Full wwPDB EM Validation Report

Oct 22, 2024 – 03:01 PM JST

PDB ID	:	8XLH
EMDB ID	:	EMD-38448
Title	:	Structure of chimeric RyR-I4657M/G4819E
Authors	:	Lin, L.; Wang, C.; Wang, W.; Jiang, H.; Yuchi, Z.
Deposited on	:	2023-12-26
Resolution	:	3.62 Å(reported)

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

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

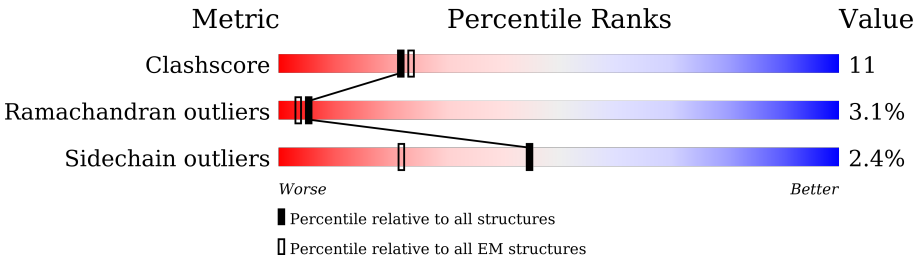
EMDB validation analysis	:	0.0.1.dev113
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (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 3.62 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	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 <=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	6% 62% 18% · 18%
1	B	5037	6% 62% 18% · 18%
1	C	5037	6% 62% 18% · 18%
1	D	5037	7% 62% 18% · 18%
2	E	107	· 79% 21%
2	F	107	· 77% 23%
2	G	107	· 77% 23%
2	H	107	· 77% 23%

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Mol	Chain	Length	Quality of chain
3	I	149	17% 70% 23% 7%
3	J	149	17% 70% 23% 7%
3	K	149	17% 70% 23% 7%
3	L	149	19% 69% 24% 7%

2 Entry composition (i)

There are 7 unique types of molecules in this entry. The entry contains 124364 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called Ryanodine receptor 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	4135	Total	C	N	O	S	0	0
			29207	18536	5163	5346	162		
1	D	4135	Total	C	N	O	S	0	0
			29207	18536	5163	5346	162		
1	C	4135	Total	C	N	O	S	0	0
			29207	18536	5163	5346	162		
1	B	4135	Total	C	N	O	S	0	0
			29207	18536	5163	5346	162		

There are 20 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	4563	LYS	ARG	engineered mutation	UNP P11716
A	4564	TYR	PHE	engineered mutation	UNP P11716
A	4657	MET	CYS	engineered mutation	UNP P11716
A	4792	SER	LEU	engineered mutation	UNP P11716
A	4819	GLU	GLY	engineered mutation	UNP P11716
D	4563	LYS	ARG	engineered mutation	UNP P11716
D	4564	TYR	PHE	engineered mutation	UNP P11716
D	4657	MET	CYS	engineered mutation	UNP P11716
D	4792	SER	LEU	engineered mutation	UNP P11716
D	4819	GLU	GLY	engineered mutation	UNP P11716
C	4563	LYS	ARG	engineered mutation	UNP P11716
C	4564	TYR	PHE	engineered mutation	UNP P11716
C	4657	MET	CYS	engineered mutation	UNP P11716
C	4792	SER	LEU	engineered mutation	UNP P11716
C	4819	GLU	GLY	engineered mutation	UNP P11716
B	4563	LYS	ARG	engineered mutation	UNP P11716
B	4564	TYR	PHE	engineered mutation	UNP P11716
B	4657	MET	CYS	engineered mutation	UNP P11716
B	4792	SER	LEU	engineered mutation	UNP P11716
B	4819	GLU	GLY	engineered mutation	UNP P11716

- Molecule 2 is a protein called Peptidyl-prolyl cis-trans isomerase FKBP1B.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	E	107	Total	C	N	O	S	0	0
			804	510	144	146	4		
2	H	107	Total	C	N	O	S	0	0
			804	510	144	146	4		
2	G	107	Total	C	N	O	S	0	0
			804	510	144	146	4		
2	F	107	Total	C	N	O	S	0	0
			804	510	144	146	4		

- Molecule 3 is a protein called Calmodulin-1.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	I	139	Total	C	N	O	S	0	0
			1033	638	174	212	9		
3	L	139	Total	C	N	O	S	0	0
			1033	638	174	212	9		
3	K	139	Total	C	N	O	S	0	0
			1033	638	174	212	9		
3	J	139	Total	C	N	O	S	0	0
			1033	638	174	212	9		

There are 16 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
I	32	ALA	GLU	engineered mutation	UNP P0DP23
I	68	ALA	GLU	engineered mutation	UNP P0DP23
I	105	ALA	GLU	engineered mutation	UNP P0DP23
I	141	ALA	GLU	engineered mutation	UNP P0DP23
L	32	ALA	GLU	engineered mutation	UNP P0DP23
L	68	ALA	GLU	engineered mutation	UNP P0DP23
L	105	ALA	GLU	engineered mutation	UNP P0DP23
L	141	ALA	GLU	engineered mutation	UNP P0DP23
K	32	ALA	GLU	engineered mutation	UNP P0DP23
K	68	ALA	GLU	engineered mutation	UNP P0DP23
K	105	ALA	GLU	engineered mutation	UNP P0DP23
K	141	ALA	GLU	engineered mutation	UNP P0DP23
J	32	ALA	GLU	engineered mutation	UNP P0DP23
J	68	ALA	GLU	engineered mutation	UNP P0DP23
J	105	ALA	GLU	engineered mutation	UNP P0DP23
J	141	ALA	GLU	engineered mutation	UNP P0DP23

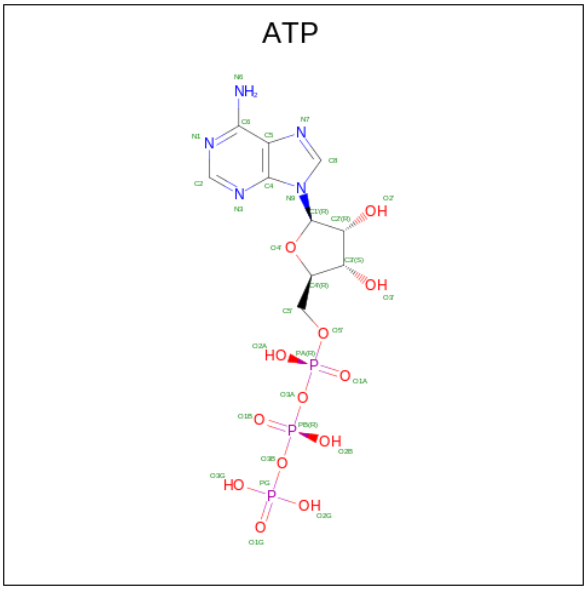
- Molecule 4 is ZINC ION (three-letter code: ZN) (formula: Zn).

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

- Molecule 5 is CALCIUM ION (three-letter code: CA) (formula: Ca).

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

- Molecule 6 is ADENOSINE-5'-TRIPHOSPHATE (three-letter code: ATP) (formula: $C_{10}H_{16}N_5O_{13}P_3$).



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

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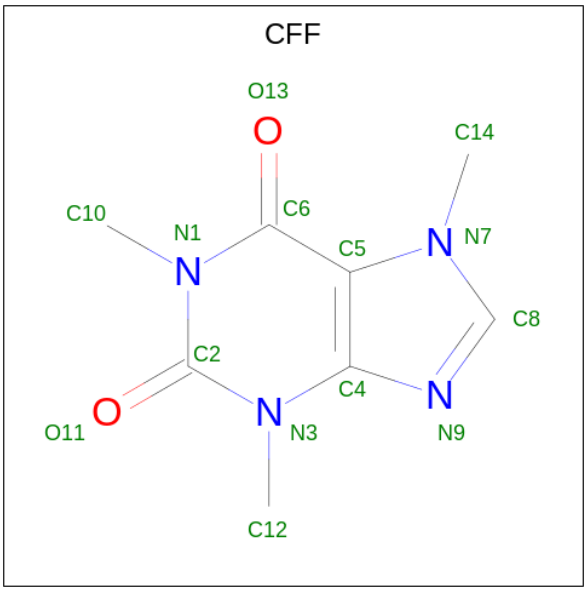
Mol	Chain	Residues	Atoms					AltConf
6	D	1	Total	C	N	O	P	0
			31	10	5	13	3	
6	C	1	Total	C	N	O	P	0
			31	10	5	13	3	
6	B	1	Total	C	N	O	P	0
			31	10	5	13	3	

- Molecule 7 is CAFFEINE (three-letter code: CFF) (formula: $C_8H_{10}N_4O_2$) (labeled as "Ligand of Interest" by depositor).



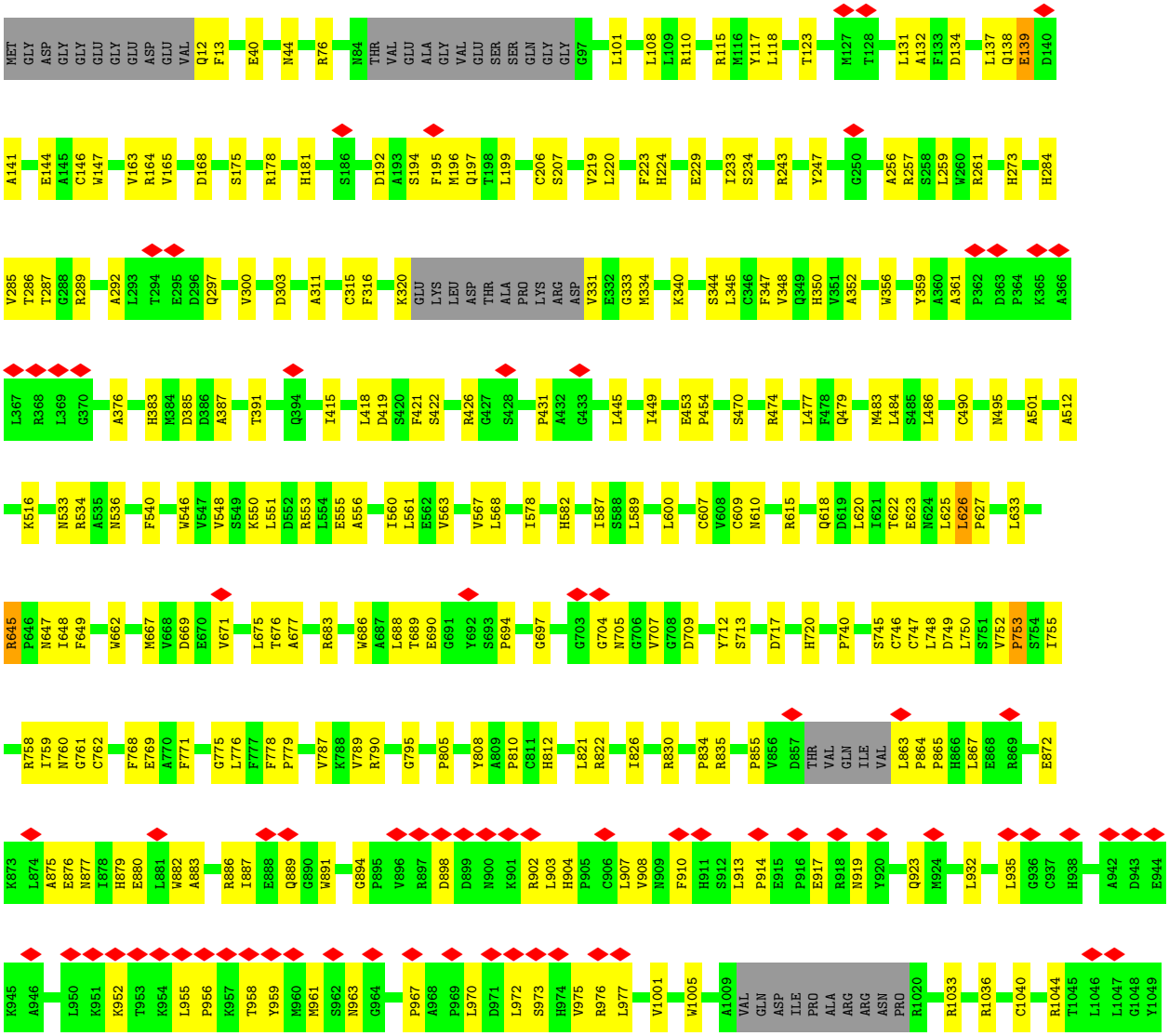
Mol	Chain	Residues	Atoms				AltConf
7	A	1	Total	C	N	O	0
			14	8	4	2	
7	D	1	Total	C	N	O	0
			14	8	4	2	
7	C	1	Total	C	N	O	0
			14	8	4	2	
7	B	1	Total	C	N	O	0
			14	8	4	2	

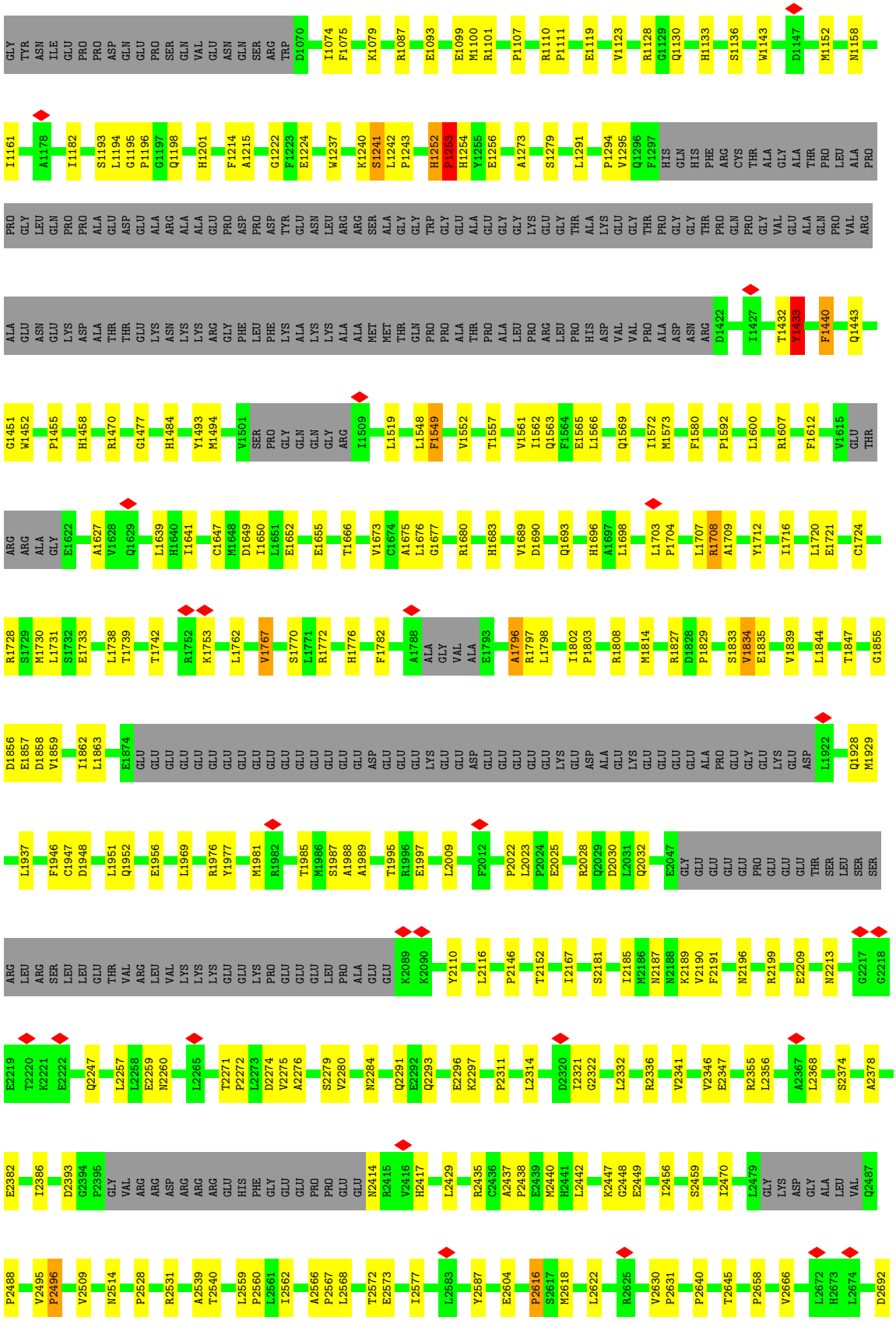
3 Residue-property plots (i)

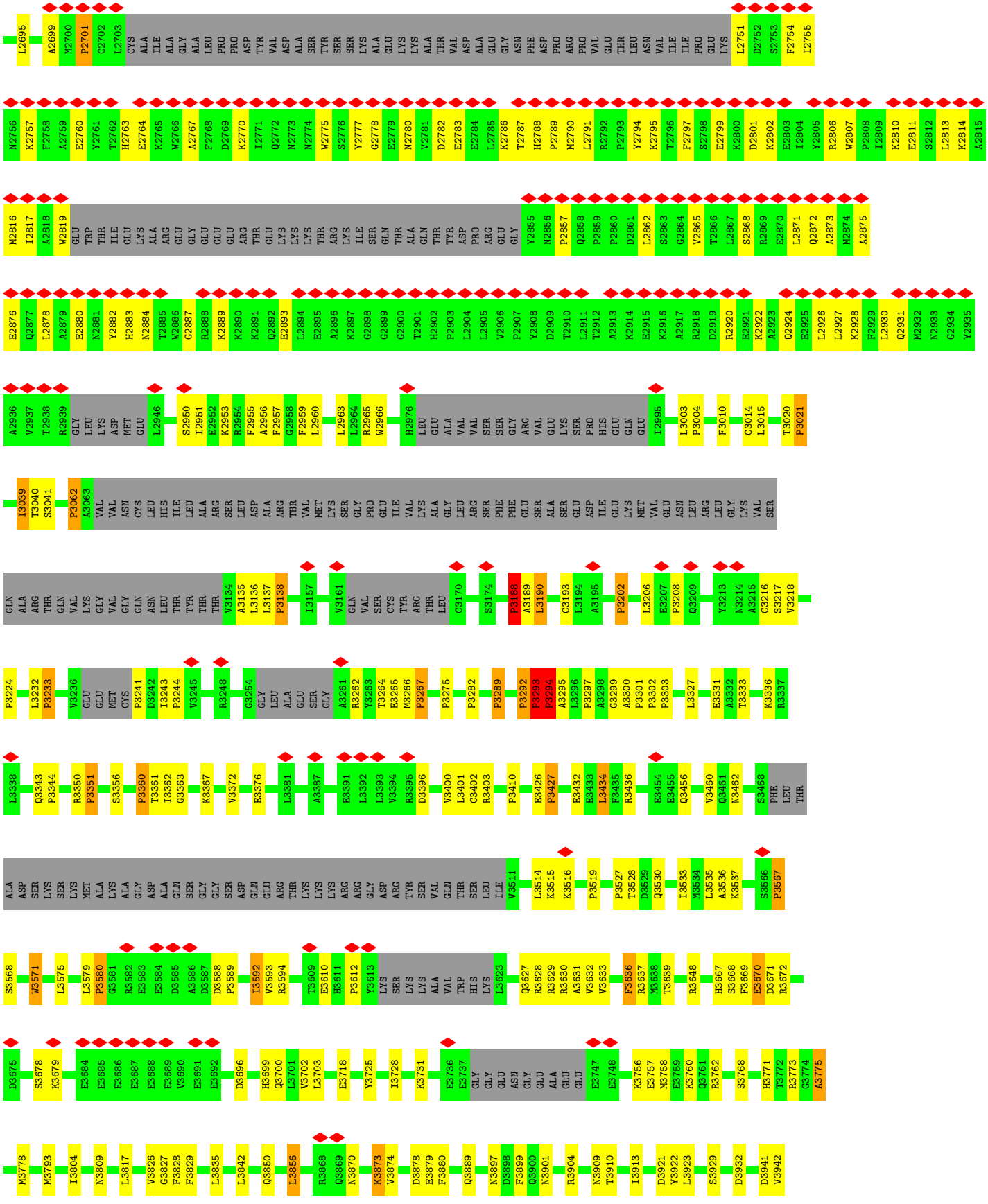
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

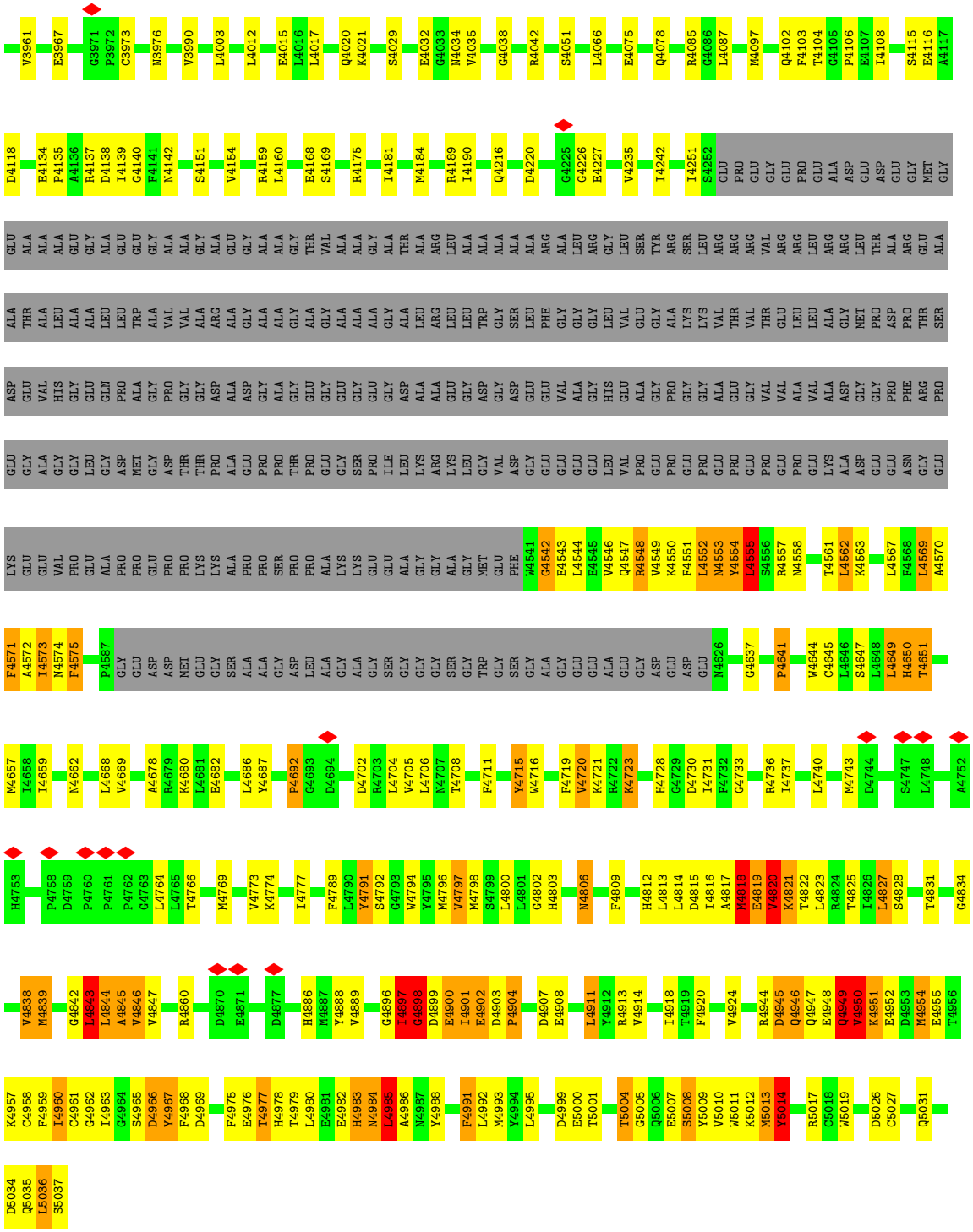
- Molecule 1: Ryanodine receptor 1

Chain A:



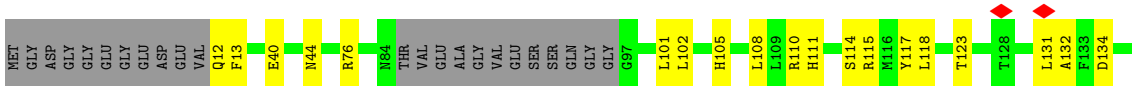

GLY TYR ASN ILE GLU PRO PRO ASP GLN GLU PRO SER GLN VAL GLU ASN GLN SER ARG TRP D1070 I1074 F1075 K1079 R1087 E1093 E1099 M1100 R1101 P1107 R1110 P1111 E1119 V1123 R1128 G1129 Q1130 H1133 S1136 W1143 D1147 M1152 N1158
I1161 A1178 I1182 S1193 L1194 G1195 P1196 G1197 Q1198 H1201 F1214 A1215 G1222 F1223 E1224 W1237 K1240 S1241 L1242 P1243 H1252 P1253 H1254 Y1255 E1256 A1273 S1279 L1291 P1294 V1295 Q1296 F1297 HIS GLN HIS PHE ARG CYS THR ALA GLY ALA THR PRO LEU ALA PRO
PRO GLY LEU GLN PRO PRO ALA GLU ASP GLU ALA ARG ALA ALA GLU PRO ASP PRO ASP TYR GLU ASN LEU ARG ARG SER ALA GLY GLY TRP GLY GLU ALA GLU GLY GLY LYS GLU GLY THR ALA LYS GLU GLY THR PRO GLY GLY GLY THR PRO GLN PRO GLY VAL GLU ALA GLN PRO VAL ARG
ALA GLU ASN GLU LYS ASP ALA THR THR GLU LYS ASN LYS LYS ARG GLY PHE LEU PHE LYS ALA LYS LYS ALA ALA MET MET THR GLN PRO PRO ALA THR PRO ALA LEU PRO ARG LEU PRO HIS ASP VAL VAL PRO ALA ASP ASN ARG D1422 I1427 T1432 Y1433 F1440 Q1443
G1451 W1452 P1455 H1458 R1470 G1477 H1484 Y1493 M1494 V1501 SER PRO GLY GLN GLN GLY ARG I1509 L1519 L1548 F1549 V1552 T1557 V1561 I1562 Q1563 F1564 E1565 L1566 Q1569 I1572 M1573 F1580 P1592 L1600 R1607 F1612 V1615 GLU THR
ARG ARG ALA GLY E1622 A1627 V1628 Q1629 L1639 H1640 I1641 C1647 M1648 D1649 I1650 L1651 E1652 E1655 T1666 V1673 C1674 A1675 L1676 G1677 R1680 H1683 V1689 D1690 Q1693 H1696 A1697 L1698 L1703 P1704 L1707 R1708 A1709 Y1712 I1716 L1720 E1721 C1724
R1728 S1729 M1730 L1731 S1732 E1733 L1738 T1739 T1742 R1752 K1753 L1762 V1767 S1770 L1771 R1772 H1776 F1782 A1788 ALA GLY VAL ALA E1793 A1796 R1797 L1798 I1802 P1803 R1808 M1814 R1827 D1828 P1829 S1833 V1834 E1835 V1839 L1844 T1847 G1855
D1856 E1857 D1858 V1859 I1862 L1863 E1874 GLU GLU GLU

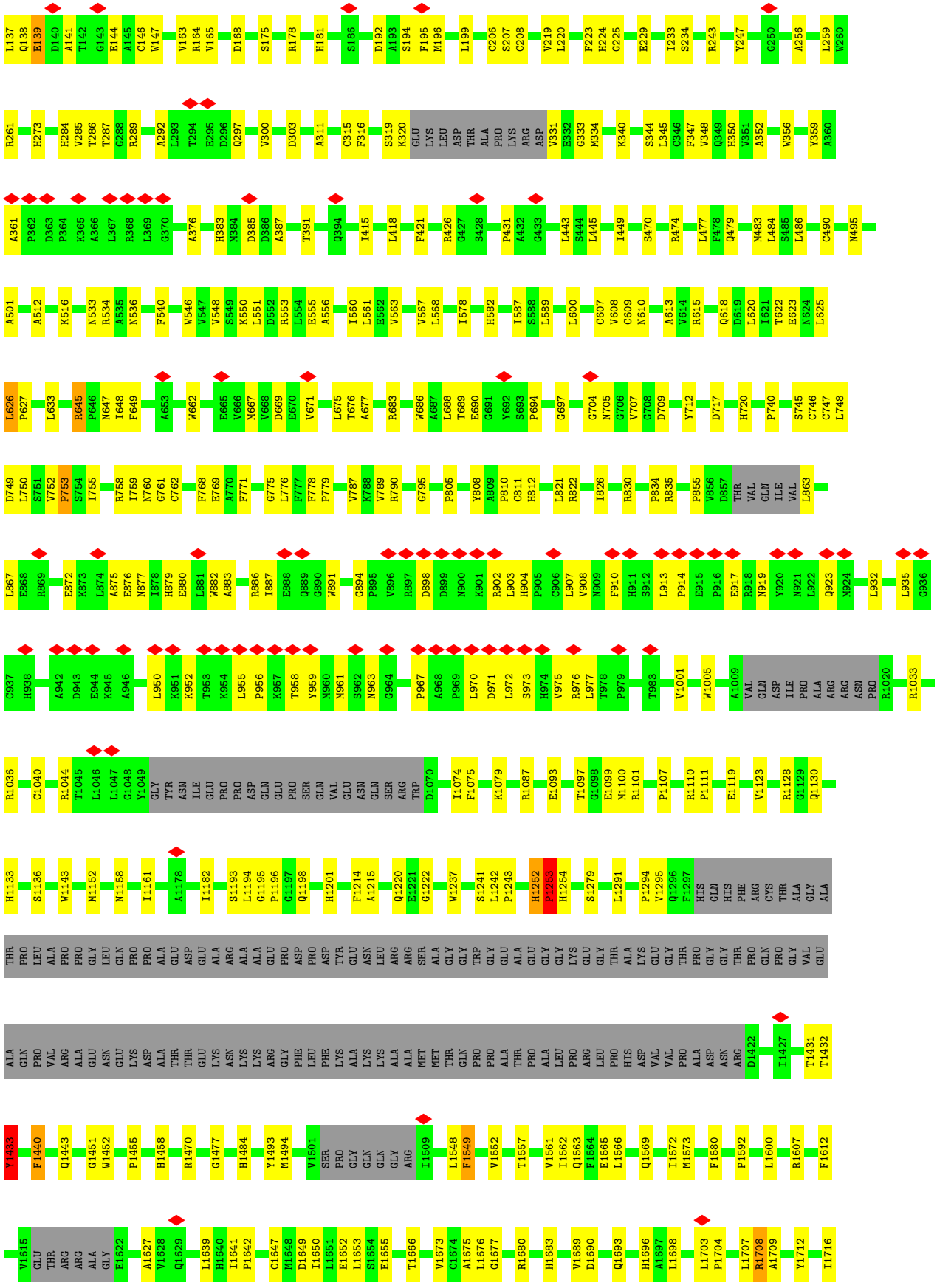


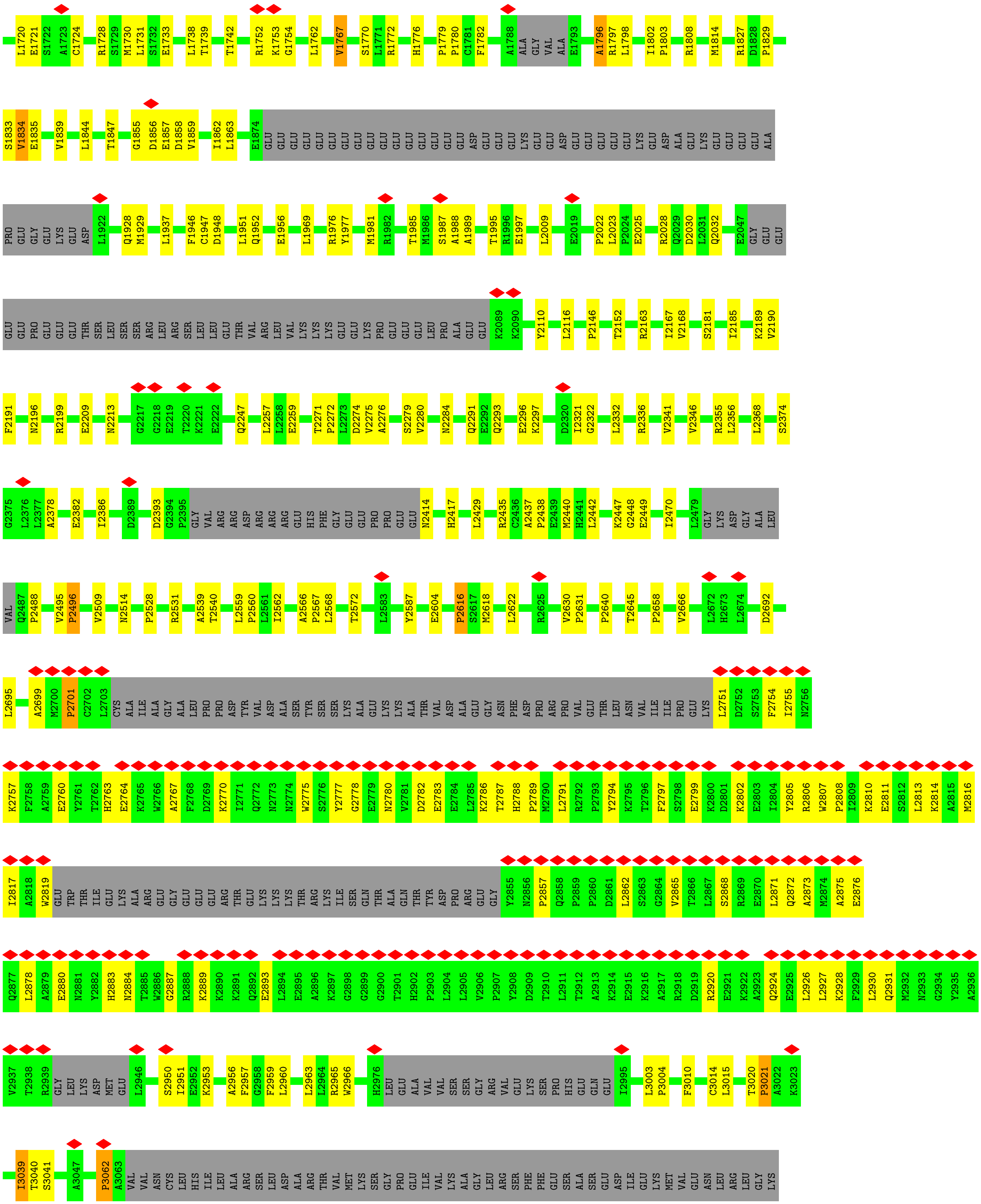


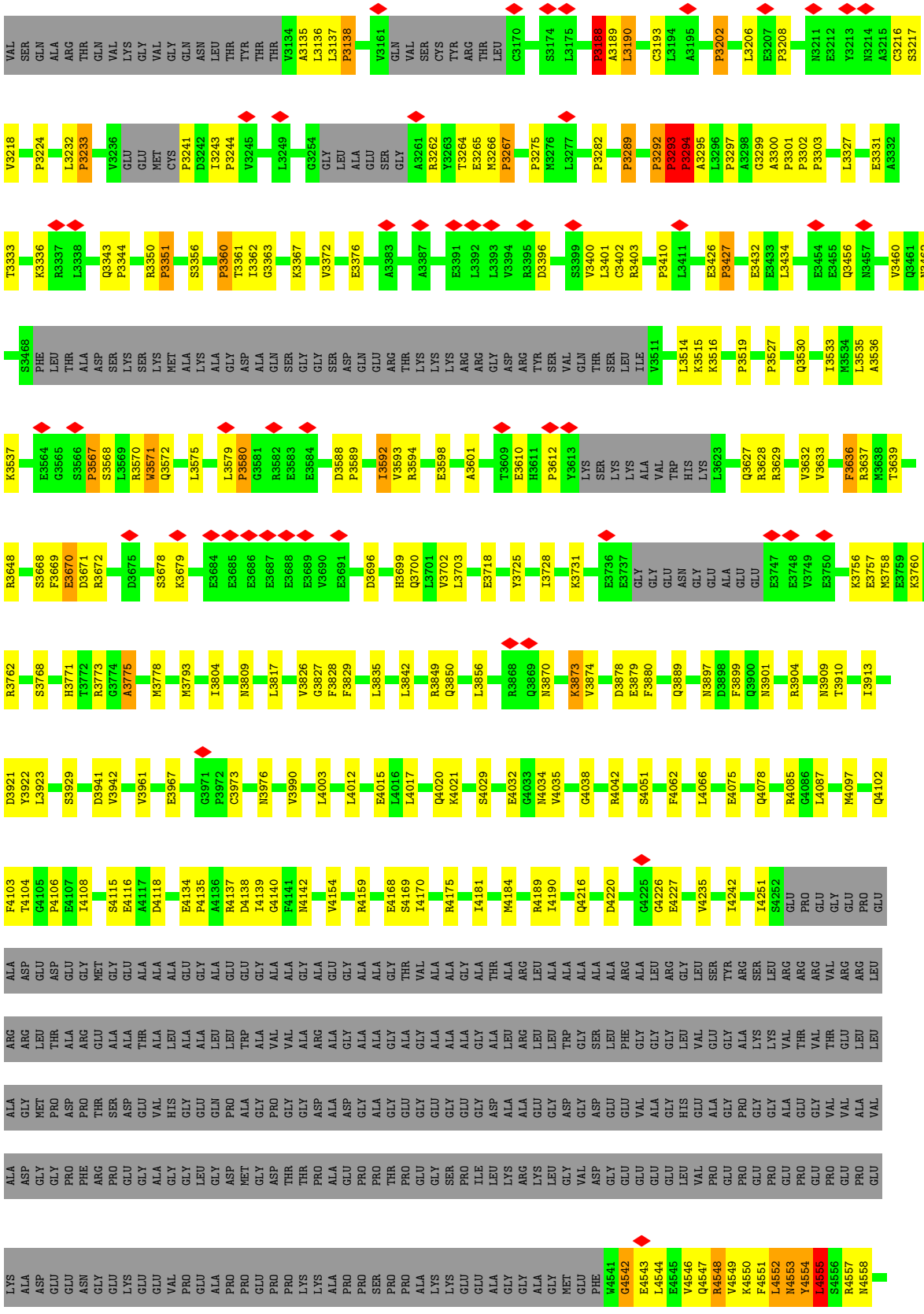
• Molecule 1: Ryanodine receptor 1

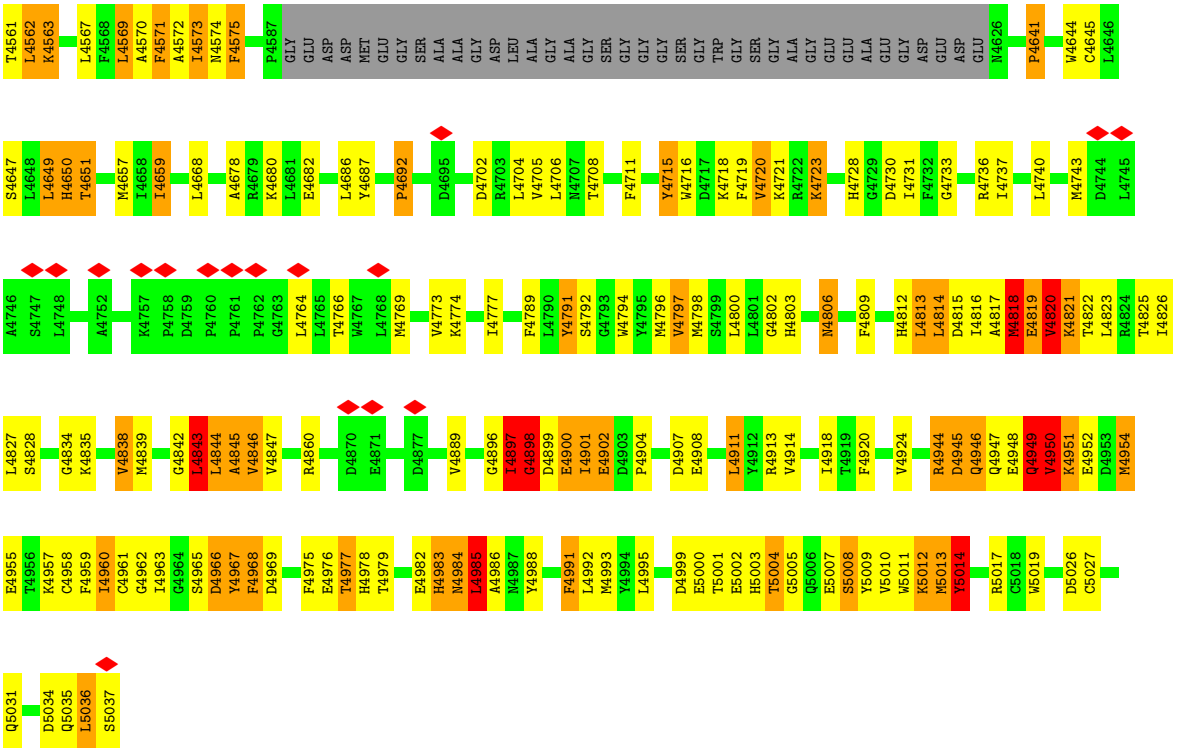
Chain D:




L137 Q138 E139 D140 A141 T142 G143 E144 A145 C146 W147 V163 R164 V165 D168 S175 R178 H181 S186 D192 A193 S194 F195 M196 L199 C206 S207 C208 V219 L220 F223 H224 G225 E229 I233 S234 R243 Y247 G250 A256 L259 W260
R261 H273 H284 V285 T286 T287 G288 R289 A292 L293 T294 E295 D296 Q297 V300 D303 A311 C315 F316 S319 K320 GLU LYS LEU ASP THR ALA PRO LYS ARG ASP V331 E332 G333 M334 K340 S344 L345 C346 F347 V348 Q349 H350 V351 A352 W356 Y359 A360
A361 P362 D363 P364 K365 A366 L367 R368 L369 G370 A376 H383 M384 D385 D386 A387 T391 Q394 I415 L418 F421 R426 G427 S428 P431 A432 G433 L443 S444 L445 I449 S470 R474 L477 F478 Q479 M483 L484 S485 L486 C490 N495
A501 A512 K516 N533 R534 A535 N536 F540 W546 V547 V548 S549 K550 L551 D552 R553 L554 E555 A556 I560 L561 E562 V563 V567 L568 I578 H582 I587 S588 L589 L600 C607 V608 C609 N610 A613 V614 R615 Q618 D619 L620 I621 T622 E623 N624 L625
L626 P627 L633 R645 P646 N647 I648 F649 A653 W662 E665 V666 M667 V668 D669 E670 V671 L675 T676 A677 R683 W686 A687 L688 T689 E690 G691 Y692 S693 P694 G697 G704 N705 G706 V707 G708 D709 Y712 D717 H720 P740 S745 C746 C747 L748
D749 L750 S751 V752 P753 S754 I755 R758 I759 N760 G761 C762 F768 E769 A770 F771 G775 L776 F777 F778 P779 V787 K788 V789 R790 G795 P805 Y808 A809 P810 C811 H812 L821 R822 I826 R830 P834 R835 P855 V856 D857 THR VAL GLN ILE VAL L863
L867 E868 R869 E872 K873 L874 A875 E876 N877 I878 H879 E880 L881 W882 A883 R886 I887 E888 Q889 G890 W891 G894 P895 V896 R897 D898 D899 N900 K901 R902 L903 H904 P905 C906 L907 V908 N909 F910 H911 S912 L913 P914 E915 P916 E917 R918 N919 Y920 N921 L922 Q923 M924 L932 L935 G936
C937 H938 A942 D943 E944 K945 A946 L950 K951 K952 T953 K954 L955 P956 K957 T958 Y959 M960 M961 S962 N963 G964 P967 A968 P969 L970 D971 L972 S973 H974 V975 R976 L977 T978 P979 T983 V1001 W1005 A1009 VAL GLN ASP ILE PRO ALA ARG ARG ASN PRO R1020 R1033
R1036 C1040 R1044 T1045 L1046 L1047 G1048 Y1049 GLY TYR ASN ILE GLU PRO PRO ASP GLN GLU PRO SER GLN VAL GLU ASN GLN SER ARG TRP D1070 I1074 F1075 K1079 R1087 E1093 T1097 G1098 E1099 M1100 R1101 P1107 R1110 P1111 E1119 V1123 R1128 G1129 Q1130
H1133 S1136 W1143 M1152 N1158 I1161 A1178 I1182 S1193 L1194 G1195 P1196 G1197 Q1198 H1201 F1214 A1215 Q1220 E1221 G1222 W1237 S1241 L1242 P1243 H1252 P1253 H1254 S1279 L1291 P1294 V1295 Q1296 F1297 HIS GLN HIS PHE ARG CYS THR ALA GLY ALA
THR PRO LEU ALA PRO PRO GLY LEU GLN PRO PRO ALA GLU ASP GLU ALA ARG ALA ALA GLU PRO ASP PRO ASP TYR GLU ASN LEU ARG ARG SER ALA GLY GLY TRP GLY GLU ALA GLU GLY GLY LYS GLU GLY THR ALA LYS GLU GLY THR PRO GLY GLY THR PRO GLN PRO GLY VAL GLU
ALA GLN PRO VAL ARG ALA GLU ASN GLU LYS ASP ALA THR THR GLU LYS ASN LYS LYS ARG GLY PHE LEU PHE LYS ALA LYS LYS ALA ALA MET MET THR GLN PRO PRO ALA THR PRO ALA LEU PRO ARG LEU PRO HIS ASP VAL VAL PRO ALA ASP ASN ARG D1422 T1427 T1431 T1432
Y1433 F1440 Q1443 G1451 W1452 P1455 H1458 R1470 G1477 H1484 Y1493 M1494 V1501 SER PRO GLY GLN GLN GLY ARG I1509 L1548 F1549 V1552 T1557 V1561 I1562 Q1563 F1564 E1565 L1566 Q1569 I1572 M1573 F1580 P1592 L1600 R1607 F1612
V1615 GLU THR ARG ARG ALA GLY E1622 A1627 V1628 Q1629 L1639 H1640 I1641 P1642 C1647 M1648 D1649 I1650 L1651 E1652 L1653 S1654 E1655 T1666 V1673 C1674 A1675 L1676 G1677 R1680 H1683 V1689 D1690 Q1693 H1696 A1697 L1698 L1703 P1704 L1707 R1708 A1709 Y1712 I1716

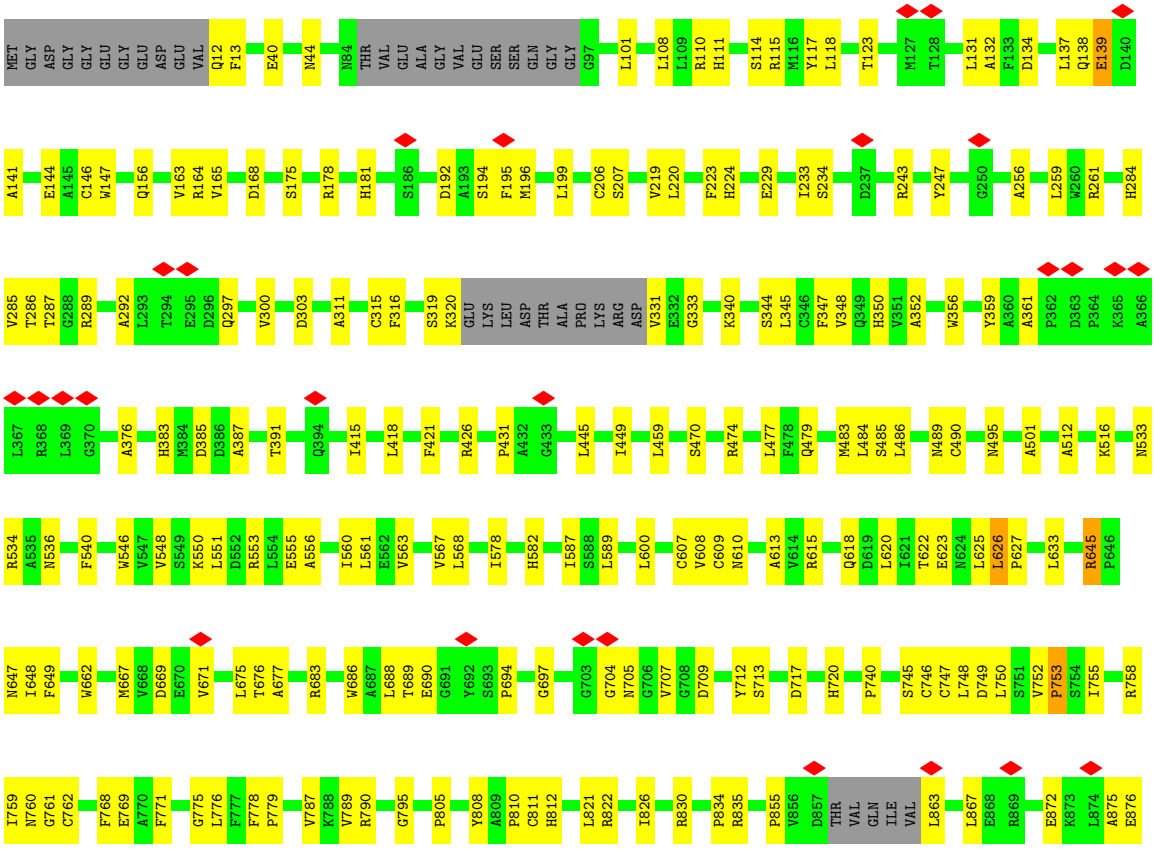

L1720 E1721 S1722 A1723 C1724 R1728 S1729 M1730 L1731 S1732 E1733 L1738 T1739 T1742 R1752 K1753 G1754 L1762 V1767 S1770 L1771 R1772 H1776 P1779 P1780 C1781 F1782 A1788 ALA GLY VAL ALA E1793 A1796 R1797 L1798 I1802 P1803 R1808 M1814 R1827 D1828 P1829
S1833 V1834 E1835 V1839 L1844 T1847 G1855 D1856 E1857 D1858 V1859 I1862 L1863 E1874 GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU ASP GLU GLU GLU LYS GLU GLU ASP GLU GLU GLU GLU GLU LYS GLU ASP ALA GLU LYS GLU GLU GLU GLU ALA
PRO GLU GLY GLU LYS GLU ASP L1922 Q1928 M1929 L1937 F1946 C1947 D1948 L1951 Q1952 E1956 L1969 R1976 Y1977 M1981 R1982 T1985 M1986 S1987 A1988 A1989 T1995 R1996 E1997 L2009 E2019 P2022 L2023 P2024 E2025 R2028 Q2029 D2030 L2031 Q2032 E2047 GLY GLU GLU
GLU GLU PRO GLU GLU GLU THR SER LEU SER SER ARG LEU ARG SER LEU LEU GLU THR VAL ARG LEU VAL LYS LYS LYS GLU GLU LYS PRO GLU GLU GLU LEU PRO ALA GLU GLU K2089 K2090 Y2110 L2116 P2146 T2152 R2163 I2167 V2168 S2181 I2185 K2189 V2190
F2191 N2196 R2199 E2209 N2213 G2217 G2218 E2219 T2220 K2221 E2222 Q2247 L2257 L2258 E2259 T2271 P2272 L2273 D2274 V2275 A2276 S2279 V2280 N2284 Q2291 E2292 Q2293 E2296 K2297 D2320 I2321 G2322 L2332 R2336 V2341 V2346 R2355 L2356 L2368 S2374
G2375 L2376 L2377 A2378 E2382 I2386 D2389 D2393 G2394 P2395 GLY VAL ARG ARG ASP ARG ARG ARG GLU HIS PHE GLY GLU GLU PRO PRO GLU GLU N2414 H2417 L2429 R2435 C2436 A2437 P2438 E2439 M2440 H2441 L2442 K2447 G2448 E2449 I2470 L2479 GLY LYS ASP GLY ALA LEU
VAL Q2487 P2488 V2495 P2496 V2509 N2514 P2528 R2531 A2539 T2540 L2559 P2560 L2561 I2562 A2566 P2567 L2568 T2572 L2583 Y2587 E2604 P2616 S2617 M2618 L2622 R2625 V2630 P2631 P2640 T2645 P2658 V2666 L2672 H2673 L2674 D2692
L2695 A2699 M2700 P2701 C2702 L2703 CYS ALA ILE ALA GLY ALA LEU PRO PRO ASP TYR VAL ASP ALA SER TYR SER SER LYS ALA GLU LYS LYS ALA THR VAL ASP ALA GLU GLY ASN PHE ASP PRO ARG PRO VAL GLU THR LEU ASN VAL ILE ILE PRO GLU LYS L2751 D2752 S2753 F2754 I2755 N2756
K2757 F2758 A2759 E2760 Y2761 T2762 H2763 E2764 K2765 W2766 A2767 F2768 D2769 K2770 I2771 Q2772 N2773 N2774 W2775 S2776 Y2777 G2778 E2779 N2780 V2781 D2782 E2783 E2784 L2785 K2786 T2787 H2788 P2789 M2790 L2791 R2792 P2793 Y2794 K2795 T2796 F2797 S2798 E2799 K2800 D2801 K2802 E2803 I2804 Y2805 R2806 W2807 P2808 I2809 K2810 E2811 S2812 L2813 K2814 A2815 M2816
I2817 A2818 W2819 GLU TRP THR ILE GLU LYS ALA ARG GLU GLY GLU GLU GLU ARG THR GLU LYS LYS LYS THR ARG LYS ILE SER GLN THR ALA GLN THR TYR ASP PRO ARG GLU GLY Y2855 N2856 P2857 Q2858 P2859 P2860 D2861 L2862 S2863 G2864 V2865 T2866 L2867 S2868 R2869 E2870 L2871 Q2872 A2873 M2874 A2875 E2876
Q2877 L2878 A2879 E2880 N2881 Y2882 H2883 N2884 T2885 W2886 G2887 R2888 K2889 K2890 K2891 Q2892 E2893 L2894 E2895 A2896 K2897 G2898 G2899 G2900 T2901 H2902 P2903 L2904 L2905 V2906 P2907 Y2908 D2909 T2910 L2911 T2912 A2913 K2914 E2915 K2916 A2917 R2918 D2919 R2920 E2921 K2922 A2923 Q2924 E2925 L2926 L2927 K2928 F2929 L2930 Q2931 M2932 N2933 G2934 Y2935 A2936
V2937 T2938 R2939 GLY LEU LYS ASP MET GLU L2946 S2950 I2951 E2952 K2953 A2956 F2957 G2958 F2959 L2960 L2963 L2964 R2965 W2966 H2976 LEU GLU ALA VAL VAL SER SER GLY ARG VAL GLU LYS SER PRO HIS GLU GLN GLU I2995 L3003 P3004 F3010 C3014 L3015 T3020 P3021 A3022 K3023
I3039 T3040 S3041 A3047 P3062 A3063 VAL VAL ASN CYS LEU HIS ILE LEU ALA ARG SER LEU ASP ALA ARG THR VAL MET LYS SER GLY PRO GLU ILE VAL LYS ALA GLY LEU ARG SER PHE PHE GLU SER ALA SER GLU ASP ILE GLU LYS MET VAL GLU ASN LEU ARG LEU GLY LYS

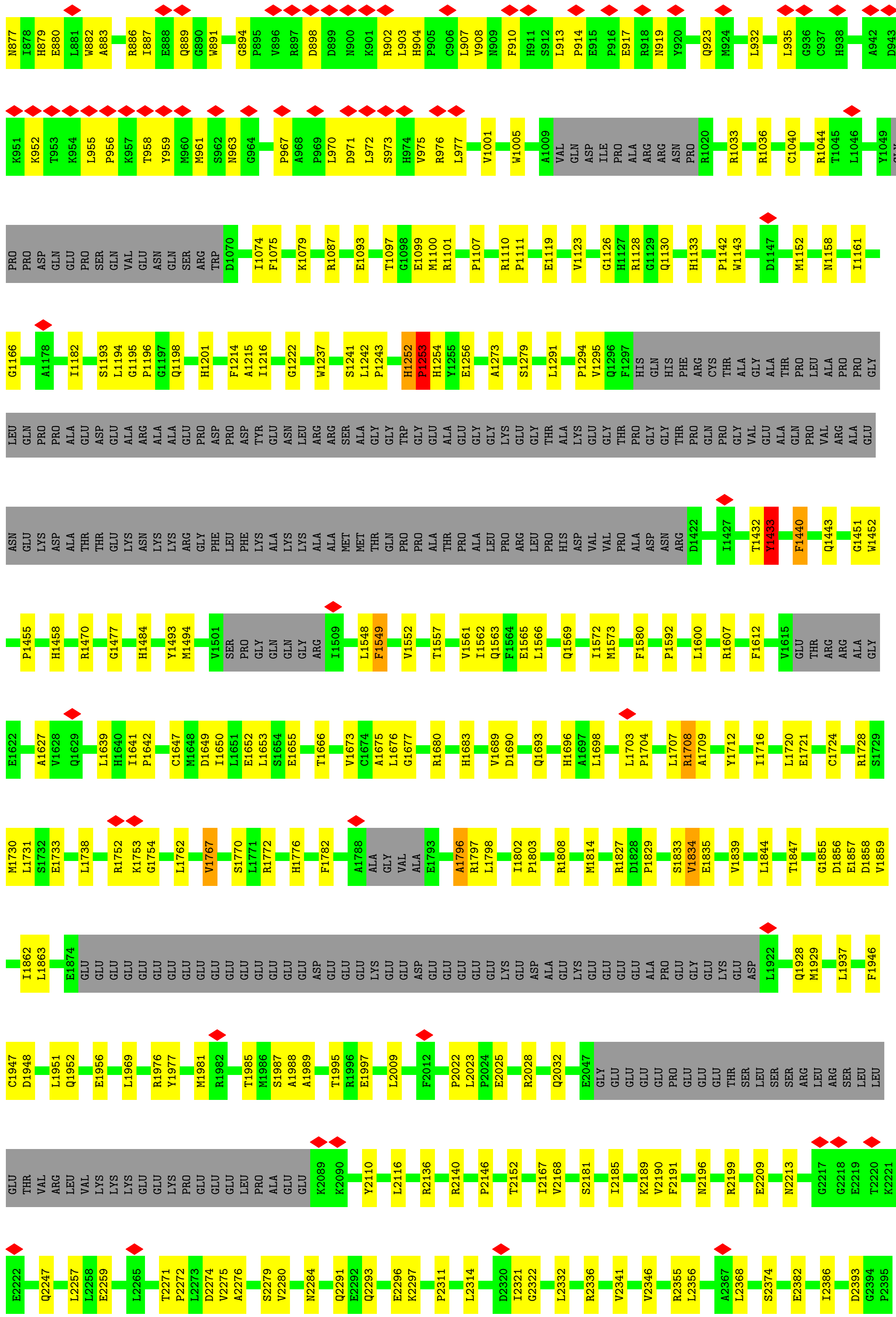




• Molecule 1: Ryanodine receptor 1

Chain C:

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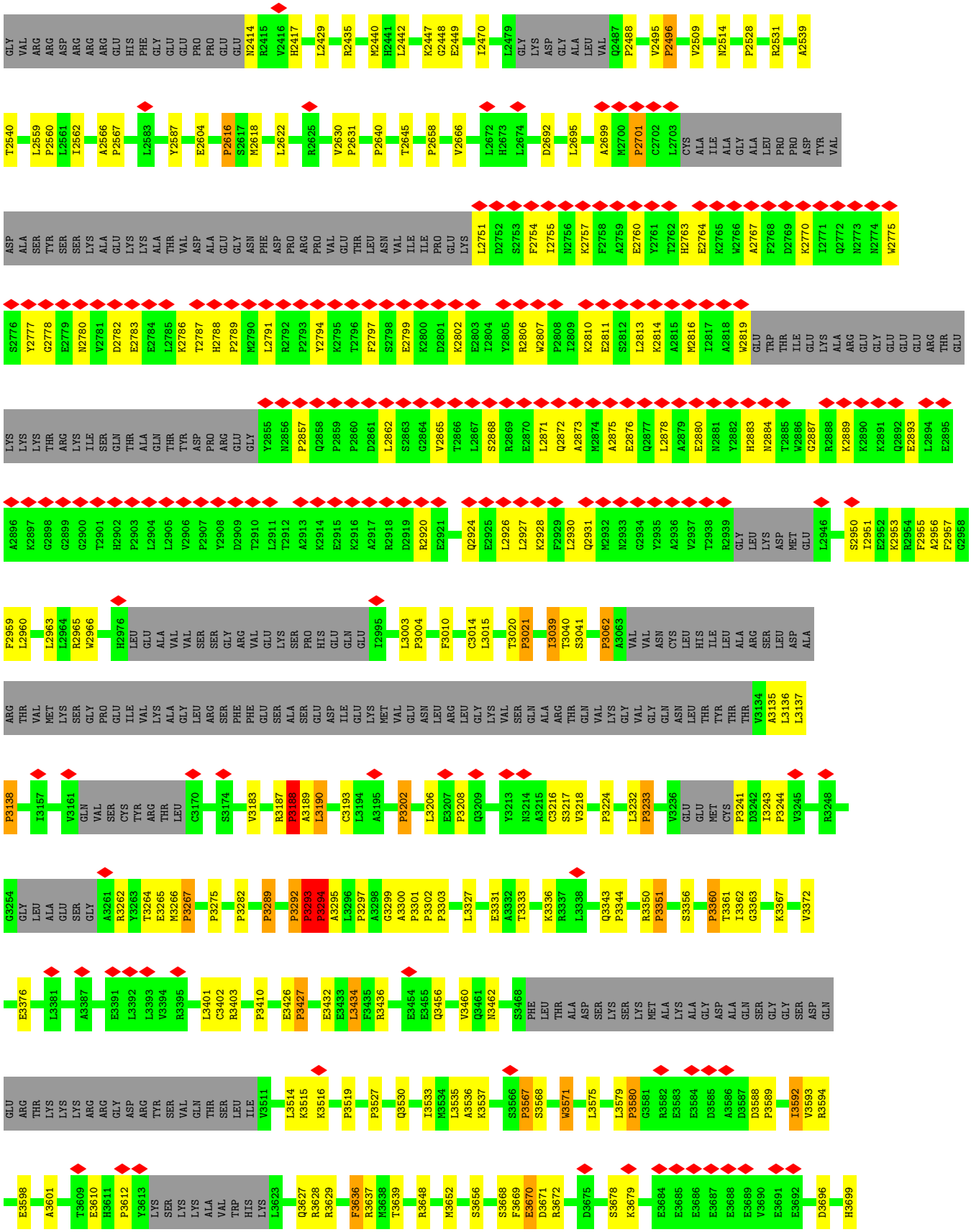
K951 K952 T953 K954 L955 P956 K957 T958 Y959 M960 M961 S962 N963 G964 P967 A968 P969 L970 D971 L972 S973 H974 V975 R976 L977 V1001 W1005 A1009 VAL GLN ASP ILE PRO ALA ARG ARG ASN PRO R1020 R1033 R1036 C1040 R1044 T1045 L1046 Y1049 GLY TYR ASN ILE GLU
PRO PRO ASP GLN GLU PRO SER GLN VAL GLU ASN GLN SER ARG TRP D1070 I1074 F1075 K1079 R1087 E1093 T1097 G1098 E1099 M1100 R1101 P1107 R1110 P1111 E1119 V1123 G1126 H1127 R1128 G1129 Q1130 H1133 P1142 W1143 D1147 M1152 N1158 I1161
G1166 A1178 I1182 S1193 L1194 G1195 P1196 G1197 Q1198 H1201 F1214 A1215 I1216 G1222 W1237 S1241 L1242 P1243 H1252 P1253 H1254 Y1255 E1256 A1273 S1279 L1291 P1294 V1295 Q1296 F1297 HIS GLN HIS PHE ARG CYS THR ALA GLY ALA THR PRO LEU ALA PRO PRO GLY
LEU GLN PRO PRO ALA GLU ASP GLU ALA ARG ALA ALA GLU PRO ASP PRO ASP TYR GLU ASN LEU ARG ARG SER ALA GLY GLY TRP GLY GLU ALA GLU GLY GLY LYS GLU GLY THR ALA LYS GLU GLY THR PRO GLY GLY THR PRO GLN PRO GLY VAL GLU ALA GLN PRO VAL ARG ALA GLU
ASN GLU LYS ASP ALA THR THR GLU LYS ASN LYS LYS ARG GLY PHE LEU PHE LYS ALA LYS LYS ALA ALA MET MET THR GLN PRO PRO ALA THR PRO ALA LEU PRO ARG LEU PRO HIS ASP VAL VAL PRO ALA ASP ASN ARG D1422 I1427 T1432 Y1433 F1440 Q1443 G1451 W1452
P1455 H1458 R1470 G1477 H1484 Y1493 M1494 V1501 SER PRO GLY GLN GLN GLY ARG I1509 L1548 F1549 V1552 T1557 V1561 I1562 Q1563 F1564 E1565 L1566 Q1569 I1572 M1573 F1580 P1592 L1600 R1607 F1612 V1615 GLU THR ARG ARG ALA GLY
E1622 A1627 V1628 Q1629 L1639 H1640 I1641 P1642 C1647 M1648 D1649 I1650 L1651 E1652 L1653 S1654 E1655 T1666 V1673 C1674 A1675 L1676 G1677 R1680 H1683 V1689 D1690 Q1693 H1696 A1697 L1698 L1703 P1704 L1707 R1708 A1709 Y1712 I1716 L1720 E1721 C1724 R1728 S1729
M1730 L1731 S1732 E1733 L1738 R1752 K1753 G1754 L1762 V1767 S1770 L1771 R1772 H1776 F1782 A1788 ALA GLY VAL ALA E1793 A1796 R1797 L1798 I1802 P1803 R1808 M1814 R1827 D1828 P1829 S1833 V1834 E1835 V1839 L1844 T1847 G1855 D1856 E1857 D1858 V1859
I1862 L1863 E1874 GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU ASP GLU GLU GLU LYS GLU GLU ASP GLU GLU GLU GLU GLU LYS GLU ASP ALA GLU LYS GLU GLU GLU GLU ALA PRO GLU GLY GLU LYS GLU ASP L1922 Q1928 M1929 L1937 F1946
C1947 D1948 L1951 Q1952 E1956 L1969 R1976 Y1977 M1981 R1982 T1985 M1986 S1987 A1988 A1989 T1995 R1996 E1997 L2009 F2012 P2022 L2023 P2024 E2025 R2028 Q2032 E2047 GLY GLU GLU GLU GLU PRO GLU GLU GLU GLU THR SER LEU SER SER ARG LEU ARG SER LEU LEU
GLU THR VAL ARG LEU VAL LYS LYS LYS GLU GLU LYS PRO GLU GLU GLU LEU PRO ALA GLU GLU K2089 K2090 Y2110 L2116 R2136 R2140 P2146 T2152 I2167 V2168 S2181 I2185 K2189 V2190 F2191 N2196 R2199 E2209 N2213 G2217 G2218 E2219 T2220 K2221
E2222 Q2247 L2257 L2258 E2259 L2265 T2271 P2272 L2273 D2274 V2275 A2276 S2279 V2280 N2284 Q2291 E2292 Q2293 E2296 K2297 P2311 L2314 D2320 I2321 G2322 L2332 R2336 V2341 V2346 R2355 L2356 A2367 L2368 S2374 E2382 I2386 D2393 G2394 P2395


GLY VAL ARG ARG ASP ASP ARG ARG GLU HIS PHE GLY GLU GLU PRO PRO GLU GLU
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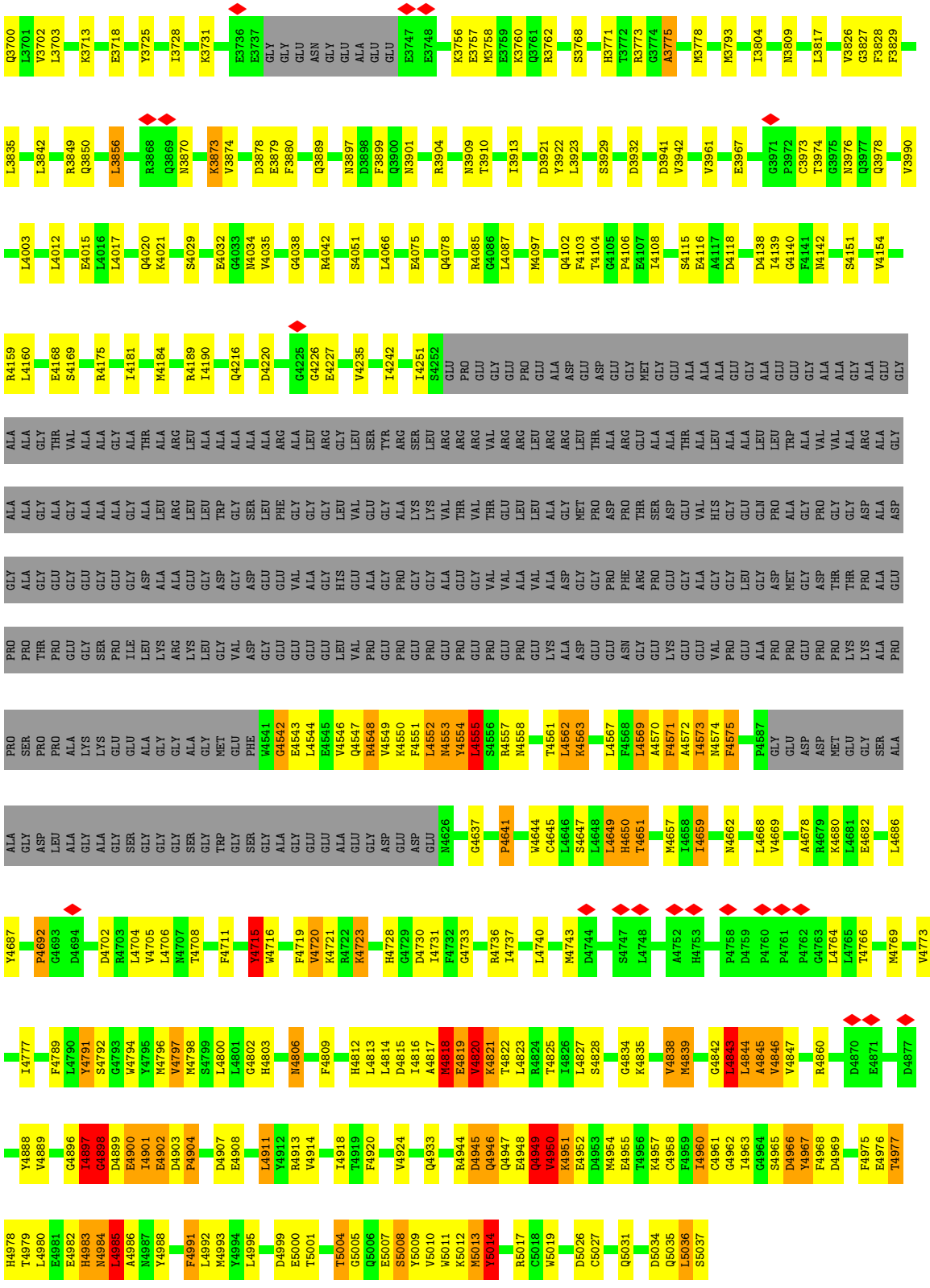
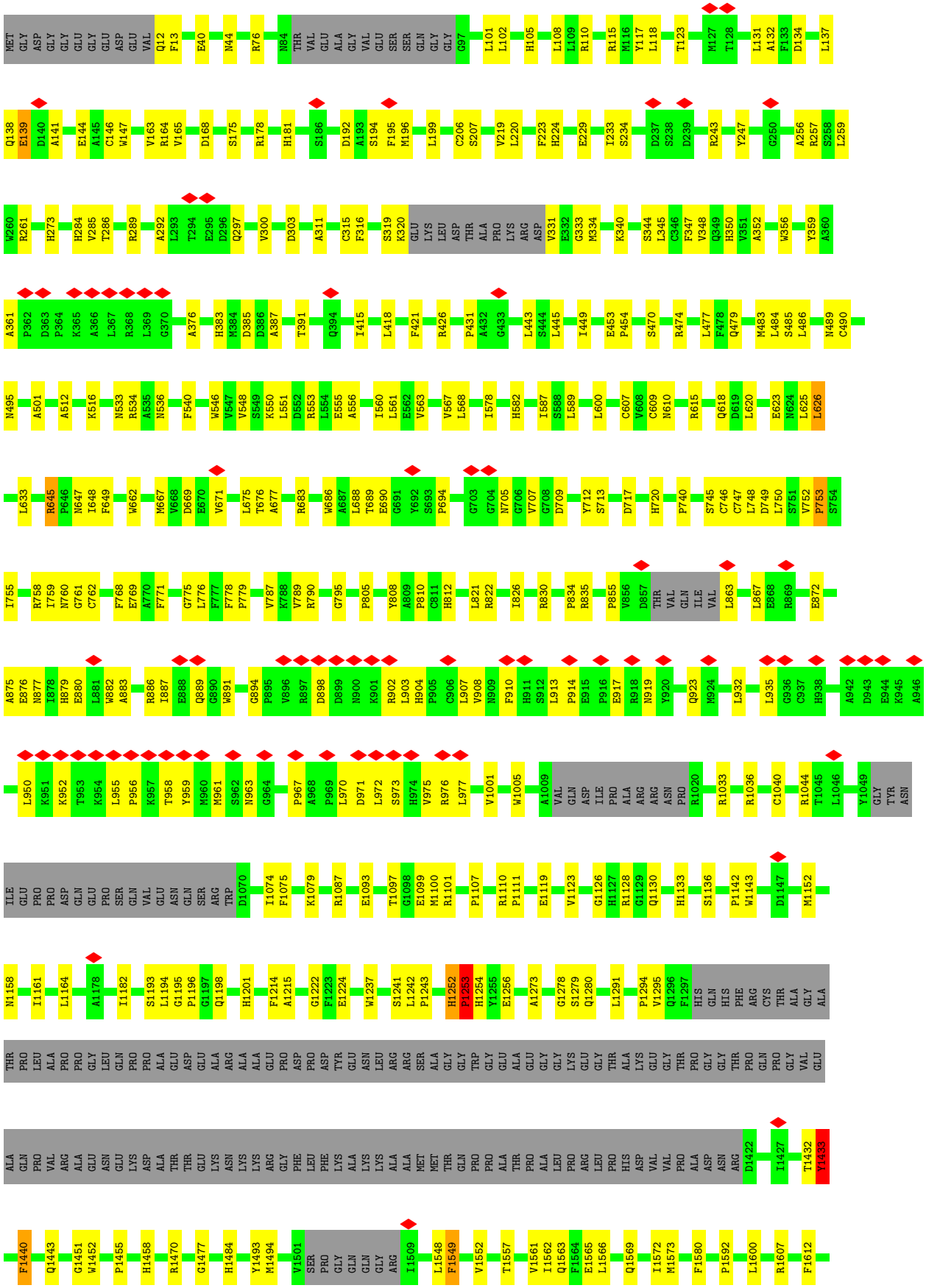
T2540 L2559 P2560 L2561 I2562 A2566 P2567 L2583 Y2587 E2604 P2616 S2617 M2618 L2622 R2625 V2630 P2631 P2640 T2645 P2658 V2666 L2672 H2673 L2674 D2692 L2695 A2699 M2700 P2701 C2702 L2703 CYS ALA ILE ALA GLY ALA LEU PRO PRO ASP TYR VAL
ASP ALA SER TYR SER SER LYS ALA ALA GLU LYS LYS ALA THR VAL ASP ALA GLU GLY ASN PHE ASP PRO ARG PRO VAL GLU THR LEU ASN VAL ILE ILE PRO GLU LYS L2751 D2752 S2753 F2754 I2755 N2756 K2757 F2758 A2759 E2760 Y2761 T2762 H2763 E2764 K2765 W2766 A2767 F2768 D2769 K2770 I2771 Q2772 N2773 N2774 W2775
S2776 Y2777 G2778 E2779 N2780 V2781 D2782 E2783 E2784 L2785 K2786 T2787 H2788 P2789 M2790 L2791 R2792 P2793 Y2794 K2795 T2796 F2797 S2798 E2799 K2800 D2801 K2802 E2803 I2804 Y2805 R2806 W2807 P2808 I2809 K2810 E2811 S2812 L2813 K2814 A2815 M2816 I2817 A2818 W2819 GLU TRP THR ILE GLU LYS ALA ARG GLU GLY GLU GLU GLU ARG THR GLU
LYS LYS LYS THR ARG LYS ILE SER GLN THR ALA GLN THR TYR ASP PRO ARG GLU GLY Y2855 N2856 P2857 Q2858 P2859 P2860 D2861 L2862 S2863 G2864 V2865 T2866 L2867 S2868 R2869 E2870 L2871 Q2872 A2873 M2874 A2875 E2876 Q2877 L2878 A2879 E2880 N2881 Y2882 H2883 N2884 T2885 W2886 G2887 R2888 K2889 K2890 K2891 Q2892 E2893 L2894 E2895
A2896 K2897 G2898 G2899 G2900 T2901 H2902 P2903 L2904 L2905 V2906 P2907 Y2908 D2909 T2910 L2911 T2912 A2913 K2914 E2915 K2916 A2917 R2918 D2919 R2920 E2921 Q2924 E2925 L2926 L2927 K2928 F2929 L2930 Q2931 M2932 N2933 G2934 Y2935 A2936 V2937 T2938 R2939 GLY LEU LYS ASP MET GLU L2946 S2950 I2951 E2952 K2953 R2954 F2955 A2956 F2957 G2958
F2959 L2960 L2963 L2964 R2965 W2966 H2976 LEU GLU ALA VAL VAL SER SER GLY ARG VAL GLU LYS SER PRO HIS GLU GLN GLU T2995 L3003 P3004 F3010 C3014 L3015 T3020 P3021 I3039 T3040 S3041 P3062 A3063 VAL VAL ASN CYS LEU HIS ILE LEU ALA ARG SER LEU ASP ALA
ARG THR VAL MET LYS SER GLY PRO GLU ILE VAL VAL LYS ALA GLY LEU ARG SER PHE PHE GLU SER ALA SER GLU ASP ILE GLU LYS MET VAL GLU ASN LEU ARG LEU GLY LYS VAL SER GLN ALA ARG THR GLN VAL LYS GLY VAL GLY GLN ASN LEU THR TYR THR THR V3134 A3135 L3136 L3137
P3138 I3157 V3161 GLN VAL SER CYS TYR ARG THR LEU C3170 S3174 V3183 R3187 P3188 A3189 L3190 C3193 L3194 A3195 P3202 L3206 E3207 P3208 Q3209 Y3213 N3214 A3215 C3216 S3217 V3218 P3224 L3232 P3233 V3236 GLU GLU MET CYS P3241 D3242 I3243 P3244 V3245 R3248
G3254 GLY LEU ALA GLU SER GLY A3261 R3262 V3263 T3264 E3265 M3266 P3267 P3275 P3282 P3289 P3292 P3293 P3294 A3295 L3296 P3297 A3298 G3299 A3300 P3301 P3302 P3303 L3327 E3331 A3332 T3333 K3336 R3337 L3338 Q3343 P3344 R3350 P3351 S3356 P3360 T3361 I3362 G3363 K3367 V3372
E3376 L3381 A3387 E3391 L3392 L3393 V3394 R3395 L3401 C3402 R3403 P3410 E3426 P3427 E3432 E3433 L3434 P3435 R3436 E3454 E3455 Q3456 V3460 Q3461 N3462 S3468 PHE LEU THR ALA ASP SER LYS SER LYS MET ALA LYS ALA GLY ASP ALA GLN SER GLY GLY SER ASP GLN
GLU ARG THR LYS LYS LYS ARG ARG GLY ASP ARG TYR SER VAL GLN THR SER LEU ILE V3511 L3514 K3515 K3516 P3519 P3527 Q3530 I3533 M3534 L3535 A3536 K3537 S3566 P3567 S3568 W3571 L3575 L3579 P3580 G3581 R3582 E3583 E3584 D3585 A3586 D3587 D3588 P3589 I3692 Y3593 R3594
E3598 A3601 T3609 E3610 H3611 P3612 Y3613 LYS SER LYS LYS ALA VAL TRP HIS LYS L3623 Q3627 R3628 R3629 F3636 R3637 M3638 T3639 R3648 M3652 S3656 S3668 F3669 E3670 D3671 R3672 D3675 S3678 K3679 E3684 E3685 E3686 E3687 E3688 E3689 V3690 E3691 E3692 D3696 H3699



• Molecule 1: Ryanodine receptor 1

Chain B: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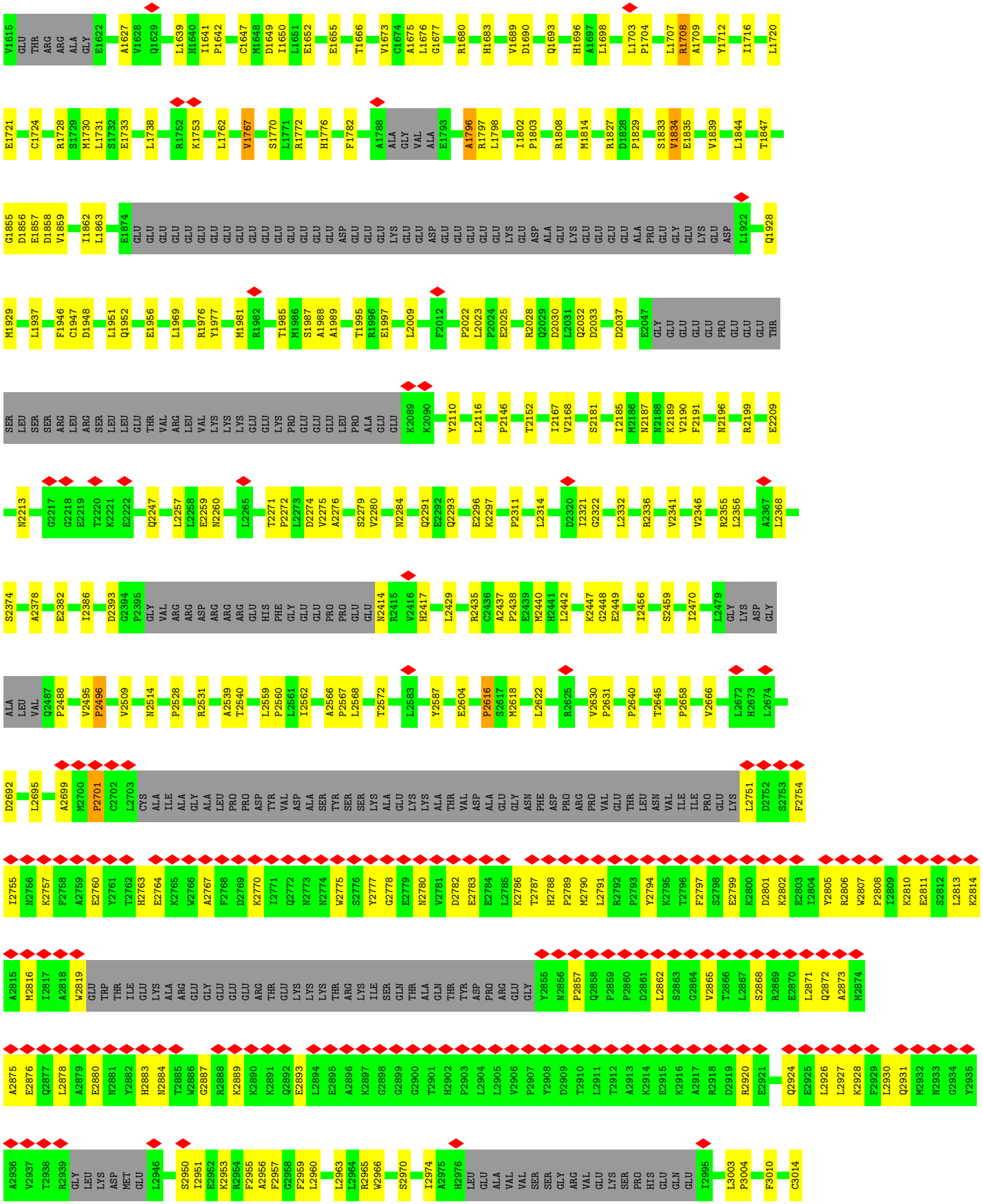
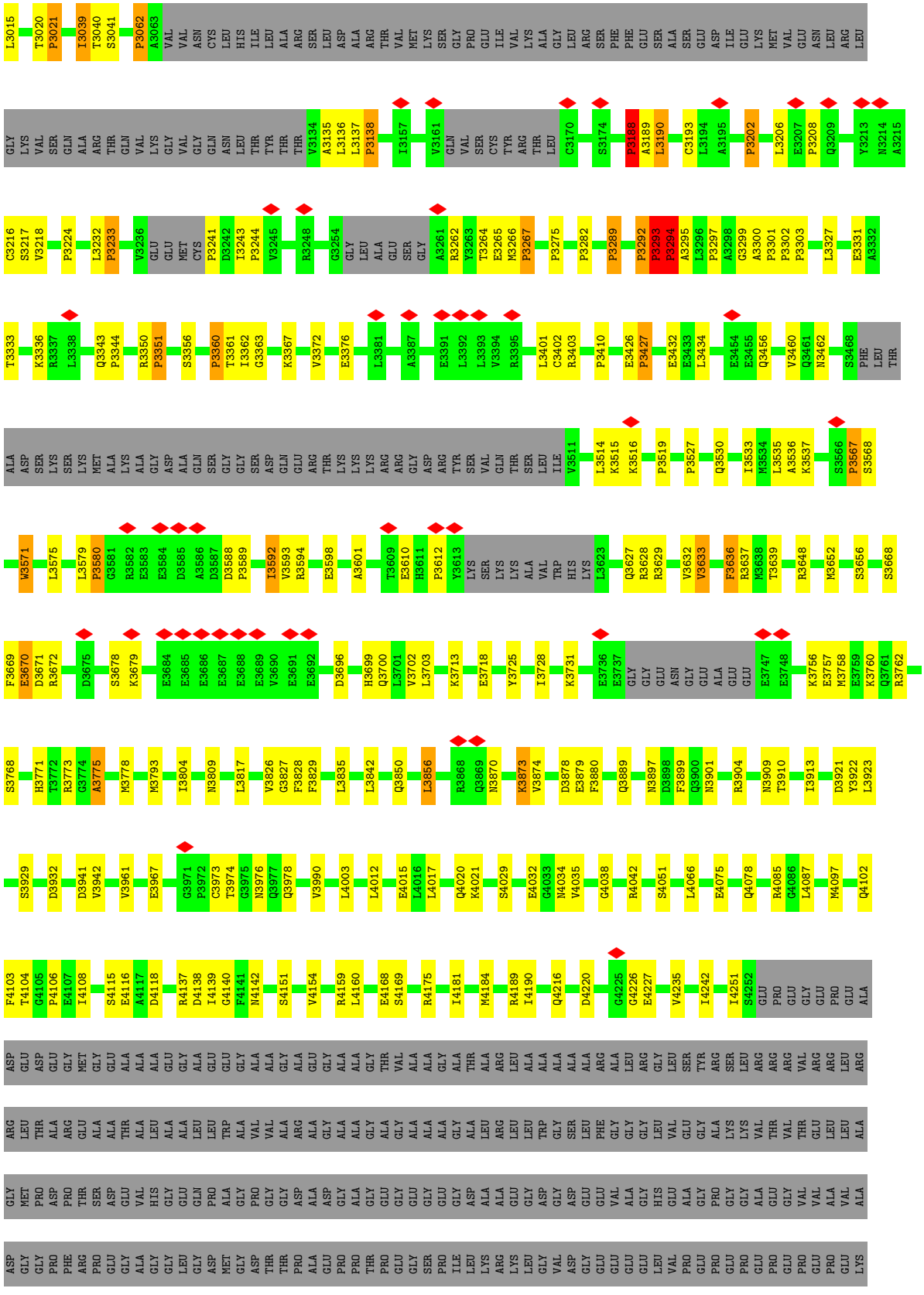
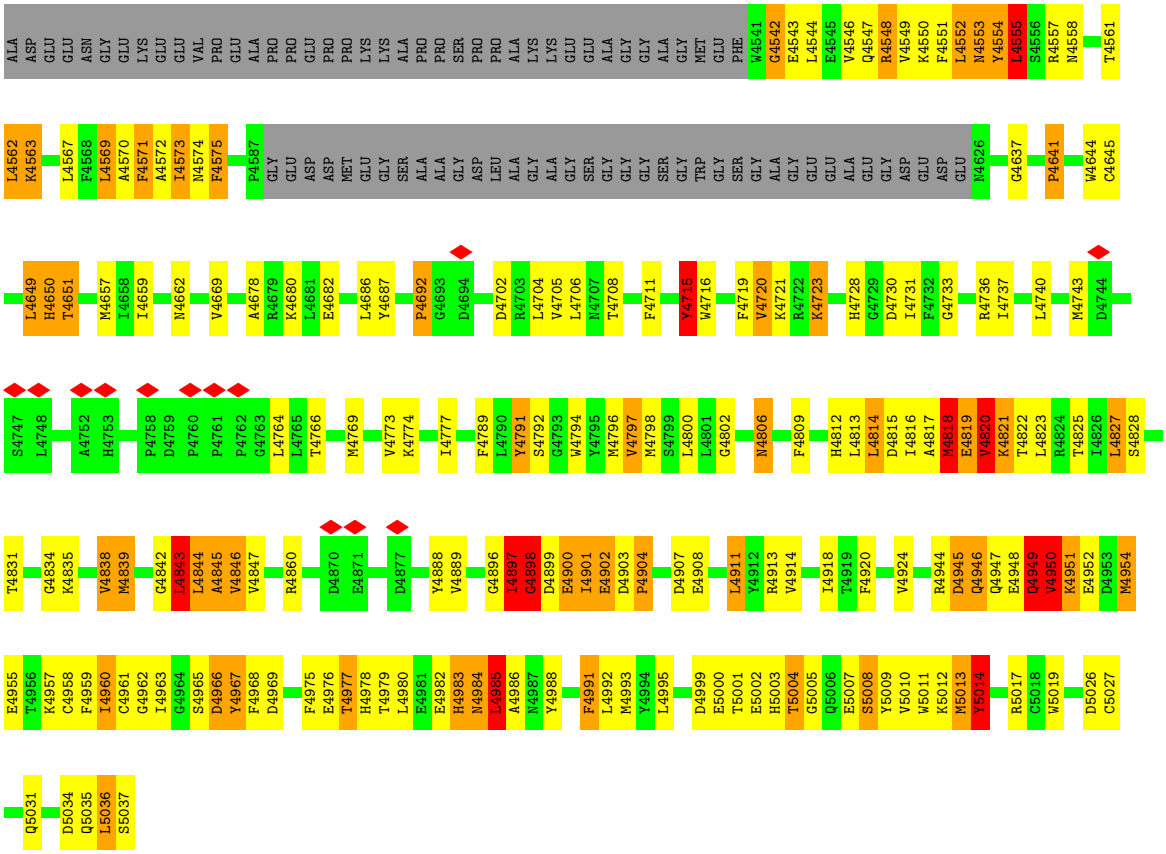
Q138 E139 D140 A141 E144 A145 C146 W147 V163 R164 V165 D168 S175 R178 H181 S186 D192 A193 S194 F195 M196 L199 C206 S207 V219 L220 F223 H224 E229 I233 S234 D237 S238 D239 R243 Y247 G250 A256 R257 S258 L259
W260 R261 H273 H284 V285 T286 R289 A292 L293 T294 E295 D296 Q297 V300 D303 A311 C315 F316 S319 K320 GLU LYS LEU ASP THR ALA PRO LYS ARG ASP V331 E332 G333 M334 K340 S344 L345 G346 F347 V348 Q349 H350 V351 A352 W356 Y359 A360
A361 P362 D363 P364 K365 A366 L367 R368 L369 G370 A376 H383 M384 D385 D386 A387 T391 Q394 I415 L418 F421 R426 P431 A432 G433 L443 S444 L445 I449 E453 P454 S470 R474 L477 F478 Q479 M483 L484 S485 L486 N489 C490
N495 A501 A512 K516 N533 R534 A535 N536 F540 W546 V547 V548 S549 K550 L551 D552 R553 L554 E555 A556 I560 L561 E562 V563 V567 L568 I578 H582 I587 S588 L589 L600 C607 V608 C609 N610 R615 Q618 D619 L620 E623 N624 L625 L626
L633 R645 P646 N647 I648 F649 W662 M667 V668 D669 E670 V671 L675 T676 A677 R683 W686 A687 L688 T689 E690 G691 Y692 S693 P694 G703 G704 N705 G706 V707 G708 D709 Y712 S713 D717 H720 P740 S745 C746 C747 L748 D749 L750 S751 V752 P753 S754
I755 R758 I759 N760 G761 C762 F768 E769 A770 F771 G775 L776 F777 F778 P779 V787 K788 V789 R790 G795 P805 Y808 A809 P810 C811 H812 L821 R822 I826 R830 P834 R835 P855 V856 D857 THR VAL GLN ILE VAL L863 L867 E868 R869 E872
A875 E876 N877 I878 H879 E880 L881 W882 A883 R886 I887 E888 Q889 G890 W891 G894 P895 V896 R897 D898 D899 N900 K901 R902 L903 H904 P905 C906 L907 V908 N909 F910 H911 S912 L913 P914 E915 P916 E917 R918 N919 Y920 Q923 M924 L932 L935 G936 C937 H938 A942 D943 E944 K945 A946
L950 K951 K952 T953 K954 L955 P956 K957 T958 Y959 M960 M961 S962 N963 G964 P967 A968 P969 L970 D971 L972 S973 H974 V975 R976 L977 V1001 W1005 A1009 VAL GLN ASP ILE PRO ALA ARG ARG ASN PRO R1020 R1033 R1036 C1040 R1044 T1045 L1046 Y1049 GLY TYR ASN
ILE GLU PRO PRO ASP GLN GLU PRO SER GLN VAL VAL GLU ASN GLN SER ARG TRP D1070 I1074 F1075 K1079 R1087 E1093 T1097 G1098 E1099 M1100 R1101 P1107 R1110 P1111 E1119 V1123 G1126 H1127 R1128 G1129 Q1130 H1133 S1136 P1142 W1143 D1147 M1152
N1158 I1161 L1164 A1178 I1182 S1193 L1194 G1195 P1196 G1197 Q1198 H1201 F1214 A1215 G1222 F1223 E1224 W1237 S1241 L1242 P1243 H1252 P1253 H1254 Y1255 E1256 A1273 G1278 S1279 Q1280 L1291 P1294 V1295 Q1296 F1297 HIS GLN HIS PHE ARG CYS THR ALA GLY ALA
THR PRO LEU ALA PRO PRO GLY LEU GLN PRO PRO ALA GLU ASP GLU ALA ARG ALA ALA ALA GLU PRO ASP PRO ASP TYR GLU ASN LEU ARG ARG SER ALA GLY GLY TRP GLY GLU ALA GLU GLY GLY LYS GLU GLY THR ALA LYS GLU GLY THR PRO GLY GLY THR PRO GLN PRO GLY VAL GLU
ALA GLN PRO VAL ARG ALA GLU ASN GLU LYS ASP ALA THR THR GLU LYS ASN LYS LYS ARG GLY PHE LEU PHE LYS ALA LYS LYS ALA ALA MET MET THR GLN PRO PRO ALA THR PRO ALA LEU PRO ARG LEU PRO HIS ASP VAL VAL PRO ALA ASP ASN ARG D1422 I1427 T1432 Y1433
F1440 Q1443 G1451 W1452 P1455 H1458 R1470 G1477 H1484 Y1493 M1494 V1501 SER PRO GLY GLN GLN GLY ARG I1509 L1548 F1549 V1552 T1557 V1561 I1562 Q1563 F1564 E1565 L1566 Q1569 I1572 M1573 F1580 P1592 L1600 R1607 F1612

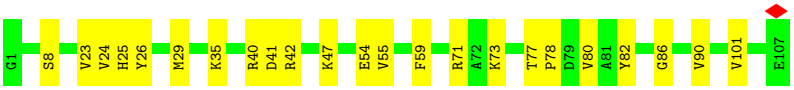






• Molecule 2: Peptidyl-prolyl cis-trans isomerase FKBP1B

Chain E:



• Molecule 2: Peptidyl-prolyl cis-trans isomerase FKBP1B

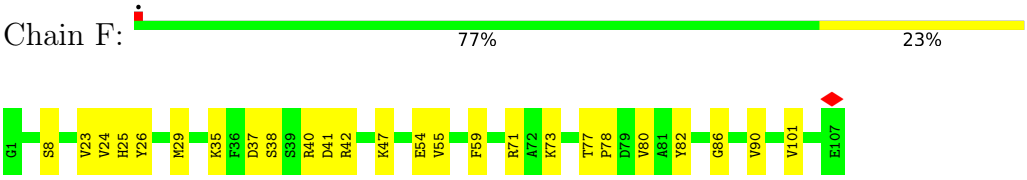
Chain H:

• Molecule 2: Peptidyl-prolyl cis-trans isomerase FKBP1B

Chain G:

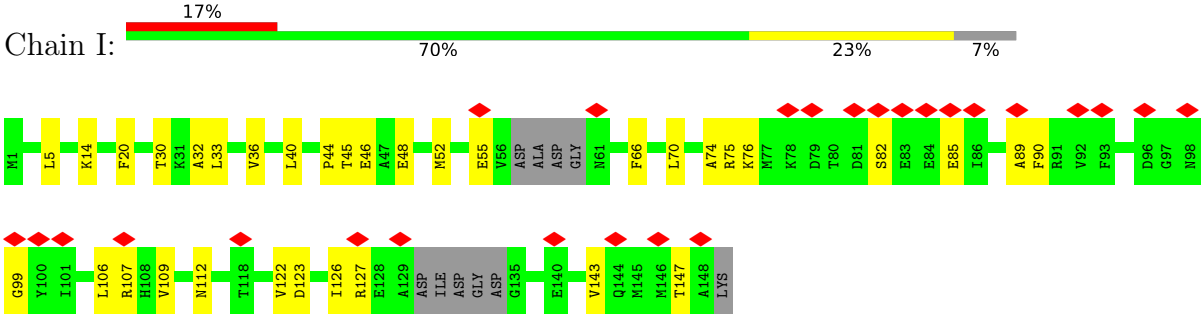
• Molecule 2: Peptidyl-prolyl cis-trans isomerase FKBP1B

Chain F:



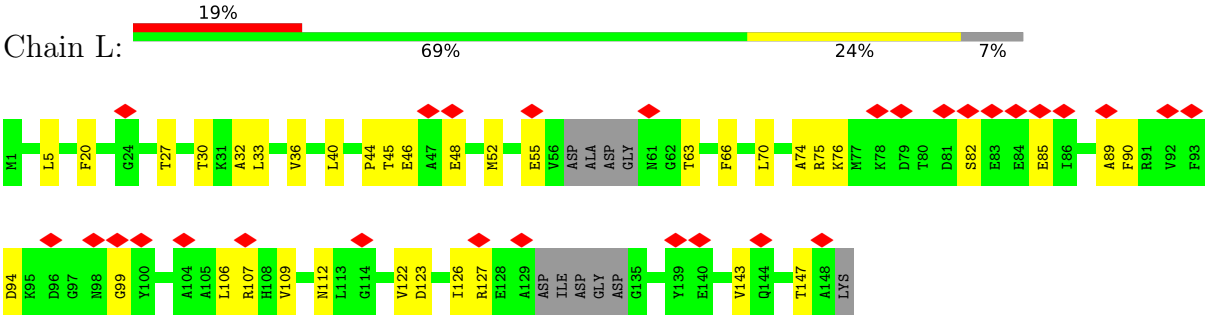
• Molecule 3: Calmodulin-1

Chain I:



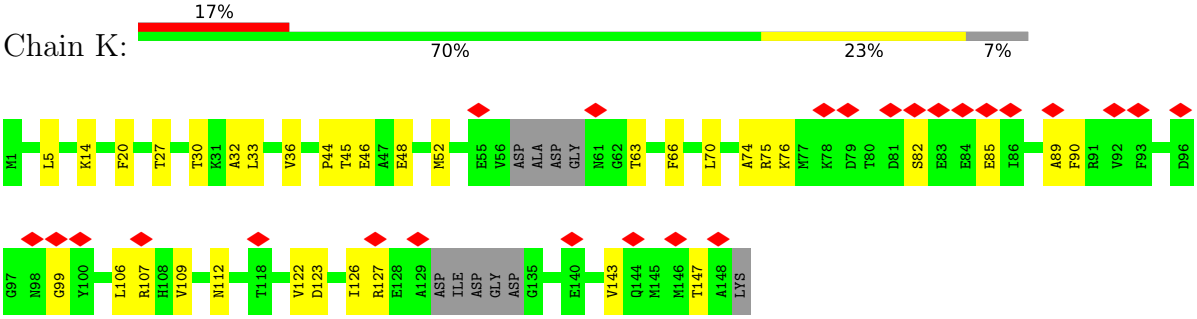
• Molecule 3: Calmodulin-1

Chain L:



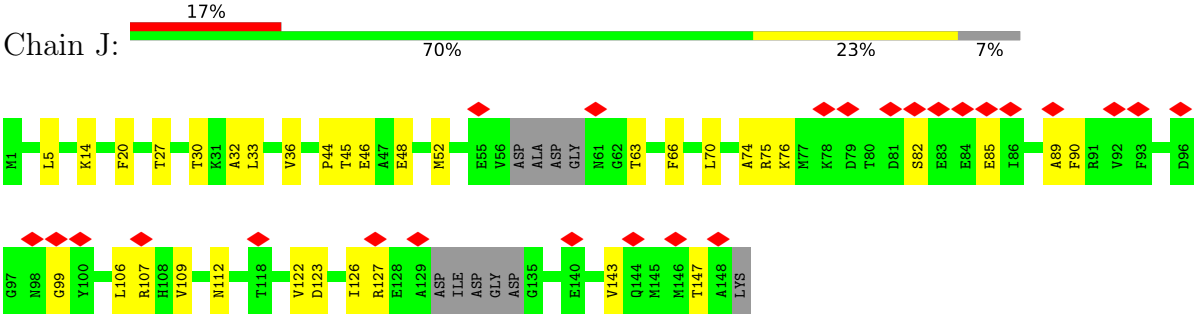
• Molecule 3: Calmodulin-1

Chain K:



• Molecule 3: Calmodulin-1

Chain J:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	28189	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	50	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	2400	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	1.354	Depositor
Minimum map value	-0.808	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.043	Depositor
Recommended contour level	0.135	Depositor
Map size (Å)	502.80002, 502.80002, 502.80002	wwPDB
Map dimensions	480, 480, 480	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.0475, 1.0475, 1.0475	Depositor

5 Model quality

5.1 Standard geometry

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

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	0.39	2/29778 (0.0%)	0.64	60/40610 (0.1%)
1	B	0.39	2/29778 (0.0%)	0.64	61/40610 (0.2%)
1	C	0.39	2/29778 (0.0%)	0.64	61/40610 (0.2%)
1	D	0.39	2/29778 (0.0%)	0.64	60/40610 (0.1%)
2	E	0.27	0/820	0.54	0/1105
2	F	0.27	0/820	0.54	0/1105
2	G	0.27	0/820	0.54	0/1105
2	H	0.27	0/820	0.53	0/1105
3	I	0.25	0/1042	0.53	0/1404
3	J	0.25	0/1042	0.53	0/1404
3	K	0.25	0/1042	0.53	0/1404
3	L	0.25	0/1042	0.53	0/1404
All	All	0.38	8/126560 (0.0%)	0.63	242/172476 (0.1%)

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	7
1	B	0	8
1	C	0	7
1	D	0	7
All	All	0	29

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	D	855	PRO	CG-CD	-8.15	1.23	1.50
1	C	855	PRO	CG-CD	-8.15	1.23	1.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	855	PRO	CG-CD	-8.14	1.23	1.50
1	B	855	PRO	CG-CD	-8.14	1.23	1.50
1	B	1433	TYR	CE2-CZ	-5.09	1.31	1.38
1	D	1433	TYR	CE2-CZ	-5.07	1.31	1.38
1	A	1433	TYR	CE2-CZ	-5.03	1.32	1.38
1	C	1433	TYR	CE2-CZ	-5.03	1.32	1.38

All (242) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	855	PRO	N-CD-CG	-10.06	88.11	103.20
1	B	855	PRO	N-CD-CG	-10.06	88.11	103.20
1	D	855	PRO	N-CD-CG	-10.04	88.14	103.20
1	C	855	PRO	N-CD-CG	-10.04	88.15	103.20
1	B	1549	PHE	CB-CA-C	-7.48	95.44	110.40
1	A	1549	PHE	CB-CA-C	-7.47	95.47	110.40
1	C	1549	PHE	CB-CA-C	-7.47	95.47	110.40
1	D	1549	PHE	CB-CA-C	-7.46	95.48	110.40
1	A	4898	GLY	N-CA-C	-7.38	94.65	113.10
1	C	4898	GLY	N-CA-C	-7.38	94.65	113.10
1	D	4898	GLY	N-CA-C	-7.37	94.67	113.10
1	B	4898	GLY	N-CA-C	-7.37	94.67	113.10
1	D	4860	ARG	NE-CZ-NH2	6.76	123.68	120.30
1	A	4860	ARG	NE-CZ-NH2	6.59	123.59	120.30
1	D	5014	TYR	N-CA-C	-6.56	93.29	111.00
1	A	5014	TYR	N-CA-C	-6.55	93.30	111.00
1	B	5014	TYR	N-CA-C	-6.54	93.34	111.00
1	C	5014	TYR	N-CA-C	-6.54	93.34	111.00
1	C	4860	ARG	NE-CZ-NH2	6.54	123.57	120.30
1	D	3275	PRO	N-CA-CB	6.47	111.07	103.30
1	C	3275	PRO	N-CA-CB	6.47	111.07	103.30
1	A	3275	PRO	N-CA-CB	6.47	111.06	103.30
1	C	3282	PRO	N-CA-CB	6.46	111.06	103.30
1	B	3275	PRO	N-CA-CB	6.44	111.03	103.30
1	D	3282	PRO	N-CA-CB	6.44	111.03	103.30
1	A	3282	PRO	N-CA-CB	6.43	111.02	103.30
1	B	3282	PRO	N-CA-CB	6.41	110.99	103.30
1	A	4791	TYR	N-CA-C	-6.39	93.74	111.00
1	D	4791	TYR	N-CA-C	-6.39	93.75	111.00
1	C	4791	TYR	N-CA-C	-6.39	93.75	111.00
1	B	4791	TYR	N-CA-C	-6.39	93.75	111.00
1	D	2616	PRO	N-CA-CB	6.38	110.96	103.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	D	3301	PRO	N-CA-CB	6.37	110.94	103.30
1	C	2616	PRO	N-CA-CB	6.35	110.92	103.30
1	A	2616	PRO	N-CA-CB	6.34	110.91	103.30
1	B	2616	PRO	N-CA-CB	6.34	110.91	103.30
1	A	3301	PRO	N-CA-CB	6.34	110.91	103.30
1	B	3301	PRO	N-CA-CB	6.34	110.91	103.30
1	B	4860	ARG	NE-CZ-NH2	6.34	123.47	120.30
1	B	3188	PRO	N-CA-CB	6.33	110.90	103.30
1	D	3188	PRO	N-CA-CB	6.33	110.89	103.30
1	C	3188	PRO	N-CA-CB	6.33	110.89	103.30
1	C	3267	PRO	N-CA-CB	6.32	110.88	103.30
1	C	3301	PRO	N-CA-CB	6.31	110.87	103.30
1	A	3188	PRO	N-CA-CB	6.30	110.86	103.30
1	B	3267	PRO	N-CA-CB	6.30	110.86	103.30
1	D	3267	PRO	N-CA-CB	6.29	110.86	103.30
1	A	3267	PRO	N-CA-CB	6.29	110.85	103.30
1	A	3410	PRO	N-CA-CB	6.29	110.85	103.30
1	C	3410	PRO	N-CA-CB	6.29	110.85	103.30
1	A	3293	PRO	N-CA-CB	6.29	110.84	103.30
1	C	3293	PRO	N-CA-CB	6.29	110.84	103.30
1	B	3293	PRO	N-CA-CB	6.28	110.84	103.30
1	D	3293	PRO	N-CA-CB	6.28	110.83	103.30
1	D	3410	PRO	N-CA-CB	6.27	110.83	103.30
1	B	3410	PRO	N-CA-CB	6.27	110.82	103.30
1	C	3360	PRO	N-CA-CB	6.26	110.81	103.30
1	B	4913	ARG	NE-CZ-NH2	6.25	123.42	120.30
1	C	3208	PRO	N-CA-CB	6.24	110.79	103.30
1	C	2658	PRO	N-CA-CB	6.24	110.79	103.30
1	A	3360	PRO	N-CA-CB	6.23	110.78	103.30
1	B	3360	PRO	N-CA-CB	6.23	110.78	103.30
1	D	3292	PRO	N-CA-CB	6.23	110.77	103.30
1	A	3202	PRO	N-CA-CB	6.22	110.76	103.30
1	B	3202	PRO	N-CA-CB	6.22	110.76	103.30
1	A	3208	PRO	N-CA-CB	6.21	110.76	103.30
1	B	3208	PRO	N-CA-CB	6.21	110.76	103.30
1	D	2658	PRO	N-CA-CB	6.21	110.75	103.30
1	D	4913	ARG	NE-CZ-NH2	6.21	123.41	120.30
1	B	3351	PRO	N-CA-CB	6.21	110.75	103.30
1	A	2658	PRO	N-CA-CB	6.21	110.75	103.30
1	D	3202	PRO	N-CA-CB	6.21	110.75	103.30
1	B	2658	PRO	N-CA-CB	6.21	110.75	103.30
1	D	3589	PRO	N-CA-CB	6.21	110.75	103.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	3351	PRO	N-CA-CB	6.21	110.75	103.30
1	C	3351	PRO	N-CA-CB	6.21	110.75	103.30
1	A	3589	PRO	N-CA-CB	6.20	110.74	103.30
1	C	3589	PRO	N-CA-CB	6.20	110.74	103.30
1	B	3302	PRO	N-CA-CB	6.20	110.74	103.30
1	B	3589	PRO	N-CA-CB	6.20	110.74	103.30
1	A	2567	PRO	N-CA-CB	6.20	110.73	103.30
1	D	3360	PRO	N-CA-CB	6.20	110.73	103.30
1	C	2567	PRO	N-CA-CB	6.20	110.73	103.30
1	B	3292	PRO	N-CA-CB	6.20	110.74	103.30
1	D	2567	PRO	N-CA-CB	6.19	110.73	103.30
1	C	3202	PRO	N-CA-CB	6.19	110.73	103.30
1	A	3292	PRO	N-CA-CB	6.19	110.72	103.30
1	A	3302	PRO	N-CA-CB	6.18	110.72	103.30
1	C	3302	PRO	N-CA-CB	6.18	110.72	103.30
1	D	3208	PRO	N-CA-CB	6.18	110.72	103.30
1	D	3302	PRO	N-CA-CB	6.18	110.72	103.30
1	D	3351	PRO	N-CA-CB	6.18	110.71	103.30
1	B	3062	PRO	N-CA-CB	6.18	110.71	103.30
1	B	2567	PRO	N-CA-CB	6.17	110.71	103.30
1	A	1827	ARG	NE-CZ-NH2	6.17	123.39	120.30
1	C	3292	PRO	N-CA-CB	6.17	110.70	103.30
1	D	3138	PRO	N-CA-CB	6.16	110.69	103.30
1	A	3062	PRO	N-CA-CB	6.16	110.69	103.30
1	D	3062	PRO	N-CA-CB	6.16	110.69	103.30
1	A	3138	PRO	N-CA-CB	6.15	110.67	103.30
1	A	3224	PRO	N-CA-CB	6.15	110.67	103.30
1	C	3138	PRO	N-CA-CB	6.15	110.67	103.30
1	C	3224	PRO	N-CA-CB	6.15	110.67	103.30
1	D	3224	PRO	N-CA-CB	6.14	110.67	103.30
1	C	3527	PRO	N-CA-CB	6.14	110.67	103.30
1	B	3527	PRO	N-CA-CB	6.14	110.67	103.30
1	B	3224	PRO	N-CA-CB	6.13	110.66	103.30
1	C	3062	PRO	N-CA-CB	6.13	110.65	103.30
1	A	3527	PRO	N-CA-CB	6.12	110.64	103.30
1	B	3138	PRO	N-CA-CB	6.12	110.64	103.30
1	D	3004	PRO	N-CA-CB	6.11	110.64	103.30
1	D	2701	PRO	N-CA-CB	6.11	110.64	103.30
1	A	3233	PRO	N-CA-CB	6.11	110.63	103.30
1	B	3233	PRO	N-CA-CB	6.11	110.63	103.30
1	B	3580	PRO	N-CA-CB	6.11	110.63	103.30
1	B	3344	PRO	N-CA-CB	6.11	110.63	103.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	3344	PRO	N-CA-CB	6.10	110.62	103.30
1	D	3519	PRO	N-CA-CB	6.09	110.61	103.30
1	A	2701	PRO	N-CA-CB	6.09	110.61	103.30
1	D	3527	PRO	N-CA-CB	6.09	110.61	103.30
1	C	3344	PRO	N-CA-CB	6.09	110.60	103.30
1	C	3233	PRO	N-CA-CB	6.08	110.60	103.30
1	D	3233	PRO	N-CA-CB	6.08	110.60	103.30
1	A	2560	PRO	N-CA-CB	6.08	110.60	103.30
1	D	3344	PRO	N-CA-CB	6.08	110.60	103.30
1	C	2560	PRO	N-CA-CB	6.08	110.60	103.30
1	A	3580	PRO	N-CA-CB	6.08	110.59	103.30
1	C	2631	PRO	N-CA-CB	6.08	110.59	103.30
1	C	3580	PRO	N-CA-CB	6.08	110.59	103.30
1	B	2560	PRO	N-CA-CB	6.08	110.59	103.30
1	B	2701	PRO	N-CA-CB	6.08	110.59	103.30
1	C	3567	PRO	N-CA-CB	6.08	110.59	103.30
1	A	3004	PRO	N-CA-CB	6.08	110.59	103.30
1	A	3427	PRO	N-CA-CB	6.08	110.59	103.30
1	C	3004	PRO	N-CA-CB	6.08	110.59	103.30
1	C	3427	PRO	N-CA-CB	6.08	110.59	103.30
1	B	3004	PRO	N-CA-CB	6.08	110.59	103.30
1	A	3519	PRO	N-CA-CB	6.07	110.59	103.30
1	B	3519	PRO	N-CA-CB	6.07	110.59	103.30
1	D	3427	PRO	N-CA-CB	6.07	110.58	103.30
1	C	2701	PRO	N-CA-CB	6.07	110.58	103.30
1	A	3294	PRO	N-CA-CB	6.06	110.58	103.30
1	C	3519	PRO	N-CA-CB	6.06	110.58	103.30
1	B	3294	PRO	N-CA-CB	6.06	110.58	103.30
1	D	3294	PRO	N-CA-CB	6.06	110.57	103.30
1	A	3567	PRO	N-CA-CB	6.06	110.57	103.30
1	B	3567	PRO	N-CA-CB	6.06	110.57	103.30
1	D	2560	PRO	N-CA-CB	6.05	110.56	103.30
1	C	3294	PRO	N-CA-CB	6.05	110.57	103.30
1	A	2631	PRO	N-CA-CB	6.05	110.56	103.30
1	A	2496	PRO	N-CA-CB	6.05	110.56	103.30
1	C	2496	PRO	N-CA-CB	6.05	110.56	103.30
1	B	2528	PRO	N-CA-CB	6.05	110.56	103.30
1	D	2496	PRO	N-CA-CB	6.05	110.56	103.30
1	D	3612	PRO	N-CA-CB	6.04	110.55	103.30
1	B	3427	PRO	N-CA-CB	6.04	110.55	103.30
1	D	3580	PRO	N-CA-CB	6.04	110.55	103.30
1	C	2528	PRO	N-CA-CB	6.04	110.54	103.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	C	3303	PRO	N-CA-CB	6.03	110.54	103.30
1	C	3612	PRO	N-CA-CB	6.03	110.54	103.30
1	A	2528	PRO	N-CA-CB	6.03	110.54	103.30
1	D	3567	PRO	N-CA-CB	6.03	110.54	103.30
1	B	2496	PRO	N-CA-CB	6.03	110.54	103.30
1	B	2631	PRO	N-CA-CB	6.03	110.54	103.30
1	B	3241	PRO	N-CA-CB	6.03	110.53	103.30
1	A	3303	PRO	N-CA-CB	6.03	110.53	103.30
1	A	3612	PRO	N-CA-CB	6.03	110.53	103.30
1	B	3303	PRO	N-CA-CB	6.03	110.53	103.30
1	D	2631	PRO	N-CA-CB	6.02	110.53	103.30
1	D	3297	PRO	N-CA-CB	6.02	110.52	103.30
1	D	855	PRO	CA-N-CD	-6.01	103.08	111.50
1	A	3241	PRO	N-CA-CB	6.01	110.51	103.30
1	D	3241	PRO	N-CA-CB	6.01	110.51	103.30
1	D	3244	PRO	N-CA-CB	6.01	110.51	103.30
1	B	3612	PRO	N-CA-CB	6.01	110.51	103.30
1	A	855	PRO	CA-N-CD	-6.00	103.09	111.50
1	A	3244	PRO	N-CA-CB	6.00	110.51	103.30
1	C	855	PRO	CA-N-CD	-6.00	103.09	111.50
1	C	3244	PRO	N-CA-CB	6.00	110.51	103.30
1	B	855	PRO	CA-N-CD	-6.00	103.09	111.50
1	D	3289	PRO	N-CA-CB	6.00	110.50	103.30
1	D	3303	PRO	N-CA-CB	5.99	110.49	103.30
1	B	3244	PRO	N-CA-CB	5.98	110.48	103.30
1	A	3289	PRO	N-CA-CB	5.98	110.48	103.30
1	D	2528	PRO	N-CA-CB	5.98	110.48	103.30
1	C	3241	PRO	N-CA-CB	5.98	110.48	103.30
1	C	3289	PRO	N-CA-CB	5.98	110.48	103.30
1	B	3289	PRO	N-CA-CB	5.98	110.48	103.30
1	A	3297	PRO	N-CA-CB	5.97	110.47	103.30
1	C	3297	PRO	N-CA-CB	5.97	110.47	103.30
1	A	2488	PRO	N-CA-CB	5.96	110.46	103.30
1	B	2488	PRO	N-CA-CB	5.96	110.46	103.30
1	B	3297	PRO	N-CA-CB	5.96	110.45	103.30
1	C	2488	PRO	N-CA-CB	5.96	110.45	103.30
1	D	2640	PRO	N-CA-CB	5.95	110.44	103.30
1	C	3021	PRO	N-CA-CB	5.94	110.43	103.30
1	A	2640	PRO	N-CA-CB	5.94	110.42	103.30
1	D	2488	PRO	N-CA-CB	5.93	110.42	103.30
1	B	2640	PRO	N-CA-CB	5.92	110.40	103.30
1	C	1827	ARG	NE-CZ-NH2	5.90	123.25	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	3021	PRO	N-CA-CB	5.90	110.38	103.30
1	C	2640	PRO	N-CA-CB	5.89	110.37	103.30
1	B	3021	PRO	N-CA-CB	5.89	110.37	103.30
1	D	3021	PRO	N-CA-CB	5.88	110.36	103.30
1	A	4555	LEU	CA-CB-CG	5.88	128.82	115.30
1	C	4555	LEU	CA-CB-CG	5.88	128.82	115.30
1	B	4555	LEU	CA-CB-CG	5.88	128.82	115.30
1	D	4555	LEU	CA-CB-CG	5.86	128.79	115.30
1	A	5001	THR	O-C-N	5.82	132.01	122.70
1	B	5001	THR	O-C-N	5.81	132.00	122.70
1	B	1827	ARG	NE-CZ-NH2	5.81	123.20	120.30
1	D	5001	THR	O-C-N	5.80	131.98	122.70
1	C	5001	THR	O-C-N	5.80	131.97	122.70
1	C	4913	ARG	NE-CZ-NH2	5.69	123.15	120.30
1	D	1827	ARG	NE-CZ-NH2	5.67	123.14	120.30
1	B	1440	PHE	CB-CA-C	-5.64	99.12	110.40
1	D	1440	PHE	CB-CA-C	-5.64	99.12	110.40
1	A	1440	PHE	CB-CA-C	-5.62	99.15	110.40
1	C	1440	PHE	CB-CA-C	-5.62	99.15	110.40
1	A	4954	MET	N-CA-C	-5.54	96.05	111.00
1	B	4954	MET	N-CA-C	-5.54	96.05	111.00
1	C	4954	MET	N-CA-C	-5.53	96.06	111.00
1	D	4954	MET	N-CA-C	-5.53	96.08	111.00
1	A	4913	ARG	NE-CZ-NH2	5.40	123.00	120.30
1	A	855	PRO	CA-CB-CG	-5.36	93.82	104.00
1	B	855	PRO	CA-CB-CG	-5.36	93.82	104.00
1	C	1294	PRO	N-CA-CB	5.36	109.73	103.30
1	B	1294	PRO	N-CA-CB	5.35	109.72	103.30
1	D	855	PRO	CA-CB-CG	-5.34	93.84	104.00
1	C	855	PRO	CA-CB-CG	-5.34	93.84	104.00
1	A	1294	PRO	N-CA-CB	5.34	109.70	103.30
1	D	4949	GLN	N-CA-C	-5.32	96.63	111.00
1	A	4949	GLN	N-CA-C	-5.32	96.64	111.00
1	D	1294	PRO	N-CA-CB	5.32	109.68	103.30
1	C	4949	GLN	N-CA-C	-5.32	96.64	111.00
1	B	4949	GLN	N-CA-C	-5.32	96.64	111.00
1	C	4542	GLY	N-CA-C	-5.22	100.04	113.10
1	A	4542	GLY	N-CA-C	-5.21	100.07	113.10
1	D	4542	GLY	N-CA-C	-5.21	100.08	113.10
1	B	4542	GLY	N-CA-C	-5.20	100.09	113.10
1	B	4897	ILE	N-CA-C	-5.01	97.47	111.00
1	C	4897	ILE	N-CA-C	-5.01	97.48	111.00

There are no chirality outliers.

