



Full wwPDB EM Validation Report ⓘ

Nov 2, 2022 – 02:34 AM EDT

PDB ID : 5T9S
EMDB ID : EMD-8375
Title : Structure of rabbit RyR1 (Ca²⁺-only dataset, class 4)
Authors : Clarke, O.B.; des Georges, A.; Zalk, R.; Marks, A.R.; Hendrickson, W.A.;
Frank, J.
Deposited on : 2016-09-09
Resolution : 4.20 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

EMDB validation analysis : 0.0.1.dev43
MolProbity : 4.02b-467
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : **FAILED**
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.31.2

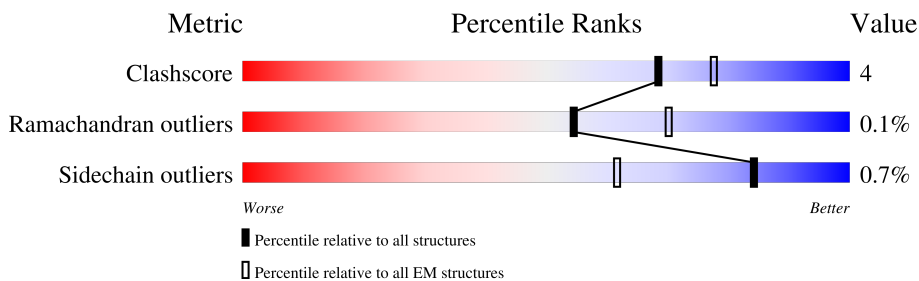
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 4.20 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$.

Mol	Chain	Length	Quality of chain
1	A	108	
1	F	108	
1	H	108	
1	J	108	
2	B	4676	
2	E	4676	
2	G	4676	
2	I	4676	

2 Entry composition [i](#)

There are 4 unique types of molecules in this entry. The entry contains 120756 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 Peptidyl-prolyl cis-trans isomerase FKBP1B.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	F	107	818	516	144	154	4	0	0
1	A	107	818	516	144	154	4	0	0
1	H	107	818	516	144	154	4	0	0
1	J	107	818	516	144	154	4	0	0

- Molecule 2 is a protein called Ryanodine receptor 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	B	4168	29369	18608	5202	5402	157	0	0
2	E	4168	29369	18608	5202	5402	157	0	0
2	I	4168	29369	18608	5202	5402	157	0	0
2	G	4168	29369	18608	5202	5402	157	0	0

- Molecule 3 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
3	B	1	Total	Zn	0
			1	1	
3	E	1	Total	Zn	0
			1	1	
3	I	1	Total	Zn	0
			1	1	
3	G	1	Total	Zn	0
			1	1	


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

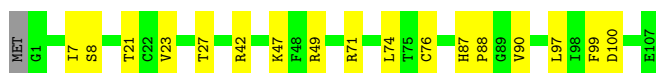
Mol	Chain	Residues	Atoms		AltConf
4	B	1	Total 1	Ca 1	0
4	E	1	Total 1	Ca 1	0
4	I	1	Total 1	Ca 1	0
4	G	1	Total 1	Ca 1	0

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. 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. 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.

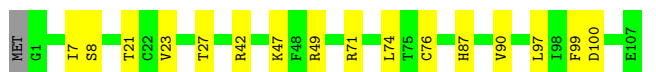
- Molecule 1: Peptidyl-prolyl cis-trans isomerase FKBP1B

Chain F: 




- Molecule 1: Peptidyl-prolyl cis-trans isomerase FKBP1B

Chain A: 




- Molecule 1: Peptidyl-prolyl cis-trans isomerase FKBP1B

Chain H: 




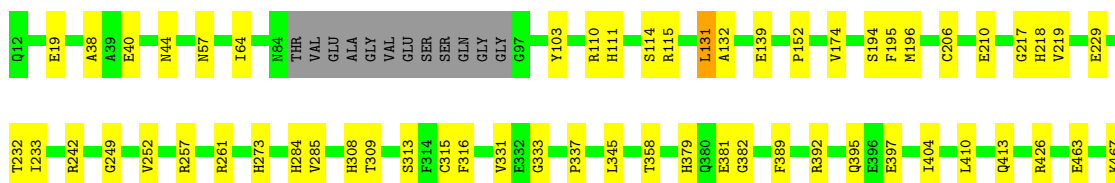
- Molecule 1: Peptidyl-prolyl cis-trans isomerase FKBP1B

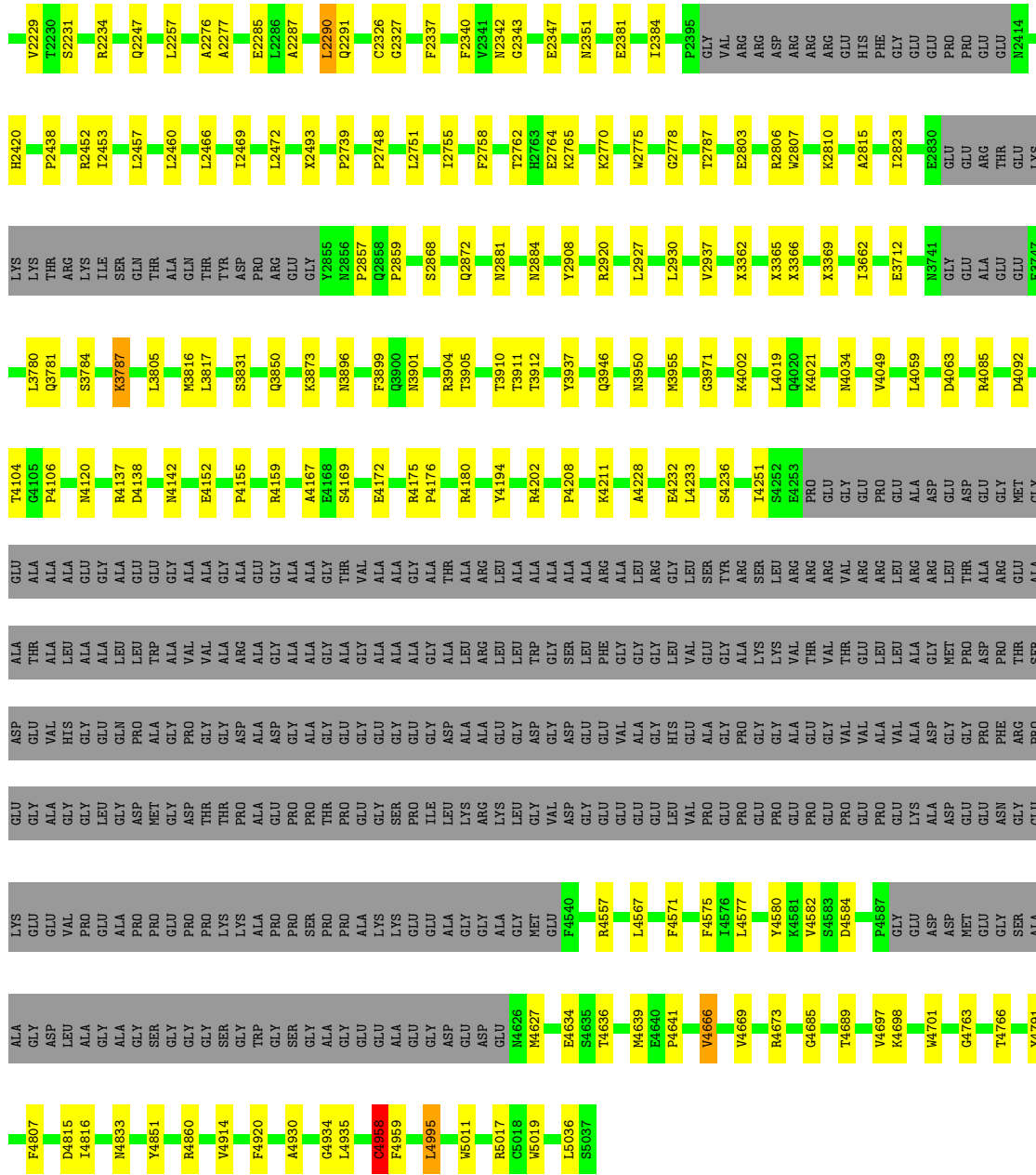
Chain J: 



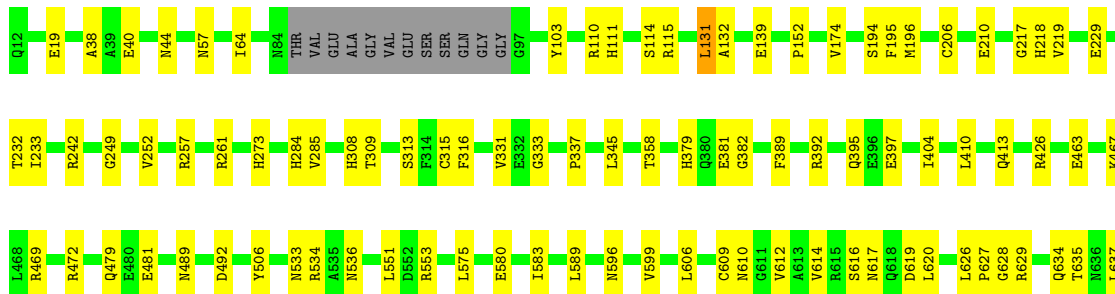
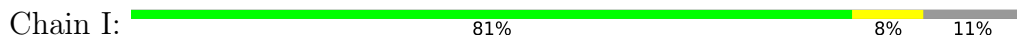
- Molecule 2: Ryanodine receptor 1

Chain B: 





