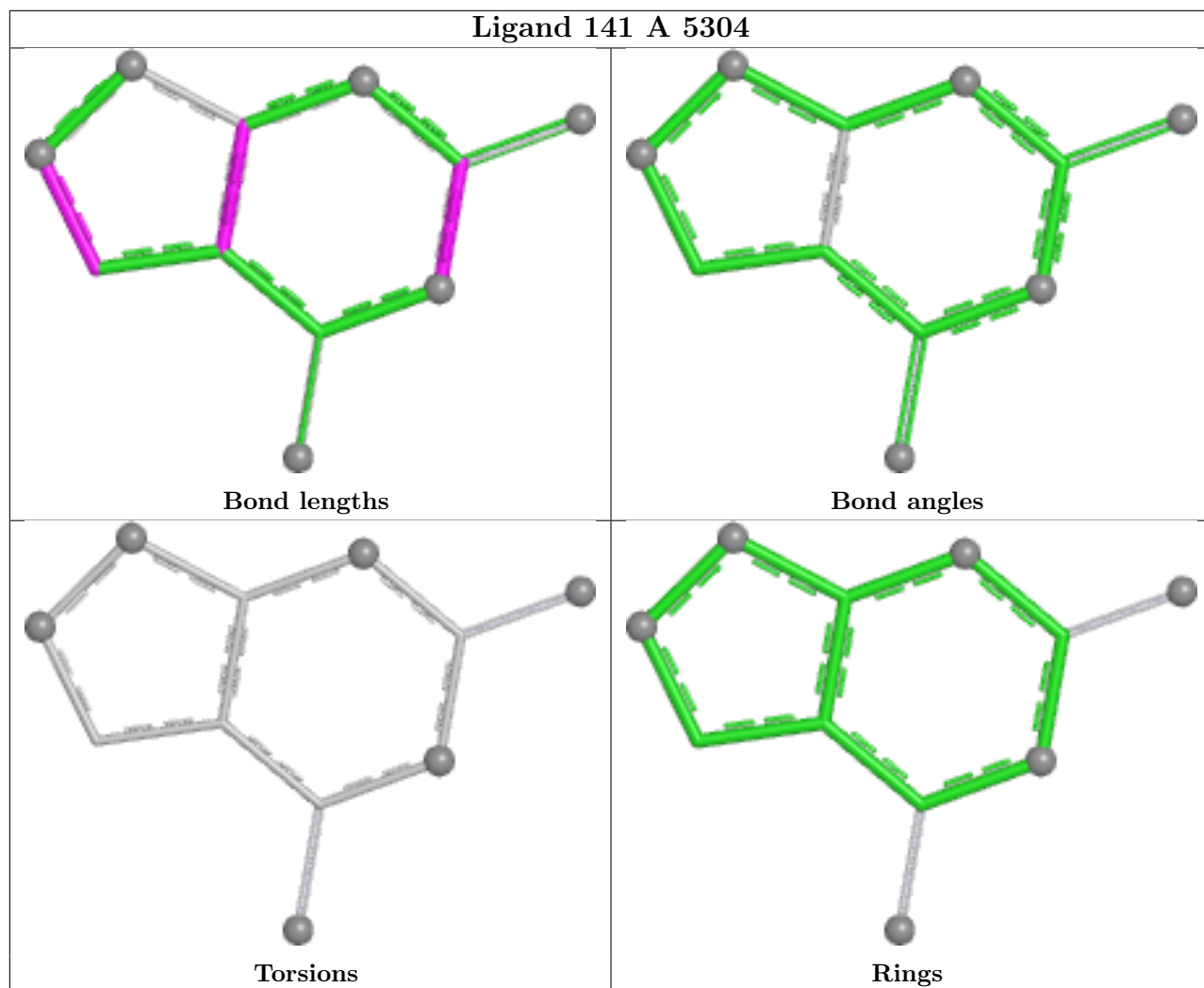
No monomer is involved in short contacts.

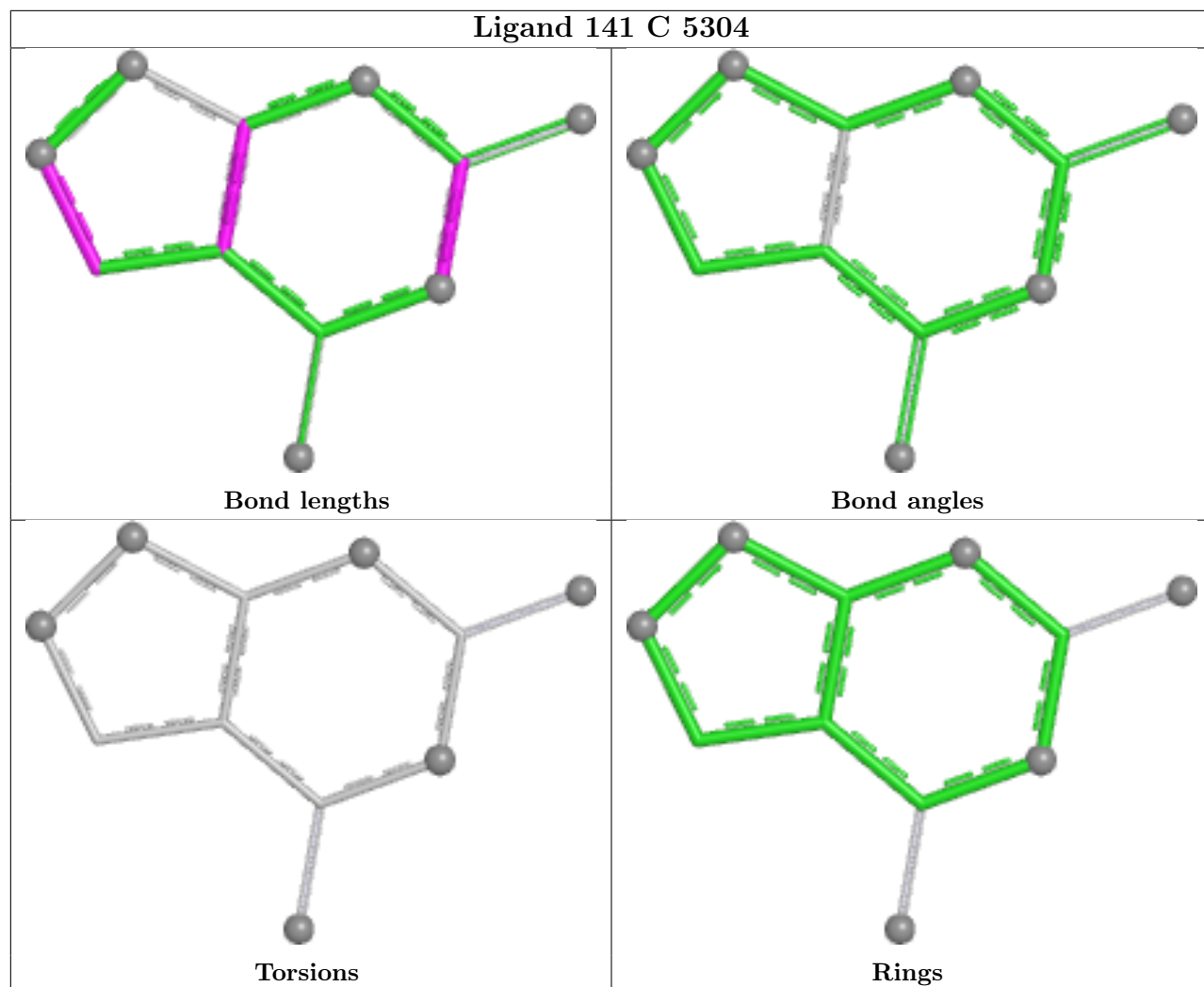
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. 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.

