Full wwPDB EM Validation Report ⓘ

Dec 4, 2024 – 01:21 PM EST

PDB ID	:	9CGQ
EMDB ID	:	EMD-45585
Title	:	Rabbit RyR1 disease mutant Y523S in complex with FKBP12.6, nanodisc and inhibitor dantrolene in the presence of activating calcium
Authors	:	Iyer, K.A.; Samso, M.
Deposited on	:	2024-06-30
Resolution	:	3.23 Å(reported)
Based on initial model	:	7T65

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

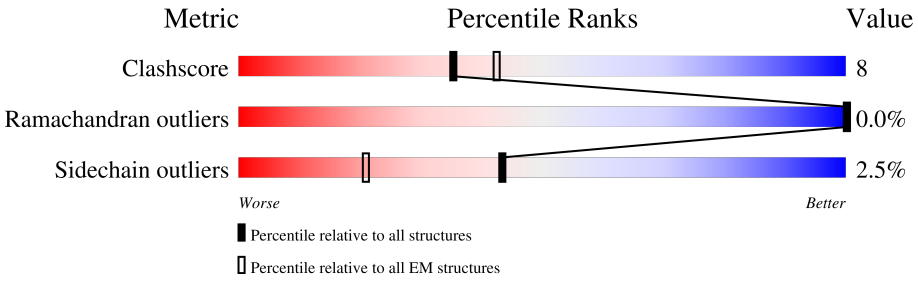
EMDB validation analysis	:	0.0.1.dev113
Mogul	:	2022.3.0, CSD as543be (2022)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.40

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 3.23 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% 68% 14% • 18%
1	B	5037	6% 66% 15% • 18%
1	C	5037	6% 68% 14% • 18%
1	D	5037	6% 67% 14% • 18%
2	E	107	• 79% 20% •
2	F	107	• 72% 28%
2	G	107	• 79% 21%
2	H	107	• 78% 22%

2 Entry composition

There are 6 unique types of molecules in this entry. The entry contains 129760 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	4155	Total	C	N	O	S	0	0
			31570	20075	5432	5865	198		
1	B	4155	Total	C	N	O	S	0	0
			31570	20075	5432	5865	198		
1	C	4155	Total	C	N	O	S	0	0
			31570	20075	5432	5865	198		
1	D	4155	Total	C	N	O	S	0	0
			31570	20075	5432	5865	198		

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	523	SER	TYR	engineered mutation	UNP P11716
B	523	SER	TYR	engineered mutation	UNP P11716
C	523	SER	TYR	engineered mutation	UNP P11716
D	523	SER	TYR	engineered mutation	UNP P11716

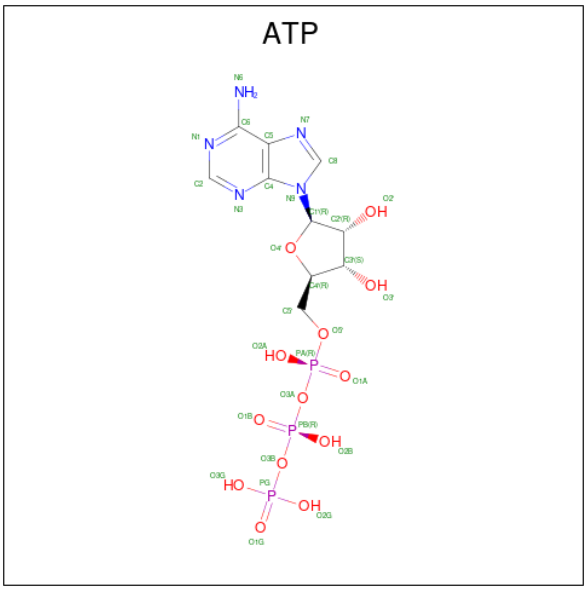
- Molecule 2 is a protein called Peptidyl-prolyl cis-trans isomerase FKBP1B.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	E	107	Total	C	N	O	S	0	0
			814	513	143	154	4		
2	F	107	Total	C	N	O	S	0	0
			814	513	143	154	4		
2	G	107	Total	C	N	O	S	0	0
			814	513	143	154	4		
2	H	107	Total	C	N	O	S	0	0
			814	513	143	154	4		

- Molecule 3 is ZINC ION (three-letter code: ZN) (formula: Zn) (labeled as "Ligand of Interest" by depositor).

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

- Molecule 4 is ADENOSINE-5'-TRIPHOSPHATE (three-letter code: ATP) (formula: $C_{10}H_{16}N_5O_{13}P_3$) (labeled as "Ligand of Interest" by depositor).



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

- Molecule 5 is CALCIUM ION (three-letter code: CA) (formula: Ca) (labeled as "Ligand of Interest" by depositor).

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

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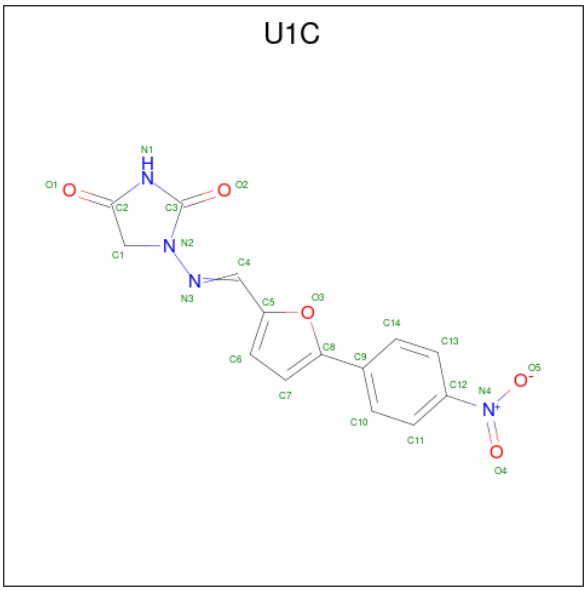
Mol	Chain	Residues	Atoms	AltConf
5	B	1	Total Ca 1 1	0
5	C	1	Total Ca 1 1	0
5	D	1	Total Ca 1 1	0

- Molecule 6 is Dantrolene (three-letter code: U1C) (formula: $C_{14}H_{10}N_4O_5$) (labeled as "Ligand of Interest" by depositor).



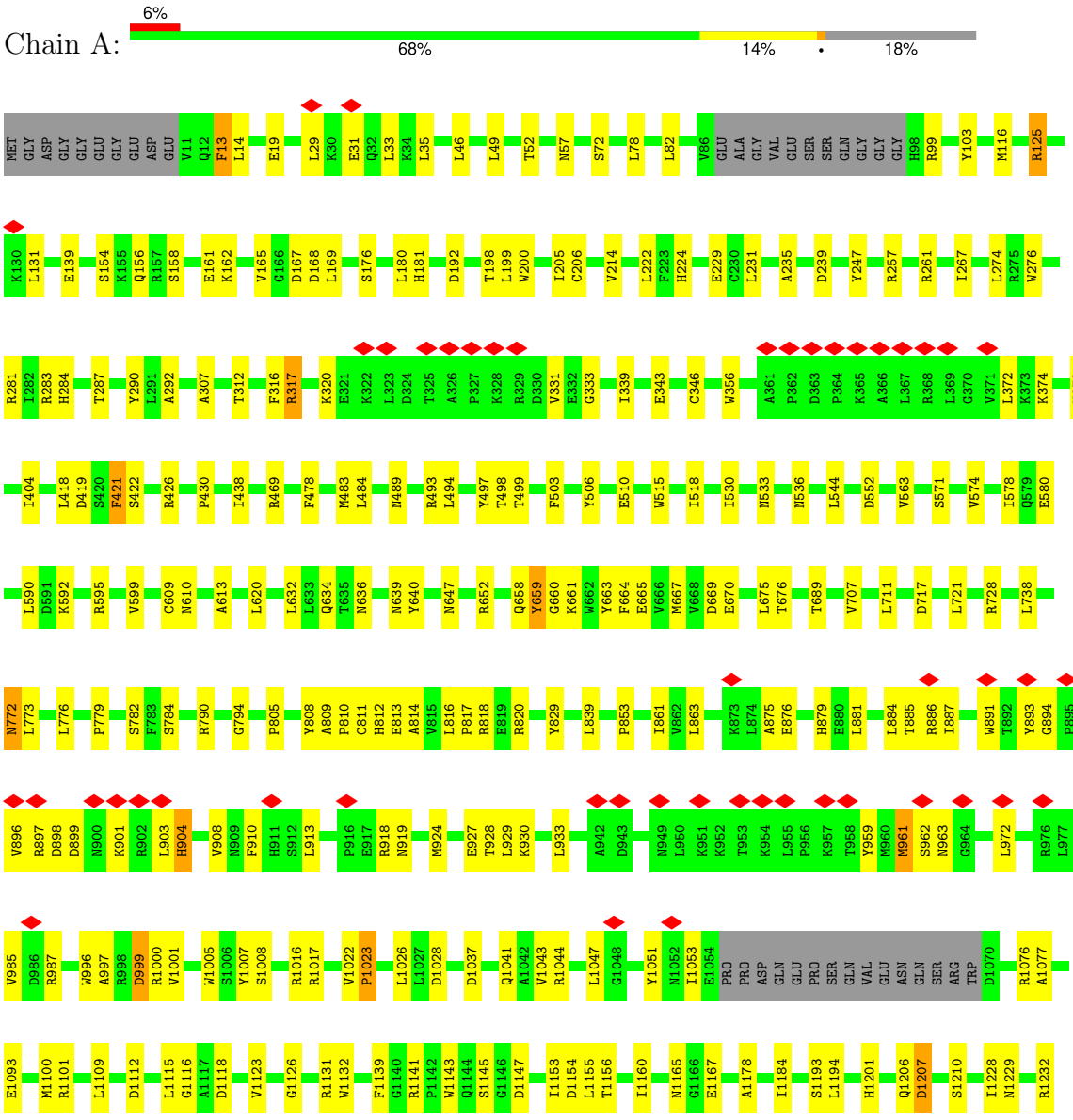
Mol	Chain	Residues	Atoms	AltConf
6	A	1	Total C N O 23 14 4 5	0
6	B	1	Total C N O 23 14 4 5	0
6	C	1	Total C N O 23 14 4 5	0
6	D	1	Total C N O 23 14 4 5	0

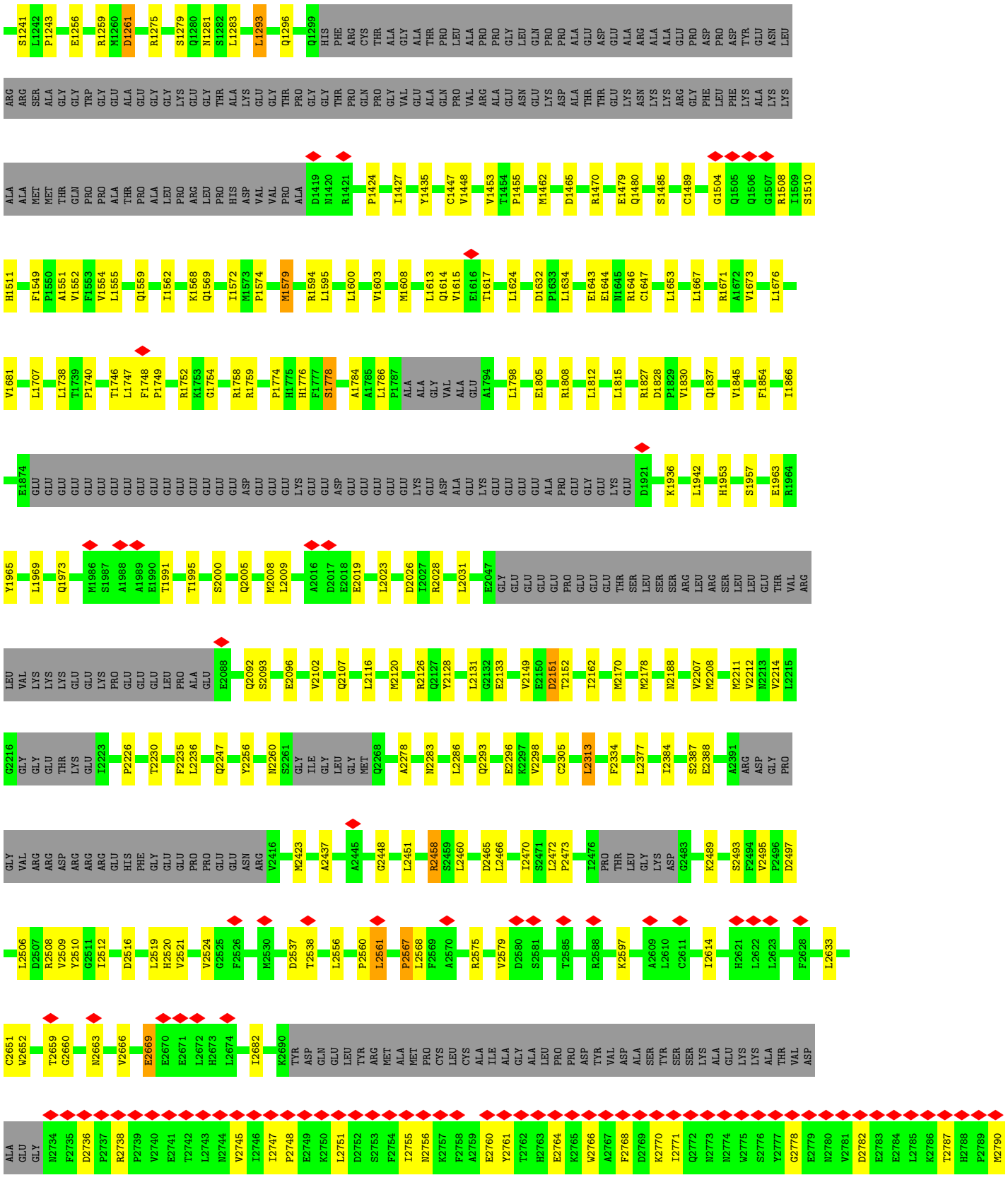
3 Residue-property plots (i)

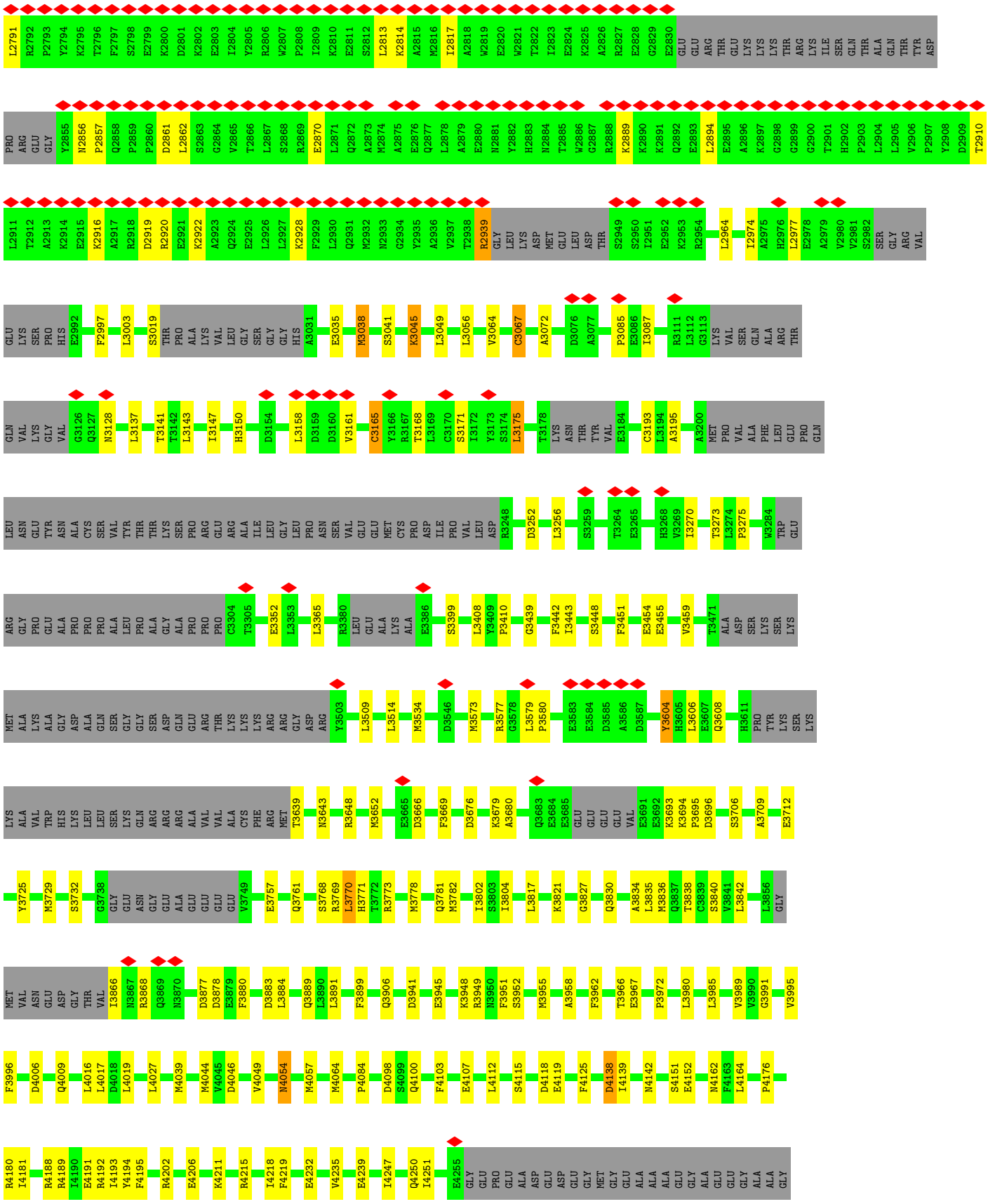
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

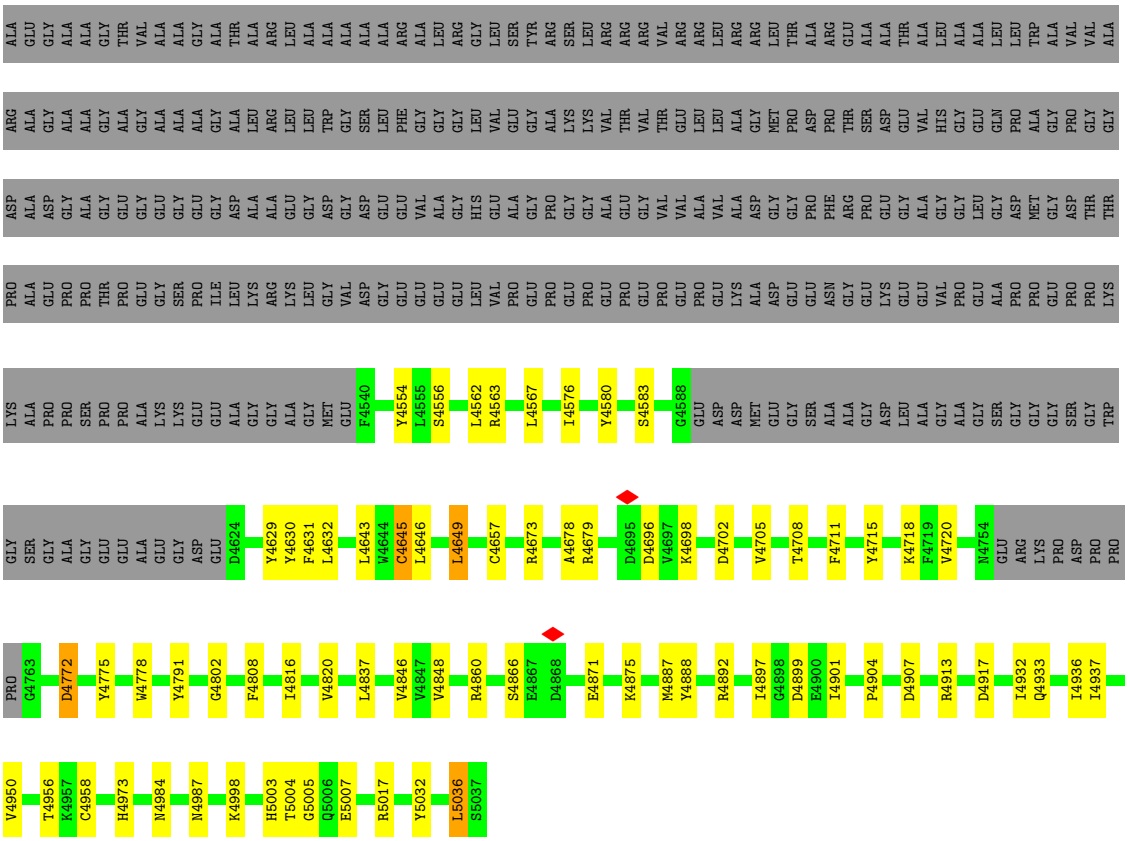
- Molecule 1: Ryanodine receptor 1

Chain A:



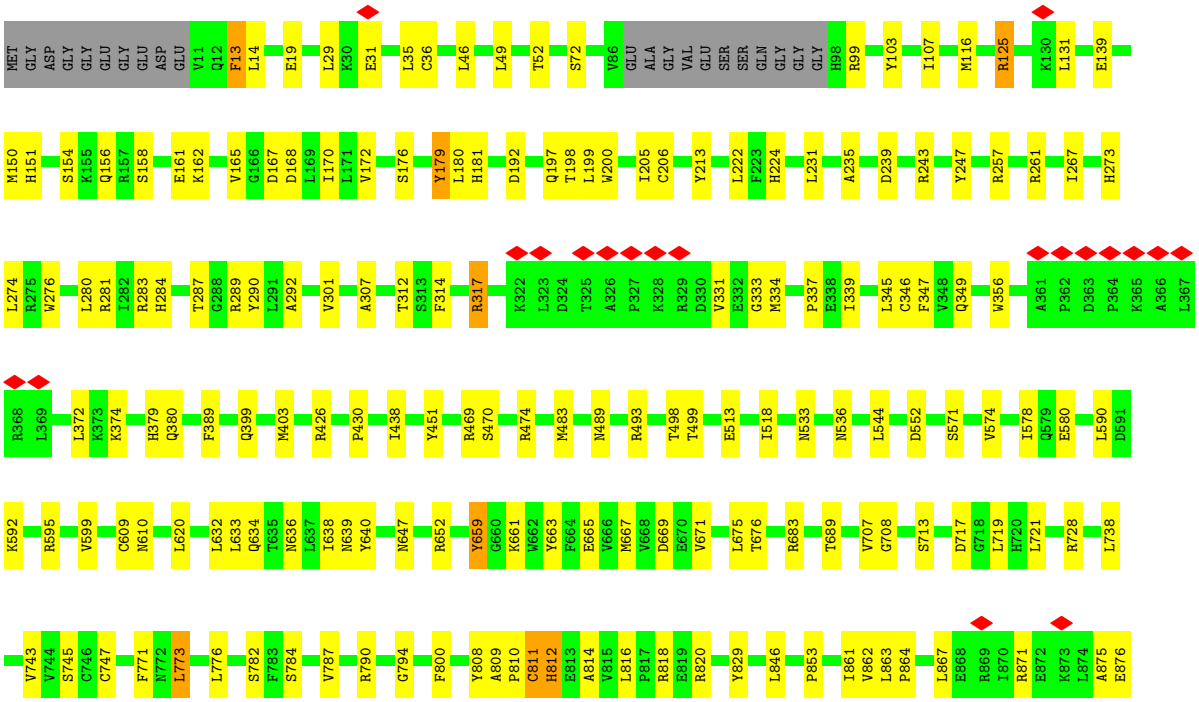

S1241 L1242 P1243 E1256 R1259 M1260 D1261 R1275 S1279 Q1280 N1281 S1282 L1283 L1293 Q1296 Q1299 HIS PHE ARG CYS THR ALA GLY ALA THR PRO LEU ALA PRO PRO GLY LEU GLN PRO PRO ALA GLU ASP GLU ALA ARG ALA ALA GLU PRO ASP PRO TYR GLU ASN LEU
ARG ARG SER ALA GLY GLY TRP GLY GLU ALA GLU GLY GLY LYS GLU GLY THR 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 PRO ALA LEU PRO ARG LEU PRO HIS ASP VAL VAL PRO ALA D1419 N1420 R1421 P1424 I1427 Y1435 C1447 V1448 V1453 T1454 P1455 M1462 D1465 R1470 E1479 Q1480 S1485 C1489 G1504 Q1505 Q1506 G1507 R1508 I1509 S1510
H1511 F1549 P1550 A1551 V1552 F1553 V1554 L1555 Q1559 I1562 K1568 Q1569 I1572 M1573 P1574 M1579 R1594 L1595 L1600 V1603 M1608 L1613 Q1614 V1615 E1616 T1617 L1624 D1632 P1633 L1634 E1643 E1644 N1645 R1646 C1647 L1653 L1667 R1671 A1672 V1673 L1676
V1681 L1707 L1738 T1739 P1740 T1746 L1747 F1748 P1749 R1752 K1753 G1754 R1758 R1759 P1774 H1775 H1776 F1777 S1778 A1784 A1785 L1786 P1787 ALA ALA GLY VAL ALA GLU A1794 L1798 E1805 R1808 L1812 L1815 R1827 D1828 P1829 V1830 Q1837 V1845 F1854 I1866
E1874 GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU ASP GLU GLU ASP GLU GLU GLU GLU LYS GLU ASP ALA GLU LYS GLU GLU GLU GLU GLU ALA PRO GLU GLY GLU LYS GLU D1921 K1936 L1942 H1953 S1957 E1963 R1964
Y1965 L1969 Q1973 M1986 S1987 A1988 A1989 E1990 T1991 T1995 S2000 Q2005 M2008 L2009 A2016 D2017 E2018 E2019 L2023 D2026 I2027 R2028 L2031 E2047 GLY 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 E2088 Q2092 S2093 E2096 V2102 Q2107 L2116 M2120 R2126 Q2127 Y2128 L2131 G2132 E2133 V2149 E2150 D2151 T2152 I2162 M2170 M2178 N2188 V2207 M2208 M2211 V2212 N2213 Y2214 L2215
G2216 GLY GLY GLU THR LYS GLU I2223 P2226 T2230 F2235 L2236 Q2247 Y2256 N2260 S2261 GLY ILE GLY LEU GLY MET Q2268 A2278 N2283 L2286 Q2293 E2296 K2297 V2298 C2305 L2313 F2334 L2377 I2384 S2387 E2388 A2391 ARG ASP GLY PRO
GLY VAL ARG ARG ASP ARG ARG ARG GLU HIS PHE GLY GLU GLU PRO PRO GLU GLU ASN ARG V2416 M2423 A2437 A2445 G2448 L2451 R2458 S2459 L2460 D2465 L2466 I2470 S2471 L2472 P2473 I2476 PRO THR LEU GLY LYS ASP G2483 K2489 S2493 F2494 V2495 P2496 D2497
L2506 D2507 R2508 V2509 Y2510 G2511 I2512 D2516 L2519 H2520 V2521 V2524 G2525 F2526 M2530 D2537 T2538 L2556 P2560 L2561 P2567 L2568 F2569 A2570 R2575 V2579 D2580 S2581 T2585 R2588 K2597 A2609 L2610 C2611 I2614 H2621 L2622 L2623 F2628 L2633
C2651 W2652 T2659 C2660 N2663 V2666 E2669 E2670 E2671 L2672 H2673 L2674 I2682 K2690 TYR ASP GLN GLU LEU TYR ARG MET ALA MET PRO CYS LEU 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 N2734 F2735 D2736 P2737 R2738 P2739 V2740 E2741 T2742 L2743 N2744 V2745 I2746 I2747 P2748 E2749 K2750 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

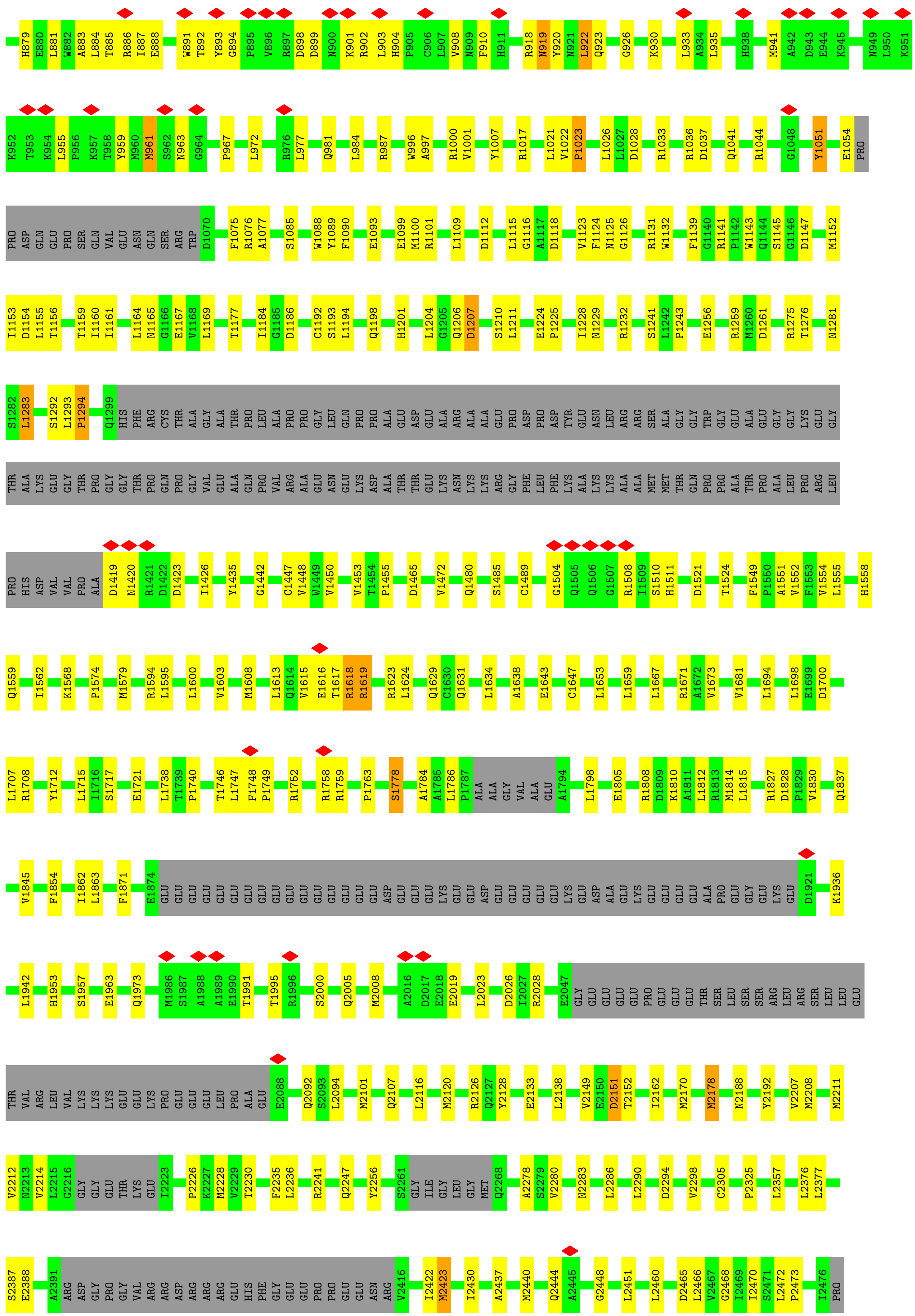

L2791 R2792 P2793 Y2794 K2795 T2796 F2797 S2798 E2799 K2800 D2801 K2802 E2803 I2804 Y2805 R2806 W2807 P2808 I2809 K2810 E2811 S2812 L2813 K2814 A2815 M2816 I2817 A2818 W2819 E2820 W2821 T2822 I2823 E2824 K2825 A2826 R2827 E2828 G2829 E2830 GLU GLU ARG THR GLU LYS LYS LYS THR ARG LYS ILE SER GLN THR ALA 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 LEU ASP THR S2949 S2950 I2951 E2952 K2953 R2954 L2964 I2974 A2975 H2976 L2977 E2978 A2979 V2980 V2981 S2982 SER GLY ARG VAL
GLU LYS SER PRO HIS E2992 F2997 L3003 S3019 THR PRO ALA LYS VAL LEU GLY SER GLY GLY HIS A3031 E3035 M3038 S3041 K3045 L3049 L3056 V3064 C3067 A3072 D3076 A3077 P3085 E3086 I3087 R3111 L3112 G3113 LYS VAL SER GLN ALA ARG THR
GLN VAL LYS GLY VAL G3126 Q3127 N3128 L3137 T3141 T3142 L3143 I3147 H3150 D3154 L3158 D3159 D3160 V3161 C3165 Y3166 R3167 T3168 L3169 C3170 S3171 I3172 Y3173 S3174 L3175 T3178 LYS ASN THR TYR VAL E3184 C3193 L3194 A3195 A3200 MET PRO VAL ALA PHE LEU GLU PRO GLN
LEU ASN GLU TYR ASN ALA CYS SER VAL TYR THR THR LYS SER PRO ARG GLU ARG ALA ILE LEU GLY LEU PRO ASN SER VAL GLU GLU MET CYS PRO ASP ILE PRO VAL LEU ASP R3248 D3252 L3256 S3259 T3264 E3265 H3268 V3269 I3270 T3273 L3274 P3275 W3284 TRP GLU
ARG GLY PRO GLU ALA PRO PRO PRO PRO ALA LEU PRO PRO ALA GLY ALA PRO PRO PRO C3304 T3305 E3352 L3353 L3365 R3380 LEU GLU ALA LYS ALA E3386 S3399 L3408 Y3409 P3410 G3439 F3442 I3443 S3448 F3451 E3454 E3455 V3459 T3471 ALA ASP SER LYS SER LYS
MET ALA LYS ALA GLY ASP ALA GLN SER GLY GLY GLY SER ASP GLN GLU ARG THR LYS LYS ARG ARG GLY ASP ARG Y3503 L3509 L3514 M3534 D3546 M3573 R3577 G3578 L3579 P3580 E3583 E3584 D3585 A3586 D3587 Y3604 H3605 L3606 E3607 Q3608 H3611 PRO TYR LYS SER LYS
LYS ALA VAL TRP HIS LYS LEU LEU SER LYS GLN ARG ARG ARG ALA VAL VAL ALA CYS PHE ARG MET T3639 N3643 R3648 M3652 E3665 D3666 F3669 D3676 K3679 A3680 Q3683 E3684 E3685 GLU GLU GLU GLU VAL E3691 E3692 K3693 K3694 P3695 D3696 S3706 A3709 E3712
Y3725 M3729 S3732 G3738 GLY GLU ASN GLY GLU ALA GLU GLU GLU GLU V3749 E3757 Q3761 S3768 R3769 L3770 H3771 T3772 R3773 M3778 Q3781 M3782 I3802 S3803 I3804 L3817 K3821 G3827 Q3830 A3834 L3835 M3836 Q3837 T3838 C3839 S3840 V3841 L3842 L3856 GLY
MET VAL ASN GLU ASP GLY THR VAL I3866 N3867 R3868 Q3869 N3870 D3877 D3878 E3879 F3880 D3883 L3884 Q3889 L3890 L3891 F3899 Q3906 D3941 E3945 K3948 R3949 N3950 F3951 S3952 M3955 A3958 F3962 T3966 E3967 P3972 L3980 L3985 V3989 V3990 G3991 V3995
F3996 D4006 Q4009 L4016 L4017 D4018 L4019 L4027 M4039 M4044 V4045 D4046 V4049 N4054 M4057 M4064 P4084 D4098 S4099 Q4100 F4103 E4107 L4112 S4115 D4118 E4119 F4125 D4138 I4139 N4142 S4151 E4152 N4162 F4163 L4164 P4176
R4180 I4181 R4188 R4189 I4190 E4191 R4192 I4193 Y4194 F4195 R4202 E4206 K4211 R4215 I4218 F4219 E4232 V4235 E4239 I4247 Q4250 I4251 E4255 GLY GLU PRO GLU ALA ASP GLU ASP GLU GLY MET GLY GLU ALA ALA ALA GLU GLY ALA GLU GLU GLY ALA ALA GLY



• Molecule 1: Ryanodine receptor 1

Chain B:

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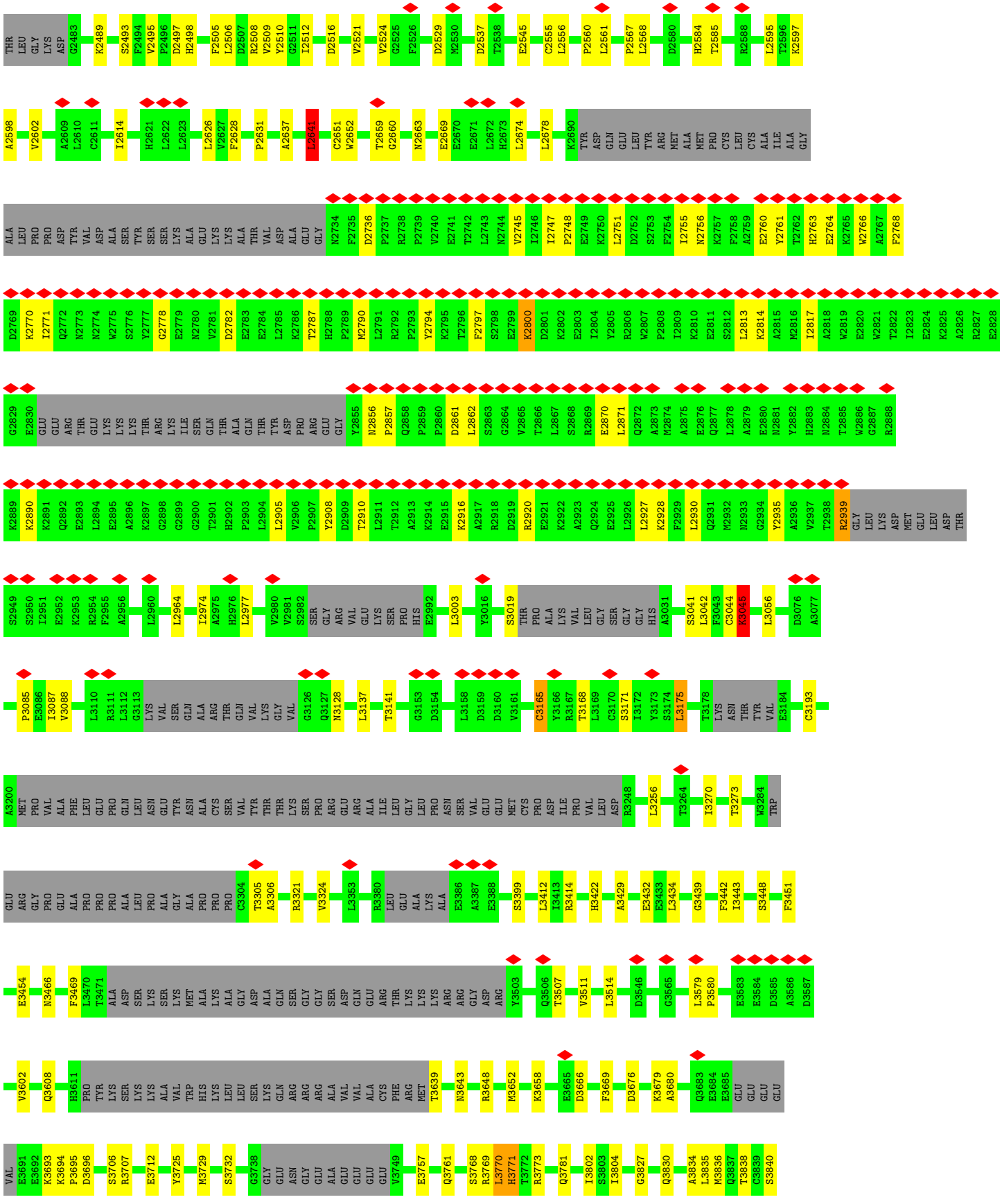
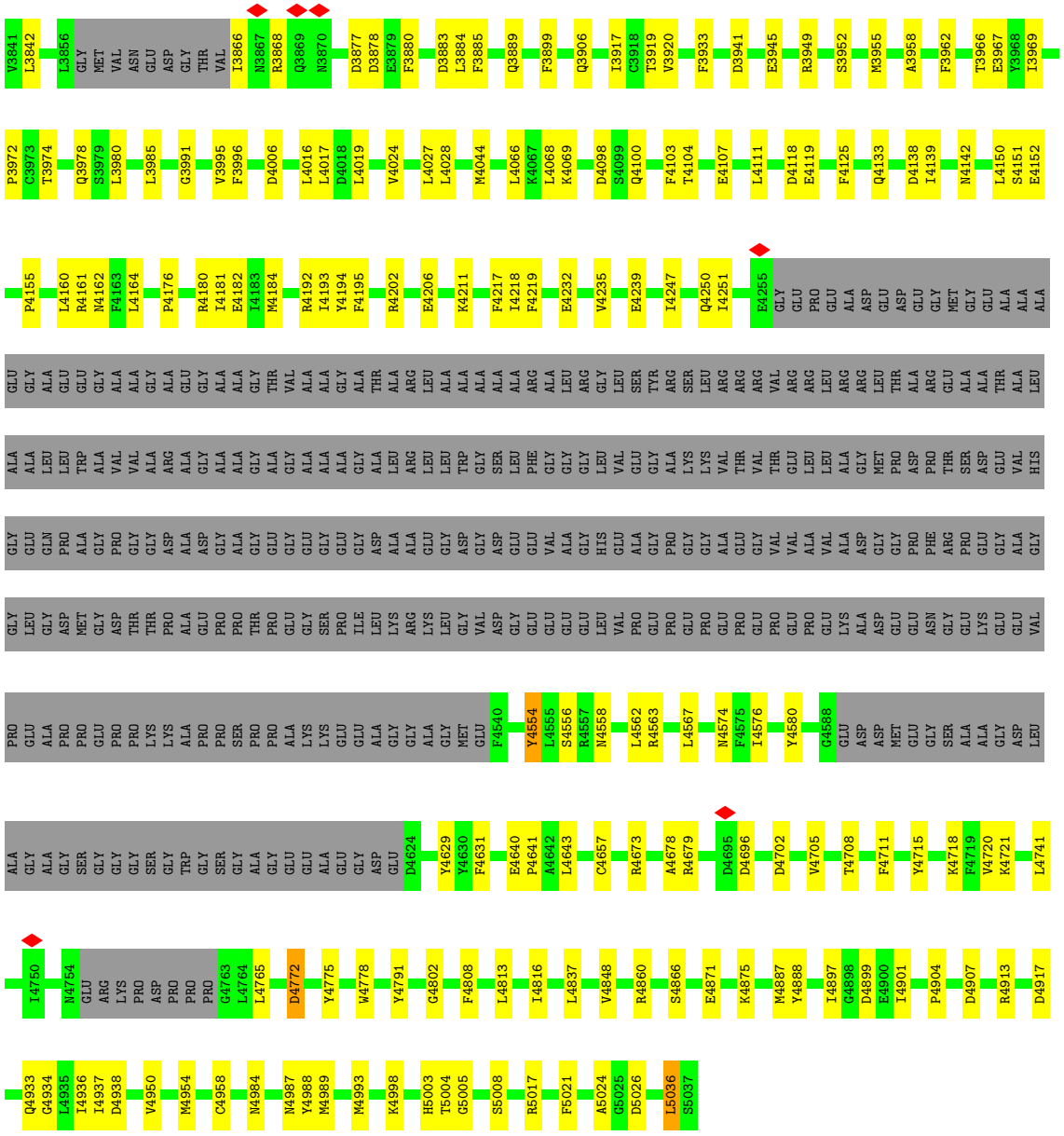
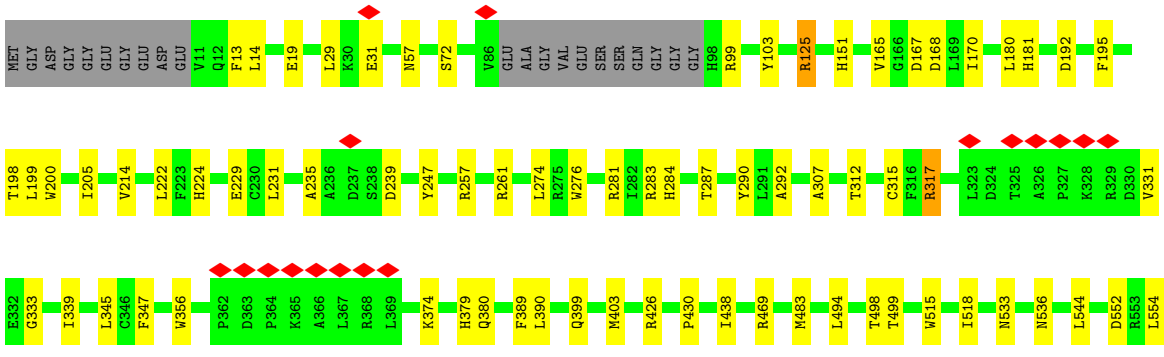
K952 T953 K954 L955 P956 K957 T958 Y959 M960 M961 S962 N963 G964 P967 L972 R976 L977 Q981 L984 R987 W996 A997 R1000 V1001 Y1007 R1017 L1021 V1022 P1023 L1026 L1027 D1028 R1033 R1036 D1037 Q1041 R1044 G1048 Y1051 E1054 PRO
PRO ASP GLN GLU PRO SER GLN VAL GLU ASN GLN SER ARG TRP D1070 F1075 R1076 A1077 S1085 W1088 Y1089 F1090 E1093 E1099 M1100 R1101 L1109 D1112 L1115 G1116 A1117 D1118 V1123 F1124 N1125 G1126 R1131 W1132 F1139 G1140 R1141 P1142 W1143 Q1144 S1145 G1146 D1147 M1152
I1153 D1154 L1155 T1156 T1159 I1160 I1161 L1164 N1165 G1166 E1167 V1168 L1169 T1177 I1184 G1185 D1186 C1192 S1193 L1194 Q1198 H1201 L1204 G1205 Q1206 D1207 S1210 L1211 E1224 P1225 I1228 N1229 R1232 S1241 L1242 P1243 E1256 R1259 M1260 D1261 R1275 T1276 N1281
S1282 L1283 S1292 L1293 P1294 Q1299 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 D1419 N1420 R1421 D1422 D1423 I1426 Y1435 G1442 C1447 V1448 W1449 V1450 V1453 T1454 P1455 D1465 V1472 Q1480 S1485 C1489 G1504 Q1505 Q1506 G1507 R1508 I1509 S1510 H1511 D1521 T1524 F1549 P1550 A1551 V1552 F1553 V1554 L1555 H1558
Q1559 I1562 K1568 P1574 M1579 R1594 L1595 L1600 V1603 M1608 L1613 Q1614 V1615 E1616 T1617 R1618 R1619 R1623 L1624 Q1629 C1630 Q1631 L1634 A1638 E1643 C1647 L1653 L1659 L1667 R1671 A1672 V1673 V1681 L1694 L1698 E1699 D1700
L1707 R1708 Y1712 L1715 I1716 S1717 E1721 L1738 T1739 P1740 T1746 L1747 F1748 P1749 R1752 R1758 R1759 P1763 S1778 A1784 A1785 L1786 P1787 ALA ALA GLY VAL ALA GLU A1794 L1798 E1805 R1808 D1809 K1810 A1811 L1812 R1813 M1814 L1815 R1827 D1828 P1829 V1830 Q1837
V1845 F1854 I1862 L1863 F1871 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 D1921 K1936
L1942 H1953 S1957 E1963 Q1973 M1986 S1987 A1988 A1989 E1990 T1991 T1995 R1996 S2000 Q2005 M2008 A2016 D2017 E2018 E2019 L2023 D2026 I2027 R2028 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 E2088 Q2092 S2093 L2094 M2101 Q2107 L2116 M2120 R2126 Q2127 Y2128 E2133 L2138 V2149 E2150 D2151 T2152 I2162 M2170 M2178 N2188 Y2192 V2207 M2208 M2211
V2212 N2213 V2214 L2215 G2216 GLY GLY GLU THR LYS GLU I2223 P2226 K2227 M2228 V2229 T2230 F2235 L2236 R2241 Q2247 Y2256 S2261 GLY ILE GLY LEU GLY MET Q2268 A2278 S2279 V2280 N2283 L2286 L2290 D2294 V2298 C2305 P2325 L2357 L2376 L2377
S2387 E2388 A2391 ARG ASP GLY PRO GLY VAL ARG ARG ASP ARG ARG ARG GLU HIS PHE GLY GLU GLU PRO PRO GLU GLU ASN ARG V2416 I2422 M2423 I2430 A2437 M2440 Q2444 A2445 G2448 L2451 L2460 D2465 L2466 V2467 G2468 I2469 I2470 S2471 L2472 P2473 I2476 PRO

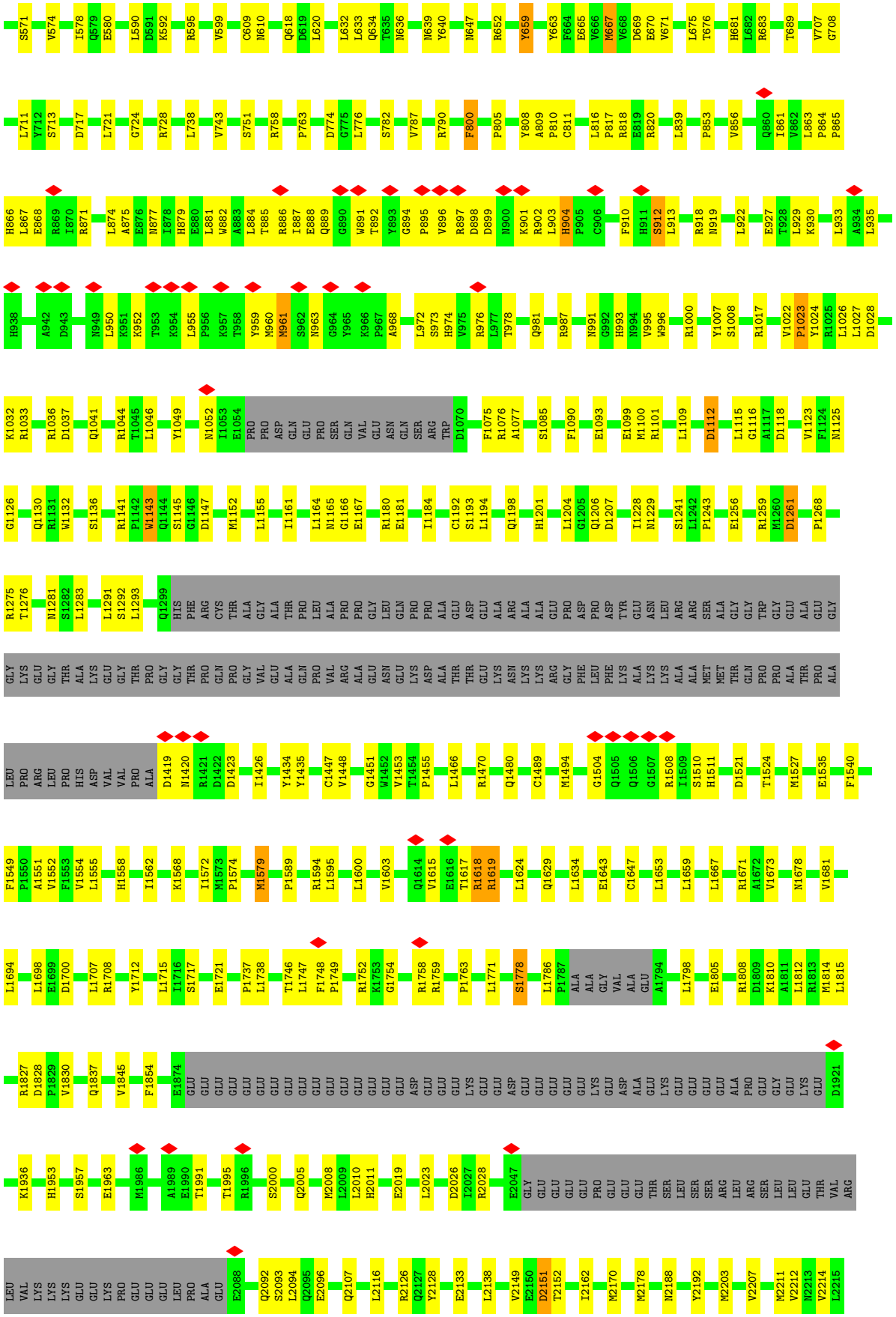




• Molecule 1: Ryanodine receptor 1

Chain C:

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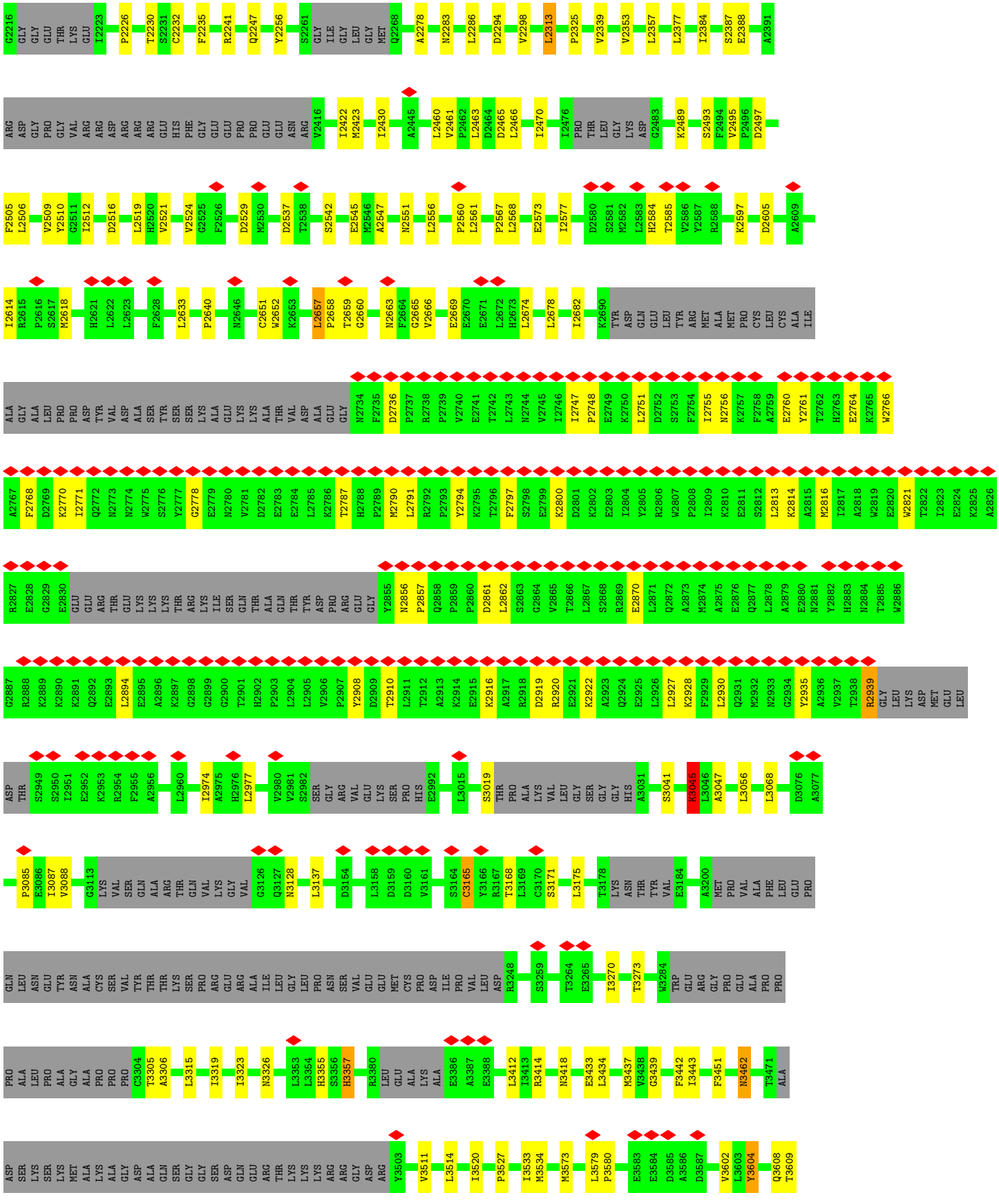
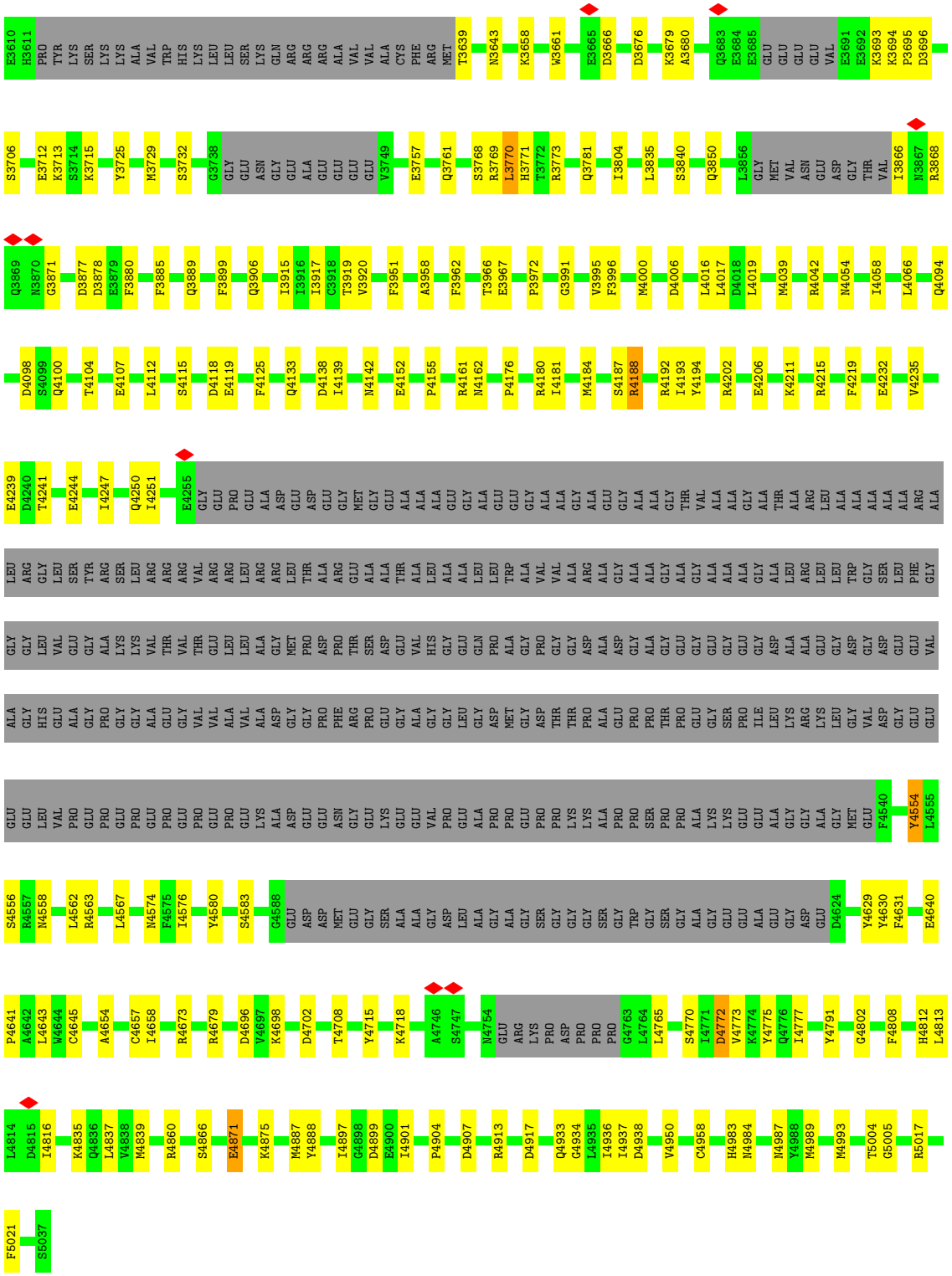
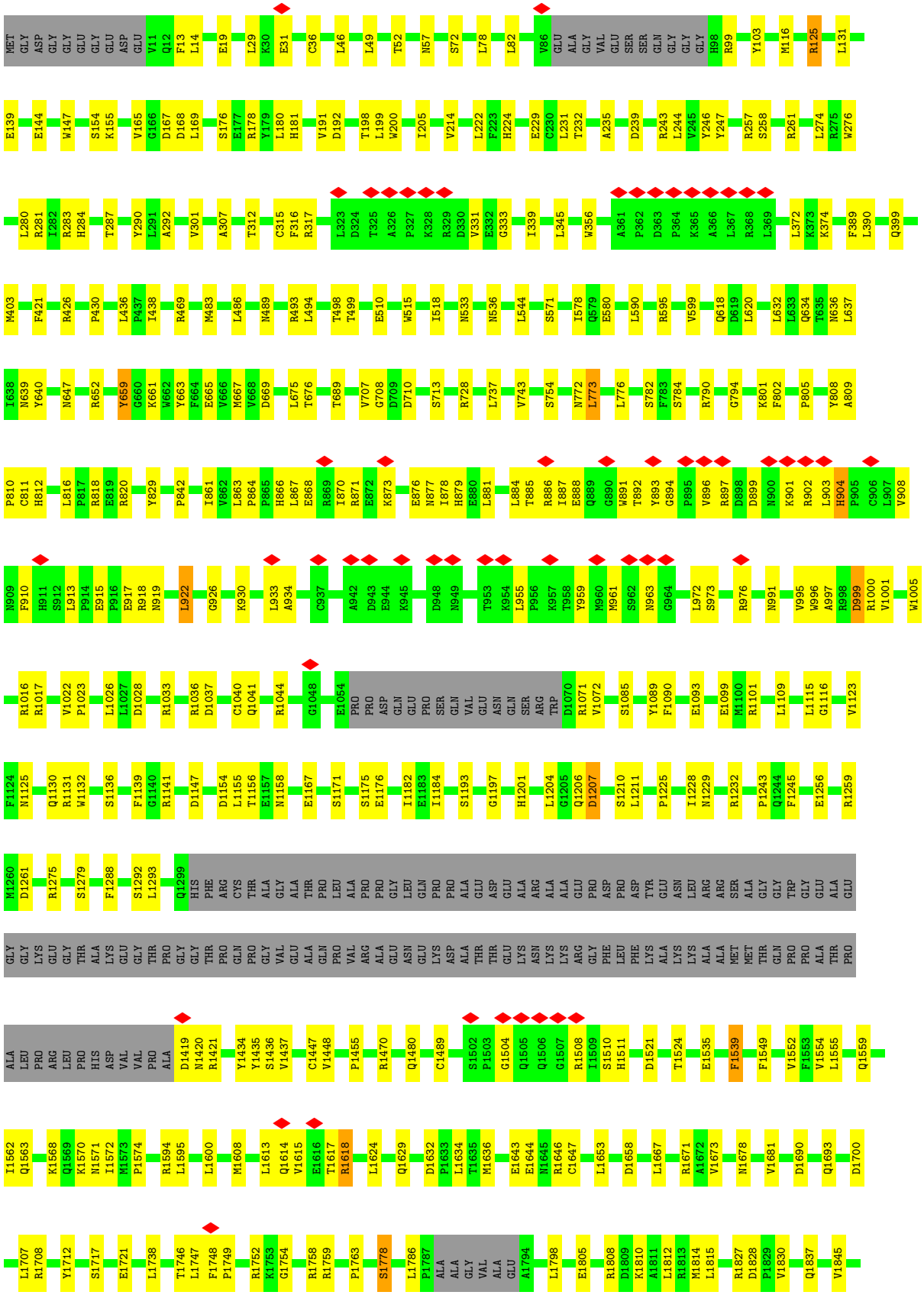
L711 Y712 S713 D717 L721 G724 R728 L738 V743 S751 R758 P763 D774 G775 L776 S782 V787 R790 F800 P805 Y808 A809 P810 C811 L816 P817 R818 E819 R820 L839 P853 V856 Q860 I861 V862 L863 P864 P865
H866 L867 E868 R869 I870 R871 L874 A875 E876 N877 I878 H879 E880 L881 W882 A883 L884 T885 R886 I887 E888 Q889 G890 W891 T892 Y893 G894 P895 V896 R897 D898 D899 N900 K901 R902 L903 H904 P905 C906 F910 H911 S912 L913 R918 N919 L922 E927 T928 L929 K930 L933 A934 L935
H938 A942 D943 N949 L950 K951 K952 T953 K954 L955 P956 K957 T958 Y959 M960 M961 S962 N963 G964 Y965 K966 P967 A968 L972 S973 H974 V975 R976 L977 T978 Q981 R987 N991 G992 H993 N994 V995 W996 R1000 Y1007 S1008 R1017 V1022 P1023 Y1024 R1025 L1026 L1027 D1028
K1032 R1033 R1036 D1037 Q1041 R1044 T1045 L1046 Y1049 N1052 I1053 E1054 PRO PRO ASP GLN GLU PRO SER GLN VAL GLU ASN GLN SER ARG TRP D1070 F1075 R1076 A1077 S1085 F1090 E1093 E1099 M1100 R1101 L1109 D1112 L1115 G1116 A1117 D1118 V1123 F1124 N1125
G1126 Q1130 R1131 W1132 S1136 R1141 P1142 W1143 Q1144 S1145 G1146 D1147 M1152 L1155 I1161 L1164 N1165 G1166 E1167 R1180 E1181 I1184 C1192 S1193 L1194 Q1198 H1201 L1204 G1205 Q1206 D1207 I1228 N1229 S1241 L1242 P1243 E1256 R1259 M1260 D1261 P1268
R1275 T1276 N1281 S1282 L1283 L1291 S1292 L1293 Q1299 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 PRO 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 D1419 N1420 R1421 D1422 D1423 I1426 Y1434 Y1435 C1447 V1448 G1451 W1452 V1453 T1454 P1455 L1466 R1470 Q1480 C1489 M1494 G1504 Q1505 Q1506 G1507 R1508 I1509 S1510 H1511 D1521 T1524 M1527 E1535 F1540
F1549 P1550 A1551 V1552 F1553 V1554 L1555 H1558 I1562 K1568 I1572 M1573 P1574 M1579 P1589 R1594 L1595 L1600 V1603 Q1614 V1615 E1616 T1617 R1618 R1619 L1624 Q1629 L1634 E1643 C1647 L1653 L1659 L1667 R1671 A1672 V1673 N1678 V1681
L1694 L1698 E1699 D1700 L1707 R1708 Y1712 L1715 I1716 S1717 E1721 P1737 L1738 T1746 L1747 F1748 P1749 R1752 K1753 G1754 R1758 R1759 P1763 L1771 S1778 L1786 P1787 ALA ALA GLY VAL ALA GLU A1794 L1798 E1805 R1808 D1809 K1810 A1811 L1812 R1813 M1814 L1815
R1827 D1828 P1829 V1830 Q1837 V1845 F1854 E1874 GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU ASP GLU GLU GLU LYS GLU 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 D1921
K1936 H1953 S1957 E1963 M1986 A1989 E1990 T1991 T1995 R1996 S2000 Q2005 M2008 L2009 L2010 H2011 E2019 L2023 D2026 T2027 R2028 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 E2088 Q2092 S2093 L2094 Q2095 E2096 Q2107 L2116 R2126 Q2127 Y2128 E2133 L2138 V2149 E2150 D2151 T2152 I2162 M2170 M2178 N2188 Y2192 M2203 V2207 M2211 V2212 N2213 V2214 L2215





• Molecule 1: Ryanodine receptor 1

Chain D: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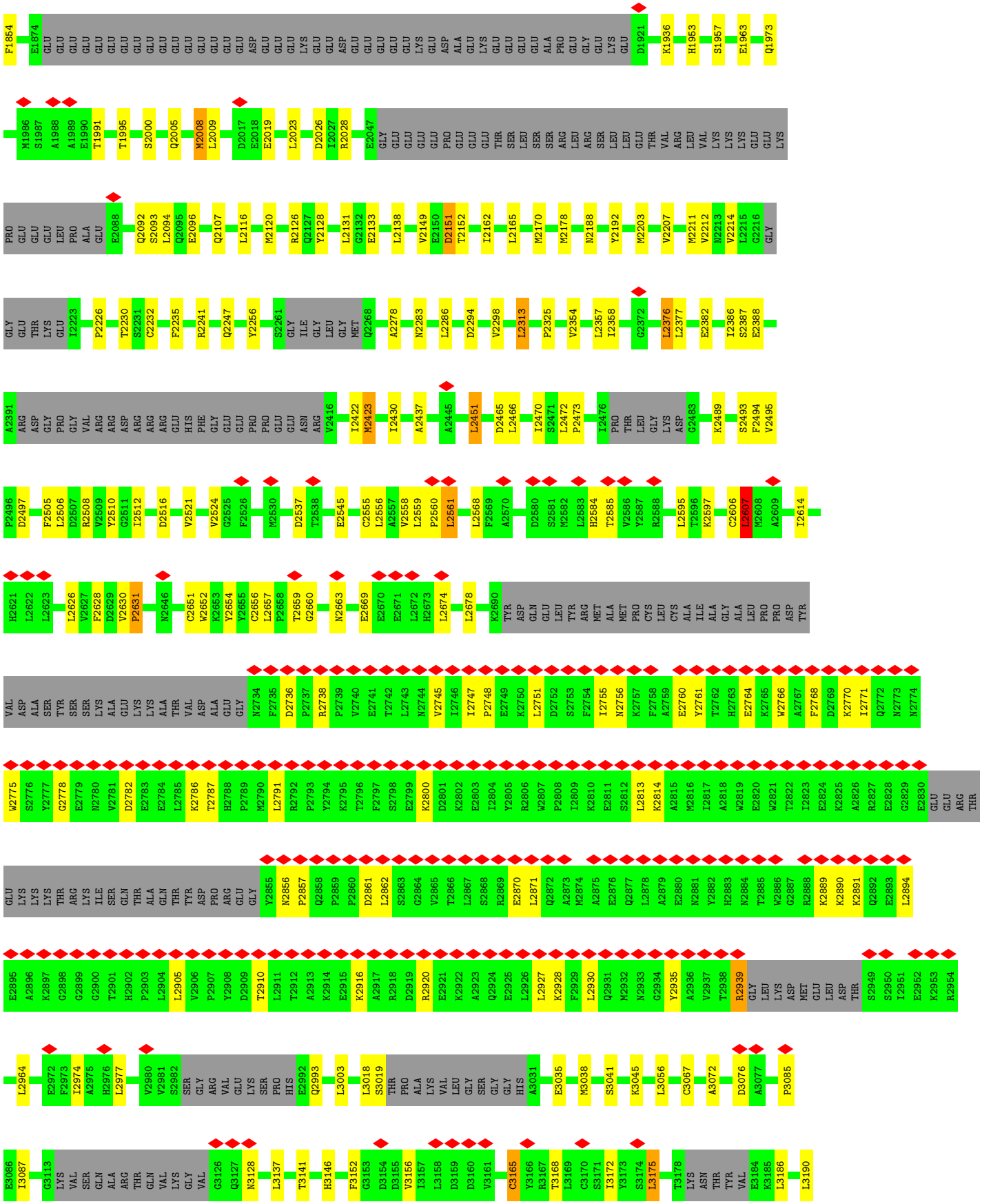
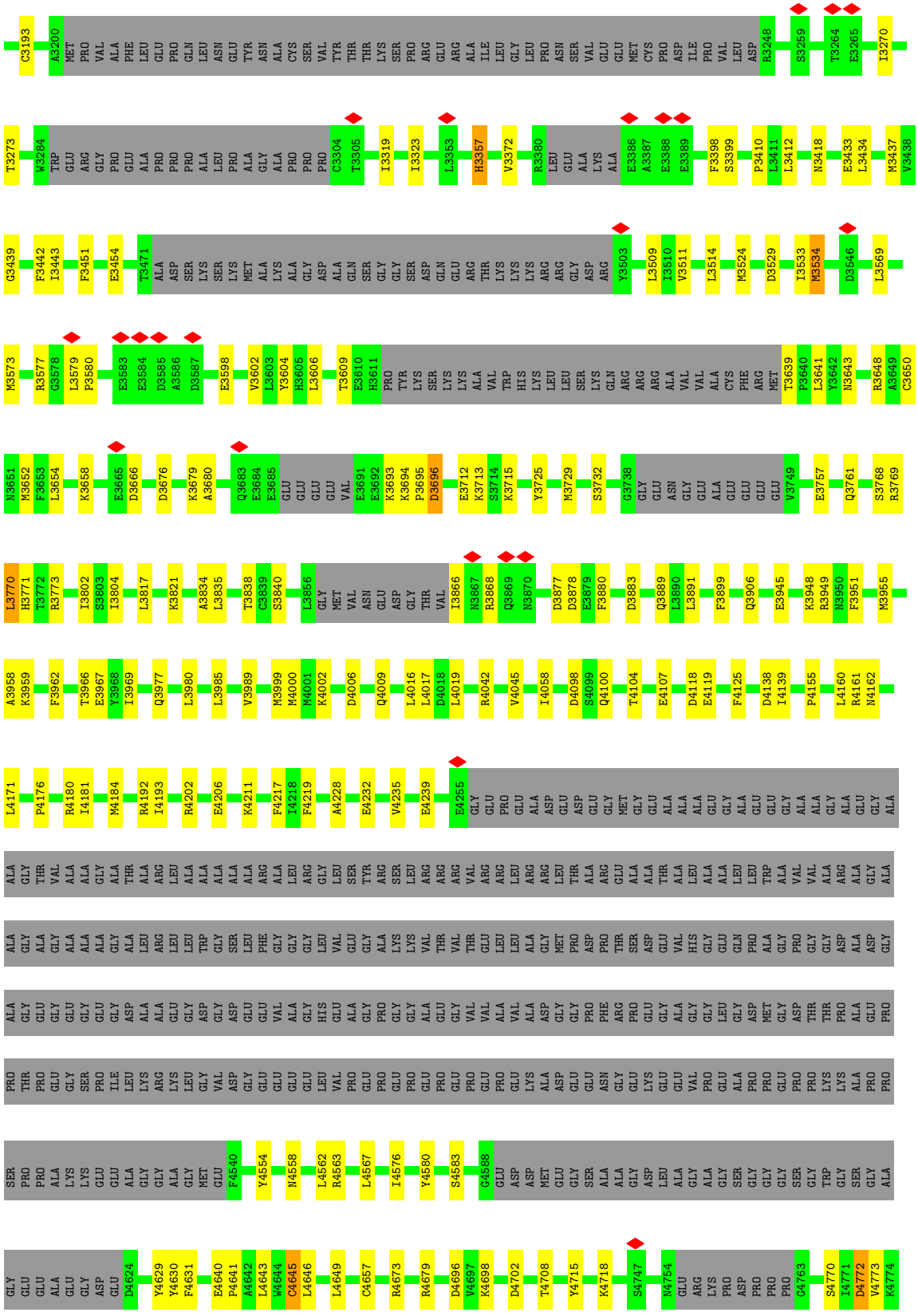
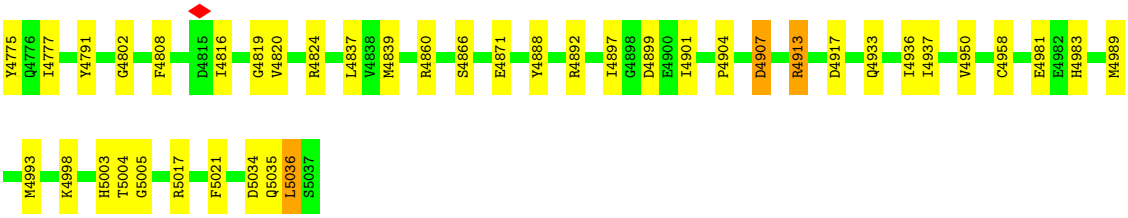
E139 E144 W147 S154 K155 V165 G166 D167 D168 L169 S176 E177 R178 Y179 L180 H181 V191 D192 T198 L199 W200 I205 V214 L222 F223 H224 E229 C230 L231 T232 A235 D239 R243 L244 V245 Y246 Y247 R257 S258 R261 L274 R275 W276
L280 R281 I282 R283 H284 T287 Y290 L291 A292 V301 A307 T312 C315 F316 R317 L323 D324 T325 A326 P327 K328 R329 D330 V331 E332 G333 I339 L345 W356 A361 P362 D363 P364 K365 A366 L367 R368 L369 L372 K373 K374 F389 L390 Q399
M403 F421 R426 P430 L436 P437 I438 R469 M483 L486 N489 R493 L494 T498 T499 E510 W515 I518 N533 N536 L544 S571 I578 Q579 E580 L590 R595 V599 Q618 D619 L620 L632 L633 Q634 Y635 N636 L637
I638 N639 Y640 N647 R652 Y659 G660 K661 W662 Y663 F664 E665 V666 M667 V668 D669 L675 T676 T689 V707 G708 D709 D710 S713 R728 L737 V743 S754 N772 L773 L776 S782 F783 S784 R790 G794 K801 F802 P805 Y808 A809
P810 C811 H812 L816 P817 R818 E819 R820 Y829 P842 I861 V862 L863 P864 P865 H866 L867 E868 R869 I870 R871 E872 K873 E876 N877 I878 H879 E880 L881 L884 T885 R886 I887 E888 Q889 G890 W891 T892 Y893 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 L922 G926 K930 L933 A934 C937 A942 D943 E944 K945 D948 N949 T953 K954 L955 P956 K957 T958 Y959 M960 W961 S962 N963 G964 L972 S973 R976 N991 V995 W996 A997 R998 D999 R1000 V1001 W1005
R1016 R1017 V1022 P1023 L1026 L1027 D1028 R1033 R1036 D1037 C1040 Q1041 R1044 G1048 E1054 PRO PRO ASP GLN GLU PRO SER GLN VAL GLU ASN GLN SER ARG TRP D1070 R1071 V1072 S1085 Y1089 F1090 E1093 E1099 M1100 R1101 L1109 L1115 G1116 V1123
F1124 N1125 Q1130 R1131 W1132 S1136 F1139 G1140 R1141 D1147 D1154 L1155 T1156 E1157 N1158 E1167 S1171 S1175 E1176 I1182 E1183 I1184 S1193 G1197 H1201 L1204 G1205 Q1206 D1207 S1210 L1211 P1225 I1228 N1229 R1232 P1243 Q1244 F1245 E1256 R1259
M1260 D1261 R1275 S1279 F1288 S1292 L1293 Q1299 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 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 D1419 N1420 R1421 Y1434 Y1435 S1436 V1437 C1447 V1448 P1455 R1470 Q1480 C1489 S1502 P1503 G1504 Q1505 Q1506 G1507 R1508 I1509 S1510 H1511 D1521 T1524 E1535 F1539 F1549 V1552 F1553 V1554 L1555 Q1559
I1562 Q1563 K1568 Q1569 K1570 N1571 I1572 M1573 P1574 R1594 L1595 L1600 M1608 L1613 Q1614 V1615 E1616 T1617 R1618 L1624 Q1629 D1632 P1633 L1634 T1635 M1636 E1643 E1644 N1645 R1646 C1647 L1653 D1658 L1667 R1671 A1672 V1673 N1678 V1681 D1690 Q1693 D1700
L1707 R1708 Y1712 S1717 E1721 L1738 T1746 L1747 F1748 P1749 R1752 K1753 G1754 R1758 R1759 P1763 S1778 L1786 P1787 ALA ALA GLY VAL ALA GLU A1794 L1798 E1805 R1808 D1809 K1810 A1811 L1812 R1813 M1814 L1815 R1827 D1828 P1829 V1830 Q1837 V1845

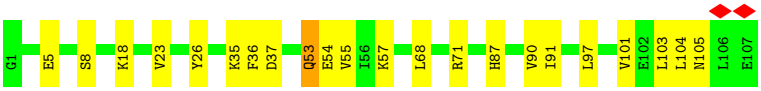






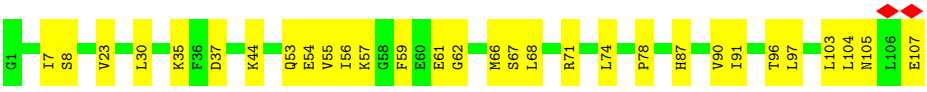
• Molecule 2: Peptidyl-prolyl cis-trans isomerase FKBP1B

Chain E:



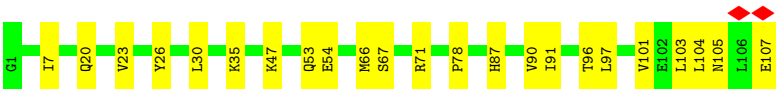
• Molecule 2: Peptidyl-prolyl cis-trans isomerase FKBP1B

Chain F:



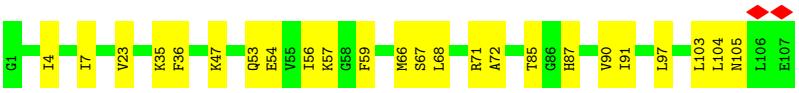
• Molecule 2: Peptidyl-prolyl cis-trans isomerase FKBP1B

Chain G:



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

Chain H:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C4	Depositor
Number of particles used	189847	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	50	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2600	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	4.512	Depositor
Minimum map value	0.000	Depositor
Average map value	0.011	Depositor
Map value standard deviation	0.088	Depositor
Recommended contour level	0.307	Depositor
Map size (Å)	501.12003, 501.12003, 501.12003	wwPDB
Map dimensions	464, 464, 464	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.08, 1.08, 1.08	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: ZN, U1C, ATP, 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	0.24	0/32230	0.48	5/43818 (0.0%)
1	B	0.25	1/32230 (0.0%)	0.49	8/43818 (0.0%)
1	C	0.31	3/32230 (0.0%)	0.50	6/43818 (0.0%)
1	D	0.24	0/32230	0.48	5/43818 (0.0%)
2	E	0.26	0/830	0.55	0/1119
2	F	0.26	0/830	0.58	0/1119
2	G	0.26	0/830	0.55	0/1119
2	H	0.26	0/830	0.54	0/1119
All	All	0.26	4/132240 (0.0%)	0.49	24/179748 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	1
1	C	0	1
All	All	0	2

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	C	2640	PRO	CG-CD	-31.74	0.45	1.50
1	B	1294	PRO	N-CD	-8.30	1.36	1.47
1	C	2640	PRO	CB-CG	7.17	1.85	1.50
1	C	2640	PRO	N-CD	6.86	1.57	1.47

All (24) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	C	2640	PRO	N-CD-CG	-30.79	57.02	103.20
1	B	1294	PRO	CA-N-CD	-17.86	86.49	111.50
1	C	2640	PRO	CA-CB-CG	-11.91	81.37	104.00
1	C	2640	PRO	CA-N-CD	-7.97	100.34	111.50
1	C	2640	PRO	N-CA-CB	-7.32	94.52	103.30
1	A	4084	PRO	CA-N-CD	-7.18	101.44	111.50
1	B	1293	LEU	C-N-CD	7.12	143.34	128.40
1	A	4649	LEU	CA-CB-CG	7.08	131.57	115.30
1	D	922	LEU	CA-CB-CG	7.00	131.40	115.30
1	D	2631	PRO	CA-N-CD	-6.93	101.80	111.50
1	D	4907	ASP	CB-CG-OD1	6.78	124.40	118.30
1	B	1294	PRO	CB-CG-CD	-6.43	81.42	106.50
1	B	1294	PRO	N-CD-CG	6.31	112.66	103.20
1	B	922	LEU	CA-CB-CG	6.24	129.65	115.30
1	B	3045	LYS	CA-CB-CG	5.95	126.48	113.40
1	A	2894	LEU	CA-CB-CG	5.94	128.96	115.30
1	C	2894	LEU	CA-CB-CG	5.87	128.80	115.30
1	A	1293	LEU	CA-CB-CG	5.75	128.52	115.30
1	A	2567	PRO	CA-N-CD	-5.71	103.51	111.50
1	B	1293	LEU	CA-CB-CG	5.45	127.84	115.30
1	C	3045	LYS	CA-CB-CG	5.42	125.32	113.40
1	B	2641	LEU	CA-CB-CG	5.36	127.62	115.30
1	D	2607	LEU	CA-CB-CG	5.08	126.99	115.30
1	D	4649	LEU	CA-CB-CG	5.02	126.84	115.30

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	658	GLN	Peptide
1	C	4871	GLU	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	31570	0	30212	463	0
1	B	31570	0	30212	490	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	C	31570	0	30212	462	0
1	D	31570	0	30212	474	0
2	E	814	0	813	14	0
2	F	814	0	813	24	0
2	G	814	0	813	22	0
2	H	814	0	813	18	0
3	A	1	0	0	0	0
3	B	1	0	0	0	0
3	C	1	0	0	0	0
3	D	1	0	0	0	0
4	A	31	0	12	1	0
4	B	31	0	12	2	0
4	C	31	0	12	3	0
4	D	31	0	12	2	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	23	0	0	0	0
6	B	23	0	0	0	0
6	C	23	0	0	0	0
6	D	23	0	0	0	0
All	All	129760	0	124148	1943	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 8.