• Molecule 2: Ryanodine receptor 1



GLY	ASP	V651	C811	R1044	P1243	G1710	GLU	G2048	P2226	L2457	ALA	L3805	R4137	ALA	LEU	GLN	V646	N1052	R1076	P1259	Y1711	GLU	G2049	P2227	L2460	THR	N1053	R1077	A1788	GLY	Y1712	GLU	G2050	P2228	L2466	THR	N1054	R1078	R1257	Y1713	GLU	G2051	P2229	L2469	THR	N1055	R1079	L2287	GLU	G2052	P2230	L2472	THR	N1056	R1080	L2288	GLU	G2053	P2231	L2477	THR	N1057	R1081	L2289	GLU	G2054	P2232	L2483	THR	N1058	R1082	L2290	GLU	G2055	P2233	L2489	THR	N1059	R1083	L2291	GLU	G2056	P2234	L2495	THR	N1060	R1084	L2292	GLU	G2057	P2235	L2501	THR	N1061	R1085	L2293	GLU	G2058	P2236	L2507	THR	N1062	R1086	L2294	GLU	G2059	P2237	L2513	THR	N1063	R1087	L2295	GLU	G2060	P2238	L2519	THR	N1064	R1088	L2296	GLU	G2061	P2239	L2525	THR	N1065	R1089	L2297	GLU	G2062	P2240	L2531	THR	N1066	R1090	L2298	GLU	G2063	P2241	L2537	THR	N1067	R1091	L2299	GLU	G2064	P2242	L2543	THR	N1068	R1092	L2300	GLU	G2065	P2243	L2549	THR	N1069	R1093	L2301	GLU	G2066	P2244	L2555	THR	N1070	R1094	L2302	GLU	G2067	P2245	L2561	THR	N1071	R1095	L2303	GLU	G2068	P2246	L2567	THR	N1072	R1096	L2304	GLU	G2069	P2247	L2573	THR	N1073	R1097	L2305	GLU	G2070	P2248	L2579	THR	N1074	R1098	L2306	GLU	G2071	P2249	L2585	THR	N1075	R1099	L2307	GLU	G2072	P2250	L2591	THR	N1076	R1100	L2308	GLU	G2073	P2251	L2597	THR	N1077	R1101	L2309	GLU	G2074	P2252	L2603	THR	N1078	R1102	L2310	GLU	G2075	P2253	L2609	THR	N1079	R1103	L2311	GLU	G2076	P2254	L2615	THR	N1080	R1104	L2312	GLU	G2077	P2255	L2621	THR	N1081	R1105	L2313	GLU	G2078	P2256	L2627	THR	N1082	R1106	L2314	GLU	G2079	P2257	L2633	THR	N1083	R1107	L2315	GLU	G2080	P2258	L2639	THR	N1084	R1108	L2316	GLU	G2081	P2259	L2645	THR	N1085	R1109	L2317	GLU	G2082	P2260	L2651	THR	N1086	R1110	L2318	GLU	G2083	P2261	L2657	THR	N1087	R1111	L2319	GLU	G2084	P2262	L2663	THR	N1088	R1112	L2320	GLU	G2085	P2263	L2669	THR	N1089	R1113	L2321	GLU	G2086	P2264	L2675	THR	N1090	R1114	L2322	GLU	G2087	P2265	L2681	THR	N1091	R1115	L2323	GLU	G2088	P2266	L2687	THR	N1092	R1116	L2324	GLU	G2089	P2267	L2693	THR	N1093	R1117	L2325	GLU	G2090	P2268	L2699	THR	N1094	R1118	L2326	GLU	G2091	P2269	L2705	THR	N1095	R1119	L2327	GLU	G2092	P2270	L2711	THR	N1096	R1120	L2328	GLU	G2093	P2271	L2717	THR	N1097	R1121	L2329	GLU	G2094	P2272	L2723	THR	N1098	R1122	L2330	GLU	G2095	P2273	L2729	THR	N1099	R1123	L2331	GLU	G2096	P2274	L2735	THR	N1100	R1124	L2332	GLU	G2097	P2275	L2741	THR	N1101	R1125	L2333	GLU	G2098	P2276	L2747	THR	N1102	R1126	L2334	GLU	G2099	P2277	L2753	THR	N1103	R1127	L2335	GLU	G2100	P2278	L2759	THR	N1104	R1128	L2336	GLU	G2101	P2279	L2765	THR	N1105	R1129	L2337	GLU	G2102	P2280	L2771	THR	N1106	R1130	L2338	GLU	G2103	P2281	L2777	THR	N1107	R1131	L2339	GLU	G2104	P2282	L2783	THR	N1108	R1132	L2340	GLU	G2105	P2283	L2789	THR	N1109	R1133	L2341	GLU	G2106	P2284	L2795	THR	N1110	R1134	L2342	GLU	G2107	P2285	L2801	THR	N1111	R1135	L2343	GLU	G2108	P2286	L2807	THR	N1112	R1136	L2344	GLU	G2109	P2287	L2813	THR	N1113	R1137	L2345	GLU	G2110	P2288	L2819	THR	N1114	R1138	L2346	GLU	G2111	P2289	L2825	THR	N1115	R1139	L2347	GLU	G2112	P2290	L2831	THR	N1116	R1140	L2348	GLU	G2113	P2291	L2837	THR	N1117	R1141	L2349	GLU	G2114	P2292	L2843	THR	N1118	R1142	L2350	GLU	G2115	P2293	L2849	THR	N1119	R1143	L2351	GLU	G2116	P2294	L2855	THR	N1120	R1144	L2352	GLU	G2117	P2295	L2861	THR	N1121	R1145	L2353	GLU	G2118	P2296	L2867	THR	N1122	R1146	L2354	GLU	G2119	P2297	L2873	THR	N1123	R1147	L2355	GLU	G2120	P2298	L2879	THR	N1124	R1148	L2356	GLU	G2121	P2299	L2885	THR	N1125	R1149	L2357	GLU	G2122	P2300	L2891	THR	N1126	R1150	L2358	GLU	G2123	P2301	L2897	THR	N1127	R1151	L2359	GLU	G2124	P2302	L2903	THR	N1128	R1152	L2360	GLU	G2125	P2303	L2909	THR	N1129	R1153	L2361	GLU	G2126	P2304	L2915	THR	N1130	R1154	L2362	GLU	G2127	P2305	L2921	THR	N1131	R1155	L2363	GLU	G2128	P2306	L2927	THR	N1132	R1156	L2364	GLU	G2129	P2307	L2933	THR	N1133	R1157	L2365	GLU	G2130	P2308	L2939	THR	N1134	R1158	L2366	GLU	G2131	P2309	L2945	THR	N1135	R1159	L2367	GLU	G2132	P2310	L2951	THR	N1136	R1160	L2368	GLU	G2133	P2311	L2957	THR	N1137	R1161	L2369	GLU	G2134	P2312	L2963	THR	N1138	R1162	L2370	GLU	G2135	P2313	L2969	THR	N1139	R1163	L2371	GLU	G2136	P2314	L2975	THR	N1140	R1164	L2372	GLU	G2137	P2315	L2981	THR	N1141	R1165	L2373	GLU	G2138	P2316	L2987	THR	N1142	R1166	L2374	GLU	G2139	P2317	L2993	THR	N1143	R1167	L2375	GLU	G2140	P2318	L2999	THR	N1144	R1168	L2376	GLU	G2141	P2319	L3005	THR	N1145	R1169	L2377	GLU	G2142	P2320	L3011	THR	N1146	R1170	L2378	GLU	G2143	P2321	L3017	THR	N1147	R1171	L2379	GLU	G2144	P2322	L3023	THR	N1148	R1172	L2380	GLU	G2145	P2323	L3029	THR	N1149	R1173	L2381	GLU	G2146	P2324	L3035	THR	N1150	R1174	L2382	GLU	G2147	P2325	L3041	THR	N1151	R1175	L2383	GLU	G2148	P2326	L3047	THR	N1152	R1176	L2384	GLU	G2149	P2327	L3053	THR	N1153	R1177	L2385	GLU	G2150	P2328	L3059	THR	N1154	R1178	L2386	GLU	G2151	P2329	L3065	THR	N1155	R1179	L2387	GLU	G2152	P2330	L3071	THR	N1156	R1180	L2388	GLU	G2153	P2331	L3077	THR	N1157	R1181	L2389	GLU	G2154	P2332	L3083	THR	N1158	R1182	L2390	GLU	G2155	P2333	L3089	THR	N1159	R1183	L2391	GLU	G2156	P2334	L3095	THR	N1160	R1184	L2392	GLU	G2157	P2335	L3101	THR	N1161	R1185	L2393	GLU	G2158	P2336	L3107	THR	N1162	R1186	L2394	GLU	G2159	P2337	L3113	THR	N1163	R1187	L2395	GLU	G2160	P2338	L3119	THR	N1164	R1188	L2396	GLU	G2161	P2339	L3125	THR	N1165	R1189	L2397	GLU	G2162	P2340	L3131	THR	N1166	R1190	L2398	GLU	G2163	P2341	L3137	THR	N1167	R1191	L2399	GLU	G2164	P2342	L3143	THR	N1168	R1192	L2400	GLU	G2165	P2343	L3149	THR	N1169	R1193	L2401	GLU	G2166	P2344	L3155	THR	N1170	R1194	L2402	GLU	G2167	P2345	L3161	THR	N1171	R1195	L2403	GLU	G2168	P2346	L3167	THR	N1172	R1196	L2404	GLU	G2169	P2347	L3173	THR	N1173	R1197	L2405	GLU	G2170	P2348	L3179	THR	N1174	R1198	L2406	GLU	G2171	P2349	L3185	THR	N1175	R1199	L2407	GLU	G2172	P2350	L3191	THR	N1176	R1200	L2408	GLU	G2173	P2351	L3197	THR	N1177	R1201	L2409	GLU	G2174	P2352	L3203	THR	N1178	R1202	L2410	GLU	G2175	P2353	L3209	THR	N1179	R1203	L2411	GLU	G2176	P2354	L3215	THR	N1180	R1204	L2412	GLU	G2177	P2355	L3221	THR	N1181	R1205	L2413	GLU	G2178	P2356	L3227	THR	N1182	R1206	L2414	GLU	G2179	P2357	L3233	THR	N1183	R1207	L2415	GLU	G2180	P2358	L3239	THR	N1184	R1208	L2416	GLU	G2181	P2359	L3245	THR	N1185	R1209	L2417	GLU	G2182	P2360	L3251	THR	N1186	R1210	L2418	GLU	G2183	P2361	L3257	THR	N1187	R1211	L2419	GLU	G2184	P2362	L3263	THR	N1188	R1212	L2420	GLU	G2185	P2363	L3269	THR	N1189	R1213	L2421	GLU	G2186	P2364	L3275	THR	N1190	R1214	L2422	GLU	G2187	P2365	L3281	THR	N1191	R1215	L2423	GLU	G2188	P2366	L3287	THR	N1192	R1216	L2424	GLU	G2189	P2367	L3293	THR	N1193	R1217	L2425	GLU	G2190	P2368	L3299	THR	N1194	R1218	L2426	GLU	G2191	P2369	L3305	THR	N1195	R1219	L2427	GLU	G2192	P2370	L3311	THR	N1196	R1220	L2428	GLU	G2193	P2371	L3317	THR	N1197	R1221	L2429	GLU	G2194	P2372	L3323	THR	N1198	R1222	L2430	GLU	G2195	P2373	L3329	THR	N1199	R1223	L2431	GLU	G2196	P2374	L3335	THR	N1200	R1224	L2432	GLU	G2197	P2375	L3341	THR	N1201	R1225	L2433	GLU	G2198	P2376	L3347	THR	N1202	R1226	L2434	GLU	G2199	P2377	L3353	THR	N1203	R1227	L2435	GLU	G2200	P2378	L3359	THR	N1204	R1228	L2436	GLU	G2201	P2379	L3365	THR	N1205	R1229	L2437	GLU	G2202	P2380	L3371	THR	N1206	R1230	L2438	GLU	G2203	P2381	L3377	THR	N1207	R1231	L2439	GLU	G2204	P2382	L3383	THR	N1208	R1232	L2440	GLU	G2205	P2383	L3389	THR	N1209	R1233	L2441	GLU	G2206	P2384	L3395	THR	N1210	R1234	L2442	GLU	G2207	P2385	L3401	THR	N1211	R1235	L2443	GLU	G2208	P2386	L3407	THR	N1212	R1236	L2444	GLU	G2209	P2387	L3413	THR	N1213	R1237	L2445	GLU	G2210	P2388	L3419	THR	N1214	R1238	L2446	GLU	G2211	P2389	L3425	THR	N1215	R1239	L2447	GLU	G2212	P2390	L3431	THR	N1216	R1240	L2448	GLU	G2213	P2391	L3437	THR	N1217	R1241	L2449	GLU	G2214	P2392	L3443	THR	N1218	R1242	L2450	GLU	G2215	P2393	L3449	THR	N1219	R1243	L2451	GLU	G2216	P2394	L3455	THR	N1220	R1244	L2452	GLU	G2217	P2395	L3461	THR	N1221	R1245	L2453	GLU	G2218	P2396	L3467	THR	N1222	R1246	L2454	GLU	G2219	P2397	L3473	THR	N1223	R1247	L2455	GLU	G2220	P2398	L3479	THR	N1224	R1248	L2456	GLU	G2221	P2399	L3485	THR	N1225	R1249	L2457	GLU	G2222	P2400	L3491	THR	N1226	R1250	L2458	GLU	G2223	P2401	L3497	THR	N1227	R1251	L2459	GLU	G2224	P2402	L3503	THR	N1228	R1252	L2460	GLU	G2225	P2403	L3509	THR	N1229	R1253	L2461	GLU	G2226	P2404	L3515	THR	N1230	R1254	L2462	GLU	G2227	P2405	L3521	THR	N1231	R1255	L2463	GLU	G2228	P2406
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4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	55564	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI POLARA 300	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	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: CA, ZN

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	0.31	0/834	0.51	0/1123
1	F	0.31	0/834	0.51	0/1123
1	H	0.30	0/834	0.51	0/1123
1	J	0.31	0/834	0.51	0/1123
2	B	0.30	0/25428	0.54	6/34534 (0.0%)
2	E	0.30	0/25428	0.54	6/34534 (0.0%)
2	G	0.30	0/25428	0.54	6/34534 (0.0%)
2	I	0.30	0/25428	0.54	6/34534 (0.0%)
All	All	0.30	0/105048	0.54	24/142628 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	1
1	F	0	1
1	H	0	1
1	J	0	1
2	B	0	16
2	E	0	16
2	G	0	16
2	I	0	16
All	All	0	68

There are no bond length outliers.

All (24) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	G	131	LEU	CA-CB-CG	8.13	134.00	115.30
2	E	131	LEU	CA-CB-CG	8.11	133.96	115.30
2	I	131	LEU	CA-CB-CG	8.11	133.96	115.30
2	B	131	LEU	CA-CB-CG	8.10	133.94	115.30
2	E	1600	LEU	CA-CB-CG	7.05	131.51	115.30
2	B	1600	LEU	CA-CB-CG	7.03	131.48	115.30
2	G	1600	LEU	CA-CB-CG	7.03	131.47	115.30
2	I	1600	LEU	CA-CB-CG	7.01	131.43	115.30
2	E	1676	LEU	CA-CB-CG	6.33	129.86	115.30
2	I	1676	LEU	CA-CB-CG	6.33	129.85	115.30
2	B	1676	LEU	CA-CB-CG	6.32	129.84	115.30
2	G	1676	LEU	CA-CB-CG	6.32	129.84	115.30
2	B	2290	LEU	CA-CB-CG	6.11	129.35	115.30
2	I	2290	LEU	CA-CB-CG	6.10	129.34	115.30
2	E	2290	LEU	CA-CB-CG	6.10	129.33	115.30
2	G	2290	LEU	CA-CB-CG	6.09	129.31	115.30
2	G	977	LEU	CA-CB-CG	5.68	128.38	115.30
2	I	977	LEU	CA-CB-CG	5.68	128.36	115.30
2	E	977	LEU	CA-CB-CG	5.67	128.35	115.30
2	B	977	LEU	CA-CB-CG	5.66	128.32	115.30
2	E	4639	MET	C-N-CA	5.07	134.38	121.70
2	G	4639	MET	C-N-CA	5.07	134.37	121.70
2	I	4639	MET	C-N-CA	5.06	134.36	121.70
2	B	4639	MET	C-N-CA	5.04	134.31	121.70

There are no chirality outliers.

All (68) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	8	SER	Peptide
2	B	139	GLU	Peptide
2	B	1676	LEU	Peptide
2	B	1690	ASP	Peptide
2	B	1712	TYR	Peptide
2	B	1795	PRO	Peptide
2	B	1828	ASP	Peptide
2	B	2291	GLN	Peptide
2	B	2342	ASN	Peptide
2	B	2343	GLY	Peptide
2	B	2472	LEU	Peptide
2	B	2807	TRP	Peptide
2	B	3971	GLY	Peptide
2	B	4666	VAL	Peptide

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Mol	Chain	Res	Type	Group
2	B	4807	PHE	Peptide
2	B	4958	CYS	Peptide
2	B	808	TYR	Peptide
2	E	139	GLU	Peptide
2	E	1676	LEU	Peptide
2	E	1690	ASP	Peptide
2	E	1712	TYR	Peptide
2	E	1795	PRO	Peptide
2	E	1828	ASP	Peptide
2	E	2291	GLN	Peptide
2	E	2342	ASN	Peptide
2	E	2343	GLY	Peptide
2	E	2472	LEU	Peptide
2	E	2807	TRP	Peptide
2	E	3971	GLY	Peptide
2	E	4666	VAL	Peptide
2	E	4807	PHE	Peptide
2	E	4958	CYS	Peptide
2	E	808	TYR	Peptide
1	F	8	SER	Peptide
2	G	139	GLU	Peptide
2	G	1676	LEU	Peptide
2	G	1690	ASP	Peptide
2	G	1712	TYR	Peptide
2	G	1795	PRO	Peptide
2	G	1828	ASP	Peptide
2	G	2291	GLN	Peptide
2	G	2342	ASN	Peptide
2	G	2343	GLY	Peptide
2	G	2472	LEU	Peptide
2	G	2807	TRP	Peptide
2	G	3971	GLY	Peptide
2	G	4666	VAL	Peptide
2	G	4807	PHE	Peptide
2	G	4958	CYS	Peptide
2	G	808	TYR	Peptide
1	H	8	SER	Peptide
2	I	139	GLU	Peptide
2	I	1676	LEU	Peptide
2	I	1690	ASP	Peptide
2	I	1712	TYR	Peptide
2	I	1795	PRO	Peptide

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Mol	Chain	Res	Type	Group
2	I	1828	ASP	Peptide
2	I	2291	GLN	Peptide
2	I	2342	ASN	Peptide
2	I	2343	GLY	Peptide
2	I	2472	LEU	Peptide
2	I	2807	TRP	Peptide
2	I	3971	GLY	Peptide
2	I	4666	VAL	Peptide
2	I	4807	PHE	Peptide
2	I	4958	CYS	Peptide
2	I	808	TYR	Peptide
1	J	8	SER	Peptide

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	818	0	824	8	0
1	F	818	0	824	9	0
1	H	818	0	824	8	0
1	J	818	0	824	9	0
2	B	29369	0	24721	212	0
2	E	29369	0	24721	206	0
2	G	29369	0	24719	205	0
2	I	29369	0	24721	208	0
3	B	1	0	0	0	0
3	E	1	0	0	0	0
3	G	1	0	0	0	0
3	I	1	0	0	0	0
4	B	1	0	0	0	0
4	E	1	0	0	0	0
4	G	1	0	0	0	0
4	I	1	0	0	0	0
All	All	120756	0	102178	849	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 4.