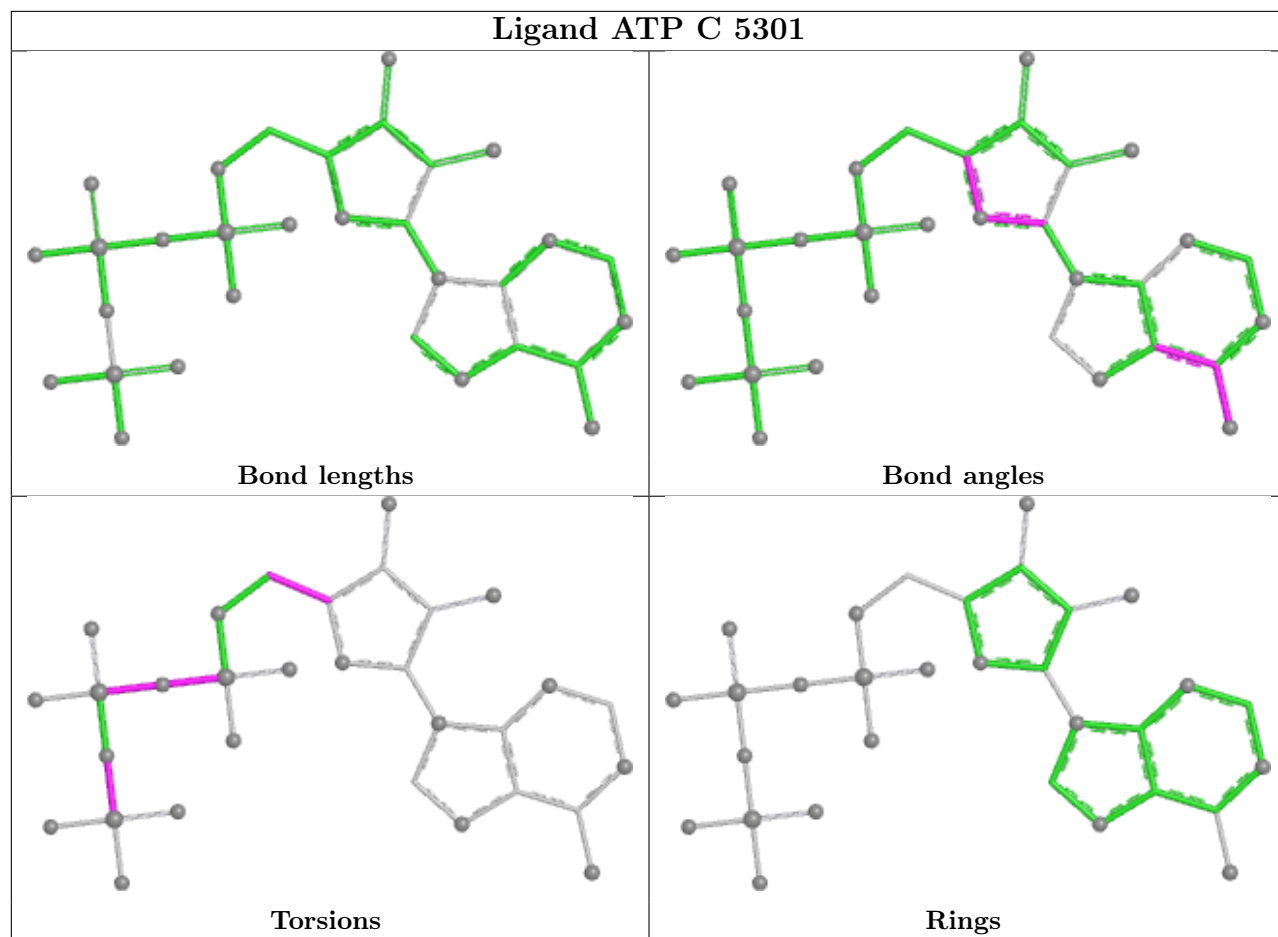


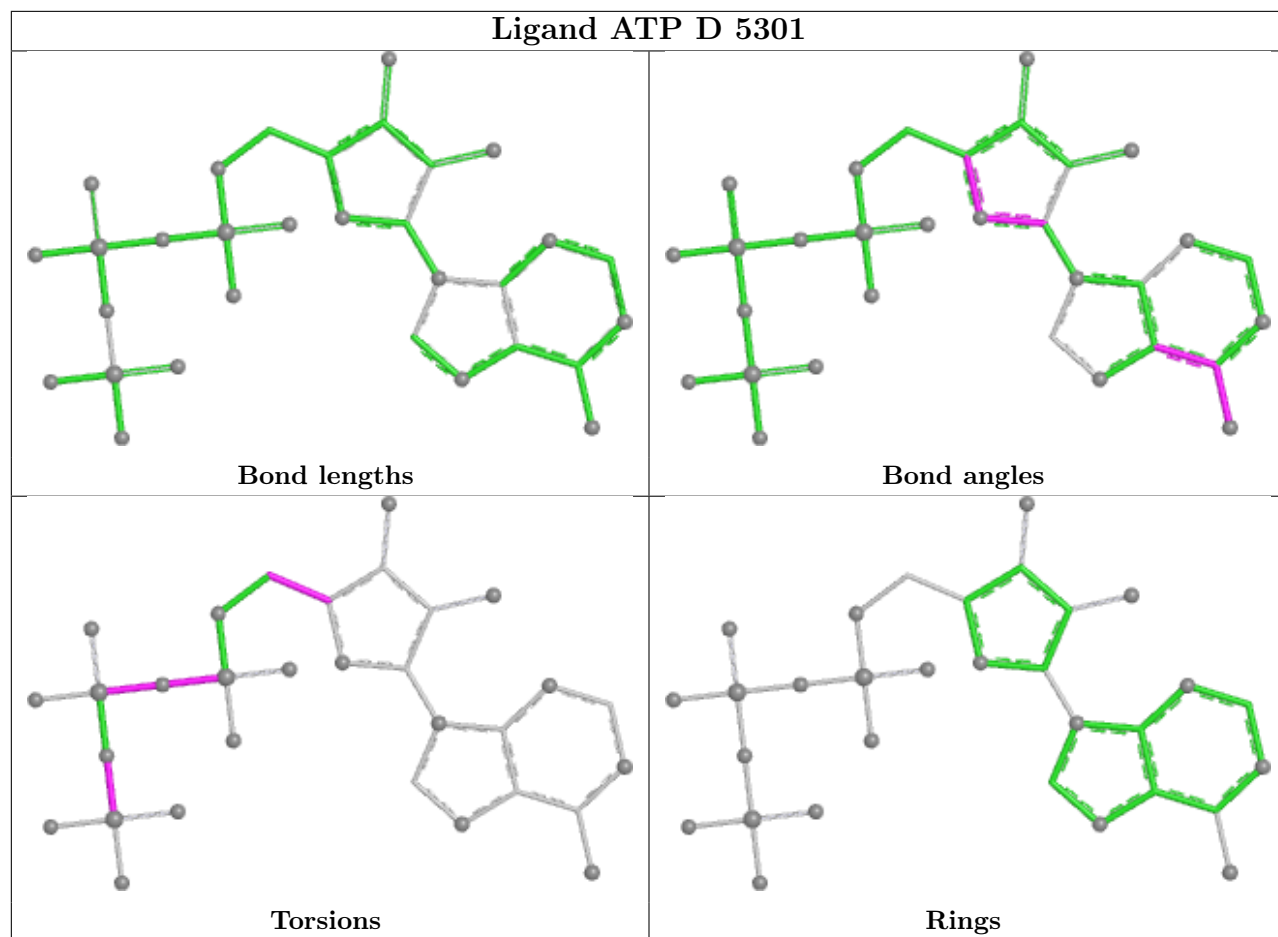


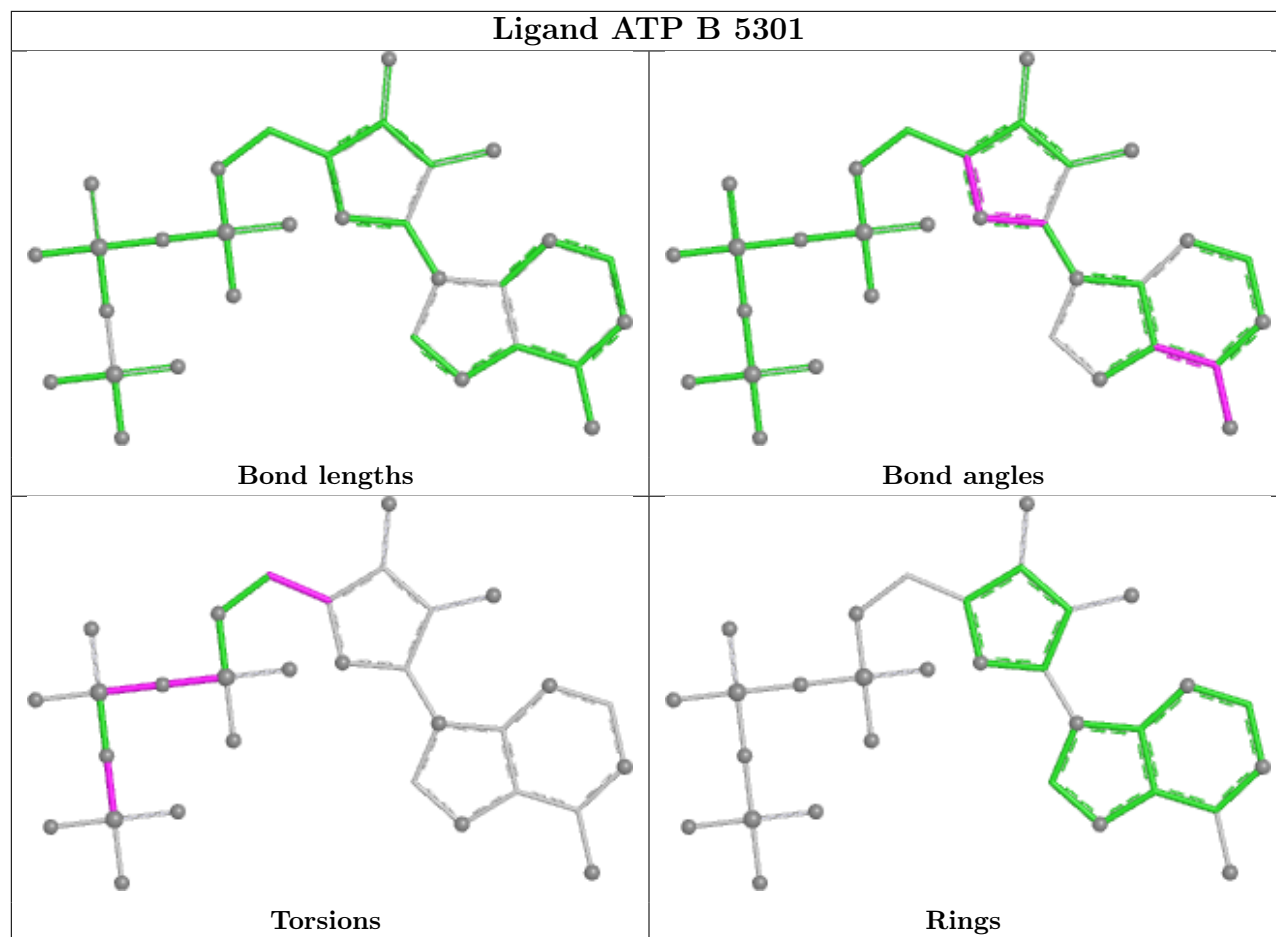












5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

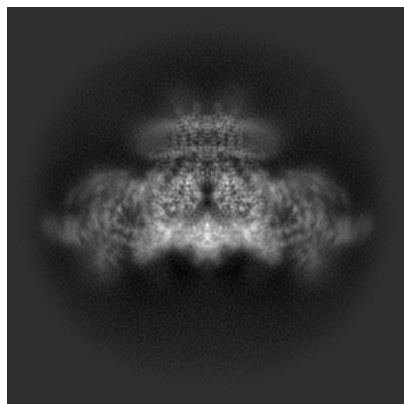
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-47393. These allow visual inspection of the internal detail of the map and identification of artifacts.

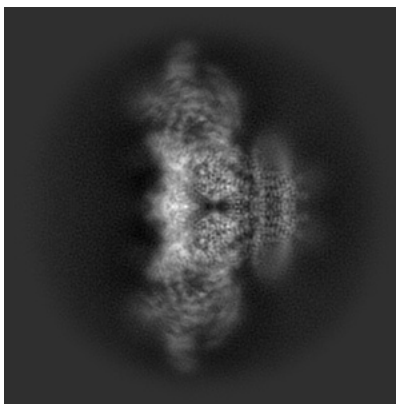