All (29) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	139	GLU	Peptide
1	A	1432	THR	Mainchain
1	A	1796	ALA	Peptide
1	A	4553	ASN	Mainchain
1	A	4791	TYR	Mainchain
1	A	4831	THR	Mainchain
1	A	752	VAL	Peptide
1	B	139	GLU	Peptide
1	B	1432	THR	Mainchain
1	B	1796	ALA	Peptide
1	B	4553	ASN	Mainchain
1	B	4715	TYR	Sidechain
1	B	4791	TYR	Mainchain
1	B	4831	THR	Mainchain
1	B	752	VAL	Peptide
1	C	139	GLU	Peptide
1	C	1432	THR	Mainchain
1	C	1796	ALA	Peptide
1	C	4553	ASN	Mainchain
1	C	4715	TYR	Sidechain
1	C	4791	TYR	Mainchain
1	C	752	VAL	Peptide
1	D	139	GLU	Peptide
1	D	1432	THR	Mainchain
1	D	1796	ALA	Peptide
1	D	4553	ASN	Mainchain
1	D	4791	TYR	Mainchain
1	D	4944	ARG	Sidechain
1	D	752	VAL	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	29207	0	25765	641	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	B	29207	0	25765	640	0
1	C	29207	0	25765	635	0
1	D	29207	0	25765	642	0
2	E	804	0	812	14	0
2	F	804	0	812	15	0
2	G	804	0	812	15	0
2	H	804	0	812	15	0
3	I	1033	0	958	28	0
3	J	1033	0	958	27	0
3	K	1033	0	958	27	0
3	L	1033	0	958	29	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	31	0	12	1	0
6	B	31	0	12	1	0
6	C	31	0	12	1	0
6	D	31	0	12	1	0
7	A	14	0	10	0	0
7	B	14	0	10	0	0
7	C	14	0	10	0	0
7	D	14	0	10	0	0
All	All	124364	0	110228	2684	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 11.