All (849) 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)
2:B:426:ARG:HB2	2:B:506:TYR:HA	1.78	0.66
2:I:426:ARG:HB2	2:I:506:TYR:HA	1.78	0.66
2:G:426:ARG:HB2	2:G:506:TYR:HA	1.78	0.66
2:E:426:ARG:HB2	2:E:506:TYR:HA	1.78	0.65
2:B:4860:ARG:HD2	2:E:4582:VAL:HG11	1.77	0.64
2:B:2748:PRO:HD2	2:B:2751:LEU:HD12	1.80	0.64
2:I:2748:PRO:HD2	2:I:2751:LEU:HD12	1.80	0.63
2:E:2748:PRO:HD2	2:E:2751:LEU:HD12	1.80	0.63
2:B:174:VAL:O	2:E:2452:ARG:NH1	2.31	0.63
2:B:2452:ARG:NH1	2:I:174:VAL:O	2.31	0.63
2:E:627:PRO:O	2:E:629:ARG:NH1	2.32	0.63
2:I:627:PRO:O	2:I:629:ARG:NH1	2.32	0.63
2:B:627:PRO:O	2:B:629:ARG:NH1	2.32	0.62
2:G:627:PRO:O	2:G:629:ARG:NH1	2.32	0.62
2:G:2748:PRO:HD2	2:G:2751:LEU:HD12	1.80	0.62
2:B:2764:GLU:HG3	2:B:2857:PRO:HB2	1.82	0.62
2:E:2764:GLU:HG3	2:E:2857:PRO:HB2	1.82	0.62
2:B:1671:ARG:NH2	2:B:1710:GLY:O	2.33	0.62
2:B:1721:GLU:OE2	2:B:1725:ARG:NH2	2.30	0.61
2:I:1671:ARG:NH2	2:I:1710:GLY:O	2.33	0.61
2:G:1671:ARG:NH2	2:G:1710:GLY:O	2.33	0.61
2:E:641:VAL:HG21	2:E:705:ASN:HA	1.82	0.61
2:I:641:VAL:HG21	2:I:705:ASN:HA	1.82	0.61
2:E:4049:VAL:HG21	2:E:4159:ARG:HD2	1.83	0.61
2:B:671:VAL:HG22	2:B:740:PRO:HG3	1.83	0.61
1:J:76:CYS:HB2	1:J:97:LEU:HB2	1.83	0.61
2:B:4049:VAL:HG21	2:B:4159:ARG:HD2	1.83	0.61
2:I:671:VAL:HG22	2:I:740:PRO:HG3	1.83	0.61
2:E:1671:ARG:NH2	2:E:1710:GLY:O	2.33	0.61
2:G:4049:VAL:HG21	2:G:4159:ARG:HD2	1.83	0.61
2:I:4049:VAL:HG21	2:I:4159:ARG:HD2	1.83	0.60
2:E:1721:GLU:OE2	2:E:1725:ARG:NH2	2.30	0.60
1:H:76:CYS:HB2	1:H:97:LEU:HB2	1.83	0.60
2:B:641:VAL:HG21	2:B:705:ASN:HA	1.82	0.60
2:G:641:VAL:HG21	2:G:705:ASN:HA	1.82	0.60
2:G:1703:LEU:HB3	2:G:1708:ARG:HH21	1.67	0.60
2:E:379:HIS:HD2	2:E:382:GLY:H	1.49	0.60
2:I:2764:GLU:HG3	2:I:2857:PRO:HB2	1.82	0.60
2:E:4251:ILE:O	2:E:4557:ARG:NH1	2.35	0.60
2:I:2755:ILE:HD13	2:I:2810:LYS:HG2	1.84	0.60
2:G:4251:ILE:O	2:G:4557:ARG:NH1	2.35	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:671:VAL:HG22	2:E:740:PRO:HG3	1.83	0.60
2:B:1703:LEU:HB3	2:B:1708:ARG:HH21	1.67	0.59
2:E:111:HIS:HD2	2:E:114:SER:H	1.48	0.59
2:E:788:LYS:HG2	2:E:1630:CYS:H	1.66	0.59
2:I:4582:VAL:HG11	2:G:4860:ARG:HD2	1.83	0.59
2:G:1721:GLU:OE2	2:G:1725:ARG:NH2	2.30	0.59
2:G:2764:GLU:HG3	2:G:2857:PRO:HB2	1.82	0.59
2:B:111:HIS:HD2	2:B:114:SER:H	1.48	0.59
2:B:2755:ILE:HD13	2:B:2810:LYS:HG2	1.84	0.59
2:E:1703:LEU:HB3	2:E:1708:ARG:HH21	1.67	0.59
2:B:379:HIS:HD2	2:B:382:GLY:H	1.49	0.59
2:B:1079:LYS:NZ	2:B:1107:PRO:O	2.36	0.59
2:G:788:LYS:HG2	2:G:1630:CYS:H	1.66	0.59
1:F:76:CYS:HB2	1:F:97:LEU:HB2	1.83	0.59
2:E:646:PRO:HD2	2:E:779:PRO:HB2	1.85	0.59
2:G:671:VAL:HG22	2:G:740:PRO:HG3	1.83	0.59
1:A:76:CYS:HB2	1:A:97:LEU:HB2	1.83	0.59
2:E:2755:ILE:HD13	2:E:2810:LYS:HG2	1.84	0.59
2:I:788:LYS:HG2	2:I:1630:CYS:H	1.66	0.59
2:G:1079:LYS:NZ	2:G:1107:PRO:O	2.36	0.59
2:B:4251:ILE:O	2:B:4557:ARG:NH1	2.35	0.59
2:E:609:CYS:SG	2:E:610:ASN:N	2.76	0.59
2:I:1079:LYS:NZ	2:I:1107:PRO:O	2.36	0.59
2:G:2755:ILE:HD13	2:G:2810:LYS:HG2	1.84	0.59
2:B:614:VAL:HG22	2:B:616:SER:H	1.68	0.59
2:G:4104:THR:HG22	2:G:4106:PRO:HD2	1.85	0.59
2:B:4104:THR:HG22	2:B:4106:PRO:HD2	1.85	0.59
2:B:788:LYS:HG2	2:B:1630:CYS:H	1.66	0.59
2:B:3937:TYR:O	2:B:4002:LYS:NZ	2.36	0.59
2:G:646:PRO:HD2	2:G:779:PRO:HB2	1.85	0.59
2:B:646:PRO:HD2	2:B:779:PRO:HB2	1.85	0.58
2:E:1079:LYS:NZ	2:E:1107:PRO:O	2.36	0.58
2:I:4104:THR:HG22	2:I:4106:PRO:HD2	1.85	0.58
2:I:4251:ILE:O	2:I:4557:ARG:NH1	2.35	0.58
2:E:4791:TYR:OH	2:E:4815:ASP:O	2.22	0.58
2:G:379:HIS:HD2	2:G:382:GLY:H	1.49	0.58
2:E:4104:THR:HG22	2:E:4106:PRO:HD2	1.85	0.58
2:I:1703:LEU:HB3	2:I:1708:ARG:HH21	1.67	0.58
2:G:4791:TYR:OH	2:G:4815:ASP:O	2.22	0.58
2:E:614:VAL:HG22	2:E:616:SER:H	1.68	0.58
2:I:3955:MET:HG3	2:I:4019:LEU:HD22	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:4233:LEU:HA	2:I:4236:SER:HB3	1.86	0.58
2:G:111:HIS:HD2	2:G:114:SER:H	1.49	0.58
2:B:3955:MET:HG3	2:B:4019:LEU:HD22	1.86	0.58
2:E:3955:MET:HG3	2:E:4019:LEU:HD22	1.86	0.58
2:I:2803:GLU:OE2	2:I:2806:ARG:NH1	2.37	0.58
2:G:609:CYS:SG	2:G:610:ASN:N	2.76	0.58
2:G:3955:MET:HG3	2:G:4019:LEU:HD22	1.86	0.58
2:B:609:CYS:SG	2:B:610:ASN:N	2.76	0.58
2:B:4791:TYR:OH	2:B:4815:ASP:O	2.22	0.58
2:E:635:THR:HB	2:E:1639:LEU:HD23	1.86	0.58
2:I:614:VAL:HG22	2:I:616:SER:H	1.68	0.58
2:I:4791:TYR:OH	2:I:4815:ASP:O	2.22	0.58
2:G:2803:GLU:OE2	2:G:2806:ARG:NH1	2.37	0.58
2:E:3937:TYR:O	2:E:4002:LYS:NZ	2.36	0.58
2:I:111:HIS:HD2	2:I:114:SER:H	1.48	0.58
2:I:646:PRO:HD2	2:I:779:PRO:HB2	1.85	0.58
2:I:2739:PRO:HB3	2:I:2884:ASN:HB3	1.85	0.58
2:B:2739:PRO:HB3	2:B:2884:ASN:HB3	1.85	0.58
2:B:2803:GLU:OE2	2:B:2806:ARG:NH1	2.37	0.58
2:I:379:HIS:HD2	2:I:382:GLY:H	1.49	0.58
2:B:635:THR:HB	2:B:1639:LEU:HD23	1.86	0.57
2:G:4233:LEU:HA	2:G:4236:SER:HB3	1.86	0.57
2:E:2022:PRO:O	2:E:2028:ARG:NH2	2.35	0.57
2:E:2803:GLU:OE2	2:E:2806:ARG:NH1	2.37	0.57
2:I:609:CYS:SG	2:I:610:ASN:N	2.76	0.57
2:I:2022:PRO:O	2:I:2028:ARG:NH2	2.35	0.57
1:H:87:HIS:HD2	1:H:90:VAL:HB	1.70	0.57
2:E:1519:UNK:HA	2:E:1526:UNK:HA	1.87	0.57
2:G:635:THR:HB	2:G:1639:LEU:HD23	1.86	0.57
2:G:3937:TYR:O	2:G:4002:LYS:NZ	2.36	0.57
2:G:4232:GLU:OE2	2:G:5017:ARG:NH1	2.38	0.57
2:I:3937:TYR:O	2:I:4002:LYS:NZ	2.36	0.57
2:E:472:ARG:NH2	2:E:3712:GLU:OE2	2.38	0.57
2:I:2452:ARG:NH1	2:G:174:VAL:O	2.38	0.57
1:A:87:HIS:HD2	1:A:90:VAL:HB	1.70	0.57
1:J:87:HIS:HD2	1:J:90:VAL:HB	1.70	0.57
2:E:4232:GLU:OE2	2:E:5017:ARG:NH1	2.38	0.57
2:I:1721:GLU:OE2	2:I:1725:ARG:NH2	2.30	0.57
2:G:463:GLU:OE2	2:G:467:LYS:NZ	2.38	0.57
2:B:2131:LEU:HD23	2:B:3662:ILE:HB	1.87	0.57
2:E:2739:PRO:HB3	2:E:2884:ASN:HB3	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:472:ARG:NH2	2:I:3712:GLU:OE2	2.38	0.57
2:G:2131:LEU:HD23	2:G:3662:ILE:HB	1.87	0.57
1:F:87:HIS:HD2	1:F:90:VAL:HB	1.70	0.56
2:E:463:GLU:OE2	2:E:467:LYS:NZ	2.38	0.56
2:E:2131:LEU:HD23	2:E:3662:ILE:HB	1.87	0.56
2:G:2739:PRO:HB3	2:G:2884:ASN:HB3	1.85	0.56
2:E:4233:LEU:HA	2:E:4236:SER:HB3	1.86	0.56
2:G:19:GLU:HB2	2:G:206:CYS:HB3	1.87	0.56
2:B:463:GLU:OE2	2:B:467:LYS:NZ	2.38	0.56
2:B:4232:GLU:OE2	2:B:5017:ARG:NH1	2.38	0.56
2:B:4233:LEU:HA	2:B:4236:SER:HB3	1.86	0.56
2:I:635:THR:HB	2:I:1639:LEU:HD23	1.86	0.56
2:G:472:ARG:NH2	2:G:3712:GLU:OE2	2.38	0.56
2:G:614:VAL:HG22	2:G:616:SER:H	1.68	0.56
2:E:19:GLU:HB2	2:E:206:CYS:HB3	1.87	0.56
2:E:174:VAL:O	2:G:2452:ARG:NH1	2.39	0.56
2:E:626:LEU:HG	2:E:628:GLY:H	1.70	0.56
2:B:1109:LEU:HA	2:B:1120:LEU:HD21	1.88	0.56
2:I:4232:GLU:OE2	2:I:5017:ARG:NH1	2.38	0.56
2:B:472:ARG:NH2	2:B:3712:GLU:OE2	2.38	0.56
2:B:2022:PRO:O	2:B:2028:ARG:NH2	2.35	0.56
2:I:1109:LEU:HA	2:I:1120:LEU:HD21	1.88	0.56
2:G:1109:LEU:HA	2:G:1120:LEU:HD21	1.88	0.56
2:E:217:GLY:O	2:E:261:ARG:NH1	2.39	0.56
2:E:1109:LEU:HA	2:E:1120:LEU:HD21	1.88	0.56
2:I:4176:PRO:O	2:I:4202:ARG:NH1	2.39	0.56
2:G:626:LEU:HG	2:G:628:GLY:H	1.70	0.56
2:B:217:GLY:O	2:B:261:ARG:NH1	2.39	0.56
2:B:2003:GLN:O	2:B:2007:ASN:ND2	2.39	0.56
2:I:463:GLU:OE2	2:I:467:LYS:NZ	2.38	0.56
2:B:1519:UNK:HA	2:B:1526:UNK:HA	1.89	0.55
2:G:4176:PRO:O	2:G:4202:ARG:NH1	2.39	0.55
2:B:2042:CYS:SG	2:B:2043:GLY:N	2.78	0.55
2:E:1743:ARG:O	2:E:1964:ARG:NH2	2.40	0.55
2:I:2131:LEU:HD23	2:I:3662:ILE:HB	1.87	0.55
2:G:1519:UNK:HA	2:G:1526:UNK:HA	1.87	0.55
2:G:2003:GLN:O	2:G:2007:ASN:ND2	2.39	0.55
2:B:309:THR:O	2:B:313:SER:OG	2.24	0.55
2:E:4176:PRO:O	2:E:4202:ARG:NH1	2.39	0.55
2:I:626:LEU:HG	2:I:628:GLY:H	1.70	0.55
2:I:2003:GLN:O	2:I:2007:ASN:ND2	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:345:LEU:HD23	2:E:389:PHE:HB3	1.89	0.55
2:I:2042:CYS:SG	2:I:2043:GLY:N	2.78	0.55
2:G:217:GLY:O	2:G:261:ARG:NH1	2.39	0.55
2:G:2022:PRO:O	2:G:2028:ARG:NH2	2.35	0.55
2:B:626:LEU:HG	2:B:628:GLY:H	1.70	0.55
2:B:19:GLU:HB2	2:B:206:CYS:HB3	1.87	0.55
2:I:19:GLU:HB2	2:I:206:CYS:HB3	1.87	0.55
2:I:217:GLY:O	2:I:261:ARG:NH1	2.39	0.55
2:I:1743:ARG:O	2:I:1964:ARG:NH2	2.40	0.55
2:G:132:ALA:HA	2:G:194:SER:HB2	1.88	0.55
2:G:345:LEU:HD23	2:G:389:PHE:HB3	1.89	0.55
2:B:4152:GLU:OE2	2:B:4180:ARG:NH1	2.40	0.55
2:E:2003:GLN:O	2:E:2007:ASN:ND2	2.39	0.55
2:E:4673:ARG:HH22	2:E:4698:LYS:HB2	1.72	0.55
2:I:309:THR:O	2:I:313:SER:OG	2.24	0.55
2:G:309:THR:O	2:G:313:SER:OG	2.24	0.55
2:G:1743:ARG:O	2:G:1964:ARG:NH2	2.40	0.55
2:G:4152:GLU:OE2	2:G:4180:ARG:NH1	2.40	0.55
2:B:4176:PRO:O	2:B:4202:ARG:NH1	2.39	0.54
2:E:132:ALA:HA	2:E:194:SER:HB2	1.88	0.54
2:I:345:LEU:HD23	2:I:389:PHE:HB3	1.89	0.54
2:I:132:ALA:HA	2:I:194:SER:HB2	1.88	0.54
2:B:1743:ARG:O	2:B:1964:ARG:NH2	2.40	0.54
2:E:57:ASN:HD22	2:E:308:HIS:HB2	1.73	0.54
2:E:2042:CYS:SG	2:E:2043:GLY:N	2.78	0.54
2:I:1519:UNK:HA	2:I:1526:UNK:HA	1.89	0.54
2:G:4673:ARG:HH22	2:G:4698:LYS:HB2	1.72	0.54
2:B:345:LEU:HD23	2:B:389:PHE:HB3	1.89	0.54
2:B:575:LEU:HD22	2:B:609:CYS:HB3	1.90	0.54
2:B:4673:ARG:HH22	2:B:4698:LYS:HB2	1.72	0.54
2:I:4673:ARG:HH22	2:I:4698:LYS:HB2	1.72	0.54
2:G:717:ASP:OD1	2:G:720:HIS:ND1	2.41	0.54
2:B:132:ALA:HA	2:B:194:SER:HB2	1.88	0.54
2:E:309:THR:O	2:E:313:SER:OG	2.24	0.54
2:I:575:LEU:HD22	2:I:609:CYS:HB3	1.90	0.54
2:E:4152:GLU:OE2	2:E:4180:ARG:NH1	2.40	0.54
2:I:2770:LYS:HB3	2:I:2775:TRP:HB2	1.91	0.53
2:E:533:ASN:ND2	2:E:536:ASN:OD1	2.40	0.53
2:I:4152:GLU:OE2	2:I:4180:ARG:NH1	2.40	0.53
2:G:57:ASN:HD22	2:G:308:HIS:HB2	1.73	0.53
2:B:57:ASN:HD22	2:B:308:HIS:HB2	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:717:ASP:OD1	2:E:720:HIS:ND1	2.41	0.53
2:B:2326:CYS:SG	2:B:2327:GLY:N	2.82	0.53
2:I:717:ASP:OD1	2:I:720:HIS:ND1	2.41	0.53
2:I:952:LYS:HB3	2:I:968:ALA:HB1	1.91	0.53
2:G:2770:LYS:HB3	2:G:2775:TRP:HB2	1.91	0.53
2:I:2326:CYS:SG	2:I:2327:GLY:N	2.82	0.53
2:B:717:ASP:OD1	2:B:720:HIS:ND1	2.41	0.53
2:G:952:LYS:HB3	2:G:968:ALA:HB1	1.91	0.53
2:G:3850:GLN:HB3	2:G:3873:LYS:HD3	1.91	0.53
2:E:575:LEU:HD22	2:E:609:CYS:HB3	1.90	0.53