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

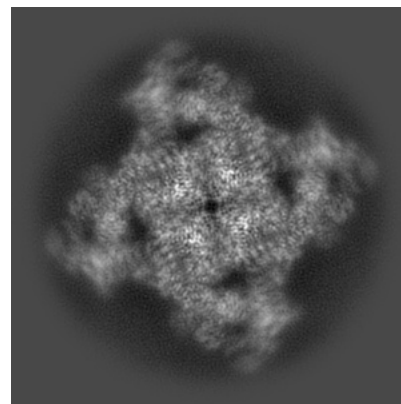
6.1.1 Primary map



X

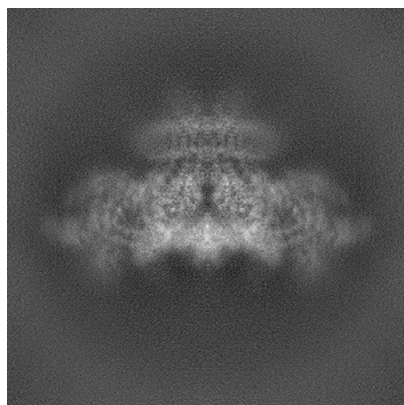


Y

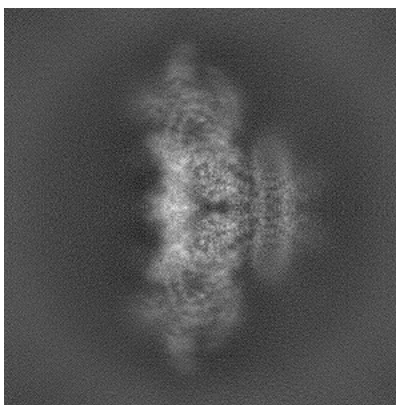


Z

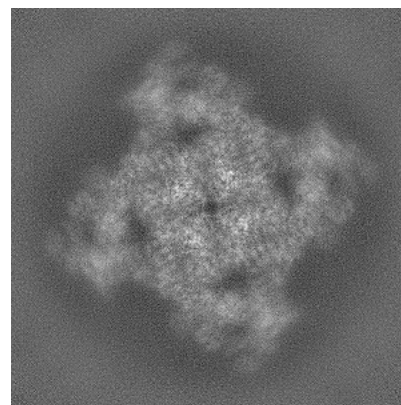
6.1.2 Raw map



X



Y

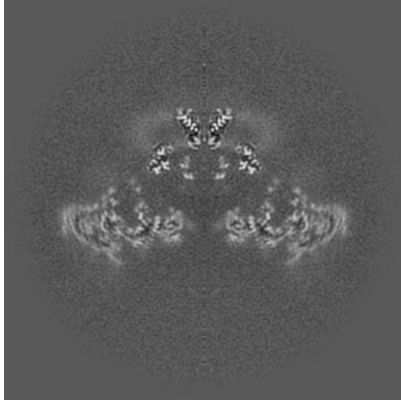


Z

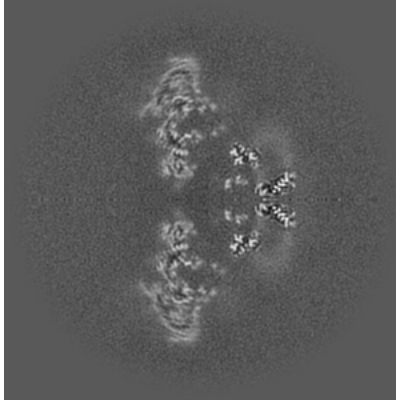
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