All (1943) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:711:LEU:HD22	1:A:1470:ARG:HB3	1.59	0.85
2:G:90:VAL:HG12	2:G:91:ILE:HD12	1.60	0.81
1:B:3836:MET:HG3	1:B:3884:LEU:HD21	1.64	0.80
1:D:3694:LYS:HD3	1:D:3695:PRO:HD2	1.63	0.80
2:G:23:VAL:H	2:G:105:ASN:HB2	1.47	0.79
1:B:3694:LYS:HD3	1:B:3695:PRO:HD2	1.65	0.78
1:B:4837:LEU:HD11	1:B:4936:ILE:HD11	1.65	0.78
1:D:4904:PRO:HB3	1:D:4913:ARG:HD3	1.66	0.77
2:H:90:VAL:HG12	2:H:91:ILE:HD12	1.67	0.77
1:B:3889:GLN:HG3	1:B:3967:GLU:HG3	1.67	0.76
1:A:3889:GLN:HG3	1:A:3967:GLU:HG3	1.67	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:3889:GLN:HG3	1:C:3967:GLU:HG3	1.67	0.76
1:D:3889:GLN:HG3	1:D:3967:GLU:HG3	1.66	0.76
1:C:4180:ARG:HD3	1:C:4192:ARG:HH21	1.51	0.76
1:D:4180:ARG:HD3	1:D:4192:ARG:HH21	1.51	0.76
1:B:1089:TYR:HD1	1:B:1152:MET:HG2	1.50	0.75
1:B:4180:ARG:HD3	1:B:4192:ARG:HH21	1.51	0.75
1:C:498:THR:HG23	1:C:499:THR:HG23	1.69	0.75
1:A:4180:ARG:HD3	1:A:4192:ARG:HH21	1.53	0.74
1:D:886:ARG:HB3	1:D:891:TRP:HD1	1.53	0.74
1:C:1022:VAL:HG11	1:C:1026:LEU:HB2	1.70	0.73
1:C:4837:LEU:HD11	1:C:4936:ILE:HD11	1.69	0.73
1:D:1568:LYS:HG3	1:D:1574:PRO:HD3	1.69	0.73
1:A:498:THR:HG23	1:A:499:THR:HG23	1.70	0.72
2:F:23:VAL:H	2:F:105:ASN:HB2	1.54	0.72
1:B:498:THR:HG23	1:B:499:THR:HG23	1.72	0.72
1:B:1568:LYS:HG3	1:B:1574:PRO:HD3	1.72	0.72
1:C:2751:LEU:HD23	1:C:2813:LEU:HD13	1.71	0.71
2:F:90:VAL:HG12	2:F:91:ILE:HD12	1.71	0.71
1:B:2751:LEU:HD23	1:B:2813:LEU:HD13	1.71	0.71
1:D:2751:LEU:HD23	1:D:2813:LEU:HD13	1.72	0.71
1:D:2964:LEU:HD23	1:D:3038:MET:HE2	1.72	0.71
1:A:2751:LEU:HD23	1:A:2813:LEU:HD13	1.71	0.71
1:C:1568:LYS:HG3	1:C:1574:PRO:HD3	1.72	0.71
1:D:894:GLY:HA3	1:D:903:LEU:HB3	1.73	0.71
1:B:3969:ILE:HD11	1:B:3980:LEU:HD22	1.72	0.70
1:D:498:THR:HG23	1:D:499:THR:HG23	1.71	0.70
1:C:4187:SER:O	1:C:4188:ARG:NE	2.24	0.70
1:B:372:LEU:HD23	1:B:374:LYS:HE2	1.74	0.70
1:D:1673:VAL:HG12	1:D:1681:VAL:HG11	1.74	0.70
1:D:861:ILE:HG21	1:D:930:LYS:HG2	1.74	0.70
1:D:861:ILE:HG23	1:D:933:LEU:HD23	1.72	0.70
1:B:884:LEU:HA	1:B:887:ILE:HG12	1.74	0.69
1:B:2567:PRO:HD2	1:B:2568:LEU:HD22	1.73	0.69
1:C:1673:VAL:HG12	1:C:1681:VAL:HG11	1.73	0.69
1:D:901:LYS:HE3	1:D:903:LEU:HD12	1.74	0.69
2:E:23:VAL:H	2:E:105:ASN:HB2	1.56	0.69
1:A:1568:LYS:HG3	1:A:1574:PRO:HD3	1.73	0.69
1:D:2556:LEU:HD21	1:D:2597:LYS:HA	1.73	0.69
1:A:3085:PRO:HG2	1:A:3087:ILE:HD11	1.75	0.69
1:A:2537:ASP:OD1	1:A:2538:THR:N	2.26	0.69
1:B:1616:GLU:O	1:B:1619:ARG:NH2	2.25	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:3694:LYS:HE2	1:C:3695:PRO:HD2	1.75	0.69
1:C:4901:ILE:HB	1:C:4913:ARG:HH21	1.57	0.69
1:A:590:LEU:HB2	1:A:599:VAL:HG11	1.75	0.68
1:C:4904:PRO:HB3	1:C:4913:ARG:HD3	1.75	0.68
1:A:3694:LYS:HD3	1:A:3695:PRO:HD2	1.74	0.68
1:D:3085:PRO:HG2	1:D:3087:ILE:HD11	1.76	0.68
1:B:14:LEU:HG	1:B:165:VAL:HG12	1.76	0.68
1:C:864:PRO:HD2	1:C:867:LEU:HD12	1.74	0.68
1:A:2567:PRO:HD2	1:A:2568:LEU:HD22	1.76	0.68
1:A:2151:ASP:OD1	1:A:2188:ASN:ND2	2.27	0.67
1:D:4998:LYS:HB3	1:D:5003:HIS:HE1	1.59	0.67
1:C:3085:PRO:HG2	1:C:3087:ILE:HD11	1.77	0.67
1:D:879:HIS:NE2	1:D:908:VAL:O	2.24	0.67
2:H:23:VAL:H	2:H:105:ASN:HB2	1.58	0.67
1:C:2651:CYS:SG	1:C:2652:TRP:N	2.68	0.67
1:C:2387:SER:OG	1:C:2388:GLU:OE2	2.13	0.67
1:D:1562:ILE:HD12	1:D:1563:GLN:H	1.60	0.67
1:B:2556:LEU:HD21	1:B:2597:LYS:HA	1.75	0.67
1:A:4708:THR:HG21	1:A:4775:TYR:HB2	1.76	0.67
1:B:861:ILE:HG23	1:B:933:LEU:HD23	1.76	0.67
1:C:399:GLN:O	1:C:403:MET:HG3	1.95	0.67
1:D:4837:LEU:HD11	1:D:4936:ILE:HD11	1.77	0.66
1:A:4901:ILE:HB	1:A:4913:ARG:HH21	1.59	0.66
1:B:2651:CYS:SG	1:B:2652:TRP:N	2.68	0.66
1:D:884:LEU:HA	1:D:887:ILE:HG12	1.78	0.66
1:B:4901:ILE:HB	1:B:4913:ARG:HH21	1.58	0.66
1:D:2560:PRO:HD2	1:D:2561:LEU:HD23	1.77	0.66
1:C:879:HIS:NE2	1:C:913:LEU:HD21	2.11	0.66
1:D:4901:ILE:HB	1:D:4913:ARG:HH21	1.61	0.66
1:B:590:LEU:HB2	1:B:599:VAL:HG11	1.77	0.66
1:D:878:ILE:H	1:D:878:ILE:HD12	1.60	0.66
2:H:90:VAL:HG12	2:H:91:ILE:H	1.60	0.66
1:B:2964:LEU:HD13	1:B:3042:LEU:HG	1.78	0.66
1:D:2116:LEU:O	1:D:2120:MET:HG2	1.96	0.66
1:A:894:GLY:HA3	1:A:903:LEU:HB3	1.77	0.65
1:A:1259:ARG:NH2	1:A:1595:LEU:O	2.29	0.65
1:A:2651:CYS:SG	1:A:2652:TRP:N	2.69	0.65
1:C:1448:VAL:HG22	1:C:1554:VAL:HG23	1.79	0.65
1:D:2651:CYS:SG	1:D:2652:TRP:N	2.69	0.65
2:H:87:HIS:HB3	2:H:90:VAL:HB	1.78	0.65
1:A:14:LEU:HG	1:A:165:VAL:HG12	1.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2116:LEU:O	1:A:2120:MET:HG2	1.95	0.65
1:C:973:SER:HA	1:C:976:ARG:HH22	1.60	0.65
1:D:1448:VAL:HG22	1:D:1554:VAL:HG23	1.78	0.65
1:B:2930:LEU:HG	1:B:2935:TYR:HB2	1.78	0.65
2:E:87:HIS:HB3	2:E:90:VAL:HB	1.78	0.65
1:D:996:TRP:O	1:D:1000:ARG:HG2	1.96	0.65
1:D:2495:VAL:HG12	1:D:2497:ASP:H	1.60	0.65
1:C:3462:ASN:HD22	1:C:3462:ASN:C	1.98	0.65
1:A:1754:GLY:O	1:A:1759:ARG:NH1	2.30	0.65
1:A:2560:PRO:HD2	1:A:2561:LEU:HD23	1.78	0.65
1:B:1259:ARG:NH2	1:B:1595:LEU:O	2.30	0.65
2:E:90:VAL:HG12	2:E:91:ILE:HD12	1.78	0.65
1:B:894:GLY:HA3	1:B:903:LEU:HB3	1.79	0.65
1:B:399:GLN:O	1:B:403:MET:HG3	1.97	0.65
1:D:590:LEU:HB2	1:D:599:VAL:HG11	1.79	0.65
1:D:1259:ARG:NH2	1:D:1595:LEU:O	2.30	0.65
1:B:3085:PRO:HG2	1:B:3087:ILE:HD11	1.79	0.64
1:D:647:ASN:ND2	1:D:820:ARG:O	2.30	0.64
1:D:1754:GLY:O	1:D:1759:ARG:NH1	2.30	0.64
2:F:30:LEU:HD22	2:F:91:ILE:HG23	1.79	0.64
1:A:2495:VAL:HG12	1:A:2497:ASP:H	1.62	0.64
1:A:1673:VAL:HG12	1:A:1681:VAL:HG11	1.78	0.64
1:C:195:PHE:CZ	1:D:2358:ILE:HD12	2.32	0.64
1:D:1022:VAL:HG11	1:D:1026:LEU:HB2	1.78	0.64
1:B:4904:PRO:HB3	1:B:4913:ARG:HD3	1.78	0.64
1:D:399:GLN:O	1:D:403:MET:HG3	1.97	0.64
1:D:2151:ASP:OD1	1:D:2188:ASN:ND2	2.31	0.64
1:A:1448:VAL:HG22	1:A:1554:VAL:HG23	1.79	0.64
1:B:1448:VAL:HG22	1:B:1554:VAL:HG23	1.78	0.64
1:B:2000:SER:O	1:B:2005:GLN:NE2	2.27	0.64
1:C:884:LEU:HA	1:C:887:ILE:HG12	1.79	0.64
1:C:1126:GLY:HA3	1:C:1143:TRP:CE2	2.33	0.64
1:A:1815:LEU:HD22	1:A:1845:VAL:HG21	1.80	0.64
1:A:4904:PRO:HB3	1:A:4913:ARG:HD3	1.78	0.64
1:D:887:ILE:HA	1:D:891:TRP:H	1.63	0.64
1:D:2930:LEU:HG	1:D:2935:TYR:HB2	1.80	0.64
1:C:590:LEU:HB2	1:C:599:VAL:HG11	1.79	0.64
1:C:2560:PRO:HD2	1:C:2561:LEU:HD12	1.79	0.64
1:B:863:LEU:HD21	1:B:930:LYS:HE3	1.78	0.64
1:B:2770:LYS:NZ	1:B:2790:MET:SD	2.71	0.64
1:B:4715:TYR:O	1:B:4718:LYS:NZ	2.31	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:794:GLY:HA3	1:A:812:HIS:HB3	1.81	0.63
1:A:884:LEU:HA	1:A:887:ILE:HG12	1.78	0.63
1:C:1754:GLY:O	1:C:1759:ARG:NH1	2.32	0.63
1:B:2495:VAL:HG12	1:B:2497:ASP:H	1.62	0.63
1:C:1259:ARG:NH2	1:C:1595:LEU:O	2.31	0.63
1:A:1229:ASN:HB2	1:A:1827:ARG:HG3	1.81	0.63
1:D:426:ARG:HH11	1:D:430:PRO:HG3	1.64	0.63
1:A:29:LEU:HD23	1:A:31:GLU:H	1.64	0.63
1:B:1673:VAL:HG12	1:B:1681:VAL:HG11	1.79	0.63
1:C:4066:LEU:HD23	1:C:4133:GLN:HE22	1.63	0.63
2:G:90:VAL:HG12	2:G:91:ILE:H	1.63	0.63
1:D:886:ARG:HB3	1:D:891:TRP:CD1	2.34	0.63
1:D:3041:SER:O	1:D:3045:LYS:HG2	1.99	0.63
1:A:4715:TYR:O	1:A:4718:LYS:NZ	2.32	0.63
1:C:2930:LEU:HG	1:C:2935:TYR:HB2	1.81	0.63
1:A:274:LEU:HB3	1:A:339:ILE:HD12	1.81	0.62
1:A:879:HIS:NE2	1:A:908:VAL:O	2.26	0.62
1:D:4708:THR:HG21	1:D:4775:TYR:HB2	1.81	0.62
1:D:1033:ARG:HA	1:D:1036:ARG:HE	1.63	0.62
1:D:1815:LEU:HD22	1:D:1845:VAL:HG21	1.80	0.62
2:E:90:VAL:HG12	2:E:91:ILE:H	1.63	0.62
1:D:1552:VAL:HG11	1:D:1562:ILE:HG12	1.80	0.62
1:B:1037:ASP:O	1:B:1041:GLN:HG2	1.99	0.62
1:D:1158:ASN:HB3	1:D:1182:ILE:HG12	1.80	0.62
1:B:1116:GLY:HA3	1:B:1132:TRP:HB3	1.81	0.62
1:D:1101:ARG:NH1	1:D:1115:LEU:O	2.33	0.62
1:D:1690:ASP:OD1	1:D:1693:GLN:NE2	2.32	0.62
2:F:90:VAL:HG12	2:F:91:ILE:H	1.65	0.62
1:B:3514:LEU:HD21	1:B:3602:VAL:HG13	1.80	0.62
1:C:3514:LEU:HD21	1:C:3602:VAL:HG13	1.82	0.62
1:D:3696:ASP:OD1	1:D:3696:ASP:N	2.32	0.62
1:B:972:LEU:HD13	1:B:1044:ARG:HD2	1.82	0.62
1:C:2151:ASP:OD1	1:C:2188:ASN:ND2	2.33	0.62
1:B:4708:THR:HG21	1:B:4775:TYR:HB2	1.80	0.61
1:C:1101:ARG:NH1	1:C:1115:LEU:O	2.32	0.61
1:A:3072:ALA:HB1	1:A:3143:LEU:HD13	1.82	0.61
1:B:1229:ASN:HB2	1:B:1827:ARG:HG3	1.82	0.61
1:C:3462:ASN:O	1:C:3462:ASN:ND2	2.23	0.61
1:A:2000:SER:O	1:A:2005:GLN:NE2	2.30	0.61
1:B:647:ASN:ND2	1:B:820:ARG:O	2.33	0.61
2:F:23:VAL:HB	2:F:105:ASN:HA	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:426:ARG:HH11	1:C:430:PRO:HG3	1.66	0.61
1:C:3041:SER:O	1:C:3045:LYS:HD2	1.99	0.61
1:D:728:ARG:NH2	1:D:1489:CYS:SG	2.74	0.61
1:C:647:ASN:ND2	1:C:820:ARG:O	2.33	0.61
1:D:14:LEU:HG	1:D:165:VAL:HG12	1.82	0.61
1:B:1815:LEU:HD22	1:B:1845:VAL:HG21	1.82	0.61
1:D:4715:TYR:O	1:D:4718:LYS:NZ	2.34	0.61
1:A:426:ARG:HH11	1:A:430:PRO:HG3	1.65	0.61
1:A:2614:ILE:HG23	1:A:2910:THR:HG23	1.82	0.61
1:D:636:ASN:HD21	2:H:35:LYS:HE3	1.65	0.61
1:D:4232:GLU:OE2	1:D:5017:ARG:NH2	2.34	0.61
1:A:667:MET:SD	1:A:790:ARG:NH2	2.73	0.61
1:A:3534:MET:SD	1:A:3534:MET:N	2.72	0.61
1:B:2747:ILE:HB	1:B:2814:LYS:HE2	1.83	0.61
1:C:2614:ILE:HG23	1:C:2910:THR:HG23	1.82	0.61
1:C:3725:TYR:O	1:C:3729:MET:HG3	2.01	0.61
1:D:4554:TYR:HE1	1:D:4558:ASN:HD22	1.47	0.61
1:B:595:ARG:NH1	1:B:1643:GLU:OE2	2.33	0.60
1:B:920:TYR:HA	1:B:923:GLN:HE21	1.66	0.60
1:B:2890:LYS:HD3	1:B:2905:LEU:HD21	1.82	0.60
1:C:1116:GLY:HA3	1:C:1132:TRP:HB3	1.83	0.60
1:D:1005:TRP:CE2	1:D:1016:ARG:HG2	2.35	0.60
1:B:3041:SER:O	1:B:3045:LYS:HD2	2.01	0.60
1:A:2747:ILE:HB	1:A:2814:LYS:HE2	1.83	0.60
1:B:892:THR:OG1	1:B:902:ARG:O	2.19	0.60
1:D:864:PRO:HD2	1:D:867:LEU:HD12	1.82	0.60
2:H:23:VAL:HG22	2:H:47:LYS:HG2	1.83	0.60
1:A:636:ASN:HD21	2:E:35:LYS:HE3	1.66	0.60
1:C:235:ALA:HA	1:C:257:ARG:HD3	1.83	0.60
1:C:707:VAL:HG12	1:C:782:SER:HB3	1.83	0.60
1:C:1815:LEU:HD22	1:C:1845:VAL:HG21	1.82	0.60
1:C:4715:TYR:O	1:C:4718:LYS:NZ	2.34	0.60
1:D:235:ALA:HA	1:D:257:ARG:HD3	1.83	0.60
1:D:816:LEU:HD13	1:D:1026:LEU:HD22	1.84	0.60
1:D:870:ILE:HA	1:D:873:LYS:HB2	1.83	0.60
1:A:222:LEU:HD12	1:A:231:LEU:HD23	1.83	0.60
1:A:647:ASN:ND2	1:A:820:ARG:O	2.34	0.60
1:B:426:ARG:HH11	1:B:430:PRO:HG3	1.67	0.60
1:C:609:CYS:SG	1:C:610:ASN:N	2.73	0.60
1:D:1256:GLU:HB2	1:D:1275:ARG:HH21	1.66	0.60
1:B:3725:TYR:O	1:B:3729:MET:HG3	2.02	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1229:ASN:HB2	1:D:1827:ARG:HG3	1.84	0.60
1:A:4645:CYS:O	1:A:4649:LEU:HD12	2.01	0.60
1:B:3439:GLY:O	1:B:3443:ILE:HG12	2.02	0.60
1:C:4094:GLN:OE1	1:C:4094:GLN:N	2.34	0.60
1:C:4673:ARG:NH1	1:C:4702:ASP:OD1	2.35	0.60
1:A:728:ARG:NH2	1:A:1489:CYS:SG	2.74	0.60
1:D:1037:ASP:O	1:D:1041:GLN:HG2	2.01	0.60
1:A:2974:ILE:HG13	1:A:3049:LEU:HD11	1.81	0.59
1:B:2505:PHE:O	1:B:2509:VAL:HG22	2.02	0.59
1:B:36:CYS:HG	1:B:52:THR:HG1	1.45	0.59
1:C:281:ARG:NH1	1:C:307:ALA:O	2.35	0.59
1:C:2770:LYS:NZ	1:C:2790:MET:SD	2.74	0.59
1:A:1101:ARG:NH1	1:A:1115:LEU:O	2.34	0.59
1:B:181:HIS:ND1	1:B:198:THR:OG1	2.36	0.59
1:C:728:ARG:NH2	1:C:1489:CYS:SG	2.75	0.59
1:D:4000:MET:HE1	1:D:4058:ILE:HG23	1.84	0.59
1:B:380:GLN:OE1	1:B:380:GLN:N	2.29	0.59
1:C:2556:LEU:HD21	1:C:2597:LYS:HA	1.82	0.59
2:H:23:VAL:HB	2:H:105:ASN:HA	1.84	0.59
1:A:661:LYS:HB2	1:A:808:TYR:HA	1.83	0.59
1:A:4576:ILE:HG21	1:A:4643:LEU:HB2	1.85	0.59
1:A:4673:ARG:NH1	1:A:4702:ASP:OD1	2.36	0.59
1:B:4673:ARG:NH1	1:B:4702:ASP:OD1	2.35	0.59
1:C:874:LEU:HD12	1:C:1046:LEU:HD21	1.83	0.59
1:A:3270:ILE:HA	1:A:3273:THR:HG22	1.84	0.59
1:B:4103:PHE:HB3	1:B:4107:GLU:HB2	1.85	0.59
1:C:1037:ASP:O	1:C:1041:GLN:HG2	2.02	0.59
1:D:2747:ILE:HB	1:D:2814:LYS:HE2	1.83	0.59
1:D:3534:MET:SD	1:D:3534:MET:N	2.74	0.59
1:B:707:VAL:HG12	1:B:782:SER:HB3	1.84	0.59
1:B:2151:ASP:OD1	1:B:2188:ASN:ND2	2.35	0.59
1:C:1810:LYS:O	1:C:1814:MET:HG3	2.03	0.59
1:D:1810:LYS:O	1:D:1814:MET:HG3	2.03	0.59
1:A:4892:ARG:NH2	1:D:4899:ASP:OD1	2.36	0.59
1:C:1100:MET:HG2	1:C:1194:LEU:HA	1.85	0.59
1:C:1256:GLU:HB2	1:C:1275:ARG:HH21	1.67	0.59
1:C:2495:VAL:HG12	1:C:2497:ASP:H	1.67	0.59
1:C:4155:PRO:O	1:C:4161:ARG:NH1	2.35	0.59
1:C:3439:GLY:O	1:C:3443:ILE:HG12	2.02	0.59
1:A:3639:THR:OG1	1:A:3643:ASN:ND2	2.36	0.58
1:B:180:LEU:O	1:B:200:TRP:NE1	2.35	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:3999:MET:SD	1:D:4002:LYS:NZ	2.75	0.58
1:B:609:CYS:SG	1:B:610:ASN:N	2.75	0.58
1:C:1028:ASP:N	1:C:1028:ASP:OD1	2.36	0.58
1:D:281:ARG:NH1	1:D:307:ALA:O	2.36	0.58
1:A:3817:LEU:HD11	1:A:3821:LYS:HE3	1.84	0.58
1:B:2162:ILE:HD13	1:B:2178:MET:HG3	1.85	0.58
1:B:3769:ARG:O	1:B:3773:ARG:NH1	2.36	0.58
1:B:3952:SER:HA	1:B:3955:MET:HE2	1.85	0.58
1:D:274:LEU:HB3	1:D:339:ILE:HD12	1.86	0.58
1:A:924:MET:O	1:A:928:THR:HG23	2.03	0.58
1:A:2974:ILE:HD13	1:A:2977:LEU:HD12	1.85	0.58
1:C:774:ASP:OD2	1:C:1470:ARG:NH2	2.33	0.58
1:C:4708:THR:HG21	1:C:4775:TYR:HB2	1.85	0.58
1:C:4866:SER:OG	1:C:4871:GLU:O	2.21	0.58
1:A:595:ARG:NH1	1:A:1643:GLU:OE2	2.32	0.58
1:A:1479:GLU:HG2	1:A:1480:GLN:OE1	2.03	0.58
1:B:1618:ARG:NH1	1:B:1629:GLN:OE1	2.36	0.58
1:D:1437:VAL:HG13	1:D:1562:ILE:HD11	1.86	0.58
1:D:4673:ARG:NH1	1:D:4702:ASP:OD1	2.37	0.58
2:F:57:LYS:HD2	2:F:57:LYS:O	2.04	0.58
1:A:235:ALA:HA	1:A:257:ARG:HD3	1.86	0.58
1:A:1131:ARG:HD3	1:A:1139:PHE:HD2	1.69	0.58
1:A:2472:LEU:HD13	1:A:2473:PRO:HD2	1.85	0.58
1:B:1101:ARG:NH1	1:B:1115:LEU:O	2.36	0.58
1:D:131:LEU:O	1:D:178:ARG:NE	2.34	0.58
1:B:1294:PRO:O	1:B:1294:PRO:HD2	2.04	0.58
1:B:2283:ASN:HB3	1:B:2286:LEU:HB2	1.86	0.58
1:D:4998:LYS:HB3	1:D:5003:HIS:CE1	2.37	0.58
1:D:667:MET:HG3	1:D:743:VAL:HG22	1.85	0.58
1:D:3439:GLY:O	1:D:3443:ILE:HG12	2.03	0.58
1:A:609:CYS:SG	1:A:610:ASN:N	2.73	0.57
1:A:1147:ASP:OD1	1:A:1165:ASN:ND2	2.37	0.57
1:C:274:LEU:HB3	1:C:339:ILE:HD12	1.86	0.57
1:C:978:THR:HG22	1:C:981:GLN:HG3	1.85	0.57
1:C:2974:ILE:HD13	1:C:2977:LEU:HD12	1.87	0.57
1:D:632:LEU:O	1:D:634:GLN:NE2	2.37	0.57
1:D:3433:GLU:O	1:D:3437:MET:HG3	2.04	0.57
1:D:876:GLU:OE1	1:D:876:GLU:N	2.28	0.57
1:B:728:ARG:NH2	1:B:1489:CYS:SG	2.77	0.57
1:B:2614:ILE:HG23	1:B:2910:THR:HG23	1.86	0.57
1:C:636:ASN:HD21	2:G:35:LYS:HE3	1.70	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:3270:ILE:HA	1:C:3273:THR:HG22	1.85	0.57
1:D:4219:PHE:HD1	1:D:4950:VAL:HG21	1.68	0.57
1:A:876:GLU:HB3	1:A:910:PHE:HB2	1.85	0.57
1:A:2283:ASN:HB3	1:A:2286:LEU:HB2	1.87	0.57
1:B:3974:THR:O	1:B:3978:GLN:HG3	2.04	0.57
1:C:1698:LEU:O	1:C:1712:TYR:OH	2.22	0.57
1:C:2512:ILE:HG22	1:C:2516:ASP:HB2	1.85	0.57
1:D:1116:GLY:HA3	1:D:1132:TRP:HB3	1.85	0.57
1:A:2916:LYS:HG2	1:A:2920:ARG:HB2	1.85	0.57
1:A:4232:GLU:OE2	1:A:5017:ARG:NH2	2.38	0.57
1:C:1229:ASN:HB2	1:C:1827:ARG:HG3	1.86	0.57
1:C:2919:ASP:HA	1:C:2922:LYS:HE2	1.85	0.57
1:C:3769:ARG:O	1:C:3773:ARG:NH1	2.38	0.57
1:B:317:ARG:HH11	1:B:356:TRP:HH2	1.50	0.57
1:C:3639:THR:OG1	1:C:3643:ASN:ND2	2.37	0.57
1:A:1118:ASP:OD1	1:A:1118:ASP:N	2.37	0.57
1:D:2354:VAL:O	1:D:2358:ILE:HG23	2.05	0.57
1:B:898:ASP:HB2	1:B:901:LYS:HB3	1.87	0.56
1:C:14:LEU:HG	1:C:165:VAL:HG12	1.86	0.56
1:C:4232:GLU:OE2	1:C:5017:ARG:NH2	2.38	0.56
1:D:176:SER:OG	1:D:178:ARG:HD2	2.05	0.56
1:A:281:ARG:NH1	1:A:307:ALA:O	2.38	0.56
1:A:1281:ASN:HD21	1:A:1283:LEU:HD22	1.70	0.56
1:C:816:LEU:HD13	1:C:1026:LEU:HD13	1.87	0.56
1:D:544:LEU:HD21	1:D:578:ILE:HG12	1.87	0.56
1:D:2614:ILE:HG23	1:D:2910:THR:HG23	1.87	0.56
1:B:632:LEU:O	1:B:634:GLN:NE2	2.39	0.56
1:B:2472:LEU:HD13	1:B:2473:PRO:HD2	1.86	0.56
1:C:632:LEU:O	1:C:634:GLN:NE2	2.38	0.56
1:C:3639:THR:OG1	1:C:3639:THR:O	2.23	0.56
1:C:3768:SER:HA	1:C:3771:HIS:ND1	2.21	0.56
1:D:1447:CYS:HB3	1:D:1555:LEU:HB3	1.87	0.56
1:B:274:LEU:HB3	1:B:339:ILE:HD12	1.87	0.56
1:C:2283:ASN:HB3	1:C:2286:LEU:HB2	1.87	0.56
1:D:892:THR:OG1	1:D:902:ARG:O	2.23	0.56
1:D:3770:LEU:HD11	1:D:3804:ILE:HD11	1.87	0.56
1:A:3639:THR:OG1	1:A:3639:THR:O	2.23	0.56
1:B:879:HIS:NE2	1:B:908:VAL:O	2.26	0.56
1:B:3696:ASP:N	1:B:3696:ASP:OD1	2.37	0.56
1:C:894:GLY:HA3	1:C:903:LEU:HB3	1.88	0.56
1:A:1116:GLY:HA3	1:A:1132:TRP:HB3	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2472:LEU:HD13	1:D:2473:PRO:HD2	1.88	0.56
1:C:2771:ILE:HD13	1:C:2857:PRO:HD2	1.88	0.56
1:C:2870:GLU:O	1:C:2939:ARG:NH2	2.39	0.56
1:A:3768:SER:HA	1:A:3771:HIS:ND1	2.20	0.56
1:B:2870:GLU:O	1:B:2939:ARG:NH2	2.39	0.56
1:C:4206:GLU:O	1:C:4211:LYS:NZ	2.39	0.56
1:D:639:ASN:HD21	1:D:676:THR:HG21	1.71	0.56
1:A:999:ASP:N	1:A:999:ASP:OD1	2.38	0.56
1:A:1447:CYS:HB3	1:A:1555:LEU:HB3	1.88	0.56
1:A:1805:GLU:OE1	1:A:1808:ARG:NH2	2.39	0.56
1:A:2506:LEU:HD12	1:A:2510:TYR:HB2	1.87	0.56
1:C:2000:SER:O	1:C:2005:GLN:NE2	2.30	0.56
1:C:2162:ILE:HD13	1:C:2178:MET:HG3	1.88	0.56
1:A:2870:GLU:O	1:A:2939:ARG:NH2	2.39	0.56
1:B:1118:ASP:OD1	1:B:1118:ASP:N	2.37	0.56
1:B:2974:ILE:HD13	1:B:2977:LEU:HD12	1.87	0.56
1:C:861:ILE:HG21	1:C:930:LYS:HG2	1.88	0.56
1:C:892:THR:OG1	1:C:902:ARG:O	2.21	0.56
1:C:935:LEU:HD11	1:C:987:ARG:HH21	1.71	0.56
1:C:2377:LEU:HD21	1:C:2465:ASP:HA	1.88	0.56
1:C:4219:PHE:HD1	1:C:4950:VAL:HG21	1.71	0.56
1:D:972:LEU:HD13	1:D:1044:ARG:HD3	1.86	0.56
1:A:544:LEU:HD21	1:A:578:ILE:HG12	1.87	0.55
1:B:3579:LEU:HG	1:B:3580:PRO:HD3	1.88	0.55
1:B:3996:PHE:HZ	1:B:4019:LEU:HD22	1.71	0.55
1:D:707:VAL:HG12	1:D:782:SER:HB3	1.88	0.55
1:B:1805:GLU:OE1	1:B:1808:ARG:NH2	2.40	0.55
1:A:317:ARG:HH11	1:A:356:TRP:HH2	1.54	0.55
1:A:2919:ASP:HA	1:A:2922:LYS:HE2	1.87	0.55
1:B:544:LEU:HD21	1:B:578:ILE:HG12	1.88	0.55
1:C:961:MET:HE1	1:C:963:ASN:H	1.71	0.55
1:C:2247:GLN:NE2	1:C:2278:ALA:O	2.39	0.55
1:C:3579:LEU:HG	1:C:3580:PRO:HD3	1.87	0.55
1:D:3087:ILE:H	1:D:3087:ILE:HD12	1.72	0.55
1:A:2770:LYS:NZ	1:A:2790:MET:SD	2.75	0.55
1:B:3087:ILE:HD12	1:B:3087:ILE:H	1.72	0.55
1:B:3768:SER:HA	1:B:3771:HIS:ND1	2.21	0.55
1:C:881:LEU:HD21	1:C:1041:GLN:HG3	1.88	0.55
1:C:1099:GLU:OE2	1:C:1125:ASN:ND2	2.39	0.55
1:B:2126:ARG:NH1	1:B:2133:GLU:OE2	2.40	0.55
1:B:4239:GLU:OE1	1:B:4679:ARG:NH2	2.37	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2748:PRO:HD2	1:D:2751:LEU:HD13	1.89	0.55
1:A:3962:PHE:O	1:A:3966:THR:HG23	2.06	0.55
1:C:1447:CYS:HB3	1:C:1555:LEU:HB3	1.87	0.55
1:C:3315:LEU:O	1:C:3319:ILE:HG22	2.07	0.55
1:A:1155:LEU:HD22	1:A:1184:ILE:HD12	1.88	0.55
1:C:180:LEU:O	1:C:200:TRP:NE1	2.36	0.55
1:D:3768:SER:HA	1:D:3771:HIS:ND1	2.21	0.55
1:D:3962:PHE:O	1:D:3966:THR:HG23	2.07	0.55
2:G:23:VAL:HG23	2:G:105:ASN:HD22	1.72	0.55
1:A:1559:GLN:OE1	1:A:1559:GLN:N	2.26	0.55
1:A:2736:ASP:N	1:A:2736:ASP:OD1	2.39	0.55
1:A:4239:GLU:OE1	1:A:4679:ARG:NH2	2.39	0.55
1:C:1747:LEU:HD23	1:C:1749:PRO:HB3	1.89	0.55
1:A:1746:THR:OG1	1:A:1747:LEU:N	2.39	0.55
1:A:2387:SER:OG	1:A:2388:GLU:OE1	2.24	0.55
1:B:29:LEU:HD23	1:B:31:GLU:H	1.72	0.55
1:B:2771:ILE:HD13	1:B:2857:PRO:HD2	1.88	0.55
1:C:2126:ARG:NH1	1:C:2133:GLU:OE2	2.40	0.55
1:D:1618:ARG:NH1	1:D:1629:GLN:OE1	2.39	0.55
1:A:1022:VAL:HG11	1:A:1026:LEU:HB2	1.89	0.55
1:B:1022:VAL:HG11	1:B:1026:LEU:HB2	1.88	0.55
1:D:29:LEU:HD23	1:D:31:GLU:H	1.72	0.55
1:D:2466:LEU:O	1:D:2470:ILE:HG13	2.07	0.55
2:F:57:LYS:HE3	2:F:61:GLU:OE2	2.06	0.55
1:A:1778:SER:HB3	1:A:1798:LEU:HB2	1.89	0.54
1:A:2659:THR:O	1:A:2663:ASN:ND2	2.40	0.54
1:C:544:LEU:HD21	1:C:578:ILE:HG12	1.89	0.54
1:D:4645:CYS:SG	1:D:4646:LEU:N	2.79	0.54
1:A:972:LEU:HD13	1:A:1044:ARG:HD2	1.89	0.54
1:A:996:TRP:O	1:A:1000:ARG:HG2	2.06	0.54
1:A:4837:LEU:HD21	1:A:4936:ILE:HD11	1.90	0.54
1:B:853:PRO:HB3	1:B:1023:PRO:HB3	1.87	0.54
1:B:1624:LEU:HD23	1:B:1624:LEU:H	1.72	0.54
1:B:2736:ASP:OD1	1:B:2736:ASP:N	2.40	0.54
1:B:4848:VAL:HG11	1:B:4887:MET:HG2	1.89	0.54
1:C:1624:LEU:HD23	1:C:1624:LEU:H	1.72	0.54
1:C:3171:SER:O	1:C:3175:LEU:HD12	2.07	0.54
1:C:3878:ASP:N	1:C:3878:ASP:OD1	2.41	0.54
1:D:918:ARG:O	1:D:922:LEU:HD22	2.07	0.54
1:B:1480:GLN:N	1:B:1480:GLN:OE1	2.40	0.54
1:B:2506:LEU:HD12	1:B:2510:TYR:HB2	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3680:ALA:HB2	1:B:3696:ASP:HB3	1.90	0.54
1:C:1093:GLU:HB3	1:C:1201:HIS:HB3	1.89	0.54
1:C:3962:PHE:O	1:C:3966:THR:HG23	2.06	0.54
1:D:180:LEU:O	1:D:200:TRP:NE1	2.40	0.54
1:A:426:ARG:HB2	1:A:506:TYR:HA	1.89	0.54
1:A:901:LYS:HE3	1:A:903:LEU:HD12	1.89	0.54
1:A:3878:ASP:N	1:A:3878:ASP:OD1	2.40	0.54
1:C:4000:MET:HE1	1:C:4058:ILE:HG23	1.90	0.54
1:D:2126:ARG:NH1	1:D:2133:GLU:OE2	2.41	0.54
1:D:2162:ILE:HD13	1:D:2178:MET:HG3	1.89	0.54
1:A:707:VAL:HG12	1:A:782:SER:HB3	1.88	0.54
1:A:3680:ALA:HB2	1:A:3696:ASP:HB3	1.89	0.54
1:C:3604:TYR:HE1	1:C:3608:GLN:HE22	1.55	0.54
1:D:78:LEU:O	1:D:82:LEU:HG	2.07	0.54
1:D:3639:THR:OG1	1:D:3643:ASN:ND2	2.40	0.54
1:A:2771:ILE:HD13	1:A:2857:PRO:HD2	1.89	0.54
1:D:1624:LEU:HD23	1:D:1624:LEU:H	1.72	0.54
1:D:1830:VAL:HB	1:D:1837:GLN:HG3	1.88	0.54
1:D:2974:ILE:HD13	1:D:2977:LEU:HD12	1.88	0.54
2:G:23:VAL:HG22	2:G:47:LYS:HG2	1.90	0.54
1:B:639:ASN:HD21	1:B:676:THR:HG21	1.72	0.54
1:B:3639:THR:OG1	1:B:3643:ASN:ND2	2.40	0.54
1:C:29:LEU:HD23	1:C:31:GLU:H	1.73	0.54
1:C:1830:VAL:HB	1:C:1837:GLN:HG3	1.89	0.54
1:D:1421:ARG:O	1:D:1570:LYS:NZ	2.35	0.54
1:D:2000:SER:O	1:D:2005:GLN:NE2	2.37	0.54
1:B:13:PHE:HE1	1:B:162:LYS:HB3	1.71	0.54
1:C:1618:ARG:NH1	1:C:1629:GLN:OE1	2.40	0.54
1:D:861:ILE:HD11	1:D:934:ALA:HB2	1.90	0.54
1:D:1109:LEU:HD21	1:D:1115:LEU:HD21	1.90	0.54
1:D:4239:GLU:OE1	1:D:4679:ARG:NH2	2.41	0.54
1:A:1624:LEU:H	1:A:1624:LEU:HD23	1.71	0.54
1:B:1447:CYS:HB3	1:B:1555:LEU:HB3	1.89	0.54
1:B:2561:LEU:HD23	1:B:2561:LEU:H	1.73	0.54
1:B:3878:ASP:OD1	1:B:3878:ASP:N	2.40	0.54
1:C:912:SER:O	1:C:912:SER:OG	2.26	0.54
1:A:632:LEU:O	1:A:634:GLN:NE2	2.41	0.54
1:A:659:TYR:CD2	1:A:809:ALA:HB2	2.43	0.54
1:A:1866:ILE:HD11	1:A:1942:LEU:HD23	1.88	0.54
1:A:3769:ARG:O	1:A:3773:ARG:NH1	2.40	0.54
1:C:639:ASN:HD21	1:C:676:THR:HG21	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:4184:MET:HB3	1:C:5021:PHE:HA	1.89	0.54
1:D:2107:GLN:NE2	1:D:3679:LYS:O	2.35	0.54
1:C:853:PRO:HB3	1:C:1023:PRO:HB3	1.89	0.53
1:C:2466:LEU:O	1:C:2470:ILE:HG13	2.08	0.53
1:D:2247:GLN:OE1	1:D:2283:ASN:ND2	2.41	0.53
1:A:861:ILE:HG21	1:A:930:LYS:HG2	1.91	0.53
1:A:1154:ASP:OD1	1:A:1156:THR:OG1	2.26	0.53
1:A:3696:ASP:OD1	1:A:3696:ASP:N	2.40	0.53
1:B:3270:ILE:HA	1:B:3273:THR:HG22	1.91	0.53
1:B:4232:GLU:OE2	1:B:5017:ARG:NH2	2.41	0.53
1:C:901:LYS:HE3	1:C:903:LEU:HD12	1.89	0.53
1:D:1171:SER:OG	1:D:1175:SER:OG	2.19	0.53
1:D:1805:GLU:OE1	1:D:1808:ARG:NH2	2.41	0.53
1:D:2870:GLU:O	1:D:2939:ARG:NH2	2.41	0.53
1:D:3817:LEU:HD13	1:D:3899:PHE:CD1	2.43	0.53
1:B:3414:ARG:NH2	1:B:3469:PHE:O	2.40	0.53
1:C:1155:LEU:HD22	1:C:1184:ILE:HD12	1.89	0.53
1:C:3757:GLU:O	1:C:3761:GLN:HG2	2.08	0.53
1:D:4897:ILE:HG13	1:D:4901:ILE:HD11	1.89	0.53
1:B:898:ASP:O	1:B:902:ARG:N	2.31	0.53
1:B:4219:PHE:HD1	1:B:4950:VAL:HG21	1.74	0.53
1:C:1615:VAL:HG13	1:C:1617:THR:H	1.74	0.53
1:C:3680:ALA:HB2	1:C:3696:ASP:HB3	1.89	0.53
1:D:317:ARG:HH11	1:D:356:TRP:HH2	1.56	0.53
1:B:2545:GLU:OE1	1:B:2585:THR:OG1	2.27	0.53
1:C:4563:ARG:HH22	1:C:4791:TYR:HE2	1.57	0.53
1:A:180:LEU:O	1:A:200:TRP:NE1	2.40	0.53
1:A:984:LEU:HD13	1:A:987:ARG:HD3	1.91	0.53
1:B:3962:PHE:O	1:B:3966:THR:HG23	2.09	0.53
1:B:3972:PRO:HD3	1:B:5005:GLY:HA3	1.90	0.53
1:A:1256:GLU:HB2	1:A:1275:ARG:HH21	1.74	0.53
1:B:544:LEU:HD22	1:B:574:VAL:HG22	1.90	0.53
1:B:638:ILE:HD13	1:B:1638:ALA:HB2	1.91	0.53
1:C:103:TYR:OH	1:C:167:ASP:OD2	2.26	0.53
1:C:2659:THR:O	1:C:2663:ASN:ND2	2.41	0.53
1:C:3694:LYS:HE2	1:C:3694:LYS:HA	1.91	0.53
2:E:8:SER:HB2	2:E:71:ARG:HB2	1.91	0.53
1:A:3035:GLU:HA	1:A:3038:MET:SD	2.49	0.53
1:A:3648:ARG:O	1:A:3652:MET:HG3	2.09	0.53
1:B:2660:GLY:HA2	1:B:2663:ASN:HD21	1.74	0.53
1:C:1261:ASP:OD1	1:C:1261:ASP:N	2.41	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1805:GLU:OE1	1:C:1808:ARG:NH2	2.42	0.53
1:D:1261:ASP:OD1	1:D:1261:ASP:N	2.42	0.53
1:D:2387:SER:OG	1:D:2388:GLU:OE2	2.27	0.53
1:D:2660:GLY:HA2	1:D:2663:ASN:HD21	1.74	0.53
1:B:861:ILE:HG22	1:B:863:LEU:HG	1.90	0.53
1:C:667:MET:HG3	1:C:743:VAL:HG22	1.90	0.53
1:D:103:TYR:OH	1:D:167:ASP:OD2	2.27	0.53
1:A:4189:ARG:HH21	1:A:5032:TYR:HE2	1.56	0.53
1:B:235:ALA:HA	1:B:257:ARG:HD3	1.90	0.53
1:C:2519:LEU:HD23	1:C:2519:LEU:H	1.74	0.53
1:A:3980:LEU:HD23	1:A:3985:LEU:HD22	1.90	0.52
1:B:2466:LEU:O	1:B:2470:ILE:HG13	2.08	0.52
1:B:2745:VAL:O	1:B:2814:LYS:NZ	2.35	0.52
1:D:2283:ASN:HB3	1:D:2286:LEU:HB2	1.90	0.52
1:D:2771:ILE:HD13	1:D:2857:PRO:HD2	1.90	0.52
1:D:3573:MET:O	1:D:3577:ARG:HG3	2.09	0.52
2:E:26:TYR:HB2	2:E:101:VAL:HG12	1.90	0.52
1:B:1028:ASP:N	1:B:1028:ASP:OD1	2.41	0.52
1:C:711:LEU:HG	1:C:724:GLY:HA2	1.90	0.52
1:C:2026:ASP:OD1	1:C:2026:ASP:N	2.41	0.52
1:D:1535:GLU:OE1	1:D:1535:GLU:N	2.42	0.52
1:D:2026:ASP:OD1	1:D:2026:ASP:N	2.40	0.52
1:A:4866:SER:OG	1:A:4871:GLU:O	2.27	0.52
1:B:2247:GLN:NE2	1:B:2278:ALA:O	2.41	0.52
1:C:356:TRP:N	1:C:379:HIS:O	2.43	0.52
1:C:2545:GLU:OE1	1:C:2585:THR:OG1	2.27	0.52
1:C:2856:ASN:OD1	1:C:2856:ASN:N	2.43	0.52
1:A:772:ASN:HD21	1:A:1470:ARG:HA	1.73	0.52
1:A:2126:ARG:NH1	1:A:2133:GLU:OE2	2.42	0.52
1:A:3579:LEU:HG	1:A:3580:PRO:HD3	1.91	0.52
1:B:667:MET:HG3	1:B:743:VAL:HG22	1.90	0.52
1:B:708:GLY:N	1:B:713:SER:OG	2.36	0.52
1:C:1109:LEU:HD21	1:C:1115:LEU:HD21	1.92	0.52
1:C:1455:PRO:HG3	1:C:1549:PHE:HE1	1.75	0.52
1:D:689:THR:HG22	1:D:776:LEU:H	1.74	0.52
1:D:1155:LEU:HD22	1:D:1184:ILE:HD12	1.92	0.52
1:A:2748:PRO:HD2	1:A:2751:LEU:HD13	1.91	0.52
1:A:2856:ASN:OD1	1:A:2856:ASN:N	2.43	0.52
1:A:4103:PHE:HB3	1:A:4107:GLU:HB2	1.91	0.52
1:B:280:LEU:N	1:B:314:PHE:O	2.42	0.52
1:B:901:LYS:HE3	1:B:903:LEU:HD12	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:926:GLY:O	1:B:930:LYS:HG3	2.09	0.52
1:B:997:ALA:O	1:B:1001:VAL:HG13	2.09	0.52
1:B:4118:ASP:O	1:B:4119:GLU:HG2	2.10	0.52
1:C:2207:VAL:HG12	1:C:2232:CYS:SG	2.50	0.52
1:A:4027:LEU:HB3	1:A:4044:MET:HE1	1.92	0.52
1:A:4118:ASP:O	1:A:4119:GLU:HG2	2.10	0.52
1:B:636:ASN:HD21	2:F:35:LYS:HE3	1.74	0.52
1:A:881:LEU:O	1:A:884:LEU:HG	2.10	0.52
1:B:1275:ARG:HG3	1:B:1276:THR:HG23	1.92	0.52
1:B:4998:LYS:HB3	1:B:5003:HIS:HE1	1.75	0.52
1:C:544:LEU:HD22	1:C:574:VAL:HG22	1.91	0.52
1:C:856:VAL:HG12	1:C:991:ASN:OD1	2.10	0.52
1:C:1100:MET:HE1	1:C:1143:TRP:HZ3	1.74	0.52
1:C:1552:VAL:HG11	1:C:1562:ILE:HG12	1.91	0.52
1:C:4118:ASP:O	1:C:4119:GLU:HG2	2.09	0.52
1:D:3579:LEU:HG	1:D:3580:PRO:HD3	1.91	0.52
1:D:3878:ASP:N	1:D:3878:ASP:OD1	2.40	0.52
1:D:4118:ASP:O	1:D:4119:GLU:HG2	2.10	0.52
1:A:2026:ASP:OD1	1:A:2026:ASP:N	2.43	0.52
1:B:1093:GLU:HB3	1:B:1201:HIS:HB3	1.91	0.52
1:B:1126:GLY:HA3	1:B:1143:TRP:CE2	2.45	0.52
1:B:2026:ASP:N	1:B:2026:ASP:OD1	2.40	0.52
1:D:1033:ARG:HA	1:D:1036:ARG:NE	2.25	0.52
1:D:2313:LEU:H	1:D:2313:LEU:HD12	1.75	0.52
1:A:2466:LEU:O	1:A:2470:ILE:HG13	2.09	0.52
1:B:469:ARG:NE	1:B:3712:GLU:OE2	2.43	0.52
1:C:974:HIS:CD2	1:C:974:HIS:H	2.27	0.52
1:C:1480:GLN:OE1	1:C:1480:GLN:N	2.43	0.52
1:C:3996:PHE:HZ	1:C:4019:LEU:HD22	1.74	0.52
1:D:280:LEU:HD12	1:D:316:PHE:HE1	1.75	0.52
2:E:23:VAL:HB	2:E:105:ASN:HA	1.91	0.52
2:G:30:LEU:HD22	2:G:91:ILE:HG23	1.91	0.52
1:A:1261:ASP:OD1	1:A:1261:ASP:N	2.40	0.52
1:B:103:TYR:OH	1:B:167:ASP:OD2	2.28	0.52
1:B:1830:VAL:HB	1:B:1837:GLN:HG3	1.92	0.51
1:C:595:ARG:NH1	1:C:1643:GLU:OE2	2.34	0.51
1:D:2247:GLN:NE2	1:D:2278:ALA:O	2.40	0.51
1:A:1991:THR:O	1:A:1995:THR:OG1	2.27	0.51
1:B:1698:LEU:O	1:B:1712:TYR:OH	2.25	0.51
1:B:3041:SER:HB2	1:B:3088:VAL:HG21	1.92	0.51
1:B:4068:LEU:HD13	1:B:4111:LEU:HD13	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:996:TRP:O	1:C:1000:ARG:HG2	2.10	0.51
1:C:4239:GLU:OE1	1:C:4679:ARG:NH2	2.41	0.51
1:D:4866:SER:OG	1:D:4871:GLU:O	2.28	0.51
1:A:3087:ILE:H	1:A:3087:ILE:HD12	1.75	0.51
1:A:4897:ILE:HG13	1:A:4901:ILE:HD11	1.92	0.51
1:B:1154:ASP:OD1	1:B:1156:THR:OG1	2.27	0.51
1:D:871:ARG:NH1	1:D:922:LEU:O	2.43	0.51
1:D:2325:PRO:HG3	1:D:2422:ILE:HD13	1.91	0.51
1:D:2736:ASP:N	1:D:2736:ASP:OD1	2.40	0.51
1:D:2768:PHE:HA	1:D:2771:ILE:HG12	1.92	0.51
1:D:3598:GLU:O	1:D:3602:VAL:HG23	2.10	0.51
1:D:4206:GLU:O	1:D:4211:LYS:NZ	2.41	0.51
1:A:639:ASN:HD21	1:A:676:THR:HG21	1.76	0.51
1:A:2023:LEU:HB3	1:A:2028:ARG:HE	1.74	0.51
1:A:3171:SER:O	1:A:3175:LEU:HD12	2.11	0.51
1:A:3514:LEU:HD23	1:A:3606:LEU:HD13	1.92	0.51
1:A:4206:GLU:O	1:A:4211:LYS:NZ	2.41	0.51
1:B:2748:PRO:HD2	1:B:2751:LEU:HD13	1.91	0.51
1:B:2856:ASN:OD1	1:B:2856:ASN:N	2.43	0.51
1:D:2165:LEU:HD13	1:D:2178:MET:HB2	1.93	0.51
1:A:1007:TYR:O	1:A:1017:ARG:NH2	2.44	0.51
1:A:1109:LEU:HD21	1:A:1115:LEU:HD21	1.93	0.51
1:A:2313:LEU:H	1:A:2313:LEU:HD12	1.75	0.51
1:A:4848:VAL:HG11	1:A:4887:MET:HG2	1.93	0.51
1:B:150:MET:O	1:B:151:HIS:ND1	2.43	0.51
1:D:222:LEU:HD12	1:D:231:LEU:HD23	1.93	0.51
1:D:1778:SER:HB3	1:D:1798:LEU:HB2	1.92	0.51
1:D:3891:LEU:HB3	1:D:3899:PHE:HE2	1.75	0.51
1:D:3958:ALA:HB3	1:D:4019:LEU:HD11	1.92	0.51
1:A:813:GLU:OE1	1:A:813:GLU:N	2.44	0.51
1:C:214:VAL:HG21	1:C:390:LEU:HD12	1.93	0.51
1:C:2247:GLN:OE1	1:C:2283:ASN:ND2	2.42	0.51
1:C:3996:PHE:CZ	1:C:4019:LEU:HD22	2.45	0.51
1:C:4104:THR:OG1	1:C:4107:GLU:OE1	2.24	0.51
1:D:1093:GLU:HB3	1:D:1201:HIS:HB3	1.92	0.51
1:A:3770:LEU:HD11	1:A:3804:ILE:HD11	1.92	0.51
1:B:222:LEU:HD12	1:B:231:LEU:HD23	1.92	0.51
1:B:4860:ARG:NH2	1:C:4629:TYR:OH	2.42	0.51
1:B:4866:SER:OG	1:B:4871:GLU:O	2.28	0.51
1:C:2019:GLU:OE1	1:C:2028:ARG:NH1	2.44	0.51
1:D:708:GLY:N	1:D:713:SER:OG	2.37	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:4696:ASP:OD1	1:D:4696:ASP:N	2.44	0.51
1:A:2247:GLN:OE1	1:A:2283:ASN:ND2	2.44	0.51
1:B:274:LEU:HD11	1:B:280:LEU:HD11	1.93	0.51
1:B:689:THR:HG22	1:B:776:LEU:H	1.76	0.51
1:B:2862:LEU:HD23	1:B:2928:LYS:HB2	1.93	0.51
1:B:4897:ILE:HG13	1:B:4901:ILE:HD11	1.92	0.51
1:C:2556:LEU:HD11	1:C:2597:LYS:HA	1.93	0.51
1:C:3696:ASP:N	1:C:3696:ASP:OD1	2.43	0.51
1:A:652:ARG:HD3	1:A:773:LEU:HD22	1.93	0.51
1:B:1054:GLU:N	1:B:1054:GLU:OE1	2.44	0.51
1:B:3171:SER:O	1:B:3175:LEU:HD12	2.11	0.51
1:C:1694:LEU:HB3	1:C:1715:LEU:HD12	1.92	0.51
1:C:2633:LEU:HD21	1:C:2682:ILE:HA	1.92	0.51
1:D:1455:PRO:HG3	1:D:1549:PHE:HE1	1.74	0.51
1:D:2019:GLU:OE1	1:D:2028:ARG:NH1	2.44	0.51
1:D:3270:ILE:HA	1:D:3273:THR:HG22	1.91	0.51
1:A:1830:VAL:HB	1:A:1837:GLN:HG3	1.92	0.51
1:A:4860:ARG:NH2	1:B:4629:TYR:OH	2.44	0.51
1:B:222:LEU:HB2	1:B:231:LEU:HB3	1.93	0.51
1:B:284:HIS:ND1	1:B:287:THR:OG1	2.41	0.51
1:C:800:PHE:CE2	1:C:810:PRO:HB3	2.46	0.51
1:C:991:ASN:O	1:C:995:VAL:HG23	2.11	0.51