2:E:1679:ASN:ND2	2:E:1798:LEU:O	2.42	0.53
2:E:2326:CYS:SG	2:E:2327:GLY:N	2.82	0.53
2:G:575:LEU:HD22	2:G:609:CYS:HB3	1.90	0.53
2:G:2326:CYS:SG	2:G:2327:GLY:N	2.82	0.53
2:I:1679:ASN:ND2	2:I:1798:LEU:O	2.42	0.53
2:G:886:ARG:HB3	2:G:891:TRP:HB2	1.91	0.52
2:B:1679:ASN:ND2	2:B:1798:LEU:O	2.42	0.52
2:B:1931:LEU:HB3	2:B:1935:VAL:HB	1.92	0.52
2:B:3850:GLN:HB3	2:B:3873:LYS:HD3	1.91	0.52
2:E:3850:GLN:HB3	2:E:3873:LYS:HD3	1.91	0.52
2:I:1931:LEU:HB3	2:I:1935:VAL:HB	1.92	0.52
2:I:3850:GLN:HB3	2:I:3873:LYS:HD3	1.91	0.52
2:G:1931:LEU:HB3	2:G:1935:VAL:HB	1.92	0.52
2:G:2042:CYS:SG	2:G:2043:GLY:N	2.78	0.52
2:G:4958:CYS:SG	2:G:4959:PHE:N	2.82	0.52
2:B:886:ARG:HB3	2:B:891:TRP:HB2	1.92	0.52
2:B:2196:ASN:OD1	2:B:2199:ARG:NH1	2.34	0.52
2:I:1973:GLN:O	2:I:1977:TYR:N	2.43	0.52
2:G:219:VAL:HG13	2:G:285:VAL:HG21	1.92	0.52
2:G:1679:ASN:ND2	2:G:1798:LEU:O	2.42	0.52
1:A:74:LEU:HB2	1:A:99:PHE:HB2	1.91	0.52
2:E:745:SER:HB2	2:E:758:ARG:HB3	1.92	0.52
2:E:1931:LEU:HB3	2:E:1935:VAL:HB	1.91	0.52
2:G:745:SER:HB2	2:G:758:ARG:HB3	1.92	0.52
2:B:2770:LYS:HB3	2:B:2775:TRP:HB2	1.91	0.52
2:B:4567:LEU:HD12	2:B:4816:ILE:HD12	1.92	0.52
2:E:886:ARG:HB3	2:E:891:TRP:HB2	1.91	0.52
2:I:886:ARG:HB3	2:I:891:TRP:HB2	1.91	0.52
2:B:1973:GLN:O	2:B:1977:TYR:N	2.43	0.52
2:B:4958:CYS:SG	2:B:4959:PHE:N	2.82	0.52
2:E:2770:LYS:HB3	2:E:2775:TRP:HB2	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:57:ASN:HD22	2:I:308:HIS:HB2	1.73	0.52
2:I:219:VAL:HG13	2:I:285:VAL:HG21	1.92	0.52
1:F:74:LEU:HB2	1:F:99:PHE:HB2	1.91	0.52
2:B:952:LYS:HB3	2:B:968:ALA:HB1	1.91	0.52
2:E:395:GLN:HG3	2:E:397:GLU:H	1.75	0.52
2:B:1729:SER:HB3	2:B:2163:ARG:HH11	1.75	0.52
2:B:4884:LEU:HD11	2:I:4914:VAL:HG21	1.92	0.52
1:A:42:ARG:HG2	2:B:1691:GLN:HG2	1.91	0.52
2:B:2226:PRO:HA	2:B:2229:VAL:HG12	1.92	0.52
2:I:1729:SER:HB3	2:I:2163:ARG:HH11	1.75	0.52
1:J:74:LEU:HB2	1:J:99:PHE:HB2	1.91	0.52
2:B:3817:LEU:HD13	2:B:3899:PHE:HD1	1.75	0.52
2:E:315:CYS:SG	2:E:316:PHE:N	2.83	0.52
2:E:4958:CYS:SG	2:E:4959:PHE:N	2.82	0.52
2:B:745:SER:HB2	2:B:758:ARG:HB3	1.92	0.51
2:E:219:VAL:HG13	2:E:285:VAL:HG21	1.92	0.51
2:E:4860:ARG:HD2	2:G:4582:VAL:HG11	1.91	0.51
2:I:395:GLN:HG3	2:I:397:GLU:H	1.75	0.51
2:G:315:CYS:SG	2:G:316:PHE:N	2.83	0.51
2:G:2751:LEU:HD11	2:G:2823:ILE:HG21	1.93	0.51
2:I:3817:LEU:HD13	2:I:3899:PHE:HD1	1.75	0.51
2:B:315:CYS:SG	2:B:316:PHE:N	2.83	0.51
2:B:395:GLN:HG3	2:B:397:GLU:H	1.75	0.51
2:E:952:LYS:HB3	2:E:968:ALA:HB1	1.91	0.51
2:E:3817:LEU:HD13	2:E:3899:PHE:HD1	1.75	0.51
2:I:315:CYS:SG	2:I:316:PHE:N	2.83	0.51
2:I:745:SER:HB2	2:I:758:ARG:HB3	1.92	0.51
2:E:765:GLN:NE2	2:E:1521:UNK:O	2.43	0.51
2:I:4567:LEU:HD12	2:I:4816:ILE:HD12	1.92	0.51
2:G:1973:GLN:O	2:G:1977:TYR:N	2.43	0.51
2:G:395:GLN:HG3	2:G:397:GLU:H	1.75	0.51
2:G:2226:PRO:HA	2:G:2229:VAL:HG12	1.92	0.51
1:H:74:LEU:HB2	1:H:99:PHE:HB2	1.91	0.51
2:E:2751:LEU:HD11	2:E:2823:ILE:HG21	1.92	0.51
2:B:219:VAL:HG13	2:B:285:VAL:HG21	1.92	0.51
2:G:3817:LEU:HD13	2:G:3899:PHE:HD1	1.75	0.51
2:B:1960:ALA:O	2:B:1964:ARG:NE	2.43	0.51
2:I:2226:PRO:HA	2:I:2229:VAL:HG12	1.92	0.51
2:B:2247:GLN:NE2	2:B:2285:GLU:OE2	2.44	0.51
2:E:4172:GLU:HA	2:E:4175:ARG:HE	1.76	0.51
2:I:972:LEU:O	2:I:1044:ARG:NH2	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2751:LEU:HD11	2:B:2823:ILE:HG21	1.92	0.51
2:E:2247:GLN:NE2	2:E:2285:GLU:OE2	2.44	0.51
2:E:4567:LEU:HD12	2:E:4816:ILE:HD12	1.92	0.51
2:G:972:LEU:O	2:G:1044:ARG:NH2	2.44	0.51
2:G:2247:GLN:NE2	2:G:2285:GLU:OE2	2.44	0.51
2:G:3781:GLN:HA	2:G:3784:SER:HB3	1.93	0.51
2:E:972:LEU:O	2:E:1044:ARG:NH2	2.44	0.50
2:E:2226:PRO:HA	2:E:2229:VAL:HG12	1.92	0.50
2:E:2908:TYR:OH	2:E:2920:ARG:NE	2.44	0.50
2:E:3781:GLN:HA	2:E:3784:SER:HB3	1.93	0.50
2:I:2247:GLN:NE2	2:I:2285:GLU:OE2	2.44	0.50
2:G:4567:LEU:HD12	2:G:4816:ILE:HD12	1.92	0.50
2:E:1973:GLN:O	2:E:1977:TYR:N	2.43	0.50
2:I:4958:CYS:SG	2:I:4959:PHE:N	2.82	0.50
2:G:1960:ALA:O	2:G:1964:ARG:NE	2.43	0.50
2:B:972:LEU:O	2:B:1044:ARG:NH2	2.44	0.50
2:E:2287:ALA:HA	2:E:2290:LEU:HD13	1.94	0.50
2:I:533:ASN:ND2	2:I:536:ASN:OD1	2.40	0.50
2:B:2287:ALA:HA	2:B:2290:LEU:HD13	1.94	0.50
2:I:40:GLU:HB3	2:I:44:ASN:HB3	1.94	0.50
2:G:4172:GLU:HA	2:G:4175:ARG:HE	1.76	0.50
2:B:533:ASN:ND2	2:B:536:ASN:OD1	2.40	0.50
2:B:1622:GLU:N	2:B:1627:ALA:O	2.45	0.50
2:B:4172:GLU:HA	2:B:4175:ARG:HE	1.76	0.50
2:I:2277:ALA:HB1	2:I:2337:PHE:HD2	1.76	0.50
2:G:2277:ALA:HB1	2:G:2337:PHE:HD2	1.76	0.50
2:B:40:GLU:HB3	2:B:44:ASN:HB3	1.94	0.50
2:E:1729:SER:HB3	2:E:2163:ARG:HH11	1.75	0.50
2:E:1960:ALA:O	2:E:1964:ARG:NE	2.43	0.50
2:I:2287:ALA:HA	2:I:2290:LEU:HD13	1.94	0.50
2:I:3781:GLN:HA	2:I:3784:SER:HB3	1.93	0.50
2:G:3780:LEU:HD11	2:G:3816:MET:HG3	1.94	0.50
2:B:2277:ALA:HB1	2:B:2337:PHE:HD2	1.76	0.50
2:B:2466:LEU:HA	2:B:2469:ILE:HD12	1.94	0.50
2:E:1685:LEU:HA	2:E:1688:HIS:HD2	1.77	0.50
2:G:1729:SER:HB3	2:G:2163:ARG:HH11	1.75	0.50
2:G:1808:ARG:HD3	2:G:1853:ILE:HG22	1.94	0.50
2:B:689:THR:H	2:B:778:PHE:HE2	1.60	0.50
2:B:1685:LEU:HA	2:B:1688:HIS:HD2	1.77	0.50
2:E:40:GLU:HB3	2:E:44:ASN:HB3	1.94	0.50
2:E:689:THR:H	2:E:778:PHE:HE2	1.60	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:689:THR:H	2:I:778:PHE:HE2	1.60	0.49
2:G:4584:ASP:HA	2:G:4627:MET:HA	1.94	0.49
2:B:410:LEU:HD12	2:B:413:GLN:HE21	1.77	0.49
2:E:38:ALA:HB1	2:E:64:ILE:HG13	1.94	0.49
2:E:3780:LEU:HD11	2:E:3816:MET:HG3	1.93	0.49
2:I:1685:LEU:HA	2:I:1688:HIS:HD2	1.77	0.49
2:I:2751:LEU:HD11	2:I:2823:ILE:HG21	1.92	0.49
2:I:3780:LEU:HD11	2:I:3816:MET:HG3	1.94	0.49
2:G:689:THR:H	2:G:778:PHE:HE2	1.60	0.49
2:I:2466:LEU:HA	2:I:2469:ILE:HD12	1.94	0.49
2:G:551:LEU:HD21	2:G:589:LEU:HD13	1.95	0.49
2:B:3780:LEU:HD11	2:B:3816:MET:HG3	1.93	0.49
2:E:1259:ARG:NH2	2:E:1595:LEU:O	2.46	0.49
2:E:2277:ALA:HB1	2:E:2337:PHE:HD2	1.76	0.49
2:G:606:LEU:O	2:G:617:ASN:ND2	2.45	0.49
2:G:2347:GLU:O	2:G:2351:ASN:N	2.45	0.49
2:B:2347:GLU:O	2:B:2351:ASN:N	2.45	0.49
2:E:1095:VAL:HB	2:E:1199:VAL:HG23	1.94	0.49
2:E:2466:LEU:HA	2:E:2469:ILE:HD12	1.94	0.49
2:I:2347:GLU:O	2:I:2351:ASN:N	2.45	0.49
2:G:38:ALA:HB1	2:G:64:ILE:HG13	1.95	0.49
2:G:40:GLU:HB3	2:G:44:ASN:HB3	1.94	0.49
2:G:1095:VAL:HB	2:G:1199:VAL:HG23	1.94	0.49
2:G:4251:ILE:HD12	2:G:4557:ARG:HA	1.94	0.49
2:B:331:VAL:HG12	2:B:333:GLY:H	1.77	0.49
2:B:551:LEU:HD21	2:B:589:LEU:HD13	1.95	0.49
2:B:1808:ARG:HD3	2:B:1853:ILE:HG22	1.94	0.49
2:B:4251:ILE:HD12	2:B:4557:ARG:HA	1.94	0.49
2:B:4584:ASP:HA	2:B:4627:MET:HA	1.94	0.49
2:E:2347:GLU:O	2:E:2351:ASN:N	2.45	0.49
2:E:4138:ASP:OD1	2:E:4138:ASP:N	2.46	0.49
2:I:210:GLU:HG3	2:I:337:PRO:HG3	1.93	0.49
2:I:1622:GLU:N	2:I:1627:ALA:O	2.45	0.49
2:G:410:LEU:HD12	2:G:413:GLN:HE21	1.77	0.49
2:G:4138:ASP:OD1	2:G:4138:ASP:N	2.46	0.49
2:B:38:ALA:HB1	2:B:64:ILE:HG13	1.95	0.49
2:B:195:PHE:HB3	2:B:196:MET:HG2	1.95	0.49
2:B:210:GLU:HG3	2:B:337:PRO:HG3	1.94	0.49
2:B:233:ILE:HD11	2:B:242:ARG:HH21	1.77	0.49
2:B:1259:ARG:NH2	2:B:1595:LEU:O	2.46	0.49
2:B:3781:GLN:HA	2:B:3784:SER:HB3	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:229:GLU:HA	2:I:249:GLY:HA2	1.95	0.49
2:I:4138:ASP:OD1	2:I:4138:ASP:N	2.46	0.49
2:G:765:GLN:NE2	2:G:1521:UNK:O	2.46	0.49
2:G:2287:ALA:HA	2:G:2290:LEU:HD13	1.94	0.49
2:G:2466:LEU:HA	2:G:2469:ILE:HD12	1.94	0.49
2:E:2002:PRO:HA	2:E:2005:GLN:HB3	1.95	0.49
2:E:2257:LEU:HD11	2:E:2276:ALA:HB2	1.95	0.49
2:I:606:LEU:O	2:I:617:ASN:ND2	2.46	0.49
2:G:229:GLU:HA	2:G:249:GLY:HA2	1.95	0.49
2:G:1622:GLU:N	2:G:1627:ALA:O	2.45	0.49
2:G:1685:LEU:HA	2:G:1688:HIS:HD2	1.77	0.49
2:B:229:GLU:HA	2:B:249:GLY:HA2	1.95	0.48
2:E:410:LEU:HD12	2:E:413:GLN:HE21	1.77	0.48
2:E:606:LEU:O	2:E:617:ASN:ND2	2.45	0.48
2:E:1808:ARG:HD3	2:E:1853:ILE:HG22	1.94	0.48
2:E:4251:ILE:HD12	2:E:4557:ARG:HA	1.94	0.48
2:I:765:GLN:NE2	2:I:1521:UNK:O	2.46	0.48
2:I:4172:GLU:HA	2:I:4175:ARG:HE	1.76	0.48
2:G:111:HIS:CD2	2:G:114:SER:H	2.29	0.48
2:G:1259:ARG:NH2	2:G:1595:LEU:O	2.46	0.48
2:B:103:TYR:HB3	2:B:152:PRO:HD3	1.95	0.48
2:E:551:LEU:HD21	2:E:589:LEU:HD13	1.95	0.48
2:B:111:HIS:CD2	2:B:114:SER:H	2.29	0.48
2:B:1095:VAL:HB	2:B:1199:VAL:HG23	1.94	0.48
2:I:103:TYR:HB3	2:I:152:PRO:HD3	1.95	0.48
2:I:233:ILE:HD11	2:I:242:ARG:HH21	1.77	0.48
2:I:2002:PRO:HA	2:I:2005:GLN:HB3	1.95	0.48
2:G:2257:LEU:HD11	2:G:2276:ALA:HB2	1.95	0.48
2:B:606:LEU:O	2:B:617:ASN:ND2	2.45	0.48
2:B:664:PHE:HB2	2:B:746:CYS:HB2	1.96	0.48
2:E:233:ILE:HD11	2:E:242:ARG:HH21	1.77	0.48
2:I:38:ALA:HB1	2:I:64:ILE:HG13	1.94	0.48
2:I:719:LEU:HD22	2:I:735:GLN:HG2	1.95	0.48
2:I:1808:ARG:HD3	2:I:1853:ILE:HG22	1.94	0.48
2:I:1960:ALA:O	2:I:1964:ARG:NE	2.43	0.48
2:G:210:GLU:HG3	2:G:337:PRO:HG3	1.94	0.48
2:G:719:LEU:HD22	2:G:735:GLN:HG2	1.95	0.48
2:B:2002:PRO:HA	2:B:2005:GLN:HB3	1.95	0.48
2:E:195:PHE:HB3	2:E:196:MET:HG2	1.95	0.48
2:E:229:GLU:HA	2:E:249:GLY:HA2	1.95	0.48
2:I:111:HIS:CD2	2:I:114:SER:H	2.29	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:257:ARG:O	2:I:284:HIS:NE2	2.36	0.48
2:I:410:LEU:HD12	2:I:413:GLN:HE21	1.77	0.48
2:G:331:VAL:HG12	2:G:333:GLY:H	1.77	0.48
1:H:42:ARG:HG2	2:G:1691:GLN:HG2	1.95	0.48
2:E:331:VAL:HG12	2:E:333:GLY:H	1.77	0.48
2:E:664:PHE:HB2	2:E:746:CYS:HB2	1.96	0.48
2:E:1622:GLU:N	2:E:1627:ALA:O	2.45	0.48
2:E:4584:ASP:HA	2:E:4627:MET:HA	1.94	0.48
2:I:4584:ASP:HA	2:I:4627:MET:HA	1.94	0.48
2:G:2908:TYR:OH	2:G:2920:ARG:NE	2.44	0.48
2:B:580:GLU:HG3	2:B:620:LEU:HD22	1.96	0.48
2:E:210:GLU:HG3	2:E:337:PRO:HG3	1.94	0.48
2:E:580:GLU:HG3	2:E:620:LEU:HD22	1.96	0.48
2:I:551:LEU:HD21	2:I:589:LEU:HD13	1.95	0.48
2:I:1259:ARG:NH2	2:I:1595:LEU:O	2.46	0.48
2:I:4228:ALA:O	2:I:4232:GLU:N	2.46	0.48
2:E:793:LEU:HD12	2:E:797:HIS:HB2	1.96	0.48
2:I:331:VAL:HG12	2:I:333:GLY:H	1.77	0.48
2:I:1718:ILE:HG13	2:I:1719:HIS:CD2	2.49	0.48
2:I:4251:ILE:HD12	2:I:4557:ARG:HA	1.94	0.48
2:G:195:PHE:HB3	2:G:196:MET:HG2	1.95	0.48