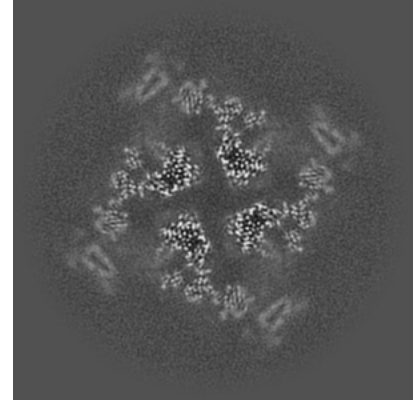
6.2.1 Primary map



X Index: 256

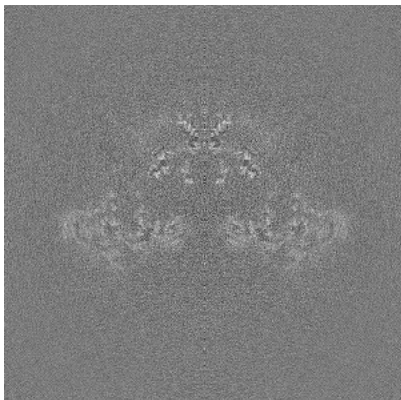


Y Index: 256

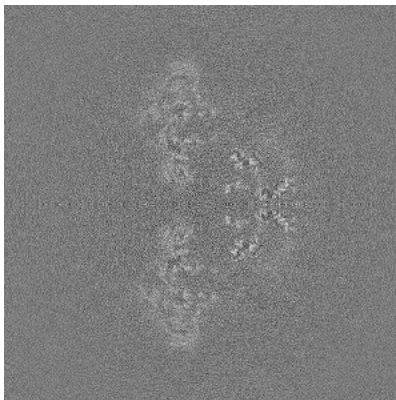


Z Index: 256

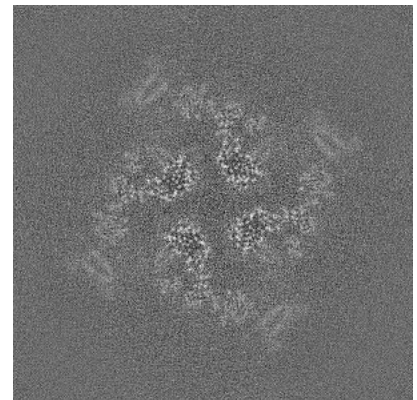
6.2.2 Raw map



X Index: 256



Y Index: 256

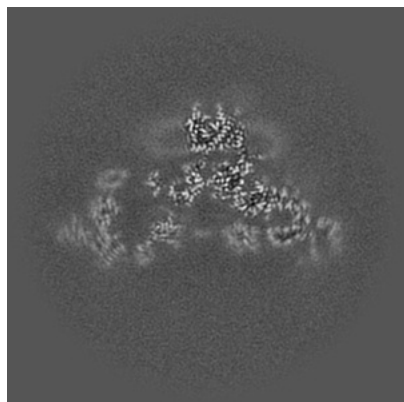


Z Index: 256

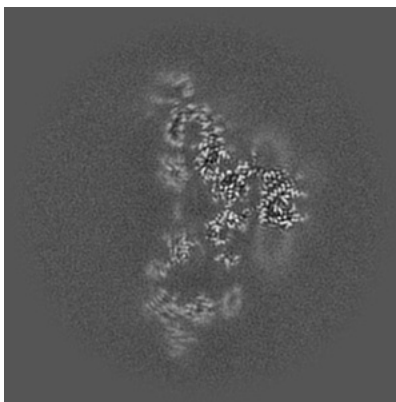
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

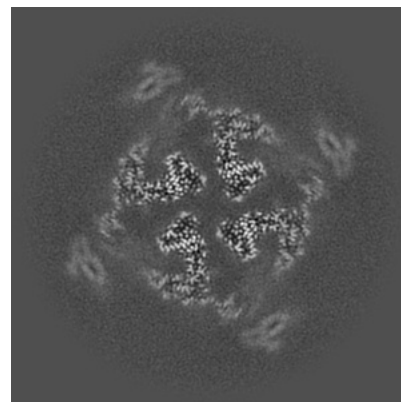
6.3.1 Primary map



X Index: 273

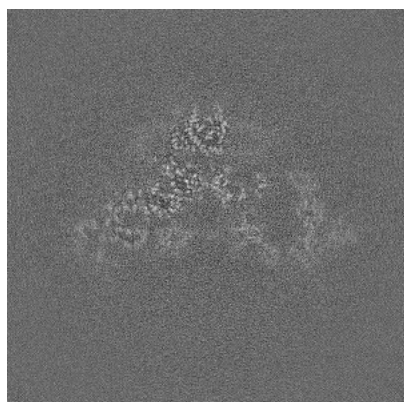


Y Index: 239

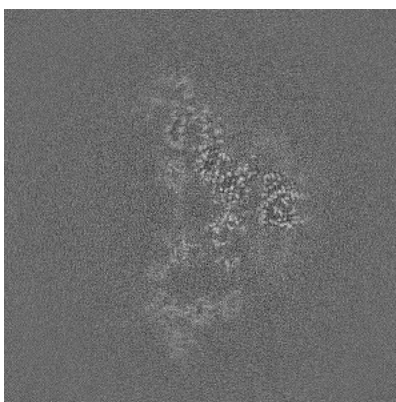


Z Index: 265

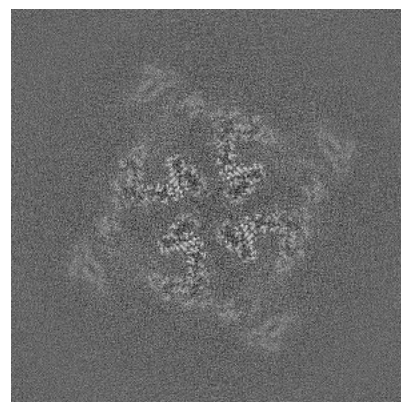
6.3.2 Raw map



X Index: 239



Y Index: 239

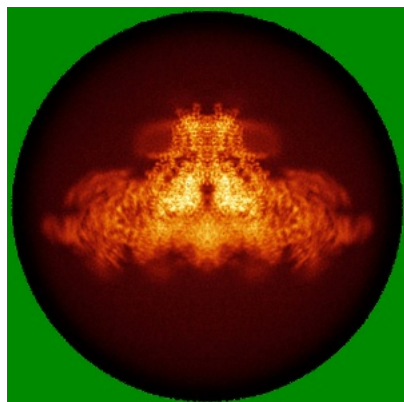


Z Index: 266

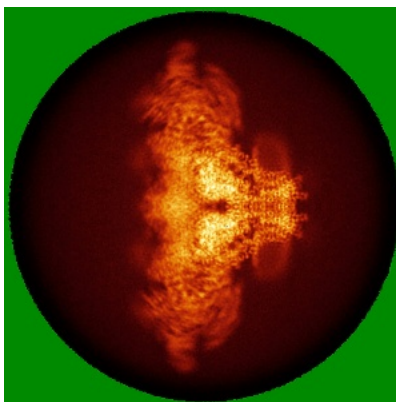
The images above show the largest variance slices of the map in three orthogonal directions.