1:C:1991:THR:O	1:C:1995:THR:OG1	2.29	0.51
1:C:4839:MET:HE3	1:D:4820:VAL:HG11	1.93	0.51
1:D:224:HIS:HB3	1:D:229:GLU:HG3	1.93	0.51
1:A:224:HIS:HB3	1:A:229:GLU:HG3	1.93	0.50
1:B:1186:ASP:OD1	1:B:1186:ASP:N	2.44	0.50
1:B:3608:GLN:H	1:B:3608:GLN:CD	2.15	0.50
1:D:1480:GLN:OE1	1:D:1480:GLN:N	2.43	0.50
1:D:2862:LEU:HD23	1:D:2928:LYS:HB2	1.93	0.50
1:D:3817:LEU:HD11	1:D:3821:LYS:HE3	1.92	0.50
1:A:886:ARG:HB3	1:A:891:TRP:HD1	1.77	0.50
1:A:3455:GLU:O	1:A:3459:VAL:HG12	2.11	0.50
1:A:3778:MET:O	1:A:3782:MET:HG2	2.11	0.50
1:A:4189:ARG:HH12	1:A:4191:GLU:HG2	1.76	0.50
1:B:1810:LYS:O	1:B:1814:MET:HG3	2.11	0.50
1:B:2107:GLN:NE2	1:B:3679:LYS:O	2.38	0.50
1:B:2451:LEU:H	1:B:2451:LEU:HD12	1.76	0.50
1:C:2313:LEU:HD12	1:C:2313:LEU:H	1.76	0.50
1:C:4860:ARG:NH2	1:D:4629:TYR:OH	2.42	0.50
1:D:997:ALA:O	1:D:1001:VAL:HG13	2.10	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2674:LEU:HD11	1:D:2678:LEU:HD23	1.93	0.50
1:A:4933:GLN:O	1:A:4937:ILE:HG12	2.11	0.50
1:B:281:ARG:NH1	1:B:307:ALA:O	2.44	0.50
1:B:3996:PHE:CZ	1:B:4019:LEU:HD22	2.46	0.50
1:B:4554:TYR:HE1	1:B:4558:ASN:HD22	1.60	0.50
1:C:3770:LEU:HD11	1:C:3804:ILE:HD11	1.94	0.50
2:G:53:GLN:O	2:G:54:GLU:HG2	2.10	0.50
1:A:997:ALA:O	1:A:1001:VAL:HG13	2.10	0.50
1:B:2512:ILE:HG22	1:B:2516:ASP:HB2	1.93	0.50
1:B:2598:ALA:O	1:B:2602:VAL:HG23	2.11	0.50
1:C:2916:LYS:HG3	1:C:2920:ARG:HB2	1.92	0.50
1:D:214:VAL:HG21	1:D:390:LEU:HD12	1.93	0.50
1:D:652:ARG:HD3	1:D:773:LEU:HD22	1.93	0.50
1:D:4583:SER:HB3	1:D:4630:TYR:HE1	1.76	0.50
1:D:5034:ASP:OD1	1:D:5035:GLN:HG3	2.12	0.50
1:A:3891:LEU:HD13	1:A:3899:PHE:HE2	1.77	0.50
1:B:2659:THR:O	1:B:2663:ASN:ND2	2.44	0.50
1:C:2660:GLY:HA2	1:C:2663:ASN:HD21	1.77	0.50
1:D:1991:THR:O	1:D:1995:THR:OG1	2.28	0.50
1:A:103:TYR:OH	1:A:167:ASP:OD2	2.30	0.50
1:A:1141:ARG:NH2	1:A:1167:GLU:OE1	2.44	0.50
1:A:4151:SER:HB2	1:A:4164:LEU:HD11	1.94	0.50
1:B:2916:LYS:HG3	1:B:2920:ARG:HB2	1.94	0.50
1:C:3433:GLU:O	1:C:3437:MET:HG2	2.11	0.50
1:D:2376:LEU:HD11	1:D:2430:ILE:HD11	1.93	0.50
1:A:2660:GLY:HA2	1:A:2663:ASN:HD21	1.77	0.50
1:B:918:ARG:O	1:B:922:LEU:HD22	2.12	0.50
1:C:1033:ARG:HA	1:C:1036:ARG:NE	2.27	0.50
1:C:1152:MET:HE2	1:C:1161:ILE:HB	1.93	0.50
1:D:2669:GLU:OE1	1:D:2669:GLU:N	2.38	0.50
1:D:3725:TYR:O	1:D:3729:MET:HG3	2.12	0.50
1:A:380:GLN:OE1	1:A:380:GLN:N	2.33	0.50
1:A:1615:VAL:HG13	1:A:1617:THR:H	1.76	0.50
1:A:1747:LEU:HD23	1:A:1749:PRO:HB3	1.94	0.50
1:B:667:MET:SD	1:B:790:ARG:NH2	2.85	0.50
1:B:1748:PHE:HB2	1:B:1953:HIS:NE2	2.26	0.50
1:B:2116:LEU:O	1:B:2120:MET:HG3	2.11	0.50
1:C:1008:SER:HB3	1:C:1017:ARG:HB3	1.93	0.50
1:C:1126:GLY:HA3	1:C:1143:TRP:NE1	2.27	0.50
1:C:2862:LEU:HD23	1:C:2928:LYS:HB2	1.94	0.50
1:D:2377:LEU:HD22	1:D:2377:LEU:H	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:13:PHE:HE1	1:A:162:LYS:HB3	1.76	0.50
1:A:1047:LEU:HD13	1:A:1053:ILE:HD12	1.93	0.50
1:A:2512:ILE:HG22	1:A:2516:ASP:HB2	1.93	0.50
1:B:659:TYR:CD2	1:B:809:ALA:HB2	2.46	0.50
1:B:1155:LEU:HD22	1:B:1184:ILE:HD12	1.94	0.50
1:B:2019:GLU:OE1	1:B:2028:ARG:NH1	2.44	0.50
1:B:2376:LEU:HD21	1:B:2430:ILE:HD11	1.94	0.50
1:B:3706:SER:OG	1:B:3781:GLN:OE1	2.25	0.50
1:B:887:ILE:HA	1:B:891:TRP:H	1.77	0.49
1:C:222:LEU:HD12	1:C:231:LEU:HD23	1.93	0.49
1:C:571:SER:O	1:C:571:SER:OG	2.30	0.49
1:C:918:ARG:O	1:C:922:LEU:HG	2.12	0.49
1:C:1746:THR:OG1	1:C:1747:LEU:N	2.45	0.49
1:C:1747:LEU:O	1:C:1953:HIS:NE2	2.43	0.49
1:C:2736:ASP:OD1	1:C:2736:ASP:N	2.40	0.49
1:D:2606:CYS:O	1:D:2607:LEU:HD12	2.12	0.49
1:A:1455:PRO:HG3	1:A:1549:PHE:HE1	1.76	0.49
1:A:1479:GLU:OE2	1:A:1479:GLU:N	2.34	0.49
1:D:2659:THR:O	1:D:2663:ASN:ND2	2.45	0.49
1:A:896:VAL:HB	1:A:901:LYS:HD3	1.93	0.49
1:A:1510:SER:OG	1:A:1511:HIS:N	2.46	0.49
1:B:1261:ASP:N	1:B:1261:ASP:OD1	2.42	0.49
1:B:1455:PRO:HG3	1:B:1549:PHE:HE1	1.77	0.49
1:C:708:GLY:N	1:C:713:SER:OG	2.34	0.49
1:C:1275:ARG:HG3	1:C:1276:THR:HG23	1.94	0.49
1:C:4162:ASN:N	1:C:4162:ASN:OD1	2.45	0.49
1:C:4899:ASP:OD1	1:D:4892:ARG:NH2	2.42	0.49
1:D:571:SER:O	1:D:571:SER:OG	2.30	0.49
2:H:53:GLN:O	2:H:54:GLU:HG2	2.12	0.49
1:A:670:GLU:N	1:A:670:GLU:OE1	2.45	0.49
1:A:2247:GLN:NE2	1:A:2278:ALA:O	2.45	0.49
1:B:1124:PHE:HE2	1:B:1143:TRP:HE1	1.59	0.49
1:B:2208:MET:HG2	1:B:2236:LEU:HD11	1.92	0.49
1:C:1281:ASN:HD21	1:C:1283:LEU:HD22	1.76	0.49
1:D:794:GLY:HA3	1:D:812:HIS:HB3	1.93	0.49
1:A:284:HIS:ND1	1:A:287:THR:OG1	2.42	0.49
1:A:1028:ASP:OD1	1:A:1028:ASP:N	2.42	0.49
1:A:4629:TYR:OH	1:D:4860:ARG:NH2	2.45	0.49
1:B:131:LEU:HD21	1:C:2460:LEU:HD13	1.95	0.49
1:B:4066:LEU:HD23	1:B:4133:GLN:HE22	1.77	0.49
1:B:4162:ASN:N	1:B:4162:ASN:OD1	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4933:GLN:O	1:B:4937:ILE:HG12	2.12	0.49
1:D:2916:LYS:HG3	1:D:2920:ARG:HB2	1.94	0.49
1:D:3817:LEU:HD13	1:D:3899:PHE:HD1	1.77	0.49
2:F:67:SER:O	2:F:67:SER:OG	2.30	0.49
1:A:317:ARG:NH1	1:A:320:LYS:O	2.46	0.49
1:B:886:ARG:HB3	1:B:891:TRP:HD1	1.78	0.49
1:B:1154:ASP:HB3	1:B:1159:THR:HG22	1.94	0.49
1:B:1778:SER:HB3	1:B:1798:LEU:HB2	1.94	0.49
1:C:866:HIS:ND1	1:C:867:LEU:HG	2.28	0.49
1:C:3319:ILE:O	1:C:3323:ILE:HG13	2.12	0.49
1:C:3706:SER:OG	1:C:3781:GLN:OE1	2.24	0.49
1:C:3835:LEU:HD22	1:C:3880:PHE:HZ	1.78	0.49
1:D:595:ARG:NH1	1:D:1643:GLU:OE2	2.33	0.49
1:D:2545:GLU:OE1	1:D:2585:THR:OG1	2.31	0.49
1:D:3891:LEU:HB3	1:D:3899:PHE:CE2	2.47	0.49
1:C:3511:VAL:HG21	1:C:3609:THR:HG21	1.95	0.49
1:D:1245:PHE:CG	1:D:1288:PHE:HE2	2.31	0.49
1:D:1746:THR:OG1	1:D:1747:LEU:N	2.45	0.49
1:D:4933:GLN:O	1:D:4937:ILE:HG12	2.12	0.49
1:A:214:VAL:HG21	1:A:390:LEU:HD12	1.95	0.49
1:A:2451:LEU:H	1:A:2451:LEU:HD12	1.77	0.49
1:A:4932:ILE:O	1:A:4936:ILE:HG12	2.13	0.49
1:B:4069:LYS:HG2	1:B:4133:GLN:HE21	1.78	0.49
1:A:469:ARG:NE	1:A:3712:GLU:OE2	2.43	0.49
1:A:663:TYR:OH	1:A:665:GLU:OE2	2.24	0.49
1:B:1228:ILE:HG13	1:B:1229:ASN:H	1.78	0.49
1:B:3666:ASP:OD1	1:B:3666:ASP:N	2.46	0.49
1:B:4206:GLU:O	1:B:4211:LYS:NZ	2.42	0.49
1:C:438:ILE:HG23	1:C:518:ILE:HD11	1.95	0.49
1:D:879:HIS:CE1	1:D:913:LEU:HD21	2.48	0.49
1:D:3769:ARG:O	1:D:3773:ARG:NH1	2.45	0.49
1:D:4907:ASP:OD1	1:D:4907:ASP:O	2.30	0.49
1:A:1774:PRO:HG2	1:A:1776:HIS:CE1	2.48	0.49
1:A:2019:GLU:OE1	1:A:2028:ARG:NH1	2.44	0.49
1:B:533:ASN:HB3	1:B:536:ASN:HB2	1.95	0.49
1:C:972:LEU:HD22	1:C:1044:ARG:HB3	1.95	0.49
1:C:2107:GLN:NE2	1:C:3679:LYS:O	2.41	0.49
1:D:3019:SER:O	1:D:3019:SER:OG	2.31	0.49
2:G:20:GLN:NE2	2:G:107:GLU:OE1	2.46	0.49
1:A:1479:GLU:OE1	1:A:1480:GLN:NE2	2.46	0.48
1:B:289:ARG:HD2	1:B:301:VAL:HG23	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3466:ASN:O	1:B:3507:THR:OG1	2.31	0.48
1:B:4989:MET:O	1:B:4993:MET:HG3	2.12	0.48
1:C:4802:GLY:HA2	1:C:4808:PHE:HB2	1.95	0.48
1:A:647:ASN:OD1	1:A:647:ASN:N	2.45	0.48
1:A:2128:TYR:OH	1:A:3676:ASP:OD2	2.28	0.48
1:A:2755:ILE:HD11	1:A:2813:LEU:HD12	1.94	0.48
1:A:3666:ASP:N	1:A:3666:ASP:OD1	2.46	0.48
1:B:1007:TYR:HB2	1:B:1021:LEU:HB2	1.94	0.48
1:C:1708:ARG:O	1:C:1712:TYR:HD1	1.96	0.48
1:C:2211:MET:HB2	1:C:2232:CYS:SG	2.53	0.48
1:C:2325:PRO:HG3	1:C:2422:ILE:HD13	1.94	0.48
1:C:2674:LEU:HD11	1:C:2678:LEU:HD23	1.96	0.48
1:C:4958:CYS:HA	4:C:5101:ATP:H2	1.79	0.48
1:D:78:LEU:HD11	1:D:147:TRP:CD2	2.49	0.48
1:D:667:MET:SD	1:D:790:ARG:NH2	2.85	0.48
1:D:1071:ARG:HG3	1:D:1072:VAL:H	1.77	0.48
1:D:2506:LEU:HD12	1:D:2510:TYR:HB2	1.95	0.48
1:D:2856:ASN:OD1	1:D:2856:ASN:N	2.43	0.48
1:D:3319:ILE:O	1:D:3323:ILE:HG22	2.13	0.48
2:E:53:GLN:O	2:E:54:GLU:HG2	2.12	0.48
1:A:875:ALA:HB1	1:A:910:PHE:CZ	2.47	0.48
1:A:1232:ARG:NH2	1:A:1828:ASP:O	2.46	0.48
1:C:1100:MET:SD	1:C:1198:GLN:HB3	2.53	0.48
1:D:3072:ALA:O	1:D:3146:HIS:ND1	2.46	0.48
1:D:4989:MET:O	1:D:4993:MET:HG3	2.13	0.48
1:A:1139:PHE:CE2	1:A:1178:ALA:HA	2.48	0.48
1:A:4958:CYS:HA	4:A:5101:ATP:H2	1.78	0.48
1:B:1109:LEU:HD21	1:B:1115:LEU:HD21	1.95	0.48
1:B:3770:LEU:HD11	1:B:3804:ILE:HD11	1.95	0.48
1:C:1090:PHE:HB2	1:C:1204:LEU:HA	1.94	0.48
1:C:1748:PHE:HB2	1:C:1953:HIS:NE2	2.28	0.48
1:C:2768:PHE:HA	1:C:2771:ILE:HG12	1.95	0.48
1:D:4162:ASN:OD1	1:D:4162:ASN:N	2.46	0.48
2:H:4:ILE:HG13	2:H:72:ALA:HB1	1.96	0.48
1:A:1241:SER:HA	1:A:1603:VAL:HG12	1.96	0.48
1:A:3835:LEU:HD22	1:A:3880:PHE:HZ	1.78	0.48
1:B:276:TRP:HZ3	1:B:346:CYS:HB3	1.78	0.48
1:B:1991:THR:O	1:B:1995:THR:OG1	2.31	0.48
1:C:3850:GLN:NE2	1:C:3871:GLY:H	2.10	0.48
1:C:4933:GLN:O	1:C:4937:ILE:HG12	2.13	0.48
1:D:1115:LEU:HD13	1:D:1123:VAL:HG11	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2755:ILE:HD11	1:D:2813:LEU:HD12	1.95	0.48
1:A:853:PRO:HB3	1:A:1023:PRO:HB3	1.95	0.48
1:A:1041:GLN:HA	1:A:1044:ARG:HG2	1.96	0.48
1:A:2107:GLN:NE2	1:A:3679:LYS:O	2.39	0.48
1:A:4251:ILE:HD11	1:A:4556:SER:HB2	1.96	0.48
1:B:876:GLU:CD	1:B:876:GLU:H	2.17	0.48
1:B:1153:ILE:HG13	1:B:1160:ILE:HG12	1.94	0.48
1:C:181:HIS:ND1	1:C:198:THR:OG1	2.43	0.48
1:C:1241:SER:HA	1:C:1603:VAL:HG12	1.96	0.48
1:C:2505:PHE:O	1:C:2509:VAL:HG12	2.14	0.48
1:C:4176:PRO:O	1:C:4202:ARG:NH2	2.42	0.48
1:C:4583:SER:HB3	1:C:4630:TYR:HE1	1.78	0.48
1:D:3648:ARG:O	1:D:3652:MET:HG3	2.13	0.48
2:H:68:LEU:H	2:H:103:LEU:HD23	1.79	0.48
1:A:3709:ALA:HB2	1:A:3782:MET:SD	2.54	0.48
1:B:116:MET:HG2	1:B:139:GLU:HA	1.96	0.48
1:B:2751:LEU:O	1:B:2755:ILE:HG12	2.14	0.48
1:D:669:ASP:OD1	1:D:790:ARG:NH1	2.46	0.48
1:D:1154:ASP:OD1	1:D:1156:THR:OG1	2.31	0.48
1:A:961:MET:CE	1:A:963:ASN:H	2.27	0.48
1:A:4017:LEU:HD22	1:A:4139:ILE:HG21	1.96	0.48
1:B:154:SER:O	1:B:156:GLN:N	2.42	0.48
1:C:4138:ASP:O	1:C:4142:ASN:ND2	2.41	0.48
1:B:984:LEU:HD13	1:B:987:ARG:HD3	1.95	0.48
1:B:1281:ASN:HD21	1:B:1283:LEU:HD22	1.79	0.48
1:B:1748:PHE:HB2	1:B:1953:HIS:HE2	1.79	0.48
1:B:1808:ARG:HD2	1:B:1854:PHE:HA	1.95	0.48
1:B:2023:LEU:HB3	1:B:2028:ARG:HE	1.79	0.48
1:B:4802:GLY:HA2	1:B:4808:PHE:HB2	1.96	0.48
1:C:1936:LYS:HE3	1:C:2116:LEU:HD21	1.95	0.48
1:C:4983:HIS:O	4:C:5101:ATP:N6	2.47	0.48
1:D:2023:LEU:HB3	1:D:2028:ARG:HE	1.79	0.48
1:A:331:VAL:HG12	1:A:333:GLY:H	1.79	0.48
1:B:640:TYR:HD2	1:B:1634:LEU:HB3	1.78	0.48
1:B:2377:LEU:HD21	1:B:2465:ASP:HA	1.95	0.48
1:B:2637:ALA:O	1:B:2641:LEU:HD12	2.14	0.48
1:B:3041:SER:HA	1:B:3044:CYS:SG	2.54	0.48
1:C:886:ARG:HB3	1:C:891:TRP:CD1	2.49	0.48
1:C:887:ILE:HA	1:C:891:TRP:H	1.78	0.48
1:D:3514:LEU:HD23	1:D:3606:LEU:HD13	1.95	0.48
2:G:105:ASN:ND2	2:G:107:GLU:H	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1147:ASP:OD1	1:B:1165:ASN:ND2	2.42	0.47
1:B:2755:ILE:HD11	1:B:2813:LEU:HD12	1.96	0.47
1:B:4176:PRO:O	1:B:4202:ARG:NH2	2.43	0.47
1:C:4554:TYR:HE1	1:C:4558:ASN:HD22	1.62	0.47
1:D:331:VAL:HG12	1:D:333:GLY:H	1.79	0.47
1:D:438:ILE:HG23	1:D:518:ILE:HD11	1.97	0.47
1:D:3003:LEU:HD22	1:D:3067:CYS:SG	2.54	0.47
1:A:2208:MET:HG2	1:A:2236:LEU:HD11	1.96	0.47
1:A:2377:LEU:HD21	1:A:2465:ASP:HA	1.95	0.47
1:C:1808:ARG:HD2	1:C:1854:PHE:HA	1.97	0.47
1:C:2023:LEU:HB3	1:C:2028:ARG:HE	1.78	0.47
1:C:2573:GLU:O	1:C:2577:ILE:HG13	2.13	0.47
1:C:2748:PRO:HD2	1:C:2751:LEU:HD13	1.94	0.47
1:C:4696:ASP:OD1	1:C:4696:ASP:N	2.45	0.47
1:D:663:TYR:OH	1:D:665:GLU:OE2	2.28	0.47
1:D:885:THR:HA	1:D:888:GLU:HG2	1.96	0.47
1:D:1748:PHE:HB2	1:D:1953:HIS:NE2	2.28	0.47
1:A:2460:LEU:HD13	1:D:131:LEU:HD21	1.95	0.47
1:A:3019:SER:O	1:A:3019:SER:OG	2.30	0.47
1:A:3817:LEU:HD13	1:A:3899:PHE:CD1	2.49	0.47
1:A:4802:GLY:HA2	1:A:4808:PHE:HB2	1.97	0.47
1:A:4998:LYS:HB3	1:A:5003:HIS:HE1	1.79	0.47
1:B:3648:ARG:O	1:B:3652:MET:HG3	2.14	0.47
1:B:3917:ILE:O	1:B:3920:VAL:HG12	2.14	0.47
1:C:3357:HIS:ND1	1:C:3357:HIS:N	2.63	0.47
1:C:3693:LYS:HG2	1:C:3694:LYS:N	2.30	0.47
1:C:4247:ILE:HD13	1:C:4250:GLN:HE22	1.79	0.47
1:D:1747:LEU:O	1:D:1953:HIS:NE2	2.45	0.47
1:A:4215:ARG:HA	1:A:4218:ILE:HD12	1.96	0.47
1:B:661:LYS:HB3	1:B:808:TYR:CD2	2.50	0.47
1:B:1141:ARG:NH2	1:B:1167:GLU:OE1	2.47	0.47
1:B:2782:ASP:OD2	1:B:2787:THR:OG1	2.32	0.47
1:B:4251:ILE:HD11	1:B:4556:SER:HB2	1.95	0.47
1:C:2463:LEU:HD13	1:C:2510:TYR:CD2	2.50	0.47
1:D:991:ASN:O	1:D:995:VAL:HG23	2.15	0.47
1:D:1808:ARG:HD2	1:D:1854:PHE:HA	1.95	0.47
1:D:3840:SER:OG	1:D:3877:ASP:OD1	2.22	0.47
1:A:816:LEU:HD12	1:A:1026:LEU:HD22	1.97	0.47
1:A:881:LEU:O	1:A:885:THR:HG23	2.15	0.47
1:A:1207:ASP:HB3	1:A:1210:SER:HB3	1.97	0.47
1:A:2298:VAL:HG21	1:A:2334:PHE:HE2	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2384:ILE:O	1:A:2387:SER:OG	2.31	0.47
1:B:1746:THR:OG1	1:B:1747:LEU:N	2.46	0.47
1:B:1747:LEU:O	1:B:1953:HIS:NE2	2.47	0.47
1:B:4576:ILE:HG21	1:B:4643:LEU:HB2	1.95	0.47
1:C:2521:VAL:HA	1:C:2524:VAL:HG22	1.95	0.47
1:D:276:TRP:HE3	1:D:317:ARG:HA	1.80	0.47
1:D:1615:VAL:HG13	1:D:1617:THR:H	1.79	0.47
1:D:2382:GLU:O	1:D:2386:ILE:HG12	2.13	0.47
1:A:2293:GLN:HA	1:A:2296:GLU:HG2	1.96	0.47
1:A:3352:GLU:OE2	1:A:3352:GLU:N	2.47	0.47
1:A:4562:LEU:HB3	1:A:4657:CYS:SG	2.54	0.47
1:A:4563:ARG:HH22	1:A:4791:TYR:HE2	1.62	0.47
1:B:158:SER:HB3	1:B:161:GLU:HG3	1.95	0.47
1:B:331:VAL:HG12	1:B:333:GLY:H	1.80	0.47
1:B:2674:LEU:HD11	1:B:2678:LEU:HD23	1.96	0.47
1:D:2751:LEU:O	1:D:2755:ILE:HG12	2.14	0.47
2:G:66:MET:HB2	2:G:103:LEU:HD22	1.97	0.47
1:A:192:ASP:OD1	1:A:192:ASP:N	2.47	0.47
1:A:544:LEU:HD22	1:A:574:VAL:HG22	1.95	0.47
1:A:816:LEU:O	1:A:818:ARG:N	2.48	0.47
1:A:1228:ILE:HG13	1:A:1229:ASN:H	1.79	0.47
1:A:1748:PHE:HB2	1:A:1953:HIS:NE2	2.29	0.47
1:A:2768:PHE:HA	1:A:2771:ILE:HG12	1.96	0.47
1:A:4189:ARG:NH1	1:A:4191:GLU:HG2	2.29	0.47
1:B:2178:MET:HB3	1:B:2228:MET:HE1	1.96	0.47
1:B:2247:GLN:OE1	1:B:2283:ASN:ND2	2.46	0.47
1:B:2768:PHE:HA	1:B:2771:ILE:HG12	1.96	0.47
1:B:4184:MET:HB3	1:B:5021:PHE:HA	1.97	0.47
1:B:4772:ASP:HB3	1:B:4775:TYR:HB3	1.96	0.47
1:B:5004:THR:HG22	1:B:5005:GLY:H	1.80	0.47
1:C:72:SER:H	1:C:99:ARG:NH2	2.13	0.47
1:C:669:ASP:OD1	1:C:790:ARG:NH1	2.47	0.47
1:D:72:SER:H	1:D:99:ARG:NH2	2.13	0.47
1:D:1099:GLU:OE2	1:D:1125:ASN:ND2	2.48	0.47
1:D:2521:VAL:HG12	1:D:2568:LEU:HD22	1.95	0.47
1:D:2745:VAL:O	1:D:2814:LYS:NZ	2.35	0.47
1:D:2861:ASP:OD1	1:D:2861:ASP:N	2.48	0.47
2:F:53:GLN:O	2:F:54:GLU:HG2	2.14	0.47
2:F:90:VAL:CG1	2:F:91:ILE:H	2.28	0.47
1:A:4913:ARG:NH1	1:A:4917:ASP:OD2	2.47	0.47
1:B:1653:LEU:HD12	1:B:1707:LEU:HD11	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3906:GLN:OE1	1:B:3906:GLN:N	2.48	0.47
1:B:4027:LEU:HB3	1:B:4044:MET:HE1	1.96	0.47
1:C:2657:LEU:H	1:C:2657:LEU:HD12	1.79	0.47
1:D:1419:ASP:HB3	1:D:1420:ASN:H	1.51	0.47
1:D:2595:LEU:HD21	1:D:2631:PRO:HG3	1.97	0.47
1:D:2782:ASP:OD2	1:D:2787:THR:OG1	2.33	0.47
2:E:91:ILE:HG21	2:E:97:LEU:HD21	1.97	0.47
1:B:881:LEU:O	1:B:884:LEU:HG	2.14	0.47
1:B:4562:LEU:HB3	1:B:4657:CYS:SG	2.55	0.47
1:C:1193:SER:O	1:C:1193:SER:OG	2.33	0.47
1:C:2010:LEU:O	1:C:3661:TRP:NE1	2.47	0.47
1:C:2751:LEU:O	1:C:2755:ILE:HG12	2.15	0.47
1:D:1228:ILE:HG13	1:D:1229:ASN:H	1.80	0.47
1:D:3035:GLU:HA	1:D:3038:MET:HG2	1.96	0.47
1:D:4104:THR:OG1	1:D:4107:GLU:OE1	2.24	0.47
1:A:533:ASN:HB3	1:A:536:ASN:HB2	1.95	0.47
1:A:2556:LEU:HD21	1:A:2597:LYS:HA	1.97	0.47
1:A:4162:ASN:OD1	1:A:4162:ASN:N	2.47	0.47
1:A:4176:PRO:O	1:A:4202:ARG:NH2	2.43	0.47
1:A:4772:ASP:HB3	1:A:4775:TYR:HB3	1.97	0.47
1:B:1033:ARG:HA	1:B:1036:ARG:NE	2.30	0.47
1:B:1101:ARG:HB2	1:B:1193:SER:HB3	1.97	0.47
1:D:181:HIS:ND1	1:D:198:THR:OG1	2.47	0.47
1:D:1028:ASP:OD1	1:D:1028:ASP:N	2.43	0.47
1:D:1510:SER:OG	1:D:1511:HIS:N	2.48	0.47
1:D:3835:LEU:HD22	1:D:3880:PHE:HZ	1.80	0.47
1:D:4567:LEU:HD13	1:D:4816:ILE:HG23	1.96	0.47
1:A:1093:GLU:HB3	1:A:1201:HIS:HB3	1.95	0.46
1:A:1749:PRO:HD2	1:A:1752:ARG:HA	1.96	0.46
1:B:192:ASP:N	1:B:192:ASP:OD1	2.48	0.46
1:B:292:ALA:HB2	1:B:312:THR:HG22	1.97	0.46
1:B:876:GLU:HA	1:B:879:HIS:HB3	1.96	0.46
1:B:910:PHE:HE2	1:B:922:LEU:HD13	1.80	0.46
1:B:2766:TRP:O	1:B:2770:LYS:HE2	2.15	0.46
1:C:640:TYR:HD2	1:C:1634:LEU:HB3	1.79	0.46
1:C:881:LEU:O	1:C:884:LEU:HG	2.15	0.46
1:C:1228:ILE:HG13	1:C:1229:ASN:H	1.80	0.46
1:C:3958:ALA:HB3	1:C:4019:LEU:HD11	1.96	0.46
1:C:4181:ILE:O	1:C:4193:ILE:N	2.45	0.46
1:D:192:ASP:OD1	1:D:192:ASP:N	2.48	0.46
1:A:689:THR:HG22	1:A:776:LEU:H	1.79	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1613:LEU:HD23	1:A:1634:LEU:HD12	1.98	0.46
1:A:1667:LEU:O	1:A:1671:ARG:HG3	2.15	0.46
1:A:2770:LYS:HE3	1:A:2791:LEU:HD21	1.97	0.46
1:A:4219:PHE:HD1	1:A:4950:VAL:HG21	1.80	0.46
1:B:1241:SER:HA	1:B:1603:VAL:HG12	1.97	0.46
1:B:1667:LEU:O	1:B:1671:ARG:HG3	2.15	0.46
1:B:2521:VAL:HA	1:B:2524:VAL:HG22	1.97	0.46
1:B:2556:LEU:HD11	1:B:2597:LYS:HA	1.97	0.46
1:C:3414:ARG:NH1	1:C:3414:ARG:HB2	2.31	0.46
1:D:3906:GLN:OE1	1:D:3906:GLN:N	2.49	0.46
1:A:4583:SER:HB3	1:A:4630:TYR:HE1	1.80	0.46
1:B:72:SER:H	1:B:99:ARG:NH2	2.14	0.46
1:B:875:ALA:HB1	1:B:910:PHE:CZ	2.50	0.46
1:C:2747:ILE:HB	1:C:2814:LYS:HE2	1.96	0.46
1:D:3442:PHE:HE1	1:D:3511:VAL:HG22	1.80	0.46
1:A:247:TYR:HB2	1:A:374:LYS:HB2	1.98	0.46
1:A:4152:GLU:OE1	1:A:4194:TYR:OH	2.31	0.46
1:C:2766:TRP:O	1:C:2770:LYS:HE2	2.15	0.46
1:C:3906:GLN:N	1:C:3906:GLN:OE1	2.48	0.46
1:C:5004:THR:HG22	1:C:5005:GLY:H	1.79	0.46
1:D:2766:TRP:O	1:D:2770:LYS:HE2	2.15	0.46
1:D:3680:ALA:HB2	1:D:3696:ASP:HB3	1.96	0.46
1:D:4773:VAL:O	1:D:4777:ILE:HG13	2.15	0.46
1:A:181:HIS:ND1	1:A:198:THR:OG1	2.47	0.46
1:A:985:VAL:HG23	1:A:1043:VAL:HG21	1.96	0.46
1:A:1747:LEU:O	1:A:1953:HIS:NE2	2.45	0.46
1:B:1763:PRO:HG3	1:B:2094:LEU:HD22	1.97	0.46
1:B:2294:ASP:O	1:B:2298:VAL:HG23	2.16	0.46
1:B:2778:GLY:HA3	1:B:2787:THR:HB	1.98	0.46
1:B:4247:ILE:HD13	1:B:4250:GLN:HE22	1.81	0.46
1:B:4984:ASN:HB3	1:B:4987:ASN:HB2	1.98	0.46
1:C:533:ASN:HB3	1:C:536:ASN:HB2	1.97	0.46
1:C:800:PHE:HE2	1:C:810:PRO:HB3	1.78	0.46
1:C:1778:SER:HB3	1:C:1798:LEU:HB2	1.97	0.46
1:D:57:ASN:OD1	1:D:57:ASN:N	2.46	0.46
1:D:222:LEU:HB2	1:D:231:LEU:HB3	1.97	0.46
1:D:3412:LEU:HD11	1:D:3434:LEU:HD21	1.96	0.46
1:A:3906:GLN:OE1	1:A:3906:GLN:N	2.48	0.46
1:A:4917:ASP:OD2	1:B:4888:TYR:OH	2.26	0.46
1:B:247:TYR:HB2	1:B:374:LYS:HB2	1.98	0.46
1:B:941:MET:HG3	1:B:1051:TYR:HD1	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2325:PRO:HG3	1:B:2422:ILE:HD13	1.96	0.46
1:B:2763:HIS:CE1	1:B:2797:PHE:HZ	2.34	0.46
1:B:3866:ILE:HG22	1:B:3868:ARG:H	1.80	0.46
1:C:331:VAL:HG12	1:C:333:GLY:H	1.81	0.46
1:C:663:TYR:OH	1:C:665:GLU:OE2	2.27	0.46
1:C:902:ARG:HD3	1:C:902:ARG:HA	1.76	0.46
1:C:1075:PHE:HB2	1:C:1192:CYS:HB3	1.98	0.46
1:C:2093:SER:OG	1:C:2096:GLU:OE1	2.31	0.46
1:C:2138:LEU:HD13	1:C:3658:LYS:HB2	1.97	0.46
1:C:2226:PRO:O	1:C:2230:THR:HG23	2.16	0.46
1:A:154:SER:O	1:A:156:GLN:N	2.43	0.46
1:A:3840:SER:OG	1:A:3877:ASP:OD1	2.23	0.46
1:B:1243:PRO:HB2	1:B:1600:LEU:HD11	1.97	0.46
1:B:1615:VAL:HG13	1:B:1617:THR:H	1.81	0.46
1:B:3019:SER:O	1:B:3019:SER:OG	2.30	0.46
1:C:689:THR:HG22	1:C:776:LEU:H	1.81	0.46
1:C:2203:MET:O	1:C:2207:VAL:HG23	2.15	0.46
1:C:2339:VAL:HG11	1:C:2353:VAL:HG11	1.96	0.46
1:C:4112:LEU:O	1:C:4115:SER:OG	2.33	0.46
1:D:247:TYR:HB2	1:D:374:LYS:HB2	1.97	0.46
1:D:864:PRO:HB2	1:D:866:HIS:CE1	2.51	0.46
1:D:1936:LYS:HE3	1:D:2116:LEU:HD21	1.98	0.46
1:D:4562:LEU:HB3	1:D:4657:CYS:SG	2.55	0.46
2:G:90:VAL:HG12	2:G:91:ILE:N	2.30	0.46
1:A:1808:ARG:HD2	1:A:1854:PHE:HA	1.97	0.46
1:B:3442:PHE:CG	1:B:3514:LEU:HD22	2.51	0.46
1:C:4567:LEU:HD13	1:C:4816:ILE:HG23	1.98	0.46
1:D:292:ALA:HB2	1:D:312:THR:HG22	1.98	0.46
1:D:896:VAL:HB	1:D:901:LYS:HD3	1.97	0.46
1:D:1613:LEU:HD23	1:D:1634:LEU:HD12	1.98	0.46
1:D:2489:LYS:O	1:D:2493:SER:OG	2.23	0.46
2:F:104:LEU:HD23	2:F:104:LEU:H	1.81	0.46
1:A:1005:TRP:CE2	1:A:1016:ARG:HG2	2.50	0.46
1:A:1614:GLN:NE2	1:A:1632:ASP:OD2	2.49	0.46
1:A:3064:VAL:HA	1:A:3067:CYS:SG	2.56	0.46
1:B:663:TYR:OH	1:B:665:GLU:OE2	2.24	0.46
1:B:1812:LEU:HD23	1:B:1812:LEU:HA	1.83	0.46
1:B:2377:LEU:HD11	1:B:2468:GLY:HA3	1.98	0.46
1:B:4181:ILE:HD11	1:B:4987:ASN:HB3	1.98	0.46
1:C:1434:TYR:HB2	1:C:1572:ILE:HG22	1.97	0.46
1:C:2010:LEU:HB3	1:C:3661:TRP:HE1	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:897:ARG:HG3	1:D:904:HIS:CD2	2.51	0.46
2:F:90:VAL:HG12	2:F:91:ILE:N	2.29	0.46
2:G:26:TYR:HB2	2:G:101:VAL:HG12	1.98	0.46
1:A:886:ARG:HB3	1:A:891:TRP:CD1	2.51	0.46
1:B:846:LEU:HD23	1:B:846:LEU:HA	1.84	0.46
1:B:876:GLU:HB3	1:B:910:PHE:HB2	1.98	0.46
1:B:1100:MET:HG2	1:B:1194:LEU:HA	1.98	0.46
1:B:1100:MET:SD	1:B:1198:GLN:HB3	2.56	0.46
1:C:192:ASP:N	1:C:192:ASP:OD1	2.48	0.46
1:C:283:ARG:NH1	1:C:290:TYR:OH	2.49	0.46
1:C:1143:TRP:N	1:C:1143:TRP:CD1	2.83	0.46
1:C:1423:ASP:OD1	1:C:1426:ILE:HG22	2.16	0.46
1:C:1717:SER:HA	1:C:1721:GLU:HB2	1.97	0.46
1:C:3866:ILE:HG22	1:C:3868:ARG:H	1.81	0.46
1:D:469:ARG:NE	1:D:3712:GLU:OE2	2.49	0.46
1:D:1738:LEU:HD22	1:D:1963:GLU:HG3	1.98	0.46
1:D:2128:TYR:OH	1:D:3676:ASP:OD2	2.30	0.46
1:D:3165:CYS:HA	1:D:3168:THR:HG22	1.98	0.46
1:D:3866:ILE:HG22	1:D:3868:ARG:H	1.80	0.46
1:A:57:ASN:OD1	1:A:57:ASN:N	2.48	0.45
1:A:897:ARG:HG3	1:A:904:HIS:CD2	2.50	0.45
1:A:2437:ALA:O	1:A:2508:ARG:NH2	2.49	0.45
1:A:2633:LEU:HD21	1:A:2682:ILE:HA	1.98	0.45
1:A:2766:TRP:O	1:A:2770:LYS:HE2	2.15	0.45
1:B:35:LEU:HB3	1:B:49:LEU:HB3	1.98	0.45
1:B:665:GLU:HG2	1:B:745:SER:HB3	1.97	0.45
1:B:829:TYR:HE1	1:B:1608:MET:HG2	1.81	0.45
1:C:885:THR:HA	1:C:888:GLU:HG2	1.98	0.45
1:C:4812:HIS:O	1:C:4816:ILE:HG22	2.17	0.45
1:D:4958:CYS:HA	4:D:5101:ATP:H2	1.81	0.45
1:A:292:ALA:HB2	1:A:312:THR:HG22	1.99	0.45
1:C:292:ALA:HB2	1:C:312:THR:HG22	1.98	0.45
1:C:865:PRO:HA	1:C:868:GLU:HB3	1.98	0.45
1:D:1207:ASP:HB3	1:D:1210:SER:HB3	1.98	0.45
1:D:2138:LEU:HD13	1:D:3658:LYS:HB2	1.98	0.45
1:D:2451:LEU:HD12	1:D:2451:LEU:H	1.82	0.45
1:A:276:TRP:HZ3	1:A:346:CYS:HB3	1.82	0.45
1:A:1101:ARG:HB2	1:A:1193:SER:HB3	1.98	0.45
1:B:893:TYR:H	1:B:961:MET:HE3	1.80	0.45
1:C:1451:GLY:HA3	1:C:1494:MET:HG2	1.99	0.45
1:C:1634:LEU:HD23	1:C:1634:LEU:HA	1.80	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1667:LEU:O	1:C:1671:ARG:HG3	2.16	0.45
1:D:910:PHE:HE2	1:D:922:LEU:HD13	1.82	0.45
1:D:1667:LEU:O	1:D:1671:ARG:HG3	2.16	0.45
1:D:1749:PRO:HD2	1:D:1752:ARG:HA	1.98	0.45
1:D:1763:PRO:HG3	1:D:2094:LEU:HD22	1.99	0.45
1:A:2207:VAL:HG21	1:A:2235:PHE:CE2	2.51	0.45
1:B:886:ARG:HB3	1:B:891:TRP:CD1	2.52	0.45
1:B:2669:GLU:OE1	1:B:2669:GLU:N	2.42	0.45
1:C:886:ARG:HB3	1:C:891:TRP:HD1	1.82	0.45
1:C:1504:GLY:O	1:C:1508:ARG:NH2	2.42	0.45
1:C:1763:PRO:HG3	1:C:2094:LEU:HD22	1.98	0.45
1:C:4251:ILE:HD11	1:C:4556:SER:HB2	1.97	0.45
1:D:274:LEU:HD12	1:D:274:LEU:HA	1.73	0.45
1:D:881:LEU:O	1:D:884:LEU:HG	2.17	0.45
1:D:3511:VAL:HG21	1:D:3609:THR:HG21	1.98	0.45
2:G:67:SER:O	2:G:67:SER:OG	2.29	0.45
1:A:419:ASP:HA	1:A:422:SER:HB3	1.99	0.45
1:A:810:PRO:O	1:A:812:HIS:N	2.50	0.45
1:A:2521:VAL:HA	1:A:2524:VAL:HG22	1.97	0.45
1:B:671:VAL:HG22	1:B:787:VAL:HG12	1.98	0.45
1:B:1007:TYR:O	1:B:1017:ARG:NH2	2.50	0.45
1:C:1243:PRO:HB2	1:C:1600:LEU:HD11	1.98	0.45
1:C:1749:PRO:HD2	1:C:1752:ARG:HA	1.99	0.45
1:D:510:GLU:H	1:D:510:GLU:HG3	1.63	0.45
1:D:580:GLU:HG3	1:D:620:LEU:HD22	1.99	0.45
1:D:4176:PRO:O	1:D:4202:ARG:NH2	2.42	0.45
1:A:2448:GLY:HA2	1:A:2451:LEU:HD13	1.98	0.45
1:B:438:ILE:HG23	1:B:518:ILE:HD11	1.97	0.45
1:B:1694:LEU:HB3	1:B:1715:LEU:HD12	1.98	0.45
1:B:3442:PHE:HE1	1:B:3511:VAL:HG22	1.82	0.45
1:B:3802:ILE:HD11	1:B:3883:ASP:O	2.16	0.45
1:B:4155:PRO:O	1:B:4161:ARG:NH2	2.50	0.45
1:C:950:LEU:HD21	1:C:974:HIS:CE1	2.51	0.45
1:C:2547:ALA:O	1:C:2551:ASN:ND2	2.50	0.45
1:D:801:LYS:C	1:D:802:PHE:HD1	2.20	0.45
1:D:926:GLY:O	1:D:930:LYS:HG3	2.17	0.45
1:D:1634:LEU:HD23	1:D:1634:LEU:HA	1.80	0.45
1:D:1717:SER:HA	1:D:1721:GLU:HB2	1.98	0.45
1:D:3410:PRO:HD3	1:D:3509:LEU:HD21	1.98	0.45
1:D:4913:ARG:NH1	1:D:4917:ASP:OD2	2.48	0.45
1:A:418:LEU:HD23	1:A:421:PHE:CE2	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4181:ILE:HG12	1:B:4195:PHE:HE1	1.82	0.45
1:C:1738:LEU:HD22	1:C:1963:GLU:HG3	1.99	0.45
1:A:1008:SER:HB2	1:A:1017:ARG:CZ	2.46	0.45
1:A:2226:PRO:O	1:A:2230:THR:HG23	2.17	0.45
1:A:2751:LEU:O	1:A:2755:ILE:HG12	2.16	0.45
1:A:3866:ILE:HG22	1:A:3868:ARG:H	1.80	0.45
1:A:4645:CYS:SG	1:A:4646:LEU:N	2.90	0.45
1:B:977:LEU:HB3	1:B:981:GLN:HB2	1.98	0.45
1:B:996:TRP:O	1:B:1000:ARG:HG2	2.17	0.45
1:B:4182:GLU:O	1:B:4988:TYR:OH	2.30	0.45
1:C:927:GLU:HA	1:C:930:LYS:HE2	1.97	0.45
1:D:1193:SER:O	1:D:1193:SER:OG	2.34	0.45
1:D:1292:SER:HB3	1:D:1549:PHE:CE2	2.51	0.45
1:D:1521:ASP:OD1	1:D:1524:THR:N	2.46	0.45
1:D:1594:ARG:NH2	1:D:1643:GLU:OE1	2.50	0.45
1:D:3713:LYS:HG2	1:D:3715:LYS:H	1.82	0.45
1:A:72:SER:H	1:A:99:ARG:NH2	2.15	0.45
1:A:978:THR:HG23	1:A:981:GLN:H	1.82	0.45
1:A:1812:LEU:HG	1:A:1854:PHE:HE1	1.82	0.45
1:A:2778:GLY:HA3	1:A:2787:THR:HB	1.99	0.45
1:A:2862:LEU:HD23	1:A:2928:LYS:HB2	1.98	0.45
1:A:3604:TYR:HE1	1:A:3608:GLN:HE22	1.64	0.45
1:A:3996:PHE:CZ	1:A:4019:LEU:HD22	2.51	0.45
1:B:1749:PRO:HD2	1:B:1752:ARG:HA	1.99	0.45
1:B:1936:LYS:HE3	1:B:2116:LEU:HD21	1.99	0.45
1:B:3165:CYS:HA	1:B:3168:THR:HG22	1.98	0.45
1:B:4913:ARG:NH1	1:B:4917:ASP:OD2	2.50	0.45
1:B:4998:LYS:HB3	1:B:5003:HIS:CE1	2.52	0.45
1:C:19:GLU:O	1:C:205:ILE:N	2.50	0.45
1:C:1510:SER:OG	1:C:1511:HIS:N	2.49	0.45
1:C:3041:SER:HB2	1:C:3088:VAL:HG21	1.99	0.45
1:D:4802:GLY:HA2	1:D:4808:PHE:HB2	1.99	0.45
1:A:2813:LEU:HD23	1:A:2813:LEU:HA	1.84	0.45
1:A:3410:PRO:HD3	1:A:3509:LEU:HD21	1.98	0.45
1:A:3996:PHE:HZ	1:A:4019:LEU:HD22	1.80	0.45
1:A:4875:LYS:HD3	1:A:4875:LYS:HA	1.77	0.45
1:B:1099:GLU:OE2	1:B:1125:ASN:ND2	2.49	0.45
1:B:1510:SER:OG	1:B:1511:HIS:N	2.50	0.45
1:B:1552:VAL:HG11	1:B:1562:ILE:HG12	1.99	0.45
1:B:2595:LEU:HD21	1:B:2631:PRO:HG3	1.98	0.45
1:B:4181:ILE:O	1:B:4193:ILE:N	2.43	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4901:ILE:HB	1:B:4913:ARG:NH2	2.30	0.45
1:B:4954:MET:HB3	4:B:5101:ATP:H1'	1.99	0.45
1:B:4958:CYS:HA	4:B:5101:ATP:H2	1.82	0.45
1:C:950:LEU:HD23	1:C:1049:TYR:HE1	1.81	0.45
1:C:4773:VAL:O	1:C:4777:ILE:HG13	2.17	0.45
1:C:4913:ARG:NH1	1:C:4917:ASP:OD2	2.50	0.45
1:D:737:LEU:HD23	1:D:737:LEU:HA	1.79	0.45
1:D:2423:MET:HE1	1:D:2494:PHE:HA	1.99	0.45
2:F:91:ILE:HG21	2:F:97:LEU:HD21	1.99	0.45
1:A:1748:PHE:HB2	1:A:1953:HIS:HE2	1.82	0.44
1:A:2745:VAL:HG13	1:A:2814:LYS:HD2	2.00	0.44
1:B:1521:ASP:OD1	1:B:1524:THR:N	2.49	0.44
1:B:4696:ASP:OD1	1:B:4696:ASP:N	2.45	0.44
1:C:2778:GLY:HA3	1:C:2787:THR:HB	1.99	0.44
1:D:772:ASN:HD21	1:D:1470:ARG:NH1	2.15	0.44
1:D:1279:SER:O	1:D:1279:SER:OG	2.34	0.44
1:D:2778:GLY:HA3	1:D:2787:THR:HB	1.98	0.44
2:G:23:VAL:HB	2:G:105:ASN:HA	1.99	0.44
2:H:36:PHE:CE2	2:H:91:ILE:HD11	2.51	0.44
1:A:131:LEU:HD21	1:B:2460:LEU:HD13	1.98	0.44
1:A:2861:ASP:OD1	1:A:2861:ASP:N	2.49	0.44
1:A:3817:LEU:HD13	1:A:3899:PHE:HD1	1.82	0.44
1:B:107:ILE:CG2	1:B:150:MET:HE2	2.48	0.44
1:B:3003:LEU:HD23	1:B:3003:LEU:HA	1.86	0.44
1:B:3321:ARG:HA	1:B:3324:VAL:HG12	2.00	0.44
1:C:1024:TYR:CE1	1:C:1032:LYS:HD3	2.53	0.44
1:C:1180:ARG:HG3	1:C:1181:GLU:HG2	1.98	0.44
1:C:4239:GLU:CD	1:C:4679:ARG:HH22	2.20	0.44
1:D:1613:LEU:HD23	1:D:1613:LEU:HA	1.88	0.44
1:D:4045:VAL:HG23	1:D:4160:LEU:HD12	1.98	0.44
1:A:158:SER:HB3	1:A:161:GLU:HG3	1.98	0.44
1:A:372:LEU:HD13	1:A:374:LYS:HE2	2.00	0.44
1:A:717:ASP:O	1:A:738:LEU:HG	2.17	0.44
1:A:1243:PRO:HB2	1:A:1600:LEU:HD11	2.00	0.44
1:A:2489:LYS:O	1:A:2493:SER:OG	2.26	0.44
1:B:571:SER:O	1:B:571:SER:OG	2.30	0.44
1:B:2626:LEU:HG	1:B:2628:PHE:H	1.82	0.44
1:C:345:LEU:HD22	1:C:389:PHE:HB3	2.00	0.44
1:C:469:ARG:NE	1:C:3712:GLU:OE2	2.48	0.44
1:C:2521:VAL:HG12	1:C:2568:LEU:HD22	2.00	0.44
1:C:3442:PHE:HE1	1:C:3511:VAL:HG22	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:893:TYR:HD2	1:D:963:ASN:HD22	1.65	0.44
1:D:1747:LEU:HA	1:D:1957:SER:HB2	1.99	0.44
1:D:3639:THR:OG1	1:D:3639:THR:O	2.23	0.44
1:D:3969:ILE:HG12	1:D:3977:GLN:HG2	1.99	0.44
1:A:2761:TYR:O	1:A:2764:GLU:HG3	2.18	0.44
1:A:4181:ILE:O	1:A:4193:ILE:N	2.40	0.44
1:B:3693:LYS:HG2	1:B:3694:LYS:N	2.32	0.44
1:B:4567:LEU:HD13	1:B:4816:ILE:HG23	2.00	0.44
1:D:345:LEU:HD22	1:D:389:PHE:HB3	2.00	0.44
1:D:973:SER:HA	1:D:976:ARG:HH22	1.81	0.44
1:D:2207:VAL:HG21	1:D:2235:PHE:CE2	2.53	0.44
1:D:2890:LYS:HD3	1:D:2905:LEU:HD21	1.98	0.44
1:D:3357:HIS:N	1:D:3357:HIS:ND1	2.62	0.44
1:D:5036:LEU:HD12	1:D:5036:LEU:H	1.83	0.44
2:F:62:GLY:HA3	2:F:74:LEU:HD13	1.99	0.44
2:G:7:ILE:HB	2:G:71:ARG:HB3	1.99	0.44
2:H:91:ILE:HD12	2:H:91:ILE:H	1.83	0.44
1:A:35:LEU:HB3	1:A:49:LEU:HB3	2.00	0.44
1:A:571:SER:O	1:A:571:SER:OG	2.28	0.44
1:A:1594:ARG:NH2	1:A:1643:GLU:OE1	2.50	0.44
1:A:4138:ASP:OD1	1:A:4138:ASP:N	2.50	0.44
1:B:1738:LEU:HD22	1:B:1963:GLU:HG3	1.99	0.44
1:B:2437:ALA:O	1:B:2508:ARG:NH2	2.49	0.44
1:B:2537:ASP:H	1:B:2584:HIS:HE2	1.66	0.44
1:B:4024:VAL:O	1:B:4028:LEU:HG	2.17	0.44
1:C:57:ASN:OD1	1:C:57:ASN:N	2.48	0.44
1:C:239:ASP:N	1:C:239:ASP:OD1	2.50	0.44
1:C:1748:PHE:HB2	1:C:1953:HIS:HE2	1.82	0.44
1:C:2357:LEU:HD12	1:C:2357:LEU:HA	1.86	0.44
1:D:82:LEU:HD13	1:D:144:GLU:HG3	1.99	0.44
1:D:3137:LEU:O	1:D:3141:THR:HG23	2.18	0.44
1:D:3172:ILE:HA	1:D:3175:LEU:HD12	1.99	0.44
1:D:3980:LEU:HD23	1:D:3985:LEU:HD22	1.99	0.44
2:E:68:LEU:H	2:E:103:LEU:HD23	1.83	0.44
1:A:738:LEU:HD23	1:A:738:LEU:HA	1.79	0.44
1:A:2131:LEU:HD12	1:A:2131:LEU:HA	1.87	0.44
1:A:4138:ASP:O	1:A:4142:ASN:ND2	2.41	0.44
1:B:52:THR:HG21	1:B:267:ILE:HG12	2.00	0.44
1:B:347:PHE:HB2	1:B:356:TRP:HZ3	1.83	0.44
1:B:1465:ASP:N	1:B:1465:ASP:OD1	2.51	0.44
1:B:1758:ARG:HH12	1:B:2092:GLN:HG2	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3941:ASP:OD1	1:B:3941:ASP:N	2.50	0.44
1:C:671:VAL:HG23	1:C:787:VAL:HG12	1.99	0.44
1:C:1527:MET:HB2	1:C:1540:PHE:HB2	2.00	0.44
1:C:2770:LYS:HE3	1:C:2791:LEU:HD21	1.98	0.44
1:C:3666:ASP:N	1:C:3666:ASP:OD1	2.47	0.44
1:D:816:LEU:O	1:D:818:ARG:N	2.51	0.44
1:D:1708:ARG:O	1:D:1712:TYR:HD1	1.99	0.44
1:D:3891:LEU:HD13	1:D:3899:PHE:HE2	1.83	0.44
1:A:438:ILE:HG23	1:A:518:ILE:HD11	1.99	0.44
1:A:2575:ARG:O	1:A:2579:VAL:HG23	2.17	0.44
1:A:4181:ILE:HG12	1:A:4195:PHE:HE1	1.82	0.44
1:A:4705:VAL:HB	1:A:4778:TRP:CG	2.53	0.44
1:B:356:TRP:N	1:B:379:HIS:O	2.51	0.44
1:B:1164:LEU:HD23	1:B:1169:LEU:HD21	2.00	0.44
1:B:1708:ARG:O	1:B:1712:TYR:HD1	2.01	0.44
1:C:1118:ASP:OD1	1:C:1118:ASP:N	2.48	0.44
1:C:1434:TYR:HB2	1:C:1572:ILE:CG2	2.47	0.44
1:C:2430:ILE:HG23	1:C:2505:PHE:CD2	2.53	0.44
1:C:3972:PRO:HD3	1:C:5005:GLY:HA3	1.98	0.44