All (2684) 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:D:1484:HIS:ND1	1:D:1484:HIS:O	2.07	0.86
1:B:1484:HIS:ND1	1:B:1484:HIS:O	2.07	0.86
1:A:1484:HIS:ND1	1:A:1484:HIS:O	2.07	0.86
1:C:1484:HIS:ND1	1:C:1484:HIS:O	2.07	0.84
2:E:82:TYR:HB3	2:E:86:GLY:HA2	1.60	0.83
2:F:82:TYR:HB3	2:F:86:GLY:HA2	1.60	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1703:LEU:HD21	1:A:1709:ALA:HB2	1.61	0.82
2:H:82:TYR:HB3	2:H:86:GLY:HA2	1.60	0.82
2:G:82:TYR:HB3	2:G:86:GLY:HA2	1.60	0.82
1:D:1703:LEU:HD21	1:D:1709:ALA:HB2	1.61	0.81
1:C:1703:LEU:HD21	1:C:1709:ALA:HB2	1.61	0.81
1:B:1703:LEU:HD21	1:B:1709:ALA:HB2	1.61	0.81
1:A:1680:ARG:HB2	1:A:1796:ALA:HB1	1.63	0.79
1:B:1680:ARG:HB2	1:B:1796:ALA:HB1	1.63	0.79
1:A:2802:LYS:HG3	1:A:2806:ARG:HG3	1.64	0.79
1:A:4888:TYR:HD2	1:D:4914:VAL:HG23	1.48	0.79
1:D:1680:ARG:HB2	1:D:1796:ALA:HB1	1.63	0.79
1:C:1680:ARG:HB2	1:C:1796:ALA:HB1	1.64	0.78
1:C:2802:LYS:HG3	1:C:2806:ARG:HG3	1.64	0.78
3:L:107:ARG:NH1	3:L:123:ASP:OD1	2.17	0.78
3:K:107:ARG:NH1	3:K:123:ASP:OD1	2.17	0.78
1:D:2802:LYS:HG3	1:D:2806:ARG:HG3	1.64	0.78
1:B:2802:LYS:HG3	1:B:2806:ARG:HG3	1.64	0.78
3:J:107:ARG:NH1	3:J:123:ASP:OD1	2.17	0.77
3:I:107:ARG:NH1	3:I:123:ASP:OD1	2.17	0.77
1:D:2813:LEU:HD21	1:D:2926:LEU:HD11	1.68	0.76
1:C:2813:LEU:HD21	1:C:2926:LEU:HD11	1.68	0.76
1:D:3870:ASN:O	1:D:3873:LYS:NZ	2.18	0.76
1:C:1639:LEU:HD21	1:C:1650:ILE:HD13	1.67	0.76
1:A:3870:ASN:O	1:A:3873:LYS:NZ	2.18	0.76
1:D:1639:LEU:HD21	1:D:1650:ILE:HD13	1.68	0.75
1:B:2813:LEU:HD21	1:B:2926:LEU:HD11	1.68	0.75
1:C:3636:PHE:HB3	3:K:89:ALA:HB1	1.68	0.75
1:B:578:ILE:HG23	1:B:582:HIS:HB2	1.69	0.75
1:A:2813:LEU:HD21	1:A:2926:LEU:HD11	1.68	0.75
1:D:894:GLY:HA3	1:D:903:LEU:HB3	1.69	0.75
1:C:3870:ASN:O	1:C:3873:LYS:NZ	2.18	0.75
1:A:894:GLY:HA3	1:A:903:LEU:HB3	1.69	0.75
1:C:578:ILE:HG23	1:C:582:HIS:HB2	1.69	0.75
1:A:4104:THR:HG22	1:A:4106:PRO:HD2	1.69	0.75
1:B:1639:LEU:HD21	1:B:1650:ILE:HD13	1.67	0.75
1:A:578:ILE:HG23	1:A:582:HIS:HB2	1.68	0.74
1:B:4104:THR:HG22	1:B:4106:PRO:HD2	1.69	0.74
1:B:3870:ASN:O	1:B:3873:LYS:NZ	2.18	0.74
1:D:578:ILE:HG23	1:D:582:HIS:HB2	1.69	0.74
1:B:3636:PHE:HB3	3:J:89:ALA:HB1	1.68	0.74
1:A:1639:LEU:HD21	1:A:1650:ILE:HD13	1.67	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:3636:PHE:HB3	3:L:89:ALA:HB1	1.68	0.74
1:A:4844:LEU:O	1:A:4846:VAL:N	2.21	0.73
1:B:4103:PHE:HB3	1:B:4108:ILE:HD11	1.70	0.73
1:C:4104:THR:HG22	1:C:4106:PRO:HD2	1.69	0.73
1:A:3528:THR:HA	1:D:1220:GLN:HG2	1.71	0.73
3:I:75:ARG:HH22	3:I:76:LYS:HZ2	1.35	0.73
1:C:4844:LEU:O	1:C:4846:VAL:N	2.21	0.73
1:A:3636:PHE:HB3	3:I:89:ALA:HB1	1.68	0.73
1:C:4103:PHE:HB3	1:C:4108:ILE:HD11	1.70	0.73
1:B:4844:LEU:O	1:B:4846:VAL:N	2.21	0.73
1:A:4103:PHE:HB3	1:A:4108:ILE:HD11	1.70	0.72
1:D:4104:THR:HG22	1:D:4106:PRO:HD2	1.69	0.72
1:B:894:GLY:HA3	1:B:903:LEU:HB3	1.69	0.72
1:A:1770:SER:OG	1:A:1772:ARG:NH2	2.22	0.72
1:D:883:ALA:HB3	1:D:967:PRO:HG3	1.72	0.72
1:D:4844:LEU:O	1:D:4846:VAL:N	2.21	0.72
1:C:894:GLY:HA3	1:C:903:LEU:HB3	1.69	0.72
1:C:973:SER:O	1:C:976:ARG:NH1	2.22	0.72
1:D:4552:LEU:HA	1:D:4555:LEU:HD22	1.72	0.72
1:B:1707:LEU:HG	1:B:1708:ARG:H	1.54	0.72
1:C:1770:SER:OG	1:C:1772:ARG:NH2	2.22	0.72
1:A:973:SER:O	1:A:976:ARG:NH1	2.22	0.72
1:C:1707:LEU:HG	1:C:1708:ARG:H	1.54	0.72
1:C:4552:LEU:HA	1:C:4555:LEU:HD22	1.72	0.72
1:B:1770:SER:OG	1:B:1772:ARG:NH2	2.22	0.72
1:A:1707:LEU:HG	1:A:1708:ARG:H	1.54	0.72
1:D:4103:PHE:HB3	1:D:4108:ILE:HD11	1.70	0.71
1:B:883:ALA:HB3	1:B:967:PRO:HG3	1.72	0.71
1:B:973:SER:O	1:B:976:ARG:NH1	2.22	0.71
1:D:898:ASP:HB2	1:D:903:LEU:HB2	1.72	0.71
1:B:4552:LEU:HA	1:B:4555:LEU:HD22	1.72	0.71
1:D:973:SER:O	1:D:976:ARG:NH1	2.22	0.71
1:D:1770:SER:OG	1:D:1772:ARG:NH2	2.22	0.71
1:A:898:ASP:HB2	1:A:903:LEU:HB2	1.72	0.71
1:B:898:ASP:HB2	1:B:903:LEU:HB2	1.72	0.71
1:A:4552:LEU:HA	1:A:4555:LEU:HD22	1.72	0.71
1:C:2336:ARG:HE	1:C:2435:ARG:HD3	1.56	0.71
1:C:883:ALA:HB3	1:C:967:PRO:HG3	1.72	0.71
1:A:883:ALA:HB3	1:A:967:PRO:HG3	1.72	0.71
1:A:1995:THR:OG1	3:I:112:ASN:O	2.09	0.70
1:D:1707:LEU:HG	1:D:1708:ARG:H	1.54	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:607:CYS:SG	1:C:618:GLN:NE2	2.61	0.70
1:A:2336:ARG:HE	1:A:2435:ARG:HD3	1.56	0.70
1:C:898:ASP:HB2	1:C:903:LEU:HB2	1.72	0.70
1:C:1833:SER:O	1:C:1835:GLU:N	2.25	0.70
1:B:2799:GLU:HA	1:B:2802:LYS:HD3	1.73	0.70
1:D:1833:SER:O	1:D:1835:GLU:N	2.25	0.70
1:A:1833:SER:O	1:A:1835:GLU:N	2.25	0.70
1:A:3932:ASP:OD1	1:D:76:ARG:HG3	1.92	0.70
1:D:2799:GLU:HA	1:D:2802:LYS:HD3	1.73	0.69
3:K:75:ARG:HH22	3:K:76:LYS:HZ2	1.38	0.69
1:A:2799:GLU:HA	1:A:2802:LYS:HD3	1.73	0.69
1:D:4021:LYS:NZ	1:D:4142:ASN:OD1	2.26	0.69
1:B:607:CYS:SG	1:B:618:GLN:NE2	2.61	0.69
1:B:1833:SER:O	1:B:1835:GLU:N	2.25	0.69
1:B:2336:ARG:HE	1:B:2435:ARG:HD3	1.56	0.69
1:A:2209:GLU:O	1:A:2213:ASN:ND2	2.25	0.69
1:D:1995:THR:OG1	3:L:112:ASN:O	2.09	0.69
1:D:2209:GLU:O	1:D:2213:ASN:ND2	2.25	0.69
1:B:1704:PRO:HG2	1:B:1707:LEU:HD23	1.74	0.69
1:B:2209:GLU:O	1:B:2213:ASN:ND2	2.25	0.69
1:D:2336:ARG:HE	1:D:2435:ARG:HD3	1.56	0.69
1:D:2770:LYS:HB3	1:D:2775:TRP:HB2	1.75	0.69
1:D:4017:LEU:HD12	1:D:4139:ILE:HG13	1.74	0.69
1:C:1704:PRO:HG2	1:C:1707:LEU:HD23	1.74	0.69
1:C:2209:GLU:O	1:C:2213:ASN:ND2	2.25	0.69
1:C:4021:LYS:NZ	1:C:4142:ASN:OD1	2.26	0.69
1:C:138:GLN:N	1:C:138:GLN:OE1	2.26	0.69
1:B:1995:THR:OG1	3:J:112:ASN:O	2.09	0.69
1:D:1704:PRO:HG2	1:D:1707:LEU:HD23	1.74	0.69
1:B:745:SER:HB2	1:B:758:ARG:HB3	1.75	0.69
1:B:4017:LEU:HD12	1:B:4139:ILE:HG13	1.74	0.69
3:L:75:ARG:HH22	3:L:76:LYS:HZ2	1.40	0.68
1:C:2770:LYS:HB3	1:C:2775:TRP:HB2	1.75	0.68
1:C:2799:GLU:HA	1:C:2802:LYS:HD3	1.73	0.68
1:C:4017:LEU:HD12	1:C:4139:ILE:HG13	1.74	0.68
1:B:4021:LYS:NZ	1:B:4142:ASN:OD1	2.26	0.68
1:A:745:SER:HB2	1:A:758:ARG:HB3	1.75	0.68
1:A:4017:LEU:HD12	1:A:4139:ILE:HG13	1.74	0.68
1:C:1995:THR:OG1	3:K:112:ASN:O	2.09	0.68
1:B:138:GLN:OE1	1:B:138:GLN:N	2.26	0.68
1:A:4021:LYS:NZ	1:A:4142:ASN:OD1	2.26	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2770:LYS:HB3	1:B:2775:TRP:HB2	1.75	0.68
1:A:1704:PRO:HG2	1:A:1707:LEU:HD23	1.74	0.68
1:D:138:GLN:OE1	1:D:138:GLN:N	2.26	0.68
1:A:2770:LYS:HB3	1:A:2775:TRP:HB2	1.75	0.67
1:C:745:SER:HB2	1:C:758:ARG:HB3	1.75	0.67
1:A:138:GLN:OE1	1:A:138:GLN:N	2.26	0.67
1:A:1433:TYR:HB3	1:A:1573:MET:O	1.94	0.67
1:D:745:SER:HB2	1:D:758:ARG:HB3	1.75	0.67
1:C:1433:TYR:HB3	1:C:1573:MET:O	1.94	0.67
1:B:1433:TYR:HB3	1:B:1573:MET:O	1.94	0.67
1:C:810:PRO:HB2	1:C:812:HIS:CD2	2.31	0.66
1:B:2321:ILE:HG13	1:B:2322:GLY:H	1.60	0.66
1:D:2321:ILE:HG13	1:D:2322:GLY:H	1.60	0.66
1:D:607:CYS:SG	1:D:618:GLN:NE2	2.61	0.66
1:C:1698:LEU:HD12	1:C:1814:MET:HE1	1.77	0.66
1:D:1433:TYR:HB3	1:D:1573:MET:O	1.94	0.66
1:B:810:PRO:HB2	1:B:812:HIS:CD2	2.31	0.66
1:C:2321:ILE:HG13	1:C:2322:GLY:H	1.60	0.66
1:A:810:PRO:HB2	1:A:812:HIS:CD2	2.31	0.66
1:A:2321:ILE:HG13	1:A:2322:GLY:H	1.60	0.66
1:A:495:ASN:OD1	1:A:553:ARG:NH2	2.29	0.65
1:A:4896:GLY:O	1:A:4898:GLY:N	2.30	0.65
1:D:810:PRO:HB2	1:D:812:HIS:CD2	2.31	0.65
1:C:4896:GLY:O	1:C:4898:GLY:N	2.29	0.65
1:B:587:ILE:HG23	1:B:625:LEU:HD12	1.78	0.65
1:D:4945:ASP:O	1:D:4947:GLN:N	2.29	0.65
1:B:882:TRP:HA	1:B:886:ARG:HH11	1.61	0.65
1:D:587:ILE:HG23	1:D:625:LEU:HD12	1.78	0.65
1:B:4945:ASP:O	1:B:4947:GLN:N	2.29	0.65
1:A:4945:ASP:O	1:A:4947:GLN:N	2.29	0.65
1:C:3702:VAL:HG11	1:C:3775:ALA:HA	1.79	0.65
1:B:4896:GLY:O	1:B:4898:GLY:N	2.29	0.65
1:A:3637:ARG:CB	3:I:89:ALA:HB2	2.27	0.65
1:D:4896:GLY:O	1:D:4898:GLY:N	2.30	0.65
1:C:4812:HIS:O	1:C:4813:LEU:C	2.34	0.65
1:D:3637:ARG:CB	3:L:89:ALA:HB2	2.27	0.65
1:D:4945:ASP:O	1:D:4948:GLU:N	2.30	0.65
1:C:495:ASN:OD1	1:C:553:ARG:NH2	2.29	0.65
1:A:958:THR:HG23	1:A:959:TYR:H	1.62	0.65
1:D:3702:VAL:HG11	1:D:3775:ALA:HA	1.79	0.65
2:H:29:MET:HA	2:H:35:LYS:HA	1.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:4945:ASP:O	1:C:4947:GLN:N	2.29	0.65
1:B:495:ASN:OD1	1:B:553:ARG:NH2	2.29	0.65
1:C:3637:ARG:CB	3:K:89:ALA:HB2	2.27	0.65
1:B:795:GLY:H	1:B:812:HIS:CD2	2.15	0.65
1:A:795:GLY:H	1:A:812:HIS:CD2	2.15	0.64
1:A:4812:HIS:O	1:A:4813:LEU:C	2.33	0.64
1:B:1693:GLN:HA	1:B:1696:HIS:HB3	1.79	0.64
2:F:29:MET:HA	2:F:35:LYS:HA	1.78	0.64
1:C:4945:ASP:O	1:C:4948:GLU:N	2.30	0.64
2:H:24:VAL:HG12	2:H:26:TYR:HB3	1.79	0.64
1:B:2780:ASN:HA	1:B:2789:PRO:HB3	1.79	0.64
1:B:3702:VAL:HG11	1:B:3775:ALA:HA	1.79	0.64
1:A:882:TRP:HA	1:A:886:ARG:HH11	1.61	0.64
2:E:29:MET:HA	2:E:35:LYS:HA	1.78	0.64
1:D:495:ASN:OD1	1:D:553:ARG:NH2	2.29	0.64
1:B:958:THR:HG23	1:B:959:TYR:H	1.62	0.64
1:B:3637:ARG:CB	3:J:89:ALA:HB2	2.27	0.64
1:C:795:GLY:H	1:C:812:HIS:CD2	2.15	0.64
2:G:29:MET:HA	2:G:35:LYS:HA	1.78	0.64
3:J:143:VAL:O	3:J:147:THR:OG1	2.13	0.64
1:A:4945:ASP:O	1:A:4948:GLU:N	2.30	0.64
1:D:795:GLY:H	1:D:812:HIS:CD2	2.15	0.64
1:D:958:THR:HG23	1:D:959:TYR:H	1.62	0.64
1:C:587:ILE:HG23	1:C:625:LEU:HD12	1.78	0.64
1:C:882:TRP:HA	1:C:886:ARG:HH11	1.61	0.64
1:C:1693:GLN:HA	1:C:1696:HIS:HB3	1.79	0.64
1:B:1738:LEU:HB3	1:B:2146:PRO:HD3	1.80	0.64
1:A:3702:VAL:HG11	1:A:3775:ALA:HA	1.79	0.64
1:A:587:ILE:HG23	1:A:625:LEU:HD12	1.78	0.63
1:A:2780:ASN:HA	1:A:2789:PRO:HB3	1.79	0.63
1:B:4945:ASP:O	1:B:4948:GLU:N	2.30	0.63
2:F:24:VAL:HG12	2:F:26:TYR:HB3	1.79	0.63
1:A:551:LEU:HD12	1:A:589:LEU:HD22	1.81	0.63
2:E:24:VAL:HG12	2:E:26:TYR:HB3	1.79	0.63
3:I:143:VAL:O	3:I:147:THR:OG1	2.13	0.63
1:C:132:ALA:HA	1:C:194:SER:HB2	1.81	0.63
1:C:2780:ASN:O	1:C:2787:THR:OG1	2.17	0.63
1:A:3636:PHE:C	3:I:89:ALA:HB1	2.19	0.63
1:D:2780:ASN:HA	1:D:2789:PRO:HB3	1.79	0.63
1:D:4991:PHE:O	1:D:4993:MET:N	2.31	0.63
1:B:2780:ASN:O	1:B:2787:THR:OG1	2.17	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3636:PHE:C	3:J:89:ALA:HB1	2.19	0.63
1:A:1693:GLN:HA	1:A:1696:HIS:HB3	1.79	0.63
1:D:132:ALA:HA	1:D:194:SER:HB2	1.81	0.63
1:D:882:TRP:HA	1:D:886:ARG:HH11	1.61	0.63
1:D:4812:HIS:O	1:D:4813:LEU:C	2.33	0.63
1:C:1738:LEU:HB3	1:C:2146:PRO:HD3	1.80	0.63
1:D:3636:PHE:C	3:L:89:ALA:HB1	2.19	0.63
1:C:671:VAL:HG12	1:C:740:PRO:HG3	1.81	0.63
1:C:2780:ASN:HA	1:C:2789:PRO:HB3	1.79	0.63
1:D:2780:ASN:O	1:D:2787:THR:OG1	2.17	0.62
1:C:256:ALA:HB2	1:C:477:LEU:HD11	1.81	0.62
1:C:958:THR:HG23	1:C:959:TYR:H	1.62	0.62
2:G:24:VAL:HG12	2:G:26:TYR:HB3	1.79	0.62
1:B:551:LEU:HD12	1:B:589:LEU:HD22	1.81	0.62
1:A:1738:LEU:HB3	1:A:2146:PRO:HD3	1.80	0.62
1:C:910:PHE:HA	1:C:913:LEU:HD12	1.81	0.62
1:C:4991:PHE:O	1:C:4993:MET:N	2.32	0.62
1:B:4812:HIS:O	1:B:4813:LEU:C	2.34	0.62
1:A:1739:THR:HG1	1:A:1742:THR:HG1	1.47	0.62
1:A:4991:PHE:O	1:A:4993:MET:N	2.31	0.62
1:D:1693:GLN:HA	1:D:1696:HIS:HB3	1.79	0.62
1:D:4999:ASP:OD1	1:D:5000:GLU:N	2.32	0.62
1:D:910:PHE:HA	1:D:913:LEU:HD12	1.81	0.62
1:D:3990:VAL:HG23	1:D:4051:SER:HB3	1.82	0.62
1:C:2764:GLU:HG2	1:C:2857:PRO:HB2	1.82	0.62
1:C:3636:PHE:C	3:K:89:ALA:HB1	2.19	0.62
1:C:4999:ASP:OD1	1:C:5000:GLU:N	2.32	0.62
1:B:910:PHE:HA	1:B:913:LEU:HD12	1.81	0.62
1:B:2764:GLU:HG2	1:B:2857:PRO:HB2	1.82	0.62
1:A:132:ALA:HA	1:A:194:SER:HB2	1.81	0.62
1:A:675:LEU:HD23	1:A:676:THR:HG23	1.82	0.62
1:D:256:ALA:HB2	1:D:477:LEU:HD11	1.81	0.62
1:D:675:LEU:HD23	1:D:676:THR:HG23	1.82	0.62
1:A:2764:GLU:HG2	1:A:2857:PRO:HB2	1.82	0.62
1:D:2764:GLU:HG2	1:D:2857:PRO:HB2	1.82	0.62
1:C:551:LEU:HD12	1:C:589:LEU:HD22	1.81	0.62
1:A:607:CYS:SG	1:A:618:GLN:NE2	2.61	0.62
1:D:551:LEU:HD12	1:D:589:LEU:HD22	1.81	0.62
1:C:3990:VAL:HG23	1:C:4051:SER:HB3	1.82	0.62
1:B:132:ALA:HA	1:B:194:SER:HB2	1.81	0.62
1:B:671:VAL:HG12	1:B:740:PRO:HG3	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:910:PHE:HA	1:A:913:LEU:HD12	1.81	0.62
1:C:4687:TYR:HE1	1:C:4692:PRO:HG3	1.65	0.62
1:B:675:LEU:HD23	1:B:676:THR:HG23	1.82	0.62
1:D:1738:LEU:HB3	1:D:2146:PRO:HD3	1.80	0.62
1:D:3826:VAL:O	1:D:3828:PHE:N	2.33	0.62
1:D:4687:TYR:HE1	1:D:4692:PRO:HG3	1.65	0.62
1:B:4991:PHE:O	1:B:4993:MET:N	2.32	0.62
1:B:3990:VAL:HG23	1:B:4051:SER:HB3	1.82	0.62
1:D:662:TRP:HD1	1:D:748:LEU:HD22	1.65	0.61
1:A:4966:ASP:O	1:A:4967:TYR:C	2.39	0.61
1:A:4999:ASP:OD1	1:A:5000:GLU:N	2.32	0.61
1:D:647:ASN:OD1	1:D:822:ARG:N	2.33	0.61
3:J:75:ARG:HH22	3:J:76:LYS:HZ2	1.48	0.61
1:A:1455:PRO:HG3	1:A:1549:PHE:CE1	2.36	0.61
1:A:4687:TYR:HE1	1:A:4692:PRO:HG3	1.65	0.61
1:D:671:VAL:HG12	1:D:740:PRO:HG3	1.81	0.61
1:C:662:TRP:HD1	1:C:748:LEU:HD22	1.65	0.61
1:D:1455:PRO:HG3	1:D:1549:PHE:CE1	2.36	0.61
1:C:790:ARG:HG2	1:C:1627:ALA:HB2	1.82	0.61
1:C:1455:PRO:HG3	1:C:1549:PHE:CE1	2.36	0.61
1:B:662:TRP:HD1	1:B:748:LEU:HD22	1.65	0.61
1:B:1703:LEU:HD11	1:B:1709:ALA:H	1.66	0.61
1:A:790:ARG:HG2	1:A:1627:ALA:HB2	1.82	0.61
1:C:675:LEU:HD23	1:C:676:THR:HG23	1.82	0.61
1:C:749:ASP:O	1:C:753:PRO:HA	2.01	0.61
1:C:1703:LEU:HD11	1:C:1709:ALA:H	1.66	0.61
1:B:1455:PRO:HG3	1:B:1549:PHE:CE1	2.36	0.61
1:B:4999:ASP:OD1	1:B:5000:GLU:N	2.32	0.61
1:A:749:ASP:O	1:A:753:PRO:HA	2.01	0.61
1:A:3990:VAL:HG23	1:A:4051:SER:HB3	1.82	0.61
1:B:4687:TYR:HE1	1:B:4692:PRO:HG3	1.65	0.61
1:C:4966:ASP:O	1:C:4967:TYR:C	2.39	0.61
1:B:256:ALA:HB2	1:B:477:LEU:HD11	1.81	0.61
1:B:4812:HIS:C	1:B:4814:LEU:N	2.51	0.61
1:A:256:ALA:HB2	1:A:477:LEU:HD11	1.81	0.61
1:A:647:ASN:OD1	1:A:822:ARG:N	2.33	0.61
1:A:2780:ASN:O	1:A:2787:THR:OG1	2.17	0.61
1:A:4950:VAL:O	1:A:4952:GLU:N	2.34	0.61
1:D:4950:VAL:O	1:D:4952:GLU:N	2.34	0.61
1:D:4966:ASP:O	1:D:4967:TYR:C	2.39	0.61
1:C:647:ASN:OD1	1:C:822:ARG:N	2.33	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4950:VAL:O	1:B:4952:GLU:N	2.34	0.61
1:B:609:CYS:SG	1:B:610:ASN:N	2.73	0.61
1:A:662:TRP:HD1	1:A:748:LEU:HD22	1.65	0.60
1:C:4950:VAL:O	1:C:4952:GLU:N	2.34	0.60
1:B:219:VAL:HG12	1:B:259:LEU:HD12	1.83	0.60
1:B:790:ARG:HG2	1:B:1627:ALA:HB2	1.82	0.60
1:D:4235:VAL:HG13	1:D:5014:TYR:HE1	1.67	0.60
1:B:749:ASP:O	1:B:753:PRO:HA	2.01	0.60
1:B:3826:VAL:O	1:B:3828:PHE:N	2.33	0.60
1:A:913:LEU:HD13	1:A:917:GLU:HB3	1.84	0.60
1:D:609:CYS:SG	1:D:610:ASN:N	2.73	0.60
1:D:749:ASP:O	1:D:753:PRO:HA	2.01	0.60
1:D:913:LEU:HD13	1:D:917:GLU:HB3	1.84	0.60
1:D:3678:SER:OG	1:D:3679:LYS:N	2.34	0.60
1:D:4984:ASN:O	1:D:4985:LEU:C	2.40	0.60
1:A:671:VAL:HG12	1:A:740:PRO:HG3	1.81	0.60
1:A:1128:ARG:HB2	1:A:1130:GLN:HE21	1.67	0.60
1:A:1703:LEU:HD11	1:A:1709:ALA:H	1.66	0.60
1:A:609:CYS:SG	1:A:610:ASN:N	2.73	0.60
1:C:4235:VAL:HG13	1:C:5014:TYR:HE1	1.66	0.60
1:C:4812:HIS:C	1:C:4814:LEU:N	2.52	0.60
1:B:1128:ARG:HB2	1:B:1130:GLN:HE21	1.67	0.60
1:D:219:VAL:HG12	1:D:259:LEU:HD12	1.83	0.60
1:D:4812:HIS:C	1:D:4814:LEU:N	2.53	0.60
1:C:1128:ARG:HB2	1:C:1130:GLN:HE21	1.67	0.60
1:B:647:ASN:OD1	1:B:822:ARG:N	2.33	0.60
1:D:1703:LEU:HD11	1:D:1709:ALA:H	1.66	0.60
1:C:4984:ASN:O	1:C:4985:LEU:C	2.40	0.60
1:D:790:ARG:HG2	1:D:1627:ALA:HB2	1.82	0.60
1:D:1128:ARG:HB2	1:D:1130:GLN:HE21	1.67	0.60
1:C:1987:SER:O	1:C:1989:ALA:N	2.34	0.60
1:B:2291:GLN:O	1:B:2293:GLN:N	2.35	0.60
1:B:4984:ASN:O	1:B:4985:LEU:C	2.40	0.60
1:A:219:VAL:HG12	1:A:259:LEU:HD12	1.83	0.60
1:A:3678:SER:OG	1:A:3679:LYS:N	2.34	0.60
1:C:746:CYS:SG	1:C:747:CYS:N	2.75	0.60
1:C:913:LEU:HD13	1:C:917:GLU:HB3	1.84	0.60
1:A:4812:HIS:C	1:A:4814:LEU:N	2.53	0.59
1:D:2023:LEU:O	1:D:2028:ARG:NH2	2.35	0.59
1:B:913:LEU:HD13	1:B:917:GLU:HB3	1.84	0.59
1:A:919:ASN:HB2	1:A:923:GLN:HB2	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:219:VAL:HG12	1:C:259:LEU:HD12	1.83	0.59
1:B:3973:CYS:O	1:B:3976:ASN:N	2.34	0.59
1:A:975:VAL:O	1:A:1044:ARG:NH1	2.35	0.59
1:D:1739:THR:HG1	1:D:1742:THR:HG1	1.50	0.59
3:J:75:ARG:HH22	3:J:76:LYS:NZ	2.00	0.59
1:A:4235:VAL:HG13	1:A:5014:TYR:HE1	1.66	0.59
1:A:4819:GLU:O	1:A:4820:VAL:C	2.41	0.59
1:D:340:LYS:N	1:D:344:SER:OG	2.35	0.59
1:C:4819:GLU:O	1:C:4820:VAL:C	2.41	0.59
3:K:75:ARG:HH22	3:K:76:LYS:NZ	2.00	0.59
1:B:919:ASN:HB2	1:B:923:GLN:HB2	1.85	0.59
1:A:3826:VAL:O	1:A:3828:PHE:N	2.33	0.59
1:C:3826:VAL:O	1:C:3828:PHE:N	2.33	0.59
1:B:1987:SER:O	1:B:1989:ALA:N	2.35	0.59
1:A:2332:LEU:HD11	1:A:2429:LEU:HA	1.84	0.59
1:C:609:CYS:SG	1:C:610:ASN:N	2.74	0.59
1:A:2291:GLN:O	1:A:2293:GLN:N	2.35	0.59
1:D:359:TYR:OH	1:D:385:ASP:OD2	2.21	0.59
1:D:1987:SER:O	1:D:1989:ALA:N	2.34	0.59
1:B:760:ASN:OD1	1:B:761:GLY:N	2.36	0.59
1:B:4542:GLY:O	1:B:4546:VAL:HG12	2.02	0.59
1:A:746:CYS:SG	1:A:747:CYS:N	2.75	0.59
1:D:2276:ALA:O	1:D:2279:SER:OG	2.20	0.59
1:C:4542:GLY:O	1:C:4546:VAL:HG12	2.02	0.59
1:B:746:CYS:SG	1:B:747:CYS:N	2.75	0.59
1:B:2276:ALA:O	1:B:2279:SER:OG	2.20	0.59
1:B:4235:VAL:HG13	1:B:5014:TYR:HE1	1.66	0.59
1:A:1987:SER:O	1:A:1989:ALA:N	2.35	0.59
1:D:919:ASN:HB2	1:D:923:GLN:HB2	1.85	0.59
1:C:2023:LEU:O	1:C:2028:ARG:NH2	2.35	0.59
1:B:340:LYS:N	1:B:344:SER:OG	2.35	0.59
1:A:340:LYS:N	1:A:344:SER:OG	2.35	0.59
1:A:4844:LEU:O	1:A:4845:ALA:C	2.41	0.59
1:D:975:VAL:O	1:D:1044:ARG:NH1	2.35	0.59
1:D:4819:GLU:O	1:D:4820:VAL:C	2.41	0.59
1:D:4823:LEU:CD2	1:C:4839:MET:HE2	2.33	0.59
3:L:75:ARG:HH22	3:L:76:LYS:NZ	2.00	0.59
1:C:760:ASN:OD1	1:C:761:GLY:N	2.36	0.59
1:B:4844:LEU:O	1:B:4845:ALA:C	2.41	0.59
1:D:138:GLN:HG2	1:D:139:GLU:H	1.68	0.58
1:D:760:ASN:OD1	1:D:761:GLY:N	2.36	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:4812:HIS:CD2	1:D:4812:HIS:N	2.71	0.58
1:C:919:ASN:HB2	1:C:923:GLN:HB2	1.85	0.58
1:A:4542:GLY:O	1:A:4546:VAL:HG12	2.02	0.58
1:D:2332:LEU:HD11	1:D:2429:LEU:HA	1.84	0.58
1:D:4542:GLY:O	1:D:4546:VAL:HG12	2.02	0.58
1:C:975:VAL:O	1:C:1044:ARG:NH1	2.35	0.58
1:B:2332:LEU:HD11	1:B:2429:LEU:HA	1.84	0.58
1:A:760:ASN:OD1	1:A:761:GLY:N	2.36	0.58
1:A:2023:LEU:O	1:A:2028:ARG:NH2	2.35	0.58
1:A:4950:VAL:C	1:A:4952:GLU:H	2.07	0.58
1:D:746:CYS:SG	1:D:747:CYS:N	2.75	0.58
1:B:4966:ASP:O	1:B:4967:TYR:C	2.39	0.58
1:A:1683:HIS:HB2	1:A:1797:ARG:HH22	1.69	0.58
3:I:75:ARG:HH22	3:I:76:LYS:NZ	2.00	0.58
1:C:206:CYS:SG	1:C:207:SER:N	2.76	0.58
1:C:340:LYS:N	1:C:344:SER:OG	2.35	0.58
1:C:4812:HIS:CD2	1:C:4812:HIS:N	2.71	0.58
3:K:143:VAL:O	3:K:147:THR:OG1	2.13	0.58
1:A:4812:HIS:CD2	1:A:4812:HIS:N	2.71	0.58
1:C:2276:ALA:O	1:C:2279:SER:OG	2.20	0.58
1:C:2868:SER:O	1:C:2872:GLN:N	2.32	0.58
1:B:1242:LEU:HD12	1:B:1243:PRO:HD2	1.86	0.58
1:B:1683:HIS:HB2	1:B:1797:ARG:HH22	1.69	0.58
1:A:2760:GLU:HG2	1:A:2794:TYR:HB3	1.86	0.58
1:D:385:ASP:HB2	1:C:156:GLN:OE1	2.03	0.58
1:B:4819:GLU:O	1:B:4820:VAL:C	2.41	0.58
1:B:4950:VAL:C	1:B:4952:GLU:H	2.07	0.58
1:D:3973:CYS:O	1:D:3976:ASN:N	2.34	0.58
3:K:48:GLU:O	3:K:52:MET:HG3	2.04	0.58
1:D:1099:GLU:O	1:D:1100:MET:HE2	2.04	0.58
1:D:2025:GLU:HA	1:D:2028:ARG:HG2	1.86	0.58
1:D:4570:ALA:O	1:D:4574:ASN:ND2	2.37	0.58
1:C:1563:GLN:O	1:C:1563:GLN:HG2	2.04	0.58
1:C:2332:LEU:HD11	1:C:2429:LEU:HA	1.84	0.58
1:A:1099:GLU:O	1:A:1100:MET:HE2	2.04	0.58
1:A:4138:ASP:O	1:A:4140:GLY:N	2.37	0.58
1:D:1683:HIS:HB2	1:D:1797:ARG:HH22	1.69	0.58
1:D:2760:GLU:HG2	1:D:2794:TYR:HB3	1.86	0.58
1:A:206:CYS:SG	1:A:207:SER:N	2.76	0.57
1:D:4844:LEU:O	1:D:4845:ALA:C	2.41	0.57
1:C:4844:LEU:O	1:C:4845:ALA:C	2.41	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3835:LEU:HD21	1:B:3880:PHE:HZ	1.69	0.57
1:A:138:GLN:HG2	1:A:139:GLU:H	1.68	0.57
3:I:48:GLU:O	3:I:52:MET:HG3	2.04	0.57
3:L:48:GLU:O	3:L:52:MET:HG3	2.04	0.57
1:C:359:TYR:OH	1:C:385:ASP:OD2	2.21	0.57
1:C:3401:LEU:O	1:C:3403:ARG:N	2.37	0.57
1:C:4950:VAL:C	1:C:4952:GLU:H	2.07	0.57
1:A:3835:LEU:HD21	1:A:3880:PHE:HZ	1.70	0.57
1:A:4984:ASN:O	1:A:4985:LEU:C	2.40	0.57
1:D:972:LEU:HD13	1:D:1044:ARG:HB2	1.86	0.57
1:D:1152:MET:HB2	1:D:1161:ILE:HB	1.86	0.57
1:D:3696:ASP:OD2	1:D:3773:ARG:NE	2.37	0.57
1:D:4682:GLU:HG2	1:D:4723:LYS:NZ	2.19	0.57
1:B:359:TYR:OH	1:B:385:ASP:OD2	2.21	0.57
1:B:1433:TYR:CD1	1:B:1433:TYR:N	2.72	0.57
1:B:4138:ASP:O	1:B:4140:GLY:N	2.37	0.57
1:A:712:TYR:HE1	1:A:1470:ARG:HD2	1.70	0.57
1:A:972:LEU:HD13	1:A:1044:ARG:HB2	1.86	0.57
1:D:4950:VAL:C	1:D:4952:GLU:H	2.07	0.57
1:C:2291:GLN:O	1:C:2293:GLN:N	2.35	0.57
1:B:633:LEU:HG	1:B:1641:ILE:HG22	1.86	0.57
1:A:4235:VAL:CG1	1:A:5014:TYR:HE1	2.18	0.57
1:A:4570:ALA:O	1:A:4574:ASN:ND2	2.37	0.57
1:C:908:VAL:HA	1:C:963:ASN:HD22	1.70	0.57
1:C:3696:ASP:OD2	1:C:3773:ARG:NE	2.37	0.57
1:C:3835:LEU:HD21	1:C:3880:PHE:HZ	1.69	0.57
1:B:1776:HIS:HB3	1:B:1798:LEU:HD21	1.86	0.57
1:A:908:VAL:HA	1:A:963:ASN:HD22	1.70	0.57
1:A:1242:LEU:HD12	1:A:1243:PRO:HD2	1.86	0.57
1:A:2806:ARG:O	1:A:2810:LYS:N	2.35	0.57
1:D:1776:HIS:HB3	1:D:1798:LEU:HD21	1.86	0.57
1:C:138:GLN:HG2	1:C:139:GLU:H	1.69	0.57
1:C:1683:HIS:HB2	1:C:1797:ARG:HH22	1.69	0.57
1:C:1776:HIS:HB3	1:C:1798:LEU:HD21	1.86	0.57
1:C:4029:SER:O	1:C:4032:GLU:HG2	2.05	0.57
1:B:4085:ARG:HE	1:B:4087:LEU:HD12	1.70	0.57
1:D:4812:HIS:O	1:D:4814:LEU:N	2.37	0.57
1:C:633:LEU:HG	1:C:1641:ILE:HG22	1.86	0.57
1:C:712:TYR:HE1	1:C:1470:ARG:HD2	1.70	0.57
1:C:2025:GLU:HA	1:C:2028:ARG:HG2	1.86	0.57
1:C:4138:ASP:O	1:C:4140:GLY:N	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:4570:ALA:O	1:C:4574:ASN:ND2	2.37	0.57
1:B:908:VAL:HA	1:B:963:ASN:HD22	1.70	0.57
1:B:975:VAL:O	1:B:1044:ARG:NH1	2.35	0.57
1:B:2868:SER:O	1:B:2872:GLN:N	2.32	0.57
1:D:3401:LEU:O	1:D:3403:ARG:N	2.37	0.57
1:D:3571:TRP:O	1:D:3575:LEU:N	2.38	0.57
1:D:4085:ARG:HE	1:D:4087:LEU:HD12	1.70	0.57
1:C:972:LEU:HD13	1:C:1044:ARG:HB2	1.86	0.57
1:C:1242:LEU:HD12	1:C:1243:PRO:HD2	1.86	0.57
1:C:4085:ARG:HE	1:C:4087:LEU:HD12	1.70	0.57
1:C:4978:HIS:HE1	1:C:4983:HIS:CD2	2.23	0.57
1:B:206:CYS:SG	1:B:207:SER:N	2.76	0.57
1:B:972:LEU:HD13	1:B:1044:ARG:HB2	1.86	0.57
1:B:1563:GLN:O	1:B:1563:GLN:HG2	2.04	0.57
1:B:3696:ASP:OD2	1:B:3773:ARG:NE	2.37	0.57
1:B:4235:VAL:CG1	1:B:5014:TYR:HE1	2.18	0.57
1:D:206:CYS:SG	1:D:207:SER:N	2.76	0.57
1:D:4138:ASP:O	1:D:4140:GLY:N	2.37	0.57
1:D:4737:ILE:HA	1:D:4740:LEU:HG	1.87	0.57
1:C:4737:ILE:HA	1:C:4740:LEU:HG	1.87	0.57
1:B:138:GLN:HG2	1:B:139:GLU:H	1.68	0.57
1:B:1698:LEU:HD12	1:B:1814:MET:HE1	1.86	0.57
1:B:2025:GLU:HA	1:B:2028:ARG:HG2	1.86	0.57
1:B:2760:GLU:HG2	1:B:2794:TYR:HB3	1.86	0.57
1:B:3669:PHE:O	1:B:3670:GLU:HG2	2.05	0.57
1:B:3678:SER:OG	1:B:3679:LYS:N	2.34	0.57
1:B:4029:SER:O	1:B:4032:GLU:HG2	2.05	0.57
1:B:4682:GLU:HG2	1:B:4723:LYS:NZ	2.19	0.57
1:A:533:ASN:ND2	1:A:536:ASN:HD22	2.03	0.57
1:A:4682:GLU:HG2	1:A:4723:LYS:NZ	2.19	0.57
1:A:4978:HIS:HE1	1:A:4983:HIS:CD2	2.23	0.57
1:D:1433:TYR:N	1:D:1433:TYR:CD1	2.72	0.57
1:C:1099:GLU:O	1:C:1100:MET:HE2	2.04	0.57
1:C:1152:MET:HB2	1:C:1161:ILE:HB	1.86	0.57
1:C:3973:CYS:O	1:C:3976:ASN:N	2.34	0.57
1:C:4682:GLU:HG2	1:C:4723:LYS:NZ	2.19	0.57
1:C:5009:TYR:CE1	1:C:5013:MET:HE1	2.40	0.57
1:B:2806:ARG:O	1:B:2810:LYS:N	2.35	0.57
1:B:4570:ALA:O	1:B:4574:ASN:ND2	2.37	0.57
1:A:1152:MET:HB2	1:A:1161:ILE:HB	1.86	0.56
1:A:3669:PHE:O	1:A:3670:GLU:HG2	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4085:ARG:HE	1:A:4087:LEU:HD12	1.70	0.56
1:D:633:LEU:HG	1:D:1641:ILE:HG22	1.86	0.56
1:C:195:PHE:HB3	1:C:196:MET:SD	2.45	0.56
1:C:2760:GLU:HG2	1:C:2794:TYR:HB3	1.86	0.56
1:D:3878:ASP:OD1	1:D:3879:GLU:N	2.38	0.56
1:C:4641:PRO:O	1:C:4644:TRP:N	2.38	0.56
3:J:48:GLU:O	3:J:52:MET:HG3	2.04	0.56
1:A:1776:HIS:HB3	1:A:1798:LEU:HD21	1.86	0.56
1:D:195:PHE:HB3	1:D:196:MET:SD	2.45	0.56
1:D:1242:LEU:HD12	1:D:1243:PRO:HD2	1.86	0.56
1:D:2440:MET:HG2	1:D:2442:LEU:H	1.70	0.56
1:D:4235:VAL:CG1	1:D:5014:TYR:HE1	2.18	0.56
1:D:4978:HIS:HE1	1:D:4983:HIS:CD2	2.23	0.56
1:C:615:ARG:NH1	1:C:1677:GLY:O	2.38	0.56
1:C:1433:TYR:N	1:C:1433:TYR:CD1	2.72	0.56
1:C:2440:MET:HG2	1:C:2442:LEU:H	1.70	0.56
1:C:3678:SER:OG	1:C:3679:LYS:N	2.34	0.56
1:B:533:ASN:ND2	1:B:536:ASN:HD22	2.03	0.56
1:B:4641:PRO:O	1:B:4644:TRP:N	2.38	0.56
1:B:4737:ILE:HA	1:B:4740:LEU:HG	1.87	0.56
1:B:4812:HIS:N	1:B:4812:HIS:CD2	2.71	0.56
1:A:3878:ASP:OD1	1:A:3879:GLU:N	2.38	0.56
1:A:3973:CYS:O	1:A:3976:ASN:N	2.34	0.56
1:D:712:TYR:HE1	1:D:1470:ARG:HD2	1.70	0.56
1:D:4226:GLY:O	1:D:4227:GLU:HG3	2.06	0.56
1:C:3842:LEU:O	1:C:3929:SER:OG	2.23	0.56
1:C:3878:ASP:OD1	1:C:3879:GLU:N	2.38	0.56
1:B:712:TYR:HE1	1:B:1470:ARG:HD2	1.70	0.56
1:B:1099:GLU:O	1:B:1100:MET:HE2	2.05	0.56
1:A:2025:GLU:HA	1:A:2028:ARG:HG2	1.86	0.56
1:A:3842:LEU:O	1:A:3929:SER:OG	2.23	0.56
1:D:882:TRP:HA	1:D:886:ARG:NH1	2.20	0.56
1:D:908:VAL:HA	1:D:963:ASN:HD22	1.70	0.56
1:D:2291:GLN:O	1:D:2293:GLN:N	2.35	0.56
1:D:3669:PHE:O	1:D:3670:GLU:HG2	2.05	0.56
1:D:4029:SER:O	1:D:4032:GLU:HG2	2.05	0.56
1:C:4235:VAL:CG1	1:C:5014:TYR:HE1	2.18	0.56
1:B:3842:LEU:O	1:B:3929:SER:OG	2.23	0.56
1:B:3878:ASP:OD1	1:B:3879:GLU:N	2.38	0.56
1:A:195:PHE:HB3	1:A:196:MET:SD	2.45	0.56
1:A:615:ARG:NH1	1:A:1677:GLY:O	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1563:GLN:HG2	1:A:1563:GLN:O	2.04	0.56
1:A:4226:GLY:O	1:A:4227:GLU:HG3	2.06	0.56
1:C:533:ASN:ND2	1:C:536:ASN:HD22	2.03	0.56
1:C:3669:PHE:O	1:C:3670:GLU:HG2	2.05	0.56
1:C:4226:GLY:O	1:C:4227:GLU:HG3	2.06	0.56
1:B:195:PHE:HB3	1:B:196:MET:SD	2.45	0.56
1:A:479:GLN:HA	1:A:484:LEU:HD23	1.88	0.56
1:A:3401:LEU:O	1:A:3403:ARG:N	2.37	0.56
1:A:4737:ILE:HA	1:A:4740:LEU:HG	1.87	0.56
1:A:4842:GLY:O	1:A:4844:LEU:N	2.39	0.56
1:D:479:GLN:HA	1:D:484:LEU:HD23	1.88	0.56
1:D:533:ASN:ND2	1:D:536:ASN:HD22	2.03	0.56
1:D:1563:GLN:HG2	1:D:1563:GLN:O	2.04	0.56
1:D:4649:LEU:O	1:D:4651:THR:N	2.39	0.56
1:C:1689:VAL:HG23	1:C:1690:ASP:H	1.70	0.56
1:B:4978:HIS:HE1	1:B:4983:HIS:CD2	2.23	0.56
1:A:633:LEU:HG	1:A:1641:ILE:HG22	1.86	0.56
1:D:1689:VAL:HG23	1:D:1690:ASP:H	1.70	0.56
1:D:3842:LEU:O	1:D:3929:SER:OG	2.23	0.56
1:B:479:GLN:HA	1:B:484:LEU:HD23	1.88	0.56
1:B:891:TRP:HE1	1:B:902:ARG:HE	1.54	0.56
1:B:3188:PRO:O	1:B:3190:LEU:N	2.39	0.56
1:A:882:TRP:HA	1:A:886:ARG:NH1	2.20	0.56
1:A:2440:MET:HG2	1:A:2442:LEU:H	1.70	0.56
1:A:2865:VAL:HG11	1:A:2931:GLN:HE22	1.71	0.56
1:A:3571:TRP:O	1:A:3575:LEU:N	2.38	0.56
1:A:4649:LEU:O	1:A:4651:THR:N	2.39	0.56
1:D:615:ARG:NH1	1:D:1677:GLY:O	2.38	0.56
1:D:3188:PRO:O	1:D:3190:LEU:N	2.39	0.56
1:C:4789:PHE:CD2	1:C:4789:PHE:O	2.59	0.56
1:A:3188:PRO:O	1:A:3190:LEU:N	2.39	0.56
1:A:4641:PRO:O	1:A:4644:TRP:N	2.38	0.56
1:D:2181:SER:O	1:D:2185:ILE:HG12	2.06	0.56
1:D:4789:PHE:O	1:D:4789:PHE:CD2	2.59	0.56
1:B:4189:ARG:HG2	1:B:5031:GLN:HE22	1.71	0.56
1:D:4842:GLY:O	1:D:4844:LEU:N	2.39	0.55
1:B:882:TRP:HA	1:B:886:ARG:NH1	2.20	0.55
1:B:1152:MET:HB2	1:B:1161:ILE:HB	1.86	0.55
1:D:2865:VAL:HG11	1:D:2931:GLN:HE22	1.71	0.55
1:C:2181:SER:O	1:C:2185:ILE:HG12	2.06	0.55
1:C:4842:GLY:O	1:C:4844:LEU:N	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:615:ARG:NH1	1:B:1677:GLY:O	2.38	0.55
1:B:2440:MET:HG2	1:B:2442:LEU:H	1.70	0.55
1:B:5009:TYR:CE1	1:B:5013:MET:HE1	2.41	0.55
1:A:2259:GLU:HA	1:A:2297:LYS:HZ2	1.71	0.55
1:A:4029:SER:O	1:A:4032:GLU:HG2	2.05	0.55
1:C:2271:THR:OG1	1:C:2272:PRO:HD2	2.06	0.55
1:C:4649:LEU:O	1:C:4651:THR:N	2.39	0.55
1:B:4226:GLY:O	1:B:4227:GLU:HG3	2.06	0.55
1:A:3535:LEU:O	1:A:3537:LYS:N	2.40	0.55
1:A:4789:PHE:O	1:A:4789:PHE:CD2	2.59	0.55
1:D:2271:THR:OG1	1:D:2272:PRO:HD2	2.06	0.55
1:C:479:GLN:HA	1:C:484:LEU:HD23	1.88	0.55
1:C:882:TRP:HA	1:C:886:ARG:NH1	2.20	0.55
1:B:1074:ILE:HG22	1:B:1193:SER:HB2	1.88	0.55
1:B:1689:VAL:HG23	1:B:1690:ASP:H	1.70	0.55
1:B:2271:THR:OG1	1:B:2272:PRO:HD2	2.06	0.55
1:B:4649:LEU:O	1:B:4651:THR:N	2.39	0.55
1:A:1074:ILE:HG22	1:A:1193:SER:HB2	1.88	0.55
1:D:3835:LEU:HD21	1:D:3880:PHE:HZ	1.70	0.55
1:D:4641:PRO:O	1:D:4644:TRP:N	2.38	0.55
1:B:4842:GLY:O	1:B:4844:LEU:N	2.39	0.55
1:A:1110:ARG:HD3	1:A:1111:PRO:HD2	1.88	0.55
1:A:4189:ARG:HG2	1:A:5031:GLN:HE22	1.71	0.55
1:A:4719:PHE:C	1:A:4721:LYS:H	2.10	0.55
1:A:5009:TYR:CE1	1:A:5013:MET:HE1	2.42	0.55
1:D:4720:VAL:HG22	1:D:4720:VAL:O	2.07	0.55
1:C:4720:VAL:O	1:C:4720:VAL:HG22	2.07	0.55
1:B:2023:LEU:O	1:B:2028:ARG:NH2	2.35	0.55
1:B:4968:PHE:CE2	1:B:4978:HIS:CD2	2.95	0.55
1:D:1074:ILE:HG22	1:D:1193:SER:HB2	1.88	0.55
1:D:4189:ARG:HG2	1:D:5031:GLN:HE22	1.71	0.55
1:C:891:TRP:HE1	1:C:902:ARG:HE	1.54	0.55
1:C:2865:VAL:HG11	1:C:2931:GLN:HE22	1.71	0.55
1:B:2865:VAL:HG11	1:B:2931:GLN:HE22	1.71	0.55
1:B:4720:VAL:O	1:B:4720:VAL:HG22	2.07	0.55
1:B:4789:PHE:CD2	1:B:4789:PHE:O	2.59	0.55
1:A:2276:ALA:O	1:A:2279:SER:OG	2.20	0.55
1:D:4823:LEU:HD23	1:C:4839:MET:HE2	1.89	0.55
1:C:1731:LEU:HD23	1:C:1772:ARG:HH11	1.72	0.55
1:C:4815:ASP:O	1:C:4816:ILE:C	2.45	0.55
1:B:12:GLN:O	1:B:164:ARG:NH1	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2810:LYS:O	1:B:2814:LYS:N	2.40	0.55
1:B:3571:TRP:O	1:B:3575:LEU:N	2.38	0.55
2:E:41:ASP:OD1	2:E:42:ARG:N	2.40	0.55
1:D:2806:ARG:O	1:D:2810:LYS:N	2.35	0.55
1:D:2868:SER:O	1:D:2872:GLN:N	2.32	0.55
1:B:2181:SER:O	1:B:2185:ILE:HG12	2.06	0.55
1:A:1731:LEU:HD23	1:A:1772:ARG:HH11	1.72	0.55
1:A:2181:SER:O	1:A:2185:ILE:HG12	2.06	0.55
1:D:891:TRP:HE1	1:D:902:ARG:HE	1.54	0.55
1:D:1716:ILE:HD13	1:D:1844:LEU:HD12	1.89	0.55
1:D:4968:PHE:CE2	1:D:4978:HIS:CD2	2.95	0.55
1:D:5009:TYR:CE1	1:D:5013:MET:HE1	2.42	0.55
1:C:4802:GLY:HA3	1:C:4809:PHE:CE1	2.42	0.55
1:B:1110:ARG:HD3	1:B:1111:PRO:HD2	1.88	0.55
1:B:1721:GLU:HA	1:B:1724:CYS:HB2	1.89	0.55
1:A:1689:VAL:HG23	1:A:1690:ASP:H	1.70	0.54
1:A:2271:THR:OG1	1:A:2272:PRO:HD2	2.06	0.54
1:A:4720:VAL:HG22	1:A:4720:VAL:O	2.07	0.54
1:A:5009:TYR:CZ	1:A:5013:MET:HE1	2.42	0.54
1:D:3535:LEU:O	1:D:3537:LYS:N	2.40	0.54
1:D:4802:GLY:HA3	1:D:4809:PHE:CE1	2.42	0.54
1:D:4815:ASP:O	1:D:4816:ILE:C	2.43	0.54
1:C:3188:PRO:O	1:C:3190:LEU:N	2.39	0.54
1:B:3401:LEU:O	1:B:3403:ARG:N	2.37	0.54
1:B:4802:GLY:HA3	1:B:4809:PHE:CE1	2.42	0.54
1:A:1433:TYR:N	1:A:1433:TYR:CD1	2.72	0.54
1:A:3696:ASP:OD2	1:A:3773:ARG:NE	2.37	0.54
1:A:4802:GLY:HA3	1:A:4809:PHE:CE1	2.42	0.54
1:A:4815:ASP:O	1:A:4816:ILE:C	2.45	0.54
1:A:4968:PHE:CE2	1:A:4978:HIS:CD2	2.95	0.54
1:D:12:GLN:O	1:D:164:ARG:NH1	2.40	0.54
1:D:2259:GLU:HA	1:D:2297:LYS:HZ2	1.72	0.54
1:C:3535:LEU:O	1:C:3537:LYS:N	2.40	0.54
1:B:1716:ILE:HD13	1:B:1844:LEU:HD12	1.90	0.54
1:B:1731:LEU:HD23	1:B:1772:ARG:HH11	1.72	0.54
1:A:1716:ILE:HD12	1:A:1720:LEU:HD12	1.90	0.54
1:D:1110:ARG:HD3	1:D:1111:PRO:HD2	1.88	0.54
1:D:1721:GLU:HA	1:D:1724:CYS:HB2	1.89	0.54
1:A:139:GLU:O	1:A:141:ALA:N	2.41	0.54
1:A:1716:ILE:HD13	1:A:1844:LEU:HD12	1.90	0.54
1:A:1721:GLU:HA	1:A:1724:CYS:HB2	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:567:VAL:HG23	1:D:568:LEU:HD12	1.89	0.54
1:D:4834:GLY:O	1:D:4838:VAL:HG22	2.08	0.54
1:C:139:GLU:O	1:C:141:ALA:N	2.41	0.54
1:C:1716:ILE:HD12	1:C:1720:LEU:HD12	1.90	0.54
1:C:4189:ARG:HG2	1:C:5031:GLN:HE22	1.72	0.54
1:A:4834:GLY:O	1:A:4838:VAL:HG22	2.08	0.54
1:D:1698:LEU:HD12	1:D:1814:MET:HE1	1.89	0.54
1:D:1716:ILE:HD12	1:D:1720:LEU:HD12	1.90	0.54
2:H:41:ASP:OD1	2:H:42:ARG:N	2.40	0.54
1:C:4968:PHE:CE2	1:C:4978:HIS:CD2	2.95	0.54
1:A:891:TRP:HE1	1:A:902:ARG:HE	1.54	0.54
1:A:977:LEU:HB3	1:A:1044:ARG:HH12	1.73	0.54
1:A:4543:GLU:O	1:A:4544:LEU:C	2.46	0.54
1:D:977:LEU:HB3	1:D:1044:ARG:HH12	1.73	0.54
1:C:1074:ILE:HG22	1:C:1193:SER:HB2	1.88	0.54
1:C:2810:LYS:O	1:C:2814:LYS:N	2.40	0.54
1:B:1716:ILE:HD12	1:B:1720:LEU:HD12	1.90	0.54
1:A:181:HIS:N	1:A:192:ASP:O	2.40	0.54
1:A:2810:LYS:O	1:A:2814:LYS:N	2.40	0.54
1:A:4960:ILE:HD11	1:A:4985:LEU:HD23	1.89	0.54
1:D:1731:LEU:HD23	1:D:1772:ARG:HH11	1.72	0.54
1:D:2810:LYS:O	1:D:2814:LYS:N	2.40	0.54
1:D:3921:ASP:OD1	1:D:3922:TYR:N	2.41	0.54
1:A:12:GLN:O	1:A:164:ARG:NH1	2.40	0.54
1:D:5009:TYR:CZ	1:D:5013:MET:HE1	2.42	0.54
1:C:12:GLN:O	1:C:164:ARG:NH1	2.40	0.54
1:C:110:ARG:HH22	1:C:115:ARG:HH21	1.56	0.54
1:B:567:VAL:HG23	1:B:568:LEU:HD12	1.89	0.54
1:A:3921:ASP:OD1	1:A:3922:TYR:N	2.41	0.54
1:A:4914:VAL:HG23	1:B:4888:TYR:HD2	1.73	0.54
1:D:4572:ALA:O	1:D:4573:ILE:C	2.46	0.54
1:C:1110:ARG:HD3	1:C:1111:PRO:HD2	1.88	0.54
1:B:3921:ASP:OD1	1:B:3922:TYR:N	2.41	0.54
1:A:914:PRO:HD2	1:A:917:GLU:HG3	1.89	0.54
1:D:4543:GLU:O	1:D:4544:LEU:C	2.46	0.54
1:C:1716:ILE:HD13	1:C:1844:LEU:HD12	1.90	0.54
1:C:1721:GLU:HA	1:C:1724:CYS:HB2	1.89	0.54
1:C:3921:ASP:OD1	1:C:3922:TYR:N	2.41	0.54
2:G:41:ASP:OD1	2:G:42:ARG:N	2.40	0.54
1:B:139:GLU:O	1:B:141:ALA:N	2.41	0.54
1:B:5009:TYR:CZ	1:B:5013:MET:HE1	2.43	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:3901:ASN:OD1	1:D:3904:ARG:NH1	2.29	0.53
1:C:567:VAL:HG23	1:C:568:LEU:HD12	1.89	0.53
1:C:914:PRO:HD2	1:C:917:GLU:HG3	1.89	0.53
1:C:3758:MET:HB3	1:C:3762:ARG:HH22	1.73	0.53
1:C:4175:ARG:HH21	1:C:4175:ARG:HG3	1.74	0.53
1:C:4572:ALA:O	1:C:4573:ILE:C	2.46	0.53
1:C:4834:GLY:O	1:C:4838:VAL:HG22	2.08	0.53
1:B:110:ARG:HH22	1:B:115:ARG:HH21	1.56	0.53
1:B:4834:GLY:O	1:B:4838:VAL:HG22	2.08	0.53
2:F:41:ASP:OD1	2:F:42:ARG:N	2.40	0.53
1:A:567:VAL:HG23	1:A:568:LEU:HD12	1.89	0.53
1:C:977:LEU:HB3	1:C:1044:ARG:HH12	1.73	0.53
1:C:2760:GLU:O	1:C:2764:GLU:N	2.38	0.53
1:C:2806:ARG:O	1:C:2810:LYS:N	2.35	0.53
1:B:694:PRO:HG3	1:B:826:ILE:HG23	1.91	0.53
1:B:805:PRO:HB2	1:B:808:TYR:HE2	1.73	0.53
1:B:914:PRO:HD2	1:B:917:GLU:HG3	1.89	0.53
1:A:2368:LEU:HA	1:A:2374:SER:HA	1.91	0.53
1:A:3528:THR:CA	1:D:1220:GLN:HG2	2.37	0.53
1:D:1802:ILE:HD12	1:D:1803:PRO:HD2	1.90	0.53
1:D:2355:ARG:NH2	1:D:2355:ARG:HB2	2.24	0.53
1:D:2368:LEU:HA	1:D:2374:SER:HA	1.90	0.53
1:D:2760:GLU:O	1:D:2764:GLU:N	2.38	0.53
1:D:4719:PHE:C	1:D:4721:LYS:H	2.10	0.53
1:D:4812:HIS:C	1:D:4814:LEU:H	2.12	0.53
1:D:4960:ILE:HD11	1:D:4985:LEU:HD23	1.90	0.53
1:C:3571:TRP:O	1:C:3575:LEU:N	2.38	0.53
1:C:4543:GLU:O	1:C:4544:LEU:C	2.46	0.53
1:B:3535:LEU:O	1:B:3537:LYS:N	2.40	0.53
1:B:3758:MET:HB3	1:B:3762:ARG:HH22	1.73	0.53
1:A:110:ARG:HH22	1:A:115:ARG:HH21	1.56	0.53
1:A:4572:ALA:O	1:A:4573:ILE:C	2.46	0.53
1:D:694:PRO:HG3	1:D:826:ILE:HG23	1.91	0.53
1:D:4773:VAL:O	1:D:4777:ILE:HG13	2.09	0.53
1:C:229:GLU:OE2	1:C:247:TYR:HB3	2.09	0.53
1:C:2259:GLU:HA	1:C:2297:LYS:HZ2	1.73	0.53
1:C:5011:TRP:CG	1:C:5011:TRP:O	2.60	0.53
1:B:2355:ARG:HB2	1:B:2355:ARG:NH2	2.24	0.53
1:B:4960:ILE:HD11	1:B:4985:LEU:HD23	1.90	0.53
1:D:229:GLU:OE2	1:D:247:TYR:HB3	2.09	0.53
1:D:914:PRO:HD2	1:D:917:GLU:HG3	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:694:PRO:HG3	1:C:826:ILE:HG23	1.91	0.53
1:C:4960:ILE:HD11	1:C:4985:LEU:HD23	1.89	0.53
1:A:1947:CYS:SG	1:A:1948:ASP:N	2.82	0.53
1:A:2868:SER:O	1:A:2872:GLN:N	2.32	0.53
1:A:5011:TRP:O	1:A:5011:TRP:CG	2.60	0.53
1:C:805:PRO:HB2	1:C:808:TYR:HE2	1.73	0.53
1:C:1802:ILE:HD12	1:C:1803:PRO:HD2	1.90	0.53
1:B:345:LEU:HD22	1:B:387:ALA:HB1	1.91	0.53
1:A:345:LEU:HD22	1:A:387:ALA:HB1	1.91	0.53
1:D:110:ARG:HH22	1:D:115:ARG:HH21	1.56	0.53
1:D:181:HIS:N	1:D:192:ASP:O	2.40	0.53
1:D:1947:CYS:SG	1:D:1948:ASP:N	2.82	0.53
1:C:345:LEU:HD22	1:C:387:ALA:HB1	1.91	0.53
1:B:168:ASP:OD1	1:B:168:ASP:N	2.42	0.53
2:F:73:LYS:HE2	2:F:73:LYS:HA	1.91	0.53
1:A:76:ARG:HG3	1:B:3932:ASP:OD1	2.08	0.53
1:A:805:PRO:HB2	1:A:808:TYR:HE2	1.73	0.53
1:D:3758:MET:HB3	1:D:3762:ARG:HH22	1.73	0.53
1:C:4897:ILE:HG22	1:C:4897:ILE:O	2.09	0.53
1:A:872:GLU:HA	1:A:875:ALA:HB3	1.91	0.53
1:D:139:GLU:O	1:D:141:ALA:N	2.41	0.53
1:D:1724:CYS:HB3	1:D:1728:ARG:HH12	1.74	0.53
1:C:2355:ARG:HB2	1:C:2355:ARG:NH2	2.24	0.53
1:B:977:LEU:HB3	1:B:1044:ARG:HH12	1.73	0.53
1:B:1948:ASP:OD1	1:B:1948:ASP:N	2.42	0.53
1:B:4719:PHE:C	1:B:4721:LYS:H	2.10	0.53
1:A:229:GLU:OE2	1:A:247:TYR:HB3	2.09	0.53
1:A:1676:LEU:HB3	1:A:2167:ILE:HD12	1.91	0.53
1:C:4773:VAL:O	1:C:4777:ILE:HG13	2.08	0.53
1:B:1947:CYS:SG	1:B:1948:ASP:N	2.82	0.53
1:B:4175:ARG:HH21	1:B:4175:ARG:HG3	1.74	0.53
1:B:4815:ASP:O	1:B:4816:ILE:C	2.45	0.53
1:D:3293:PRO:O	1:D:3295:ALA:N	2.42	0.52
1:D:5007:GLU:O	1:D:5008:SER:C	2.45	0.52
1:C:219:VAL:HG22	1:C:261:ARG:HG3	1.91	0.52
1:C:1733:GLU:OE1	1:C:1733:GLU:N	2.42	0.52
1:C:4719:PHE:C	1:C:4721:LYS:H	2.10	0.52
1:B:872:GLU:HA	1:B:875:ALA:HB3	1.91	0.52
1:B:4543:GLU:O	1:B:4544:LEU:C	2.46	0.52
1:A:694:PRO:HG3	1:A:826:ILE:HG23	1.91	0.52
1:A:1698:LEU:HD12	1:A:1814:MET:HE1	1.89	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1733:GLU:OE1	1:A:1733:GLU:N	2.42	0.52
1:A:3293:PRO:O	1:A:3295:ALA:N	2.42	0.52
1:A:3592:ILE:O	1:A:3594:ARG:N	2.43	0.52
1:A:4066:LEU:HD22	1:A:4169:SER:HB3	1.91	0.52
1:A:4773:VAL:O	1:A:4777:ILE:HG13	2.09	0.52
1:A:4950:VAL:HG22	1:A:4951:LYS:N	2.24	0.52
1:A:5007:GLU:O	1:A:5008:SER:C	2.45	0.52
1:D:345:LEU:HD22	1:D:387:ALA:HB1	1.91	0.52
1:D:872:GLU:HA	1:D:875:ALA:HB3	1.91	0.52
1:D:4175:ARG:HH21	1:D:4175:ARG:HG3	1.74	0.52
1:B:2259:GLU:HA	1:B:2297:LYS:HZ2	1.74	0.52
1:B:4066:LEU:HD22	1:B:4169:SER:HB3	1.91	0.52
1:B:4812:HIS:O	1:B:4814:LEU:N	2.42	0.52
1:A:2355:ARG:HB2	1:A:2355:ARG:NH2	2.24	0.52
1:D:805:PRO:HB2	1:D:808:TYR:HE2	1.73	0.52
3:L:33:LEU:HA	3:L:36:VAL:HG22	1.92	0.52
1:C:872:GLU:HA	1:C:875:ALA:HB3	1.91	0.52
1:C:4066:LEU:HD22	1:C:4169:SER:HB3	1.91	0.52
1:C:4951:LYS:O	1:C:4951:LYS:HG2	2.09	0.52
1:D:4066:LEU:HD22	1:D:4169:SER:HB3	1.91	0.52
1:C:1724:CYS:HB3	1:C:1728:ARG:HH12	1.74	0.52
3:K:33:LEU:HA	3:K:36:VAL:HG22	1.92	0.52
1:B:3293:PRO:O	1:B:3295:ALA:N	2.42	0.52
1:A:359:TYR:OH	1:A:385:ASP:OD2	2.21	0.52
1:A:1802:ILE:HD12	1:A:1803:PRO:HD2	1.90	0.52
1:A:4175:ARG:HH21	1:A:4175:ARG:HG3	1.74	0.52
2:E:73:LYS:HA	2:E:73:LYS:HE2	1.91	0.52
1:D:4897:ILE:O	1:D:4897:ILE:HG22	2.09	0.52
1:C:4812:HIS:O	1:C:4814:LEU:N	2.43	0.52
1:C:4966:ASP:O	1:C:4968:PHE:N	2.43	0.52
1:C:5009:TYR:CZ	1:C:5013:MET:HE1	2.45	0.52
1:B:1724:CYS:HB3	1:B:1728:ARG:HH12	1.74	0.52
1:A:3756:LYS:HG3	1:A:3757:GLU:OE2	2.10	0.52
1:A:3758:MET:HB3	1:A:3762:ARG:HH22	1.73	0.52
1:D:3570:ARG:O	1:D:3572:GLN:N	2.42	0.52
1:D:3592:ILE:O	1:D:3594:ARG:N	2.43	0.52
1:D:3756:LYS:HG3	1:D:3757:GLU:OE2	2.10	0.52
1:C:1947:CYS:SG	1:C:1948:ASP:N	2.82	0.52
1:C:2889:LYS:O	1:C:2893:GLU:N	2.43	0.52
1:C:3293:PRO:O	1:C:3295:ALA:N	2.42	0.52
1:B:219:VAL:HG22	1:B:261:ARG:HG3	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2889:LYS:O	1:B:2893:GLU:N	2.43	0.52
1:B:3592:ILE:O	1:B:3594:ARG:N	2.43	0.52
1:B:4773:VAL:O	1:B:4777:ILE:HG13	2.09	0.52
1:D:219:VAL:HG22	1:D:261:ARG:HG3	1.91	0.52
1:D:1676:LEU:HB3	1:D:2167:ILE:HD12	1.91	0.52
1:D:4951:LYS:HG2	1:D:4951:LYS:O	2.09	0.52
1:C:3756:LYS:HG3	1:C:3757:GLU:OE2	2.10	0.52
1:B:229:GLU:OE2	1:B:247:TYR:HB3	2.09	0.52
1:B:3756:LYS:HG3	1:B:3757:GLU:OE2	2.10	0.52
1:A:123:THR:OG1	1:A:134:ASP:OD1	2.28	0.52
1:A:1724:CYS:HB3	1:A:1728:ARG:HH12	1.74	0.52
1:D:470:SER:O	1:D:474:ARG:NH2	2.43	0.52
1:D:4950:VAL:HG22	1:D:4951:LYS:N	2.24	0.52
2:H:73:LYS:HE2	2:H:73:LYS:HA	1.91	0.52
1:C:952:LYS:HG2	1:C:970:LEU:HG	1.92	0.52
1:C:2296:GLU:HG2	1:C:2356:LEU:HD21	1.92	0.52
1:C:4950:VAL:HG22	1:C:4951:LYS:N	2.24	0.52
1:B:1100:MET:HB2	1:B:1143:TRP:CH2	2.45	0.52
1:B:1802:ILE:HD12	1:B:1803:PRO:HD2	1.90	0.52
1:B:4572:ALA:O	1:B:4573:ILE:C	2.46	0.52
1:B:4897:ILE:O	1:B:4897:ILE:HG22	2.08	0.52
1:A:1100:MET:HB2	1:A:1143:TRP:CH2	2.45	0.52
1:A:2296:GLU:HG2	1:A:2356:LEU:HD21	1.92	0.52
1:A:4951:LYS:HG2	1:A:4951:LYS:O	2.09	0.52
1:D:3817:LEU:HB2	1:D:3899:PHE:CE1	2.45	0.52
1:D:5011:TRP:CG	1:D:5011:TRP:O	2.60	0.52
1:C:3592:ILE:O	1:C:3594:ARG:N	2.43	0.52
1:C:3817:LEU:HB2	1:C:3899:PHE:CE1	2.45	0.52
3:J:33:LEU:HA	3:J:36:VAL:HG22	1.92	0.52
1:A:2953:LYS:O	1:A:2957:PHE:N	2.43	0.52
1:A:4897:ILE:O	1:A:4897:ILE:HG22	2.09	0.52
1:D:952:LYS:HG2	1:D:970:LEU:HG	1.92	0.52
1:D:4985:LEU:O	1:D:4986:ALA:C	2.48	0.52
1:C:907:LEU:O	1:C:963:ASN:ND2	2.44	0.52
1:C:1100:MET:HB2	1:C:1143:TRP:CH2	2.45	0.52
1:B:4950:VAL:HG22	1:B:4951:LYS:N	2.24	0.52
1:A:315:CYS:SG	1:A:316:PHE:N	2.84	0.51
1:A:4966:ASP:O	1:A:4968:PHE:N	2.43	0.51
1:D:4899:ASP:O	1:D:4900:GLU:CB	2.59	0.51
1:C:315:CYS:SG	1:C:316:PHE:N	2.84	0.51
1:C:961:MET:HB2	1:C:963:ASN:OD1	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1676:LEU:HB3	1:C:2167:ILE:HD12	1.91	0.51
1:C:2368:LEU:HA	1:C:2374:SER:HA	1.91	0.51
1:B:40:GLU:OE2	1:B:44:ASN:N	2.44	0.51
1:B:315:CYS:SG	1:B:316:PHE:N	2.84	0.51
1:B:1733:GLU:OE1	1:B:1733:GLU:N	2.42	0.51
1:B:4966:ASP:O	1:B:4968:PHE:N	2.43	0.51
1:A:219:VAL:HG22	1:A:261:ARG:HG3	1.91	0.51
1:A:2889:LYS:O	1:A:2893:GLU:N	2.43	0.51
1:A:3725:TYR:HA	1:A:3728:ILE:HG12	1.93	0.51
3:I:33:LEU:HA	3:I:36:VAL:HG22	1.92	0.51
1:C:1948:ASP:N	1:C:1948:ASP:OD1	2.42	0.51
1:B:1969:LEU:HD21	1:B:2009:LEU:HD13	1.92	0.51
1:B:2368:LEU:HA	1:B:2374:SER:HA	1.91	0.51
1:B:4951:LYS:O	1:B:4951:LYS:HG2	2.09	0.51
1:A:961:MET:HB2	1:A:963:ASN:OD1	2.10	0.51
1:D:315:CYS:SG	1:D:316:PHE:N	2.84	0.51
1:D:2889:LYS:O	1:D:2893:GLU:N	2.43	0.51
1:D:4966:ASP:O	1:D:4968:PHE:N	2.43	0.51
1:B:787:VAL:HG13	1:B:789:VAL:HG23	1.93	0.51
1:B:2296:GLU:HG2	1:B:2356:LEU:HD21	1.92	0.51
1:B:4966:ASP:O	1:B:4969:ASP:N	2.43	0.51
1:A:470:SER:O	1:A:474:ARG:NH2	2.43	0.51
1:A:4812:HIS:O	1:A:4814:LEU:N	2.44	0.51
1:A:4899:ASP:O	1:A:4900:GLU:CB	2.59	0.51
1:D:4764:LEU:O	1:D:4766:THR:N	2.44	0.51
1:C:1101:ARG:HB3	1:C:1123:VAL:HG21	1.93	0.51
1:C:4966:ASP:O	1:C:4969:ASP:N	2.43	0.51
1:B:1580:PHE:CE2	1:B:1592:PRO:HG2	2.45	0.51
1:B:3039:ILE:O	1:B:3041:SER:N	2.43	0.51
1:B:4985:LEU:O	1:B:4986:ALA:C	2.49	0.51
1:A:787:VAL:HG13	1:A:789:VAL:HG23	1.93	0.51
1:A:1948:ASP:N	1:A:1948:ASP:OD1	2.42	0.51
1:A:3817:LEU:HB2	1:A:3899:PHE:CE1	2.45	0.51
1:B:2953:LYS:O	1:B:2957:PHE:N	2.43	0.51
1:B:4242:ILE:HD11	1:B:4993:MET:HG2	1.92	0.51
1:A:907:LEU:O	1:A:963:ASN:ND2	2.44	0.51
1:A:3901:ASN:OD1	1:A:3904:ARG:NH1	2.29	0.51
1:D:787:VAL:HG13	1:D:789:VAL:HG23	1.93	0.51
1:C:1948:ASP:HA	1:C:1951:LEU:HB2	1.93	0.51
2:G:73:LYS:HE2	2:G:73:LYS:HA	1.91	0.51
1:B:683:ARG:NH2	1:B:707:VAL:O	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1948:ASP:HA	1:B:1951:LEU:HB2	1.93	0.51
1:D:40:GLU:OE2	1:D:44:ASN:N	2.44	0.51
1:D:1733:GLU:N	1:D:1733:GLU:OE1	2.42	0.51
1:D:2296:GLU:HG2	1:D:2356:LEU:HD21	1.92	0.51
1:D:3039:ILE:O	1:D:3041:SER:N	2.44	0.51
1:D:4686:LEU:HD11	1:D:4692:PRO:HA	1.92	0.51
1:C:645:ARG:HG3	1:C:778:PHE:CD1	2.46	0.51
1:C:683:ARG:NH2	1:C:707:VAL:O	2.44	0.51
1:C:1675:ALA:O	1:C:1677:GLY:N	2.42	0.51
1:B:181:HIS:N	1:B:192:ASP:O	2.40	0.51
1:B:470:SER:O	1:B:474:ARG:NH2	2.43	0.51
1:B:1976:ARG:NH1	1:B:2022:PRO:O	2.44	0.51
1:A:1969:LEU:HD21	1:A:2009:LEU:HD13	1.92	0.51
1:A:1976:ARG:NH1	1:A:2022:PRO:O	2.44	0.51
1:A:3039:ILE:O	1:A:3041:SER:N	2.43	0.51
1:D:961:MET:HB2	1:D:963:ASN:OD1	2.10	0.51
1:D:1101:ARG:HB3	1:D:1123:VAL:HG21	1.93	0.51
1:D:3725:TYR:HA	1:D:3728:ILE:HG12	1.93	0.51
1:C:40:GLU:OE2	1:C:44:ASN:N	2.44	0.51
1:C:123:THR:OG1	1:C:134:ASP:OD1	2.28	0.51
1:B:1676:LEU:HB3	1:B:2167:ILE:HD12	1.91	0.51
1:A:1580:PHE:CE2	1:A:1592:PRO:HG2	2.46	0.51
1:A:2321:ILE:HG13	1:A:2322:GLY:N	2.26	0.51
1:D:1976:ARG:NH1	1:D:2022:PRO:O	2.44	0.51
1:D:3648:ARG:HG3	1:D:3648:ARG:HH21	1.76	0.51
1:D:4823:LEU:HD21	1:C:4839:MET:HB3	1.92	0.51
1:C:470:SER:O	1:C:474:ARG:NH2	2.43	0.51
1:C:2321:ILE:HG13	1:C:2322:GLY:N	2.26	0.51
1:C:3648:ARG:HG3	1:C:3648:ARG:HH21	1.76	0.51
1:C:4242:ILE:HD11	1:C:4993:MET:HG2	1.92	0.51
1:B:907:LEU:O	1:B:963:ASN:ND2	2.44	0.51
1:B:961:MET:HB2	1:B:963:ASN:OD1	2.10	0.51
1:B:3725:TYR:HA	1:B:3728:ILE:HG12	1.93	0.51
1:B:4567:LEU:HD11	1:B:4816:ILE:HD13	1.93	0.51
1:B:4812:HIS:C	1:B:4814:LEU:H	2.14	0.51
1:A:689:THR:HG22	1:A:778:PHE:CE2	2.46	0.51
1:A:1196:PRO:O	1:A:1198:GLN:NE2	2.44	0.51
1:D:1580:PHE:CE2	1:D:1592:PRO:HG2	2.46	0.51
1:C:600:LEU:HD21	1:C:1666:THR:HA	1.93	0.51
1:C:787:VAL:HG13	1:C:789:VAL:HG23	1.93	0.51
1:C:1580:PHE:CE2	1:C:1592:PRO:HG2	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3817:LEU:HB2	1:B:3899:PHE:CE1	2.45	0.51
1:A:4242:ILE:HD11	1:A:4993:MET:HG2	1.92	0.50
1:A:4567:LEU:HD11	1:A:4816:ILE:HD13	1.93	0.50
1:D:1969:LEU:HD21	1:D:2009:LEU:HD13	1.92	0.50
1:D:2956:ALA:O	1:D:2960:LEU:N	2.44	0.50
1:C:168:ASP:OD1	1:C:168:ASP:N	2.42	0.50
1:C:1969:LEU:HD21	1:C:2009:LEU:HD13	1.92	0.50
1:C:2927:LEU:HD23	1:C:2930:LEU:HD12	1.94	0.50
1:C:4899:ASP:O	1:C:4900:GLU:CB	2.59	0.50
1:B:123:THR:OG1	1:B:134:ASP:OD1	2.28	0.50
1:B:243:ARG:HB3	1:B:300:VAL:HG13	1.93	0.50
1:B:340:LYS:N	1:B:344:SER:HG	2.08	0.50
1:B:2695:LEU:O	1:B:2951:ILE:N	2.39	0.50
1:B:2956:ALA:O	1:B:2960:LEU:N	2.44	0.50
1:B:4899:ASP:O	1:B:4900:GLU:CB	2.59	0.50
1:B:5011:TRP:CG	1:B:5011:TRP:O	2.60	0.50
1:A:110:ARG:HH22	1:A:115:ARG:NH2	2.09	0.50
1:A:648:ILE:HD11	1:A:779:PRO:HG2	1.93	0.50
1:A:3648:ARG:HH21	1:A:3648:ARG:HG3	1.76	0.50
1:D:4966:ASP:O	1:D:4969:ASP:N	2.44	0.50
1:B:1762:LEU:HD12	1:B:1863:LEU:HD13	1.94	0.50
1:A:1675:ALA:O	1:A:1677:GLY:N	2.42	0.50
1:A:2695:LEU:O	1:A:2951:ILE:N	2.39	0.50
1:A:5035:GLN:O	1:A:5036:LEU:CB	2.60	0.50
1:C:1976:ARG:NH1	1:C:2022:PRO:O	2.44	0.50
1:C:3039:ILE:O	1:C:3041:SER:N	2.43	0.50
1:A:168:ASP:OD1	1:A:168:ASP:N	2.42	0.50
1:A:243:ARG:HB3	1:A:300:VAL:HG13	1.93	0.50
1:A:1243:PRO:HG2	1:A:1458:HIS:HB3	1.93	0.50
1:D:110:ARG:HH22	1:D:115:ARG:NH2	2.09	0.50
1:D:123:THR:OG1	1:D:134:ASP:OD1	2.28	0.50
1:D:600:LEU:HD21	1:D:1666:THR:HA	1.93	0.50
1:D:2470:ILE:O	1:D:2470:ILE:HG13	2.11	0.50
1:D:2927:LEU:HD23	1:D:2930:LEU:HD12	1.94	0.50
1:D:5035:GLN:O	1:D:5036:LEU:CB	2.60	0.50
1:C:181:HIS:N	1:C:192:ASP:O	2.40	0.50
1:C:292:ALA:HB1	1:C:311:ALA:HB1	1.93	0.50
1:C:2470:ILE:HG13	1:C:2470:ILE:O	2.11	0.50
1:C:2763:HIS:O	1:C:2767:ALA:N	2.38	0.50
1:C:3932:ASP:OD1	1:B:76:ARG:HG3	2.12	0.50
1:B:110:ARG:HH22	1:B:115:ARG:NH2	2.09	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:952:LYS:HG2	1:B:970:LEU:HG	1.92	0.50
1:B:4686:LEU:HD11	1:B:4692:PRO:HA	1.92	0.50
1:A:683:ARG:NH2	1:A:707:VAL:O	2.44	0.50
1:A:952:LYS:HG2	1:A:970:LEU:HG	1.92	0.50
1:A:1101:ARG:HB3	1:A:1123:VAL:HG21	1.93	0.50
1:A:1689:VAL:HG23	1:A:1690:ASP:N	2.27	0.50
1:D:689:THR:HG22	1:D:778:PHE:CE2	2.46	0.50
1:C:1762:LEU:HD12	1:C:1863:LEU:HD13	1.94	0.50
1:B:645:ARG:HG3	1:B:778:PHE:CD1	2.46	0.50
1:B:1689:VAL:HG23	1:B:1690:ASP:N	2.26	0.50
1:B:2321:ILE:HG13	1:B:2322:GLY:N	2.26	0.50
1:B:3648:ARG:HH21	1:B:3648:ARG:HG3	1.76	0.50
1:A:2760:GLU:O	1:A:2764:GLU:N	2.38	0.50
1:D:1649:ASP:OD1	1:D:1650:ILE:N	2.45	0.50
1:D:1707:LEU:O	1:D:1709:ALA:N	2.45	0.50
1:D:2618:MET:O	1:D:2622:LEU:N	2.43	0.50
1:D:5034:ASP:C	1:D:5036:LEU:N	2.65	0.50
1:C:110:ARG:HH22	1:C:115:ARG:NH2	2.09	0.50
1:C:3725:TYR:HA	1:C:3728:ILE:HG12	1.93	0.50
1:B:533:ASN:OD1	1:B:534:ARG:N	2.45	0.50
1:B:1649:ASP:OD1	1:B:1650:ILE:N	2.45	0.50
1:A:40:GLU:OE2	1:A:44:ASN:N	2.44	0.50
1:A:1477:GLY:HA2	1:A:1484:HIS:HB2	1.94	0.50
1:D:907:LEU:O	1:D:963:ASN:ND2	2.44	0.50
1:D:1100:MET:HB2	1:D:1143:TRP:CH2	2.45	0.50
1:D:1948:ASP:N	1:D:1948:ASP:OD1	2.42	0.50
1:D:4242:ILE:HD11	1:D:4993:MET:HG2	1.92	0.50
1:C:340:LYS:N	1:C:344:SER:HG	2.09	0.50
1:C:648:ILE:HD11	1:C:779:PRO:HG2	1.93	0.50
1:C:1707:LEU:O	1:C:1709:ALA:N	2.45	0.50
1:C:4562:LEU:HD12	1:C:4657:MET:HG3	1.94	0.50
1:B:1101:ARG:HB3	1:B:1123:VAL:HG21	1.93	0.50
1:A:1762:LEU:HD12	1:A:1863:LEU:HD13	1.94	0.50
1:A:2470:ILE:HG13	1:A:2470:ILE:O	2.11	0.50
1:A:4678:ALA:HB2	1:A:4720:VAL:HG21	1.94	0.50
1:A:4686:LEU:HD11	1:A:4692:PRO:HA	1.92	0.50
1:A:4764:LEU:O	1:A:4766:THR:N	2.44	0.50
2:E:25:HIS:NE2	2:E:40:ARG:HG2	2.27	0.50
1:D:648:ILE:HD11	1:D:779:PRO:HG2	1.93	0.50
1:D:683:ARG:NH2	1:D:707:VAL:O	2.44	0.50
1:D:1243:PRO:HG2	1:D:1458:HIS:HB3	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:4705:VAL:O	1:D:4708:THR:HG22	2.12	0.50
1:C:822:ARG:HG2	1:C:822:ARG:HH21	1.77	0.50
1:C:4686:LEU:HD11	1:C:4692:PRO:HA	1.92	0.50
2:G:25:HIS:NE2	2:G:40:ARG:HG2	2.27	0.50
1:B:822:ARG:HH21	1:B:822:ARG:HG2	1.77	0.50
2:F:25:HIS:NE2	2:F:40:ARG:HG2	2.27	0.50
1:A:533:ASN:OD1	1:A:534:ARG:N	2.45	0.50
1:A:2956:ALA:O	1:A:2960:LEU:N	2.44	0.50
1:A:4820:VAL:O	1:A:4822:THR:N	2.45	0.50
1:D:645:ARG:HG3	1:D:778:PHE:CD1	2.46	0.50
1:D:1689:VAL:HG23	1:D:1690:ASP:N	2.27	0.50
1:D:1948:ASP:HA	1:D:1951:LEU:HB2	1.93	0.50
1:C:243:ARG:HB3	1:C:300:VAL:HG13	1.93	0.50
1:B:233:ILE:HG22	1:B:234:SER:H	1.77	0.50
1:B:1730:MET:HA	1:B:1730:MET:HE3	1.94	0.50
1:B:4820:VAL:O	1:B:4822:THR:N	2.45	0.50
1:B:5017:ARG:NH1	1:B:5019:TRP:HH2	2.10	0.50
1:A:600:LEU:HD21	1:A:1666:THR:HA	1.93	0.49
1:A:1451:GLY:HA3	1:A:1494:MET:HA	1.94	0.49
1:A:3327:LEU:O	1:A:3331:GLU:N	2.44	0.49
1:D:243:ARG:HB3	1:D:300:VAL:HG13	1.93	0.49
1:D:292:ALA:HB1	1:D:311:ALA:HB1	1.93	0.49
1:D:1451:GLY:HA3	1:D:1494:MET:HA	1.94	0.49
1:D:1477:GLY:HA2	1:D:1484:HIS:HB2	1.94	0.49
1:D:4678:ALA:HB2	1:D:4720:VAL:HG21	1.94	0.49
1:C:883:ALA:O	1:C:887:ILE:N	2.45	0.49
1:C:2956:ALA:O	1:C:2960:LEU:N	2.44	0.49
1:C:4567:LEU:HD11	1:C:4816:ILE:HD13	1.93	0.49
1:C:4812:HIS:C	1:C:4814:LEU:H	2.15	0.49
1:B:1707:LEU:O	1:B:1709:ALA:N	2.45	0.49
1:B:4562:LEU:HD12	1:B:4657:MET:HG3	1.94	0.49
1:B:4678:ALA:HB2	1:B:4720:VAL:HG21	1.94	0.49
1:A:1649:ASP:OD1	1:A:1650:ILE:N	2.45	0.49
1:A:1948:ASP:HA	1:A:1951:LEU:HB2	1.93	0.49
1:A:3627:GLN:O	1:A:3628:ARG:C	2.51	0.49
1:A:5017:ARG:NH1	1:A:5019:TRP:HH2	2.10	0.49
1:D:501:ALA:HB1	1:D:512:ALA:HB1	1.94	0.49
1:D:4571:PHE:HE2	1:D:4816:ILE:CG1	2.25	0.49
1:C:1243:PRO:HG2	1:C:1458:HIS:HB3	1.93	0.49
1:C:4820:VAL:O	1:C:4822:THR:N	2.45	0.49
1:B:1243:PRO:HG2	1:B:1458:HIS:HB3	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2470:ILE:O	1:B:2470:ILE:HG13	2.11	0.49
1:A:1252:HIS:O	1:A:1253:PRO:C	2.51	0.49
1:A:4075:GLU:HA	1:A:4078:GLN:HG2	1.94	0.49
2:E:8:SER:HB2	2:E:71:ARG:HG2	1.95	0.49
2:H:25:HIS:NE2	2:H:40:ARG:HG2	2.27	0.49
1:C:1252:HIS:O	1:C:1253:PRO:C	2.51	0.49
1:A:1707:LEU:O	1:A:1709:ALA:N	2.45	0.49
1:A:4743:MET:HG3	1:A:4743:MET:O	2.13	0.49
1:D:4567:LEU:HD11	1:D:4816:ILE:HD13	1.93	0.49
1:D:4743:MET:O	1:D:4743:MET:HG3	2.13	0.49
1:D:4954:MET:HE1	1:D:4959:PHE:CD1	2.48	0.49
1:C:1689:VAL:HG23	1:C:1690:ASP:N	2.27	0.49
1:B:292:ALA:HB1	1:B:311:ALA:HB1	1.93	0.49
1:B:600:LEU:HD21	1:B:1666:THR:HA	1.93	0.49
1:B:2760:GLU:O	1:B:2764:GLU:N	2.38	0.49
1:B:5035:GLN:O	1:B:5036:LEU:CB	2.60	0.49
1:A:2777:TYR:HB2	1:A:2791:LEU:HD22	1.95	0.49
1:A:4705:VAL:O	1:A:4708:THR:HG22	2.12	0.49
1:A:4966:ASP:O	1:A:4969:ASP:N	2.43	0.49
1:D:223:PHE:CE2	1:D:391:THR:HG21	2.48	0.49
1:D:233:ILE:HG22	1:D:234:SER:H	1.77	0.49
1:D:1762:LEU:HD12	1:D:1863:LEU:HD13	1.94	0.49
1:D:4820:VAL:O	1:D:4822:THR:N	2.45	0.49
1:C:533:ASN:OD1	1:C:534:ARG:N	2.45	0.49
1:C:689:THR:HG22	1:C:778:PHE:CE2	2.46	0.49
1:C:1649:ASP:OD1	1:C:1650:ILE:N	2.45	0.49
1:C:2777:TYR:HB2	1:C:2791:LEU:HD22	1.95	0.49
1:C:2953:LYS:O	1:C:2957:PHE:N	2.43	0.49
1:C:4820:VAL:O	1:C:4821:LYS:C	2.51	0.49
1:C:4985:LEU:O	1:C:4986:ALA:C	2.49	0.49
1:B:1451:GLY:HA3	1:B:1494:MET:HA	1.94	0.49
2:F:8:SER:HB2	2:F:71:ARG:HG2	1.95	0.49
1:A:292:ALA:HB1	1:A:311:ALA:HB1	1.93	0.49
1:A:645:ARG:HG3	1:A:778:PHE:CD1	2.46	0.49
1:A:822:ARG:HG2	1:A:822:ARG:HH21	1.77	0.49
1:A:4562:LEU:HD12	1:A:4657:MET:HG3	1.94	0.49
1:A:4985:LEU:O	1:A:4986:ALA:C	2.49	0.49
1:D:625:LEU:O	1:D:626:LEU:HB2	2.13	0.49
2:H:8:SER:HB2	2:H:71:ARG:HG2	1.95	0.49
3:L:143:VAL:O	3:L:147:THR:OG1	2.13	0.49
1:C:233:ILE:HG22	1:C:234:SER:H	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1977:TYR:HA	1:C:1997:GLU:OE2	2.13	0.49
1:B:648:ILE:HD11	1:B:779:PRO:HG2	1.93	0.49
2:F:77:THR:OG1	2:F:78:PRO:HD2	2.13	0.49
1:A:2862:LEU:HB3	1:A:2928:LYS:HB3	1.95	0.49
1:D:533:ASN:OD1	1:D:534:ARG:N	2.45	0.49
1:D:1977:TYR:HA	1:D:1997:GLU:OE2	2.13	0.49
1:C:4678:ALA:HB2	1:C:4720:VAL:HG21	1.94	0.49
1:C:4794:TRP:CG	1:C:4794:TRP:O	2.65	0.49
1:B:4794:TRP:CG	1:B:4794:TRP:O	2.65	0.49
3:J:90:PHE:HE2	3:J:99:GLY:HA2	1.78	0.49
1:A:223:PHE:CE2	1:A:391:THR:HG21	2.48	0.49
1:A:2763:HIS:O	1:A:2767:ALA:N	2.38	0.49
1:D:883:ALA:O	1:D:887:ILE:N	2.45	0.49
1:D:1252:HIS:O	1:D:1253:PRO:C	2.51	0.49
1:D:1703:LEU:HA	1:D:1708:ARG:HH22	1.78	0.49
1:D:3627:GLN:O	1:D:3628:ARG:C	2.51	0.49
1:D:5017:ARG:NH1	1:D:5019:TRP:HH2	2.10	0.49
1:C:501:ALA:HB1	1:C:512:ALA:HB1	1.94	0.49
3:K:90:PHE:HE2	3:K:99:GLY:HA2	1.78	0.49
1:B:689:THR:HG22	1:B:778:PHE:CE2	2.46	0.49
1:B:1252:HIS:O	1:B:1253:PRO:C	2.51	0.49
1:B:1477:GLY:HA2	1:B:1484:HIS:HB2	1.94	0.49
1:B:4075:GLU:HA	1:B:4078:GLN:HG2	1.94	0.49
1:D:2777:TYR:HB2	1:D:2791:LEU:HD22	1.95	0.49
1:D:3327:LEU:O	1:D:3331:GLU:N	2.45	0.49
1:D:4794:TRP:CG	1:D:4794:TRP:O	2.65	0.49
1:D:4844:LEU:O	1:D:4847:VAL:N	2.46	0.49
1:C:625:LEU:O	1:C:626:LEU:HB2	2.13	0.49
1:C:2618:MET:O	1:C:2622:LEU:N	2.43	0.49
1:C:4743:MET:HG3	1:C:4743:MET:O	2.13	0.49
2:G:8:SER:HB2	2:G:71:ARG:HG2	1.95	0.49
2:G:77:THR:OG1	2:G:78:PRO:HD2	2.13	0.49
1:B:164:ARG:HH11	1:B:165:VAL:HB	1.78	0.49
1:B:1716:ILE:HD11	1:B:1847:THR:HG21	1.95	0.49
1:B:1977:TYR:HA	1:B:1997:GLU:OE2	2.13	0.49
1:B:2862:LEU:HB3	1:B:2928:LYS:HB3	1.95	0.49
1:B:2927:LEU:HD23	1:B:2930:LEU:HD12	1.93	0.49
1:B:4728:HIS:O	1:B:4731:ILE:HG22	2.13	0.49
1:B:5007:GLU:O	1:B:5008:SER:C	2.45	0.49
1:A:1549:PHE:N	1:A:1549:PHE:CD1	2.81	0.49
1:A:2927:LEU:HD23	1:A:2930:LEU:HD12	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:77:THR:OG1	2:E:78:PRO:HD2	2.13	0.49
1:D:1099:GLU:HG2	1:D:1195:GLY:HA3	1.95	0.49
1:D:2196:ASN:OD1	1:D:2199:ARG:NH1	2.46	0.49
1:C:1716:ILE:HD11	1:C:1847:THR:HG21	1.95	0.49
1:C:3627:GLN:O	1:C:3628:ARG:C	2.51	0.49
1:C:4705:VAL:O	1:C:4708:THR:HG22	2.12	0.49
3:K:52:MET:HE2	3:K:76:LYS:HE2	1.95	0.49
1:B:4705:VAL:O	1:B:4708:THR:HG22	2.12	0.49
1:A:952:LYS:HA	1:A:970:LEU:HA	1.95	0.48
1:D:164:ARG:HH11	1:D:165:VAL:HB	1.78	0.48
1:C:164:ARG:HH11	1:C:165:VAL:HB	1.78	0.48
1:C:1451:GLY:HA3	1:C:1494:MET:HA	1.94	0.48
1:C:1703:LEU:HA	1:C:1708:ARG:HH22	1.78	0.48
1:B:220:LEU:HB2	1:B:391:THR:O	2.13	0.48
1:A:501:ALA:HB1	1:A:512:ALA:HB1	1.94	0.48
1:A:4794:TRP:O	1:A:4794:TRP:CG	2.65	0.48
1:D:233:ILE:HG22	1:D:234:SER:N	2.28	0.48
1:D:4562:LEU:HD12	1:D:4657:MET:HG3	1.94	0.48
1:C:5007:GLU:O	1:C:5008:SER:C	2.45	0.48
1:C:5017:ARG:NH1	1:C:5019:TRP:HH2	2.10	0.48
1:B:223:PHE:CE2	1:B:391:THR:HG21	2.48	0.48
1:B:501:ALA:HB1	1:B:512:ALA:HB1	1.94	0.48
1:B:2618:MET:O	1:B:2622:LEU:N	2.43	0.48
1:A:233:ILE:HG22	1:A:234:SER:N	2.28	0.48
1:A:516:LYS:HG3	1:A:555:GLU:HG3	1.95	0.48
1:A:883:ALA:O	1:A:887:ILE:N	2.45	0.48
1:A:1099:GLU:HG2	1:A:1195:GLY:HA3	1.95	0.48
1:A:1977:TYR:HA	1:A:1997:GLU:OE2	2.13	0.48
1:A:4571:PHE:HE2	1:A:4816:ILE:CG1	2.26	0.48
3:I:90:PHE:HE2	3:I:99:GLY:HA2	1.78	0.48
1:D:516:LYS:HG3	1:D:555:GLU:HG3	1.95	0.48
1:D:1196:PRO:O	1:D:1198:GLN:NE2	2.44	0.48
1:C:1698:LEU:HD12	1:C:1814:MET:CE	2.44	0.48
1:C:2196:ASN:OD1	1:C:2199:ARG:NH1	2.46	0.48
1:C:4728:HIS:O	1:C:4731:ILE:HG22	2.13	0.48
1:B:1698:LEU:HD12	1:B:1814:MET:CE	2.44	0.48
1:B:2777:TYR:HB2	1:B:2791:LEU:HD22	1.95	0.48
1:B:3627:GLN:O	1:B:3628:ARG:C	2.51	0.48
1:A:164:ARG:HH11	1:A:165:VAL:HB	1.78	0.48
1:A:220:LEU:HB2	1:A:391:THR:O	2.13	0.48
1:A:625:LEU:O	1:A:626:LEU:HB2	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1952:GLN:O	1:A:1956:GLU:HG2	2.14	0.48
1:A:4728:HIS:O	1:A:4731:ILE:HG22	2.13	0.48
1:D:822:ARG:HG2	1:D:822:ARG:HH21	1.77	0.48
1:D:4075:GLU:HA	1:D:4078:GLN:HG2	1.95	0.48
1:D:4820:VAL:O	1:D:4821:LYS:C	2.51	0.48
3:L:90:PHE:HE2	3:L:99:GLY:HA2	1.78	0.48
1:C:4075:GLU:HA	1:C:4078:GLN:HG2	1.94	0.48
1:C:4888:TYR:HD2	1:B:4914:VAL:HG23	1.78	0.48
1:A:3718:GLU:O	1:A:3793:MET:HE1	2.14	0.48
1:A:4827:LEU:HD12	1:A:4827:LEU:HA	1.66	0.48
1:C:223:PHE:CE2	1:C:391:THR:HG21	2.48	0.48
1:C:1079:LYS:HE3	1:C:1107:PRO:HB2	1.96	0.48
1:C:3901:ASN:OD1	1:C:3904:ARG:NH1	2.29	0.48
1:C:4003:LEU:HD21	1:C:4012:LEU:HD22	1.95	0.48
1:C:4571:PHE:HE2	1:C:4816:ILE:CG1	2.26	0.48
3:K:123:ASP:O	3:K:127:ARG:HB2	2.14	0.48
1:B:555:GLU:O	1:B:555:GLU:HG2	2.14	0.48
1:B:1703:LEU:HA	1:B:1708:ARG:HH22	1.78	0.48
1:B:3718:GLU:O	1:B:3793:MET:HE1	2.13	0.48
1:B:4764:LEU:O	1:B:4766:THR:N	2.44	0.48
1:B:4835:LYS:HE3	1:B:4835:LYS:HB3	1.58	0.48
3:I:52:MET:HE2	3:I:76:LYS:HE2	1.94	0.48
1:D:883:ALA:O	1:D:887:ILE:HG12	2.14	0.48
1:C:1730:MET:HE3	1:C:1730:MET:HA	1.94	0.48
1:C:2770:LYS:HD2	1:C:2788:HIS:CG	2.49	0.48
1:B:1952:GLN:O	1:B:1956:GLU:HG2	2.14	0.48
1:B:3652:MET:O	1:B:3656:SER:OG	2.24	0.48
1:A:555:GLU:HG2	1:A:555:GLU:O	2.14	0.48
1:A:1079:LYS:HE3	1:A:1107:PRO:HB2	1.96	0.48
1:A:1698:LEU:HD12	1:A:1814:MET:CE	2.44	0.48
1:A:4216:GLN:NE2	1:A:4220:ASP:OD2	2.47	0.48
2:E:77:THR:O	2:E:80:VAL:HG12	2.14	0.48
1:D:1698:LEU:HD12	1:D:1814:MET:CE	2.44	0.48
1:D:1698:LEU:HD13	1:D:1712:TYR:CZ	2.49	0.48
1:D:2695:LEU:O	1:D:2951:ILE:N	2.39	0.48
1:D:4897:ILE:HD13	1:D:4897:ILE:HA	1.69	0.48
1:C:12:GLN:HG3	1:C:13:PHE:CD2	2.49	0.48
1:C:686:TRP:HD1	1:C:755:ILE:HD13	1.79	0.48
1:C:883:ALA:O	1:C:887:ILE:HG12	2.14	0.48
1:C:1549:PHE:N	1:C:1549:PHE:CD1	2.81	0.48
1:C:4682:GLU:HG2	1:C:4723:LYS:HZ2	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:863:LEU:HD11	1:B:867:LEU:HD22	1.96	0.48
1:B:952:LYS:HA	1:B:970:LEU:HA	1.95	0.48
1:B:1079:LYS:HE3	1:B:1107:PRO:HB2	1.96	0.48
1:B:4743:MET:HG3	1:B:4743:MET:O	2.13	0.48
3:J:123:ASP:O	3:J:127:ARG:HB2	2.14	0.48
1:A:1087:ARG:HH11	1:A:1222:GLY:HA3	1.78	0.48
1:A:1253:PRO:HB2	1:A:1254:HIS:H	1.48	0.48
1:A:1703:LEU:HA	1:A:1708:ARG:HH22	1.78	0.48
1:A:4794:TRP:O	1:A:4794:TRP:CD2	2.67	0.48
1:D:667:MET:O	1:D:789:VAL:HG13	2.14	0.48
1:D:1079:LYS:HE3	1:D:1107:PRO:HB2	1.96	0.48
1:D:1716:ILE:HD11	1:D:1847:THR:HG21	1.95	0.48
1:D:1952:GLN:O	1:D:1956:GLU:HG2	2.14	0.48
1:D:2871:LEU:HD22	1:D:2927:LEU:HD22	1.96	0.48
2:H:77:THR:O	2:H:80:VAL:HG12	2.14	0.48
3:L:52:MET:HE2	3:L:76:LYS:HE2	1.95	0.48
3:L:90:PHE:CE2	3:L:99:GLY:HA2	2.49	0.48
1:C:233:ILE:HG22	1:C:234:SER:N	2.28	0.48
1:C:555:GLU:HG2	1:C:555:GLU:O	2.14	0.48
1:C:1087:ARG:HH11	1:C:1222:GLY:HA3	1.78	0.48
1:C:1698:LEU:HD13	1:C:1712:TYR:CZ	2.49	0.48
1:C:2862:LEU:HB3	1:C:2928:LYS:HB3	1.94	0.48
1:C:5034:ASP:C	1:C:5036:LEU:N	2.65	0.48
1:B:12:GLN:HG3	1:B:13:PHE:CD2	2.49	0.48
1:B:1099:GLU:HG2	1:B:1195:GLY:HA3	1.95	0.48
1:B:2196:ASN:OD1	1:B:2199:ARG:NH1	2.46	0.48
1:B:4216:GLN:NE2	1:B:4220:ASP:OD2	2.47	0.48
1:A:5026:ASP:OD1	1:A:5027:CYS:N	2.47	0.48
1:D:2110:TYR:HD1	1:D:3700:GLN:HE21	1.62	0.48
1:D:3718:GLU:O	1:D:3793:MET:HE1	2.13	0.48
2:H:77:THR:OG1	2:H:78:PRO:HD2	2.13	0.48
1:C:1477:GLY:HA2	1:C:1484:HIS:HB2	1.94	0.48
1:C:3718:GLU:O	1:C:3793:MET:HE1	2.13	0.48
1:C:4216:GLN:NE2	1:C:4220:ASP:OD2	2.47	0.48
1:B:233:ILE:HG22	1:B:234:SER:N	2.28	0.48
1:B:759:ILE:HG13	1:B:760:ASN:H	1.79	0.48
1:B:1196:PRO:O	1:B:1198:GLN:NE2	2.44	0.48
1:A:759:ILE:HG13	1:A:760:ASN:H	1.79	0.48
1:A:894:GLY:N	1:A:904:HIS:O	2.47	0.48
1:A:1977:TYR:O	1:A:1981:MET:N	2.47	0.48
1:A:2770:LYS:HD2	1:A:2788:HIS:CG	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4820:VAL:O	1:A:4821:LYS:C	2.51	0.48
1:D:220:LEU:HB2	1:D:391:THR:O	2.14	0.48
1:D:470:SER:O	1:D:474:ARG:HG3	2.14	0.48
1:D:863:LEU:HD11	1:D:867:LEU:HD22	1.96	0.48
1:D:932:LEU:HA	1:D:935:LEU:HD13	1.96	0.48
1:D:2862:LEU:HB3	1:D:2928:LYS:HB3	1.95	0.48
1:D:5026:ASP:OD1	1:D:5027:CYS:N	2.47	0.48
1:C:516:LYS:HG3	1:C:555:GLU:HG3	1.95	0.48
1:C:958:THR:HG23	1:C:959:TYR:N	2.29	0.48
1:C:1158:ASN:HB3	1:C:1182:ILE:H	1.79	0.48
1:C:4794:TRP:O	1:C:4794:TRP:CD2	2.67	0.48
1:C:5026:ASP:OD1	1:C:5027:CYS:N	2.47	0.48
3:K:90:PHE:CE2	3:K:99:GLY:HA2	2.49	0.48
1:B:1158:ASN:HB3	1:B:1182:ILE:H	1.79	0.48
1:B:1675:ALA:O	1:B:1677:GLY:N	2.42	0.48
1:B:4571:PHE:HE2	1:B:4816:ILE:CG1	2.25	0.48
1:B:4794:TRP:O	1:B:4794:TRP:CD2	2.67	0.48
1:A:233:ILE:HG22	1:A:234:SER:H	1.77	0.47
1:A:795:GLY:H	1:A:812:HIS:HD2	1.62	0.47
1:A:932:LEU:HA	1:A:935:LEU:HD13	1.96	0.47
1:A:5034:ASP:C	1:A:5036:LEU:N	2.65	0.47
1:D:1087:ARG:HH11	1:D:1222:GLY:HA3	1.78	0.47
1:D:1730:MET:HA	1:D:1730:MET:HE3	1.95	0.47
1:D:4216:GLN:NE2	1:D:4220:ASP:OD2	2.47	0.47
1:C:667:MET:O	1:C:789:VAL:HG13	2.14	0.47
1:C:1099:GLU:HG2	1:C:1195:GLY:HA3	1.95	0.47
1:A:108:LEU:HD12	1:A:147:TRP:CZ2	2.49	0.47
1:A:2760:GLU:OE2	1:A:2794:TYR:N	2.48	0.47
1:A:3292:PRO:O	1:A:3294:PRO:N	2.48	0.47
1:A:4003:LEU:HD21	1:A:4012:LEU:HD22	1.95	0.47
1:D:108:LEU:HD12	1:D:147:TRP:CZ2	2.49	0.47
1:D:894:GLY:N	1:D:904:HIS:O	2.47	0.47
1:D:958:THR:HG23	1:D:959:TYR:N	2.29	0.47
1:D:1835:GLU:O	1:D:1839:VAL:HG12	2.15	0.47
1:D:1977:TYR:O	1:D:1981:MET:N	2.47	0.47
1:D:4678:ALA:CB	1:D:4720:VAL:HG21	2.44	0.47
1:C:1452:TRP:N	1:C:1493:TYR:O	2.42	0.47
1:C:4764:LEU:O	1:C:4766:THR:N	2.44	0.47
2:G:77:THR:O	2:G:80:VAL:HG12	2.14	0.47
1:B:883:ALA:O	1:B:887:ILE:HG12	2.14	0.47
1:B:1698:LEU:HD13	1:B:1712:TYR:CZ	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2271:THR:HG22	1:B:2274:ASP:OD2	2.14	0.47
1:A:667:MET:O	1:A:789:VAL:HG13	2.14	0.47
1:A:686:TRP:HD1	1:A:755:ILE:HD13	1.79	0.47
1:A:863:LEU:HD11	1:A:867:LEU:HD22	1.96	0.47
1:A:883:ALA:O	1:A:887:ILE:HG12	2.14	0.47
1:A:1716:ILE:HD11	1:A:1847:THR:HG21	1.95	0.47
1:A:2110:TYR:HD1	1:A:3700:GLN:HE21	1.62	0.47
3:I:90:PHE:CE2	3:I:99:GLY:HA2	2.49	0.47
1:D:340:LYS:N	1:D:344:SER:HG	2.11	0.47
1:D:2953:LYS:O	1:D:2957:PHE:N	2.43	0.47
1:D:4003:LEU:HD21	1:D:4012:LEU:HD22	1.95	0.47
1:C:220:LEU:HB2	1:C:391:THR:O	2.14	0.47
1:C:863:LEU:HD11	1:C:867:LEU:HD22	1.96	0.47
1:B:625:LEU:O	1:B:626:LEU:HB2	2.13	0.47
1:B:3636:PHE:CB	3:J:89:ALA:HB1	2.43	0.47
1:B:5026:ASP:OD1	1:B:5027:CYS:N	2.47	0.47
1:A:4983:HIS:ND1	1:A:4983:HIS:N	2.63	0.47
3:I:123:ASP:O	3:I:127:ARG:HB2	2.14	0.47
1:D:686:TRP:HD1	1:D:755:ILE:HD13	1.79	0.47
1:D:759:ILE:HG13	1:D:760:ASN:H	1.79	0.47
1:D:2760:GLU:OE2	1:D:2794:TYR:N	2.48	0.47
1:D:4991:PHE:C	1:D:4993:MET:H	2.18	0.47
2:H:59:PHE:HE1	2:H:101:VAL:HG21	1.80	0.47
1:C:108:LEU:HD12	1:C:147:TRP:CZ2	2.49	0.47
1:B:516:LYS:HG3	1:B:555:GLU:HG3	1.95	0.47
1:B:686:TRP:HD1	1:B:755:ILE:HD13	1.79	0.47
1:B:795:GLY:H	1:B:812:HIS:HD2	1.62	0.47
1:B:2770:LYS:HD2	1:B:2788:HIS:CG	2.49	0.47
1:A:340:LYS:N	1:A:344:SER:HG	2.12	0.47
1:A:3528:THR:HA	1:D:1220:GLN:CG	2.42	0.47
2:E:59:PHE:HE1	2:E:101:VAL:HG21	1.80	0.47
1:D:4794:TRP:O	1:D:4794:TRP:CD2	2.67	0.47