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

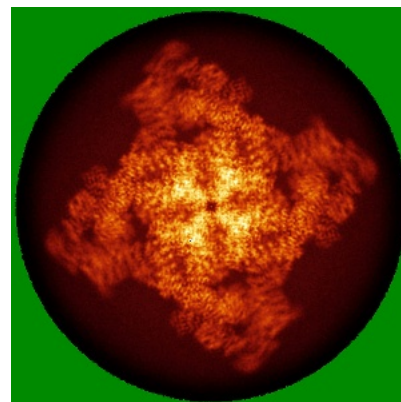
6.4.1 Primary map



X

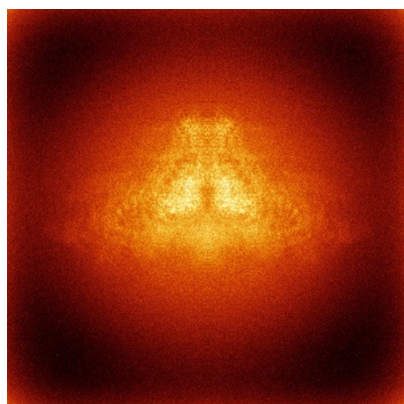


Y

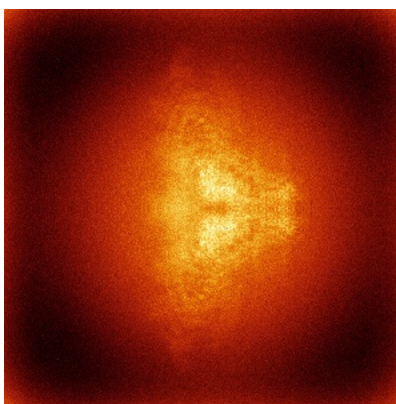


Z

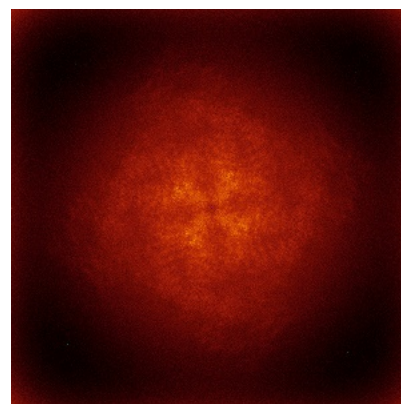
6.4.2 Raw map



X



Y

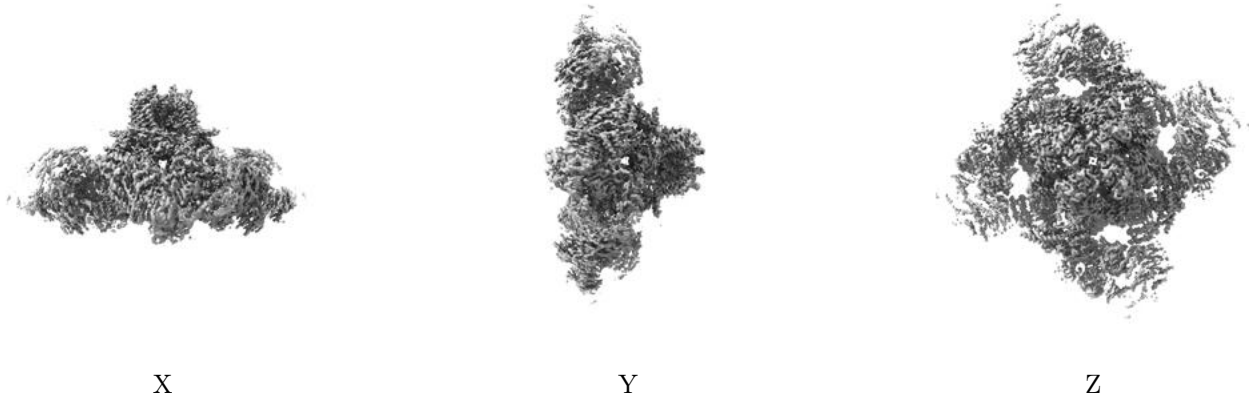


Z

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.

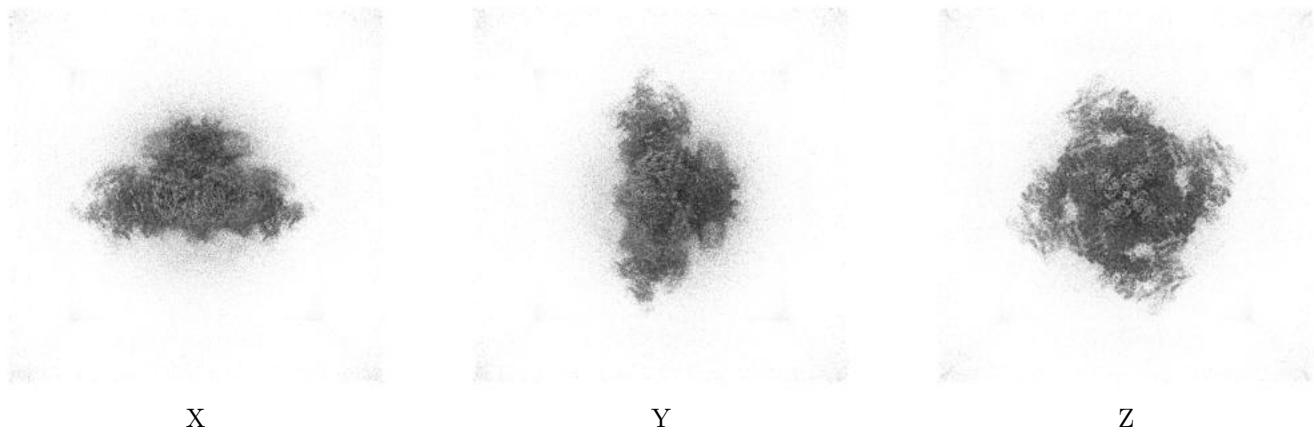
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.1. 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.

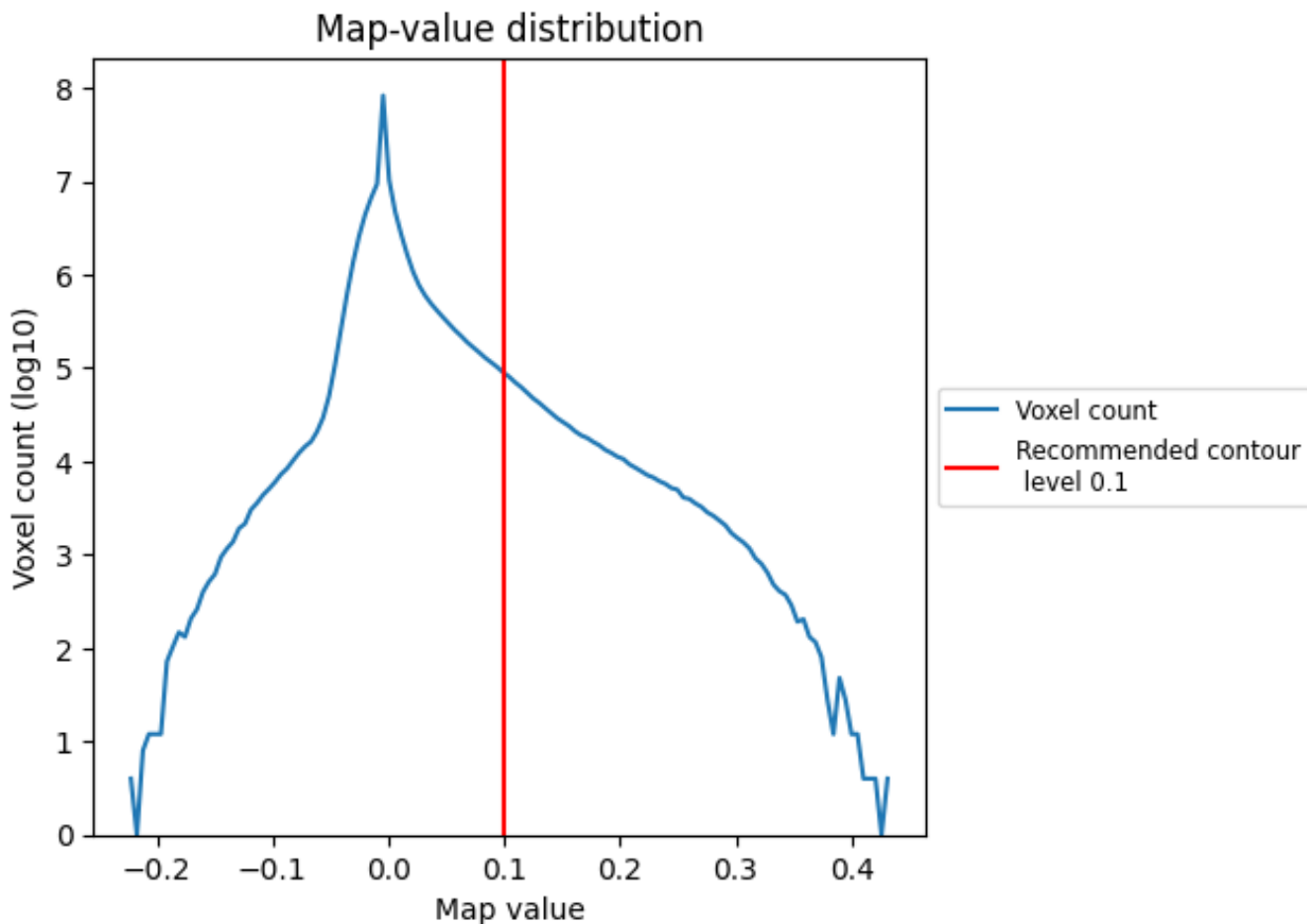
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