1:D:1293:LEU:O	1:D:1293:LEU:HD12	2.18	0.44
1:D:2131:LEU:HD12	1:D:2131:LEU:HA	1.86	0.44
1:A:125:ARG:O	1:A:125:ARG:HG2	2.18	0.44
1:A:418:LEU:HD23	1:A:421:PHE:HE2	1.82	0.44
1:A:3891:LEU:HB3	1:A:3899:PHE:CE2	2.53	0.44
1:B:816:LEU:HD13	1:B:1026:LEU:HD22	2.00	0.44
1:B:3041:SER:OG	1:B:3045:LYS:NZ	2.51	0.44
1:C:3412:LEU:HD11	1:C:3434:LEU:HD21	2.00	0.44
1:C:3915:ILE:H	1:C:3915:ILE:HG12	1.65	0.44
1:D:861:ILE:HG22	1:D:863:LEU:HG	2.00	0.44
1:D:1559:GLN:OE1	1:D:1559:GLN:N	2.40	0.44
1:D:3757:GLU:O	1:D:3761:GLN:HG2	2.17	0.44
1:D:5004:THR:HG22	1:D:5005:GLY:H	1.82	0.44
1:A:1100:MET:HB2	1:A:1143:TRP:CZ3	2.53	0.44
1:A:1758:ARG:HH12	1:A:2092:GLN:HG2	1.82	0.44
1:B:19:GLU:O	1:B:205:ILE:N	2.46	0.44
1:B:125:ARG:HG2	1:B:125:ARG:O	2.18	0.44
1:B:683:ARG:HB2	1:B:707:VAL:HG13	1.99	0.44
1:B:4138:ASP:O	1:B:4142:ASN:ND2	2.41	0.44
1:B:4721:LYS:HG2	1:B:4741:LEU:HD22	2.00	0.44
1:C:554:LEU:HD23	1:C:554:LEU:O	2.17	0.44
1:C:2761:TYR:O	1:C:2764:GLU:HG3	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:239:ASP:OD1	1:D:239:ASP:N	2.50	0.44
1:D:1232:ARG:NH2	1:D:1828:ASP:O	2.50	0.44
1:D:1812:LEU:HD23	1:D:1812:LEU:HA	1.80	0.44
1:D:2669:GLU:HB2	1:D:2993:GLN:NE2	2.33	0.44
1:D:4211:LYS:HE2	1:D:4211:LYS:HB2	1.91	0.44
1:A:343:GLU:N	1:A:343:GLU:OE2	2.50	0.43
1:A:372:LEU:HB3	1:A:374:LYS:HG3	2.00	0.43
1:A:1936:LYS:HE3	1:A:2116:LEU:HD21	2.00	0.43
1:A:2256:TYR:O	1:A:2260:ASN:ND2	2.51	0.43
1:A:2738:ARG:HD3	1:A:2738:ARG:HA	1.78	0.43
1:A:3725:TYR:O	1:A:3729:MET:HG3	2.18	0.43
1:A:4846:VAL:HG13	1:B:4813:LEU:HD23	2.00	0.43
1:A:5004:THR:HB	1:A:5007:GLU:HG3	2.00	0.43
1:B:2211:MET:HA	1:B:2214:VAL:HG12	2.00	0.43
1:B:4563:ARG:HH22	1:B:4791:TYR:HE2	1.66	0.43
1:B:4917:ASP:OD2	1:C:4888:TYR:OH	2.28	0.43
1:D:3969:ILE:HD11	1:D:3980:LEU:HD22	2.00	0.43
1:A:1812:LEU:HD23	1:A:1812:LEU:HA	1.80	0.43
1:A:3141:THR:HG22	1:A:3193:CYS:HA	2.00	0.43
1:A:4901:ILE:HB	1:A:4913:ARG:NH2	2.31	0.43
1:B:1090:PHE:HB2	1:B:1204:LEU:HA	2.01	0.43
1:B:1207:ASP:HB3	1:B:1210:SER:HB3	1.99	0.43
1:B:1423:ASP:OD1	1:B:1426:ILE:HG22	2.18	0.43
1:B:2423:MET:HB2	1:B:2498:HIS:CD2	2.53	0.43
1:B:2448:GLY:HA2	1:B:2451:LEU:HD13	2.01	0.43
1:B:3256:LEU:HD23	1:B:3256:LEU:H	1.83	0.43
1:B:3840:SER:OG	1:B:3877:ASP:OD1	2.22	0.43
1:C:222:LEU:HB2	1:C:231:LEU:HB3	2.00	0.43
1:C:284:HIS:ND1	1:C:287:THR:OG1	2.43	0.43
1:C:3045:LYS:HD2	1:C:3045:LYS:H	1.83	0.43
1:C:3047:ALA:HA	1:C:3068:LEU:HD11	2.00	0.43
1:D:154:SER:OG	1:D:155:LYS:N	2.51	0.43
1:A:784:SER:O	1:A:784:SER:OG	2.35	0.43
1:A:1100:MET:HB2	1:A:1143:TRP:HZ3	1.83	0.43
1:A:3945:GLU:OE2	1:A:3949:ARG:HD2	2.18	0.43
1:B:283:ARG:NH1	1:B:290:TYR:OH	2.51	0.43
1:B:345:LEU:HD22	1:B:389:PHE:HB3	2.01	0.43
1:B:1419:ASP:HB3	1:B:1420:ASN:H	1.50	0.43
1:B:1747:LEU:HA	1:B:1957:SER:HB2	2.00	0.43
1:C:738:LEU:HD23	1:C:738:LEU:HA	1.82	0.43
1:C:839:LEU:HB2	1:C:1194:LEU:HD11	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:3137:LEU:HD23	1:C:3137:LEU:HA	1.85	0.43
1:C:3840:SER:OG	1:C:3877:ASP:OD1	2.22	0.43
1:C:4562:LEU:HB3	1:C:4657:CYS:SG	2.59	0.43
1:C:4698:LYS:HB3	1:C:4698:LYS:HE2	1.79	0.43
1:D:876:GLU:HA	1:D:879:HIS:HB3	2.01	0.43
1:D:996:TRP:HD1	1:D:1000:ARG:HG2	1.83	0.43
1:D:999:ASP:OD1	1:D:999:ASP:N	2.42	0.43
1:D:2149:VAL:HA	1:D:2152:THR:HG22	2.00	0.43
1:D:2512:ILE:HG22	1:D:2516:ASP:HB2	1.99	0.43
1:D:2761:TYR:O	1:D:2764:GLU:HG3	2.18	0.43
1:D:3945:GLU:OE2	1:D:3949:ARG:HD2	2.19	0.43
1:D:4155:PRO:O	1:D:4161:ARG:NH2	2.51	0.43
1:A:19:GLU:O	1:A:205:ILE:N	2.49	0.43
1:A:78:LEU:O	1:A:82:LEU:HG	2.18	0.43
1:A:510:GLU:H	1:A:510:GLU:HG3	1.63	0.43
1:A:660:GLY:C	1:A:661:LYS:HD3	2.39	0.43
1:A:3165:CYS:HA	1:A:3168:THR:HG22	2.00	0.43
1:A:4046:ASP:HA	1:A:4049:VAL:HG22	2.01	0.43
1:A:4247:ILE:HD13	1:A:4250:GLN:HE22	1.84	0.43
1:A:4567:LEU:HD13	1:A:4816:ILE:HG23	1.99	0.43
1:B:885:THR:HA	1:B:888:GLU:HG2	2.00	0.43
1:B:1161:ILE:HG12	1:B:1177:THR:HG22	2.01	0.43
1:B:4017:LEU:HD22	1:B:4139:ILE:HG21	2.00	0.43
1:C:618:GLN:OE1	1:C:1678:ASN:ND2	2.35	0.43
1:C:895:PRO:HD2	1:C:903:LEU:HD13	2.00	0.43
1:C:929:LEU:O	1:C:933:LEU:HG	2.19	0.43
1:C:961:MET:CE	1:C:963:ASN:H	2.31	0.43
1:C:1535:GLU:N	1:C:1535:GLU:OE2	2.52	0.43
1:D:533:ASN:HB3	1:D:536:ASN:HB2	2.00	0.43
1:D:1141:ARG:NH2	1:D:1167:GLU:OE1	2.51	0.43
1:D:2674:LEU:HD21	1:D:2678:LEU:HD23	1.99	0.43
1:D:2745:VAL:HG13	1:D:2814:LYS:HD2	2.00	0.43
1:D:3693:LYS:HG2	1:D:3694:LYS:N	2.33	0.43
2:G:90:VAL:CG1	2:G:91:ILE:H	2.30	0.43
1:A:316:PHE:HB3	1:A:346:CYS:SG	2.58	0.43
1:B:239:ASP:OD1	1:B:239:ASP:N	2.50	0.43
1:B:2440:MET:O	1:B:2444:GLN:HG2	2.19	0.43
1:B:2761:TYR:O	1:B:2764:GLU:HG3	2.17	0.43
1:C:224:HIS:O	1:C:229:GLU:HB3	2.18	0.43
1:C:247:TYR:HB2	1:C:374:LYS:HB2	1.99	0.43
1:C:817:PRO:HD3	1:C:1007:TYR:OH	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1562:ILE:HD12	1:C:1562:ILE:HA	1.88	0.43
1:C:3087:ILE:H	1:C:3087:ILE:HD12	1.84	0.43
1:D:868:GLU:O	1:D:871:ARG:HB2	2.18	0.43
1:D:1653:LEU:HD12	1:D:1707:LEU:HD11	2.01	0.43
1:D:4184:MET:HB3	1:D:5021:PHE:HA	2.00	0.43
2:H:67:SER:O	2:H:67:SER:OG	2.29	0.43
1:A:46:LEU:HD13	1:A:125:ARG:HH21	1.82	0.43
1:A:887:ILE:HA	1:A:891:TRP:H	1.82	0.43
1:A:1279:SER:O	1:A:1279:SER:OG	2.32	0.43
1:A:2519:LEU:HD12	1:A:2520:HIS:N	2.33	0.43
1:A:3158:LEU:H	1:A:3161:VAL:HB	1.84	0.43
1:A:4899:ASP:N	1:A:4899:ASP:OD1	2.52	0.43
1:B:771:PHE:HB3	1:B:1472:VAL:HG23	1.99	0.43
1:B:1450:VAL:HG22	1:B:1552:VAL:HG22	2.00	0.43
1:B:3041:SER:CB	1:B:3045:LYS:HZ2	2.31	0.43
1:C:168:ASP:HB3	1:C:199:LEU:HD23	1.99	0.43
1:C:2816:MET:HG2	1:C:2821:TRP:HE3	1.83	0.43
1:D:372:LEU:HD13	1:D:374:LYS:HE2	2.00	0.43
1:D:4819:GLY:O	1:D:4824:ARG:NH2	2.51	0.43
2:G:104:LEU:HD23	2:G:104:LEU:H	1.84	0.43
1:A:1008:SER:HB2	1:A:1017:ARG:NH1	2.33	0.43
1:A:1424:PRO:HA	1:A:1427:ILE:HG22	2.00	0.43
1:A:1738:LEU:HD22	1:A:1963:GLU:HG3	2.00	0.43
1:A:3439:GLY:O	1:A:3443:ILE:HG12	2.19	0.43
1:B:717:ASP:O	1:B:738:LEU:HG	2.18	0.43
1:B:1232:ARG:NH2	1:B:1828:ASP:O	2.51	0.43
1:B:3920:VAL:HG23	1:B:3985:LEU:HD13	2.00	0.43
1:C:72:SER:H	1:C:99:ARG:HH21	1.65	0.43
1:C:317:ARG:HH11	1:C:356:TRP:HH2	1.65	0.43
1:C:993:HIS:NE2	1:C:1027:LEU:HD11	2.34	0.43
1:C:3533:ILE:HD13	1:C:3533:ILE:HA	1.88	0.43
1:C:4897:ILE:HG13	1:C:4901:ILE:HD11	2.01	0.43
1:D:2212:VAL:HG22	1:D:2256:TYR:CZ	2.52	0.43
2:F:7:ILE:HB	2:F:71:ARG:HB3	2.01	0.43
1:A:1747:LEU:HA	1:A:1957:SER:HB2	2.00	0.43
1:A:3706:SER:OG	1:A:3781:GLN:OE1	2.26	0.43
1:B:1828:ASP:OD1	1:B:1828:ASP:N	2.52	0.43
1:B:1863:LEU:HB3	1:B:1871:PHE:HB3	2.00	0.43
1:B:2560:PRO:HD2	1:B:2561:LEU:HD23	2.00	0.43
1:C:647:ASN:OD1	1:C:647:ASN:N	2.45	0.43
1:C:4654:ALA:O	1:C:4658:ILE:HG22	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:4772:ASP:HB3	1:C:4775:TYR:HB3	2.00	0.43
1:D:46:LEU:HD13	1:D:125:ARG:HH21	1.84	0.43
1:D:810:PRO:O	1:D:812:HIS:N	2.52	0.43
1:D:2008:MET:SD	1:D:2009:LEU:N	2.91	0.43
1:D:2889:LYS:HA	1:D:2889:LYS:HD2	1.78	0.43
1:D:3891:LEU:HD13	1:D:3899:PHE:CE2	2.54	0.43
1:D:3959:LYS:HG3	1:D:4019:LEU:HG	2.01	0.43
1:D:4837:LEU:HD23	1:D:4837:LEU:HA	1.87	0.43
1:A:2666:VAL:HA	1:A:2669:GLU:OE2	2.19	0.43
1:A:3836:MET:HG3	1:A:3884:LEU:HD21	2.01	0.43
1:A:5036:LEU:H	1:A:5036:LEU:HD12	1.83	0.43
1:B:168:ASP:HB3	1:B:199:LEU:HD23	2.01	0.43
1:B:1076:ARG:HE	1:B:1076:ARG:HB3	1.72	0.43
1:B:1504:GLY:O	1:B:1508:ARG:NH2	2.42	0.43
1:B:1558:HIS:HE1	1:B:1559:GLN:HE22	1.67	0.43
1:B:2800:LYS:HE3	1:B:2800:LYS:HB2	1.81	0.43
1:B:4875:LYS:HD3	1:B:4875:LYS:HA	1.77	0.43
1:C:2665:GLY:O	1:C:2669:GLU:HG3	2.19	0.43
1:D:372:LEU:HB3	1:D:374:LYS:HG3	2.00	0.43
1:D:5034:ASP:OD1	1:D:5035:GLN:N	2.51	0.43
1:A:669:ASP:OD1	1:A:790:ARG:NH1	2.51	0.43
1:A:711:LEU:HD23	1:A:711:LEU:O	2.18	0.43
1:B:1089:TYR:CD1	1:B:1152:MET:HG2	2.41	0.43
1:B:4100:GLN:H	1:B:4100:GLN:HG2	1.67	0.43
1:C:996:TRP:CD1	1:C:996:TRP:C	2.93	0.43
1:C:2211:MET:HA	1:C:2214:VAL:HG12	2.01	0.43
1:C:3534:MET:N	1:C:3534:MET:SD	2.91	0.43
1:C:4152:GLU:OE1	1:C:4194:TYR:OH	2.31	0.43
1:C:4835:LYS:O	1:C:4839:MET:HG3	2.19	0.43
1:D:232:THR:HG22	1:D:258:SER:HB3	2.01	0.43
1:D:1090:PHE:HB2	1:D:1204:LEU:HA	2.00	0.43
2:H:104:LEU:HD23	2:H:104:LEU:H	1.84	0.43
1:A:4112:LEU:O	1:A:4115:SER:OG	2.36	0.42
1:A:4998:LYS:HB3	1:A:5003:HIS:CE1	2.54	0.42
1:B:2745:VAL:HG13	1:B:2814:LYS:HD2	2.01	0.42
1:B:3757:GLU:O	1:B:3761:GLN:HG2	2.19	0.42
1:B:4678:ALA:HB1	1:B:4720:VAL:HG21	2.01	0.42
1:C:125:ARG:O	1:C:125:ARG:HG2	2.18	0.42
1:C:1579:MET:HE1	1:C:1595:LEU:HD22	2.01	0.42
1:C:1737:PRO:HG3	1:C:1771:LEU:HD21	2.01	0.42
1:C:2506:LEU:HD12	1:C:2510:TYR:HB2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2430:ILE:HG23	1:D:2505:PHE:CD2	2.54	0.42
2:G:91:ILE:HG21	2:G:97:LEU:HD21	2.00	0.42
1:A:52:THR:HG21	1:A:267:ILE:HG12	2.00	0.42
1:A:239:ASP:OD1	1:A:239:ASP:N	2.50	0.42
1:B:170:ILE:HG21	1:B:197:GLN:NE2	2.34	0.42
1:B:633:LEU:HD11	1:B:1659:LEU:HD22	2.00	0.42
1:B:2387:SER:OG	1:B:2388:GLU:OE2	2.37	0.42
1:B:4181:ILE:HG12	1:B:4195:PHE:CE1	2.54	0.42
1:C:1466:LEU:HD23	1:C:1466:LEU:HA	1.88	0.42
1:C:3850:GLN:HE21	1:C:3871:GLY:H	1.66	0.42
1:D:659:TYR:HA	1:D:1017:ARG:HH12	1.83	0.42
2:F:105:ASN:ND2	2:F:107:GLU:H	2.17	0.42
2:G:87:HIS:HB3	2:G:90:VAL:HB	2.01	0.42
1:A:552:ASP:OD2	1:A:592:LYS:NZ	2.46	0.42
1:A:829:TYR:HE2	1:A:1608:MET:HG2	1.83	0.42
1:A:4705:VAL:HG22	1:A:4711:PHE:HD1	1.84	0.42
1:B:13:PHE:CE1	1:B:162:LYS:HD3	2.54	0.42
1:B:243:ARG:HA	1:B:301:VAL:HG22	2.01	0.42
1:B:794:GLY:HA3	1:B:812:HIS:HB3	2.01	0.42
1:C:1147:ASP:OD1	1:C:1165:ASN:ND2	2.26	0.42
1:C:1292:SER:HB3	1:C:1549:PHE:CZ	2.54	0.42
1:C:1293:LEU:HD12	1:C:1293:LEU:O	2.18	0.42
1:C:1653:LEU:HD12	1:C:1707:LEU:HD11	1.99	0.42
1:C:2128:TYR:OH	1:C:3676:ASP:OD2	2.30	0.42
1:C:2927:LEU:HD12	1:C:2928:LYS:N	2.34	0.42
1:C:4235:VAL:O	1:C:4239:GLU:HG3	2.19	0.42
1:D:125:ARG:O	1:D:125:ARG:HG2	2.18	0.42
1:D:244:LEU:HB3	1:D:246:TYR:HE1	1.83	0.42
1:D:283:ARG:NH1	1:D:290:TYR:OH	2.51	0.42
1:D:640:TYR:HD2	1:D:1634:LEU:HB3	1.84	0.42
1:D:2437:ALA:O	1:D:2508:ARG:NH2	2.52	0.42
1:D:2537:ASP:H	1:D:2584:HIS:HE2	1.67	0.42
1:D:2669:GLU:HB2	1:D:2993:GLN:HE22	1.85	0.42
1:A:14:LEU:HD23	1:A:14:LEU:HA	1.91	0.42
1:A:276:TRP:HE3	1:A:317:ARG:HA	1.84	0.42
1:A:580:GLU:HG3	1:A:620:LEU:HD22	2.01	0.42
1:A:817:PRO:HD3	1:A:1007:TYR:OH	2.19	0.42
1:A:2782:ASP:OD2	1:A:2787:THR:OG1	2.38	0.42
1:A:3003:LEU:HD22	1:A:3067:CYS:SG	2.60	0.42
1:A:4054:ASN:HA	1:A:4057:MET:HG3	2.02	0.42
1:A:4696:ASP:OD1	1:A:4696:ASP:N	2.44	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:172:VAL:HG22	1:B:179:TYR:HD1	1.85	0.42
1:B:2138:LEU:HD13	1:B:3658:LYS:HB2	2.01	0.42
1:B:2212:VAL:HG22	1:B:2256:TYR:CZ	2.54	0.42
1:B:3958:ALA:HB3	1:B:4019:LEU:HD11	2.00	0.42
1:B:4899:ASP:N	1:B:4899:ASP:OD1	2.53	0.42
1:C:717:ASP:O	1:C:738:LEU:HG	2.20	0.42
1:C:816:LEU:O	1:C:818:ARG:N	2.52	0.42
1:C:897:ARG:HA	1:C:904:HIS:HA	2.02	0.42
1:D:1539:PHE:CD1	1:D:1539:PHE:C	2.92	0.42
1:A:929:LEU:O	1:A:933:LEU:HG	2.19	0.42
1:A:1569:GLN:HB2	1:A:1572:ILE:HG13	2.01	0.42
1:B:46:LEU:HD13	1:B:125:ARG:HH21	1.83	0.42
1:B:273:HIS:ND1	1:B:337:PRO:HB3	2.35	0.42
1:B:747:CYS:HB3	1:B:808:TYR:CE2	2.54	0.42
1:B:2207:VAL:HG21	1:B:2235:PHE:CE2	2.54	0.42
1:B:2861:ASP:OD1	1:B:2861:ASP:N	2.49	0.42
1:B:2871:LEU:HD12	1:B:2871:LEU:HA	1.92	0.42
1:C:633:LEU:HD11	1:C:1659:LEU:HD22	2.02	0.42
1:C:877:ASN:OD1	1:C:877:ASN:N	2.53	0.42
1:C:950:LEU:HD23	1:C:1049:TYR:CE1	2.54	0.42
1:C:3165:CYS:HA	1:C:3168:THR:HG22	2.01	0.42
1:D:1812:LEU:HG	1:D:1854:PHE:HE1	1.85	0.42
1:D:4770:SER:O	1:D:4770:SER:OG	2.38	0.42
1:A:1076:ARG:HG2	1:A:1077:ALA:H	1.84	0.42
1:A:2756:ASN:O	1:A:2760:GLU:HG2	2.20	0.42
1:A:3802:ILE:HD11	1:A:3883:ASP:O	2.19	0.42
1:A:3948:LYS:HD3	1:A:4009:GLN:HG2	2.01	0.42
1:B:652:ARG:HD3	1:B:773:LEU:HD22	2.01	0.42
1:B:721:LEU:HD23	1:B:721:LEU:HA	1.91	0.42
1:B:5036:LEU:H	1:B:5036:LEU:HD12	1.84	0.42
1:C:2657:LEU:N	1:C:2658:PRO:HD2	2.34	0.42
1:C:4215:ARG:NH2	4:C:5101:ATP:O3G	2.52	0.42
1:D:36:CYS:SG	1:D:52:THR:OG1	2.65	0.42
1:D:284:HIS:ND1	1:D:287:THR:OG1	2.43	0.42
1:D:618:GLN:OE1	1:D:1678:ASN:ND2	2.33	0.42
1:D:1828:ASP:N	1:D:1828:ASP:OD1	2.53	0.42
1:D:4171:LEU:HD12	1:D:4171:LEU:HA	1.94	0.42
2:F:56:ILE:HG13	2:F:59:PHE:HB2	2.01	0.42
1:A:1131:ARG:HD3	1:A:1139:PHE:CD2	2.51	0.42
1:B:1076:ARG:HG2	1:B:1077:ALA:H	1.83	0.42
1:B:2509:VAL:HG23	1:B:2510:TYR:CD2	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:5024:ALA:O	1:B:5026:ASP:N	2.49	0.42
1:C:580:GLU:HG3	1:C:620:LEU:HD22	2.01	0.42
1:C:952:LYS:HE3	1:C:968:ALA:HA	2.01	0.42
1:C:1617:THR:O	1:C:1619:ARG:HD3	2.19	0.42
1:C:3520:ILE:HD13	1:C:3520:ILE:HA	1.87	0.42
1:D:661:LYS:HB3	1:D:808:TYR:CD2	2.55	0.42
1:D:784:SER:O	1:D:784:SER:OG	2.35	0.42
1:D:1434:TYR:CE2	1:D:1436:SER:HB3	2.55	0.42
1:D:2207:VAL:HG12	1:D:2232:CYS:SG	2.59	0.42
1:D:2512:ILE:HG13	1:D:2558:VAL:HG11	2.02	0.42
1:D:3442:PHE:CG	1:D:3514:LEU:HD22	2.55	0.42
2:E:104:LEU:HD23	2:E:104:LEU:H	1.85	0.42
2:F:68:LEU:H	2:F:103:LEU:HD23	1.85	0.42
2:H:56:ILE:HG13	2:H:59:PHE:HB2	2.02	0.42
2:H:66:MET:HB2	2:H:103:LEU:HD22	2.01	0.42
1:A:805:PRO:HG2	1:A:808:TYR:CG	2.55	0.42
1:A:893:TYR:HD2	1:A:963:ASN:HD22	1.67	0.42
1:A:2211:MET:HA	1:A:2214:VAL:HG12	2.01	0.42
1:A:2212:VAL:HG22	1:A:2256:TYR:CZ	2.55	0.42
1:A:3952:SER:HA	1:A:3955:MET:HE2	2.02	0.42
1:A:3958:ALA:HB3	1:A:4019:LEU:HD11	2.00	0.42
1:B:2280:VAL:HG21	1:B:2290:LEU:HD12	2.02	0.42
1:B:3141:THR:HG22	1:B:3193:CYS:HA	2.02	0.42
1:B:3414:ARG:HB2	1:B:3414:ARG:NH1	2.35	0.42
1:C:882:TRP:HE1	1:C:886:ARG:HH11	1.67	0.42
1:C:2542:SER:O	1:C:2542:SER:OG	2.35	0.42
1:C:4984:ASN:HB3	1:C:4987:ASN:HB2	2.02	0.42
1:D:1504:GLY:O	1:D:1508:ARG:NH2	2.41	0.42
1:D:1562:ILE:HD12	1:D:1563:GLN:N	2.30	0.42
1:D:1614:GLN:NE2	1:D:1632:ASP:OD2	2.53	0.42
1:A:721:LEU:HD23	1:A:721:LEU:HA	1.90	0.42
1:A:1126:GLY:HA3	1:A:1143:TRP:CE2	2.55	0.42
1:A:1969:LEU:HD21	1:A:2009:LEU:HD23	2.02	0.42
1:A:3693:LYS:HG2	1:A:3694:LYS:N	2.33	0.42
1:A:3835:LEU:HD22	1:A:3880:PHE:CZ	2.54	0.42
1:B:800:PHE:CE2	1:B:810:PRO:HB3	2.55	0.42
1:B:959:TYR:HB3	1:B:967:PRO:HD2	2.02	0.42
1:C:659:TYR:CD2	1:C:809:ALA:HB2	2.55	0.42
1:C:896:VAL:HB	1:C:901:LYS:HE2	2.00	0.42
1:C:1076:ARG:HG2	1:C:1077:ALA:H	1.85	0.42
1:C:2861:ASP:OD1	1:C:2861:ASP:N	2.48	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:3694:LYS:CE	1:C:3695:PRO:HD2	2.46	0.42
1:C:3885:PHE:CE1	1:C:3919:THR:HG23	2.55	0.42
1:D:2521:VAL:HA	1:D:2524:VAL:HG22	2.00	0.42
1:D:4042:ARG:HA	1:D:4045:VAL:HG12	2.02	0.42
2:F:87:HIS:HB3	2:F:90:VAL:HB	2.02	0.42
1:A:356:TRP:N	1:A:379:HIS:O	2.53	0.42
1:A:530:ILE:HD11	1:A:563:VAL:HG13	2.02	0.42
1:A:884:LEU:HB2	1:A:959:TYR:HE2	1.85	0.42
1:A:1504:GLY:O	1:A:1508:ARG:NH2	2.43	0.42
1:A:1579:MET:HE1	1:A:1595:LEU:HD22	2.02	0.42
1:A:1653:LEU:HD12	1:A:1707:LEU:HD11	2.02	0.42
1:A:3195:ALA:HB2	1:A:3275:PRO:HB2	2.01	0.42
1:A:3941:ASP:OD1	1:A:3941:ASP:N	2.50	0.42
1:A:4973:HIS:CE1	1:D:4228:ALA:HB1	2.55	0.42
1:B:3945:GLU:OE2	1:B:3949:ARG:HD2	2.20	0.42
1:C:681:HIS:CE1	1:C:683:ARG:HG3	2.55	0.42
1:C:708:GLY:H	1:C:713:SER:HG	1.59	0.42
1:C:897:ARG:HG3	1:C:904:HIS:CD2	2.55	0.42
1:C:1594:ARG:NH2	1:C:1643:GLU:OE1	2.53	0.42
1:C:2207:VAL:HG21	1:C:2235:PHE:CE2	2.54	0.42
1:C:2461:VAL:HG11	1:C:2505:PHE:HE2	1.85	0.42
1:D:243:ARG:HA	1:D:301:VAL:HG22	2.01	0.42
1:D:1748:PHE:HB2	1:D:1953:HIS:HE2	1.83	0.42
1:D:1758:ARG:HH12	1:D:2092:GLN:HG2	1.85	0.42
1:D:3186:LEU:O	1:D:3190:LEU:HG	2.20	0.42
1:D:4017:LEU:HD22	1:D:4139:ILE:HG21	2.02	0.42
2:F:78:PRO:HD3	2:F:96:THR:HG22	2.00	0.42
2:H:91:ILE:HG21	2:H:97:LEU:HD21	2.02	0.42
1:A:2751:LEU:HD22	1:A:2817:ILE:HD11	2.02	0.41
1:A:3137:LEU:HD23	1:A:3137:LEU:HA	1.86	0.41
1:A:3137:LEU:O	1:A:3141:THR:HG23	2.20	0.41
1:A:3365:LEU:HD22	1:A:3408:LEU:HD22	2.02	0.41
1:A:3972:PRO:HD3	1:A:5005:GLY:HA3	2.02	0.41
1:B:274:LEU:HD12	1:B:274:LEU:HA	1.87	0.41
1:B:349:GLN:HB3	1:B:356:TRP:CD2	2.55	0.41
1:B:862:VAL:HG13	1:B:864:PRO:HD3	2.02	0.41
1:B:1442:GLY:HA3	1:B:1558:HIS:CD2	2.55	0.41
1:B:1594:ARG:NH2	1:B:1643:GLU:OE1	2.53	0.41
1:B:4152:GLU:OE1	1:B:4194:TYR:OH	2.30	0.41
1:B:4218:ILE:HD13	1:B:4954:MET:HE1	2.01	0.41
1:C:151:HIS:HB2	1:C:170:ILE:HG13	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1828:ASP:OD1	1:C:1828:ASP:N	2.52	0.41
1:D:421:PHE:HE2	1:D:436:LEU:HD11	1.83	0.41
1:D:2357:LEU:HD12	1:D:2357:LEU:HA	1.87	0.41
1:D:4235:VAL:O	1:D:4239:GLU:HG3	2.20	0.41
1:A:640:TYR:HD2	1:A:1634:LEU:HB3	1.84	0.41
1:A:1296:GLN:H	1:A:1296:GLN:HG3	1.72	0.41
1:A:4632:LEU:HD12	1:A:4632:LEU:HA	1.89	0.41
1:A:4678:ALA:HB1	1:A:4720:VAL:HG21	2.03	0.41
1:A:4888:TYR:OH	1:D:4917:ASP:OD2	2.26	0.41
1:B:1088:TRP:HA	1:B:1224:GLU:O	2.20	0.41
1:B:2974:ILE:HD13	1:B:2974:ILE:HA	1.94	0.41
1:C:875:ALA:HB1	1:C:910:PHE:CE2	2.55	0.41
1:C:886:ARG:O	1:C:889:GLN:HG2	2.19	0.41
1:C:955:LEU:HD13	1:C:959:TYR:CG	2.56	0.41
1:C:3527:PRO:HG2	1:C:3573:MET:SD	2.59	0.41
1:C:4017:LEU:HD22	1:C:4139:ILE:HG21	2.01	0.41
1:D:2211:MET:HA	1:D:2214:VAL:HG12	2.02	0.41
1:D:2654:TYR:HA	1:D:2657:LEU:HG	2.01	0.41
1:D:3835:LEU:HD22	1:D:3880:PHE:CZ	2.55	0.41
1:D:3948:LYS:HD3	1:D:4009:GLN:HG2	2.01	0.41
2:F:8:SER:HB2	2:F:71:ARG:HB2	2.02	0.41
1:A:283:ARG:NH1	1:A:290:TYR:OH	2.53	0.41
1:A:489:ASN:O	1:A:493:ARG:HG2	2.20	0.41
1:A:861:ILE:HD13	1:A:861:ILE:HA	1.96	0.41
1:A:1453:VAL:HG22	1:A:1551:ALA:HB2	2.01	0.41
1:A:3442:PHE:CD2	1:A:3514:LEU:HD22	2.55	0.41
1:B:663:TYR:O	1:B:811:CYS:HB2	2.21	0.41
1:B:800:PHE:HD1	1:B:800:PHE:HA	1.73	0.41
1:B:1089:TYR:HE2	1:B:1211:LEU:HD13	1.85	0.41
1:B:1613:LEU:HD23	1:B:1634:LEU:HD12	2.02	0.41
1:B:3885:PHE:CE1	1:B:3919:THR:HG23	2.55	0.41
1:B:3991:GLY:O	1:B:3995:VAL:HG12	2.20	0.41
1:C:552:ASP:OD2	1:C:592:LYS:NZ	2.46	0.41
1:C:881:LEU:O	1:C:885:THR:HG23	2.20	0.41
1:D:489:ASN:O	1:D:493:ARG:HG2	2.20	0.41
1:D:637:LEU:HD23	1:D:637:LEU:HA	1.91	0.41
1:D:829:TYR:HE2	1:D:1608:MET:HG2	1.86	0.41
1:A:484:LEU:HD23	1:A:484:LEU:HA	1.89	0.41
1:A:497:TYR:HA	1:A:503:PHE:HE2	1.86	0.41
1:A:961:MET:HE2	1:A:962:SER:N	2.34	0.41
1:A:1153:ILE:HG13	1:A:1160:ILE:HG12	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1828:ASP:N	1:A:1828:ASP:OD1	2.52	0.41
1:A:2149:VAL:HA	1:A:2152:THR:HG22	2.03	0.41
1:A:2458:ARG:NH1	1:A:2509:VAL:HG12	2.35	0.41
1:A:2889:LYS:HA	1:A:2889:LYS:HD2	1.77	0.41
1:A:3252:ASP:O	1:A:3256:LEU:HG	2.20	0.41
1:A:3399:SER:OG	1:A:3454:GLU:OE1	2.37	0.41
1:A:3757:GLU:O	1:A:3761:GLN:HG2	2.20	0.41
1:A:3834:ALA:O	1:A:3838:THR:HG23	2.20	0.41
1:B:961:MET:CE	1:B:963:ASN:H	2.34	0.41
1:B:1784:ALA:HA	2:F:55:VAL:HA	2.02	0.41
1:C:805:PRO:HG2	1:C:808:TYR:CG	2.56	0.41
1:C:1572:ILE:HD13	1:C:1572:ILE:HA	1.93	0.41
1:C:3019:SER:O	1:C:3019:SER:OG	2.30	0.41
1:C:4899:ASP:OD1	1:C:4899:ASP:N	2.50	0.41
1:C:4989:MET:O	1:C:4993:MET:HG3	2.20	0.41
1:D:494:LEU:HD22	1:D:515:TRP:CD1	2.55	0.41
1:D:805:PRO:HG2	1:D:808:TYR:CG	2.55	0.41
1:D:961:MET:HE2	1:D:963:ASN:H	1.84	0.41
1:D:1130:GLN:OE1	1:D:1136:SER:HB2	2.20	0.41
1:D:1131:ARG:HD3	1:D:1139:PHE:CD2	2.56	0.41
1:D:2738:ARG:HA	1:D:2738:ARG:HD3	1.78	0.41
1:D:2756:ASN:O	1:D:2760:GLU:HG2	2.21	0.41
2:E:36:PHE:CE2	2:E:91:ILE:HD11	2.55	0.41
1:A:274:LEU:HD12	1:A:274:LEU:HA	1.84	0.41
1:A:814:ALA:HA	1:A:1007:TYR:HE2	1.86	0.41
1:A:1037:ASP:O	1:A:1041:GLN:HG2	2.20	0.41
1:A:1552:VAL:HG11	1:A:1562:ILE:HG12	2.02	0.41
1:A:2162:ILE:HD13	1:A:2178:MET:HG3	2.02	0.41
1:A:4100:GLN:H	1:A:4100:GLN:HG2	1.68	0.41
1:B:1453:VAL:HG22	1:B:1551:ALA:HB2	2.02	0.41
1:C:1521:ASP:OD1	1:C:1524:THR:N	2.50	0.41
1:C:1572:ILE:HG22	1:C:1572:ILE:O	2.20	0.41
1:C:2149:VAL:HA	1:C:2152:THR:HG22	2.02	0.41
1:C:2537:ASP:H	1:C:2584:HIS:HE2	1.69	0.41
1:C:3917:ILE:O	1:C:3920:VAL:HG12	2.20	0.41
1:D:1243:PRO:HB2	1:D:1600:LEU:HD11	2.03	0.41
1:D:1292:SER:HB3	1:D:1549:PHE:CZ	2.55	0.41
1:D:3152:PHE:O	1:D:3156:VAL:HB	2.21	0.41
1:D:4181:ILE:O	1:D:4193:ILE:N	2.43	0.41
1:A:3143:LEU:HD12	1:A:3143:LEU:HA	1.82	0.41
1:A:3842:LEU:HD23	1:A:3842:LEU:HA	1.93	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:489:ASN:O	1:B:493:ARG:HG2	2.21	0.41
1:B:961:MET:HE1	1:B:963:ASN:H	1.86	0.41
1:B:1256:GLU:HB2	1:B:1275:ARG:HH21	1.86	0.41
1:B:1562:ILE:HD12	1:B:1562:ILE:HA	1.89	0.41
1:B:2423:MET:H	1:B:2423:MET:HG2	1.62	0.41
1:B:3137:LEU:O	1:B:3141:THR:HG23	2.20	0.41
1:C:1419:ASP:HB3	1:C:1420:ASN:H	1.50	0.41
1:C:2489:LYS:O	1:C:2493:SER:OG	2.24	0.41
1:C:3041:SER:HB2	1:C:3045:LYS:HZ2	1.85	0.41
1:C:4241:THR:HA	1:C:4244:GLU:HB2	2.03	0.41
1:D:2927:LEU:HD12	1:D:2928:LYS:N	2.36	0.41
1:D:3666:ASP:OD1	1:D:3666:ASP:N	2.47	0.41
1:D:4563:ARG:HH22	1:D:4791:TYR:HE2	1.68	0.41
1:A:1965:TYR:CE1	1:A:2031:LEU:HB2	2.55	0.41
1:A:2093:SER:OG	1:A:2096:GLU:OE1	2.34	0.41
1:A:2561:LEU:HD23	1:A:2561:LEU:H	1.86	0.41
1:A:3573:MET:O	1:A:3577:ARG:HG3	2.21	0.41
1:A:4698:LYS:HB3	1:A:4698:LYS:HE2	1.79	0.41
1:B:816:LEU:O	1:B:818:ARG:N	2.53	0.41
1:B:1442:GLY:HA3	1:B:1558:HIS:HD2	1.86	0.41
1:B:3835:LEU:HD22	1:B:3880:PHE:HZ	1.84	0.41
1:B:3842:LEU:HD23	1:B:3842:LEU:HA	1.96	0.41
1:B:4705:VAL:HG22	1:B:4711:PHE:HD1	1.86	0.41
1:C:274:LEU:HD12	1:C:274:LEU:HA	1.83	0.41
1:C:955:LEU:HD23	1:C:955:LEU:HA	1.93	0.41
1:C:3305:THR:OG1	1:C:3306:ALA:N	2.54	0.41
1:C:4770:SER:O	1:C:4770:SER:OG	2.39	0.41
1:C:4875:LYS:HD3	1:C:4875:LYS:HA	1.78	0.41
1:C:4917:ASP:OD2	1:D:4888:TYR:OH	2.25	0.41
1:D:19:GLU:O	1:D:205:ILE:N	2.50	0.41
1:D:49:LEU:HD21	1:D:191:VAL:HB	2.01	0.41
1:D:1644:GLU:O	1:D:1646:ARG:N	2.54	0.41
1:D:2377:LEU:HD21	1:D:2465:ASP:HA	2.02	0.41
1:D:4901:ILE:HB	1:D:4913:ARG:NH2	2.31	0.41
1:A:544:LEU:HD22	1:A:574:VAL:CG2	2.50	0.41
1:A:3041:SER:CB	1:A:3045:LYS:HZ1	2.31	0.41
1:B:470:SER:O	1:B:474:ARG:HG3	2.21	0.41
1:B:1126:GLY:HA3	1:B:1143:TRP:CZ2	2.56	0.41
1:B:1854:PHE:CE2	1:B:1862:ILE:HD11	2.56	0.41
1:B:2128:TYR:OH	1:B:3676:ASP:OD2	2.32	0.41
1:B:2149:VAL:HA	1:B:2152:THR:HG22	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3399:SER:OG	1:B:3454:GLU:OE1	2.38	0.41
1:B:4640:GLU:HB3	1:B:4641:PRO:HD3	2.02	0.41
1:C:1812:LEU:HG	1:C:1854:PHE:HE1	1.85	0.41
1:C:2384:ILE:O	1:C:2387:SER:OG	2.39	0.41
1:C:2755:ILE:HD11	1:C:2813:LEU:HD12	2.02	0.41
1:C:4901:ILE:HB	1:C:4913:ARG:NH2	2.29	0.41
1:D:710:ASP:OD1	1:D:710:ASP:N	2.54	0.41
1:D:842:PRO:O	1:D:1197:GLY:N	2.45	0.41
1:D:915:GLU:HA	1:D:918:ARG:HD3	2.02	0.41
1:D:2093:SER:OG	1:D:2096:GLU:OE1	2.32	0.41
1:D:2294:ASP:O	1:D:2298:VAL:HG23	2.21	0.41
1:D:2891:LYS:O	1:D:2894:LEU:HD23	2.21	0.41
1:D:3018:LEU:HG	1:D:3076:ASP:HA	2.02	0.41
1:D:3955:MET:HG2	1:D:4019:LEU:CD1	2.51	0.41
1:D:4100:GLN:H	1:D:4100:GLN:HG2	1.67	0.41
1:A:116:MET:HG2	1:A:139:GLU:HA	2.02	0.41
1:A:222:LEU:HD22	1:A:390:LEU:HD22	2.03	0.41
1:A:613:ALA:HB2	1:A:1676:LEU:HB2	2.02	0.41
1:A:1115:LEU:HD13	1:A:1123:VAL:HG11	2.03	0.41
1:A:2023:LEU:HD23	1:A:2023:LEU:HA	1.90	0.41
1:A:3827:GLY:HA2	1:A:3830:GLN:HB2	2.02	0.41
1:A:3991:GLY:O	1:A:3995:VAL:HG12	2.21	0.41
1:A:4984:ASN:HB3	1:A:4987:ASN:HB2	2.02	0.41
1:B:513:GLU:OE2	1:B:513:GLU:N	2.41	0.41
1:B:669:ASP:OD1	1:B:790:ARG:NH1	2.54	0.41
1:B:864:PRO:HD2	1:B:867:LEU:HD12	2.02	0.41
1:B:919:ASN:O	1:B:923:GLN:HG2	2.21	0.41
1:B:2357:LEU:HD12	1:B:2357:LEU:HA	1.86	0.41
1:B:2751:LEU:HD22	1:B:2817:ILE:HD11	2.02	0.41
1:B:2794:TYR:HA	1:B:2797:PHE:CD2	2.56	0.41
1:B:4934:GLY:O	1:B:4938:ASP:HB2	2.20	0.41
1:C:125:ARG:HD3	1:C:125:ARG:N	2.36	0.41
1:C:347:PHE:HB2	1:C:356:TRP:HZ3	1.86	0.41
1:C:1101:ARG:HB2	1:C:1193:SER:HB3	2.03	0.41
1:C:1141:ARG:NH2	1:C:1167:GLU:OE1	2.53	0.41
1:C:1453:VAL:HG22	1:C:1551:ALA:HB2	2.02	0.41
1:C:2567:PRO:HD2	1:C:2568:LEU:HD12	2.03	0.41
1:C:4100:GLN:H	1:C:4100:GLN:HG2	1.67	0.41
1:C:4574:ASN:HD22	1:C:4813:LEU:HD13	1.86	0.41
1:C:4576:ILE:HG21	1:C:4643:LEU:HB2	2.01	0.41
1:D:131:LEU:HB3	1:D:178:ARG:HH21	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2203:MET:O	1:D:2207:VAL:HG23	2.20	0.41
1:D:2226:PRO:O	1:D:2230:THR:HG23	2.21	0.41
1:D:2561:LEU:HD23	1:D:2561:LEU:H	1.86	0.41
1:D:2626:LEU:HG	1:D:2628:PHE:H	1.86	0.41
1:D:2630:VAL:HB	1:D:2631:PRO:HD2	2.02	0.41
1:D:2770:LYS:HE3	1:D:2791:LEU:HD21	2.03	0.41
1:D:3141:THR:HG22	1:D:3193:CYS:HA	2.03	0.41
1:D:3399:SER:OG	1:D:3454:GLU:OE1	2.39	0.41
1:D:3569:LEU:O	1:D:3573:MET:HG2	2.21	0.41
1:D:4181:ILE:HB	1:D:4193:ILE:HB	2.03	0.41
1:D:4640:GLU:HB3	1:D:4641:PRO:HD3	2.02	0.41
1:D:4983:HIS:O	4:D:5101:ATP:N6	2.54	0.41
1:A:1784:ALA:HA	2:E:55:VAL:HA	2.02	0.41
1:A:3143:LEU:O	1:A:3147:ILE:HG13	2.21	0.41
1:A:4235:VAL:O	1:A:4239:GLU:HG3	2.21	0.41
1:B:125:ARG:HD3	1:B:125:ARG:N	2.36	0.41
1:B:814:ALA:HA	1:B:1007:TYR:HE2	1.86	0.41
1:B:903:LEU:HD23	1:B:903:LEU:HA	1.95	0.41
1:B:1075:PHE:HB2	1:B:1192:CYS:HB3	2.03	0.41
1:B:1631:GLN:OE1	1:B:1631:GLN:HA	2.21	0.41
1:B:3305:THR:OG1	1:B:3306:ALA:N	2.54	0.41
1:B:4705:VAL:HB	1:B:4778:TRP:CD2	2.56	0.41
1:C:276:TRP:HE3	1:C:317:ARG:HA	1.86	0.41
1:C:494:LEU:HD22	1:C:515:TRP:CD1	2.56	0.41
1:C:2614:ILE:O	1:C:2618:MET:N	2.54	0.41
1:C:3991:GLY:O	1:C:3995:VAL:HG12	2.20	0.41
1:C:4039:MET:HA	1:C:4042:ARG:NH1	2.36	0.41
1:D:486:LEU:HD12	1:D:486:LEU:HA	1.96	0.41
1:D:3802:ILE:HD11	1:D:3883:ASP:O	2.21	0.41
1:D:4772:ASP:HB3	1:D:4775:TYR:HB3	2.03	0.41
2:G:78:PRO:HD3	2:G:96:THR:HB	2.03	0.41
1:A:168:ASP:HB3	1:A:199:LEU:HD23	2.04	0.40
1:A:661:LYS:HD3	1:A:661:LYS:N	2.36	0.40
1:A:2102:VAL:HG13	1:A:2120:MET:HB2	2.02	0.40
1:A:4820:VAL:HG21	1:D:4839:MET:HE1	2.03	0.40
1:B:356:TRP:N	1:B:356:TRP:CD1	2.89	0.40
1:B:552:ASP:OD2	1:B:592:LYS:NZ	2.49	0.40
1:B:784:SER:O	1:B:784:SER:OG	2.34	0.40
1:B:935:LEU:HD11	1:B:987:ARG:HH21	1.86	0.40
1:B:3834:ALA:O	1:B:3838:THR:HG23	2.21	0.40
1:B:4150:LEU:HB3	1:B:4160:LEU:HD11	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4151:SER:HB2	1:B:4164:LEU:HD11	2.03	0.40
1:B:4235:VAL:O	1:B:4239:GLU:HG3	2.21	0.40
1:C:758:ARG:HG2	1:C:763:PRO:HA	2.02	0.40
1:C:1115:LEU:HD13	1:C:1123:VAL:HG11	2.03	0.40
1:C:2756:ASN:O	1:C:2760:GLU:HG2	2.21	0.40
1:C:2794:TYR:HA	1:C:2797:PHE:CE2	2.56	0.40
1:D:659:TYR:CD2	1:D:809:ALA:HB2	2.56	0.40
1:D:1040:CYS:SG	1:D:1044:ARG:NH1	2.94	0.40
1:D:1434:TYR:HB2	1:D:1572:ILE:CG2	2.51	0.40
1:D:3529:ASP:O	1:D:3533:ILE:HG12	2.21	0.40
1:D:4698:LYS:HB3	1:D:4698:LYS:HE2	1.79	0.40
1:A:29:LEU:HD13	1:A:33:LEU:HG	2.03	0.40
1:A:1465:ASP:N	1:A:1465:ASP:OD1	2.53	0.40
1:A:1644:GLU:O	1:A:1646:ARG:N	2.54	0.40
1:A:4107:GLU:H	1:A:4107:GLU:HG2	1.75	0.40
1:B:871:ARG:HH22	1:B:922:LEU:HB3	1.86	0.40
1:B:1292:SER:HB3	1:B:1549:PHE:CZ	2.57	0.40
1:B:1623:ARG:NE	1:B:1623:ARG:O	2.54	0.40
1:B:1717:SER:HA	1:B:1721:GLU:HB2	2.03	0.40
1:B:2489:LYS:O	1:B:2493:SER:OG	2.25	0.40
1:B:3412:LEU:HD11	1:B:3434:LEU:HD21	2.01	0.40
1:C:652:ARG:NH1	1:C:751:SER:O	2.54	0.40
1:C:863:LEU:HD12	1:C:863:LEU:HA	1.88	0.40
1:C:2212:VAL:HG22	1:C:2256:TYR:CZ	2.57	0.40
1:C:3713:LYS:HG2	1:C:3715:LYS:H	1.86	0.40
1:C:4934:GLY:O	1:C:4938:ASP:HB2	2.21	0.40
1:D:72:SER:H	1:D:99:ARG:HH21	1.67	0.40
1:D:876:GLU:HB3	1:D:910:PHE:HB2	2.03	0.40
1:D:917:GLU:OE1	1:D:917:GLU:N	2.52	0.40
1:D:961:MET:CE	1:D:963:ASN:H	2.34	0.40
1:D:2606:CYS:SG	1:D:2607:LEU:N	2.90	0.40
2:H:7:ILE:HB	2:H:71:ARG:HB3	2.03	0.40
1:A:494:LEU:HD22	1:A:515:TRP:CD1	2.56	0.40
1:A:839:LEU:HB2	1:A:1194:LEU:HD11	2.03	0.40
1:B:955:LEU:HD13	1:B:959:TYR:CG	2.56	0.40
1:B:1942:LEU:HD12	1:B:1942:LEU:HA	1.94	0.40
1:B:2226:PRO:O	1:B:2230:THR:HG23	2.21	0.40
1:C:380:GLN:OE1	1:C:380:GLN:N	2.43	0.40
1:C:1268:PRO:HD2	1:C:1589:PRO:HB2	2.02	0.40
1:C:1291:LEU:HD23	1:C:1291:LEU:HA	1.95	0.40
1:C:1812:LEU:HD23	1:C:1812:LEU:HA	1.79	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:4640:GLU:HB3	1:C:4641:PRO:HD3	2.02	0.40
1:D:116:MET:HG2	1:D:139:GLU:HA	2.03	0.40
1:D:168:ASP:HB3	1:D:199:LEU:HD23	2.02	0.40
1:D:1089:TYR:HE1	1:D:1211:LEU:HD13	1.86	0.40
1:D:2775:TRP:CD2	1:D:2786:LYS:HB2	2.57	0.40
1:D:3003:LEU:HD23	1:D:3003:LEU:HA	1.89	0.40
1:D:3372:VAL:HG13	1:D:3398:PHE:HE1	1.86	0.40
1:D:3650:CYS:O	1:D:3654:LEU:HG	2.22	0.40
1:D:4576:ILE:HG21	1:D:4643:LEU:HB2	2.03	0.40
1:D:4888:TYR:O	1:D:4892:ARG:HD3	2.21	0.40
1:A:404:ILE:HD11	1:A:478:PHE:HA	2.02	0.40
1:A:664:PHE:CZ	1:A:779:PRO:HB3	2.57	0.40
1:A:913:LEU:O	1:A:918:ARG:NH1	2.53	0.40
1:B:1131:ARG:HD3	1:B:1139:PHE:HB2	2.03	0.40
1:B:2678:LEU:HD12	1:B:2678:LEU:HA	1.96	0.40
1:B:2927:LEU:HD12	1:B:2928:LYS:N	2.37	0.40
1:B:4104:THR:H	1:B:4107:GLU:HG3	1.86	0.40
1:B:4574:ASN:ND2	1:B:4813:LEU:HB2	2.37	0.40
1:C:356:TRP:N	1:C:356:TRP:CD1	2.89	0.40
1:C:721:LEU:HD23	1:C:721:LEU:HA	1.92	0.40
1:C:1164:LEU:O	1:C:1166:GLY:N	2.54	0.40
1:C:1758:ARG:HH12	1:C:2092:GLN:HG2	1.87	0.40
1:C:2666:VAL:HA	1:C:2669:GLU:OE2	2.22	0.40
1:D:955:LEU:HD13	1:D:959:TYR:CG	2.56	0.40
1:D:1101:ARG:HB2	1:D:1193:SER:HB3	2.03	0.40
1:D:2871:LEU:HD12	1:D:2871:LEU:HA	1.91	0.40
1:D:3834:ALA:O	1:D:3838:THR:HG23	2.21	0.40
2:F:66:MET:HB2	2:F:103:LEU:HD22	2.03	0.40
1:A:2964:LEU:HD22	1:A:3038:MET:HE2	2.03	0.40
1:A:3985:LEU:O	1:A:3989:VAL:HG23	2.21	0.40
1:A:4888:TYR:O	1:A:4892:ARG:HD3	2.22	0.40
1:A:5004:THR:HG22	1:A:5005:GLY:H	1.86	0.40
1:B:451:TYR:OH	1:B:474:ARG:HD2	2.22	0.40
1:B:580:GLU:HG3	1:B:620:LEU:HD22	2.03	0.40
1:B:883:ALA:O	1:B:887:ILE:HG23	2.20	0.40
1:B:1115:LEU:HD13	1:B:1123:VAL:HG11	2.03	0.40
1:B:2756:ASN:O	1:B:2760:GLU:HG2	2.21	0.40
1:B:3429:ALA:HA	1:B:3432:GLU:OE2	2.20	0.40
1:B:3827:GLY:HA2	1:B:3830:GLN:HB2	2.04	0.40
1:C:1112:ASP:OD1	1:C:1112:ASP:N	2.54	0.40
1:C:1130:GLN:OE1	1:C:1136:SER:HB2	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1747:LEU:HA	1:C:1957:SER:HB2	2.04	0.40
1:C:2294:ASP:O	1:C:2298:VAL:HG23	2.21	0.40
1:D:3985:LEU:O	1:D:3989:VAL:HG23	2.22	0.40
1:D:4180:ARG:HB3	1:D:4981:GLU:O	2.22	0.40
2:G:91:ILE:HG12	2:G:97:LEU:HD21	2.03	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	4097/5037 (81%)	3828 (93%)	268 (6%)	1 (0%)	100	100
1	B	4097/5037 (81%)	3829 (94%)	267 (6%)	1 (0%)	100	100
1	C	4097/5037 (81%)	3835 (94%)	261 (6%)	1 (0%)	100	100
1	D	4097/5037 (81%)	3846 (94%)	250 (6%)	1 (0%)	100	100
2	E	105/107 (98%)	91 (87%)	14 (13%)	0	100	100
2	F	105/107 (98%)	90 (86%)	15 (14%)	0	100	100
2	G	105/107 (98%)	90 (86%)	15 (14%)	0	100	100
2	H	105/107 (98%)	91 (87%)	14 (13%)	0	100	100
All	All	16808/20576 (82%)	15700 (93%)	1104 (7%)	4 (0%)	100	100