3:L:123:ASP:O	3:L:127:ARG:HB2	2.14	0.47
1:C:1443:GLN:OE1	1:C:1557:THR:N	2.47	0.47
1:B:908:VAL:HG12	1:B:963:ASN:HB3	1.96	0.47
1:B:1835:GLU:O	1:B:1839:VAL:HG12	2.14	0.47
1:B:3327:LEU:O	1:B:3331:GLU:N	2.45	0.47
1:B:4003:LEU:HD21	1:B:4012:LEU:HD22	1.95	0.47
3:J:90:PHE:CE2	3:J:99:GLY:HA2	2.49	0.47
1:A:1698:LEU:HD13	1:A:1712:TYR:CZ	2.48	0.47
1:A:1730:MET:HA	1:A:1730:MET:HE3	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2871:LEU:HD22	1:A:2927:LEU:HD22	1.96	0.47
1:D:2770:LYS:HD2	1:D:2788:HIS:CG	2.49	0.47
1:C:759:ILE:HG13	1:C:760:ASN:H	1.79	0.47
1:C:894:GLY:N	1:C:904:HIS:O	2.47	0.47
1:C:952:LYS:HA	1:C:970:LEU:HA	1.95	0.47
1:C:2271:THR:HG22	1:C:2274:ASP:OD2	2.14	0.47
1:C:2760:GLU:OE2	1:C:2794:TYR:N	2.48	0.47
1:C:4678:ALA:CB	1:C:4720:VAL:HG21	2.44	0.47
1:B:894:GLY:N	1:B:904:HIS:O	2.47	0.47
1:B:932:LEU:HA	1:B:935:LEU:HD13	1.96	0.47
1:B:1087:ARG:HH11	1:B:1222:GLY:HA3	1.78	0.47
2:F:77:THR:O	2:F:80:VAL:HG12	2.14	0.47
1:A:426:ARG:HD2	1:A:431:PRO:HA	1.97	0.47
1:A:470:SER:O	1:A:474:ARG:HG3	2.14	0.47
1:A:1855:GLY:O	1:A:1857:GLU:N	2.47	0.47
1:A:2271:THR:HG22	1:A:2274:ASP:OD2	2.14	0.47
1:A:4549:VAL:O	1:A:4550:LYS:C	2.53	0.47
1:A:4844:LEU:O	1:A:4847:VAL:N	2.46	0.47
1:D:775:GLY:C	1:D:776:LEU:HD12	2.35	0.47
1:D:821:LEU:HD23	1:D:821:LEU:H	1.80	0.47
1:D:1158:ASN:HB3	1:D:1182:ILE:H	1.79	0.47
1:D:1855:GLY:O	1:D:1857:GLU:N	2.47	0.47
1:D:2271:THR:HG22	1:D:2274:ASP:OD2	2.14	0.47
1:D:3292:PRO:O	1:D:3294:PRO:N	2.48	0.47
1:D:4549:VAL:O	1:D:4550:LYS:C	2.53	0.47
1:D:4659:ILE:HD12	1:D:4659:ILE:HA	1.75	0.47
1:C:350:HIS:HE1	1:C:352:ALA:HB3	1.80	0.47
1:C:821:LEU:HD23	1:C:821:LEU:H	1.80	0.47
1:C:1549:PHE:N	1:C:1549:PHE:HD1	2.13	0.47
1:C:1952:GLN:O	1:C:1956:GLU:HG2	2.14	0.47
1:C:1977:TYR:O	1:C:1981:MET:N	2.47	0.47
1:C:3696:ASP:OD1	1:C:3699:HIS:HB2	2.14	0.47
1:C:4835:LYS:HE3	1:C:4835:LYS:HB3	1.58	0.47
1:B:3292:PRO:O	1:B:3294:PRO:N	2.48	0.47
1:A:12:GLN:HG3	1:A:13:PHE:CD2	2.49	0.47
1:A:350:HIS:HE1	1:A:352:ALA:HB3	1.80	0.47
1:A:908:VAL:HG12	1:A:963:ASN:HB3	1.96	0.47
1:A:958:THR:HG23	1:A:959:TYR:N	2.29	0.47
1:A:4547:GLN:O	1:A:4548:ARG:C	2.53	0.47
1:D:225:GLY:HA2	1:C:156:GLN:NE2	2.30	0.47
1:D:350:HIS:HE1	1:D:352:ALA:HB3	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:555:GLU:HG2	1:D:555:GLU:O	2.14	0.47
1:D:1075:PHE:HE2	1:D:1194:LEU:HD12	1.80	0.47
1:D:1549:PHE:N	1:D:1549:PHE:HD1	2.13	0.47
1:C:932:LEU:HA	1:C:935:LEU:HD13	1.96	0.47
1:C:2871:LEU:HD22	1:C:2927:LEU:HD22	1.96	0.47
1:C:3327:LEU:O	1:C:3331:GLU:N	2.44	0.47
1:C:4844:LEU:O	1:C:4847:VAL:N	2.46	0.47
1:C:5035:GLN:O	1:C:5036:LEU:CB	2.60	0.47
1:B:426:ARG:HD2	1:B:431:PRO:HA	1.97	0.47
1:B:667:MET:O	1:B:789:VAL:HG13	2.14	0.47
1:B:2257:LEU:HD11	1:B:2275:VAL:HG13	1.96	0.47
1:B:2760:GLU:OE2	1:B:2794:TYR:N	2.48	0.47
1:B:3696:ASP:OD1	1:B:3699:HIS:HB2	2.14	0.47
1:B:5034:ASP:C	1:B:5036:LEU:N	2.65	0.47
1:A:775:GLY:C	1:A:776:LEU:HD12	2.35	0.47
1:A:1443:GLN:OE1	1:A:1557:THR:N	2.47	0.47
1:C:775:GLY:C	1:C:776:LEU:HD12	2.35	0.47
1:C:1075:PHE:HE2	1:C:1194:LEU:HD12	1.80	0.47
1:C:3292:PRO:O	1:C:3294:PRO:N	2.48	0.47
1:C:4991:PHE:C	1:C:4993:MET:H	2.18	0.47
3:K:45:THR:OG1	3:K:46:GLU:N	2.48	0.47
1:B:350:HIS:HE1	1:B:352:ALA:HB3	1.80	0.47
1:B:470:SER:O	1:B:474:ARG:HG3	2.14	0.47
1:B:775:GLY:C	1:B:776:LEU:HD12	2.35	0.47
3:J:52:MET:HE2	3:J:76:LYS:HE2	1.96	0.47
1:A:1158:ASN:HB3	1:A:1182:ILE:H	1.79	0.47
1:A:4991:PHE:C	1:A:4993:MET:H	2.18	0.47
1:D:795:GLY:H	1:D:812:HIS:HD2	1.62	0.47
1:D:952:LYS:HA	1:D:970:LEU:HA	1.95	0.47
1:D:1253:PRO:HB2	1:D:1254:HIS:H	1.48	0.47
1:C:2110:TYR:HD1	1:C:3700:GLN:HE21	1.62	0.47
1:B:958:THR:HG23	1:B:959:TYR:N	2.29	0.47
1:B:1075:PHE:HE2	1:B:1194:LEU:HD12	1.80	0.47
1:B:4820:VAL:O	1:B:4821:LYS:C	2.51	0.47
1:B:4978:HIS:CE1	1:B:4983:HIS:CG	3.03	0.47
1:A:3696:ASP:OD1	1:A:3699:HIS:HB2	2.14	0.46
1:A:4678:ALA:CB	1:A:4720:VAL:HG21	2.44	0.46
1:D:546:TRP:O	1:D:550:LYS:NZ	2.47	0.46
1:D:1549:PHE:N	1:D:1549:PHE:CD1	2.81	0.46
1:D:1863:LEU:HD21	1:D:1946:PHE:HE2	1.80	0.46
1:D:4728:HIS:O	1:D:4731:ILE:HG22	2.13	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:876:GLU:O	1:C:880:GLU:HG2	2.15	0.46
1:C:1835:GLU:O	1:C:1839:VAL:HG12	2.15	0.46
1:C:4983:HIS:O	1:C:4984:ASN:HB2	2.15	0.46
1:A:649:PHE:HB3	1:A:776:LEU:HD23	1.98	0.46
1:D:101:LEU:HB2	1:D:163:VAL:HG11	1.98	0.46
1:D:830:ARG:HD3	1:D:1612:PHE:CE2	2.51	0.46
1:C:2695:LEU:O	1:C:2951:ILE:N	2.39	0.46
1:C:4551:PHE:CE1	1:C:4555:LEU:HD13	2.50	0.46
1:B:108:LEU:HD12	1:B:147:TRP:CZ2	2.49	0.46
1:B:1193:SER:OG	1:B:1194:LEU:N	2.49	0.46
1:B:1863:LEU:HD21	1:B:1946:PHE:HE2	1.80	0.46
1:B:1977:TYR:O	1:B:1981:MET:N	2.47	0.46
1:B:4649:LEU:O	1:B:4650:HIS:C	2.53	0.46
1:B:4983:HIS:O	1:B:4984:ASN:HB2	2.15	0.46
1:A:2196:ASN:OD1	1:A:2199:ARG:NH1	2.46	0.46
1:A:4551:PHE:CE1	1:A:4555:LEU:HD13	2.50	0.46
1:D:12:GLN:HG3	1:D:13:PHE:CD2	2.49	0.46
1:D:3648:ARG:HG3	1:D:3648:ARG:NH2	2.31	0.46
1:D:4551:PHE:CE1	1:D:4555:LEU:HD13	2.50	0.46
1:D:4704:LEU:O	1:D:4774:LYS:HE2	2.16	0.46
1:C:3636:PHE:CB	3:K:89:ALA:HB1	2.43	0.46
1:C:4704:LEU:O	1:C:4774:LYS:HE2	2.16	0.46
1:C:4978:HIS:CE1	1:C:4983:HIS:CG	3.03	0.46
1:B:887:ILE:HG13	1:B:959:TYR:CE1	2.51	0.46
1:B:1443:GLN:OE1	1:B:1557:THR:N	2.47	0.46
1:B:1549:PHE:N	1:B:1549:PHE:CD1	2.81	0.46
1:B:4551:PHE:CE1	1:B:4555:LEU:HD13	2.50	0.46
1:B:4897:ILE:HD13	1:B:4897:ILE:HA	1.69	0.46
1:B:4991:PHE:C	1:B:4993:MET:H	2.18	0.46
1:A:977:LEU:HB3	1:A:1044:ARG:HH22	1.80	0.46
1:A:4978:HIS:CE1	1:A:4983:HIS:CG	3.03	0.46
1:D:426:ARG:HD2	1:D:431:PRO:HA	1.97	0.46
1:D:908:VAL:HG12	1:D:963:ASN:HB3	1.96	0.46
1:D:4889:VAL:O	1:D:4889:VAL:HG12	2.15	0.46
1:C:470:SER:O	1:C:474:ARG:HG3	2.14	0.46
1:C:1855:GLY:O	1:C:1857:GLU:N	2.47	0.46
1:C:3671:ASP:OD1	1:C:3672:ARG:N	2.49	0.46
1:C:4978:HIS:HE1	1:C:4983:HIS:CG	2.33	0.46
1:C:4995:LEU:HD11	1:C:5007:GLU:HB3	1.97	0.46
1:B:1549:PHE:N	1:B:1549:PHE:HD1	2.13	0.46
1:B:1855:GLY:O	1:B:1857:GLU:N	2.47	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:876:GLU:O	1:A:880:GLU:HG2	2.15	0.46
1:A:3135:ALA:O	1:A:3137:LEU:N	2.48	0.46
1:A:3648:ARG:HG3	1:A:3648:ARG:NH2	2.31	0.46
1:D:2257:LEU:HD11	1:D:2275:VAL:HG13	1.96	0.46
1:D:3264:THR:O	1:D:3266:MET:N	2.48	0.46
1:D:4995:LEU:HD11	1:D:5007:GLU:HB3	1.97	0.46
1:C:1196:PRO:O	1:C:1198:GLN:NE2	2.44	0.46
1:C:2152:THR:HG22	1:C:2190:VAL:HG11	1.97	0.46
1:B:418:LEU:HD12	1:B:421:PHE:CZ	2.51	0.46
1:B:4949:GLN:O	1:B:4950:VAL:C	2.54	0.46
1:A:1835:GLU:O	1:A:1839:VAL:HG12	2.15	0.46
1:A:2257:LEU:HD11	1:A:2275:VAL:HG13	1.96	0.46
1:A:3264:THR:O	1:A:3266:MET:N	2.48	0.46
1:A:4952:GLU:O	1:A:4952:GLU:HG2	2.15	0.46
1:A:4954:MET:HE1	1:A:4959:PHE:CD1	2.50	0.46
1:A:4983:HIS:O	1:A:4984:ASN:HB2	2.15	0.46
1:D:887:ILE:HG13	1:D:959:TYR:CE1	2.51	0.46
1:D:1452:TRP:N	1:D:1493:TYR:O	2.42	0.46
1:D:1675:ALA:O	1:D:1677:GLY:N	2.42	0.46
1:D:2807:TRP:HA	1:D:2810:LYS:HB2	1.98	0.46
1:D:3135:ALA:O	1:D:3137:LEU:N	2.48	0.46
1:D:3696:ASP:OD1	1:D:3699:HIS:HB2	2.15	0.46
1:D:3768:SER:HA	1:D:3771:HIS:CD2	2.51	0.46
1:D:4952:GLU:O	1:D:4952:GLU:HG2	2.15	0.46
1:D:4983:HIS:ND1	1:D:4983:HIS:N	2.63	0.46
1:C:649:PHE:HB3	1:C:776:LEU:HD23	1.98	0.46
1:C:908:VAL:HG12	1:C:963:ASN:HB3	1.96	0.46
1:C:2257:LEU:HD11	1:C:2275:VAL:HG13	1.96	0.46
1:B:883:ALA:O	1:B:887:ILE:N	2.45	0.46
3:J:45:THR:OG1	3:J:46:GLU:N	2.48	0.46
1:A:1549:PHE:N	1:A:1549:PHE:HD1	2.13	0.46
1:A:4995:LEU:HD11	1:A:5007:GLU:HB3	1.97	0.46
1:D:977:LEU:HB3	1:D:1044:ARG:HH22	1.80	0.46
1:D:4920:PHE:O	1:D:4924:VAL:HG22	2.16	0.46
1:D:4978:HIS:HE1	1:D:4983:HIS:CG	2.33	0.46
1:B:834:PRO:HB2	1:B:835:ARG:NH1	2.31	0.46
1:B:876:GLU:O	1:B:880:GLU:HG2	2.15	0.46
1:B:3768:SER:HA	1:B:3771:HIS:CD2	2.51	0.46
1:B:4983:HIS:ND1	1:B:4983:HIS:N	2.63	0.46
1:A:418:LEU:HD12	1:A:421:PHE:CZ	2.51	0.46
1:A:875:ALA:O	1:A:879:HIS:N	2.47	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3768:SER:HA	1:A:3771:HIS:CD2	2.51	0.46
1:A:4704:LEU:O	1:A:4774:LYS:HE2	2.16	0.46
3:I:45:THR:OG1	3:I:46:GLU:N	2.48	0.46
1:D:649:PHE:HB3	1:D:776:LEU:HD23	1.98	0.46
1:D:1193:SER:OG	1:D:1194:LEU:N	2.49	0.46
1:D:2321:ILE:HG13	1:D:2322:GLY:N	2.26	0.46
1:D:3850:GLN:CD	1:D:3873:LYS:HD2	2.37	0.46
1:C:101:LEU:HB2	1:C:163:VAL:HG11	1.98	0.46
1:C:1863:LEU:HD21	1:C:1946:PHE:HE2	1.80	0.46
1:C:4813:LEU:HD23	1:C:4813:LEU:HA	1.70	0.46
1:B:131:LEU:HD12	1:B:178:ARG:CZ	2.46	0.46
1:B:821:LEU:HD23	1:B:821:LEU:H	1.80	0.46
1:B:977:LEU:HB3	1:B:1044:ARG:HH22	1.80	0.46
1:B:2871:LEU:HD22	1:B:2927:LEU:HD22	1.96	0.46
1:B:3850:GLN:CD	1:B:3873:LYS:HD2	2.36	0.46
1:B:4561:THR:OG1	1:B:4562:LEU:N	2.49	0.46
1:B:4678:ALA:CB	1:B:4720:VAL:HG21	2.45	0.46
1:A:834:PRO:HB2	1:A:835:ARG:NH1	2.31	0.46
1:A:3850:GLN:CD	1:A:3873:LYS:HD2	2.37	0.46
1:A:4920:PHE:O	1:A:4924:VAL:HG22	2.16	0.46
1:D:4552:LEU:HA	1:D:4555:LEU:CD2	2.45	0.46
1:D:4978:HIS:CE1	1:D:4983:HIS:CG	3.03	0.46
1:D:4983:HIS:O	1:D:4984:ASN:HB2	2.15	0.46
1:C:830:ARG:HD3	1:C:1612:PHE:CE2	2.51	0.46
1:C:834:PRO:HB2	1:C:835:ARG:NH1	2.31	0.46
1:C:4649:LEU:O	1:C:4650:HIS:C	2.53	0.46
1:C:4920:PHE:O	1:C:4924:VAL:HG22	2.16	0.46
1:C:4952:GLU:HG2	1:C:4952:GLU:O	2.15	0.46
2:G:59:PHE:HE1	2:G:101:VAL:HG21	1.79	0.46
1:B:101:LEU:HB2	1:B:163:VAL:HG11	1.98	0.46
1:B:649:PHE:HB3	1:B:776:LEU:HD23	1.98	0.46
1:B:2110:TYR:HD1	1:B:3700:GLN:HE21	1.62	0.46
1:B:3901:ASN:OD1	1:B:3904:ARG:NH1	2.29	0.46
1:B:4819:GLU:HB3	1:B:4820:VAL:H	1.59	0.46
1:B:4889:VAL:O	1:B:4889:VAL:HG12	2.15	0.46
1:A:717:ASP:OD1	1:A:720:HIS:N	2.44	0.46
1:A:1193:SER:OG	1:A:1194:LEU:N	2.49	0.46
1:A:4901:ILE:O	1:A:4902:GLU:O	2.34	0.46
1:D:131:LEU:HD12	1:D:178:ARG:CZ	2.46	0.46
1:D:418:LEU:HD12	1:D:421:PHE:CZ	2.51	0.46
1:D:4649:LEU:O	1:D:4650:HIS:C	2.53	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:426:ARG:HD2	1:C:431:PRO:HA	1.97	0.46
1:C:2811:GLU:HA	1:C:2814:LYS:HB2	1.98	0.46
1:C:3850:GLN:CD	1:C:3873:LYS:HD2	2.37	0.46
1:C:4903:ASP:HA	1:C:4904:PRO:HD3	1.76	0.46
1:B:3363:GLY:O	1:B:3367:LYS:N	2.49	0.46
1:B:3909:ASN:HB3	1:B:3910:THR:H	1.63	0.46
1:B:4952:GLU:HG2	1:B:4952:GLU:O	2.15	0.46
1:A:887:ILE:HG13	1:A:959:TYR:CE1	2.51	0.45
1:A:1075:PHE:HE2	1:A:1194:LEU:HD12	1.80	0.45
1:A:2811:GLU:HA	1:A:2814:LYS:HB2	1.98	0.45
1:A:3671:ASP:OD1	1:A:3672:ARG:N	2.49	0.45
1:A:3829:PHE:HB3	1:A:3913:ILE:HG13	1.98	0.45
1:D:2152:THR:HG22	1:D:2190:VAL:HG11	1.97	0.45
1:D:3829:PHE:HB3	1:D:3913:ILE:HG13	1.98	0.45
1:C:131:LEU:HD12	1:C:178:ARG:CZ	2.46	0.45
1:C:418:LEU:HD12	1:C:421:PHE:CZ	2.51	0.45
1:C:1193:SER:OG	1:C:1194:LEU:N	2.49	0.45
1:C:2775:TRP:CZ3	1:C:2786:LYS:HA	2.51	0.45
1:C:3363:GLY:O	1:C:3367:LYS:N	2.48	0.45
1:B:138:GLN:HG2	1:B:139:GLU:N	2.32	0.45
1:B:3829:PHE:HB3	1:B:3913:ILE:HG13	1.98	0.45
1:B:4547:GLN:O	1:B:4548:ARG:C	2.53	0.45
1:A:2775:TRP:CZ3	1:A:2786:LYS:HA	2.51	0.45
1:A:5013:MET:HE2	1:A:5013:MET:HB2	1.70	0.45
1:D:3636:PHE:CB	3:L:89:ALA:HB1	2.43	0.45
1:D:3671:ASP:OD1	1:D:3672:ARG:N	2.49	0.45
1:C:138:GLN:HG2	1:C:139:GLU:N	2.32	0.45
1:C:977:LEU:HB3	1:C:1044:ARG:HH22	1.80	0.45
1:C:3514:LEU:O	1:C:3516:LYS:N	2.50	0.45
1:B:745:SER:O	1:B:758:ARG:N	2.48	0.45
1:B:2152:THR:HG22	1:B:2190:VAL:HG11	1.97	0.45
1:B:4978:HIS:HE1	1:B:4983:HIS:CG	2.33	0.45
1:A:101:LEU:HB2	1:A:163:VAL:HG11	1.98	0.45
1:A:483:MET:HA	1:A:486:LEU:HB2	1.98	0.45
1:A:821:LEU:H	1:A:821:LEU:HD23	1.80	0.45
1:A:830:ARG:HD3	1:A:1612:PHE:CE2	2.51	0.45
1:A:1863:LEU:HD21	1:A:1946:PHE:HE2	1.80	0.45
1:A:4889:VAL:O	1:A:4889:VAL:HG12	2.15	0.45
1:A:5004:THR:OG1	1:A:5005:GLY:N	2.46	0.45
1:C:910:PHE:O	1:C:913:LEU:HB2	2.16	0.45
1:C:3135:ALA:O	1:C:3137:LEU:N	2.48	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:3768:SER:HA	1:C:3771:HIS:CD2	2.51	0.45
1:B:483:MET:HA	1:B:486:LEU:HB2	1.98	0.45
1:B:2775:TRP:CZ3	1:B:2786:LYS:HA	2.52	0.45
1:B:3135:ALA:O	1:B:3137:LEU:N	2.48	0.45
1:B:4704:LEU:O	1:B:4774:LYS:HE2	2.16	0.45
1:B:4706:LEU:H	1:B:4706:LEU:HD12	1.82	0.45
1:A:131:LEU:HD12	1:A:178:ARG:CZ	2.46	0.45
1:A:3514:LEU:O	1:A:3516:LYS:N	2.50	0.45
1:A:4812:HIS:C	1:A:4814:LEU:H	2.18	0.45
1:A:4903:ASP:HA	1:A:4904:PRO:HD3	1.76	0.45
1:D:876:GLU:O	1:D:880:GLU:HG2	2.16	0.45
1:D:910:PHE:O	1:D:913:LEU:HB2	2.16	0.45
1:D:2811:GLU:HA	1:D:2814:LYS:HB2	1.99	0.45
1:D:5004:THR:OG1	1:D:5005:GLY:N	2.46	0.45
1:C:875:ALA:O	1:C:879:HIS:N	2.47	0.45
1:C:4552:LEU:HA	1:C:4555:LEU:CD2	2.45	0.45
1:C:4561:THR:OG1	1:C:4562:LEU:N	2.49	0.45
1:C:4706:LEU:H	1:C:4706:LEU:HD12	1.82	0.45
1:C:4844:LEU:HD12	1:C:4844:LEU:HA	1.61	0.45
1:B:910:PHE:O	1:B:913:LEU:HB2	2.16	0.45
1:B:2920:ARG:O	1:B:2924:GLN:N	2.38	0.45
1:B:3514:LEU:O	1:B:3516:LYS:N	2.50	0.45
1:B:3671:ASP:OD1	1:B:3672:ARG:N	2.49	0.45
1:A:910:PHE:O	1:A:913:LEU:HB2	2.16	0.45
1:A:1040:CYS:O	1:A:1044:ARG:N	2.49	0.45
1:A:2807:TRP:HA	1:A:2810:LYS:HB2	1.98	0.45
1:A:4097:MET:HB3	1:A:4108:ILE:HD12	1.99	0.45
1:D:2191:PHE:CG	1:D:2191:PHE:O	2.69	0.45
1:D:4901:ILE:O	1:D:4902:GLU:O	2.34	0.45
3:L:45:THR:OG1	3:L:46:GLU:N	2.48	0.45
1:B:2811:GLU:HA	1:B:2814:LYS:HB2	1.98	0.45
1:B:3648:ARG:HG3	1:B:3648:ARG:NH2	2.31	0.45
1:B:4901:ILE:O	1:B:4902:GLU:O	2.34	0.45
1:A:138:GLN:HG2	1:A:139:GLU:N	2.32	0.45
1:A:1440:PHE:HD1	1:A:1561:VAL:O	2.00	0.45
1:A:4561:THR:OG1	1:A:4562:LEU:N	2.49	0.45
1:D:138:GLN:HG2	1:D:139:GLU:N	2.32	0.45
1:D:560:ILE:HA	1:D:563:VAL:HG12	1.99	0.45
1:D:4020:GLN:HB2	1:D:4139:ILE:HD12	1.99	0.45
1:C:745:SER:O	1:C:758:ARG:N	2.48	0.45
1:C:1253:PRO:HB2	1:C:1254:HIS:H	1.48	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:3648:ARG:HG3	1:C:3648:ARG:NH2	2.31	0.45
1:C:4553:ASN:O	1:C:4557:ARG:HG3	2.17	0.45
1:C:4889:VAL:O	1:C:4889:VAL:HG12	2.15	0.45
1:B:1440:PHE:HD1	1:B:1561:VAL:O	2.00	0.45
1:A:415:ILE:HD11	1:A:490:CYS:SG	2.57	0.45
1:A:4978:HIS:HE1	1:A:4983:HIS:CG	2.33	0.45
1:D:1040:CYS:O	1:D:1044:ARG:N	2.49	0.45
1:D:1100:MET:H	1:D:1143:TRP:HH2	1.65	0.45
1:C:4547:GLN:O	1:C:4548:ARG:C	2.53	0.45
1:C:4983:HIS:ND1	1:C:4983:HIS:N	2.63	0.45
1:B:830:ARG:HD3	1:B:1612:PHE:CE2	2.51	0.45
1:B:1040:CYS:O	1:B:1044:ARG:N	2.49	0.45
1:B:1130:GLN:OE1	1:B:1136:SER:OG	2.24	0.45
1:B:4903:ASP:HA	1:B:4904:PRO:HD3	1.75	0.45
1:B:4920:PHE:O	1:B:4924:VAL:HG22	2.16	0.45
2:F:59:PHE:HE1	2:F:101:VAL:HG21	1.79	0.45
1:A:1240:LYS:O	1:A:1241:SER:OG	2.29	0.45
1:A:2959:PHE:O	1:A:2963:LEU:N	2.48	0.45
1:A:3202:PRO:O	1:A:3206:LEU:N	2.38	0.45
1:A:4649:LEU:O	1:A:4650:HIS:C	2.53	0.45
3:I:20:PHE:CE2	3:I:32:ALA:HB1	2.52	0.45
1:D:168:ASP:N	1:D:168:ASP:OD1	2.42	0.45
1:D:445:LEU:O	1:D:449:ILE:HG13	2.17	0.45
1:D:717:ASP:OD1	1:D:720:HIS:N	2.44	0.45
1:D:4553:ASN:O	1:D:4557:ARG:HG3	2.17	0.45
1:D:4733:GLY:H	1:D:4736:ARG:NH2	2.15	0.45
1:C:445:LEU:O	1:C:449:ILE:HG13	2.17	0.45
1:C:483:MET:HA	1:C:486:LEU:HB2	1.98	0.45
1:C:887:ILE:HG13	1:C:959:TYR:CE1	2.51	0.45
1:C:1440:PHE:HD1	1:C:1561:VAL:O	2.00	0.45
1:C:2247:GLN:HE21	1:C:2280:VAL:HA	1.82	0.45
1:C:3829:PHE:HB3	1:C:3913:ILE:HG13	1.98	0.45
1:B:1237:TRP:CZ2	1:B:1655:GLU:HG3	2.52	0.45
1:B:4549:VAL:O	1:B:4550:LYS:C	2.53	0.45
1:B:4995:LEU:HD11	1:B:5007:GLU:HB3	1.97	0.45
1:A:2191:PHE:O	1:A:2191:PHE:CG	2.69	0.45
1:A:4687:TYR:CE1	1:A:4692:PRO:HG3	2.49	0.45
1:A:4706:LEU:H	1:A:4706:LEU:HD12	1.82	0.45
1:D:3216:CYS:O	1:D:3218:VAL:N	2.50	0.45
1:D:4982:GLU:O	1:D:4983:HIS:C	2.55	0.45
1:C:2959:PHE:O	1:C:2963:LEU:N	2.48	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:4549:VAL:O	1:C:4550:LYS:C	2.53	0.45
1:C:4551:PHE:C	1:C:4553:ASN:N	2.69	0.45
1:C:5004:THR:OG1	1:C:5005:GLY:N	2.46	0.45
1:B:4945:ASP:C	1:B:4947:GLN:N	2.71	0.45
1:A:955:LEU:N	1:A:956:PRO:HD3	2.32	0.45
1:A:3216:CYS:O	1:A:3218:VAL:N	2.50	0.45
1:D:415:ILE:HD11	1:D:490:CYS:SG	2.57	0.45
1:D:483:MET:HA	1:D:486:LEU:HB2	1.98	0.45
1:D:955:LEU:N	1:D:956:PRO:HD3	2.32	0.45
1:D:3889:GLN:HG3	1:D:3967:GLU:HG3	1.99	0.45
1:D:4682:GLU:HG2	1:D:4723:LYS:HZ2	1.82	0.45
3:L:20:PHE:CE2	3:L:32:ALA:HB1	2.52	0.45
1:C:2191:PHE:CG	1:C:2191:PHE:O	2.69	0.45
1:C:4659:ILE:HD12	1:C:4659:ILE:HA	1.75	0.45
1:C:4766:THR:O	1:C:4769:MET:HG3	2.17	0.45
1:B:415:ILE:HD11	1:B:490:CYS:SG	2.57	0.45
1:B:560:ILE:HA	1:B:563:VAL:HG12	1.99	0.45
1:B:717:ASP:OD1	1:B:720:HIS:N	2.44	0.45
1:B:1079:LYS:HG2	1:B:1655:GLU:OE1	2.18	0.45
1:B:2807:TRP:HA	1:B:2810:LYS:HB2	1.98	0.45
1:B:3889:GLN:HG3	1:B:3967:GLU:HG3	1.99	0.45
1:A:745:SER:O	1:A:758:ARG:N	2.48	0.44
1:A:3856:LEU:H	1:A:3856:LEU:HG	1.52	0.44
1:A:4733:GLY:H	1:A:4736:ARG:NH2	2.15	0.44
1:D:705:ASN:OD1	1:D:709:ASP:HB2	2.17	0.44
1:C:415:ILE:HD11	1:C:490:CYS:SG	2.57	0.44
1:C:705:ASN:OD1	1:C:709:ASP:HB2	2.17	0.44
1:C:955:LEU:N	1:C:956:PRO:HD3	2.32	0.44
1:C:1079:LYS:HG2	1:C:1655:GLU:OE1	2.17	0.44
1:C:1243:PRO:HB2	1:C:1600:LEU:HG	2.00	0.44
1:C:4020:GLN:HB2	1:C:4139:ILE:HD12	1.99	0.44
1:B:4572:ALA:O	1:B:4575:PHE:N	2.48	0.44
1:B:4844:LEU:O	1:B:4847:VAL:N	2.46	0.44
1:A:1100:MET:H	1:A:1143:TRP:HH2	1.65	0.44
1:A:2447:LYS:HG2	1:A:2449:GLU:H	1.83	0.44
1:A:2618:MET:O	1:A:2622:LEU:N	2.43	0.44
1:A:4982:GLU:O	1:A:4983:HIS:C	2.55	0.44
1:D:3514:LEU:O	1:D:3516:LYS:N	2.50	0.44
1:D:3897:ASN:OD1	1:D:3901:ASN:ND2	2.51	0.44
1:D:4547:GLN:O	1:D:4548:ARG:C	2.53	0.44
1:D:4949:GLN:O	1:D:4950:VAL:C	2.54	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:3456:GLN:O	1:C:3460:VAL:N	2.51	0.44
1:C:4901:ILE:O	1:C:4902:GLU:O	2.34	0.44
1:B:1552:VAL:HG11	1:B:1562:ILE:HD13	2.00	0.44
1:B:3264:THR:O	1:B:3266:MET:N	2.48	0.44
1:A:1079:LYS:HG2	1:A:1655:GLU:OE1	2.18	0.44
1:A:1237:TRP:CZ2	1:A:1655:GLU:HG3	2.52	0.44
1:A:1552:VAL:HG11	1:A:1562:ILE:HD13	2.00	0.44
1:A:2152:THR:HG22	1:A:2190:VAL:HG11	1.97	0.44
1:A:3873:LYS:HG3	1:A:3874:VAL:H	1.82	0.44
1:A:3889:GLN:HG3	1:A:3967:GLU:HG3	1.99	0.44
3:I:44:PRO:HG2	3:I:48:GLU:OE2	2.18	0.44
1:D:1440:PHE:HD1	1:D:1561:VAL:O	2.00	0.44
1:D:2880:GLU:HG2	1:D:2884:ASN:OD1	2.18	0.44
1:C:1829:PRO:HG2	1:C:1834:VAL:H	1.82	0.44
1:C:2447:LYS:HG2	1:C:2449:GLU:H	1.83	0.44
1:C:2807:TRP:HA	1:C:2810:LYS:HB2	1.98	0.44
1:C:4733:GLY:H	1:C:4736:ARG:NH2	2.15	0.44
1:B:445:LEU:O	1:B:449:ILE:HG13	2.17	0.44
1:B:540:PHE:HD2	1:B:567:VAL:HG11	1.83	0.44
1:B:1731:LEU:HA	1:B:1772:ARG:HH11	1.82	0.44
1:B:2191:PHE:CG	1:B:2191:PHE:O	2.69	0.44
1:B:2447:LYS:HG2	1:B:2449:GLU:H	1.83	0.44
1:B:3216:CYS:O	1:B:3218:VAL:N	2.50	0.44
1:A:3456:GLN:O	1:A:3460:VAL:N	2.51	0.44
1:A:3897:ASN:OD1	1:A:3901:ASN:ND2	2.51	0.44
1:D:1079:LYS:HG2	1:D:1655:GLU:OE1	2.17	0.44
1:D:2378:ALA:O	1:D:2382:GLU:N	2.40	0.44
1:D:2382:GLU:O	1:D:2386:ILE:HG12	2.18	0.44
1:D:2775:TRP:CZ3	1:D:2786:LYS:HA	2.52	0.44
1:C:3889:GLN:HG3	1:C:3967:GLU:HG3	1.99	0.44
1:C:4097:MET:HB3	1:C:4108:ILE:HD12	1.99	0.44
1:C:4897:ILE:HD13	1:C:4897:ILE:HA	1.69	0.44
1:B:705:ASN:OD1	1:B:709:ASP:HB2	2.17	0.44
1:B:1829:PRO:HG2	1:B:1834:VAL:H	1.82	0.44
1:B:2880:GLU:HG2	1:B:2884:ASN:OD1	2.18	0.44
1:B:4097:MET:HB3	1:B:4108:ILE:HD12	1.99	0.44
3:J:44:PRO:HG2	3:J:48:GLU:OE2	2.18	0.44
1:A:705:ASN:OD1	1:A:709:ASP:HB2	2.17	0.44
1:A:2382:GLU:O	1:A:2386:ILE:HG12	2.18	0.44
1:A:3363:GLY:O	1:A:3367:LYS:N	2.49	0.44
1:A:4115:SER:OG	1:A:4116:GLU:N	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4551:PHE:C	1:A:4553:ASN:N	2.69	0.44
1:D:540:PHE:HD2	1:D:567:VAL:HG11	1.83	0.44
1:D:834:PRO:HB2	1:D:835:ARG:NH1	2.31	0.44
1:D:1237:TRP:CZ2	1:D:1655:GLU:HG3	2.52	0.44
1:D:1243:PRO:HB2	1:D:1600:LEU:HG	1.99	0.44
1:D:4842:GLY:O	1:D:4843:LEU:C	2.56	0.44
1:C:1100:MET:H	1:C:1143:TRP:HH2	1.65	0.44
1:C:2880:GLU:HG2	1:C:2884:ASN:OD1	2.18	0.44
1:C:3873:LYS:HG3	1:C:3874:VAL:H	1.82	0.44
1:B:2187:ASN:OD1	3:J:14:LYS:NZ	2.44	0.44
1:B:3873:LYS:HG3	1:B:3874:VAL:H	1.82	0.44
1:B:4844:LEU:HD12	1:B:4844:LEU:HA	1.61	0.44
1:A:560:ILE:HA	1:A:563:VAL:HG12	1.99	0.44
1:A:2816:MET:SD	1:A:2878:LEU:HD21	2.58	0.44
1:A:2880:GLU:HG2	1:A:2884:ASN:OD1	2.18	0.44
1:A:4020:GLN:HB2	1:A:4139:ILE:HD12	1.99	0.44
1:A:4552:LEU:HA	1:A:4555:LEU:CD2	2.45	0.44
1:A:4553:ASN:O	1:A:4557:ARG:HG3	2.17	0.44
1:A:4945:ASP:C	1:A:4947:GLN:N	2.71	0.44
1:D:1552:VAL:HG11	1:D:1562:ILE:HD13	2.00	0.44
1:D:2247:GLN:HE21	1:D:2280:VAL:HA	1.82	0.44
1:D:4097:MET:HB3	1:D:4108:ILE:HD12	1.99	0.44
1:D:4766:THR:O	1:D:4769:MET:HG3	2.17	0.44
1:D:4911:LEU:HA	1:D:4914:VAL:HG12	2.00	0.44
3:L:44:PRO:HG2	3:L:48:GLU:OE2	2.18	0.44
1:C:540:PHE:HD2	1:C:567:VAL:HG11	1.83	0.44
1:C:1237:TRP:CZ2	1:C:1655:GLU:HG3	2.52	0.44
1:C:1731:LEU:HA	1:C:1772:ARG:HH11	1.82	0.44
1:C:3216:CYS:O	1:C:3218:VAL:N	2.50	0.44
1:C:4569:LEU:O	1:C:4573:ILE:HG22	2.18	0.44
1:C:4572:ALA:O	1:C:4575:PHE:N	2.48	0.44
1:C:4914:VAL:O	1:C:4918:ILE:HG12	2.18	0.44
3:K:20:PHE:CE2	3:K:32:ALA:HB1	2.52	0.44
1:B:2959:PHE:O	1:B:2963:LEU:N	2.48	0.44
1:B:4115:SER:OG	1:B:4116:GLU:N	2.50	0.44
1:B:4766:THR:O	1:B:4769:MET:HG3	2.17	0.44
1:B:4914:VAL:O	1:B:4918:ILE:HG12	2.18	0.44
1:A:546:TRP:O	1:A:550:LYS:NZ	2.47	0.44
1:A:1731:LEU:HA	1:A:1772:ARG:HH11	1.82	0.44
1:A:2247:GLN:HE21	1:A:2280:VAL:HA	1.82	0.44
1:A:4911:LEU:HA	1:A:4914:VAL:HG12	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:I:106:LEU:HA	3:I:109:VAL:HG22	2.00	0.44
1:D:875:ALA:O	1:D:879:HIS:N	2.47	0.44
1:D:2447:LYS:HG2	1:D:2449:GLU:H	1.83	0.44
1:D:3670:GLU:OE1	1:D:3731:LYS:HB2	2.18	0.44
1:D:4706:LEU:HD12	1:D:4706:LEU:H	1.82	0.44
1:D:5013:MET:HE2	1:D:5013:MET:HB2	1.70	0.44
1:C:1552:VAL:HG11	1:C:1562:ILE:HD13	2.00	0.44
1:C:3010:PHE:O	1:C:3014:CYS:N	2.51	0.44
1:C:4650:HIS:CE1	1:C:4812:HIS:CE1	3.06	0.44
1:C:4982:GLU:O	1:C:4983:HIS:C	2.55	0.44
1:B:4733:GLY:H	1:B:4736:ARG:NH2	2.15	0.44
3:J:20:PHE:CE2	3:J:32:ALA:HB1	2.52	0.44
1:A:4680:LYS:HE3	1:A:4686:LEU:HD22	2.00	0.44
1:A:4766:THR:O	1:A:4769:MET:HG3	2.17	0.44
1:A:4897:ILE:HA	1:A:4897:ILE:HD13	1.69	0.44
1:D:645:ARG:HD2	1:D:826:ILE:HB	2.00	0.44
1:D:745:SER:O	1:D:758:ARG:N	2.48	0.44
3:L:106:LEU:HA	3:L:109:VAL:HG22	2.00	0.44
1:C:316:PHE:CE1	1:C:348:VAL:HG12	2.53	0.44
1:C:645:ARG:HD2	1:C:826:ILE:HB	2.00	0.44
1:C:3668:SER:HB2	1:C:3672:ARG:HH22	1.83	0.44
1:C:3670:GLU:OE1	1:C:3731:LYS:HB2	2.18	0.44
1:C:4115:SER:OG	1:C:4116:GLU:N	2.50	0.44
1:C:4680:LYS:HE3	1:C:4686:LEU:HD22	2.00	0.44
3:K:44:PRO:HG2	3:K:48:GLU:OE2	2.18	0.44
1:B:1452:TRP:N	1:B:1493:TYR:O	2.42	0.44
1:B:2247:GLN:HE21	1:B:2280:VAL:HA	1.82	0.44
1:B:3456:GLN:O	1:B:3460:VAL:N	2.51	0.44
1:B:4797:VAL:O	1:B:4797:VAL:HG13	2.18	0.44
1:A:331:VAL:HG12	1:A:333:GLY:H	1.83	0.44
1:A:4682:GLU:HG2	1:A:4723:LYS:HZ2	1.82	0.44
1:A:4950:VAL:C	1:A:4952:GLU:N	2.71	0.44
1:D:316:PHE:CE1	1:D:348:VAL:HG12	2.53	0.44
1:D:1093:GLU:HB3	1:D:1201:HIS:HB3	2.00	0.44
1:D:4572:ALA:O	1:D:4575:PHE:N	2.48	0.44
1:D:4680:LYS:HE3	1:D:4686:LEU:HD22	2.00	0.44
1:D:4914:VAL:O	1:D:4918:ILE:HG12	2.18	0.44
1:C:1093:GLU:HB3	1:C:1201:HIS:HB3	2.00	0.44
1:C:2755:ILE:HG13	1:C:2813:LEU:HD12	2.00	0.44
1:C:4817:ALA:O	1:C:4818:MET:HG2	2.18	0.44
1:C:4911:LEU:HA	1:C:4914:VAL:HG12	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4950:VAL:C	1:B:4952:GLU:N	2.71	0.44
1:B:4982:GLU:O	1:B:4983:HIS:C	2.55	0.44
1:A:445:LEU:O	1:A:449:ILE:HG13	2.17	0.43
1:A:3668:SER:HB2	1:A:3672:ARG:HH22	1.83	0.43
1:A:4650:HIS:CE1	1:A:4812:HIS:CE1	3.06	0.43
1:D:2763:HIS:O	1:D:2767:ALA:N	2.38	0.43
1:D:3363:GLY:O	1:D:3367:LYS:N	2.49	0.43
1:D:3396:ASP:O	1:D:3400:VAL:N	2.48	0.43
1:D:3456:GLN:O	1:D:3460:VAL:N	2.51	0.43
1:D:4115:SER:OG	1:D:4116:GLU:N	2.50	0.43
1:D:4551:PHE:C	1:D:4553:ASN:N	2.69	0.43
1:D:4975:PHE:O	1:D:4979:THR:HG22	2.18	0.43
1:C:2777:TYR:C	1:C:2787:THR:HB	2.39	0.43
1:B:273:HIS:HD1	1:B:334:MET:HG3	1.83	0.43
1:B:4551:PHE:C	1:B:4553:ASN:N	2.69	0.43
1:B:4553:ASN:O	1:B:4557:ARG:HG3	2.17	0.43
1:B:4680:LYS:HE3	1:B:4686:LEU:HD22	2.00	0.43
1:B:4715:TYR:O	1:B:4715:TYR:CG	2.71	0.43
1:A:750:LEU:HA	1:A:753:PRO:HB3	2.00	0.43
1:A:2777:TYR:C	1:A:2787:THR:HB	2.38	0.43
1:A:4797:VAL:O	1:A:4797:VAL:HG13	2.18	0.43
1:A:4975:PHE:O	1:A:4979:THR:HG22	2.18	0.43
1:A:4991:PHE:C	1:A:4993:MET:N	2.71	0.43
1:D:1829:PRO:HG2	1:D:1834:VAL:H	1.82	0.43
1:D:4715:TYR:O	1:D:4715:TYR:CG	2.71	0.43
1:C:4842:GLY:O	1:C:4843:LEU:C	2.56	0.43
1:B:168:ASP:HB2	1:B:199:LEU:HD12	2.00	0.43
1:B:686:TRP:HZ3	1:B:779:PRO:HG3	1.83	0.43
1:B:1100:MET:H	1:B:1143:TRP:HH2	1.65	0.43
1:B:2755:ILE:HG13	1:B:2813:LEU:HD12	2.00	0.43
1:B:2763:HIS:O	1:B:2767:ALA:N	2.38	0.43
1:B:3668:SER:HB2	1:B:3672:ARG:HH22	1.83	0.43
1:B:3897:ASN:OD1	1:B:3901:ASN:ND2	2.51	0.43
1:B:4817:ALA:O	1:B:4818:MET:HG2	2.18	0.43
1:A:1243:PRO:HB2	1:A:1600:LEU:HG	2.00	0.43
3:I:5:LEU:HD11	3:I:74:ALA:HA	2.01	0.43
1:D:331:VAL:HG12	1:D:333:GLY:H	1.83	0.43
1:D:1731:LEU:HA	1:D:1772:ARG:HH11	1.82	0.43
1:D:2777:TYR:C	1:D:2787:THR:HB	2.38	0.43
1:D:2959:PHE:O	1:D:2963:LEU:N	2.48	0.43
1:D:3668:SER:HB2	1:D:3672:ARG:HH22	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:4817:ALA:O	1:D:4818:MET:HG2	2.18	0.43
2:H:25:HIS:O	2:H:40:ARG:NH2	2.52	0.43
1:C:168:ASP:HB2	1:C:199:LEU:HD12	2.00	0.43
1:C:1040:CYS:O	1:C:1044:ARG:N	2.49	0.43
1:C:3897:ASN:OD1	1:C:3901:ASN:ND2	2.51	0.43
1:C:4975:PHE:O	1:C:4979:THR:HG22	2.18	0.43
1:C:5007:GLU:O	1:C:5009:TYR:N	2.51	0.43
1:B:2189:LYS:HG2	1:B:2189:LYS:O	2.19	0.43
1:B:3372:VAL:O	1:B:3376:GLU:N	2.46	0.43
1:B:4552:LEU:HA	1:B:4555:LEU:CD2	2.45	0.43
1:B:4650:HIS:CE1	1:B:4812:HIS:CE1	3.06	0.43
1:B:4682:GLU:HG2	1:B:4723:LYS:HZ3	1.82	0.43
1:A:168:ASP:HB2	1:A:199:LEU:HD12	2.00	0.43
1:A:830:ARG:HD3	1:A:1612:PHE:CZ	2.53	0.43
1:A:1001:VAL:HA	1:A:1005:TRP:HA	2.00	0.43
1:A:2920:ARG:O	1:A:2924:GLN:N	2.38	0.43
2:E:25:HIS:O	2:E:40:ARG:NH2	2.52	0.43
1:D:2755:ILE:HG13	1:D:2813:LEU:HD12	2.00	0.43
1:D:2782:ASP:OD1	1:D:2783:GLU:N	2.51	0.43
1:D:2816:MET:SD	1:D:2878:LEU:HD21	2.58	0.43
1:D:2920:ARG:O	1:D:2924:GLN:N	2.38	0.43
1:D:3757:GLU:HA	1:D:3760:LYS:HG2	2.01	0.43
1:D:4650:HIS:CE1	1:D:4812:HIS:CE1	3.06	0.43
1:C:556:ALA:HB1	1:C:560:ILE:HG12	2.01	0.43
1:C:3372:VAL:O	1:C:3376:GLU:N	2.46	0.43
1:C:4823:LEU:HD21	1:B:4839:MET:HB3	2.00	0.43
1:B:620:LEU:HA	1:B:623:GLU:HG3	2.01	0.43
1:B:649:PHE:HB3	1:B:776:LEU:CD2	2.48	0.43
1:B:955:LEU:N	1:B:956:PRO:HD3	2.32	0.43
1:B:3202:PRO:O	1:B:3206:LEU:N	2.38	0.43
1:A:453:GLU:HA	1:A:454:PRO:HD3	1.91	0.43
1:A:1130:GLN:OE1	1:A:1136:SER:OG	2.24	0.43
1:A:1565:GLU:O	1:A:1566:LEU:HD12	2.19	0.43
1:A:2755:ILE:HG13	1:A:2813:LEU:HD12	2.00	0.43
1:A:2782:ASP:OD1	1:A:2783:GLU:N	2.51	0.43
1:A:2873:ALA:O	1:A:2876:GLU:HB3	2.19	0.43
1:D:168:ASP:HB2	1:D:199:LEU:HD12	2.00	0.43
1:D:620:LEU:HA	1:D:623:GLU:HG3	2.01	0.43
1:D:697:GLY:O	1:D:704:GLY:N	2.50	0.43
1:D:2189:LYS:O	1:D:2189:LYS:HG2	2.19	0.43
1:C:548:VAL:O	1:C:551:LEU:HD23	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:560:ILE:HA	1:C:563:VAL:HG12	1.99	0.43
1:C:4797:VAL:O	1:C:4797:VAL:HG13	2.18	0.43
1:C:4949:GLN:O	1:C:4950:VAL:C	2.54	0.43
1:C:4991:PHE:C	1:C:4993:MET:N	2.72	0.43
1:B:316:PHE:CE1	1:B:348:VAL:HG12	2.53	0.43
1:B:331:VAL:HG12	1:B:333:GLY:H	1.83	0.43
1:B:1834:VAL:HG13	1:B:1835:GLU:N	2.33	0.43
1:B:3856:LEU:H	1:B:3856:LEU:HG	1.50	0.43
3:J:106:LEU:HA	3:J:109:VAL:HG22	2.00	0.43
1:A:4175:ARG:HG3	1:A:4175:ARG:NH2	2.34	0.43
1:A:4569:LEU:O	1:A:4573:ILE:HG22	2.18	0.43
1:A:4572:ALA:O	1:A:4575:PHE:N	2.48	0.43
1:D:273:HIS:HD1	1:D:334:MET:HG3	1.83	0.43
1:D:1431:THR:O	1:D:1431:THR:OG1	2.36	0.43
1:D:1443:GLN:OE1	1:D:1557:THR:N	2.47	0.43
1:D:2284:ASN:H	1:D:2341:VAL:HG21	1.84	0.43
1:D:3849:ARG:H	1:D:3849:ARG:HG2	1.66	0.43
1:D:4569:LEU:O	1:D:4573:ILE:HG22	2.18	0.43
1:D:4816:ILE:O	1:D:4818:MET:N	2.50	0.43
1:C:1569:GLN:HB2	1:C:1572:ILE:HD11	2.00	0.43
1:C:2189:LYS:O	1:C:2189:LYS:HG2	2.19	0.43
1:C:2816:MET:SD	1:C:2878:LEU:HD21	2.58	0.43
1:B:1569:GLN:HB2	1:B:1572:ILE:HD11	2.00	0.43
1:B:2284:ASN:H	1:B:2341:VAL:HG21	1.84	0.43
1:B:2816:MET:SD	1:B:2878:LEU:HD21	2.58	0.43
1:B:4842:GLY:O	1:B:4843:LEU:C	2.56	0.43
1:B:5004:THR:OG1	1:B:5005:GLY:N	2.46	0.43
1:A:316:PHE:CE1	1:A:348:VAL:HG12	2.53	0.43
1:A:548:VAL:O	1:A:551:LEU:HD23	2.19	0.43
1:A:649:PHE:HB3	1:A:776:LEU:CD2	2.48	0.43
1:A:686:TRP:HZ3	1:A:779:PRO:HG3	1.84	0.43
1:A:1561:VAL:HG12	1:A:1562:ILE:HG23	2.01	0.43
1:A:1834:VAL:HG13	1:A:1835:GLU:N	2.33	0.43
1:A:2032:GLN:OE1	1:A:2032:GLN:N	2.52	0.43
1:A:4715:TYR:CG	1:A:4715:TYR:O	2.71	0.43
1:D:359:TYR:HD2	1:D:361:ALA:HB2	1.84	0.43
1:D:830:ARG:HD3	1:D:1612:PHE:CZ	2.53	0.43
1:D:2032:GLN:N	1:D:2032:GLN:OE1	2.52	0.43
1:D:4561:THR:OG1	1:D:4562:LEU:N	2.49	0.43
1:D:4797:VAL:O	1:D:4797:VAL:HG13	2.18	0.43
1:C:144:GLU:O	1:C:175:SER:HB3	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:548:VAL:HG11	1:C:582:HIS:ND1	2.34	0.43
1:C:4175:ARG:HG3	1:C:4175:ARG:NH2	2.34	0.43
2:G:25:HIS:O	2:G:40:ARG:NH2	2.52	0.43
1:B:144:GLU:O	1:B:175:SER:HB3	2.19	0.43
1:B:556:ALA:HB1	1:B:560:ILE:HG12	2.00	0.43
1:B:750:LEU:HA	1:B:753:PRO:HB3	2.00	0.43
1:B:875:ALA:O	1:B:879:HIS:N	2.47	0.43
1:B:1565:GLU:O	1:B:1566:LEU:HD12	2.19	0.43
1:B:5007:GLU:O	1:B:5009:TYR:N	2.51	0.43
1:A:540:PHE:HD2	1:A:567:VAL:HG11	1.83	0.43
1:A:2189:LYS:O	1:A:2189:LYS:HG2	2.19	0.43
1:A:2284:ASN:H	1:A:2341:VAL:HG21	1.84	0.43
1:A:4184:MET:HB2	1:A:4190:ILE:HD13	2.01	0.43
1:A:4817:ALA:O	1:A:4818:MET:HG2	2.18	0.43
1:A:4842:GLY:O	1:A:4843:LEU:C	2.56	0.43
1:A:4949:GLN:O	1:A:4950:VAL:C	2.54	0.43
1:A:4978:HIS:HA	1:A:4982:GLU:HG3	2.01	0.43
1:D:548:VAL:HG11	1:D:582:HIS:ND1	2.34	0.43
1:D:3873:LYS:HG3	1:D:3874:VAL:H	1.82	0.43
1:D:4950:VAL:C	1:D:4952:GLU:N	2.71	0.43
3:L:107:ARG:HA	3:L:107:ARG:HD2	1.82	0.43
1:C:1561:VAL:HG12	1:C:1562:ILE:HG23	2.01	0.43
1:C:1565:GLU:O	1:C:1566:LEU:HD12	2.19	0.43
1:C:3757:GLU:HA	1:C:3760:LYS:HG2	2.01	0.43
1:B:546:TRP:O	1:B:550:LYS:NZ	2.47	0.43
1:B:894:GLY:HA2	1:B:903:LEU:HD13	2.01	0.43
1:B:2382:GLU:O	1:B:2386:ILE:HG12	2.18	0.43
1:B:4175:ARG:HG3	1:B:4175:ARG:NH2	2.34	0.43
1:A:359:TYR:HD2	1:A:361:ALA:HB2	1.84	0.43
1:A:620:LEU:HA	1:A:623:GLU:HG3	2.01	0.43
1:A:1452:TRP:N	1:A:1493:TYR:O	2.42	0.43
1:A:1569:GLN:HB2	1:A:1572:ILE:HD11	2.00	0.43
1:A:2414:ASN:N	1:A:2417:HIS:O	2.52	0.43
1:A:2760:GLU:OE2	1:A:2795:LYS:N	2.52	0.43
1:A:3670:GLU:OE1	1:A:3731:LYS:HB2	2.18	0.43
1:A:4914:VAL:O	1:A:4918:ILE:HG12	2.18	0.43
1:D:548:VAL:O	1:D:551:LEU:HD23	2.19	0.43
1:D:750:LEU:HA	1:D:753:PRO:HB3	2.00	0.43
1:D:1001:VAL:HA	1:D:1005:TRP:HA	2.00	0.43
1:D:1452:TRP:HB3	1:D:1548:LEU:HD22	2.01	0.43
1:C:459:LEU:HD23	1:C:459:LEU:HA	1.92	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2382:GLU:O	1:C:2386:ILE:HG12	2.18	0.43
1:C:2751:LEU:HD22	1:C:2813:LEU:HB3	2.01	0.43
1:C:4715:TYR:CG	1:C:4715:TYR:O	2.71	0.43
1:C:4978:HIS:HA	1:C:4982:GLU:HG3	2.01	0.43
1:B:830:ARG:HD3	1:B:1612:PHE:CZ	2.53	0.43
1:B:956:PRO:HG2	1:B:959:TYR:CG	2.54	0.43
1:B:1001:VAL:HA	1:B:1005:TRP:HA	2.00	0.43
1:B:1561:VAL:HG12	1:B:1562:ILE:HG23	2.01	0.43
1:B:1863:LEU:HD21	1:B:1946:PHE:CE2	2.54	0.43
1:B:4020:GLN:HB2	1:B:4139:ILE:HD12	1.99	0.43
2:F:25:HIS:O	2:F:40:ARG:NH2	2.52	0.43
1:A:548:VAL:HG11	1:A:582:HIS:ND1	2.34	0.43
1:A:609:CYS:HG	1:A:610:ASN:H	1.66	0.43
1:A:645:ARG:HD2	1:A:826:ILE:HB	2.00	0.43
1:A:1829:PRO:HG2	1:A:1834:VAL:H	1.82	0.43
1:D:144:GLU:O	1:D:175:SER:HB3	2.18	0.43
1:D:649:PHE:HB3	1:D:776:LEU:CD2	2.48	0.43
1:D:1569:GLN:HB2	1:D:1572:ILE:HD11	2.00	0.43
1:D:1834:VAL:HG13	1:D:1835:GLU:N	2.33	0.43
1:D:3010:PHE:O	1:D:3014:CYS:N	2.51	0.43
1:D:4730:ASP:OD1	1:D:4731:ILE:N	2.52	0.43
1:D:5007:GLU:O	1:D:5009:TYR:N	2.51	0.43
1:C:649:PHE:HB3	1:C:776:LEU:CD2	2.48	0.43
1:C:1001:VAL:HA	1:C:1005:TRP:HA	2.00	0.43
1:C:1863:LEU:HD21	1:C:1946:PHE:CE2	2.54	0.43
1:C:3202:PRO:O	1:C:3206:LEU:N	2.38	0.43
1:C:3699:HIS:O	1:C:3703:LEU:HD23	2.19	0.43
1:C:5013:MET:HE2	1:C:5013:MET:HB2	1.62	0.43
3:K:5:LEU:HD11	3:K:74:ALA:HA	2.01	0.43
1:B:645:ARG:HD2	1:B:826:ILE:HB	2.00	0.43
1:B:4184:MET:HB2	1:B:4190:ILE:HD13	2.01	0.43
1:B:4569:LEU:O	1:B:4573:ILE:HG22	2.18	0.43
1:B:4975:PHE:O	1:B:4979:THR:HG22	2.18	0.43
3:J:5:LEU:HD11	3:J:74:ALA:HA	2.01	0.43
1:A:144:GLU:O	1:A:175:SER:HB3	2.19	0.42
1:A:662:TRP:CD1	1:A:748:LEU:HD22	2.51	0.42
1:A:2568:LEU:O	1:A:2572:THR:N	2.52	0.42
1:A:2883:HIS:O	1:A:2887:GLY:HA3	2.19	0.42
1:A:4012:LEU:HA	1:A:4015:GLU:OE2	2.19	0.42
1:A:5007:GLU:O	1:A:5009:TYR:N	2.51	0.42
1:D:1565:GLU:O	1:D:1566:LEU:HD12	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2873:ALA:O	1:D:2876:GLU:HB3	2.19	0.42
1:D:4184:MET:HB2	1:D:4190:ILE:HD13	2.01	0.42
1:D:5012:LYS:HE3	1:D:5012:LYS:HB3	1.18	0.42
1:C:686:TRP:HZ3	1:C:779:PRO:HG3	1.83	0.42
1:C:3696:ASP:OD1	1:C:3696:ASP:N	2.52	0.42
1:B:1641:ILE:HA	1:B:1642:PRO:HD3	1.80	0.42
1:B:3670:GLU:OE1	1:B:3731:LYS:HB2	2.18	0.42
1:B:4038:GLY:O	1:B:4042:ARG:HG3	2.19	0.42
1:B:4827:LEU:HD12	1:B:4827:LEU:HA	1.66	0.42
2:F:23:VAL:HG12	2:F:47:LYS:HB3	2.01	0.42
1:A:273:HIS:HD1	1:A:334:MET:HG3	1.83	0.42
1:A:1607:ARG:HD3	1:A:1652:GLU:HB3	2.02	0.42
1:A:1863:LEU:HD21	1:A:1946:PHE:CE2	2.54	0.42
1:A:2187:ASN:OD1	3:I:14:LYS:NZ	2.44	0.42
1:A:2447:LYS:HG2	1:A:2448:GLY:H	1.84	0.42
1:A:3010:PHE:O	1:A:3014:CYS:N	2.51	0.42
1:D:1561:VAL:HG12	1:D:1562:ILE:HG23	2.01	0.42
1:D:2414:ASN:N	1:D:2417:HIS:O	2.52	0.42
1:D:2754:PHE:HA	1:D:2757:LYS:HE2	2.02	0.42
1:D:4835:LYS:HE3	1:D:4835:LYS:HB3	1.58	0.42
2:H:23:VAL:HG12	2:H:47:LYS:HB3	2.01	0.42
1:C:289:ARG:HG2	1:C:303:ASP:HA	2.01	0.42
1:C:359:TYR:HD2	1:C:361:ALA:HB2	1.84	0.42
1:C:1452:TRP:HB3	1:C:1548:LEU:HD22	2.01	0.42
1:C:2414:ASN:N	1:C:2417:HIS:O	2.52	0.42
1:C:2873:ALA:O	1:C:2876:GLU:HB3	2.19	0.42
1:C:2951:ILE:O	1:C:2955:PHE:N	2.46	0.42
1:C:4038:GLY:O	1:C:4042:ARG:HG3	2.19	0.42
1:C:4945:ASP:O	1:C:4946:GLN:C	2.58	0.42
1:C:4945:ASP:C	1:C:4947:GLN:N	2.71	0.42
1:B:548:VAL:HG11	1:B:582:HIS:ND1	2.34	0.42
1:B:1703:LEU:HD12	1:B:1704:PRO:HD2	2.00	0.42
1:B:2777:TYR:C	1:B:2787:THR:HB	2.38	0.42
1:B:3010:PHE:O	1:B:3014:CYS:N	2.51	0.42
1:B:4168:GLU:OE1	1:B:4168:GLU:HA	2.20	0.42
1:B:4911:LEU:HA	1:B:4914:VAL:HG12	2.00	0.42
1:B:4980:LEU:HD23	1:B:4980:LEU:HA	1.80	0.42
1:A:2378:ALA:O	1:A:2382:GLU:N	2.40	0.42
1:A:2875:ALA:HA	1:A:2878:LEU:HB2	2.02	0.42
1:A:3757:GLU:HA	1:A:3760:LYS:HG2	2.01	0.42
1:D:347:PHE:HB3	1:D:356:TRP:HZ3	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2883:HIS:O	1:D:2887:GLY:HA3	2.19	0.42
1:D:3699:HIS:O	1:D:3703:LEU:HD23	2.20	0.42
3:L:30:THR:O	3:L:33:LEU:HG	2.20	0.42
1:C:620:LEU:HA	1:C:623:GLU:HG3	2.01	0.42
1:C:1703:LEU:HD12	1:C:1704:PRO:HD2	2.01	0.42
1:C:2032:GLN:OE1	1:C:2032:GLN:N	2.52	0.42
1:B:548:VAL:O	1:B:551:LEU:HD23	2.19	0.42
1:B:618:GLN:HG3	1:B:618:GLN:O	2.19	0.42
1:B:1253:PRO:HB2	1:B:1254:HIS:H	1.48	0.42
1:B:2414:ASN:N	1:B:2417:HIS:O	2.52	0.42
1:B:3757:GLU:HA	1:B:3760:LYS:HG2	2.01	0.42
1:B:4977:THR:HG22	1:B:4978:HIS:N	2.35	0.42
1:A:320:LYS:NZ	1:A:383:HIS:O	2.52	0.42
1:A:894:GLY:HA2	1:A:903:LEU:HD13	2.01	0.42
1:A:1093:GLU:HB3	1:A:1201:HIS:HB3	2.00	0.42
1:A:1703:LEU:HD12	1:A:1704:PRO:HD2	2.00	0.42
1:A:2456:ILE:O	1:A:2459:SER:OG	2.35	0.42
1:A:4730:ASP:OD1	1:A:4731:ILE:N	2.52	0.42
2:E:23:VAL:HG12	2:E:47:LYS:HB3	2.01	0.42
1:D:618:GLN:HG3	1:D:618:GLN:O	2.19	0.42
1:D:1779:PRO:HA	1:D:1780:PRO:HD3	1.91	0.42
1:D:1863:LEU:HD21	1:D:1946:PHE:CE2	2.54	0.42
1:D:2777:TYR:CG	1:D:2778:GLY:N	2.87	0.42
1:C:331:VAL:HG12	1:C:333:GLY:H	1.83	0.42
1:C:750:LEU:HA	1:C:753:PRO:HB3	2.00	0.42
1:C:795:GLY:H	1:C:812:HIS:HD2	1.62	0.42
1:C:2782:ASP:OD1	1:C:2783:GLU:N	2.51	0.42
1:C:3909:ASN:HB3	1:C:3910:THR:H	1.63	0.42
1:C:4977:THR:HG22	1:C:4978:HIS:N	2.34	0.42
1:B:453:GLU:HA	1:B:454:PRO:HD3	1.91	0.42
1:B:1093:GLU:HB3	1:B:1201:HIS:HB3	2.00	0.42
1:B:2032:GLN:OE1	1:B:2032:GLN:N	2.52	0.42
1:A:316:PHE:HE1	1:A:348:VAL:HG12	1.85	0.42
1:A:556:ALA:HB1	1:A:560:ILE:HG12	2.01	0.42
1:A:2751:LEU:HD22	1:A:2813:LEU:HB3	2.01	0.42
1:A:2816:MET:HG2	1:A:2819:TRP:CZ2	2.55	0.42
1:D:289:ARG:HG2	1:D:303:ASP:HA	2.01	0.42
1:D:686:TRP:HZ3	1:D:779:PRO:HG3	1.83	0.42
1:D:2284:ASN:N	1:D:2341:VAL:HG21	2.35	0.42
1:D:2751:LEU:HD22	1:D:2813:LEU:HB3	2.01	0.42
1:D:4012:LEU:HA	1:D:4015:GLU:OE2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:4562:LEU:O	1:D:4563:LYS:C	2.57	0.42
1:D:4813:LEU:HD22	1:D:4813:LEU:HA	1.80	0.42
1:D:4991:PHE:C	1:D:4993:MET:N	2.71	0.42
3:L:5:LEU:HD11	3:L:74:ALA:HA	2.01	0.42
1:C:830:ARG:HD3	1:C:1612:PHE:CZ	2.53	0.42
1:C:2875:ALA:HA	1:C:2878:LEU:HB2	2.01	0.42
1:C:3361:THR:O	1:C:3363:GLY:N	2.53	0.42
1:C:4687:TYR:OH	1:C:4702:ASP:OD1	2.36	0.42
3:K:106:LEU:HA	3:K:109:VAL:HG22	2.00	0.42
1:B:1243:PRO:HB2	1:B:1600:LEU:HG	2.00	0.42
1:B:2260:ASN:OD1	1:B:2260:ASN:N	2.52	0.42
1:B:2284:ASN:N	1:B:2341:VAL:HG21	2.35	0.42
1:B:2751:LEU:HD22	1:B:2813:LEU:HB3	2.01	0.42
1:B:2873:ALA:O	1:B:2876:GLU:HB3	2.19	0.42
1:A:688:LEU:HD12	1:A:690:GLU:H	1.85	0.42
1:A:2284:ASN:N	1:A:2341:VAL:HG21	2.35	0.42
1:A:3636:PHE:CB	3:I:89:ALA:HB1	2.43	0.42
1:A:3667:HIS:HB3	1:A:3668:SER:H	1.67	0.42
3:I:122:VAL:O	3:I:126:ILE:HG12	2.20	0.42
1:D:894:GLY:HA2	1:D:903:LEU:HD13	2.01	0.42
1:D:956:PRO:HG2	1:D:959:TYR:CG	2.54	0.42
1:D:3372:VAL:O	1:D:3376:GLU:N	2.46	0.42
1:D:3804:ILE:O	1:D:3809:ASN:ND2	2.53	0.42
3:L:82:SER:O	3:L:85:GLU:HG2	2.19	0.42
3:L:122:VAL:O	3:L:126:ILE:HG12	2.20	0.42
1:C:759:ILE:HG22	1:C:762:CYS:O	2.20	0.42
1:C:1937:LEU:HB2	1:C:2116:LEU:HD13	2.02	0.42
1:C:2777:TYR:CG	1:C:2778:GLY:N	2.87	0.42
1:C:2883:HIS:O	1:C:2887:GLY:HA3	2.19	0.42
1:C:3652:MET:O	1:C:3656:SER:OG	2.24	0.42
1:C:3804:ILE:O	1:C:3809:ASN:ND2	2.53	0.42
1:C:4730:ASP:OD1	1:C:4731:ILE:N	2.52	0.42
1:C:4819:GLU:HB3	1:C:4820:VAL:H	1.59	0.42
3:K:30:THR:O	3:K:33:LEU:HG	2.20	0.42
3:K:122:VAL:O	3:K:126:ILE:HG12	2.20	0.42
1:B:285:VAL:HG23	1:B:286:THR:N	2.35	0.42
1:B:1607:ARG:HD3	1:B:1652:GLU:HB3	2.02	0.42
1:B:4954:MET:HE1	1:B:4959:PHE:CD1	2.55	0.42
1:A:2260:ASN:OD1	1:A:2260:ASN:N	2.52	0.42
1:A:3923:LEU:HD22	1:A:3961:VAL:HG12	2.02	0.42
1:D:2875:ALA:HA	1:D:2878:LEU:HB2	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:3632:VAL:O	1:D:3633:VAL:C	2.58	0.42
1:C:546:TRP:O	1:C:550:LYS:NZ	2.47	0.42
1:C:1641:ILE:HG13	1:C:1641:ILE:O	2.20	0.42
1:C:2754:PHE:HA	1:C:2757:LYS:HE2	2.01	0.42
1:B:1703:LEU:HD13	1:B:1708:ARG:HB3	2.02	0.42
1:B:1859:VAL:HA	1:B:1862:ILE:HG22	2.02	0.42
1:B:2447:LYS:HG2	1:B:2448:GLY:H	1.84	0.42
1:A:224:HIS:O	1:A:229:GLU:HB3	2.20	0.42
1:A:1703:LEU:HD13	1:A:1708:ARG:HB3	2.02	0.42
1:A:3804:ILE:O	1:A:3809:ASN:ND2	2.53	0.42
1:D:224:HIS:O	1:D:229:GLU:HB3	2.20	0.42
1:D:247:TYR:HE1	1:D:376:ALA:HB2	1.85	0.42
1:D:316:PHE:HE1	1:D:348:VAL:HG12	1.85	0.42
1:D:320:LYS:NZ	1:D:383:HIS:O	2.52	0.42
1:D:688:LEU:HD12	1:D:690:GLU:H	1.85	0.42
1:D:4038:GLY:O	1:D:4042:ARG:HG3	2.19	0.42
1:D:4251:ILE:HD12	1:D:4557:ARG:HG2	2.02	0.42
1:D:4682:GLU:HG2	1:D:4723:LYS:HZ3	1.85	0.42
1:D:5002:GLU:O	1:D:5003:HIS:C	2.55	0.42
1:C:224:HIS:O	1:C:229:GLU:HB3	2.20	0.42
1:C:285:VAL:HG23	1:C:286:THR:N	2.35	0.42
1:C:320:LYS:NZ	1:C:383:HIS:O	2.52	0.42
1:C:956:PRO:HG2	1:C:959:TYR:CG	2.54	0.42
1:C:2816:MET:HG2	1:C:2819:TRP:CZ2	2.55	0.42
1:C:3669:PHE:O	1:C:3669:PHE:CG	2.73	0.42
1:C:4168:GLU:OE1	1:C:4168:GLU:HA	2.20	0.42
1:B:224:HIS:O	1:B:229:GLU:HB3	2.20	0.42
1:B:759:ILE:HD12	1:B:759:ILE:HA	1.94	0.42
1:B:1119:GLU:HA	1:B:1133:HIS:CE1	2.55	0.42
1:B:1641:ILE:O	1:B:1641:ILE:HG13	2.20	0.42
1:B:2023:LEU:H	1:B:2028:ARG:HH12	1.68	0.42
1:B:2284:ASN:HA	1:B:2341:VAL:HG11	2.02	0.42
1:B:2883:HIS:O	1:B:2887:GLY:HA3	2.19	0.42
1:B:4813:LEU:HD23	1:B:4813:LEU:HA	1.70	0.42
1:B:4976:GLU:HA	1:B:4976:GLU:OE1	2.20	0.42
1:A:247:TYR:HE1	1:A:376:ALA:HB2	1.85	0.42
1:A:1455:PRO:HG3	1:A:1549:PHE:CZ	2.55	0.42
1:A:2951:ILE:O	1:A:2955:PHE:N	2.46	0.42
1:A:3669:PHE:O	1:A:3669:PHE:CG	2.73	0.42
1:A:4251:ILE:HD12	1:A:4557:ARG:HG2	2.02	0.42
1:A:4816:ILE:O	1:A:4818:MET:N	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4976:GLU:HA	1:A:4976:GLU:OE1	2.20	0.42
1:D:285:VAL:HG23	1:D:286:THR:N	2.35	0.42
1:D:759:ILE:HG22	1:D:762:CYS:O	2.20	0.42
1:D:1703:LEU:HD12	1:D:1704:PRO:HD2	2.01	0.42
1:D:3669:PHE:O	1:D:3669:PHE:CG	2.73	0.42
1:D:4175:ARG:HG3	1:D:4175:ARG:NH2	2.34	0.42
1:D:4687:TYR:CE1	1:D:4692:PRO:HG3	2.49	0.42
1:D:4977:THR:HG22	1:D:4978:HIS:N	2.34	0.42
1:D:4978:HIS:HA	1:D:4982:GLU:HG3	2.01	0.42
1:C:316:PHE:HE1	1:C:348:VAL:HG12	1.85	0.42
1:C:697:GLY:O	1:C:704:GLY:N	2.50	0.42
1:C:2284:ASN:N	1:C:2341:VAL:HG21	2.35	0.42
1:C:4980:LEU:HD23	1:C:4980:LEU:HA	1.80	0.42
1:B:316:PHE:HE1	1:B:348:VAL:HG12	1.85	0.42
1:B:320:LYS:NZ	1:B:383:HIS:O	2.52	0.42
1:B:347:PHE:HB3	1:B:356:TRP:HZ3	1.84	0.42
1:B:759:ILE:HG22	1:B:762:CYS:O	2.20	0.42
1:B:2754:PHE:HA	1:B:2757:LYS:HE2	2.01	0.42
1:B:2777:TYR:CG	1:B:2778:GLY:N	2.87	0.42
1:B:4012:LEU:HA	1:B:4015:GLU:OE2	2.19	0.42
1:B:4991:PHE:C	1:B:4993:MET:N	2.71	0.42
3:J:82:SER:O	3:J:85:GLU:HG2	2.19	0.42
3:J:122:VAL:O	3:J:126:ILE:HG12	2.20	0.42
1:A:956:PRO:HG2	1:A:959:TYR:CG	2.54	0.42
1:A:1452:TRP:HB3	1:A:1548:LEU:HD22	2.01	0.42
1:A:1859:VAL:HA	1:A:1862:ILE:HG22	2.02	0.42
1:A:3434:LEU:O	1:A:3436:ARG:N	2.44	0.42
1:D:3718:GLU:HA	1:D:3718:GLU:OE1	2.20	0.42
1:D:4705:VAL:HG22	1:D:4711:PHE:HD1	1.85	0.42
1:D:4945:ASP:C	1:D:4947:GLN:N	2.71	0.42
1:C:669:ASP:OD1	1:C:669:ASP:N	2.53	0.42
1:C:894:GLY:HA2	1:C:903:LEU:HD13	2.01	0.42
1:C:1653:LEU:HD23	1:C:1653:LEU:HA	1.86	0.42
1:C:1703:LEU:HD13	1:C:1708:ARG:HB3	2.02	0.42
1:C:1859:VAL:HA	1:C:1862:ILE:HG22	2.02	0.42
1:C:1969:LEU:HD21	1:C:2009:LEU:CD1	2.50	0.42
1:C:3718:GLU:OE1	1:C:3718:GLU:HA	2.20	0.42
1:C:4719:PHE:C	1:C:4721:LYS:N	2.73	0.42
1:C:4984:ASN:HA	6:C:5103:ATP:HN61	1.85	0.42
1:B:485:SER:O	1:B:489:ASN:N	2.48	0.42
1:B:1580:PHE:HE2	1:B:1592:PRO:HG2	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1937:LEU:HB2	1:B:2116:LEU:HD13	2.02	0.42
1:B:2782:ASP:OD1	1:B:2783:GLU:N	2.51	0.42
1:B:3361:THR:O	1:B:3363:GLY:N	2.53	0.42
1:B:3804:ILE:O	1:B:3809:ASN:ND2	2.53	0.42
1:B:4719:PHE:C	1:B:4721:LYS:N	2.73	0.42
1:B:4730:ASP:OD1	1:B:4731:ILE:N	2.52	0.42
1:A:618:GLN:O	1:A:618:GLN:HG3	2.19	0.41
1:A:618:GLN:OE1	1:A:1673:VAL:HA	2.20	0.41
1:A:759:ILE:HG22	1:A:762:CYS:O	2.20	0.41
1:A:1580:PHE:HE2	1:A:1592:PRO:HG2	1.85	0.41
1:A:1928:GLN:OE1	1:A:1928:GLN:HA	2.20	0.41
1:A:4844:LEU:HA	1:A:4844:LEU:HD12	1.61	0.41
1:A:4984:ASN:HA	6:A:5103:ATP:HN61	1.85	0.41
1:D:117:TYR:HB3	1:D:146:CYS:SG	2.60	0.41
1:D:1639:LEU:O	1:D:1647:CYS:HA	2.20	0.41
1:D:1767:VAL:HG13	1:D:1767:VAL:O	2.20	0.41
1:D:2163:ARG:H	1:D:2163:ARG:HG2	1.69	0.41
1:D:3202:PRO:O	1:D:3206:LEU:N	2.38	0.41
1:D:3696:ASP:OD1	1:D:3696:ASP:N	2.52	0.41
1:D:4168:GLU:OE1	1:D:4168:GLU:HA	2.20	0.41
1:D:4546:VAL:HG13	1:D:4547:GLN:H	1.85	0.41
1:D:4842:GLY:C	1:D:4844:LEU:N	2.74	0.41
1:C:717:ASP:OD1	1:C:720:HIS:N	2.44	0.41
1:C:4184:MET:HB2	1:C:4190:ILE:HD13	2.01	0.41
1:C:4976:GLU:HA	1:C:4976:GLU:OE1	2.20	0.41
2:G:23:VAL:HG12	2:G:47:LYS:HB3	2.01	0.41
1:B:118:LEU:HA	1:B:137:LEU:HB3	2.02	0.41
1:B:359:TYR:HD2	1:B:361:ALA:HB2	1.84	0.41
1:B:2033:ASP:O	1:B:2037:ASP:N	2.47	0.41
1:A:118:LEU:HA	1:A:137:LEU:HB3	2.02	0.41
1:A:347:PHE:HB3	1:A:356:TRP:HZ3	1.84	0.41
1:A:1119:GLU:HA	1:A:1133:HIS:CE1	2.55	0.41
1:A:1767:VAL:O	1:A:1767:VAL:HG13	2.20	0.41
1:A:2023:LEU:H	1:A:2028:ARG:HH12	1.68	0.41
1:A:3361:THR:O	1:A:3363:GLY:N	2.53	0.41
1:A:3696:ASP:OD1	1:A:3696:ASP:N	2.52	0.41
1:A:4038:GLY:O	1:A:4042:ARG:HG3	2.19	0.41
1:A:4546:VAL:HG13	1:A:4547:GLN:H	1.85	0.41
1:D:319:SER:OG	1:D:320:LYS:N	2.53	0.41
1:D:662:TRP:CD1	1:D:748:LEU:HD22	2.51	0.41
1:D:1607:ARG:HD3	1:D:1652:GLU:HB3	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2568:LEU:O	1:D:2572:THR:N	2.52	0.41
1:D:3361:THR:O	1:D:3363:GLY:N	2.53	0.41
1:D:3923:LEU:HD22	1:D:3961:VAL:HG12	2.02	0.41
1:C:284:HIS:CE1	1:C:287:THR:HG1	2.38	0.41
1:C:1607:ARG:HD3	1:C:1652:GLU:HB3	2.02	0.41
1:C:1834:VAL:HG13	1:C:1835:GLU:N	2.33	0.41
1:C:4546:VAL:HG13	1:C:4547:GLN:H	1.85	0.41
1:B:247:TYR:HE1	1:B:376:ALA:HB2	1.85	0.41
1:B:688:LEU:HD12	1:B:690:GLU:H	1.85	0.41
1:B:1731:LEU:HA	1:B:1772:ARG:NH1	2.35	0.41
1:B:3628:ARG:O	1:B:3629:ARG:C	2.58	0.41
1:B:3699:HIS:O	1:B:3703:LEU:HD23	2.19	0.41
1:B:4978:HIS:HA	1:B:4982:GLU:HG3	2.01	0.41
1:B:4984:ASN:HA	6:B:5103:ATP:HN61	1.85	0.41
3:J:107:ARG:HD2	3:J:107:ARG:HA	1.82	0.41
1:A:805:PRO:HB2	1:A:808:TYR:CE2	2.55	0.41
1:A:877:ASN:HD21	1:A:970:LEU:HB2	1.85	0.41
1:A:1519:LEU:HD23	1:A:1519:LEU:HA	1.91	0.41
1:A:1641:ILE:HG13	1:A:1641:ILE:O	2.20	0.41
1:A:1731:LEU:HA	1:A:1772:ARG:NH1	2.35	0.41
1:A:4168:GLU:OE1	1:A:4168:GLU:HA	2.20	0.41
1:A:4977:THR:HG22	1:A:4978:HIS:N	2.34	0.41
1:D:618:GLN:OE1	1:D:1673:VAL:HA	2.20	0.41
1:D:1097:THR:HG23	1:D:1143:TRP:HB2	2.03	0.41
1:D:1731:LEU:HA	1:D:1772:ARG:NH1	2.35	0.41
1:D:2284:ASN:HA	1:D:2341:VAL:HG11	2.02	0.41
1:D:3628:ARG:O	1:D:3629:ARG:C	2.58	0.41
1:C:1097:THR:HG23	1:C:1143:TRP:HB2	2.03	0.41
1:C:1767:VAL:O	1:C:1767:VAL:HG13	2.20	0.41
1:C:1808:ARG:HD2	1:C:1858:ASP:OD2	2.21	0.41
1:C:4950:VAL:C	1:C:4952:GLU:N	2.71	0.41
2:G:37:ASP:OD1	2:G:38:SER:N	2.54	0.41
1:B:805:PRO:HB2	1:B:808:TYR:CE2	2.55	0.41
1:B:1455:PRO:HG3	1:B:1549:PHE:CZ	2.55	0.41
1:B:2568:LEU:O	1:B:2572:THR:N	2.52	0.41
1:B:3669:PHE:O	1:B:3669:PHE:CG	2.73	0.41
1:B:3923:LEU:HD22	1:B:3961:VAL:HG12	2.02	0.41
1:B:4562:LEU:O	1:B:4563:LYS:C	2.57	0.41
1:A:224:HIS:NE2	1:A:385:ASP:O	2.54	0.41
1:A:1033:ARG:HE	1:A:1036:ARG:HH11	1.68	0.41
1:A:1639:LEU:O	1:A:1647:CYS:HA	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2777:TYR:CG	1:A:2778:GLY:N	2.87	0.41
1:A:3941:ASP:OD1	1:A:3942:VAL:N	2.54	0.41
1:A:4705:VAL:HG22	1:A:4711:PHE:HD1	1.85	0.41
1:A:4945:ASP:O	1:A:4946:GLN:C	2.58	0.41
1:A:4980:LEU:HD23	1:A:4980:LEU:HA	1.80	0.41
2:E:54:GLU:HG2	2:E:55:VAL:HG23	2.02	0.41
3:I:66:PHE:CE2	3:I:70:LEU:HD12	2.55	0.41
1:D:1119:GLU:HA	1:D:1133:HIS:CE1	2.55	0.41
1:D:2447:LYS:HG2	1:D:2448:GLY:H	1.84	0.41
1:D:3941:ASP:OD1	1:D:3942:VAL:N	2.54	0.41
1:D:4567:LEU:HD11	1:D:4816:ILE:CD1	2.51	0.41
1:D:4719:PHE:C	1:D:4721:LYS:N	2.73	0.41
1:D:4977:THR:O	1:D:4978:HIS:C	2.59	0.41
1:C:224:HIS:NE2	1:C:385:ASP:O	2.54	0.41
1:C:2284:ASN:H	1:C:2341:VAL:HG21	1.84	0.41
1:C:3941:ASP:OD1	1:C:3942:VAL:N	2.54	0.41
1:C:4687:TYR:CE1	1:C:4692:PRO:HG3	2.50	0.41
1:C:4823:LEU:CD2	1:B:4839:MET:HE2	2.50	0.41
1:C:5010:VAL:HG12	1:C:5010:VAL:O	2.21	0.41
1:B:2816:MET:HG2	1:B:2819:TRP:CZ2	2.55	0.41
1:B:3632:VAL:O	1:B:3633:VAL:C	2.58	0.41
1:B:3718:GLU:HA	1:B:3718:GLU:OE1	2.20	0.41
1:B:4034:ASN:OD1	1:B:4035:VAL:O	2.39	0.41
1:B:4842:GLY:C	1:B:4844:LEU:N	2.74	0.41
1:B:5002:GLU:O	1:B:5003:HIS:C	2.55	0.41
1:A:669:ASP:N	1:A:669:ASP:OD1	2.53	0.41
1:A:1937:LEU:HB2	1:A:2116:LEU:HD13	2.02	0.41
1:A:2280:VAL:HG13	1:A:2280:VAL:O	2.21	0.41
1:A:3628:ARG:O	1:A:3629:ARG:C	2.58	0.41
1:A:3632:VAL:O	1:A:3633:VAL:C	2.58	0.41
1:A:3909:ASN:HB3	1:A:3910:THR:H	1.63	0.41
1:A:4554:TYR:CE2	1:A:4558:ASN:ND2	2.89	0.41
1:D:669:ASP:N	1:D:669:ASP:OD1	2.53	0.41
1:D:1130:GLN:OE1	1:D:1136:SER:OG	2.24	0.41
1:D:4647:SER:OG	1:D:4803:HIS:HE1	2.04	0.41
3:L:66:PHE:CE2	3:L:70:LEU:HD12	2.55	0.41
3:L:94:ASP:OD1	3:L:94:ASP:N	2.54	0.41
1:C:117:TYR:HB3	1:C:146:CYS:SG	2.60	0.41
1:C:618:GLN:HG3	1:C:618:GLN:O	2.19	0.41
1:C:2767:ALA:HA	1:C:2770:LYS:HZ2	1.85	0.41
1:C:4687:TYR:HD2	1:C:4706:LEU:HD21	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:4952:GLU:O	1:C:4952:GLU:CG	2.69	0.41
1:B:319:SER:OG	1:B:320:LYS:N	2.53	0.41
1:B:618:GLN:OE1	1:B:1673:VAL:HA	2.20	0.41
1:B:768:PHE:C	1:B:769:GLU:HG3	2.41	0.41
1:B:2311:PRO:HA	1:B:2314:LEU:HB3	2.03	0.41
1:A:689:THR:HA	1:A:778:PHE:HE2	1.86	0.41
1:A:697:GLY:O	1:A:704:GLY:N	2.50	0.41
1:A:2814:LYS:O	1:A:2817:ILE:HG22	2.21	0.41
1:A:3699:HIS:O	1:A:3703:LEU:HD23	2.19	0.41
1:A:3775:ALA:O	1:A:3778:MET:N	2.53	0.41
3:I:40:LEU:HD23	3:I:40:LEU:H	1.85	0.41
3:I:82:SER:O	3:I:85:GLU:HG2	2.19	0.41
1:D:443:LEU:HD23	1:D:443:LEU:HA	1.87	0.41
1:D:768:PHE:C	1:D:769:GLU:HG3	2.41	0.41
1:D:891:TRP:HE3	1:D:904:HIS:HB2	1.85	0.41
1:D:1033:ARG:HE	1:D:1036:ARG:HH11	1.68	0.41
1:D:1099:GLU:N	1:D:1099:GLU:OE1	2.54	0.41
1:D:1782:PHE:CE2	2:H:90:VAL:HG11	2.55	0.41
1:D:1928:GLN:OE1	1:D:1928:GLN:HA	2.20	0.41
1:D:2763:HIS:NE2	1:D:2767:ALA:HB2	2.36	0.41
1:D:4977:THR:O	1:D:4979:THR:N	2.54	0.41
1:C:347:PHE:HB3	1:C:356:TRP:HZ3	1.84	0.41
1:C:1119:GLU:HA	1:C:1133:HIS:CE1	2.55	0.41
1:C:2023:LEU:H	1:C:2028:ARG:HH12	1.68	0.41
1:C:2763:HIS:NE2	1:C:2767:ALA:HB2	2.36	0.41
1:C:3598:GLU:HA	1:C:3601:ALA:HB3	2.03	0.41
3:K:82:SER:O	3:K:85:GLU:HG2	2.19	0.41
1:B:1452:TRP:HB3	1:B:1548:LEU:HD22	2.01	0.41
1:B:1782:PHE:CE2	2:F:90:VAL:HG11	2.55	0.41
1:B:2790:MET:HE2	1:B:2801:ASP:OD2	2.21	0.41
1:B:2875:ALA:HA	1:B:2878:LEU:HB2	2.01	0.41
1:B:2951:ILE:O	1:B:2955:PHE:N	2.46	0.41
1:B:3696:ASP:OD1	1:B:3696:ASP:N	2.52	0.41
1:B:3775:ALA:O	1:B:3778:MET:N	2.53	0.41
1:B:4546:VAL:HG13	1:B:4547:GLN:H	1.85	0.41
2:F:37:ASP:OD1	2:F:38:SER:N	2.54	0.41
1:A:285:VAL:HG23	1:A:286:THR:N	2.35	0.41
1:A:289:ARG:HG2	1:A:303:ASP:HA	2.01	0.41
1:A:2437:ALA:HB1	1:A:2438:PRO:HD2	2.03	0.41
1:A:2790:MET:HE2	1:A:2801:ASP:OD2	2.21	0.41
1:D:1641:ILE:HG13	1:D:1641:ILE:O	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1937:LEU:HB2	1:D:2116:LEU:HD13	2.02	0.41
1:D:1969:LEU:HD21	1:D:2009:LEU:CD1	2.50	0.41
1:D:2816:MET:HG2	1:D:2819:TRP:CZ2	2.55	0.41
1:D:4818:MET:HE2	1:D:4818:MET:HB3	1.76	0.41
1:D:4945:ASP:O	1:D:4946:GLN:C	2.58	0.41
1:C:118:LEU:HA	1:C:137:LEU:HB3	2.02	0.41
1:C:618:GLN:OE1	1:C:1673:VAL:HA	2.20	0.41
1:C:877:ASN:HD21	1:C:970:LEU:HB2	1.85	0.41
1:C:3775:ALA:O	1:C:3778:MET:N	2.53	0.41
1:C:4151:SER:HA	1:C:4160:LEU:HD21	2.02	0.41
1:C:4567:LEU:HD11	1:C:4816:ILE:CD1	2.51	0.41
1:C:4977:THR:O	1:C:4978:HIS:C	2.59	0.41
1:B:1256:GLU:HB2	1:B:1273:ALA:HB3	2.02	0.41
1:B:2030:ASP:OD1	1:B:2030:ASP:N	2.54	0.41
1:B:2280:VAL:O	1:B:2280:VAL:HG13	2.21	0.41
1:B:4151:SER:HA	1:B:4160:LEU:HD21	2.03	0.41
1:B:4554:TYR:CE2	1:B:4558:ASN:ND2	2.89	0.41
1:B:4561:THR:O	1:B:4562:LEU:C	2.58	0.41
3:J:30:THR:O	3:J:33:LEU:HG	2.20	0.41
1:A:117:TYR:HB3	1:A:146:CYS:SG	2.60	0.41
1:A:1808:ARG:HD2	1:A:1858:ASP:OD2	2.21	0.41
1:A:3372:VAL:O	1:A:3376:GLU:N	2.46	0.41
1:A:4034:ASN:OD1	1:A:4035:VAL:O	2.39	0.41
1:A:4813:LEU:HD23	1:A:4813:LEU:HA	1.74	0.41
3:I:30:THR:O	3:I:33:LEU:HG	2.20	0.41
1:D:556:ALA:HB1	1:D:560:ILE:HG12	2.01	0.41
1:D:1859:VAL:HA	1:D:1862:ILE:HG22	2.02	0.41
1:D:2280:VAL:O	1:D:2280:VAL:HG13	2.21	0.41
1:D:2814:LYS:O	1:D:2817:ILE:HG22	2.21	0.41
1:D:4034:ASN:OD1	1:D:4035:VAL:O	2.39	0.41
1:D:4181:ILE:HG23	1:D:4988:TYR:CE1	2.56	0.41
1:D:4687:TYR:HD2	1:D:4706:LEU:HD21	1.85	0.41
1:D:5010:VAL:O	1:D:5010:VAL:HG12	2.21	0.41
2:H:54:GLU:HG2	2:H:55:VAL:HG23	2.02	0.41
1:C:247:TYR:HE1	1:C:376:ALA:HB2	1.85	0.41
1:C:2280:VAL:HG13	1:C:2280:VAL:O	2.21	0.41
1:C:2284:ASN:HA	1:C:2341:VAL:HG11	2.02	0.41
1:C:3849:ARG:H	1:C:3849:ARG:HG2	1.66	0.41
1:C:3856:LEU:H	1:C:3856:LEU:HG	1.50	0.41
1:C:4181:ILE:HG23	1:C:4988:TYR:CE1	2.56	0.41
1:C:4562:LEU:O	1:C:4563:LYS:C	2.57	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:K:107:ARG:HD2	3:K:107:ARG:HA	1.82	0.41
1:B:443:LEU:HD23	1:B:443:LEU:HA	1.87	0.41
1:B:689:THR:HA	1:B:778:PHE:HE2	1.86	0.41
1:B:886:ARG:HA	1:B:889:GLN:HB2	2.03	0.41
1:B:891:TRP:HE3	1:B:904:HIS:HB2	1.85	0.41
1:B:1808:ARG:HD2	1:B:1858:ASP:OD2	2.21	0.41
1:B:2763:HIS:NE2	1:B:2767:ALA:HB2	2.36	0.41
1:B:3713:LYS:HD3	1:B:3713:LYS:HA	1.85	0.41
1:A:297:GLN:HG3	1:A:300:VAL:HG21	2.03	0.41
1:A:768:PHE:C	1:A:769:GLU:HG3	2.41	0.41
1:A:887:ILE:HD11	1:A:961:MET:HE3	2.03	0.41
1:A:2794:TYR:HA	1:A:2797:PHE:HB2	2.03	0.41
1:A:2882:TYR:OH	1:A:2922:LYS:O	2.38	0.41
1:A:4151:SER:HA	1:A:4160:LEU:HD21	2.02	0.41
1:A:4687:TYR:OH	1:A:4702:ASP:OD1	2.36	0.41
1:A:4839:MET:HB3	1:B:4823:LEU:HD21	2.02	0.41
3:I:107:ARG:HD2	3:I:107:ARG:HA	1.82	0.41
1:D:118:LEU:HA	1:D:137:LEU:HB3	2.02	0.41
1:D:224:HIS:NE2	1:D:385:ASP:O	2.54	0.41
1:D:284:HIS:CE1	1:D:287:THR:HG1	2.39	0.41
1:D:887:ILE:HD11	1:D:961:MET:HE3	2.02	0.41
1:D:1703:LEU:HD13	1:D:1708:ARG:HB3	2.02	0.41
1:D:2030:ASP:N	1:D:2030:ASP:OD1	2.54	0.41
1:D:2767:ALA:HA	1:D:2770:LYS:HZ2	1.86	0.41
1:D:2927:LEU:HA	1:D:2930:LEU:HD12	2.03	0.41
1:D:3909:ASN:HB3	1:D:3910:THR:H	1.63	0.41
1:D:4137:ARG:HH21	1:D:4137:ARG:HG3	1.86	0.41
1:D:4976:GLU:OE1	1:D:4976:GLU:HA	2.20	0.41
3:L:27:THR:HG23	3:L:63:THR:HG23	2.02	0.41
1:C:688:LEU:HD12	1:C:690:GLU:H	1.85	0.41
1:C:689:THR:HA	1:C:778:PHE:HE2	1.86	0.41
1:C:805:PRO:HB2	1:C:808:TYR:CE2	2.55	0.41
1:C:891:TRP:HE3	1:C:904:HIS:HB2	1.85	0.41
1:C:1033:ARG:HE	1:C:1036:ARG:NH1	2.19	0.41
1:C:1252:HIS:HA	1:C:1253:PRO:HD2	1.94	0.41
1:C:1639:LEU:O	1:C:1647:CYS:HA	2.20	0.41
1:C:1782:PHE:CE2	2:G:90:VAL:HG11	2.55	0.41
1:C:4034:ASN:OD1	1:C:4035:VAL:O	2.39	0.41
1:C:4251:ILE:HD12	1:C:4557:ARG:HG2	2.02	0.41
3:K:27:THR:HG23	3:K:63:THR:HG23	2.02	0.41
1:B:117:TYR:HB3	1:B:146:CYS:SG	2.60	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:289:ARG:HG2	1:B:303:ASP:HA	2.01	0.41
1:B:707:VAL:HG23	1:B:713:SER:HB2	2.03	0.41
1:B:877:ASN:HD21	1:B:970:LEU:HB2	1.85	0.41
1:B:1099:GLU:N	1:B:1099:GLU:OE1	2.54	0.41
1:B:1928:GLN:HA	1:B:1928:GLN:OE1	2.20	0.41
1:B:2378:ALA:O	1:B:2382:GLU:N	2.40	0.41
1:B:2437:ALA:HB1	1:B:2438:PRO:HD2	2.03	0.41
1:B:2970:SER:O	1:B:2974:ILE:N	2.44	0.41
1:B:4567:LEU:HD11	1:B:4816:ILE:CD1	2.51	0.41
1:B:4977:THR:O	1:B:4978:HIS:C	2.59	0.41
1:B:4977:THR:O	1:B:4979:THR:N	2.54	0.41
3:J:66:PHE:CE2	3:J:70:LEU:HD12	2.55	0.41
1:A:891:TRP:HE3	1:A:904:HIS:HB2	1.85	0.41
1:A:1252:HIS:HA	1:A:1253:PRO:HD2	1.94	0.41
1:D:561:LEU:HD21	1:D:589:LEU:HD21	2.02	0.41
1:D:622:THR:HA	1:D:626:LEU:HD13	2.03	0.41
1:D:1653:LEU:HD23	1:D:1653:LEU:HA	1.86	0.41
1:D:1808:ARG:HD2	1:D:1858:ASP:OD2	2.21	0.41
1:D:4134:GLU:HB3	1:D:4135:PRO:HD3	2.03	0.41
1:D:4554:TYR:CE2	1:D:4558:ASN:ND2	2.89	0.41
1:D:4984:ASN:HA	6:D:5103:ATP:HN61	1.85	0.41
3:L:52:MET:HA	3:L:55:GLU:OE1	2.21	0.41
1:C:319:SER:OG	1:C:320:LYS:N	2.53	0.41
1:C:1126:GLY:O	1:C:1142:PRO:HA	2.21	0.41
1:C:3264:THR:O	1:C:3266:MET:N	2.48	0.41
1:C:3628:ARG:O	1:C:3629:ARG:C	2.58	0.41
1:C:3974:THR:O	1:C:3978:GLN:HG2	2.21	0.41
1:B:1126:GLY:O	1:B:1142:PRO:HA	2.21	0.41
1:B:1767:VAL:HG13	1:B:1767:VAL:O	2.20	0.41
1:B:2456:ILE:O	1:B:2459:SER:OG	2.35	0.41
1:B:2794:TYR:HA	1:B:2797:PHE:HB2	2.03	0.41
1:B:3598:GLU:HA	1:B:3601:ALA:HB3	2.03	0.41
1:B:3974:THR:O	1:B:3978:GLN:HG2	2.21	0.41
1:B:4137:ARG:HH21	1:B:4137:ARG:HG3	1.86	0.41
1:B:4181:ILE:HG23	1:B:4988:TYR:CE1	2.56	0.41
1:B:4951:LYS:O	1:B:4951:LYS:CG	2.69	0.41
1:B:5010:VAL:O	1:B:5010:VAL:HG12	2.21	0.41
1:A:419:ASP:O	1:A:422:SER:OG	2.30	0.40
1:A:622:THR:HA	1:A:626:LEU:HD13	2.03	0.40
1:A:864:PRO:HA	1:A:865:PRO:HD3	2.00	0.40
1:A:886:ARG:HA	1:A:889:GLN:HB2	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1969:LEU:HD21	1:A:2009:LEU:CD1	2.50	0.40
1:A:2311:PRO:HA	1:A:2314:LEU:HB3	2.03	0.40
1:A:4181:ILE:HG23	1:A:4988:TYR:CE1	2.56	0.40
1:A:4567:LEU:HD11	1:A:4816:ILE:CD1	2.51	0.40
1:D:805:PRO:HB2	1:D:808:TYR:CE2	2.55	0.40
1:D:1455:PRO:HG3	1:D:1549:PHE:CZ	2.55	0.40
1:C:111:HIS:CE1	1:C:114:SER:H	2.39	0.40
1:C:297:GLN:HG3	1:C:300:VAL:HG21	2.03	0.40
1:C:608:VAL:HG23	1:C:613:ALA:HB2	2.03	0.40
1:C:768:PHE:C	1:C:769:GLU:HG3	2.41	0.40
1:C:2447:LYS:HG2	1:C:2448:GLY:H	1.84	0.40
1:C:2927:LEU:HA	1:C:2930:LEU:HD12	2.03	0.40
1:C:4012:LEU:HA	1:C:4015:GLU:OE2	2.19	0.40
1:C:4554:TYR:CE2	1:C:4558:ASN:ND2	2.89	0.40
1:C:4977:THR:O	1:C:4979:THR:N	2.54	0.40
1:B:102:LEU:HB2	1:B:105:HIS:CE1	2.57	0.40
1:B:561:LEU:HD21	1:B:589:LEU:HD21	2.02	0.40
1:B:1969:LEU:HD21	1:B:2009:LEU:CD1	2.50	0.40
1:B:4705:VAL:HG22	1:B:4711:PHE:HD1	1.85	0.40
1:B:4945:ASP:O	1:B:4946:GLN:C	2.58	0.40
3:J:27:THR:HG23	3:J:63:THR:HG23	2.02	0.40
1:A:196:MET:HB3	1:A:197:GLN:H	1.73	0.40
1:A:2573:GLU:O	1:A:2577:ILE:N	2.54	0.40
1:A:3718:GLU:HA	1:A:3718:GLU:OE1	2.20	0.40
1:A:4134:GLU:HB3	1:A:4135:PRO:HD3	2.03	0.40
1:A:4647:SER:OG	1:A:4803:HIS:HE1	2.04	0.40
1:A:4991:PHE:HD1	1:A:4991:PHE:HA	1.78	0.40
3:I:52:MET:HA	3:I:55:GLU:OE1	2.21	0.40
1:D:102:LEU:HB2	1:D:105:HIS:CE1	2.57	0.40
1:D:111:HIS:CE1	1:D:114:SER:H	2.39	0.40
1:D:297:GLN:HG3	1:D:300:VAL:HG21	2.03	0.40
1:D:622:THR:O	1:D:627:PRO:HD3	2.21	0.40
1:D:877:ASN:HD21	1:D:970:LEU:HB2	1.86	0.40
1:D:950:LEU:HD23	1:D:971:ASP:HB3	2.03	0.40
1:D:1033:ARG:HE	1:D:1036:ARG:NH1	2.19	0.40
1:D:3598:GLU:HA	1:D:3601:ALA:HB3	2.03	0.40
1:D:3775:ALA:O	1:D:3778:MET:N	2.53	0.40
1:C:950:LEU:HD23	1:C:971:ASP:HB3	2.03	0.40
1:C:1033:ARG:HE	1:C:1036:ARG:HH11	1.68	0.40
1:C:1641:ILE:HA	1:C:1642:PRO:HD3	1.80	0.40
1:C:2311:PRO:HA	1:C:2314:LEU:HB3	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:3713:LYS:HD3	1:C:3713:LYS:HA	1.85	0.40
1:C:4647:SER:OG	1:C:4803:HIS:HE1	2.04	0.40
2:G:54:GLU:HG2	2:G:55:VAL:HG23	2.02	0.40
3:K:14:LYS:HA	3:K:14:LYS:HD2	1.89	0.40
3:K:66:PHE:CE2	3:K:70:LEU:HD12	2.55	0.40
1:B:1033:ARG:HE	1:B:1036:ARG:NH1	2.19	0.40
1:B:2167:ILE:HG13	1:B:2168:VAL:N	2.37	0.40
1:A:284:HIS:CE1	1:A:287:THR:HG1	2.38	0.40
1:A:622:THR:O	1:A:627:PRO:HD3	2.21	0.40
1:A:707:VAL:HG23	1:A:713:SER:HB2	2.03	0.40
1:A:1099:GLU:OE1	1:A:1099:GLU:N	2.54	0.40
1:A:1782:PHE:CE2	2:E:90:VAL:HG11	2.55	0.40
1:A:2030:ASP:N	1:A:2030:ASP:OD1	2.54	0.40
1:A:2763:HIS:NE2	1:A:2767:ALA:HB2	2.36	0.40
1:A:3630:ARG:O	1:A:3631:ALA:C	2.60	0.40
1:A:4682:GLU:HG2	1:A:4723:LYS:HZ3	1.85	0.40
1:A:4820:VAL:O	1:A:4823:LEU:N	2.55	0.40
1:A:4842:GLY:C	1:A:4844:LEU:N	2.74	0.40
1:D:1641:ILE:HA	1:D:1642:PRO:HD3	1.80	0.40
1:D:2437:ALA:HB1	1:D:2438:PRO:HD2	2.03	0.40
1:D:2794:TYR:HA	1:D:2797:PHE:HB2	2.03	0.40
1:D:4062:PHE:HB2	1:D:4170:ILE:HD11	2.04	0.40
1:D:4154:VAL:HG13	1:D:4154:VAL:O	2.21	0.40
2:H:37:ASP:OD1	2:H:38:SER:N	2.54	0.40
1:C:622:THR:HA	1:C:626:LEU:HD13	2.03	0.40
1:C:622:THR:O	1:C:627:PRO:HD3	2.21	0.40
1:C:662:TRP:HB3	1:C:811:CYS:SG	2.62	0.40
1:C:707:VAL:HG23	1:C:713:SER:HB2	2.03	0.40
1:C:1256:GLU:HB2	1:C:1273:ALA:HB3	2.02	0.40
1:C:1455:PRO:HG3	1:C:1549:PHE:CZ	2.55	0.40
1:C:1752:ARG:O	1:C:1754:GLY:N	2.54	0.40
1:C:1928:GLN:HA	1:C:1928:GLN:OE1	2.20	0.40
1:C:2167:ILE:HG13	1:C:2168:VAL:N	2.37	0.40
1:C:2920:ARG:O	1:C:2924:GLN:N	2.38	0.40
1:C:3434:LEU:O	1:C:3436:ARG:N	2.44	0.40
1:C:3923:LEU:HD22	1:C:3961:VAL:HG12	2.02	0.40
1:C:4154:VAL:O	1:C:4154:VAL:HG13	2.21	0.40
1:C:4561:THR:O	1:C:4562:LEU:C	2.58	0.40
1:B:669:ASP:N	1:B:669:ASP:OD1	2.53	0.40
1:B:1033:ARG:HE	1:B:1036:ARG:HH11	1.68	0.40
1:B:1164:LEU:HD12	1:B:1164:LEU:HA	1.94	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1278:GLY:O	1:B:1280:GLN:N	2.55	0.40
1:B:2805:TYR:O	1:B:2808:PRO:HD2	2.22	0.40
1:B:2927:LEU:HA	1:B:2930:LEU:HD12	2.03	0.40
1:B:3941:ASP:OD1	1:B:3942:VAL:N	2.54	0.40
1:B:4687:TYR:HD2	1:B:4706:LEU:HD21	1.85	0.40
2:F:54:GLU:HG2	2:F:55:VAL:HG23	2.02	0.40
1:A:257:ARG:O	1:A:284:HIS:NE2	2.55	0.40
1:A:1256:GLU:HB2	1:A:1273:ALA:HB3	2.02	0.40
1:A:2284:ASN:HA	1:A:2341:VAL:HG11	2.02	0.40
1:A:2754:PHE:HA	1:A:2757:LYS:HE2	2.01	0.40
1:A:3396:ASP:O	1:A:3400:VAL:N	2.48	0.40
1:A:4137:ARG:HG3	1:A:4137:ARG:HH21	1.86	0.40
1:A:4154:VAL:O	1:A:4154:VAL:HG13	2.21	0.40
1:A:4687:TYR:HD2	1:A:4706:LEU:HD21	1.85	0.40
1:D:207:SER:OG	1:D:208:CYS:N	2.54	0.40
1:D:662:TRP:HB3	1:D:811:CYS:SG	2.62	0.40
1:D:689:THR:HA	1:D:778:PHE:HE2	1.86	0.40
1:D:2167:ILE:HG13	1:D:2168:VAL:N	2.37	0.40
1:D:2751:LEU:N	1:D:2755:ILE:HD12	2.37	0.40
1:D:4951:LYS:O	1:D:4951:LYS:CG	2.69	0.40
3:L:40:LEU:H	3:L:40:LEU:HD23	1.85	0.40
1:C:561:LEU:HD21	1:C:589:LEU:HD21	2.02	0.40
1:C:1731:LEU:HA	1:C:1772:ARG:NH1	2.35	0.40
1:C:2751:LEU:N	1:C:2755:ILE:HD12	2.37	0.40
1:C:2757:LYS:O	1:C:2760:GLU:HB2	2.22	0.40
1:C:2794:TYR:HA	1:C:2797:PHE:HB2	2.03	0.40
1:C:4705:VAL:HG22	1:C:4711:PHE:HD1	1.85	0.40
1:C:4951:LYS:O	1:C:4951:LYS:CG	2.69	0.40
1:B:224:HIS:NE2	1:B:385:ASP:O	2.54	0.40
1:B:257:ARG:O	1:B:284:HIS:NE2	2.55	0.40
1:B:297:GLN:HG3	1:B:300:VAL:HG21	2.03	0.40
1:B:950:LEU:HD23	1:B:971:ASP:HB3	2.03	0.40
1:B:1639:LEU:O	1:B:1647:CYS:HA	2.20	0.40
1:B:2767:ALA:HA	1:B:2770:LYS:HZ2	1.87	0.40
1:B:4154:VAL:O	1:B:4154:VAL:HG13	2.21	0.40
1:B:4251:ILE:HD12	1:B:4557:ARG:HG2	2.02	0.40
1:B:4702:ASP:O	1:B:4705:VAL:HG12	2.21	0.40
1:A:561:LEU:HD21	1:A:589:LEU:HD21	2.02	0.40
1:A:2347:GLU:OE1	1:A:2347:GLU:N	2.53	0.40
1:A:4839:MET:HE2	1:B:4823:LEU:CD2	2.52	0.40
1:A:4977:THR:O	1:A:4979:THR:N	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:5010:VAL:O	1:A:5010:VAL:HG12	2.21	0.40
1:D:608:VAL:HG23	1:D:613:ALA:HB2	2.03	0.40
1:D:1752:ARG:O	1:D:1754:GLY:N	2.54	0.40
1:D:2023:LEU:H	1:D:2028:ARG:HH12	1.68	0.40
1:D:2805:TYR:O	1:D:2808:PRO:HD2	2.22	0.40
1:D:4687:TYR:OH	1:D:4702:ASP:OD1	2.36	0.40
1:C:485:SER:O	1:C:489:ASN:N	2.48	0.40
1:C:886:ARG:HA	1:C:889:GLN:HB2	2.03	0.40
1:C:1166:GLY:HA3	1:C:1216:ILE:HD11	2.04	0.40
1:C:2136:ARG:O	1:C:2140:ARG:NH1	2.55	0.40
1:C:3183:VAL:O	1:C:3187:ARG:N	2.55	0.40
1:B:1097:THR:HG23	1:B:1143:TRP:HB2	2.03	0.40
1:B:4820:VAL:O	1:B:4823:LEU:N	2.55	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	4081/5037 (81%)	3348 (82%)	598 (15%)	135 (3%)	3	24
1	B	4081/5037 (81%)	3348 (82%)	598 (15%)	135 (3%)	3	24
1	C	4081/5037 (81%)	3351 (82%)	596 (15%)	134 (3%)	3	24
1	D	4081/5037 (81%)	3348 (82%)	598 (15%)	135 (3%)	3	24
2	E	105/107 (98%)	99 (94%)	6 (6%)	0	100	100
2	F	105/107 (98%)	99 (94%)	6 (6%)	0	100	100
2	G	105/107 (98%)	99 (94%)	6 (6%)	0	100	100
2	H	105/107 (98%)	99 (94%)	6 (6%)	0	100	100
3	I	133/149 (89%)	129 (97%)	4 (3%)	0	100	100
3	J	133/149 (89%)	129 (97%)	4 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
3	K	133/149 (89%)	129 (97%)	4 (3%)	0	100 100
3	L	133/149 (89%)	129 (97%)	4 (3%)	0	100 100
All	All	17276/21172 (82%)	14307 (83%)	2430 (14%)	539 (3%)	5 26