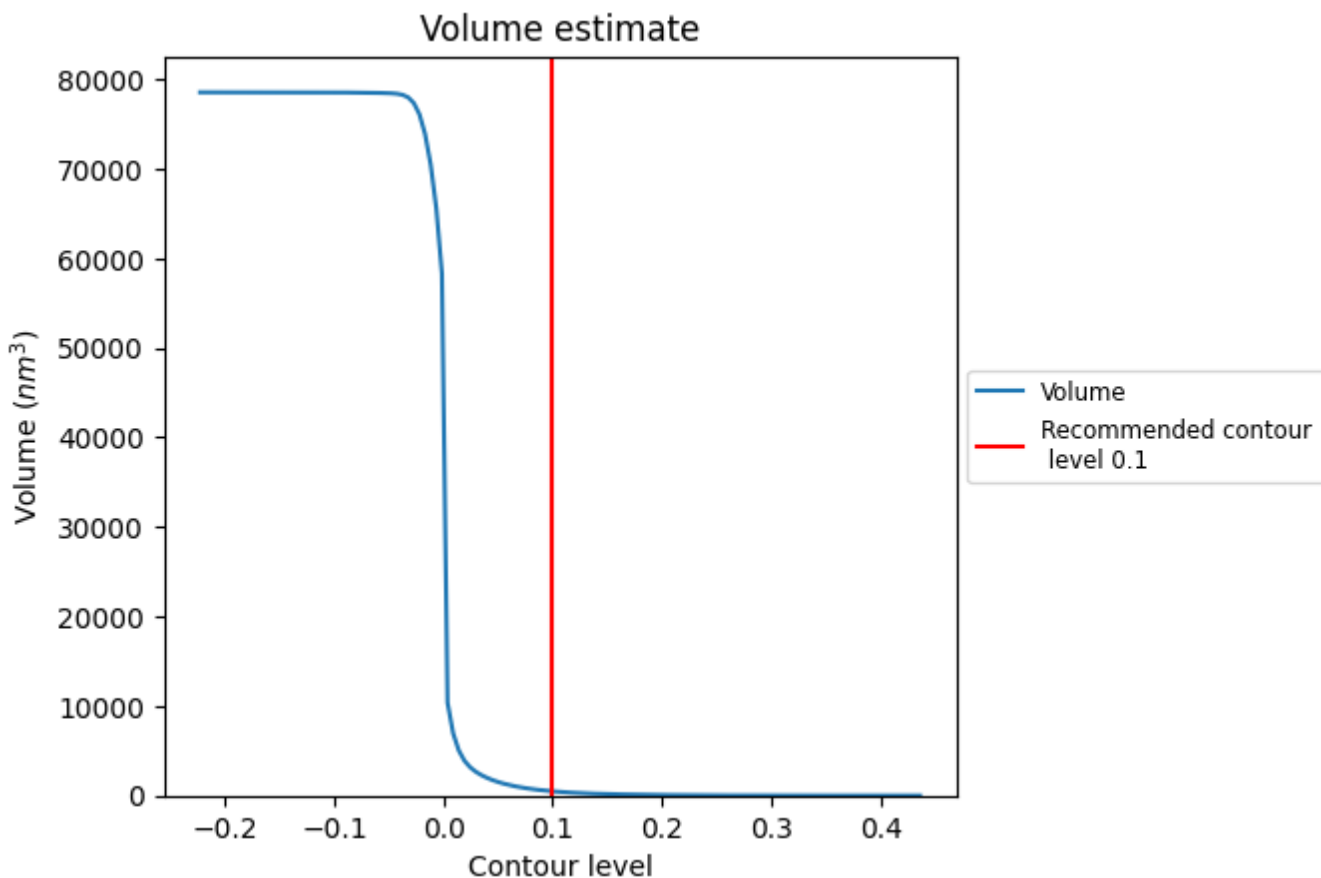
This section contains the results of statistical analysis of the map.

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.

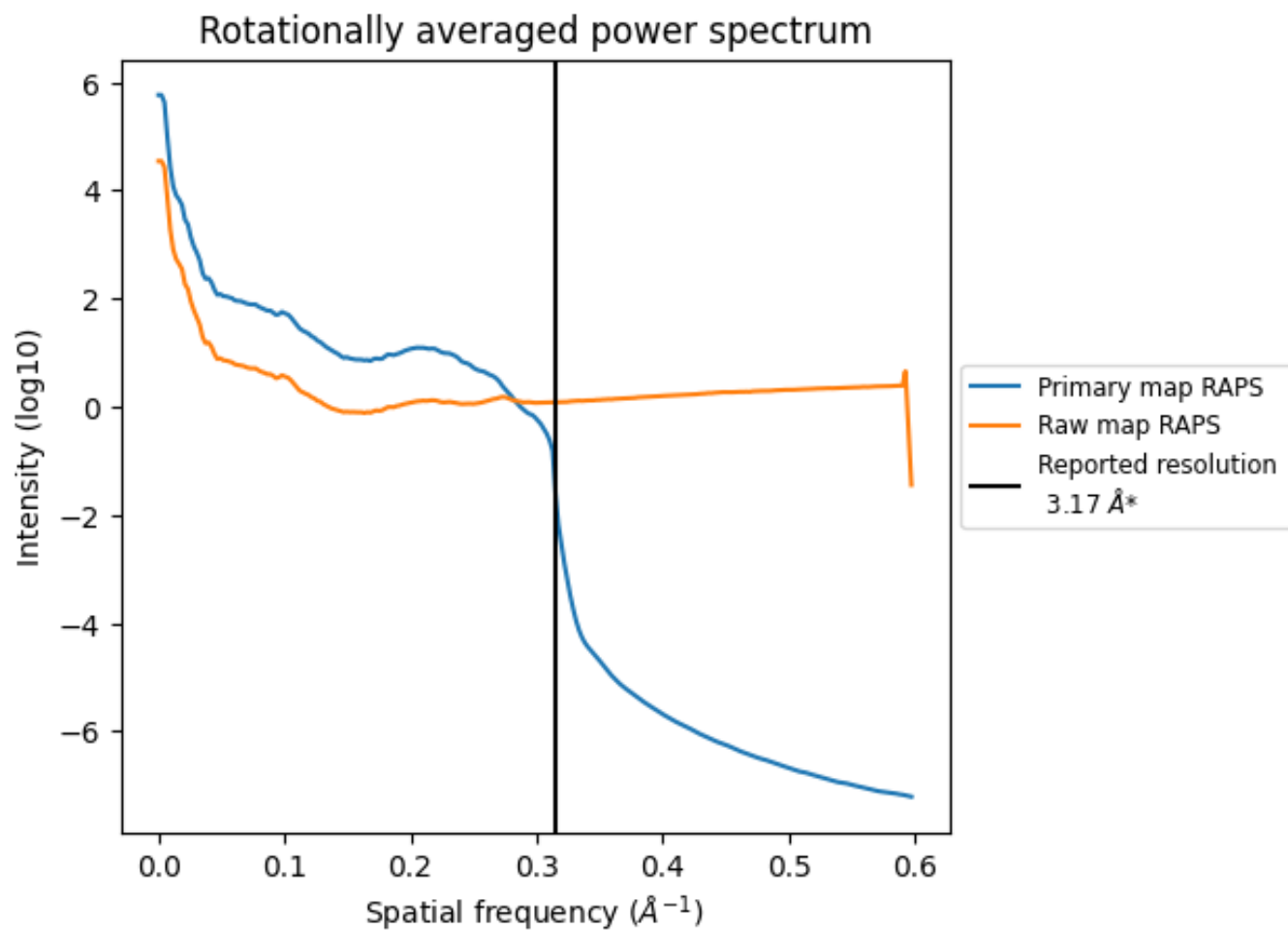
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 477 nm³; this corresponds to an approximate mass of 431 kDa.