2:B:719:LEU:HD22	2:B:735:GLN:HG2	1.95	0.48
2:E:1152:MET:HB2	2:E:1161:ILE:HB	1.96	0.48
2:G:103:TYR:HB3	2:G:152:PRO:HD3	1.95	0.48
2:G:233:ILE:HD11	2:G:242:ARG:HH21	1.77	0.48
2:E:103:TYR:HB3	2:E:152:PRO:HD3	1.95	0.48
2:E:111:HIS:CD2	2:E:114:SER:H	2.29	0.48
2:G:1718:ILE:HG13	2:G:1719:HIS:CD2	2.49	0.48
2:G:2002:PRO:HA	2:G:2005:GLN:HB3	1.95	0.48
2:B:257:ARG:O	2:B:284:HIS:NE2	2.36	0.47
2:I:642:THR:HG23	2:I:1613:LEU:HD12	1.96	0.47
2:B:642:THR:HG23	2:B:1613:LEU:HD12	1.96	0.47
2:E:719:LEU:HD22	2:E:735:GLN:HG2	1.95	0.47
2:I:793:LEU:HD12	2:I:797:HIS:HB2	1.96	0.47
2:G:4063:ASP:OD1	2:G:4169:SER:OG	2.30	0.47
2:E:1718:ILE:HG13	2:E:1719:HIS:CD2	2.49	0.47
2:I:195:PHE:HB3	2:I:196:MET:HG2	1.95	0.47
2:I:1095:VAL:HB	2:I:1199:VAL:HG23	1.94	0.47
2:G:649:PHE:HB3	2:G:776:LEU:HD13	1.97	0.47
2:B:649:PHE:HB3	2:B:776:LEU:HD13	1.97	0.47
2:B:3901:ASN:OD1	2:B:3904:ARG:NH1	2.46	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:649:PHE:HB3	2:E:776:LEU:HD13	1.97	0.47
2:I:1152:MET:HB2	2:I:1161:ILE:HB	1.96	0.47
2:I:1679:ASN:HA	2:I:1682:ALA:HB3	1.97	0.47
2:I:2196:ASN:OD1	2:I:2199:ARG:NH1	2.34	0.47
2:E:3901:ASN:OD1	2:E:3904:ARG:NH1	2.46	0.47
2:G:1679:ASN:HA	2:G:1682:ALA:HB3	1.97	0.47
2:B:793:LEU:HD12	2:B:797:HIS:HB2	1.96	0.47
2:B:2257:LEU:HD11	2:B:2276:ALA:HB2	1.95	0.47
2:E:718:GLY:HA3	2:E:737:LEU:HA	1.96	0.47
2:E:1679:ASN:HA	2:E:1682:ALA:HB3	1.97	0.47
2:I:580:GLU:HG3	2:I:620:LEU:HD22	1.96	0.47
2:B:1679:ASN:HA	2:B:1682:ALA:HB3	1.97	0.47
2:B:2927:LEU:HD23	2:B:2930:LEU:HD12	1.96	0.47
2:E:2927:LEU:HD23	2:E:2930:LEU:HD12	1.96	0.47
2:I:232:THR:HB	2:I:252:VAL:HG11	1.96	0.47
2:I:649:PHE:HB3	2:I:776:LEU:HD13	1.97	0.47
2:I:664:PHE:HB2	2:I:746:CYS:HB2	1.96	0.47
2:I:718:GLY:HA3	2:I:737:LEU:HA	1.96	0.47
2:G:580:GLU:HG3	2:G:620:LEU:HD22	1.96	0.47
2:G:4228:ALA:O	2:G:4232:GLU:N	2.46	0.47
2:E:232:THR:HB	2:E:252:VAL:HG11	1.96	0.47
2:I:2257:LEU:HD11	2:I:2276:ALA:HB2	1.95	0.47
2:G:232:THR:HB	2:G:252:VAL:HG11	1.96	0.47
2:G:533:ASN:ND2	2:G:536:ASN:OD1	2.40	0.47
2:G:2758:PHE:O	2:G:2762:THR:N	2.45	0.47
2:B:718:GLY:HA3	2:B:737:LEU:HA	1.96	0.47
2:B:1718:ILE:HG13	2:B:1719:HIS:CD2	2.49	0.47
2:B:4228:ALA:O	2:B:4232:GLU:N	2.46	0.47
2:G:793:LEU:HD12	2:G:797:HIS:HB2	1.96	0.47
2:B:404:ILE:HG21	2:B:481:GLU:HG3	1.97	0.47
2:E:1725:ARG:HA	2:E:1728:ARG:HG2	1.97	0.47
2:I:580:GLU:HG2	2:I:583:ILE:HD11	1.97	0.47
2:G:664:PHE:HB2	2:G:746:CYS:HB2	1.96	0.47
2:G:718:GLY:HA3	2:G:737:LEU:HA	1.96	0.47
1:F:7:ILE:HB	1:F:71:ARG:HB3	1.97	0.46
2:B:232:THR:HB	2:B:252:VAL:HG11	1.96	0.46
2:B:1152:MET:HB2	2:B:1161:ILE:HB	1.96	0.46
2:B:1243:PRO:HB2	2:B:1600:LEU:HD22	1.97	0.46
2:E:2196:ASN:OD1	2:E:2199:ARG:NH1	2.34	0.46
2:E:4571:PHE:O	2:E:4575:PHE:N	2.48	0.46
2:B:4138:ASP:OD1	2:B:4138:ASP:N	2.46	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:642:THR:HG23	2:E:1613:LEU:HD12	1.96	0.46
2:I:404:ILE:HG21	2:I:481:GLU:HG3	1.97	0.46
2:I:637:LEU:HD23	2:I:1637:MET:HB3	1.97	0.46
2:I:4063:ASP:OD1	2:I:4169:SER:OG	2.29	0.46
2:G:1152:MET:HB2	2:G:1161:ILE:HB	1.96	0.46
2:E:110:ARG:HH21	2:E:115:ARG:HB3	1.81	0.46
2:I:2908:TYR:OH	2:I:2920:ARG:NE	2.44	0.46
2:I:1725:ARG:HA	2:I:1728:ARG:HG2	1.97	0.46
2:G:637:LEU:HD23	2:G:1637:MET:HB3	1.97	0.46
2:B:2868:SER:O	2:B:2872:GLN:N	2.47	0.46
2:B:4571:PHE:O	2:B:4575:PHE:N	2.48	0.46
2:G:110:ARG:HH21	2:G:115:ARG:HB3	1.81	0.46
2:G:3905:THR:HA	2:G:3912:THR:HG23	1.97	0.46
2:B:580:GLU:HG2	2:B:583:ILE:HD11	1.97	0.46
2:I:358:THR:HG21	2:I:382:GLY:HA2	1.98	0.46
2:I:3905:THR:HA	2:I:3912:THR:HG23	1.97	0.46
2:E:358:THR:HG21	2:E:382:GLY:HA2	1.98	0.46
2:I:1103:GLY:HA3	2:I:1123:VAL:HA	1.98	0.46
2:B:110:ARG:HH21	2:B:115:ARG:HB3	1.81	0.46
2:B:2908:TYR:OH	2:B:2920:ARG:NE	2.44	0.46
2:E:3905:THR:HA	2:E:3912:THR:HG23	1.97	0.46
2:I:110:ARG:HH21	2:I:115:ARG:HB3	1.81	0.46
2:G:4571:PHE:O	2:G:4575:PHE:N	2.48	0.46
2:B:485:SER:O	2:B:489:ASN:N	2.42	0.46
2:I:1243:PRO:HB2	2:I:1600:LEU:HD22	1.97	0.46
2:G:642:THR:HG23	2:G:1613:LEU:HD12	1.96	0.46
2:G:662:TRP:HZ3	2:G:811:CYS:HA	1.81	0.46
1:J:7:ILE:HB	1:J:71:ARG:HB3	1.97	0.45
2:E:662:TRP:HZ3	2:E:811:CYS:HA	1.81	0.45
2:E:4152:GLU:OE1	2:E:4194:TYR:OH	2.34	0.45
2:I:619:ASP:OD1	2:I:1680:ARG:NH1	2.41	0.45
2:G:358:THR:HG21	2:G:382:GLY:HA2	1.98	0.45
2:G:404:ILE:HG21	2:G:481:GLU:HG3	1.97	0.45
2:G:469:ARG:HH21	2:G:3712:GLU:HB3	1.81	0.45
2:E:1103:GLY:HA3	2:E:1123:VAL:HA	1.98	0.45
2:E:4697:VAL:O	2:E:4701:TRP:N	2.49	0.45
2:I:2927:LEU:HD23	2:I:2930:LEU:HD12	1.96	0.45
2:I:3910:THR:HG23	2:I:3911:THR:HG23	1.98	0.45
2:G:2196:ASN:OD1	2:G:2199:ARG:NH1	2.34	0.45
2:G:2927:LEU:HD23	2:G:2930:LEU:HD12	1.96	0.45
2:B:358:THR:HG21	2:B:382:GLY:HA2	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:637:LEU:HD23	2:B:1637:MET:HB3	1.97	0.45
2:B:1725:ARG:HA	2:B:1728:ARG:HG2	1.97	0.45
2:E:4914:VAL:HG21	2:G:4884:LEU:HD11	1.98	0.45
2:B:3910:THR:HG23	2:B:3911:THR:HG23	1.98	0.45
2:E:404:ILE:HG21	2:E:481:GLU:HG3	1.97	0.45
2:E:999:ASP:O	2:E:1004:GLY:N	2.50	0.45
2:I:4571:PHE:O	2:I:4575:PHE:N	2.48	0.45
2:G:1725:ARG:HA	2:G:1728:ARG:HG2	1.97	0.45
2:B:1103:GLY:HA3	2:B:1123:VAL:HA	1.98	0.45
2:E:637:LEU:HD23	2:E:1637:MET:HB3	1.97	0.45
2:E:1243:PRO:HB2	2:E:1600:LEU:HD22	1.97	0.45
2:I:2758:PHE:O	2:I:2762:THR:N	2.45	0.45
2:B:2131:LEU:HB3	2:B:3662:ILE:HD13	1.99	0.45
2:E:469:ARG:HH21	2:E:3712:GLU:HB3	1.81	0.45
2:E:2765:LYS:HA	2:E:2859:PRO:HG3	1.99	0.45
2:I:469:ARG:HH21	2:I:3712:GLU:HB3	1.81	0.45
2:I:999:ASP:O	2:I:1004:GLY:N	2.50	0.45
2:I:2868:SER:O	2:I:2872:GLN:N	2.47	0.45
2:I:3901:ASN:OD1	2:I:3904:ARG:NH1	2.46	0.45
2:I:4152:GLU:OE1	2:I:4194:TYR:OH	2.34	0.45
1:H:7:ILE:HB	1:H:71:ARG:HB3	1.97	0.45
2:B:3905:THR:HA	2:B:3912:THR:HG23	1.97	0.45
2:I:2131:LEU:HB3	2:I:3662:ILE:HD13	1.99	0.45
1:H:23:VAL:HG22	1:H:47:LYS:HG2	1.99	0.45
2:B:887:ILE:HG21	2:B:959:TYR:HA	1.99	0.45
2:B:4152:GLU:OE1	2:B:4194:TYR:OH	2.34	0.45
2:E:488:LEU:O	2:E:492:ASP:N	2.45	0.45
2:E:580:GLU:HG2	2:E:583:ILE:HD11	1.97	0.45
2:E:1031:THR:O	2:E:1035:ASN:N	2.46	0.45
2:G:999:ASP:O	2:G:1004:GLY:N	2.50	0.45
2:G:2765:LYS:HA	2:G:2859:PRO:HG3	1.99	0.45
1:F:23:VAL:HG22	1:F:47:LYS:HG2	1.99	0.45
1:A:7:ILE:HB	1:A:71:ARG:HB3	1.97	0.45
2:B:469:ARG:HH21	2:B:3712:GLU:HB3	1.81	0.45
2:B:1269:CYS:HA	2:B:1473:UNK:HA	1.99	0.45
2:I:662:TRP:HZ3	2:I:811:CYS:HA	1.81	0.45
2:I:887:ILE:HG21	2:I:959:TYR:HA	1.99	0.45
2:B:999:ASP:O	2:B:1004:GLY:N	2.50	0.45
2:B:1865:MET:SD	2:B:1865:MET:N	2.90	0.45
2:E:4763:GLY:O	2:E:4766:THR:OG1	2.34	0.45
2:G:3901:ASN:OD1	2:G:3904:ARG:NH1	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1031:THR:O	2:B:1035:ASN:N	2.46	0.44
2:E:1865:MET:SD	2:E:1865:MET:N	2.90	0.44
2:E:3910:THR:HG23	2:E:3911:THR:HG23	1.98	0.44
2:B:2457:LEU:HD23	2:B:2460:LEU:HD12	1.98	0.44
2:B:2758:PHE:O	2:B:2762:THR:N	2.46	0.44
2:E:4063:ASP:OD1	2:E:4169:SER:OG	2.29	0.44
2:G:683:ARG:HG2	2:G:717:ASP:HB3	2.00	0.44
2:G:2868:SER:O	2:G:2872:GLN:N	2.47	0.44
2:B:683:ARG:HG2	2:B:717:ASP:HB3	2.00	0.44
2:E:257:ARG:O	2:E:284:HIS:NE2	2.36	0.44
2:I:2457:LEU:HD23	2:I:2460:LEU:HD12	1.98	0.44
2:I:4155:PRO:HD2	2:I:5036:LEU:HD23	2.00	0.44
2:G:1243:PRO:HB2	2:G:1600:LEU:HD22	1.97	0.44
2:G:3910:THR:HG23	2:G:3911:THR:HG23	1.98	0.44
2:B:662:TRP:HZ3	2:B:811:CYS:HA	1.81	0.44
2:B:1163:THR:HA	2:B:1168:VAL:HA	2.00	0.44
2:B:4582:VAL:HG11	2:I:4860:ARG:HD2	1.98	0.44
2:I:2765:LYS:HA	2:I:2859:PRO:HG3	1.99	0.44
2:G:580:GLU:HG2	2:G:583:ILE:HD11	1.97	0.44
2:G:1103:GLY:HA3	2:G:1123:VAL:HA	1.98	0.44
2:E:2457:LEU:HD23	2:E:2460:LEU:HD12	1.98	0.44
2:I:1865:MET:SD	2:I:1865:MET:N	2.90	0.44
1:H:21:THR:HA	1:H:49:ARG:HA	2.00	0.44
2:B:1093:GLU:OE1	2:B:1201:HIS:NE2	2.42	0.44
2:E:629:ARG:HD3	2:E:634:GLN:HG2	2.00	0.44
2:E:1163:THR:HA	2:E:1168:VAL:HA	2.00	0.44
2:G:4155:PRO:HD2	2:G:5036:LEU:HD23	2.00	0.44
2:E:4228:ALA:O	2:E:4232:GLU:N	2.46	0.44
2:I:4697:VAL:O	2:I:4701:TRP:N	2.49	0.44
2:G:488:LEU:O	2:G:492:ASP:N	2.45	0.44
2:G:4763:GLY:O	2:G:4766:THR:OG1	2.34	0.44
2:B:2337:PHE:HA	2:B:2340:PHE:HB2	2.00	0.44
2:B:2765:LYS:HA	2:B:2859:PRO:HG3	1.99	0.44
2:E:619:ASP:OD1	2:E:1680:ARG:NH1	2.41	0.44
2:I:683:ARG:HG2	2:I:717:ASP:HB3	2.00	0.44
2:I:4059:LEU:HD11	2:I:4167:ALA:HB2	2.00	0.44
2:G:629:ARG:HD3	2:G:634:GLN:HG2	2.00	0.44
2:G:887:ILE:HG21	2:G:959:TYR:HA	1.99	0.44
2:G:1163:THR:HA	2:G:1168:VAL:HA	2.00	0.44
2:G:2337:PHE:HA	2:G:2340:PHE:HB2	2.00	0.44
2:G:4152:GLU:OE1	2:G:4194:TYR:OH	2.34	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:21:THR:HA	1:F:49:ARG:HA	2.00	0.44
2:E:2131:LEU:HB3	2:E:3662:ILE:HD13	1.99	0.44
2:E:4930:ALA:O	2:E:4934:GLY:N	2.51	0.44
2:G:1865:MET:SD	2:G:1865:MET:N	2.90	0.44
2:G:4208:PRO:HA	2:G:4211:LYS:HB3	2.00	0.44
2:G:4697:VAL:O	2:G:4701:TRP:N	2.49	0.44
1:J:21:THR:HA	1:J:49:ARG:HA	2.00	0.43
2:E:683:ARG:HG2	2:E:717:ASP:HB3	2.00	0.43
2:E:1093:GLU:OE1	2:E:1201:HIS:NE2	2.42	0.43
2:B:488:LEU:O	2:B:492:ASP:N	2.45	0.43
2:E:2420:HIS:ND1	2:E:2493:UNK:O	2.50	0.43
2:I:1163:THR:HA	2:I:1168:VAL:HA	2.00	0.43
2:I:4930:ALA:O	2:I:4934:GLY:N	2.51	0.43
2:G:4930:ALA:O	2:G:4934:GLY:N	2.51	0.43
1:A:23:VAL:HG22	1:A:47:LYS:HG2	1.99	0.43
2:B:765:GLN:NE2	2:B:1521:UNK:O	2.51	0.43
2:E:887:ILE:HG21	2:E:959:TYR:HA	1.99	0.43
2:E:2337:PHE:HA	2:E:2340:PHE:HB2	2.00	0.43
2:I:2337:PHE:HA	2:I:2340:PHE:HB2	2.00	0.43
2:B:629:ARG:HD3	2:B:634:GLN:HG2	2.00	0.43
2:B:4063:ASP:OD1	2:B:4169:SER:OG	2.29	0.43
2:E:1760:HIS:CE1	2:E:2041:HIS:HA	2.54	0.43
2:G:3787:LYS:HB2	2:G:3831:SER:HA	2.01	0.43
2:E:4155:PRO:HD2	2:E:5036:LEU:HD23	2.00	0.43
2:I:1760:HIS:CE1	2:I:2041:HIS:HA	2.54	0.43
2:G:2131:LEU:HB3	2:G:3662:ILE:HD13	1.99	0.43
2:G:2457:LEU:HD23	2:G:2460:LEU:HD12	1.98	0.43
1:J:23:VAL:HG22	1:J:47:LYS:HG2	1.99	0.43
2:B:4155:PRO:HD2	2:B:5036:LEU:HD23	2.00	0.43
2:I:1093:GLU:OE1	2:I:1201:HIS:NE2	2.42	0.43