All (539) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	626	LEU
1	A	1215	ALA
1	A	1241	SER
1	A	1291	LEU
1	A	1708	ARG
1	A	1767	VAL
1	A	1834	VAL
1	A	1856	ASP
1	A	2393	ASP
1	A	2496	PRO
1	A	2701	PRO
1	A	3020	THR
1	A	3021	PRO
1	A	3039	ILE
1	A	3138	PRO
1	A	3232	LEU
1	A	3233	PRO
1	A	3267	PRO
1	A	3289	PRO
1	A	3293	PRO
1	A	3294	PRO
1	A	3343	GLN
1	A	3351	PRO
1	A	3533	ILE
1	A	3567	PRO
1	A	3580	PRO
1	A	3592	ILE
1	A	4806	ASN
1	A	4820	VAL
1	A	4843	LEU
1	A	4845	ALA
1	A	4900	GLU
1	A	4901	ILE
1	A	4902	GLU

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Mol	Chain	Res	Type
1	A	4904	PRO
1	A	4946	GLN
1	A	4951	LYS
1	A	4966	ASP
1	A	4985	LEU
1	A	5004	THR
1	D	626	LEU
1	D	1215	ALA
1	D	1241	SER
1	D	1291	LEU
1	D	1708	ARG
1	D	1767	VAL
1	D	1834	VAL
1	D	1856	ASP
1	D	2393	ASP
1	D	2496	PRO
1	D	2701	PRO
1	D	3020	THR
1	D	3021	PRO
1	D	3039	ILE
1	D	3138	PRO
1	D	3232	LEU
1	D	3233	PRO
1	D	3267	PRO
1	D	3289	PRO
1	D	3293	PRO
1	D	3294	PRO
1	D	3343	GLN
1	D	3351	PRO
1	D	3533	ILE
1	D	3567	PRO
1	D	3580	PRO
1	D	3592	ILE
1	D	4806	ASN
1	D	4820	VAL
1	D	4843	LEU
1	D	4845	ALA
1	D	4900	GLU
1	D	4901	ILE
1	D	4902	GLU
1	D	4904	PRO
1	D	4946	GLN