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

7.3 Rotationally averaged power spectrum [i](#)

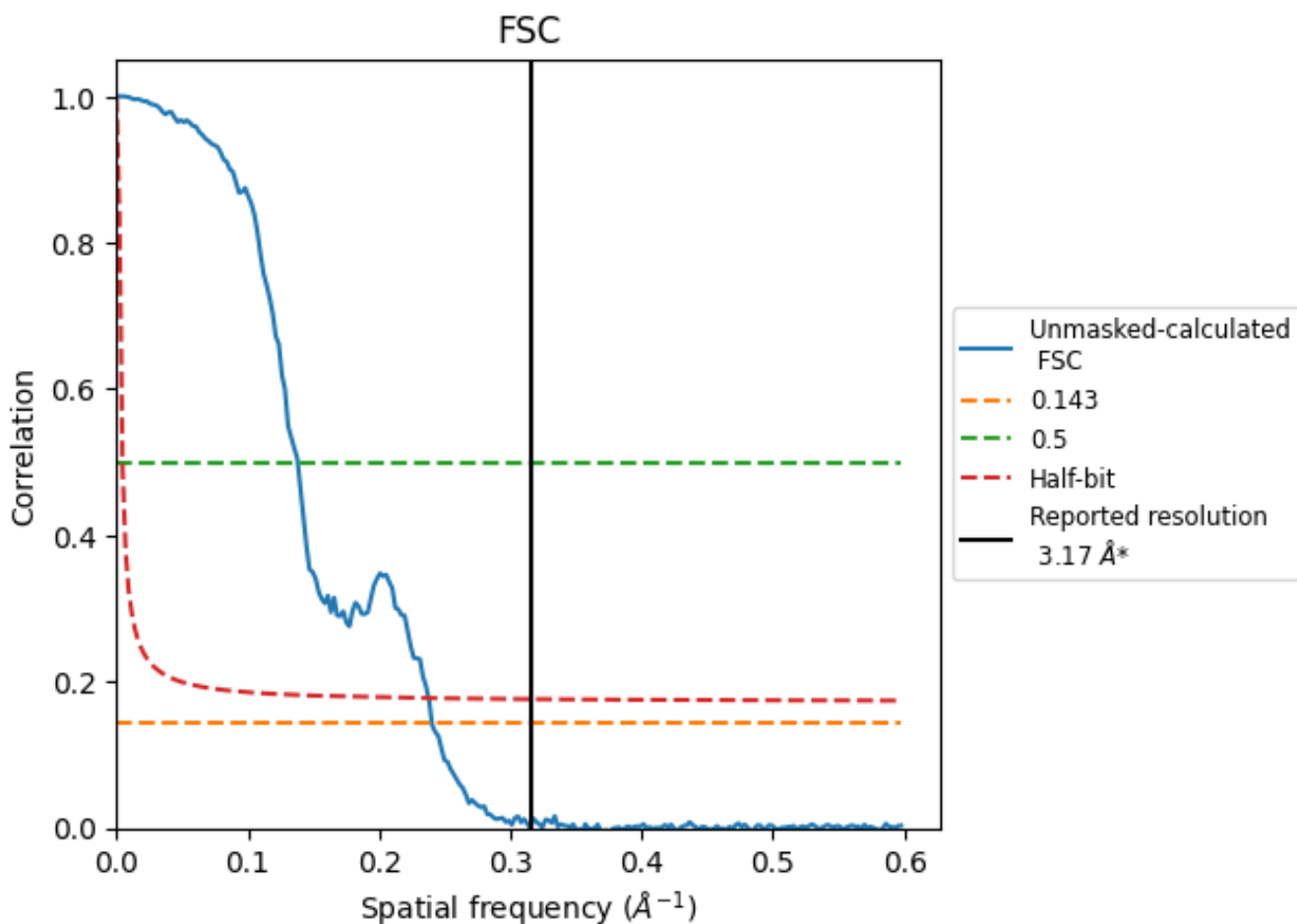


*Reported resolution corresponds to spatial frequency of 0.315 \AA^{-1}

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 0.315 Å⁻¹

8.2 Resolution estimates [i](#)

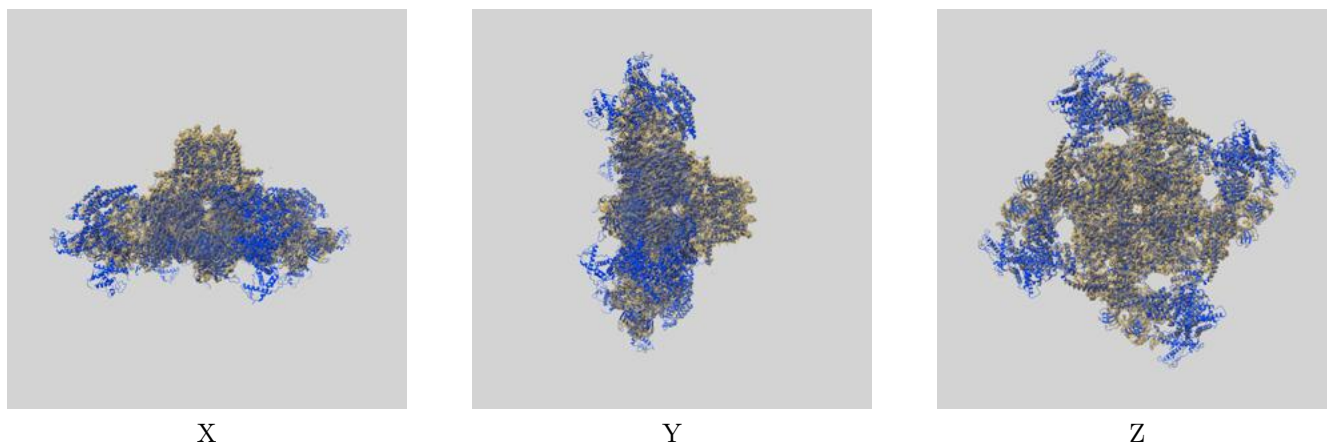
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.17	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	4.16	7.24	4.21

*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 4.16 differs from the reported value 3.17 by more than 10 %