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	1023	PRO
1	B	1023	PRO
1	D	1023	PRO
1	C	1023	PRO

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	3254/4276 (76%)	3174 (98%)	80 (2%)	42	68
1	B	3254/4276 (76%)	3170 (97%)	84 (3%)	41	67
1	C	3254/4276 (76%)	3174 (98%)	80 (2%)	42	68
1	D	3254/4276 (76%)	3178 (98%)	76 (2%)	45	69
2	E	87/88 (99%)	82 (94%)	5 (6%)	17	47
2	F	87/88 (99%)	85 (98%)	2 (2%)	45	69
2	G	87/88 (99%)	87 (100%)	0	100	100
2	H	87/88 (99%)	85 (98%)	2 (2%)	45	69
All	All	13364/17456 (77%)	13035 (98%)	329 (2%)	43	68

All (329) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	13	PHE
1	A	125	ARG
1	A	169	LEU
1	A	176	SER
1	A	206	CYS
1	A	261	ARG
1	A	317	ARG
1	A	421	PHE
1	A	483	MET
1	A	659	TYR
1	A	675	LEU
1	A	772	ASN
1	A	811	CYS
1	A	863	LEU
1	A	898	ASP
1	A	899	ASP
1	A	904	HIS
1	A	919	ASN
1	A	927	GLU