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Mol	Chain	Res	Type
1	D	4951	LYS
1	D	4966	ASP
1	D	4985	LEU
1	D	5004	THR
1	C	626	LEU
1	C	1215	ALA
1	C	1241	SER
1	C	1291	LEU
1	C	1708	ARG
1	C	1767	VAL
1	C	1834	VAL
1	C	1856	ASP
1	C	2393	ASP
1	C	2496	PRO
1	C	2701	PRO
1	C	3020	THR
1	C	3021	PRO
1	C	3039	ILE
1	C	3138	PRO
1	C	3232	LEU
1	C	3233	PRO
1	C	3267	PRO
1	C	3289	PRO
1	C	3293	PRO
1	C	3294	PRO
1	C	3343	GLN
1	C	3351	PRO
1	C	3533	ILE
1	C	3567	PRO
1	C	3580	PRO
1	C	3592	ILE
1	C	4806	ASN
1	C	4820	VAL
1	C	4843	LEU
1	C	4845	ALA
1	C	4900	GLU
1	C	4901	ILE
1	C	4902	GLU
1	C	4904	PRO
1	C	4946	GLN
1	C	4951	LYS
1	C	4966	ASP

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Mol	Chain	Res	Type
1	C	4985	LEU
1	C	5004	THR
1	B	626	LEU
1	B	1215	ALA
1	B	1241	SER
1	B	1291	LEU
1	B	1708	ARG
1	B	1767	VAL
1	B	1834	VAL
1	B	1856	ASP
1	B	2393	ASP
1	B	2496	PRO
1	B	2701	PRO
1	B	3020	THR
1	B	3021	PRO
1	B	3039	ILE
1	B	3138	PRO
1	B	3232	LEU
1	B	3233	PRO
1	B	3267	PRO
1	B	3289	PRO
1	B	3293	PRO
1	B	3294	PRO
1	B	3343	GLN
1	B	3351	PRO
1	B	3533	ILE
1	B	3567	PRO
1	B	3580	PRO
1	B	3592	ILE
1	B	4806	ASN
1	B	4820	VAL
1	B	4843	LEU
1	B	4845	ALA
1	B	4900	GLU
1	B	4901	ILE
1	B	4902	GLU
1	B	4904	PRO
1	B	4946	GLN
1	B	4951	LYS
1	B	4966	ASP
1	B	4985	LEU
1	B	5004	THR

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Mol	Chain	Res	Type
1	A	1279	SER
1	A	1295	VAL
1	A	2346	VAL
1	A	2509	VAL
1	A	2514	ASN
1	A	2692	ASP
1	A	2965	ARG
1	A	3003	LEU
1	A	3040	THR
1	A	3062	PRO
1	A	3136	LEU
1	A	3188	PRO
1	A	3189	ALA
1	A	3217	SER
1	A	3243	ILE
1	A	3336	LYS
1	A	3350	ARG
1	A	3362	ILE
1	A	3515	LYS
1	A	3571	TRP
1	A	3593	VAL
1	A	3670	GLU
1	A	3873	LYS
1	A	4650	HIS
1	A	4818	MET
1	A	4955	GLU
1	A	4961	CYS
1	A	4967	TYR
1	A	4984	ASN
1	A	4992	LEU
1	A	5036	LEU
1	D	1279	SER
1	D	1295	VAL
1	D	2346	VAL
1	D	2509	VAL
1	D	2514	ASN
1	D	2692	ASP
1	D	2965	ARG
1	D	3003	LEU
1	D	3040	THR
1	D	3062	PRO
1	D	3136	LEU

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Mol	Chain	Res	Type
1	D	3188	PRO
1	D	3189	ALA
1	D	3217	SER
1	D	3243	ILE
1	D	3336	LYS
1	D	3350	ARG
1	D	3362	ILE
1	D	3432	GLU
1	D	3515	LYS
1	D	3571	TRP
1	D	3593	VAL
1	D	3670	GLU
1	D	3873	LYS
1	D	4650	HIS
1	D	4818	MET
1	D	4955	GLU
1	D	4961	CYS
1	D	4967	TYR
1	D	4984	ASN
1	D	4992	LEU
1	D	5036	LEU
1	C	1279	SER
1	C	1295	VAL
1	C	2346	VAL
1	C	2509	VAL
1	C	2514	ASN
1	C	2692	ASP
1	C	2965	ARG
1	C	3003	LEU
1	C	3040	THR
1	C	3062	PRO
1	C	3136	LEU
1	C	3188	PRO
1	C	3189	ALA
1	C	3217	SER
1	C	3243	ILE
1	C	3336	LYS
1	C	3350	ARG
1	C	3362	ILE
1	C	3432	GLU
1	C	3515	LYS
1	C	3571	TRP

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Mol	Chain	Res	Type
1	C	3593	VAL
1	C	3670	GLU
1	C	3873	LYS
1	C	4650	HIS
1	C	4818	MET
1	C	4955	GLU
1	C	4967	TYR
1	C	4984	ASN
1	C	4992	LEU
1	C	5036	LEU
1	B	1279	SER
1	B	1295	VAL
1	B	2346	VAL
1	B	2509	VAL
1	B	2514	ASN
1	B	2692	ASP
1	B	2965	ARG
1	B	3003	LEU
1	B	3040	THR
1	B	3062	PRO
1	B	3136	LEU
1	B	3188	PRO
1	B	3189	ALA
1	B	3217	SER
1	B	3243	ILE
1	B	3336	LYS
1	B	3350	ARG
1	B	3362	ILE
1	B	3515	LYS
1	B	3571	TRP
1	B	3593	VAL
1	B	3670	GLU
1	B	3873	LYS
1	B	4650	HIS
1	B	4818	MET
1	B	4955	GLU
1	B	4961	CYS
1	B	4967	TYR
1	B	4984	ASN
1	B	4992	LEU
1	B	5036	LEU
1	A	1253	PRO

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Mol	Chain	Res	Type
1	A	1753	LYS
1	A	1985	THR
1	A	2540	THR
1	A	2587	TYR
1	A	2616	PRO
1	A	2966	TRP
1	A	3190	LEU
1	A	3193	CYS
1	A	3333	THR
1	A	3427	PRO
1	A	3432	GLU
1	A	3434	LEU
1	A	3462	ASN
1	A	3530	GLN
1	A	3610	GLU
1	A	4102	GLN
1	A	4907	ASP
1	A	4908	GLU
1	A	4962	GLY
1	D	771	PHE
1	D	1214	PHE
1	D	1253	PRO
1	D	1753	LYS
1	D	1985	THR
1	D	2540	THR
1	D	2587	TYR
1	D	2616	PRO
1	D	2966	TRP
1	D	3190	LEU
1	D	3193	CYS
1	D	3333	THR
1	D	3427	PRO
1	D	3434	LEU
1	D	3462	ASN
1	D	3530	GLN
1	D	3610	GLU
1	D	4102	GLN
1	D	4718	LYS
1	D	4907	ASP
1	D	4908	GLU
1	D	4962	GLY
1	C	1253	PRO

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Mol	Chain	Res	Type
1	C	1753	LYS
1	C	1985	THR
1	C	2540	THR
1	C	2587	TYR
1	C	2616	PRO
1	C	2966	TRP
1	C	3190	LEU
1	C	3193	CYS
1	C	3333	THR
1	C	3427	PRO
1	C	3434	LEU
1	C	3462	ASN
1	C	3530	GLN
1	C	3610	GLU
1	C	4102	GLN
1	C	4907	ASP
1	C	4908	GLU
1	C	4961	CYS
1	C	4962	GLY
1	B	1253	PRO
1	B	1753	LYS
1	B	1985	THR
1	B	2540	THR
1	B	2587	TYR
1	B	2616	PRO
1	B	2966	TRP
1	B	3190	LEU
1	B	3193	CYS
1	B	3333	THR
1	B	3427	PRO
1	B	3432	GLU
1	B	3434	LEU
1	B	3462	ASN
1	B	3530	GLN
1	B	3610	GLU
1	B	4102	GLN
1	B	4907	ASP
1	B	4908	GLU
1	B	4962	GLY
1	A	771	PHE
1	A	1988	ALA
1	A	2539	ALA

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Mol	Chain	Res	Type
1	A	2604	GLU
1	A	2645	THR
1	A	2666	VAL
1	A	2699	ALA
1	A	2950	SER
1	A	3262	ARG
1	A	3265	GLU
1	A	3299	GLY
1	A	3360	PRO
1	A	3402	CYS
1	A	3536	ALA
1	A	3568	SER
1	A	3827	GLY
1	A	4715	TYR
1	A	4821	LYS
1	A	4898	GLY
1	D	1988	ALA
1	D	2539	ALA
1	D	2604	GLU
1	D	2645	THR
1	D	2666	VAL
1	D	2699	ALA
1	D	2950	SER
1	D	3262	ARG
1	D	3299	GLY
1	D	3360	PRO
1	D	3402	CYS
1	D	3536	ALA
1	D	3568	SER
1	D	3827	GLY
1	D	4715	TYR
1	D	4821	LYS
1	D	4898	GLY
1	C	771	PHE
1	C	1214	PHE
1	C	1988	ALA
1	C	2539	ALA
1	C	2604	GLU
1	C	2645	THR
1	C	2666	VAL
1	C	2699	ALA
1	C	2950	SER

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Mol	Chain	Res	Type
1	C	3262	ARG
1	C	3265	GLU
1	C	3299	GLY
1	C	3360	PRO
1	C	3402	CYS
1	C	3536	ALA
1	C	3568	SER
1	C	3827	GLY
1	C	4641	PRO
1	C	4715	TYR
1	C	4821	LYS
1	C	4898	GLY
1	B	771	PHE
1	B	1988	ALA
1	B	2539	ALA
1	B	2604	GLU
1	B	2645	THR
1	B	2666	VAL
1	B	2699	ALA
1	B	2950	SER
1	B	3262	ARG
1	B	3265	GLU
1	B	3299	GLY
1	B	3360	PRO
1	B	3402	CYS
1	B	3536	ALA
1	B	3568	SER
1	B	3827	GLY
1	B	4641	PRO
1	B	4715	TYR
1	B	4821	LYS
1	B	4898	GLY
1	A	1214	PHE
1	A	2495	VAL
1	A	2531	ARG
1	A	2562	ILE
1	A	2566	ALA
1	A	2630	VAL
1	A	3015	LEU
1	A	3356	SER
1	A	3426	GLU
1	A	3579	LEU

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Mol	Chain	Res	Type
1	A	4118	ASP
1	A	4641	PRO
1	A	4844	LEU
1	A	4886	HIS
1	D	2495	VAL
1	D	2531	ARG
1	D	2562	ILE
1	D	2566	ALA
1	D	2630	VAL
1	D	3015	LEU
1	D	3265	GLU
1	D	3356	SER
1	D	3426	GLU
1	D	3579	LEU
1	D	4118	ASP
1	D	4641	PRO
1	D	4844	LEU
1	C	2495	VAL
1	C	2531	ARG
1	C	2562	ILE
1	C	2566	ALA
1	C	2630	VAL
1	C	3015	LEU
1	C	3356	SER
1	C	3426	GLU
1	C	3579	LEU
1	C	4118	ASP
1	C	4844	LEU
1	B	1214	PHE
1	B	2495	VAL
1	B	2531	ARG
1	B	2562	ILE
1	B	2566	ALA
1	B	2630	VAL
1	B	3015	LEU
1	B	3356	SER
1	B	3426	GLU
1	B	3579	LEU
1	B	4118	ASP
1	B	4844	LEU
1	A	677	ALA
1	A	2559	LEU

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Mol	Chain	Res	Type
1	A	3775	ALA
1	A	4897	ILE
1	D	677	ALA
1	D	2559	LEU
1	D	3775	ALA
1	D	4897	ILE
1	D	4968	PHE
1	C	677	ALA
1	C	2559	LEU
1	C	3775	ALA
1	C	4897	ILE
1	B	677	ALA
1	B	2559	LEU
1	B	3775	ALA
1	B	4897	ILE
1	A	4637	GLY
1	B	4637	GLY
1	A	3588	ASP
1	D	3588	ASP
1	D	4720	VAL
1	C	3588	ASP
1	C	4720	VAL
1	B	3588	ASP
1	A	4720	VAL
1	A	4950	VAL
1	D	4950	VAL
1	C	4637	GLY
1	C	4692	PRO
1	C	4950	VAL
1	B	4720	VAL
1	B	4950	VAL
1	A	753	PRO
1	A	3300	ALA
1	A	4692	PRO
1	D	753	PRO
1	D	3300	ALA
1	D	4692	PRO
1	C	753	PRO
1	C	3300	ALA
1	B	753	PRO
1	B	3300	ALA
1	B	4692	PRO

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Mol	Chain	Res	Type
1	B	3633	VAL

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	2516/4277 (59%)	2451 (97%)	65 (3%)	41 65
1	B	2516/4277 (59%)	2451 (97%)	65 (3%)	41 65
1	C	2516/4277 (59%)	2451 (97%)	65 (3%)	41 65
1	D	2516/4277 (59%)	2451 (97%)	65 (3%)	41 65
2	E	84/88 (96%)	84 (100%)	0	100 100
2	F	84/88 (96%)	84 (100%)	0	100 100
2	G	84/88 (96%)	84 (100%)	0	100 100
2	H	84/88 (96%)	84 (100%)	0	100 100
3	I	102/123 (83%)	102 (100%)	0	100 100
3	J	102/123 (83%)	102 (100%)	0	100 100
3	K	102/123 (83%)	102 (100%)	0	100 100
3	L	102/123 (83%)	102 (100%)	0	100 100
All	All	10808/17952 (60%)	10548 (98%)	260 (2%)	45 67

All (260) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	645	ARG
1	A	1224	GLU
1	A	1252	HIS
1	A	1253	PRO
1	A	1433	TYR
1	A	1929	MET
1	A	3636	PHE
1	A	3639	THR
1	A	3856	LEU

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Mol	Chain	Res	Type
1	A	4159	ARG
1	A	4548	ARG
1	A	4552	LEU
1	A	4554	TYR
1	A	4555	LEU
1	A	4562	LEU
1	A	4563	LYS
1	A	4569	LEU
1	A	4571	PHE
1	A	4573	ILE
1	A	4575	PHE
1	A	4645	CYS
1	A	4649	LEU
1	A	4651	THR
1	A	4659	ILE
1	A	4662	ASN
1	A	4668	LEU
1	A	4669	VAL
1	A	4716	TRP
1	A	4723	LYS
1	A	4792	SER
1	A	4796	MET
1	A	4797	VAL
1	A	4798	MET
1	A	4800	LEU
1	A	4806	ASN
1	A	4818	MET
1	A	4819	GLU
1	A	4820	VAL
1	A	4825	THR
1	A	4827	LEU
1	A	4828	SER
1	A	4838	VAL
1	A	4839	MET
1	A	4843	LEU
1	A	4846	VAL
1	A	4897	ILE
1	A	4911	LEU
1	A	4944	ARG
1	A	4945	ASP
1	A	4949	GLN
1	A	4950	VAL

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Mol	Chain	Res	Type
1	A	4957	LYS
1	A	4958	CYS
1	A	4960	ILE
1	A	4963	ILE
1	A	4965	SER
1	A	4977	THR
1	A	4983	HIS
1	A	4985	LEU
1	A	4991	PHE
1	A	5008	SER
1	A	5012	LYS
1	A	5013	MET
1	A	5014	TYR
1	A	5037	SER
1	D	645	ARG
1	D	1252	HIS
1	D	1253	PRO
1	D	1433	TYR
1	D	1929	MET
1	D	3636	PHE
1	D	3639	THR
1	D	3856	LEU
1	D	4159	ARG
1	D	4548	ARG
1	D	4552	LEU
1	D	4554	TYR
1	D	4555	LEU
1	D	4562	LEU
1	D	4563	LYS
1	D	4569	LEU
1	D	4571	PHE
1	D	4573	ILE
1	D	4575	PHE
1	D	4645	CYS
1	D	4649	LEU
1	D	4651	THR
1	D	4659	ILE
1	D	4668	LEU
1	D	4716	TRP
1	D	4723	LYS
1	D	4792	SER
1	D	4796	MET

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Mol	Chain	Res	Type
1	D	4797	VAL
1	D	4798	MET
1	D	4800	LEU
1	D	4806	ASN
1	D	4813	LEU
1	D	4814	LEU
1	D	4818	MET
1	D	4819	GLU
1	D	4820	VAL
1	D	4825	THR
1	D	4826	ILE
1	D	4827	LEU
1	D	4828	SER
1	D	4838	VAL
1	D	4839	MET
1	D	4843	LEU
1	D	4846	VAL
1	D	4897	ILE
1	D	4911	LEU
1	D	4944	ARG
1	D	4945	ASP
1	D	4949	GLN
1	D	4950	VAL
1	D	4957	LYS
1	D	4958	CYS
1	D	4960	ILE
1	D	4963	ILE
1	D	4965	SER
1	D	4977	THR
1	D	4983	HIS
1	D	4985	LEU
1	D	4991	PHE
1	D	5008	SER
1	D	5012	LYS
1	D	5013	MET
1	D	5014	TYR
1	D	5037	SER
1	C	645	ARG
1	C	1252	HIS
1	C	1253	PRO
1	C	1433	TYR
1	C	1929	MET

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Mol	Chain	Res	Type
1	C	3636	PHE
1	C	3639	THR
1	C	3856	LEU
1	C	4159	ARG
1	C	4548	ARG
1	C	4552	LEU
1	C	4554	TYR
1	C	4555	LEU
1	C	4562	LEU
1	C	4563	LYS
1	C	4569	LEU
1	C	4571	PHE
1	C	4573	ILE
1	C	4575	PHE
1	C	4645	CYS
1	C	4649	LEU
1	C	4651	THR
1	C	4659	ILE
1	C	4662	ASN
1	C	4668	LEU
1	C	4669	VAL
1	C	4716	TRP
1	C	4723	LYS
1	C	4792	SER
1	C	4796	MET
1	C	4797	VAL
1	C	4798	MET
1	C	4800	LEU
1	C	4806	ASN
1	C	4818	MET
1	C	4819	GLU
1	C	4820	VAL
1	C	4825	THR
1	C	4827	LEU
1	C	4828	SER
1	C	4838	VAL
1	C	4839	MET
1	C	4843	LEU
1	C	4846	VAL
1	C	4897	ILE
1	C	4911	LEU
1	C	4933	GLN

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Mol	Chain	Res	Type
1	C	4944	ARG
1	C	4945	ASP
1	C	4949	GLN
1	C	4950	VAL
1	C	4957	LYS
1	C	4958	CYS
1	C	4960	ILE
1	C	4963	ILE
1	C	4965	SER
1	C	4977	THR
1	C	4983	HIS
1	C	4985	LEU
1	C	4991	PHE
1	C	5008	SER
1	C	5012	LYS
1	C	5013	MET
1	C	5014	TYR
1	C	5037	SER
1	B	645	ARG
1	B	1224	GLU
1	B	1252	HIS
1	B	1253	PRO
1	B	1433	TYR
1	B	1929	MET
1	B	3636	PHE
1	B	3639	THR
1	B	3856	LEU
1	B	4159	ARG
1	B	4548	ARG
1	B	4552	LEU
1	B	4554	TYR
1	B	4555	LEU
1	B	4562	LEU
1	B	4563	LYS
1	B	4569	LEU
1	B	4571	PHE
1	B	4573	ILE
1	B	4575	PHE
1	B	4645	CYS
1	B	4649	LEU
1	B	4651	THR
1	B	4659	ILE

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Mol	Chain	Res	Type
1	B	4662	ASN
1	B	4669	VAL
1	B	4716	TRP
1	B	4723	LYS
1	B	4792	SER
1	B	4796	MET
1	B	4797	VAL
1	B	4798	MET
1	B	4800	LEU
1	B	4806	ASN
1	B	4814	LEU
1	B	4818	MET
1	B	4819	GLU
1	B	4820	VAL
1	B	4825	THR
1	B	4827	LEU
1	B	4828	SER
1	B	4838	VAL
1	B	4839	MET
1	B	4843	LEU
1	B	4846	VAL
1	B	4897	ILE
1	B	4911	LEU
1	B	4944	ARG
1	B	4945	ASP
1	B	4949	GLN
1	B	4950	VAL
1	B	4957	LYS
1	B	4958	CYS
1	B	4960	ILE
1	B	4963	ILE
1	B	4965	SER
1	B	4977	THR
1	B	4983	HIS
1	B	4985	LEU
1	B	4991	PHE
1	B	5008	SER
1	B	5012	LYS
1	B	5013	MET
1	B	5014	TYR
1	B	5037	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (55)

such sidechains are listed below:

Mol	Chain	Res	Type
1	A	536	ASN
1	A	812	HIS
1	A	1429	ASN
1	A	1560	ASN
1	A	1563	GLN
1	A	2213	ASN
1	A	2931	GLN
1	A	3895	HIS
1	A	4250	GLN
1	A	4803	HIS
1	A	4946	GLN
1	A	4949	GLN
1	A	4978	HIS
1	A	5003	HIS
1	D	536	ASN
1	D	618	GLN
1	D	812	HIS
1	D	1429	ASN
1	D	1560	ASN
1	D	1563	GLN
1	D	2213	ASN
1	D	2931	GLN
1	D	3895	HIS
1	D	4803	HIS
1	D	4946	GLN
1	D	4949	GLN
1	D	4978	HIS
1	D	5003	HIS
1	C	536	ASN
1	C	618	GLN
1	C	812	HIS
1	C	1429	ASN
1	C	1560	ASN
1	C	1563	GLN
1	C	2213	ASN
1	C	2931	GLN
1	C	3895	HIS
1	C	4803	HIS
1	C	4946	GLN
1	C	4949	GLN
1	C	4978	HIS
1	C	5003	HIS

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Mol	Chain	Res	Type
1	B	536	ASN
1	B	812	HIS
1	B	1429	ASN
1	B	1560	ASN
1	B	1563	GLN
1	B	2213	ASN
1	B	3895	HIS
1	B	4250	GLN
1	B	4803	HIS
1	B	4946	GLN
1	B	4949	GLN
1	B	4978	HIS
1	B	5003	HIS

5.3.3 RNA

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains

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

5.5 Carbohydrates

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	ATP	C	5103	-	26,33,33	0.86	0	31,52,52	1.61	7 (22%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
6	ATP	B	5103	-	26,33,33	0.86	0	31,52,52	1.62	7 (22%)
6	ATP	D	5103	-	26,33,33	0.86	0	31,52,52	1.62	7 (22%)
7	CFF	A	5104	-	8,15,15	1.73	1 (12%)	8,23,23	2.26	2 (25%)
7	CFF	C	5104	-	8,15,15	1.67	1 (12%)	8,23,23	2.21	2 (25%)
6	ATP	A	5103	-	26,33,33	0.86	0	31,52,52	1.62	7 (22%)
7	CFF	D	5104	-	8,15,15	1.69	1 (12%)	8,23,23	2.18	2 (25%)
7	CFF	B	5104	-	8,15,15	1.71	1 (12%)	8,23,23	2.29	2 (25%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
6	ATP	C	5103	-	-	3/18/38/38	0/3/3/3
6	ATP	B	5103	-	-	3/18/38/38	0/3/3/3
6	ATP	D	5103	-	-	3/18/38/38	0/3/3/3
7	CFF	A	5104	-	-	-	0/2/2/2
7	CFF	C	5104	-	-	-	0/2/2/2
6	ATP	A	5103	-	-	3/18/38/38	0/3/3/3
7	CFF	D	5104	-	-	-	0/2/2/2
7	CFF	B	5104	-	-	-	0/2/2/2

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	A	5104	CFF	C5-C4	-4.19	1.33	1.39
7	B	5104	CFF	C5-C4	-4.13	1.33	1.39
7	D	5104	CFF	C5-C4	-4.09	1.34	1.39
7	C	5104	CFF	C5-C4	-3.98	1.34	1.39

All (36) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	A	5104	CFF	C5-C6-N1	-4.60	113.29	118.20
7	B	5104	CFF	C5-C6-N1	-4.58	113.31	118.20
7	B	5104	CFF	C4-C5-C6	4.43	122.80	119.96
7	C	5104	CFF	C5-C6-N1	-4.43	113.48	118.20
7	D	5104	CFF	C5-C6-N1	-4.39	113.52	118.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	A	5104	CFF	C4-C5-C6	4.29	122.71	119.96
7	C	5104	CFF	C4-C5-C6	4.26	122.69	119.96
7	D	5104	CFF	C4-C5-C6	4.17	122.64	119.96
6	A	5103	ATP	PA-O3A-PB	-3.96	119.24	132.83
6	C	5103	ATP	PA-O3A-PB	-3.96	119.24	132.83
6	B	5103	ATP	PA-O3A-PB	-3.96	119.24	132.83
6	D	5103	ATP	PA-O3A-PB	-3.96	119.25	132.83
6	B	5103	ATP	N3-C2-N1	-3.67	122.94	128.68
6	D	5103	ATP	N3-C2-N1	-3.66	122.96	128.68
6	A	5103	ATP	N3-C2-N1	-3.65	122.97	128.68
6	C	5103	ATP	N3-C2-N1	-3.63	123.01	128.68
6	A	5103	ATP	C1'-N9-C4	-2.89	121.57	126.64
6	C	5103	ATP	C1'-N9-C4	-2.89	121.57	126.64
6	B	5103	ATP	C1'-N9-C4	-2.89	121.57	126.64
6	D	5103	ATP	C1'-N9-C4	-2.88	121.59	126.64
6	A	5103	ATP	PB-O3B-PG	-2.86	123.00	132.83
6	B	5103	ATP	PB-O3B-PG	-2.86	123.00	132.83
6	C	5103	ATP	PB-O3B-PG	-2.86	123.01	132.83
6	D	5103	ATP	PB-O3B-PG	-2.85	123.03	132.83
6	D	5103	ATP	C3'-C2'-C1'	2.36	104.53	100.98
6	A	5103	ATP	C3'-C2'-C1'	2.36	104.53	100.98
6	B	5103	ATP	C3'-C2'-C1'	2.36	104.53	100.98
6	C	5103	ATP	C3'-C2'-C1'	2.34	104.50	100.98
6	D	5103	ATP	C2-N1-C6	2.17	122.47	118.75
6	B	5103	ATP	C2-N1-C6	2.16	122.45	118.75
6	B	5103	ATP	C4-C5-N7	-2.16	107.15	109.40
6	A	5103	ATP	C2-N1-C6	2.16	122.44	118.75
6	C	5103	ATP	C2-N1-C6	2.13	122.41	118.75
6	A	5103	ATP	C4-C5-N7	-2.13	107.18	109.40
6	D	5103	ATP	C4-C5-N7	-2.11	107.20	109.40
6	C	5103	ATP	C4-C5-N7	-2.09	107.22	109.40

There are no chirality outliers.

All (12) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
6	A	5103	ATP	C4'-C5'-O5'-PA
6	D	5103	ATP	C4'-C5'-O5'-PA
6	C	5103	ATP	C4'-C5'-O5'-PA
6	B	5103	ATP	C4'-C5'-O5'-PA
6	A	5103	ATP	PG-O3B-PB-O1B
6	D	5103	ATP	PG-O3B-PB-O1B

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Mol	Chain	Res	Type	Atoms
6	C	5103	ATP	PG-O3B-PB-O1B
6	B	5103	ATP	PG-O3B-PB-O1B
6	A	5103	ATP	PG-O3B-PB-O2B
6	D	5103	ATP	PG-O3B-PB-O2B
6	C	5103	ATP	PG-O3B-PB-O2B
6	B	5103	ATP	PG-O3B-PB-O2B

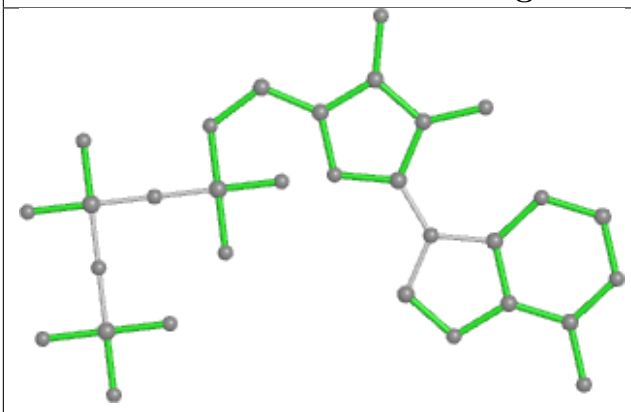
There are no ring outliers.

4 monomers are involved in 4 short contacts:

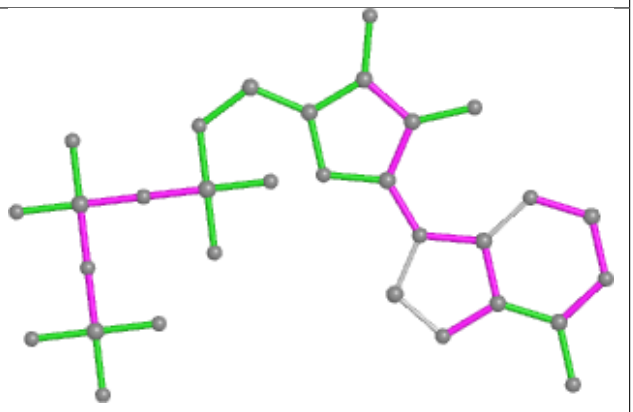
Mol	Chain	Res	Type	Clashes	Symm-Clashes
6	C	5103	ATP	1	0
6	B	5103	ATP	1	0
6	D	5103	ATP	1	0
6	A	5103	ATP	1	0