2:I:3787:LYS:HB2	2:I:3831:SER:HA	2.01	0.43
2:G:619:ASP:OD1	2:G:1680:ARG:NH1	2.41	0.43
2:B:1760:HIS:CE1	2:B:2041:HIS:HA	2.54	0.43
2:E:2024:PRO:O	2:E:2028:ARG:NE	2.48	0.43
2:I:4208:PRO:HA	2:I:4211:LYS:HB3	2.00	0.43
2:I:4763:GLY:O	2:I:4766:THR:OG1	2.34	0.43
2:B:4833:ASN:HB3	2:B:4935:LEU:HD23	2.01	0.43
2:I:629:ARG:HD3	2:I:634:GLN:HG2	2.00	0.43
2:G:1649:ASP:HB3	2:G:1652:GLU:HG2	2.01	0.43
2:G:4232:GLU:OE1	2:G:5019:TRP:NE1	2.52	0.43
1:A:21:THR:HA	1:A:49:ARG:HA	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:4208:PRO:HA	2:B:4211:LYS:HB3	2.00	0.43
2:E:907:LEU:O	2:E:963:ASN:ND2	2.38	0.43
2:E:4833:ASN:HB3	2:E:4935:LEU:HD23	2.01	0.43
2:I:4995:LEU:HD11	2:I:5011:TRP:HB2	2.01	0.43
2:G:983:THR:O	2:G:987:ARG:N	2.51	0.43
2:B:4930:ALA:O	2:B:4934:GLY:N	2.51	0.43
2:E:4232:GLU:OE1	2:E:5019:TRP:NE1	2.52	0.43
2:I:647:ASN:ND2	2:I:820:ARG:O	2.43	0.43
2:G:4833:ASN:HB3	2:G:4935:LEU:HD23	2.01	0.43
2:E:2381:GLU:HA	2:E:2384:ILE:HD12	2.01	0.42
2:I:1649:ASP:HB3	2:I:1652:GLU:HG2	2.01	0.42
2:I:3772:THR:OG1	2:I:3815:LYS:NZ	2.36	0.42
2:G:4059:LEU:HD11	2:G:4167:ALA:HB2	2.00	0.42
2:B:1649:ASP:HB3	2:B:1652:GLU:HG2	2.01	0.42
2:B:4995:LEU:HD11	2:B:5011:TRP:HB2	2.01	0.42
2:E:2758:PHE:O	2:E:2762:THR:N	2.45	0.42
2:E:4851:TYR:HD2	2:E:4920:PHE:HD1	1.68	0.42
2:E:1649:ASP:HB3	2:E:1652:GLU:HG2	2.01	0.42
2:I:907:LEU:O	2:I:963:ASN:ND2	2.38	0.42
2:I:983:THR:O	2:I:987:ARG:N	2.51	0.42
2:I:2778:GLY:HA3	2:I:2787:THR:HB	2.02	0.42
2:I:4092:ASP:OD1	2:I:4092:ASP:N	2.53	0.42
2:G:1760:HIS:CE1	2:G:2041:HIS:HA	2.54	0.42
2:B:4697:VAL:O	2:B:4701:TRP:N	2.49	0.42
2:E:4059:LEU:HD11	2:E:4167:ALA:HB2	2.00	0.42
2:G:2420:HIS:ND1	2:G:2493:UNK:O	2.49	0.42
2:I:4833:ASN:HB3	2:I:4935:LEU:HD23	2.01	0.42
2:G:218:HIS:HB3	2:G:392:ARG:HD3	2.02	0.42
2:G:4851:TYR:HD2	2:G:4920:PHE:HD1	1.67	0.42
2:B:218:HIS:HB3	2:B:392:ARG:HD3	2.02	0.42
2:E:3946:GLN:OE1	2:E:3950:ASN:ND2	2.53	0.42
2:I:379:HIS:CD2	2:I:381:GLU:H	2.38	0.42
2:I:2381:GLU:HA	2:I:2384:ILE:HD12	2.01	0.42
2:G:4092:ASP:N	2:G:4092:ASP:OD1	2.53	0.42
1:J:71:ARG:HH22	2:I:679:ALA:HB2	1.85	0.42
2:E:983:THR:O	2:E:987:ARG:N	2.51	0.42
2:I:683:ARG:NH1	2:I:707:VAL:O	2.45	0.42
2:G:379:HIS:CD2	2:G:381:GLU:H	2.38	0.42
2:G:2815:ALA:HB3	2:G:2881:ASN:HD21	1.85	0.42
2:G:3946:GLN:OE1	2:G:3950:ASN:ND2	2.53	0.42
2:B:2381:GLU:HA	2:B:2384:ILE:HD12	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:3362:UNK:O	2:B:3366:UNK:N	2.53	0.42
2:B:3946:GLN:OE1	2:B:3950:ASN:ND2	2.53	0.42
2:B:4092:ASP:OD1	2:B:4092:ASP:N	2.53	0.42
2:B:4763:GLY:O	2:B:4766:THR:OG1	2.34	0.42
2:E:1698:LEU:N	2:E:1712:TYR:OH	2.53	0.42
2:I:3946:GLN:OE1	2:I:3950:ASN:ND2	2.53	0.42
2:I:4666:VAL:HG23	2:I:4669:VAL:HB	2.02	0.42
2:B:4059:LEU:HD11	2:B:4167:ALA:HB2	2.00	0.42
2:B:4851:TYR:HD2	2:B:4920:PHE:HD1	1.68	0.42
2:E:3787:LYS:HB2	2:E:3831:SER:HA	2.01	0.42
2:E:4092:ASP:N	2:E:4092:ASP:OD1	2.53	0.42
2:E:4208:PRO:HA	2:E:4211:LYS:HB3	2.00	0.42
2:I:218:HIS:HB3	2:I:392:ARG:HD3	2.02	0.42
2:G:257:ARG:O	2:G:284:HIS:NE2	2.36	0.42
2:G:1031:THR:O	2:G:1035:ASN:N	2.46	0.42
2:B:978:THR:HB	2:B:980:ALA:H	1.85	0.42
2:E:4685:GLY:HA3	2:E:4689:THR:HB	2.02	0.42
2:I:4851:TYR:HD2	2:I:4920:PHE:HD1	1.68	0.42
2:G:2778:GLY:HA3	2:G:2787:THR:HB	2.02	0.42
2:B:4021:LYS:HG3	2:B:4142:ASN:HD22	1.85	0.41
2:B:4666:VAL:HG23	2:B:4669:VAL:HB	2.02	0.41
2:E:1078:GLU:HG3	2:E:1237:TRP:HE1	1.85	0.41
2:E:4021:LYS:HG3	2:E:4142:ASN:HD22	1.85	0.41
2:G:940:GLY:O	2:G:1052:ASN:N	2.53	0.41
2:G:4685:GLY:HA3	2:G:4689:THR:HB	2.02	0.41
2:B:379:HIS:CD2	2:B:381:GLU:H	2.38	0.41
2:B:596:ASN:HB3	2:B:599:VAL:HG22	2.03	0.41
2:B:3787:LYS:HB2	2:B:3831:SER:HA	2.01	0.41
2:E:218:HIS:HB3	2:E:392:ARG:HD3	2.02	0.41
2:E:4995:LEU:HD11	2:E:5011:TRP:HB2	2.01	0.41
2:I:1078:GLU:HG3	2:I:1237:TRP:HE1	1.85	0.41
2:I:4232:GLU:OE1	2:I:5019:TRP:NE1	2.52	0.41
2:G:596:ASN:HB3	2:G:599:VAL:HG22	2.03	0.41
2:G:978:THR:HB	2:G:980:ALA:H	1.85	0.41
2:G:2381:GLU:HA	2:G:2384:ILE:HD12	2.01	0.41
2:G:4634:GLU:HG3	2:G:4636:THR:H	1.86	0.41
2:G:4995:LEU:HD11	2:G:5011:TRP:HB2	2.01	0.41
2:E:2778:GLY:HA3	2:E:2787:THR:HB	2.02	0.41
2:E:2815:ALA:HB3	2:E:2881:ASN:HD21	1.85	0.41
2:E:4634:GLU:HG3	2:E:4636:THR:H	1.85	0.41
2:B:612:VAL:HG12	2:B:2167:ILE:HA	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:379:HIS:CD2	2:E:381:GLU:H	2.38	0.41
2:I:612:VAL:HG12	2:I:2167:ILE:HA	2.03	0.41
2:I:1227:ALA:HB1	2:I:1230:MET:HG3	2.02	0.41
2:I:1698:LEU:N	2:I:1712:TYR:OH	2.53	0.41
2:G:273:HIS:CE1	2:G:337:PRO:HB3	2.56	0.41
2:G:612:VAL:HG12	2:G:2167:ILE:HA	2.02	0.41
1:F:87:HIS:HA	1:F:88:PRO:HD3	1.93	0.41
2:B:273:HIS:CE1	2:B:337:PRO:HB3	2.56	0.41
2:B:619:ASP:OD1	2:B:1680:ARG:NH1	2.41	0.41
2:B:940:GLY:O	2:B:1052:ASN:N	2.53	0.41
2:B:1078:GLU:HG3	2:B:1237:TRP:HE1	1.85	0.41
2:B:1641:ILE:HA	2:B:1642:PRO:HD3	1.92	0.41
2:B:4232:GLU:OE1	2:B:5019:TRP:NE1	2.52	0.41
2:E:273:HIS:CE1	2:E:337:PRO:HB3	2.56	0.41
2:E:2868:SER:O	2:E:2872:GLN:N	2.47	0.41
2:I:273:HIS:CE1	2:I:337:PRO:HB3	2.56	0.41
2:I:978:THR:HB	2:I:980:ALA:H	1.85	0.41
2:I:1031:THR:O	2:I:1035:ASN:N	2.46	0.41
1:F:42:ARG:HG2	2:E:1691:GLN:HG2	2.03	0.41
2:B:793:LEU:HD22	2:B:821:LEU:HD13	2.03	0.41
2:B:989:ALA:O	2:B:1035:ASN:ND2	2.53	0.41
2:B:1698:LEU:N	2:B:1712:TYR:OH	2.53	0.41
2:B:3365:UNK:O	2:B:3369:UNK:N	2.54	0.41
2:E:596:ASN:HB3	2:E:599:VAL:HG22	2.03	0.41
2:E:4577:LEU:HG	2:E:4580:TYR:HE2	1.86	0.41
2:I:793:LEU:HD22	2:I:821:LEU:HD13	2.03	0.41
2:I:4685:GLY:HA3	2:I:4689:THR:HB	2.02	0.41
2:G:2094:LEU:HD23	2:G:2127:GLN:HE22	1.86	0.41
2:B:786:GLY:HA2	2:B:1631:GLN:HA	2.03	0.41
2:B:4634:GLU:HG3	2:B:4636:THR:H	1.86	0.41
2:B:4685:GLY:HA3	2:B:4689:THR:HB	2.02	0.41
2:E:489:ASN:HA	2:E:492:ASP:HB2	2.03	0.41
2:E:683:ARG:NH1	2:E:707:VAL:O	2.45	0.41
2:G:793:LEU:HD22	2:G:821:LEU:HD13	2.03	0.41
2:G:3362:UNK:O	2:G:3366:UNK:N	2.54	0.41
2:B:1227:ALA:HB1	2:B:1230:MET:HG3	2.02	0.41
2:E:2212:VAL:O	2:E:2216:GLY:N	2.48	0.41
2:E:3362:UNK:O	2:E:3366:UNK:N	2.54	0.41
2:E:4666:VAL:HG23	2:E:4669:VAL:HB	2.02	0.41
2:I:786:GLY:HA2	2:I:1631:GLN:HA	2.03	0.41
2:I:940:GLY:O	2:I:1052:ASN:N	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:2815:ALA:HB3	2:I:2881:ASN:HD21	1.85	0.41
2:I:3362:UNK:O	2:I:3366:UNK:N	2.54	0.41
2:I:4577:LEU:HG	2:I:4580:TYR:HE2	1.86	0.41
2:I:4634:GLU:HG3	2:I:4636:THR:H	1.85	0.41
2:G:489:ASN:HA	2:G:492:ASP:HB2	2.03	0.41
2:G:1665:HIS:HA	2:G:1668:ARG:HG2	2.03	0.41
2:G:1698:LEU:N	2:G:1712:TYR:OH	2.53	0.41
1:F:27:THR:HB	1:F:100:ASP:HB3	2.03	0.41
2:B:2024:PRO:O	2:B:2028:ARG:NE	2.48	0.41
2:B:2815:ALA:HB3	2:B:2881:ASN:HD21	1.85	0.41
2:E:612:VAL:HG12	2:E:2167:ILE:HA	2.03	0.41
2:E:989:ALA:O	2:E:1035:ASN:ND2	2.53	0.41
2:E:1991:THR:O	2:E:1995:THR:OG1	2.32	0.41
2:I:479:GLN:HE21	2:I:536:ASN:ND2	2.19	0.41
2:I:596:ASN:HB3	2:I:599:VAL:HG22	2.03	0.41
2:I:4884:LEU:HD11	2:G:4914:VAL:HG21	2.03	0.41
2:G:2290:LEU:HG	2:G:2291:GLN:H	1.86	0.41
2:G:2466:LEU:HD23	2:G:2469:ILE:HD12	2.02	0.41
1:J:27:THR:HB	1:J:100:ASP:HB3	2.03	0.41
2:E:776:LEU:HG	2:E:848:HIS:HA	2.03	0.41
2:E:793:LEU:HD22	2:E:821:LEU:HD13	2.03	0.41
2:E:794:GLY:H	2:E:798:GLY:HA3	1.86	0.41
2:E:1665:HIS:HA	2:E:1668:ARG:HG2	2.03	0.41
2:I:2290:LEU:HG	2:I:2291:GLN:H	1.86	0.41
2:I:4021:LYS:HG3	2:I:4142:ASN:HD22	1.86	0.41
1:H:27:THR:HB	1:H:100:ASP:HB3	2.03	0.40
2:B:2231:SER:HA	2:B:2234:ARG:HG2	2.03	0.40
2:B:2778:GLY:HA3	2:B:2787:THR:HB	2.02	0.40
2:E:2094:LEU:HD23	2:E:2127:GLN:HE22	1.86	0.40
2:E:2438:PRO:HB3	2:E:2453:ILE:HB	2.03	0.40
2:E:2823:ILE:HG12	2:E:2937:VAL:HG22	2.04	0.40
2:I:1595:LEU:HD23	2:I:1595:LEU:HA	1.97	0.40
2:I:1727:ARG:HH21	2:I:1775:HIS:CE1	2.40	0.40
2:G:1727:ARG:HH21	2:G:1775:HIS:CE1	2.39	0.40
2:G:4577:LEU:HG	2:G:4580:TYR:HE2	1.86	0.40
2:G:4666:VAL:HG23	2:G:4669:VAL:HB	2.02	0.40
1:A:27:THR:HB	1:A:100:ASP:HB3	2.03	0.40
2:B:489:ASN:HA	2:B:492:ASP:HB2	2.03	0.40
2:B:1105:ALA:HB1	2:B:1109:LEU:HD21	2.03	0.40
2:B:1727:ARG:HH21	2:B:1775:HIS:CE1	2.40	0.40
2:E:1859:VAL:HA	2:E:1862:ILE:HG12	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:794:GLY:H	2:G:798:GLY:HA3	1.86	0.40
2:G:3842:LEU:O	2:G:3929:SER:OG	2.40	0.40
2:G:4021:LYS:HG3	2:G:4142:ASN:HD22	1.86	0.40
2:B:479:GLN:HE21	2:B:536:ASN:ND2	2.19	0.40
2:B:794:GLY:H	2:B:798:GLY:HA3	1.86	0.40
2:B:1665:HIS:HA	2:B:1668:ARG:HG2	2.03	0.40
2:B:2212:VAL:O	2:B:2216:GLY:N	2.48	0.40
2:B:2466:LEU:HD23	2:B:2469:ILE:HD12	2.02	0.40
2:B:3889:GLN:HE22	2:B:3963:ASN:HB3	1.86	0.40
2:E:2231:SER:HA	2:E:2234:ARG:HG2	2.03	0.40
2:I:489:ASN:HA	2:I:492:ASP:HB2	2.03	0.40
2:I:2094:LEU:HD23	2:I:2127:GLN:HE22	1.86	0.40
2:I:2212:VAL:O	2:I:2216:GLY:N	2.48	0.40
2:G:4680:LYS:HD3	2:G:4686:LEU:HD22	2.03	0.40
2:B:776:LEU:HG	2:B:848:HIS:HA	2.03	0.40
2:B:2438:PRO:HB3	2:B:2453:ILE:HB	2.03	0.40
2:E:3365:UNK:O	2:E:3369:UNK:N	2.55	0.40
2:I:2823:ILE:HG12	2:I:2937:VAL:HG22	2.03	0.40
2:I:3365:UNK:O	2:I:3369:UNK:N	2.55	0.40
2:G:681:HIS:HB3	2:G:784:SER:HB3	2.04	0.40
2:G:1078:GLU:HG3	2:G:1237:TRP:HE1	1.85	0.40
2:G:2231:SER:HA	2:G:2234:ARG:HG2	2.03	0.40
2:G:3889:GLN:HE22	2:G:3963:ASN:HB3	1.86	0.40
1:J:92:PRO:HD3	2:I:627:PRO:HB2	2.03	0.40
2:B:2290:LEU:HG	2:B:2291:GLN:H	1.86	0.40
2:B:2517:UNK:O	2:B:2521:UNK:N	2.55	0.40
2:B:2823:ILE:HG12	2:B:2937:VAL:HG22	2.04	0.40
2:I:794:GLY:H	2:I:798:GLY:HA3	1.86	0.40
2:G:3365:UNK:O	2:G:3369:UNK:N	2.54	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	105/108 (97%)	95 (90%)	10 (10%)	0	100	100
1	F	105/108 (97%)	95 (90%)	10 (10%)	0	100	100
1	H	105/108 (97%)	95 (90%)	10 (10%)	0	100	100
1	J	105/108 (97%)	95 (90%)	10 (10%)	0	100	100
2	B	3235/4676 (69%)	2894 (90%)	336 (10%)	5 (0%)	47	80
2	E	3235/4676 (69%)	2896 (90%)	334 (10%)	5 (0%)	47	80
2	G	3235/4676 (69%)	2894 (90%)	336 (10%)	5 (0%)	47	80
2	I	3235/4676 (69%)	2895 (90%)	335 (10%)	5 (0%)	47	80
All	All	13360/19136 (70%)	11959 (90%)	1381 (10%)	20 (0%)	54	85