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Mol	Chain	Res	Type
1	A	961	MET
1	A	999	ASP
1	A	1051	TYR
1	A	1112	ASP
1	A	1145	SER
1	A	1206	GLN
1	A	1207	ASP
1	A	1261	ASP
1	A	1293	LEU
1	A	1435	TYR
1	A	1462	MET
1	A	1485	SER
1	A	1579	MET
1	A	1647	CYS
1	A	1740	PRO
1	A	1778	SER
1	A	1786	LEU
1	A	1973	GLN
1	A	2008	MET
1	A	2151	ASP
1	A	2170	MET
1	A	2305	CYS
1	A	2313	LEU
1	A	2423	MET
1	A	2458	ARG
1	A	2561	LEU
1	A	2669	GLU
1	A	2939	ARG
1	A	2997	PHE
1	A	3038	MET
1	A	3045	LYS
1	A	3056	LEU
1	A	3067	CYS
1	A	3128	ASN
1	A	3150	HIS
1	A	3165	CYS
1	A	3175	LEU
1	A	3448	SER
1	A	3451	PHE
1	A	3604	TYR
1	A	3669	PHE
1	A	3732	SER

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Mol	Chain	Res	Type
1	A	3770	LEU
1	A	3951	PHE
1	A	4006	ASP
1	A	4016	LEU
1	A	4039	MET
1	A	4054	ASN
1	A	4064	MET
1	A	4098	ASP
1	A	4125	PHE
1	A	4138	ASP
1	A	4188	ARG
1	A	4554	TYR
1	A	4580	TYR
1	A	4631	PHE
1	A	4645	CYS
1	A	4772	ASP
1	A	4907	ASP
1	A	4956	THR
1	A	5036	LEU
1	B	13	PHE
1	B	125	ARG
1	B	176	SER
1	B	179	TYR
1	B	206	CYS
1	B	213	TYR
1	B	224	HIS
1	B	261	ARG
1	B	317	ARG
1	B	334	MET
1	B	483	MET
1	B	659	TYR
1	B	675	LEU
1	B	719	LEU
1	B	773	LEU
1	B	811	CYS
1	B	812	HIS
1	B	899	ASP
1	B	904	HIS
1	B	919	ASN
1	B	961	MET
1	B	1051	TYR
1	B	1085	SER

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Mol	Chain	Res	Type
1	B	1112	ASP
1	B	1145	SER
1	B	1206	GLN
1	B	1207	ASP
1	B	1225	PRO
1	B	1283	LEU
1	B	1435	TYR
1	B	1485	SER
1	B	1579	MET
1	B	1618	ARG
1	B	1619	ARG
1	B	1647	CYS
1	B	1700	ASP
1	B	1740	PRO
1	B	1759	ARG
1	B	1778	SER
1	B	1786	LEU
1	B	1973	GLN
1	B	2008	MET
1	B	2101	MET
1	B	2151	ASP
1	B	2170	MET
1	B	2178	MET
1	B	2192	TYR
1	B	2241	ARG
1	B	2305	CYS
1	B	2423	MET
1	B	2529	ASP
1	B	2555	CYS
1	B	2641	LEU
1	B	2800	LYS
1	B	2908	TYR
1	B	2939	ARG
1	B	3045	LYS
1	B	3056	LEU
1	B	3128	ASN
1	B	3165	CYS
1	B	3175	LEU
1	B	3422	HIS
1	B	3448	SER
1	B	3451	PHE
1	B	3669	PHE

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Mol	Chain	Res	Type
1	B	3707	ARG
1	B	3732	SER
1	B	3770	LEU
1	B	3771	HIS
1	B	3899	PHE
1	B	3933	PHE
1	B	4006	ASP
1	B	4016	LEU
1	B	4098	ASP
1	B	4125	PHE
1	B	4217	PHE
1	B	4554	TYR
1	B	4580	TYR
1	B	4631	PHE
1	B	4765	LEU
1	B	4772	ASP
1	B	4907	ASP
1	B	5008	SER
1	B	5036	LEU
1	C	13	PHE
1	C	125	ARG
1	C	261	ARG
1	C	315	CYS
1	C	317	ARG
1	C	483	MET
1	C	659	TYR
1	C	667	MET
1	C	670	GLU
1	C	675	LEU
1	C	800	PHE
1	C	811	CYS
1	C	871	ARG
1	C	898	ASP
1	C	899	ASP
1	C	904	HIS
1	C	912	SER
1	C	919	ASN
1	C	960	MET
1	C	961	MET
1	C	1052	ASN
1	C	1085	SER
1	C	1112	ASP

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Mol	Chain	Res	Type
1	C	1143	TRP
1	C	1145	SER
1	C	1206	GLN
1	C	1207	ASP
1	C	1261	ASP
1	C	1435	TYR
1	C	1558	HIS
1	C	1579	MET
1	C	1618	ARG
1	C	1619	ARG
1	C	1647	CYS
1	C	1700	ASP
1	C	1778	SER
1	C	1786	LEU
1	C	2008	MET
1	C	2011	HIS
1	C	2151	ASP
1	C	2170	MET
1	C	2192	TYR
1	C	2241	ARG
1	C	2313	LEU
1	C	2423	MET
1	C	2529	ASP
1	C	2605	ASP
1	C	2657	LEU
1	C	2800	LYS
1	C	2908	TYR
1	C	2939	ARG
1	C	3045	LYS
1	C	3056	LEU
1	C	3128	ASN
1	C	3165	CYS
1	C	3326	ASN
1	C	3355	HIS
1	C	3357	HIS
1	C	3418	ASN
1	C	3451	PHE
1	C	3462	ASN
1	C	3604	TYR
1	C	3732	SER
1	C	3770	LEU
1	C	3899	PHE

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Mol	Chain	Res	Type
1	C	3951	PHE
1	C	4006	ASP
1	C	4016	LEU
1	C	4054	ASN
1	C	4098	ASP
1	C	4125	PHE
1	C	4188	ARG
1	C	4554	TYR
1	C	4580	TYR
1	C	4631	PHE
1	C	4645	CYS
1	C	4765	LEU
1	C	4772	ASP
1	C	4887	MET
1	C	4907	ASP
1	D	13	PHE
1	D	125	ARG
1	D	169	LEU
1	D	261	ARG
1	D	315	CYS
1	D	483	MET
1	D	659	TYR
1	D	675	LEU
1	D	754	SER
1	D	773	LEU
1	D	811	CYS
1	D	877	ASN
1	D	899	ASP
1	D	904	HIS
1	D	919	ASN
1	D	999	ASP
1	D	1085	SER
1	D	1147	ASP
1	D	1176	GLU
1	D	1206	GLN
1	D	1207	ASP
1	D	1225	PRO
1	D	1435	TYR
1	D	1539	PHE
1	D	1571	ASN
1	D	1618	ARG
1	D	1636	MET

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Mol	Chain	Res	Type
1	D	1647	CYS
1	D	1658	ASP
1	D	1700	ASP
1	D	1778	SER
1	D	1786	LEU
1	D	1973	GLN
1	D	2008	MET
1	D	2151	ASP
1	D	2170	MET
1	D	2192	TYR
1	D	2241	ARG
1	D	2313	LEU
1	D	2376	LEU
1	D	2423	MET
1	D	2451	LEU
1	D	2555	CYS
1	D	2559	LEU
1	D	2561	LEU
1	D	2607	LEU
1	D	2656	CYS
1	D	2800	LYS
1	D	2939	ARG
1	D	3056	LEU
1	D	3128	ASN
1	D	3165	CYS
1	D	3175	LEU
1	D	3357	HIS
1	D	3418	ASN
1	D	3451	PHE
1	D	3524	MET
1	D	3534	MET
1	D	3604	TYR
1	D	3641	LEU
1	D	3696	ASP
1	D	3732	SER
1	D	3770	LEU
1	D	3951	PHE
1	D	4006	ASP
1	D	4016	LEU
1	D	4098	ASP
1	D	4125	PHE
1	D	4138	ASP

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Mol	Chain	Res	Type
1	D	4217	PHE
1	D	4580	TYR
1	D	4631	PHE
1	D	4645	CYS
1	D	4772	ASP
1	D	4913	ARG
1	D	5036	LEU
2	E	5	GLU
2	E	18	LYS
2	E	37	ASP
2	E	53	GLN
2	E	57	LYS
2	F	37	ASP
2	F	44	LYS
2	H	57	LYS
2	H	85	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (19) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	533	ASN
1	A	2663	ASN
1	A	4250	GLN
1	B	533	ASN
1	B	923	GLN
1	B	1952	GLN
1	B	2663	ASN
1	B	3150	HIS
1	B	4133	GLN
1	B	4250	GLN
1	B	5003	HIS
1	C	533	ASN
1	C	2663	ASN
1	C	4133	GLN
1	C	4250	GLN
1	D	533	ASN
1	D	636	ASN
1	D	5003	HIS
2	G	105	ASN

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	$\#\|Z\| > 2$
4	ATP	D	5101	-	28,33,33	0.64	0	34,52,52	0.59	1 (2%)
6	U1C	C	5103	-	23,25,25	6.20	12 (52%)	26,35,35	3.21	9 (34%)
4	ATP	B	5101	-	28,33,33	0.63	0	34,52,52	0.59	1 (2%)
6	U1C	A	5103	-	23,25,25	6.19	12 (52%)	26,35,35	3.24	9 (34%)
6	U1C	B	5103	-	23,25,25	6.20	12 (52%)	26,35,35	3.22	9 (34%)
4	ATP	A	5101	-	28,33,33	0.64	0	34,52,52	0.58	1 (2%)
6	U1C	D	5103	-	23,25,25	6.19	12 (52%)	26,35,35	3.21	9 (34%)
4	ATP	C	5101	-	28,33,33	0.63	0	34,52,52	0.59	1 (2%)

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
4	ATP	D	5101	-	-	6/18/38/38	0/3/3/3
6	U1C	C	5103	-	-	5/7/25/25	0/3/3/3
4	ATP	B	5101	-	-	7/18/38/38	0/3/3/3
6	U1C	A	5103	-	-	5/7/25/25	0/3/3/3
6	U1C	B	5103	-	-	3/7/25/25	0/3/3/3
4	ATP	A	5101	-	-	7/18/38/38	0/3/3/3
6	U1C	D	5103	-	-	5/7/25/25	0/3/3/3
4	ATP	C	5101	-	-	9/18/38/38	0/3/3/3

All (48) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	C	5103	U1C	C1-N2	-18.76	1.32	1.45
6	B	5103	U1C	C1-N2	-18.73	1.32	1.45
6	A	5103	U1C	C1-N2	-18.64	1.32	1.45
6	D	5103	U1C	C1-N2	-18.61	1.32	1.45
6	A	5103	U1C	C1-C2	-10.69	1.38	1.51
6	B	5103	U1C	C1-C2	-10.66	1.39	1.51
6	D	5103	U1C	C1-C2	-10.61	1.39	1.51
6	C	5103	U1C	C1-C2	-10.55	1.39	1.51
6	A	5103	U1C	O4-N4	10.51	1.40	1.22
6	D	5103	U1C	O4-N4	10.49	1.40	1.22
6	C	5103	U1C	O4-N4	10.48	1.40	1.22
6	B	5103	U1C	O4-N4	10.46	1.40	1.22
6	A	5103	U1C	O2-C3	9.84	1.40	1.23
6	D	5103	U1C	O2-C3	9.84	1.40	1.23
6	C	5103	U1C	O2-C3	9.81	1.40	1.23
6	B	5103	U1C	O2-C3	9.79	1.40	1.23
6	B	5103	U1C	O1-C2	8.75	1.40	1.23
6	C	5103	U1C	O1-C2	8.72	1.40	1.23
6	D	5103	U1C	O1-C2	8.72	1.40	1.23
6	A	5103	U1C	O1-C2	8.69	1.40	1.23
6	D	5103	U1C	C4-N3	6.52	1.45	1.27
6	C	5103	U1C	C4-N3	6.50	1.45	1.27
6	B	5103	U1C	C4-N3	6.50	1.45	1.27
6	A	5103	U1C	C4-N3	6.49	1.45	1.27
6	D	5103	U1C	C3-N2	-5.27	1.32	1.37
6	A	5103	U1C	C3-N2	-5.26	1.32	1.37
6	B	5103	U1C	C3-N2	-5.22	1.32	1.37
6	C	5103	U1C	C3-N2	-5.16	1.32	1.37
6	A	5103	U1C	C9-C8	4.15	1.53	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	D	5103	U1C	C9-C8	4.12	1.53	1.46
6	C	5103	U1C	C9-C8	4.09	1.53	1.46
6	B	5103	U1C	C9-C8	4.07	1.53	1.46
6	B	5103	U1C	C5-C4	3.96	1.52	1.45
6	D	5103	U1C	C5-C4	3.93	1.52	1.45
6	C	5103	U1C	C5-C4	3.92	1.52	1.45
6	A	5103	U1C	C5-C4	3.87	1.52	1.45
6	C	5103	U1C	N2-N3	3.57	1.41	1.37
6	D	5103	U1C	N2-N3	3.53	1.41	1.37
6	B	5103	U1C	N2-N3	3.50	1.41	1.37
6	A	5103	U1C	N2-N3	3.47	1.41	1.37
6	C	5103	U1C	C3-N1	-3.34	1.32	1.38
6	A	5103	U1C	C3-N1	-3.33	1.32	1.38
6	B	5103	U1C	C3-N1	-3.29	1.32	1.38
6	D	5103	U1C	C3-N1	-3.29	1.32	1.38
6	C	5103	U1C	C2-N1	-2.91	1.32	1.37
6	D	5103	U1C	C2-N1	-2.90	1.32	1.37
6	B	5103	U1C	C2-N1	-2.85	1.32	1.37
6	A	5103	U1C	C2-N1	-2.83	1.32	1.37

All (40) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	B	5103	U1C	C2-C1-N2	8.43	106.94	101.45
6	C	5103	U1C	C2-C1-N2	8.39	106.91	101.45
6	A	5103	U1C	C2-C1-N2	8.35	106.89	101.45
6	D	5103	U1C	C2-C1-N2	8.33	106.88	101.45
6	A	5103	U1C	C3-N2-N3	7.49	126.09	119.83
6	B	5103	U1C	C3-N2-N3	7.44	126.05	119.83
6	D	5103	U1C	C3-N2-N3	7.41	126.02	119.83
6	C	5103	U1C	C3-N2-N3	7.40	126.02	119.83
6	B	5103	U1C	C1-N2-C3	-7.30	108.30	112.31
6	C	5103	U1C	C1-N2-C3	-7.27	108.31	112.31
6	D	5103	U1C	C1-N2-C3	-7.26	108.32	112.31
6	A	5103	U1C	C1-N2-C3	-7.22	108.34	112.31
6	B	5103	U1C	C2-N1-C3	-4.80	108.27	112.47
6	A	5103	U1C	C2-N1-C3	-4.78	108.28	112.47
6	D	5103	U1C	C2-N1-C3	-4.76	108.30	112.47
6	C	5103	U1C	C2-N1-C3	-4.69	108.36	112.47
6	D	5103	U1C	C5-C4-N3	-4.44	110.19	118.74
6	A	5103	U1C	C5-C4-N3	-4.44	110.20	118.74
6	B	5103	U1C	C5-C4-N3	-4.39	110.28	118.74

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	C	5103	U1C	C5-C4-N3	-4.38	110.30	118.74
6	A	5103	U1C	C7-C8-C9	-3.84	125.18	128.77
6	B	5103	U1C	N1-C3-N2	3.59	109.57	106.12
6	D	5103	U1C	N1-C3-N2	3.58	109.56	106.12
6	A	5103	U1C	N1-C3-N2	3.58	109.56	106.12
6	C	5103	U1C	N1-C3-N2	3.55	109.53	106.12
6	D	5103	U1C	C7-C8-C9	-3.24	125.74	128.77
6	B	5103	U1C	C7-C8-C9	-3.23	125.75	128.77
6	C	5103	U1C	C7-C8-C9	-3.19	125.79	128.77
6	A	5103	U1C	C1-N2-N3	-2.90	125.57	127.64
6	B	5103	U1C	C1-N2-N3	-2.79	125.65	127.64
6	D	5103	U1C	C1-N2-N3	-2.78	125.66	127.64
6	C	5103	U1C	C1-N2-N3	-2.76	125.67	127.64
6	C	5103	U1C	O2-C3-N2	-2.60	125.22	127.67
6	A	5103	U1C	O2-C3-N2	-2.57	125.24	127.67
6	B	5103	U1C	O2-C3-N2	-2.57	125.25	127.67
6	D	5103	U1C	O2-C3-N2	-2.54	125.27	127.67
4	D	5101	ATP	C5-C6-N6	2.33	123.86	120.31
4	A	5101	ATP	C5-C6-N6	2.33	123.86	120.31
4	B	5101	ATP	C5-C6-N6	2.32	123.84	120.31
4	C	5101	ATP	C5-C6-N6	2.31	123.83	120.31

There are no chirality outliers.

All (47) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	A	5101	ATP	PB-O3B-PG-O2G
4	A	5101	ATP	C5'-O5'-PA-O1A
4	A	5101	ATP	O4'-C4'-C5'-O5'
4	B	5101	ATP	PB-O3B-PG-O2G
4	B	5101	ATP	C5'-O5'-PA-O1A
4	C	5101	ATP	C5'-O5'-PA-O1A
4	D	5101	ATP	PB-O3B-PG-O2G
4	D	5101	ATP	C5'-O5'-PA-O1A
4	D	5101	ATP	O4'-C4'-C5'-O5'
6	A	5103	U1C	C5-C4-N3-N2
6	A	5103	U1C	C13-C12-N4-O4
6	A	5103	U1C	C11-C12-N4-O4
6	B	5103	U1C	C5-C4-N3-N2
6	C	5103	U1C	C5-C4-N3-N2
6	D	5103	U1C	C5-C4-N3-N2
4	A	5101	ATP	C3'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
4	B	5101	ATP	O4'-C4'-C5'-O5'
4	B	5101	ATP	C3'-C4'-C5'-O5'
4	C	5101	ATP	O4'-C4'-C5'-O5'
4	C	5101	ATP	C3'-C4'-C5'-O5'
4	D	5101	ATP	C3'-C4'-C5'-O5'
6	D	5103	U1C	C13-C12-N4-O4
6	D	5103	U1C	C11-C12-N4-O4
4	A	5101	ATP	C4'-C5'-O5'-PA
4	B	5101	ATP	C4'-C5'-O5'-PA
4	C	5101	ATP	C4'-C5'-O5'-PA
4	D	5101	ATP	C4'-C5'-O5'-PA
4	C	5101	ATP	PB-O3B-PG-O2G
6	B	5103	U1C	C3-N2-N3-C4
6	A	5103	U1C	C3-N2-N3-C4
6	C	5103	U1C	C3-N2-N3-C4
6	D	5103	U1C	C3-N2-N3-C4
6	C	5103	U1C	C13-C12-N4-O4
6	C	5103	U1C	C11-C12-N4-O4
4	C	5101	ATP	PB-O3B-PG-O3G
4	B	5101	ATP	PG-O3B-PB-O1B
4	B	5101	ATP	PG-O3B-PB-O2B
4	C	5101	ATP	PG-O3B-PB-O1B
4	C	5101	ATP	PG-O3B-PB-O2B
4	C	5101	ATP	PB-O3B-PG-O1G
6	A	5103	U1C	C1-N2-N3-C4
6	B	5103	U1C	C1-N2-N3-C4
6	C	5103	U1C	C1-N2-N3-C4
6	D	5103	U1C	C1-N2-N3-C4
4	A	5101	ATP	PG-O3B-PB-O1B
4	A	5101	ATP	PG-O3B-PB-O2B
4	D	5101	ATP	PG-O3B-PB-O1B

There are no ring outliers.

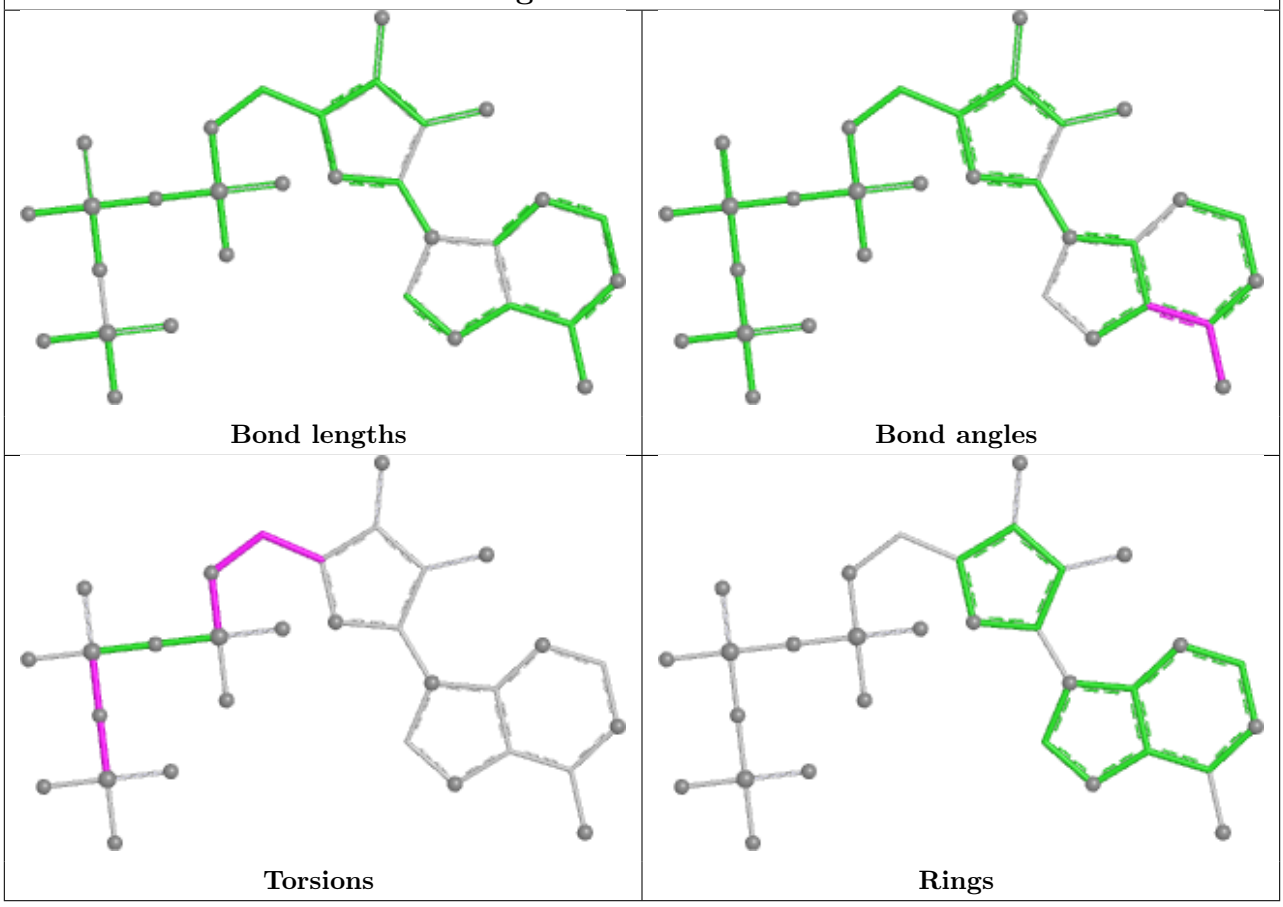
4 monomers are involved in 8 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	D	5101	ATP	2	0
4	B	5101	ATP	2	0
4	A	5101	ATP	1	0
4	C	5101	ATP	3	0

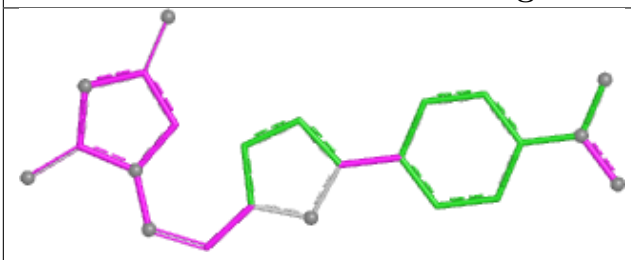
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths,

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.

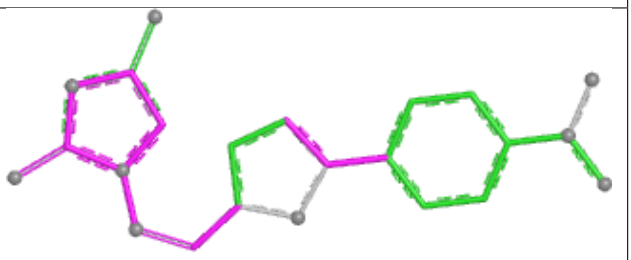
Ligand ATP D 5101



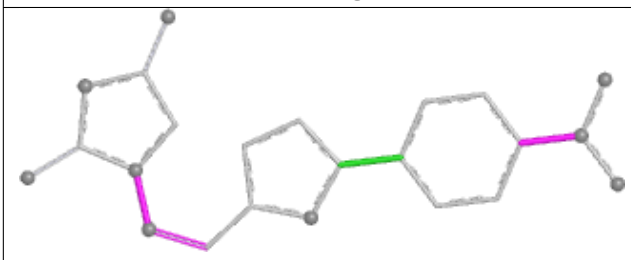
Ligand U1C C 5103



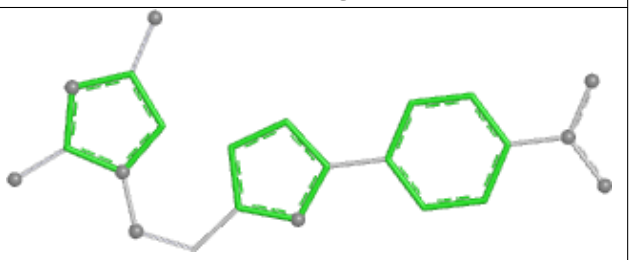
Bond lengths



Bond angles

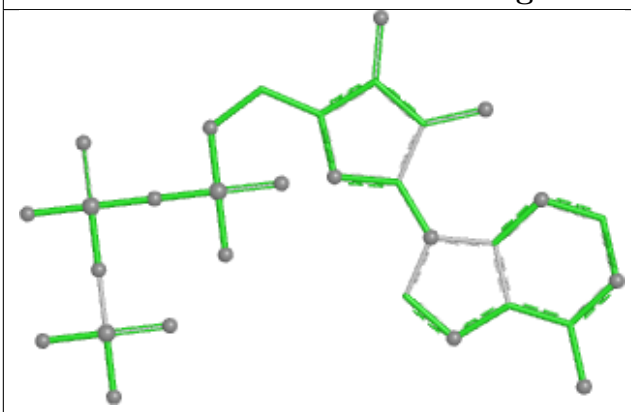


Torsions

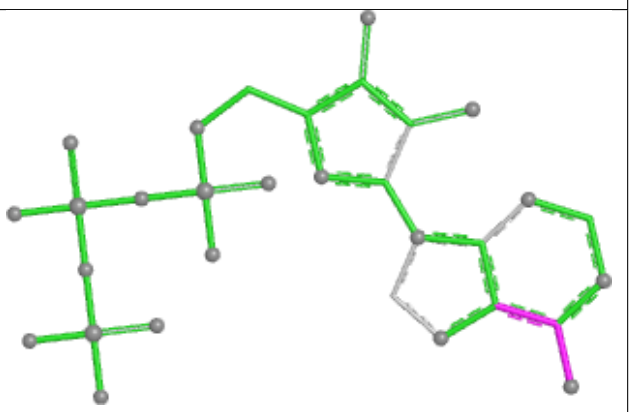


Rings

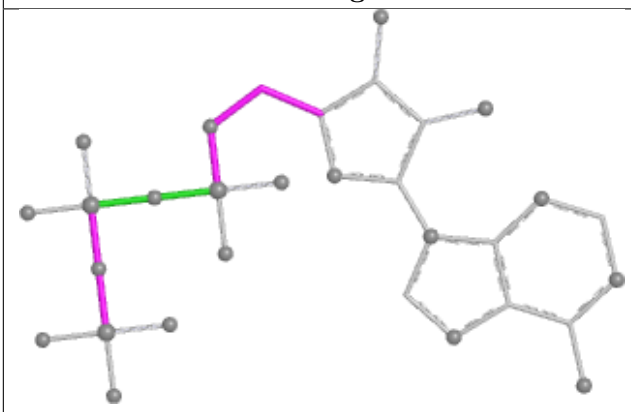
Ligand ATP B 5101



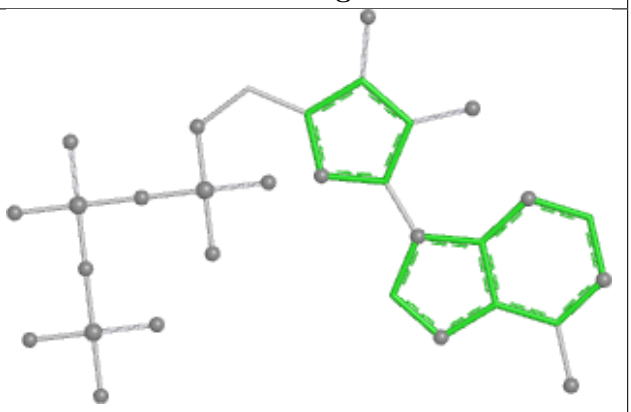
Bond lengths



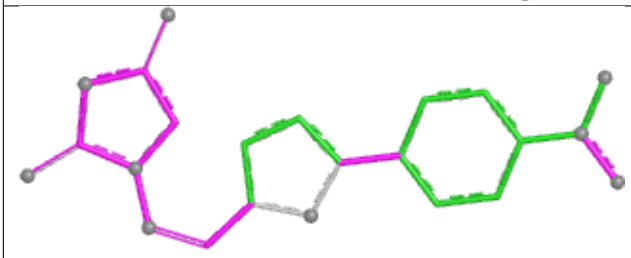
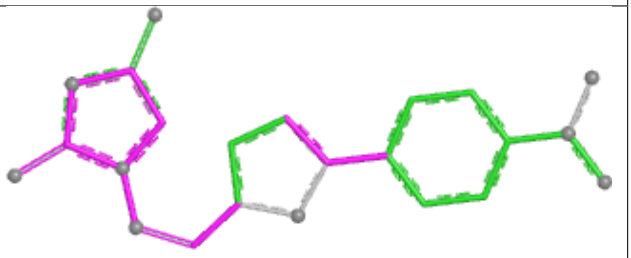
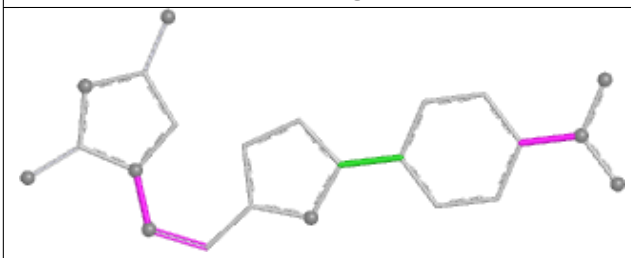
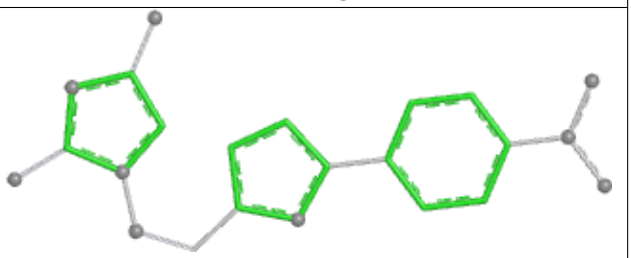
Bond angles