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

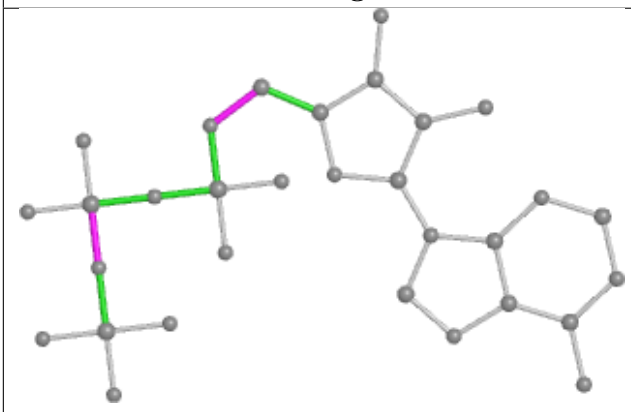
Ligand ATP C 5103



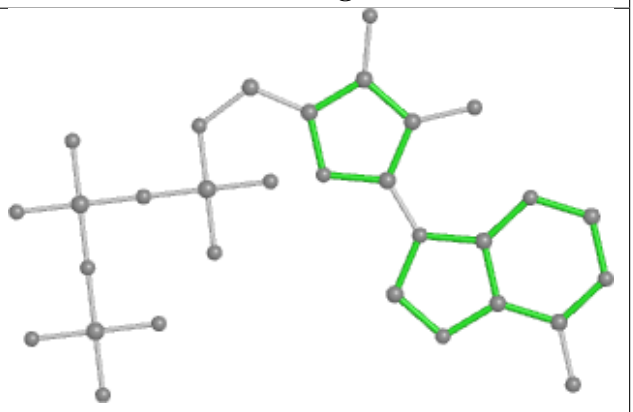
Bond lengths



Bond angles

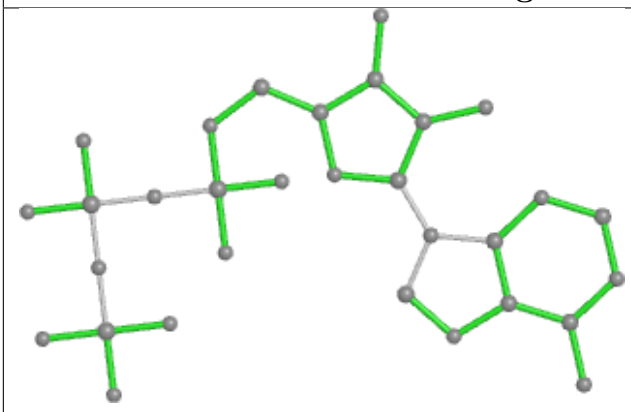


Torsions

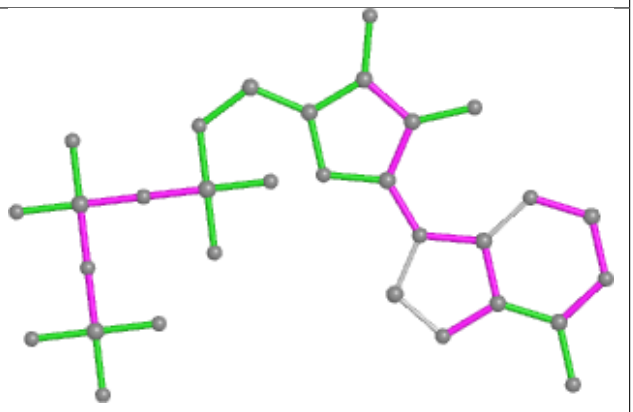


Rings

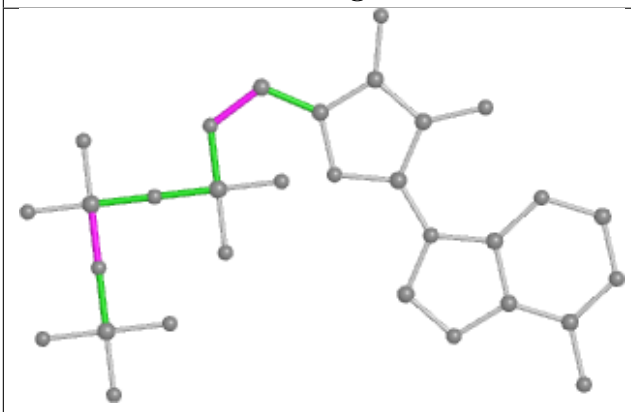
Ligand ATP B 5103



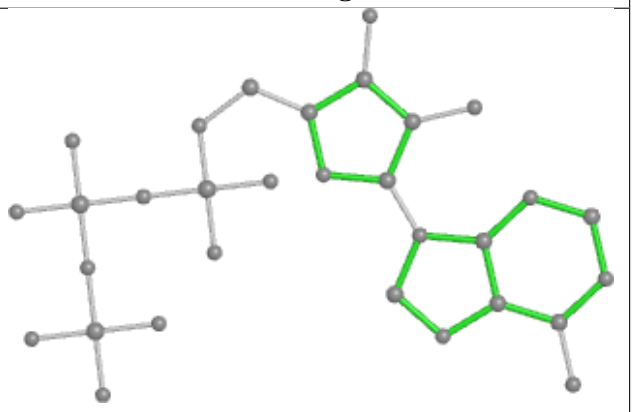
Bond lengths



Bond angles

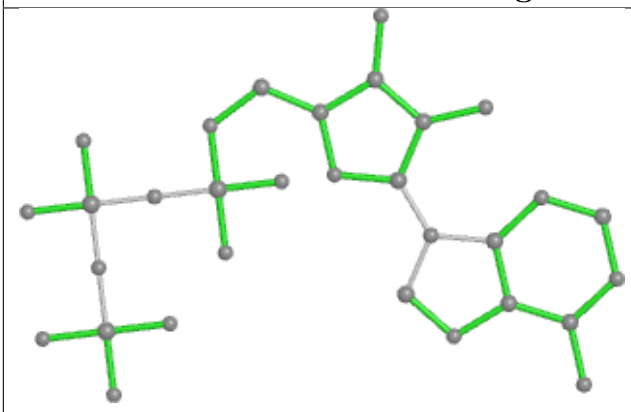


Torsions

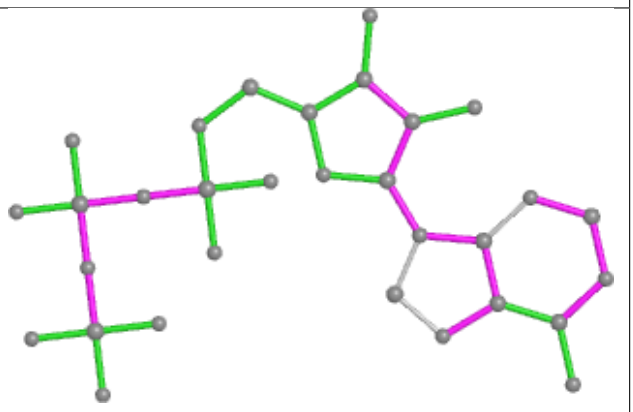


Rings

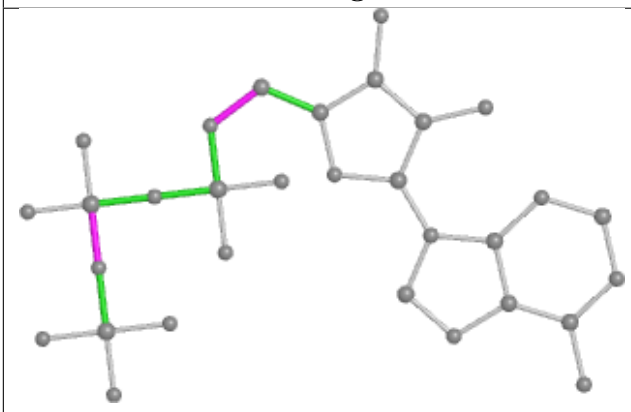
Ligand ATP D 5103



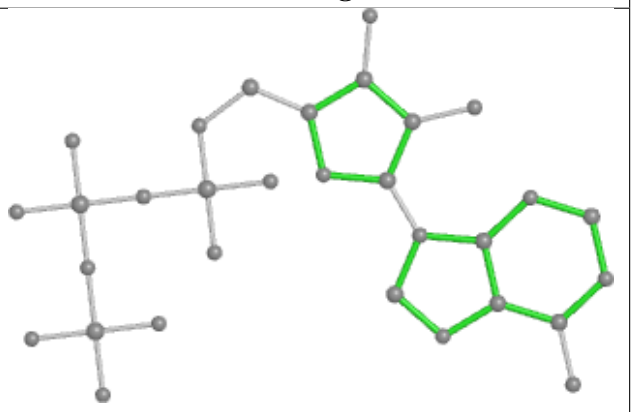
Bond lengths



Bond angles

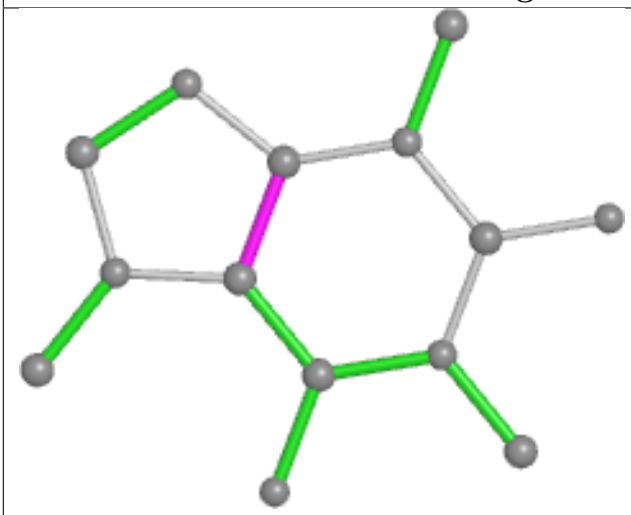


Torsions

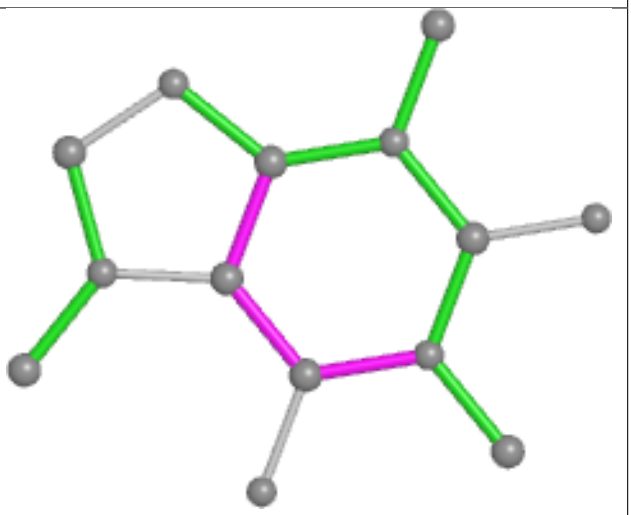


Rings

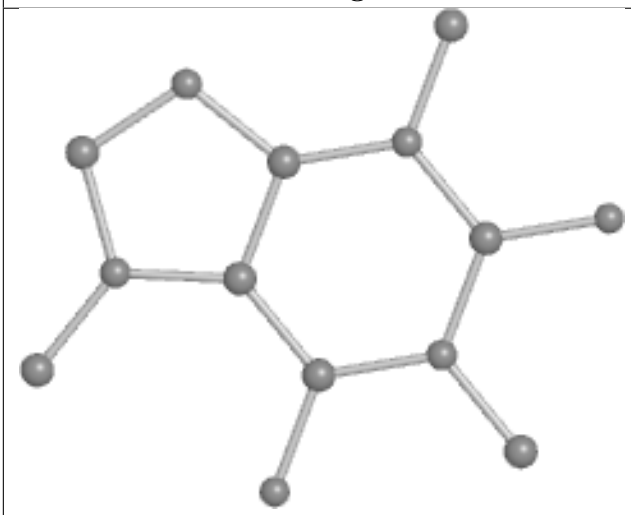
Ligand CFF A 5104



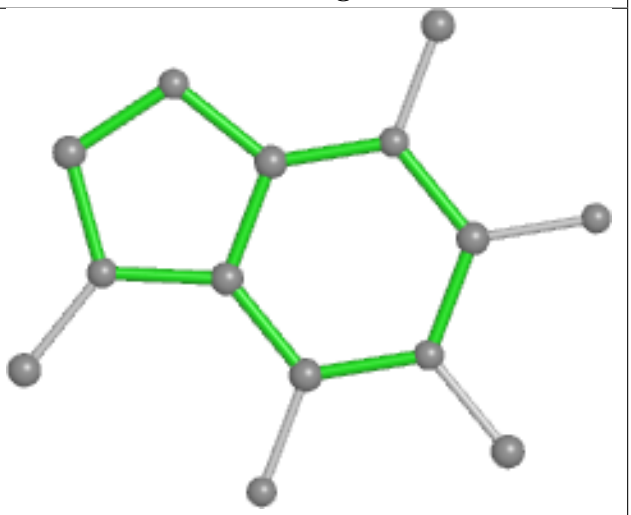
Bond lengths



Bond angles

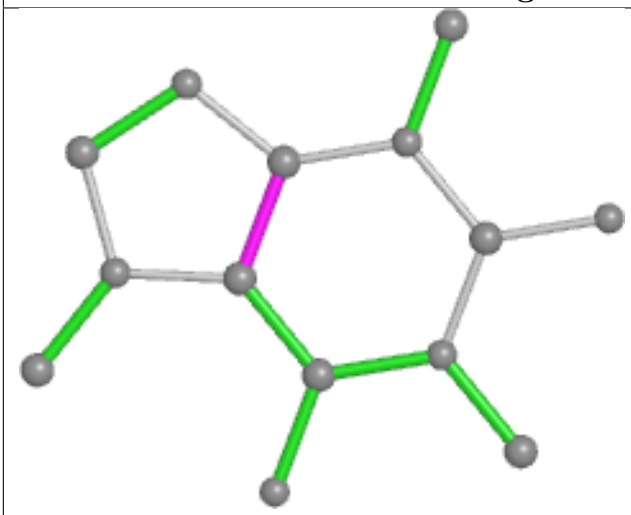


Torsions

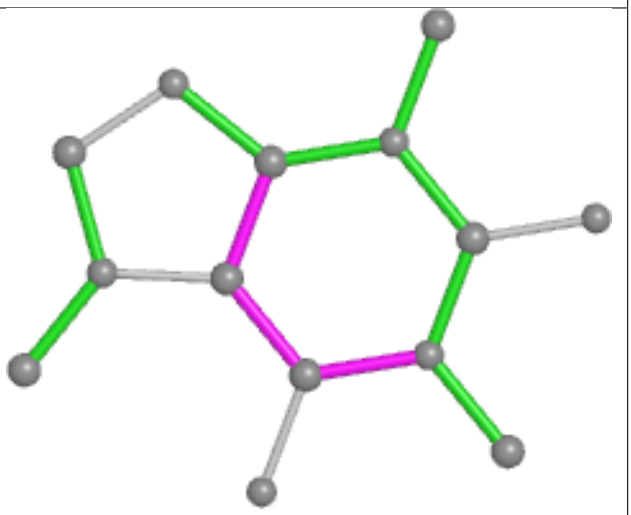


Rings

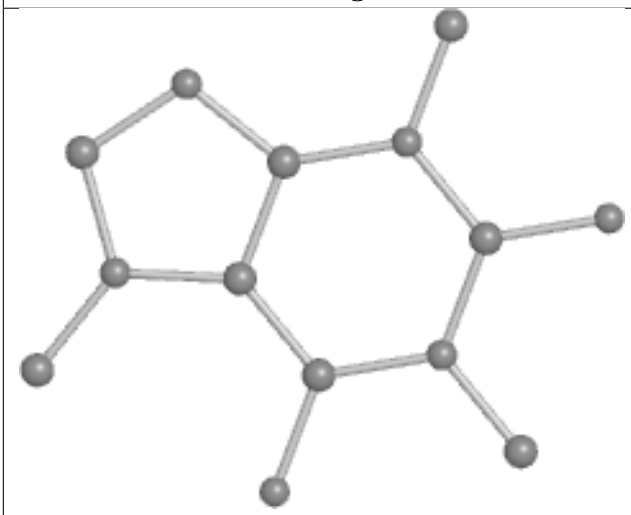
Ligand CFF C 5104



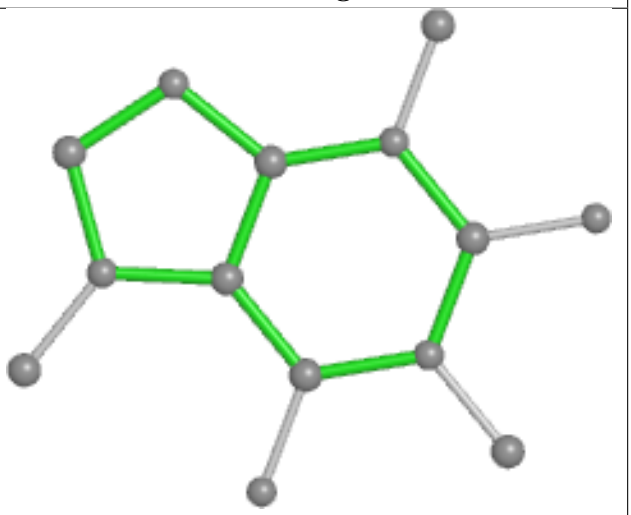
Bond lengths



Bond angles

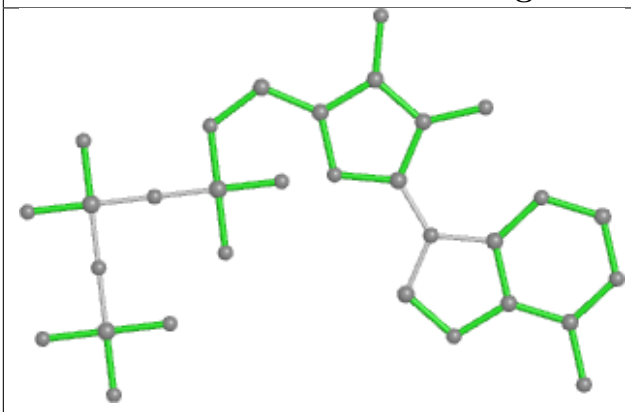


Torsions

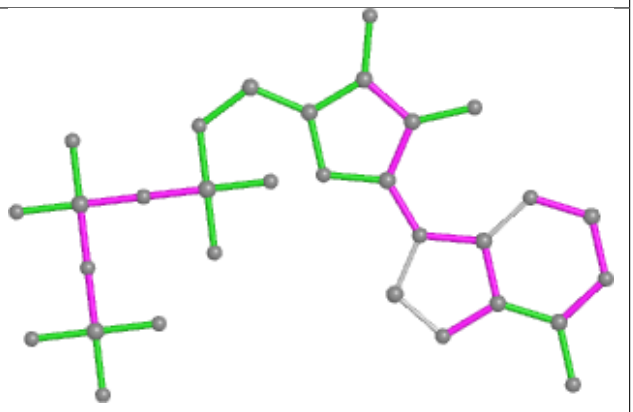


Rings

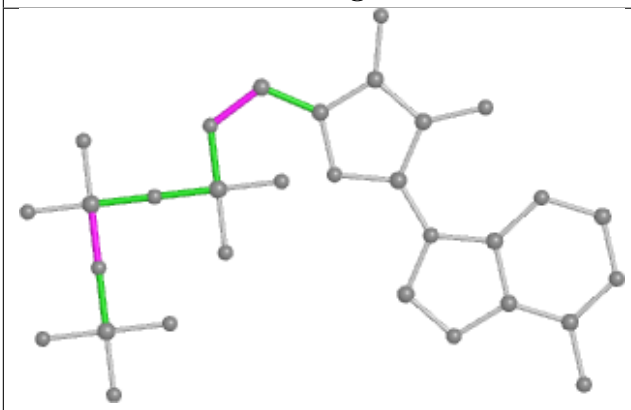
Ligand ATP A 5103



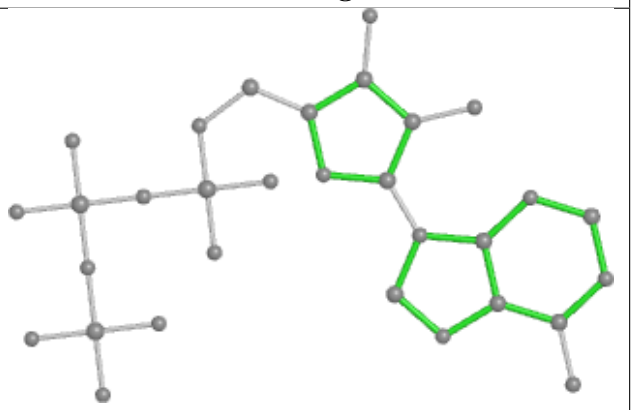
Bond lengths



Bond angles

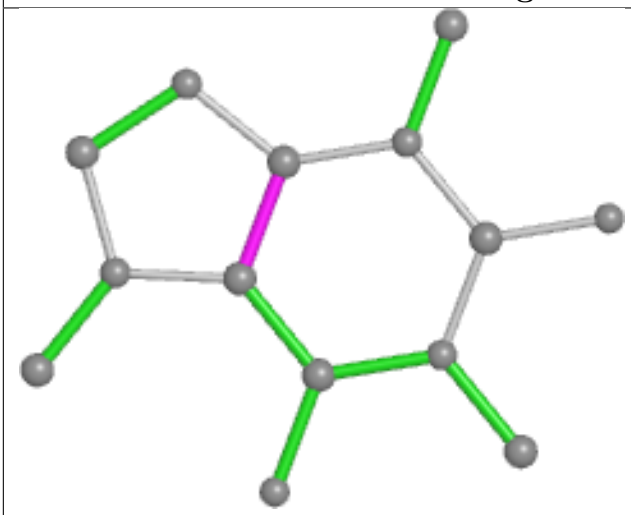


Torsions

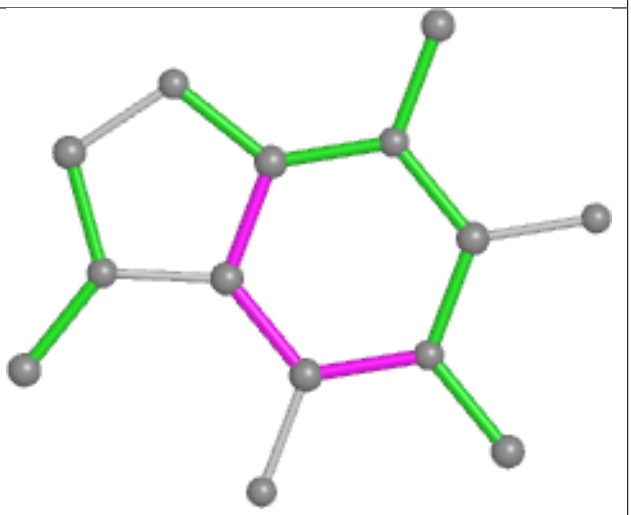


Rings

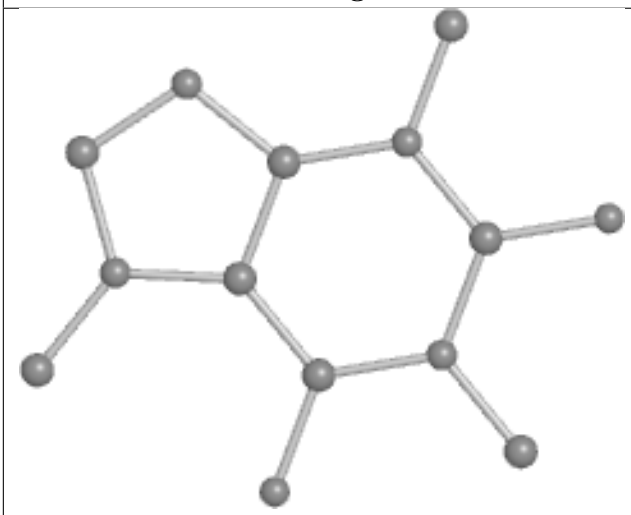
Ligand CFF D 5104



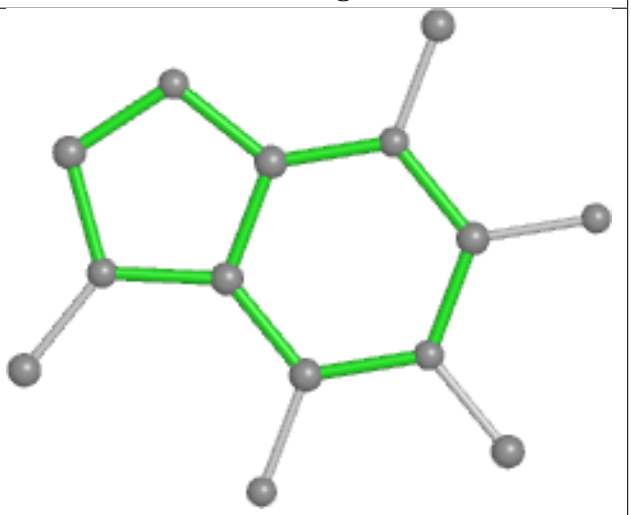
Bond lengths



Bond angles

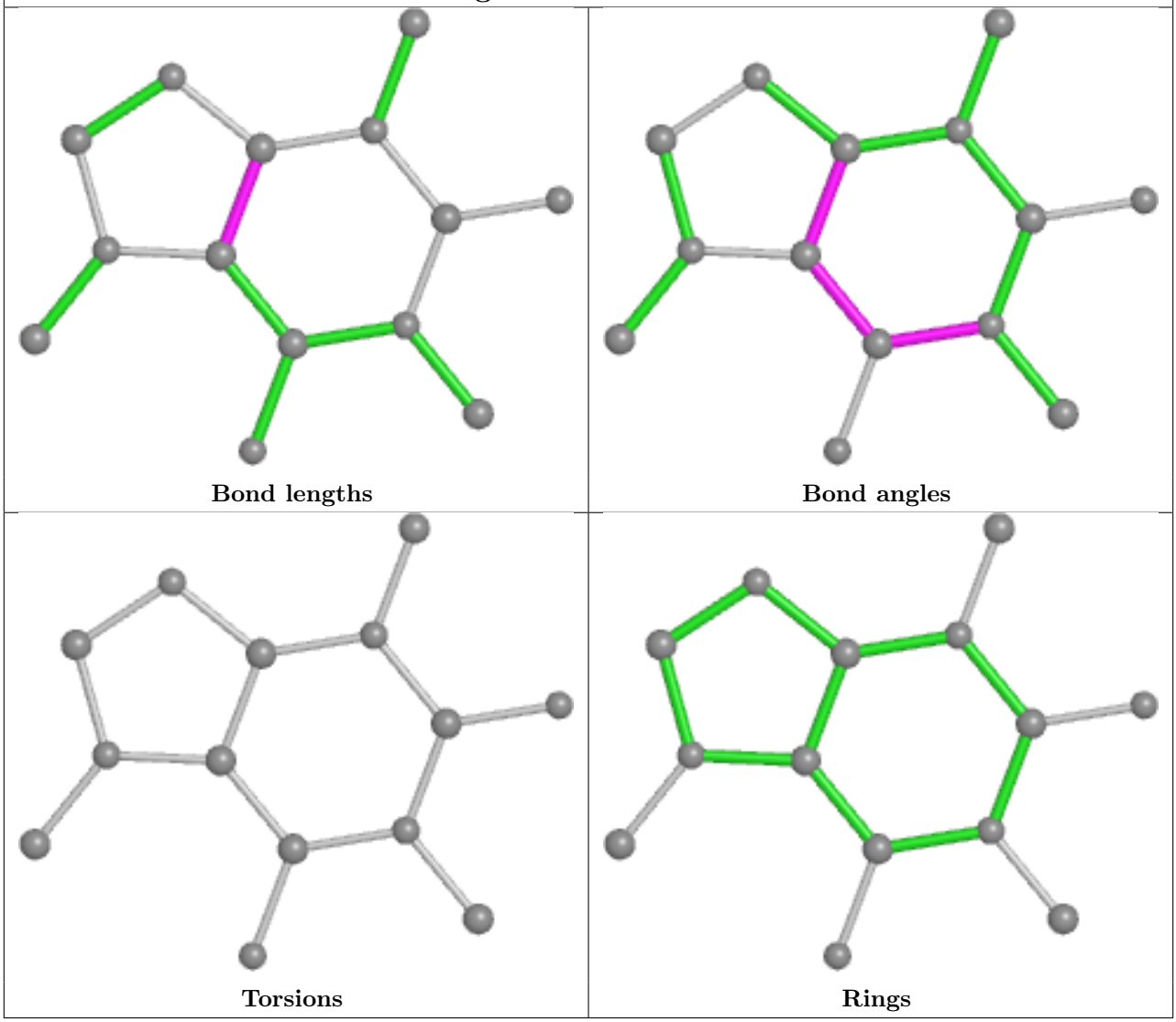


Torsions



Rings

Ligand CFF B 5104



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.

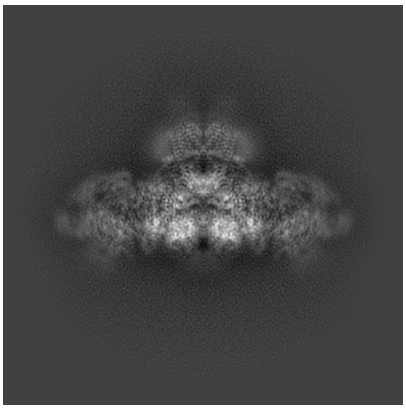
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-38448. These allow visual inspection of the internal detail of the map and identification of artifacts.

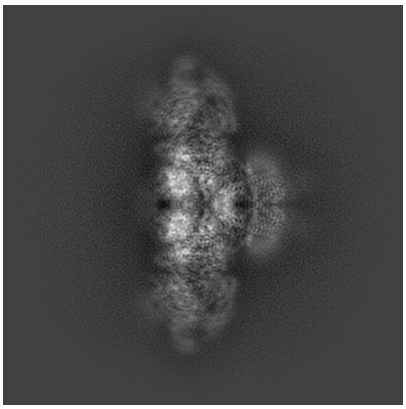
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

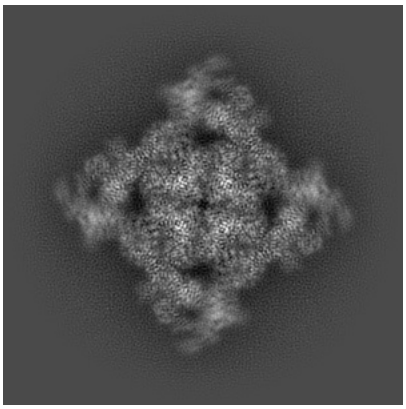
6.1.1 Primary map



X

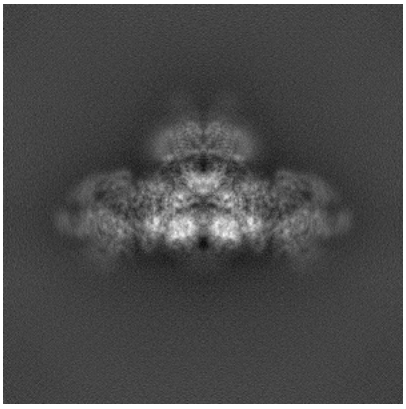


Y

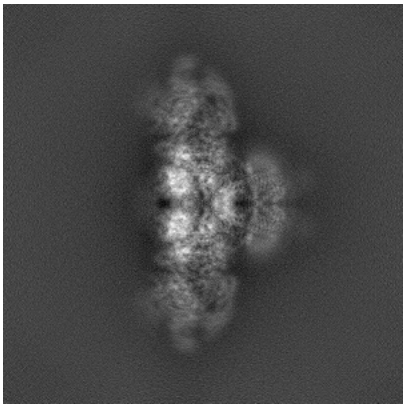


Z

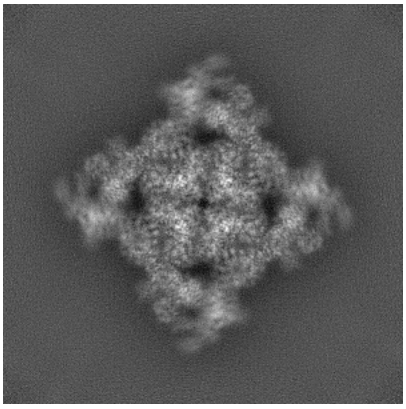
6.1.2 Raw map



X



Y

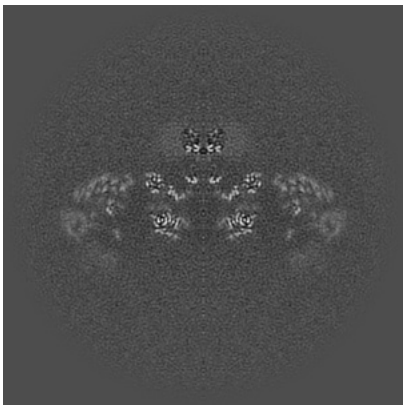


Z

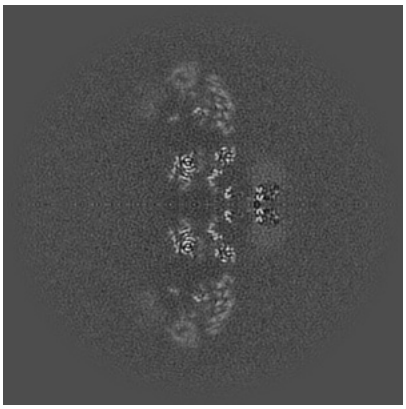
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

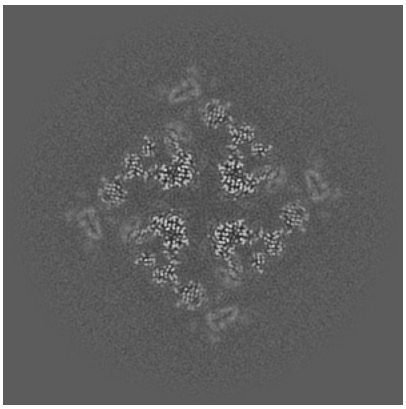
6.2.1 Primary map



X Index: 240

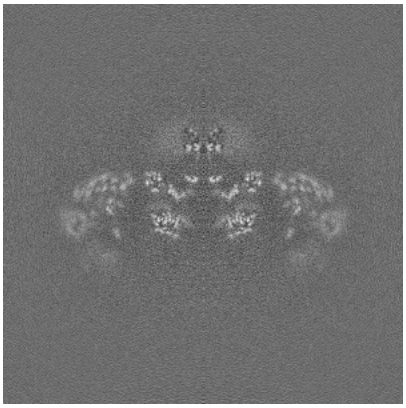


Y Index: 240

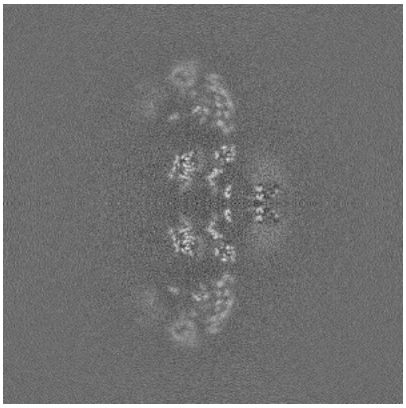


Z Index: 240

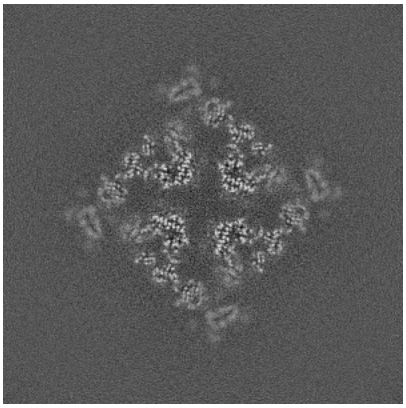
6.2.2 Raw map



X Index: 240



Y Index: 240

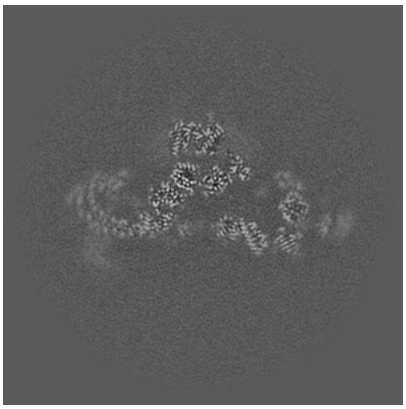


Z Index: 240

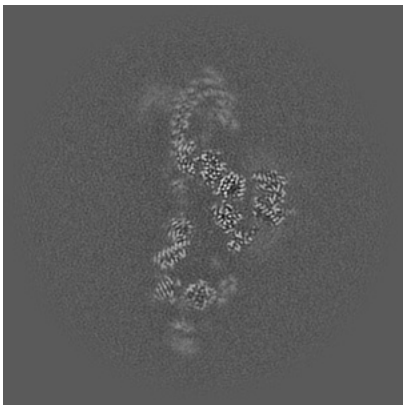
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

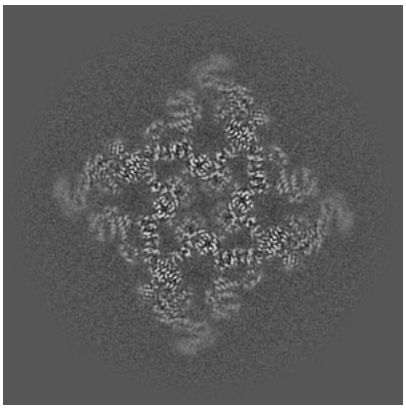
6.3.1 Primary map



X Index: 256

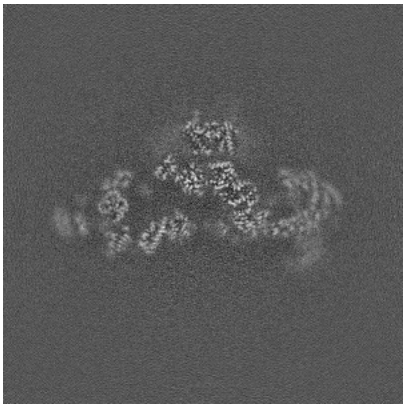


Y Index: 256



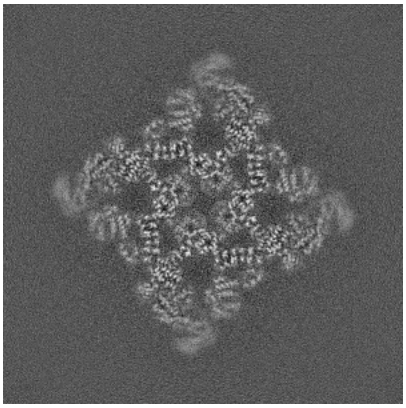
Z Index: 218

6.3.2 Raw map



X Index: 225

Y Index: 225

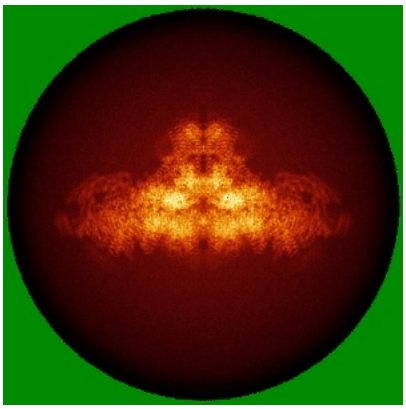


Z Index: 218

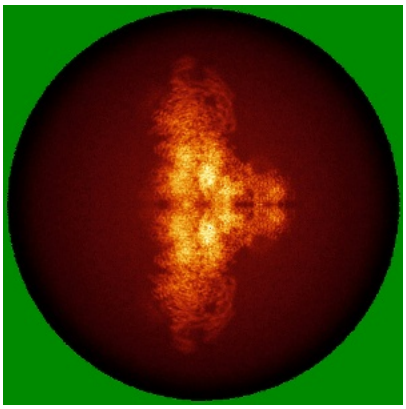
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) (i)

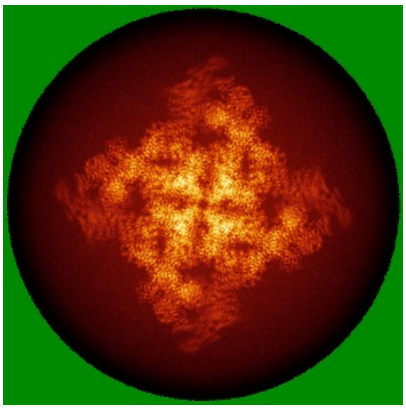
6.4.1 Primary map



X

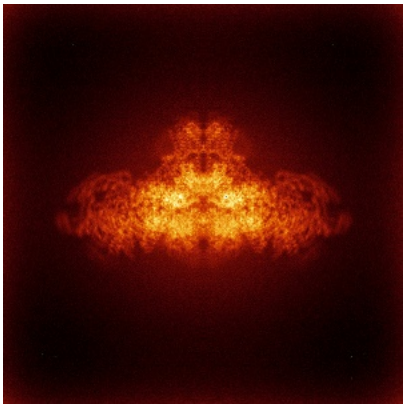


Y

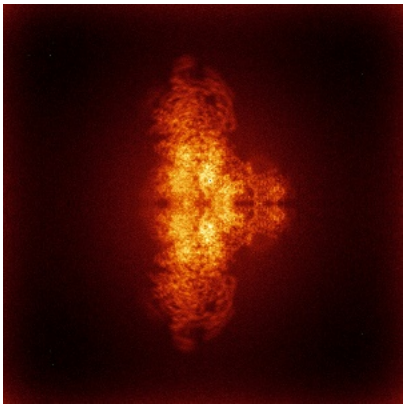


Z

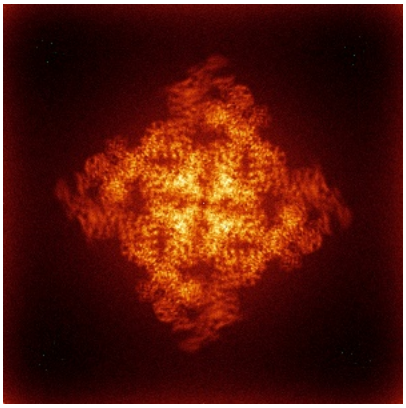
6.4.2 Raw map



X



Y

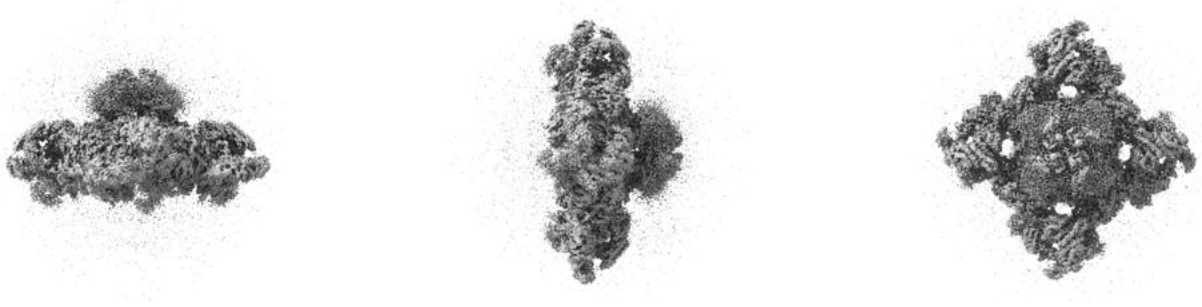


Z

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)

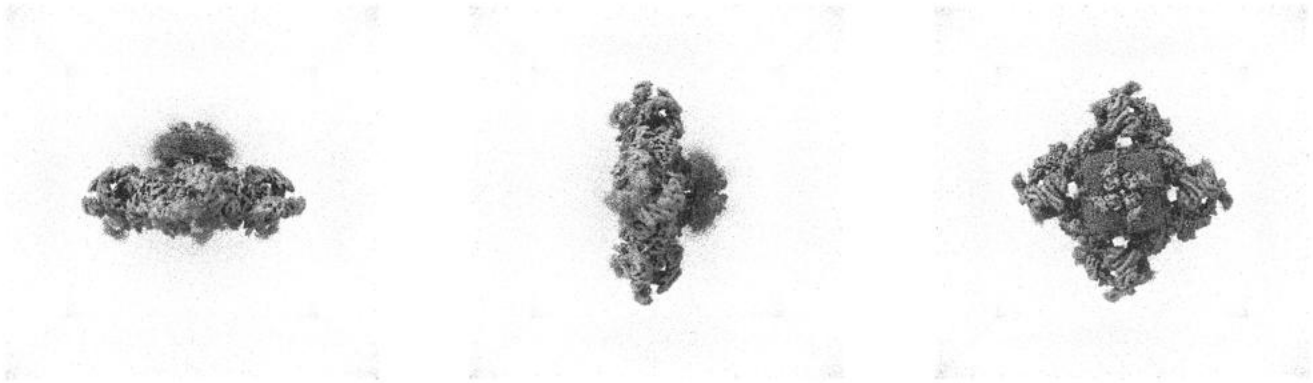
6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.135. 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



X Y Z

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

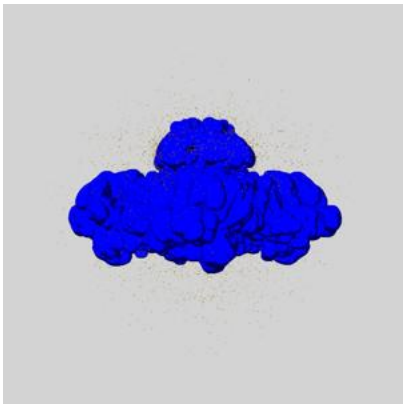
6.6 Mask visualisation (i)

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

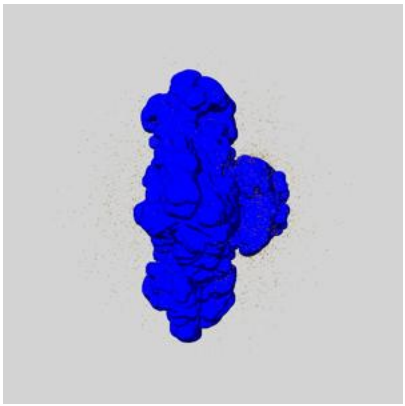
A mask typically either:

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

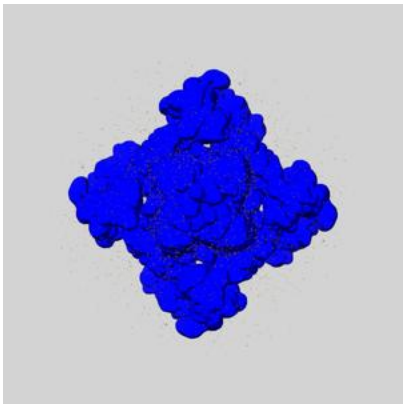
6.6.1 emd_38448_msk_1.map (i)



X



Y

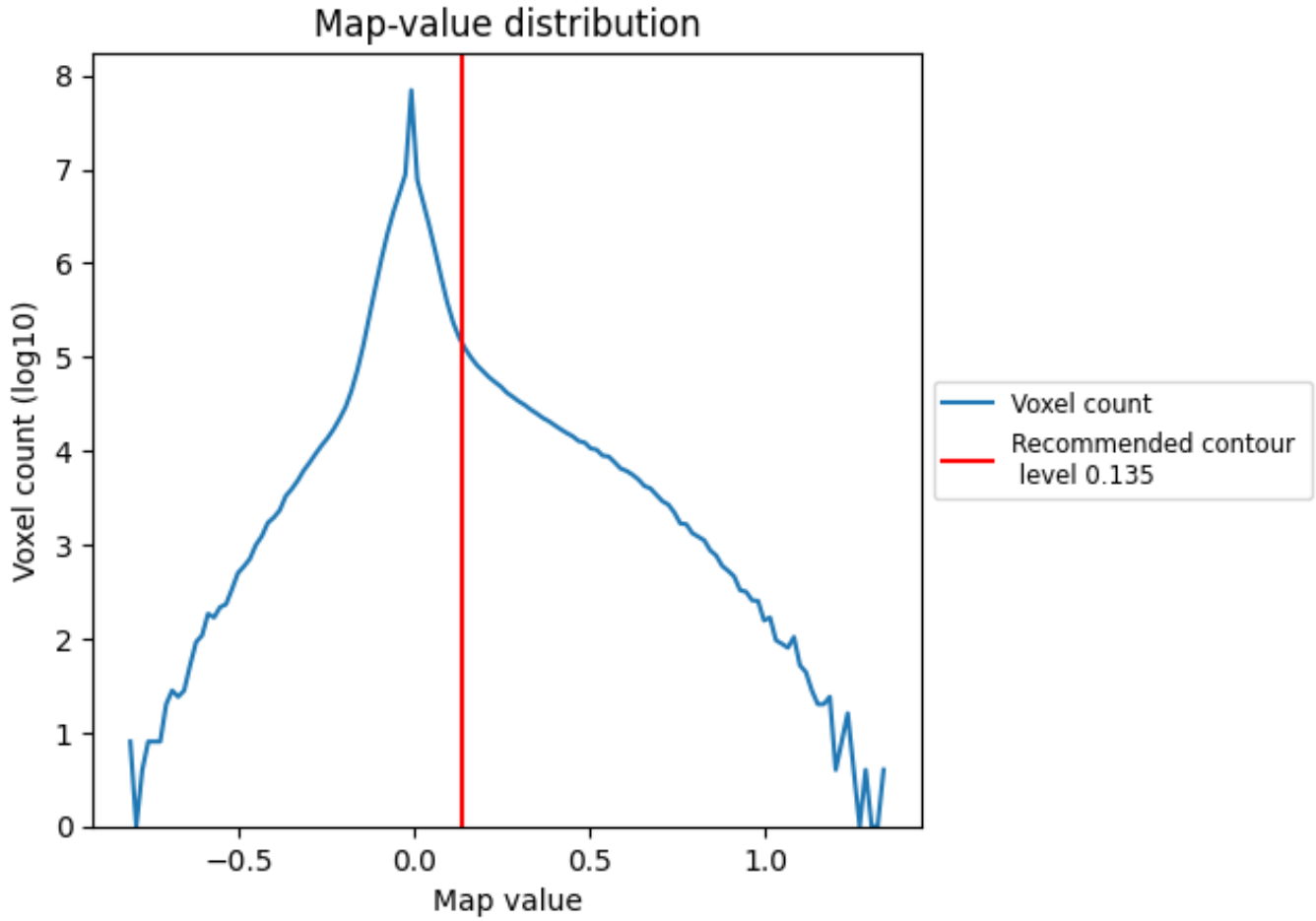


Z

7 Map analysis

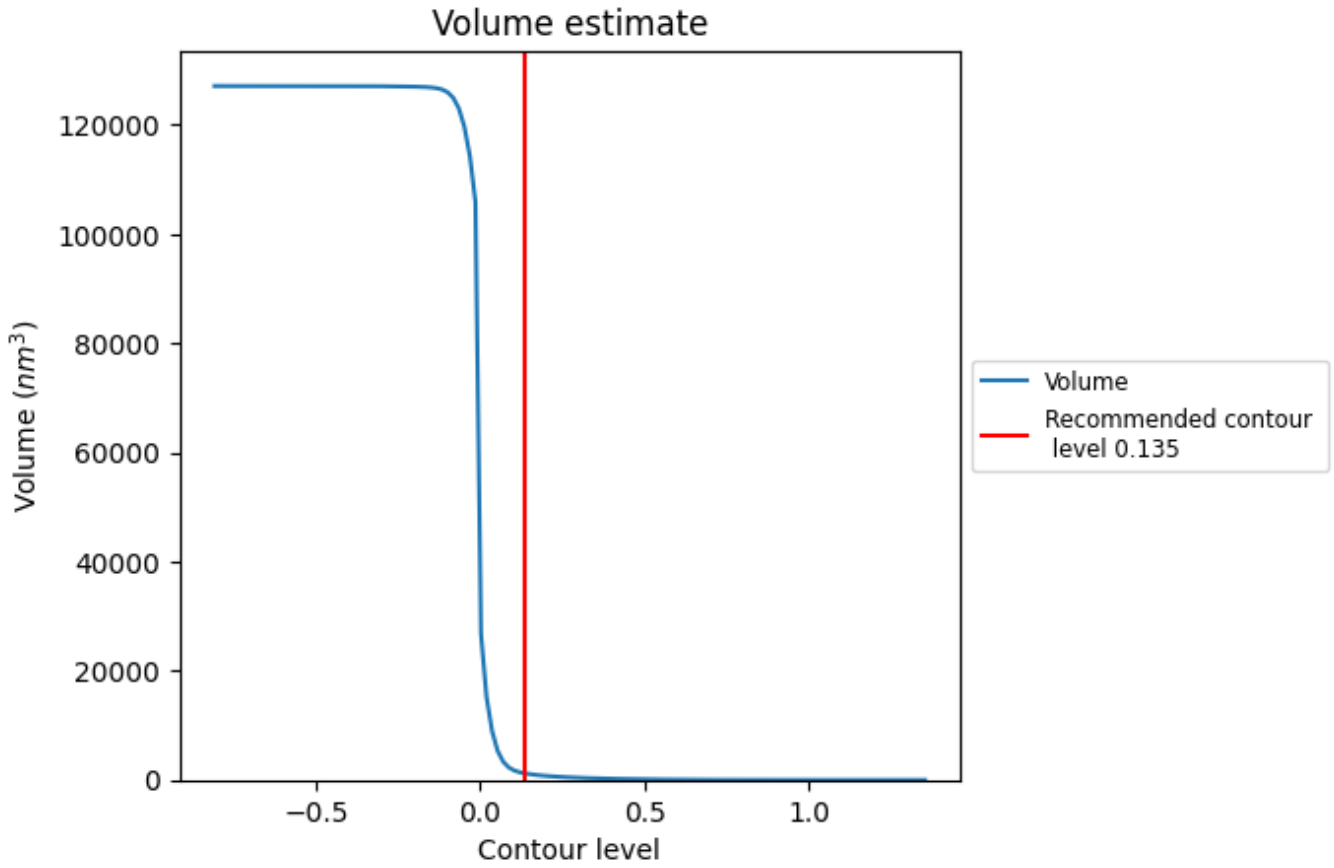
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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.

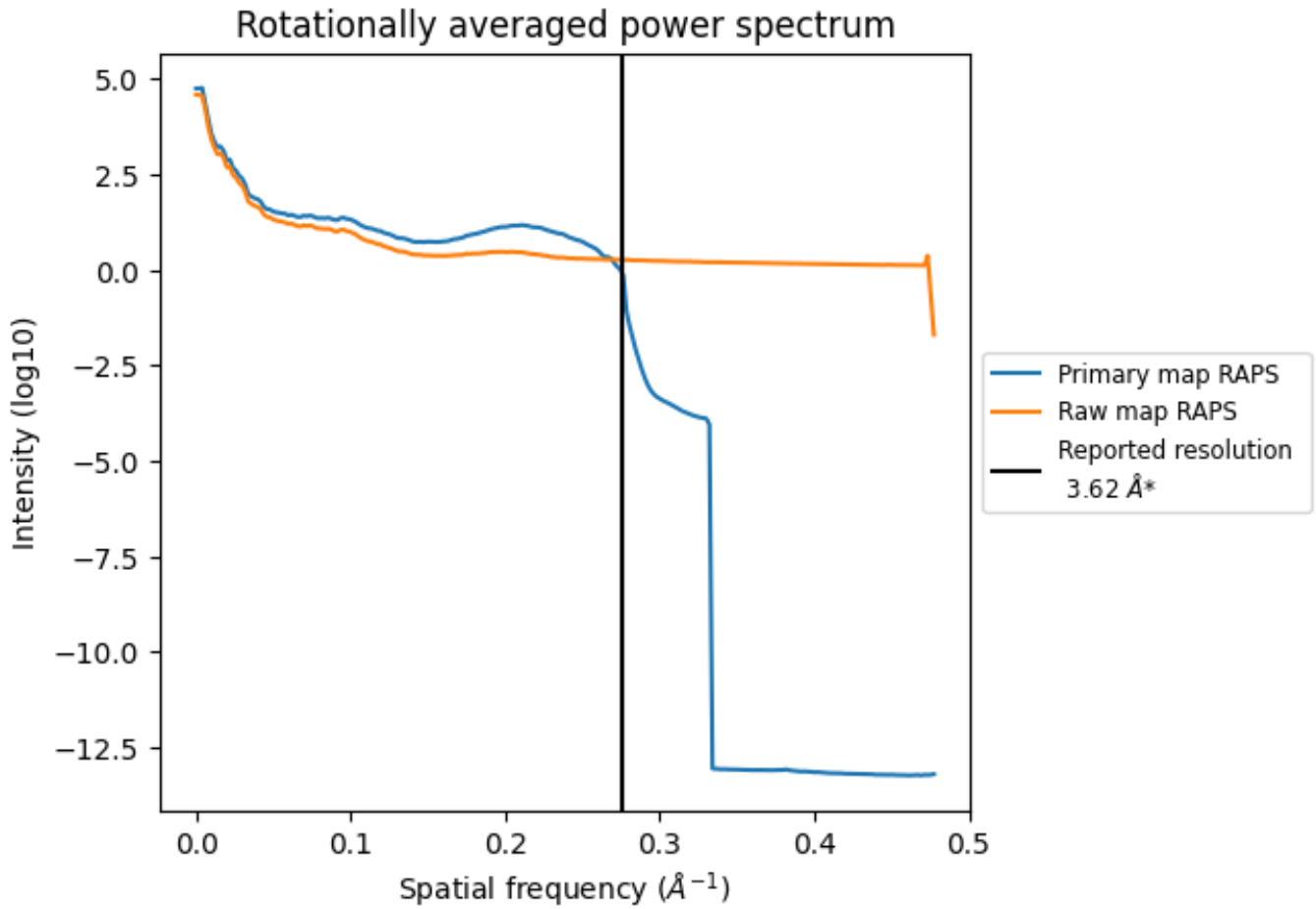
7.2 Volume estimate



The volume at the recommended contour level is 1226 nm^3; this corresponds to an approximate mass of 1107 kDa.

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

7.3 Rotationally averaged power spectrum (i)

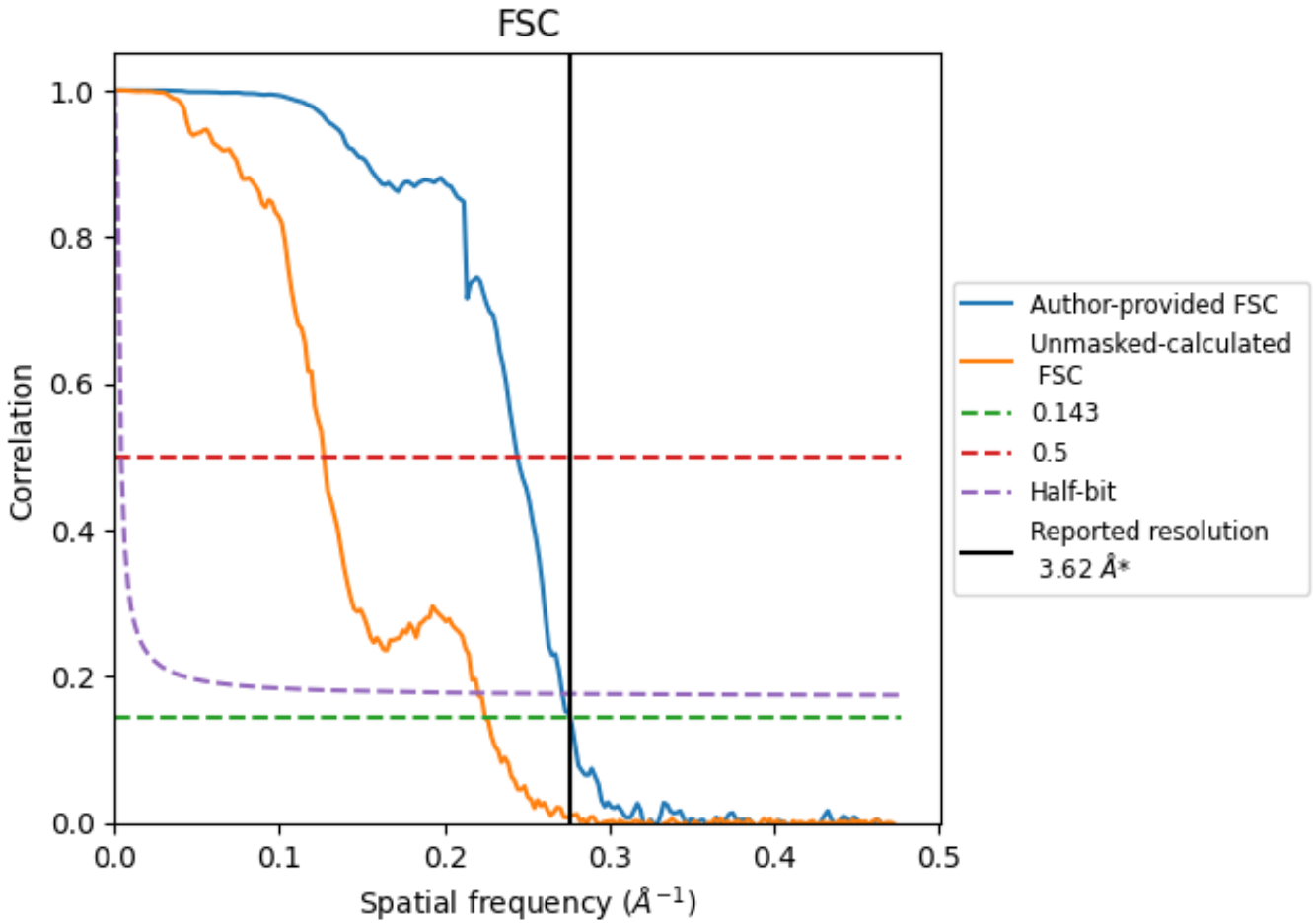


*Reported resolution corresponds to spatial frequency of 0.276 $Å^{-1}$

8 Fourier-Shell correlation

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



*Reported resolution corresponds to spatial frequency of 0.276 $Å^{-1}$

8.2 Resolution estimates (i)

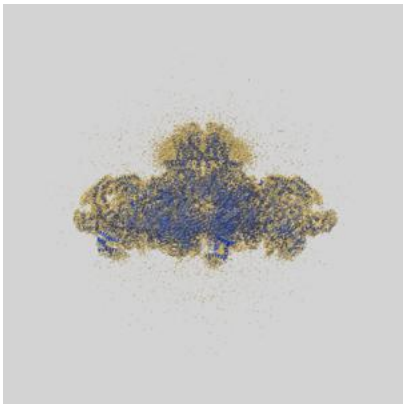
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.62	-	-
Author-provided FSC curve	3.62	4.09	3.68
Unmasked-calculated*	4.44	7.88	4.54

*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 4.44 differs from the reported value 3.62 by more than 10 %

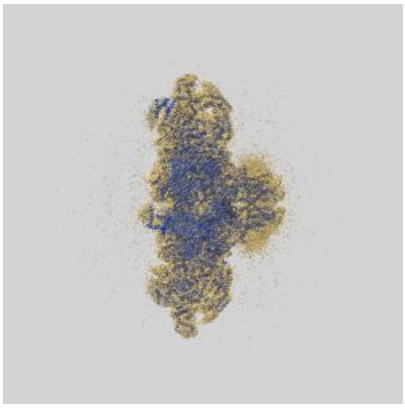
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-38448 and PDB model 8XLH. Per-residue inclusion information can be found in section 3 on page 8.

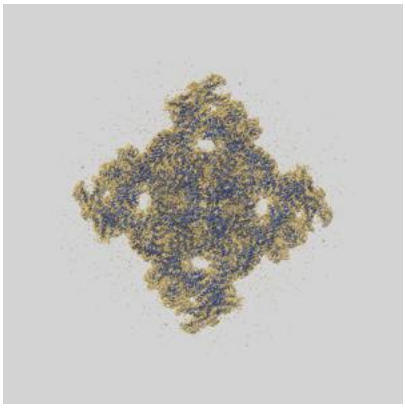
9.1 Map-model overlay



X



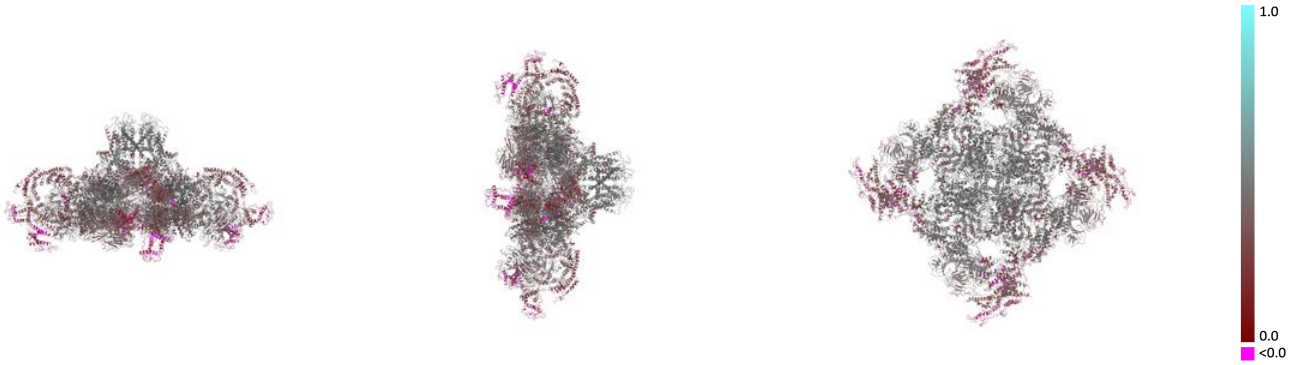
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.135 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.

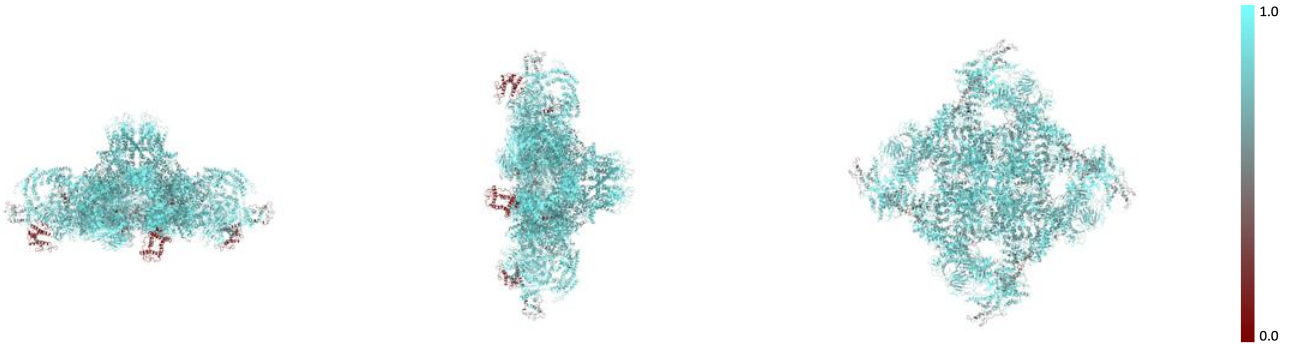
9.2 Q-score mapped to coordinate model (i)



X Y Z

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.

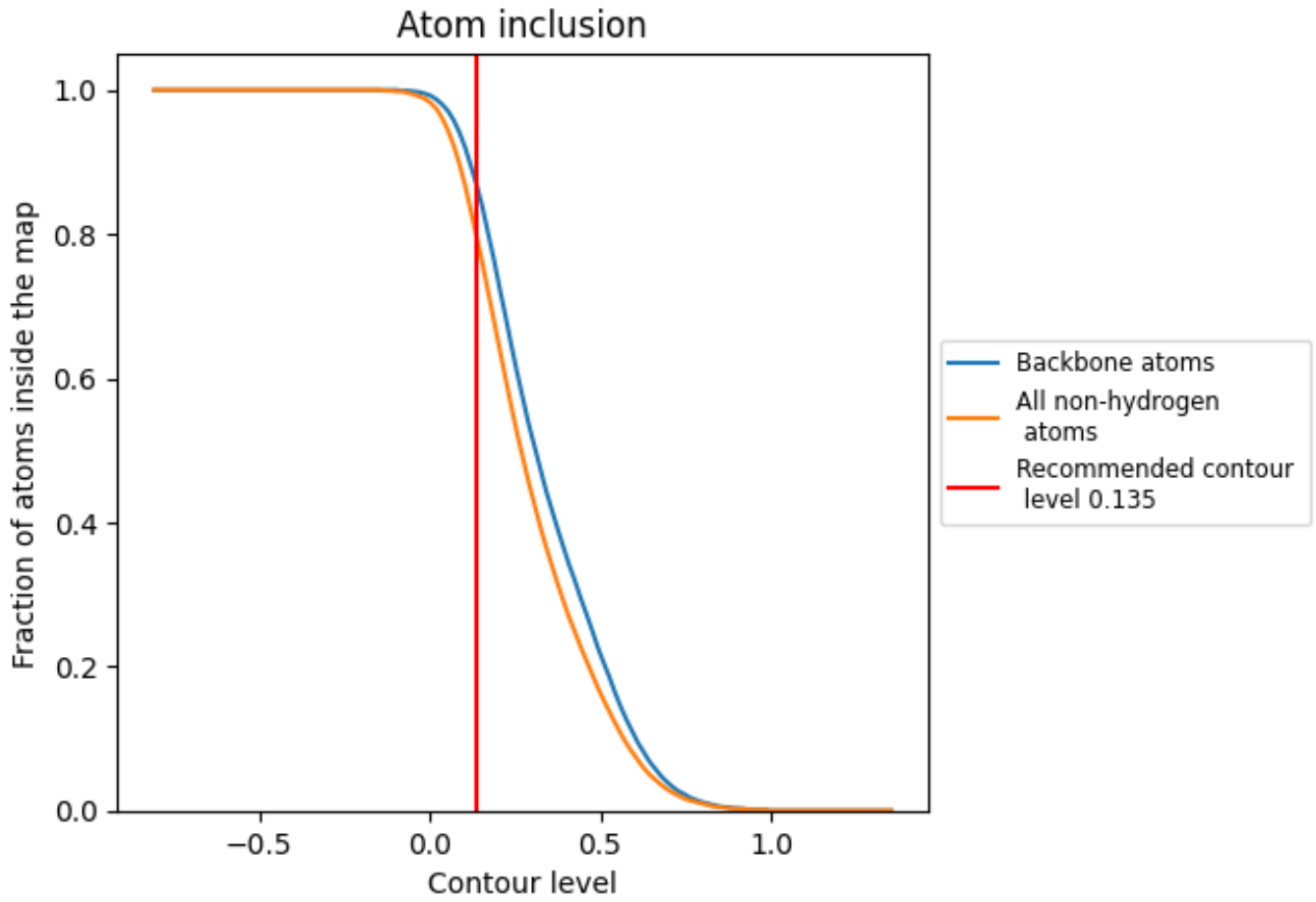
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

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 (0.135).

9.4 Atom inclusion (i)



At the recommended contour level, 87% of all backbone atoms, 80% 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 (0.135) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8030	0.3860
A	0.8120	0.3950
B	0.8110	0.3950
C	0.8110	0.3960
D	0.7960	0.3770
E	0.8380	0.4100
F	0.8380	0.4150
G	0.8360	0.4110
H	0.8190	0.3940
I	0.6560	0.2530
J	0.6550	0.2540
K	0.6580	0.2500
L	0.6400	0.2360