9 Map-model fit [i](#)

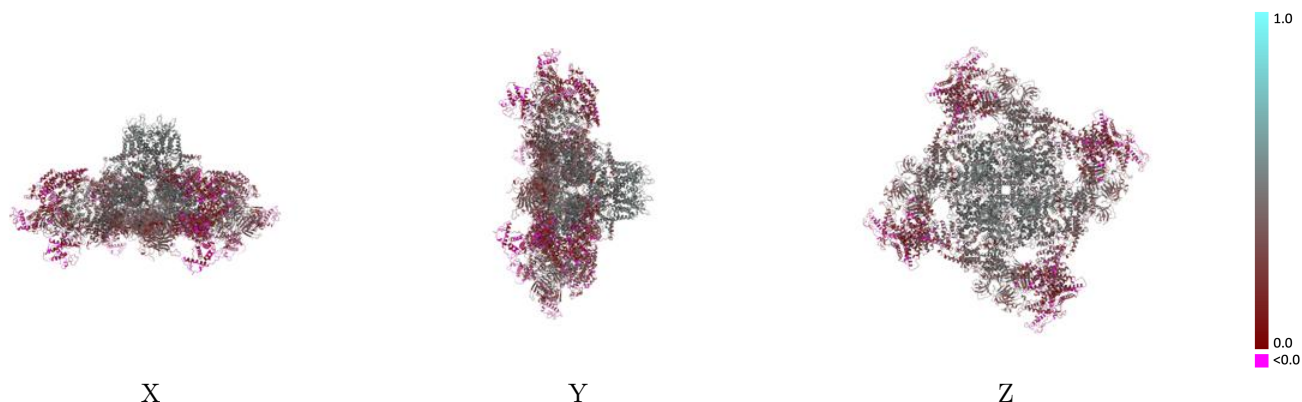
This section contains information regarding the fit between EMDB map EMD-47393 and PDB model 9E1G. Per-residue inclusion information can be found in section 3 on page 7.

9.1 Map-model overlay [i](#)



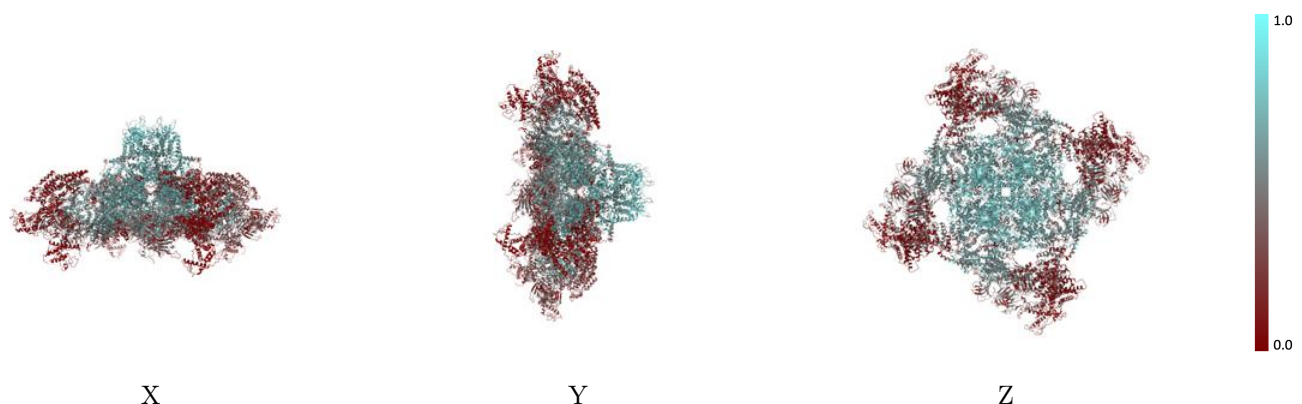
The images above show the 3D surface view of the map at the recommended contour level 0.1 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



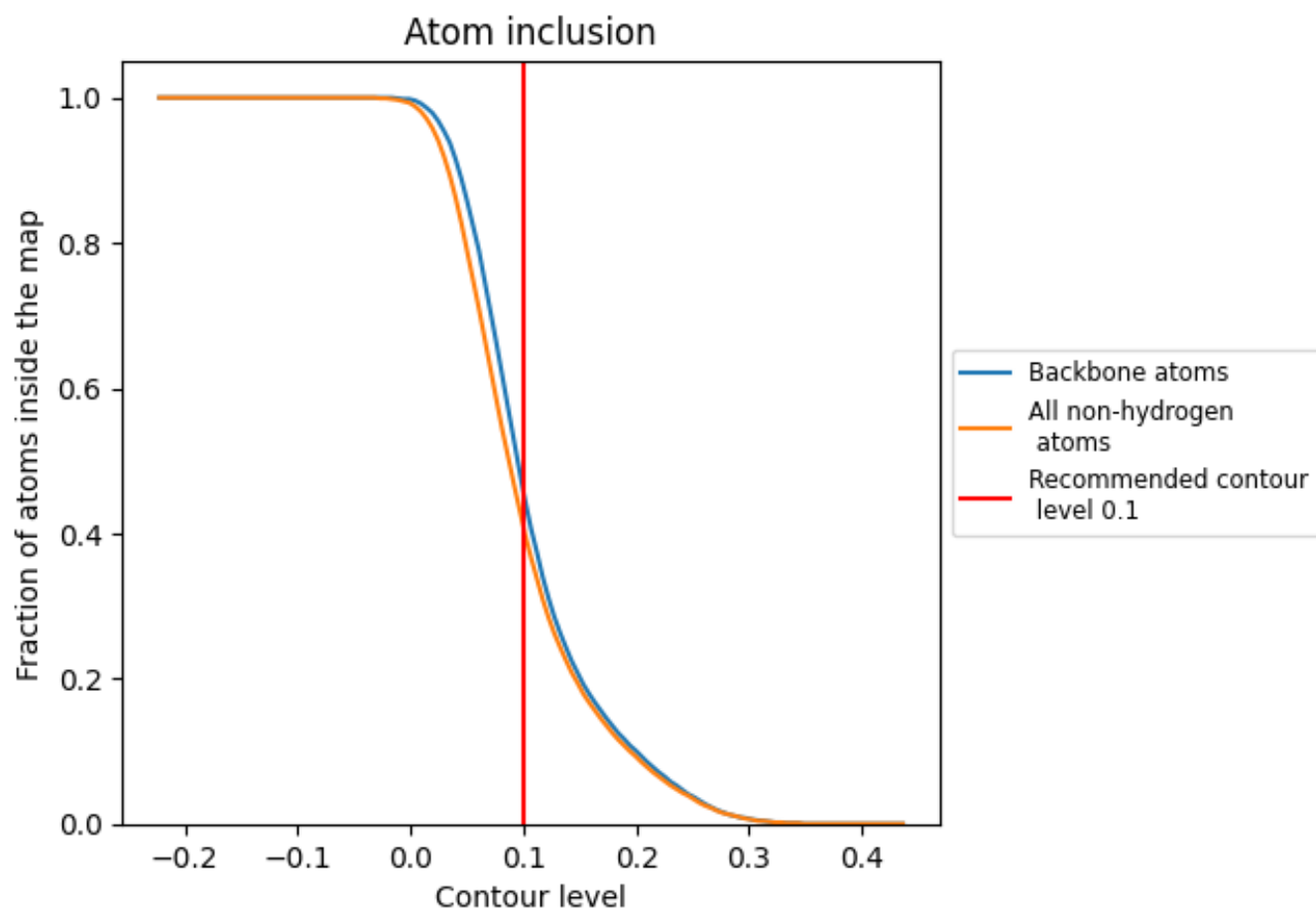
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.1).



















9.4 Atom inclusion [i](#)



At the recommended contour level, 46% of all backbone atoms, 41% 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 (0.1) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.4080	 0.3230
A	 0.4200	 0.3260
B	 0.4200	 0.3210
C	 0.4200	 0.3210
D	 0.4200	 0.3210
E	 0.2860	 0.3640
F	 0.2850	 0.3620
G	 0.2850	 0.3570
H	 0.2860	 0.3640