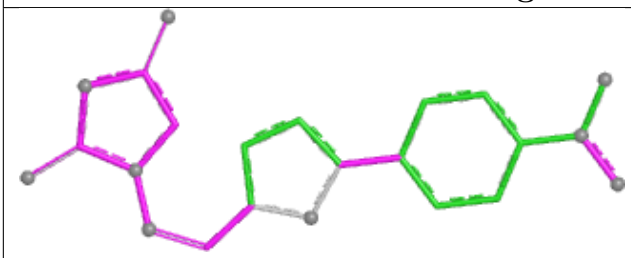
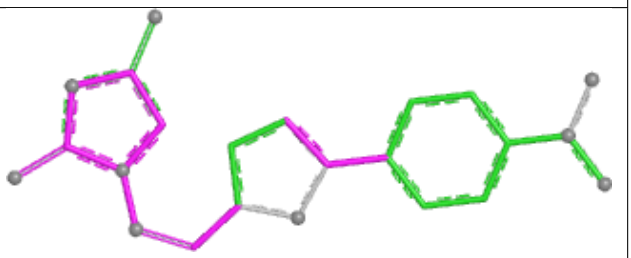
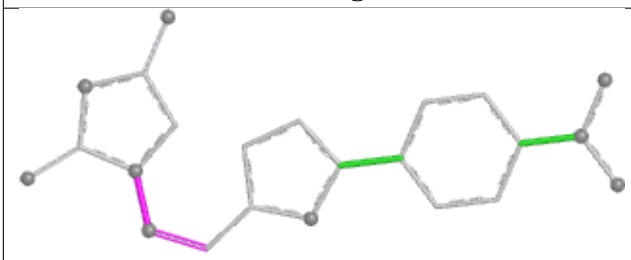
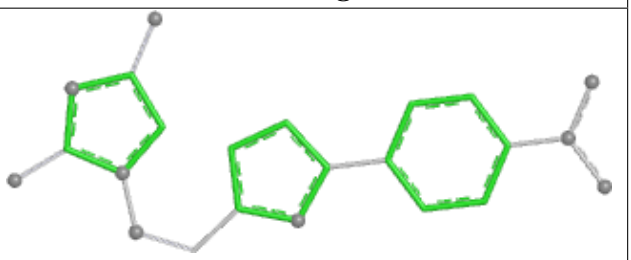


Torsions

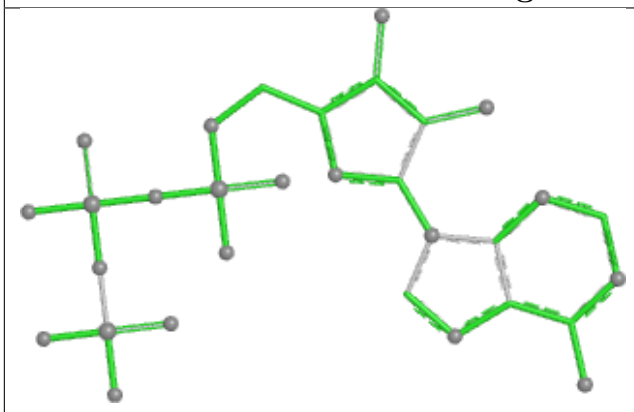


Rings

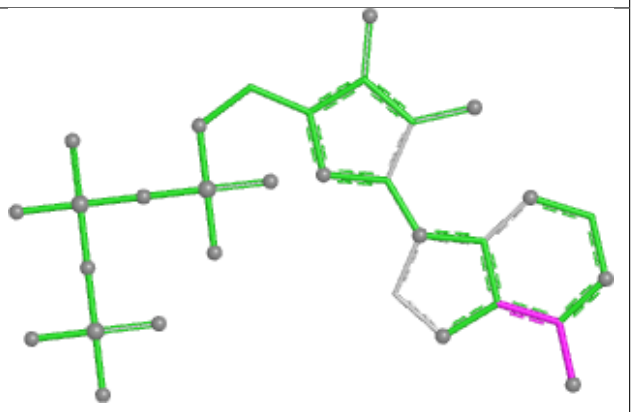
Ligand U1C A 5103	
	
Bond lengths	Bond angles
	
Torsions	Rings

Ligand U1C B 5103	
	
Bond lengths	Bond angles
	
Torsions	Rings

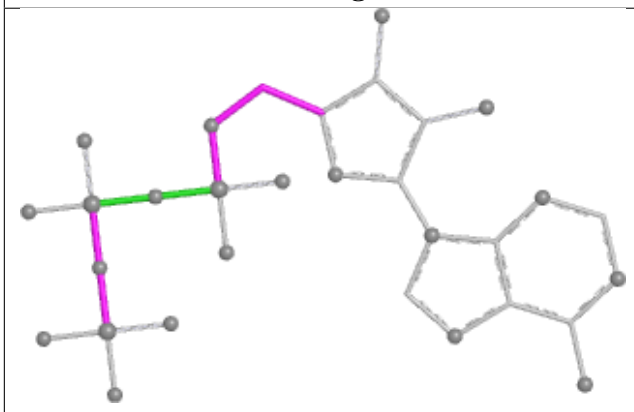
Ligand ATP A 5101



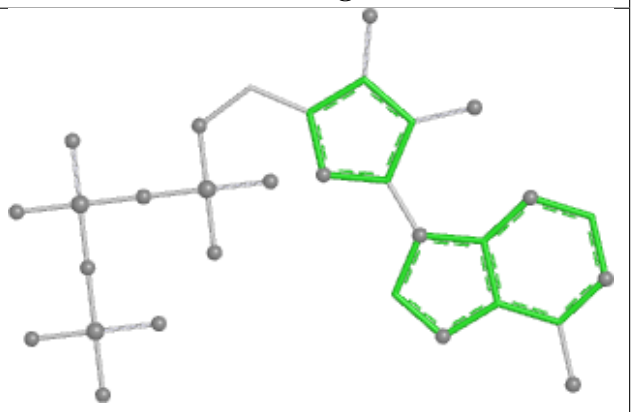
Bond lengths



Bond angles

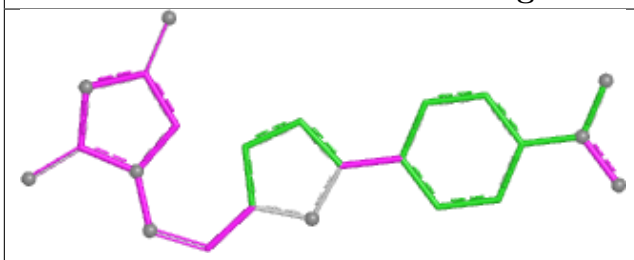


Torsions

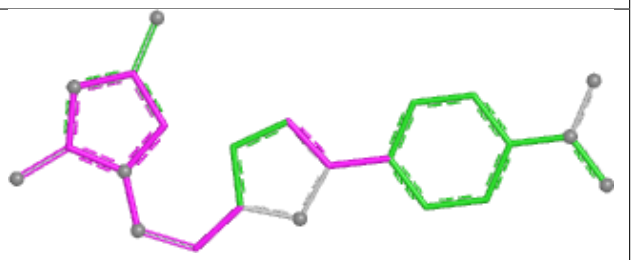


Rings

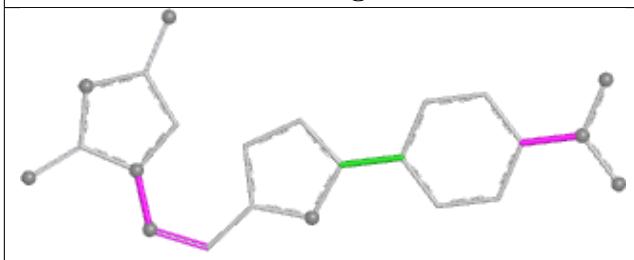
Ligand U1C D 5103



Bond lengths



Bond angles



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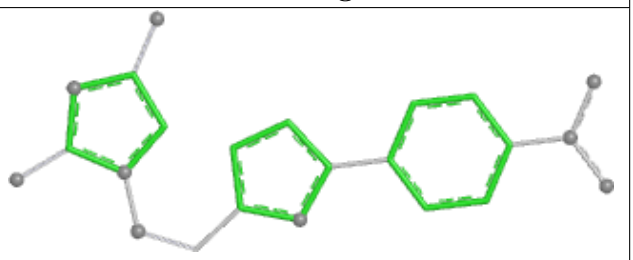
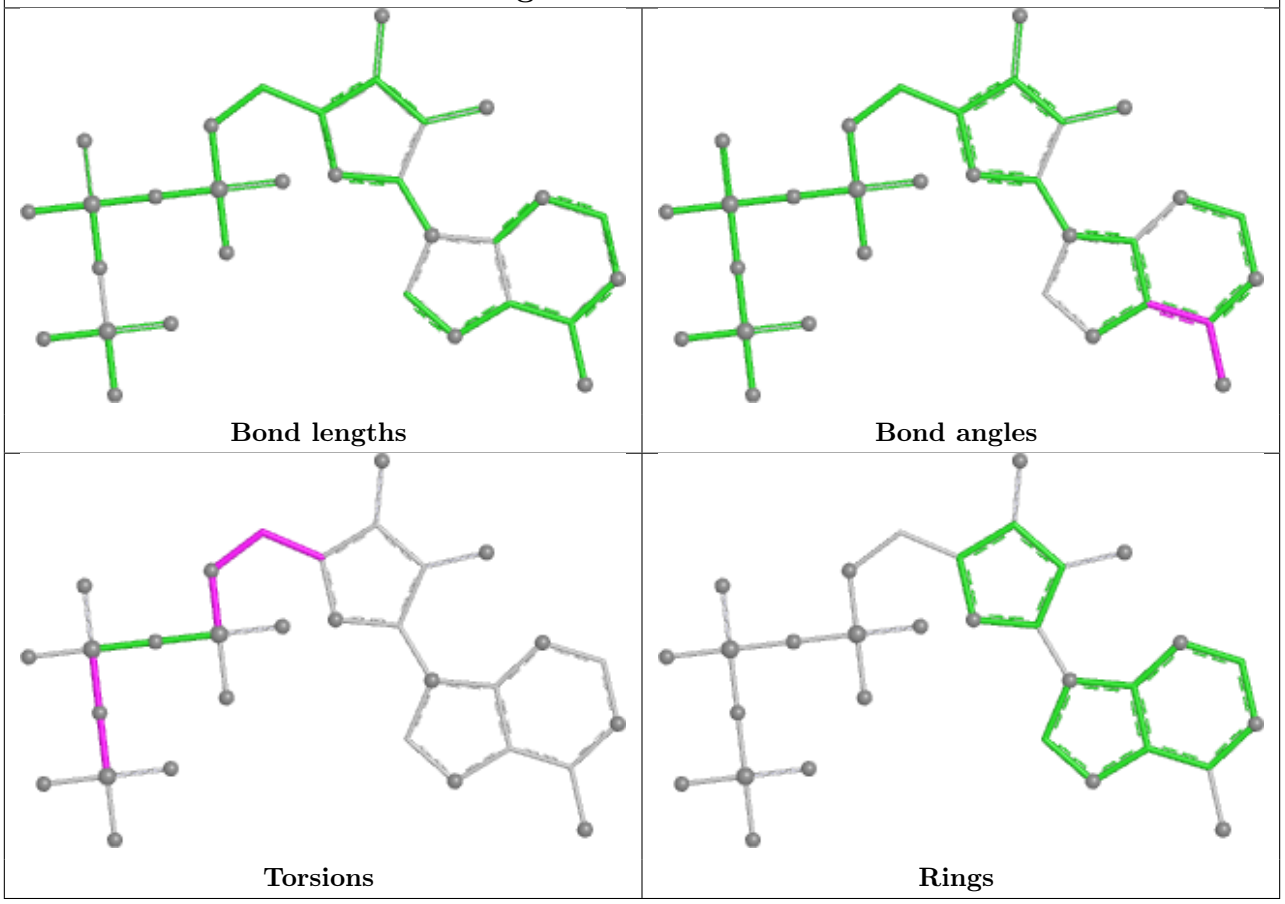


Rings

Ligand ATP C 5101



5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

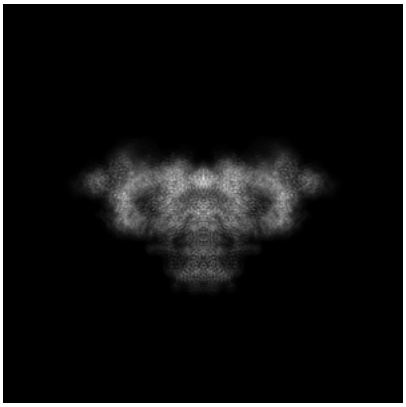
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-45585. These allow visual inspection of the internal detail of the map and identification of artifacts.

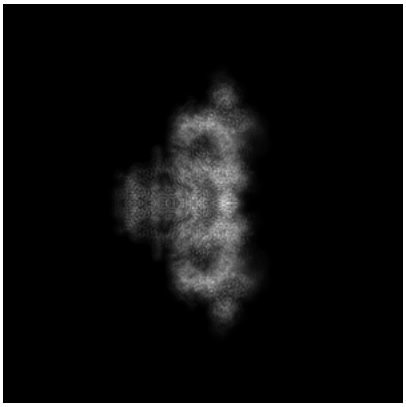
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

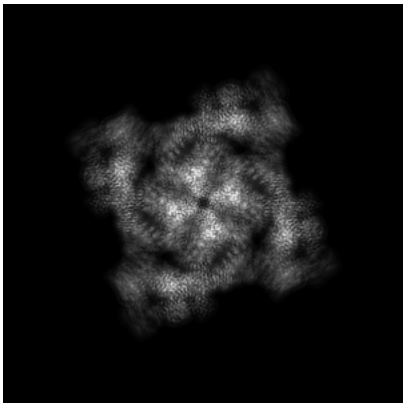
6.1.1 Primary map



X



Y

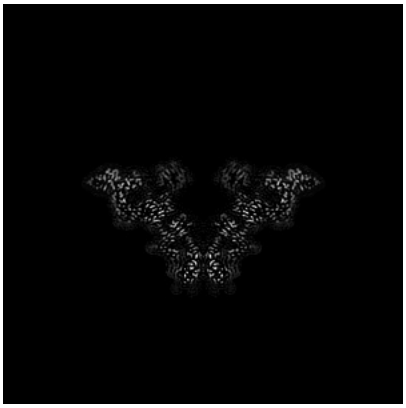


Z

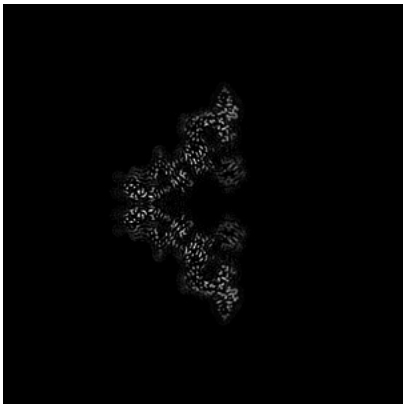
The images above show the map projected in three orthogonal directions.

6.2 Central slices

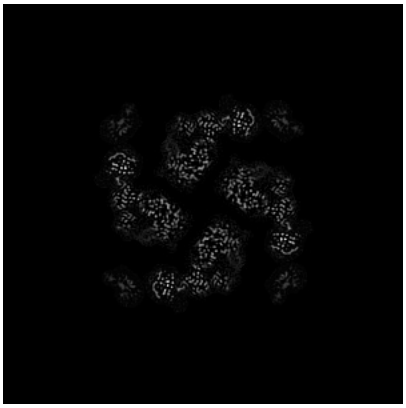
6.2.1 Primary map



X Index: 232



Y Index: 232

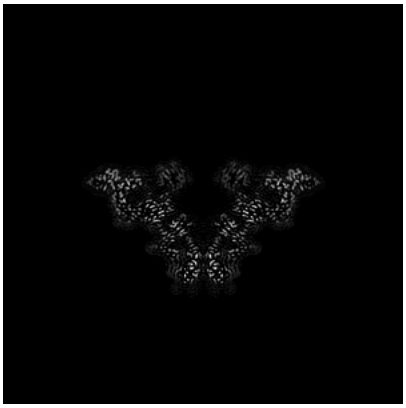


Z Index: 232

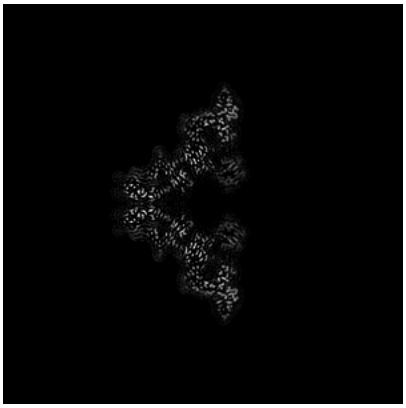
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

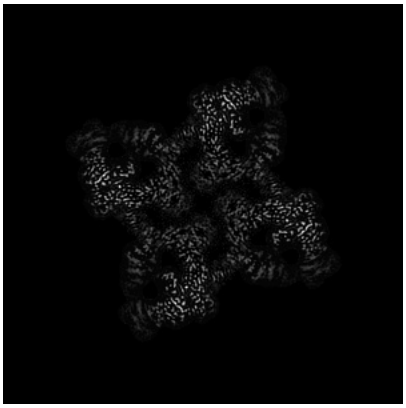
6.3.1 Primary map



X Index: 232



Y Index: 232

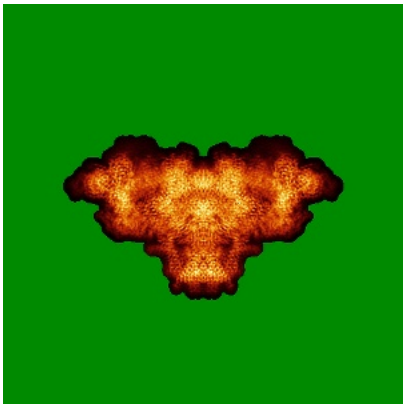


Z Index: 260

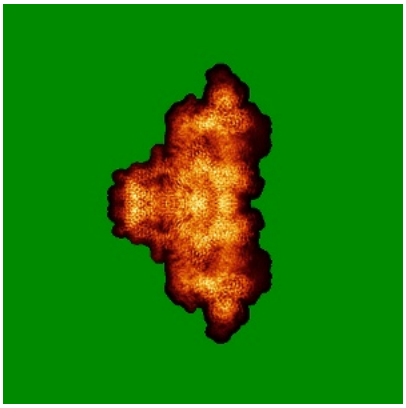
The images above show the largest variance slices of the map in three orthogonal directions.

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

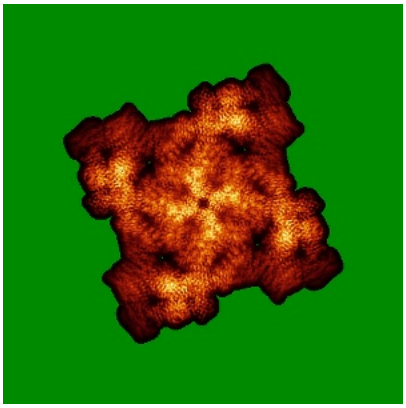
6.4.1 Primary map



X



Y

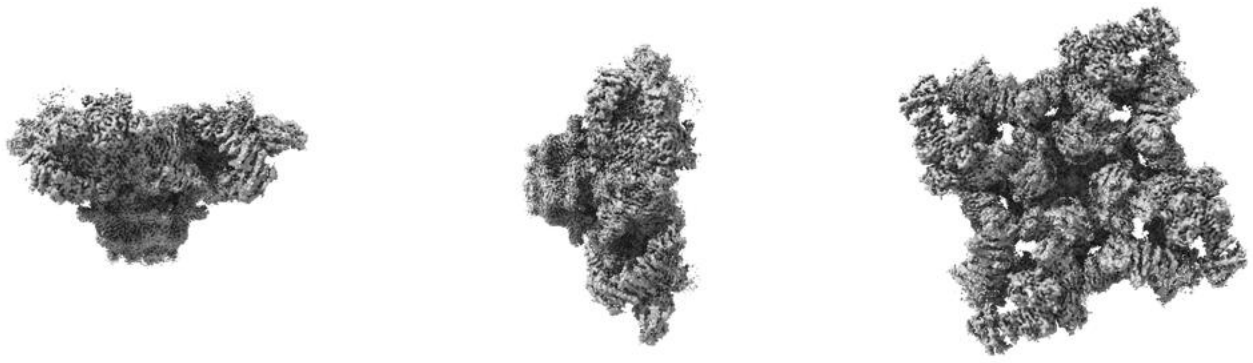


Z

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

6.5 Orthogonal surface views (i)

6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.307. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

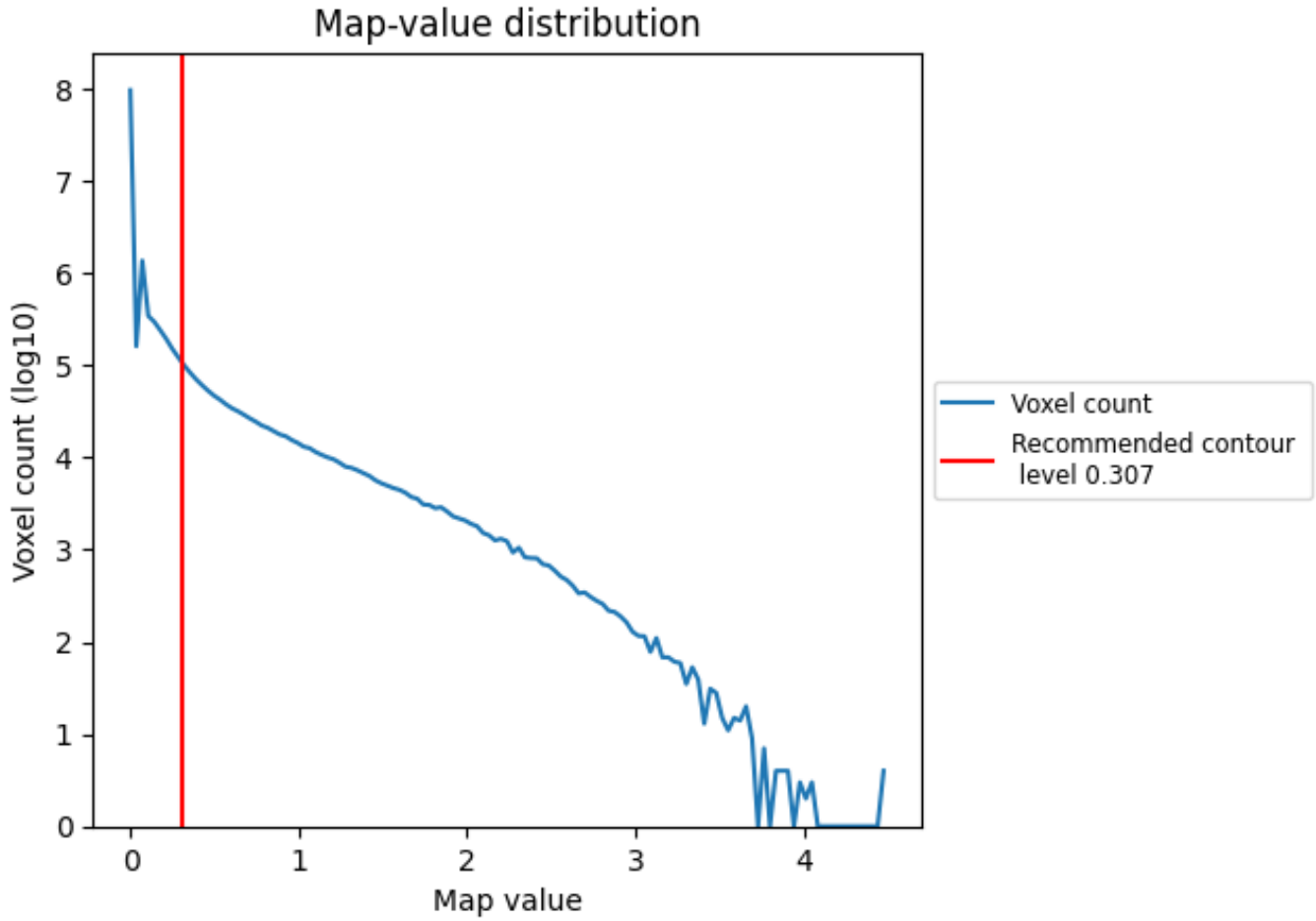
6.6 Mask visualisation (i)

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

7 Map analysis

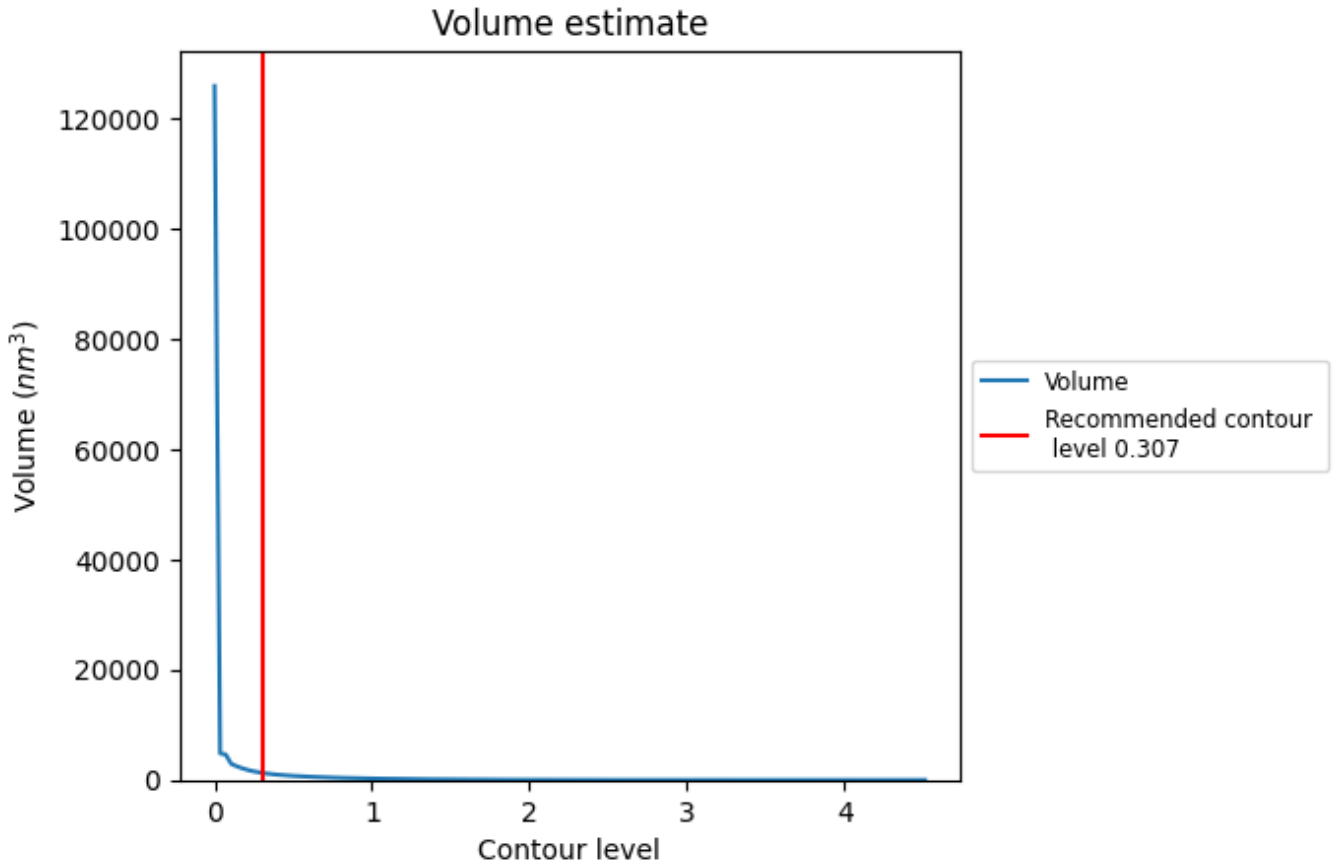
This section contains the results of statistical analysis of the map.

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.

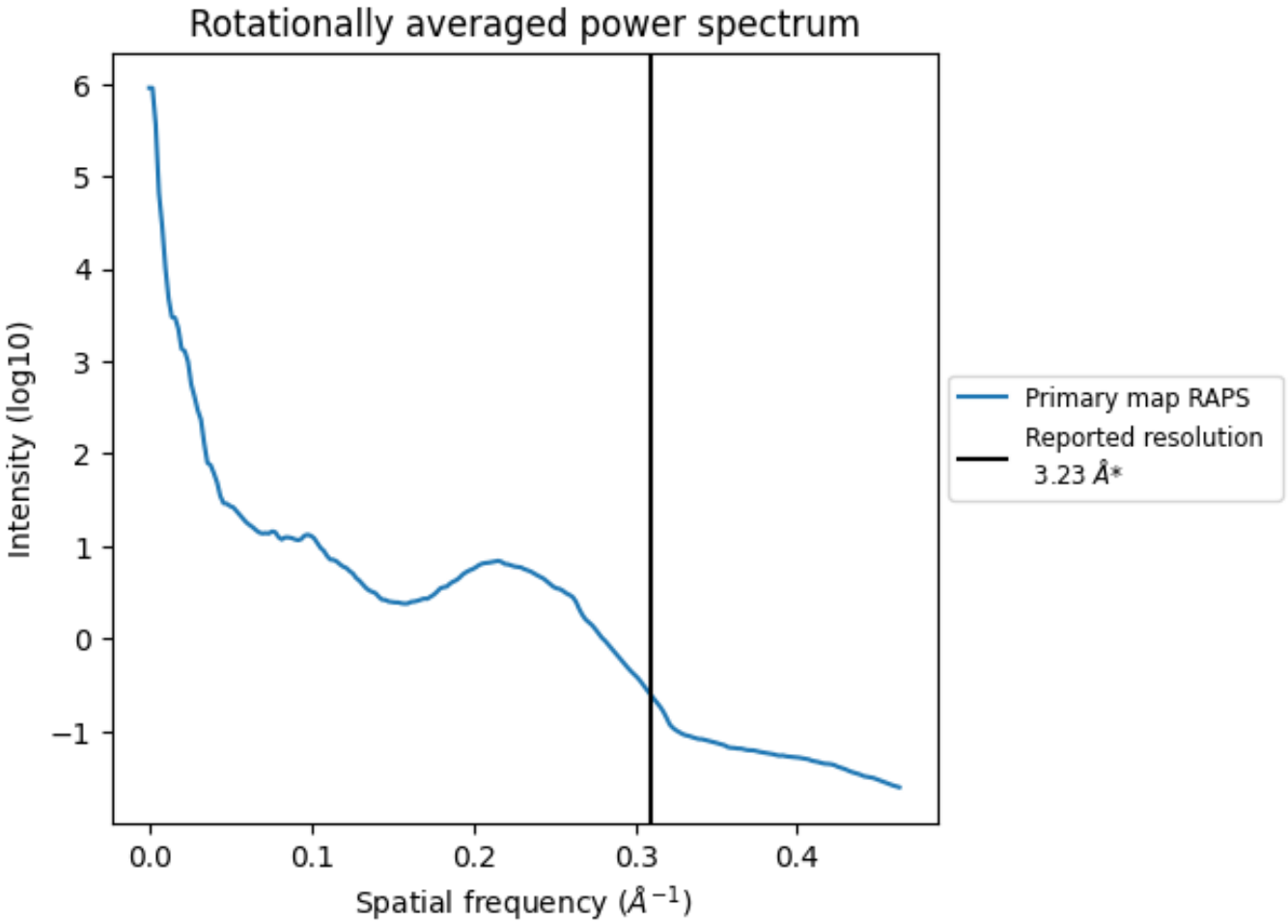
7.2 Volume estimate



The volume at the recommended contour level is 1262 nm^3; this corresponds to an approximate mass of 1140 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 0.310 $Å^{-1}$

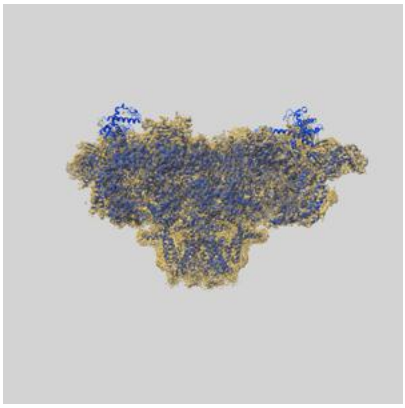
8 Fourier-Shell correlation

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

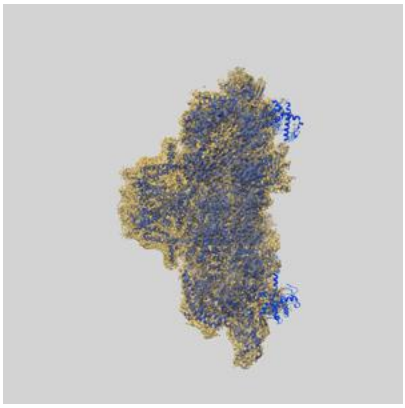
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-45585 and PDB model 9CGQ. Per-residue inclusion information can be found in section 3 on page 6.

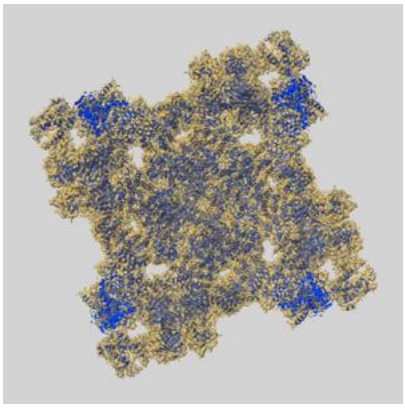
9.1 Map-model overlay



X



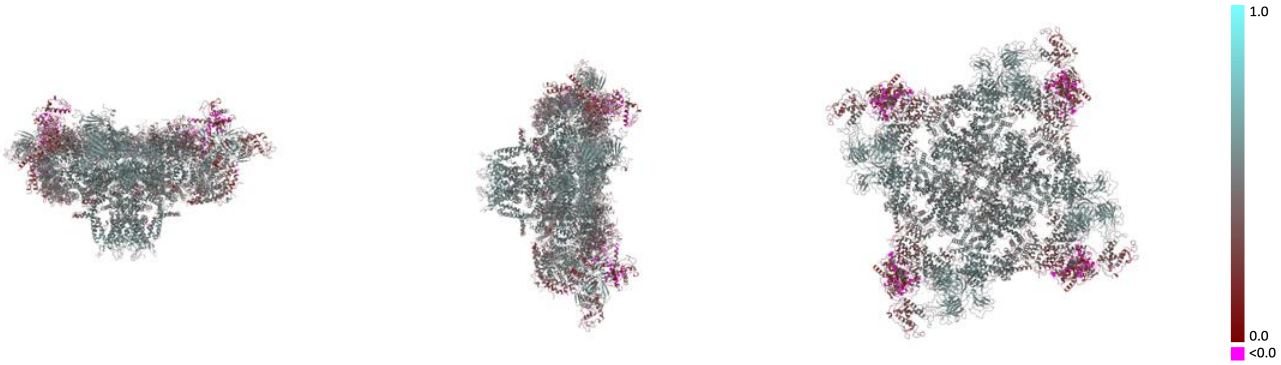
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.307 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.

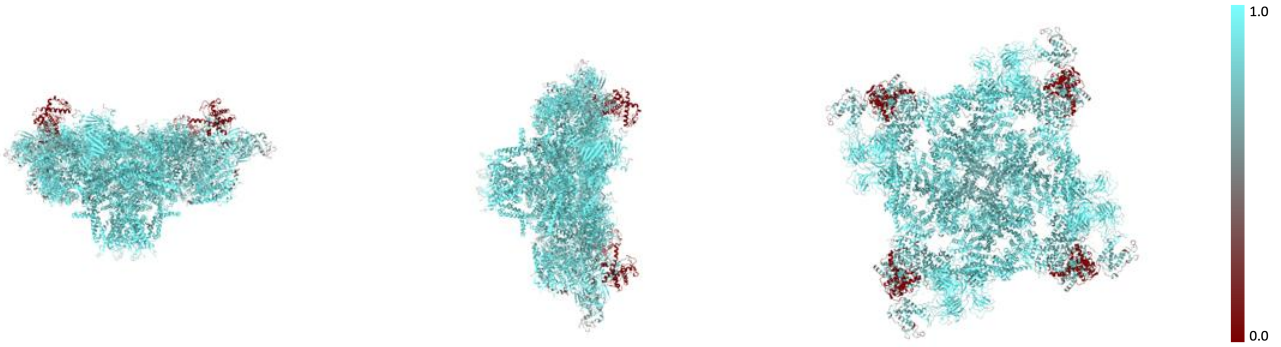
9.2 Q-score mapped to coordinate model



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.

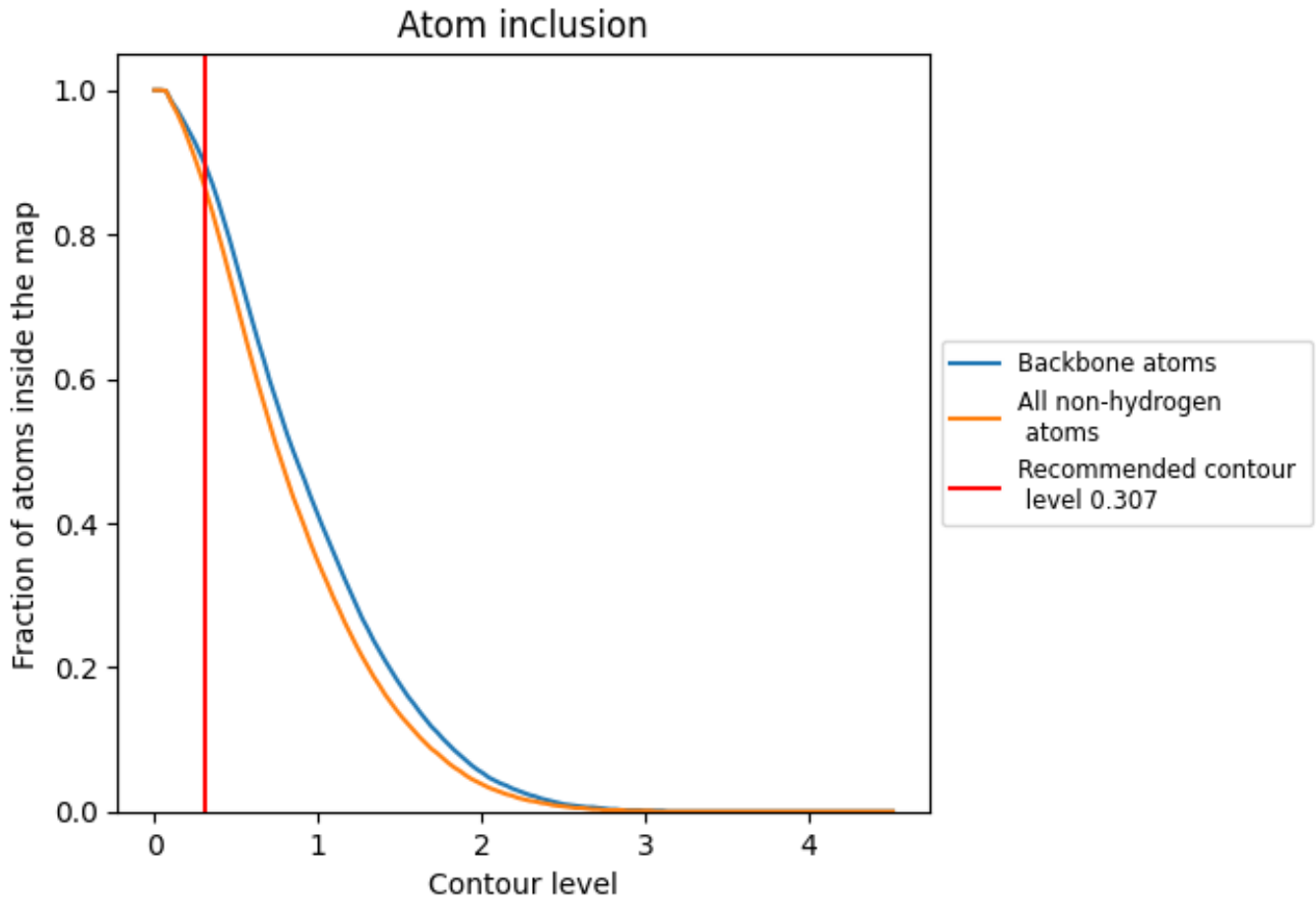
9.3 Atom inclusion mapped to coordinate model



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 (0.307).

9.4 Atom inclusion (i)



At the recommended contour level, 90% of all backbone atoms, 87% 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 (0.307) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8660	0.4630
A	0.8640	0.4620
B	0.8640	0.4630
C	0.8650	0.4610
D	0.8650	0.4610
E	0.9250	0.5060
F	0.9180	0.5040
G	0.9180	0.5040
H	0.9190	0.5020