All (20) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	1708	ARG
2	E	1708	ARG
2	I	1708	ARG
2	G	1708	ARG
2	B	1932	PRO
2	E	1932	PRO
2	I	1932	PRO
2	G	1932	PRO
2	B	1840	PRO
2	B	4641	PRO
2	B	4958	CYS
2	E	1840	PRO
2	E	4641	PRO
2	E	4958	CYS
2	I	1840	PRO
2	I	4641	PRO
2	I	4958	CYS
2	G	1840	PRO
2	G	4641	PRO
2	G	4958	CYS

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	88/89 (99%)	88 (100%)	0	100	100
1	F	88/89 (99%)	88 (100%)	0	100	100
1	H	88/89 (99%)	88 (100%)	0	100	100
1	J	88/89 (99%)	88 (100%)	0	100	100
2	B	2493/3202 (78%)	2475 (99%)	18 (1%)	84	90
2	E	2493/3202 (78%)	2475 (99%)	18 (1%)	84	90
2	G	2493/3202 (78%)	2475 (99%)	18 (1%)	84	90
2	I	2493/3202 (78%)	2475 (99%)	18 (1%)	84	90
All	All	10324/13164 (78%)	10252 (99%)	72 (1%)	84	90

All (72) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	B	131	LEU
2	B	534	ARG
2	B	553	ARG
2	B	978	THR
2	B	1076	ARG
2	B	1141	ARG
2	B	1600	LEU
2	B	1676	LEU
2	B	1703	LEU
2	B	1964	ARG
2	B	3787	LYS
2	B	3805	LEU
2	B	3896	ASN
2	B	4034	ASN
2	B	4085	ARG
2	B	4120	ASN
2	B	4137	ARG
2	B	4995	LEU
2	E	131	LEU
2	E	534	ARG
2	E	553	ARG
2	E	978	THR
2	E	1076	ARG
2	E	1141	ARG

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Mol	Chain	Res	Type
2	E	1600	LEU
2	E	1676	LEU
2	E	1703	LEU
2	E	1964	ARG
2	E	3787	LYS
2	E	3805	LEU
2	E	3896	ASN
2	E	4034	ASN
2	E	4085	ARG
2	E	4120	ASN
2	E	4137	ARG
2	E	4995	LEU
2	I	131	LEU
2	I	534	ARG
2	I	553	ARG
2	I	978	THR
2	I	1076	ARG
2	I	1141	ARG
2	I	1600	LEU
2	I	1676	LEU
2	I	1703	LEU
2	I	1964	ARG
2	I	3787	LYS
2	I	3805	LEU
2	I	3896	ASN
2	I	4034	ASN
2	I	4085	ARG
2	I	4120	ASN
2	I	4137	ARG
2	I	4995	LEU
2	G	131	LEU
2	G	534	ARG
2	G	553	ARG
2	G	978	THR
2	G	1076	ARG
2	G	1141	ARG
2	G	1600	LEU
2	G	1676	LEU
2	G	1703	LEU
2	G	1964	ARG
2	G	3787	LYS
2	G	3805	LEU

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Mol	Chain	Res	Type
2	G	3896	ASN
2	G	4034	ASN
2	G	4085	ARG
2	G	4120	ASN
2	G	4137	ARG
2	G	4995	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (120) such sidechains are listed below:

Mol	Chain	Res	Type
1	F	87	HIS
1	A	87	HIS
1	H	87	HIS
1	J	87	HIS
2	B	23	GLN
2	B	57	ASN
2	B	111	HIS
2	B	113	HIS
2	B	203	ASN
2	B	224	HIS
2	B	273	HIS
2	B	379	HIS
2	B	405	HIS
2	B	413	GLN
2	B	479	GLN
2	B	765	GLN
2	B	1158	ASN
2	B	1719	HIS
2	B	1760	HIS
2	B	1775	HIS
2	B	2005	GLN
2	B	2127	GLN
2	B	3896	ASN
2	B	3946	GLN
2	B	3950	ASN
2	B	3994	HIS
2	B	4034	ASN
2	B	4054	ASN
2	B	4120	ASN
2	B	4142	ASN
2	B	4553	ASN
2	B	4984	ASN

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Mol	Chain	Res	Type
2	E	23	GLN
2	E	57	ASN
2	E	111	HIS
2	E	113	HIS
2	E	203	ASN
2	E	224	HIS
2	E	273	HIS
2	E	379	HIS
2	E	405	HIS
2	E	413	GLN
2	E	479	GLN
2	E	765	GLN
2	E	1158	ASN
2	E	1719	HIS
2	E	1760	HIS
2	E	1775	HIS
2	E	2005	GLN
2	E	2127	GLN
2	E	3889	GLN
2	E	3896	ASN
2	E	3946	GLN
2	E	3950	ASN
2	E	3960	GLN
2	E	3994	HIS
2	E	4034	ASN
2	E	4054	ASN
2	E	4120	ASN
2	E	4142	ASN
2	E	4553	ASN
2	E	4984	ASN
2	I	23	GLN
2	I	57	ASN
2	I	111	HIS
2	I	113	HIS
2	I	203	ASN
2	I	224	HIS
2	I	273	HIS
2	I	379	HIS
2	I	405	HIS
2	I	413	GLN
2	I	479	GLN
2	I	765	GLN

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Mol	Chain	Res	Type
2	I	1158	ASN
2	I	1719	HIS
2	I	1760	HIS
2	I	1775	HIS
2	I	2005	GLN
2	I	2127	GLN
2	I	3781	GLN
2	I	3896	ASN
2	I	3946	GLN
2	I	3950	ASN
2	I	3994	HIS
2	I	4034	ASN
2	I	4054	ASN
2	I	4120	ASN
2	I	4142	ASN
2	I	4553	ASN
2	I	4984	ASN
2	G	23	GLN
2	G	57	ASN
2	G	111	HIS
2	G	113	HIS
2	G	203	ASN
2	G	224	HIS
2	G	273	HIS
2	G	379	HIS
2	G	405	HIS
2	G	413	GLN
2	G	479	GLN
2	G	765	GLN
2	G	1158	ASN
2	G	1719	HIS
2	G	1760	HIS
2	G	1775	HIS
2	G	2005	GLN
2	G	2127	GLN
2	G	3781	GLN
2	G	3896	ASN
2	G	3946	GLN
2	G	3950	ASN
2	G	3994	HIS
2	G	4034	ASN
2	G	4054	ASN

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Mol	Chain	Res	Type
2	G	4120	ASN
2	G	4142	ASN
2	G	4553	ASN
2	G	4984	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 monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 8 ligands modelled in this entry, 8 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
2	B	12
2	G	12
2	I	12
2	E	12

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	B	3613:UNK	C	3639:THR	N	44.23
1	G	3613:UNK	C	3639:THR	N	43.95
1	I	3613:UNK	C	3639:THR	N	43.88
1	E	3613:UNK	C	3639:THR	N	43.84
1	E	3163:UNK	C	3170:UNK	N	16.60
1	I	3163:UNK	C	3170:UNK	N	16.60
1	G	3163:UNK	C	3170:UNK	N	16.59
1	B	3163:UNK	C	3170:UNK	N	16.55
1	B	3468:UNK	C	3511:UNK	N	15.45
1	G	3468:UNK	C	3511:UNK	N	15.42
1	E	3468:UNK	C	3511:UNK	N	15.40
1	I	3468:UNK	C	3511:UNK	N	15.40
1	B	3063:UNK	C	3134:UNK	N	14.93
1	E	3063:UNK	C	3134:UNK	N	14.90
1	I	3063:UNK	C	3134:UNK	N	14.90
1	G	3063:UNK	C	3134:UNK	N	14.90
1	I	2703:UNK	C	2734:ASN	N	14.22
1	E	2703:UNK	C	2734:ASN	N	14.16
1	G	2703:UNK	C	2734:ASN	N	14.10
1	B	2703:UNK	C	2734:ASN	N	13.86
1	E	3236:UNK	C	3241:UNK	N	13.47
1	I	3236:UNK	C	3241:UNK	N	13.47
1	B	3236:UNK	C	3241:UNK	N	13.46
1	G	3236:UNK	C	3241:UNK	N	13.46
1	I	1564:UNK	C	1573:MET	N	12.78
1	G	1564:UNK	C	1573:MET	N	12.68
1	E	1564:UNK	C	1573:MET	N	12.67
1	B	1564:UNK	C	1573:MET	N	12.65
1	B	2976:UNK	C	2995:UNK	N	12.08
1	E	2976:UNK	C	2995:UNK	N	12.07
1	I	2976:UNK	C	2995:UNK	N	12.07
1	G	2976:UNK	C	2995:UNK	N	12.07
1	E	3254:UNK	C	3261:UNK	N	8.41
1	I	3254:UNK	C	3261:UNK	N	8.41
1	G	3254:UNK	C	3261:UNK	N	8.40
1	B	3254:UNK	C	3261:UNK	N	8.34

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	I	1297:UNK	C	1430:UNK	N	5.95
1	B	1297:UNK	C	1430:UNK	N	5.94
1	E	1297:UNK	C	1430:UNK	N	5.94
1	G	1297:UNK	C	1430:UNK	N	5.94
1	B	2479:LEU	C	2487:UNK	N	3.52
1	B	2939:ARG	C	2942:UNK	N	3.51
1	E	2939:ARG	C	2942:UNK	N	3.44
1	I	2939:ARG	C	2942:UNK	N	3.43
1	G	2939:ARG	C	2942:UNK	N	3.41
1	G	2479:LEU	C	2487:UNK	N	3.26
1	E	2479:LEU	C	2487:UNK	N	3.22
1	I	2479:LEU	C	2487:UNK	N	3.21

6 Map visualisation

This section contains visualisations of the EMDB entry EMD-8375. 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

This section was not generated.

6.2 Central slices

This section was not generated.

6.3 Largest variance slices

This section was not generated.

6.4 Orthogonal surface views

This section was not generated.

6.5 Mask visualisation

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

7 Map analysis

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

7.1 Map-value distribution

This section was not generated.

7.2 Volume estimate versus contour level

This section was not generated.

7.3 Rotationally averaged power spectrum

This section was not generated. The rotationally averaged power spectrum had issues being displayed.

8 Fourier-Shell correlation

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

9 Map-model fit

This section was not generated.